



- o 21 to 100
  - o 101 to 500
  - o 501 or more
5. [If Q4. = "1", "2 to 6"] Are you an owner-operator?
- o Yes
  - o No
6. What is the average age of the power units in your carrier?
- o 1 to 3 years
  - o 4 to 6 years
  - o 7 to 11 years
  - o 12 to 16 years
  - o 17+ years
7. Does your carrier operate combination vehicles?
- o Yes
  - o No
8. [If Q7. = Yes] How many trailers does your carrier operate/own?
- o 1 to 6
  - o 7 to 20
  - o 21 to 100
  - o 101 to 500
  - o 501 or more
9. [If Q7. = Yes] Approximately what is the average age of the trailers in your fleet?
- o 1 to 3 years
  - o 4 to 6 years
  - o 7 to 11 years
  - o 12 to 16 years
  - o 17+ years
10. What type of operations does your carrier perform? (check all that apply)
- Passenger carrying
  - Freight-local
  - Freight-regional
  - Freight-long haul
  - Household goods
11. Does your carrier transport any of the following?
- |   | Yes                   | No                    |
|---|-----------------------|-----------------------|
| Passenger – Children to/from school                           | <input type="radio"/> | <input type="radio"/> |
| Passenger – Adults and/or children (NOT going to/from school) | <input type="radio"/> | <input type="radio"/> |

- Dry van, 48/53-foot ○ ○
- Dry van, doubles/triples ○ ○
- Tank-liquid ○ ○
- Tank-dry bulk ○ ○
- Refrigerated ○ ○
- Flatbed ○ ○
- Specialized (non-traditional flatbed) ○ ○
- Household goods ○ ○
- Hazardous materials ○ ○
- Other: (please describe) \_\_\_\_\_ ○ ○

12. [If Q11. Passenger – Children to/from school OR Passenger – adults and/or children (NOT going to/from school) = Yes] What types of passenger-carrying vehicles does your carrier operate? (check all that apply)

- Single-unit motorcoach buses
- School buses
- Other vehicles (e.g., vans, mini buses): (please describe)  
\_\_\_\_\_

13. [If Q11. Dry van, 48/53-foot OR Dry van, doubles/triples OR Tank-liquid OR Tank-dry bulk OR Refrigerated OR Flatbed OR Specialized (non-traditional flatbed) OR Household goods OR Hazardous materials OR Other: (please describe) = Yes] Does your carrier operate the following types of freight vehicles?

- |                                  | Yes | No |
|----------------------------------|-----|----|
| Single-unit trucks               | ○   | ○  |
| Tractor power unit-only vehicles | ○   | ○  |
| Tractor-trailer combination      | ○   | ○  |

14. Does your carrier operate *intrastate*?

- Yes
- No

15. Does your carrier operate *interstate*?

- Yes
- No

16. Does your carrier's electronic logging system include pre-trip/post-trip driver inspection reports as part of the system?

- Yes
- No

17. Does your carrier operate alternative fuel (e.g., natural gas) or electric vehicles?

- Yes
- No

18. [If Q17. = Yes] Does your carrier operate the following alternative fuel or electric vehicles?

	Yes	No
Compressed natural gas	<input type="radio"/>	<input type="radio"/>
Liquefied natural gas	<input type="radio"/>	<input type="radio"/>
Propane or liquefied petroleum gas	<input type="radio"/>	<input type="radio"/>
Hybrid-Electric	<input type="radio"/>	<input type="radio"/>
Hybrid-hydraulic	<input type="radio"/>	<input type="radio"/>
Hydrogen or hydrogen fuel cell	<input type="radio"/>	<input type="radio"/>
Other (describe): _____	<input type="radio"/>	<input type="radio"/>

19. Does your carrier have full-time maintenance technicians on staff?

- Yes
- No

20. [If Q19. = Yes] How many maintenance technicians and supervisors are on staff?

\_\_\_\_\_

21. [If Q19. = Yes] What is the average annual income of your technicians?

\_\_\_\_\_

22. [If Q19. = Yes] What is the average annual income of maintenance supervisors?

\_\_\_\_\_

23. [If Q19. = No] What is the average hourly rate (i.e., dollars) for technician support you use elsewhere?

\_\_\_\_\_

24. Has your carrier been involved in a State or FMCSA intervention activity in the last 24 months due in part to maintenance violations (e.g., warning letter, off-site investigation, on-site investigation, and nonrated review)? DO NOT consider targeted roadside inspections, cargo tank facility reviews, shipper reviews, terminal investigations, and security contact reviews as interventions. *As a reminder, all survey responses are confidential.*

- Yes
- No

### **Systematic Maintenance**

*The following questions ask you to describe the characteristics of your carrier's maintenance operations. The purpose of these questions is to determine common maintenance intervals, technician training practices, and maintenance facilities that support your carrier's maintenance operations.*

25. Does your carrier use the following factors to define power-unit vehicle preventative maintenance intervals?

	Yes	No
Manufacturer recommended intervals	<input type="radio"/>	<input type="radio"/>
Supplier recommended intervals	<input type="radio"/>	<input type="radio"/>
Operation type (short-haul, long-haul, off-highway)	<input type="radio"/>	<input type="radio"/>
Third-party maintenance provider recommended intervals	<input type="radio"/>	<input type="radio"/>
Prior wear and tear miles/hours from maintenance records	<input type="radio"/>	<input type="radio"/>
Other (please describe): _____	<input type="radio"/>	<input type="radio"/>

26. List the preventative maintenance schedule interval mileage/months for your carrier’s - power unit vehicle preventative maintenance (PM) milestones. (list mileage, months, or event for each milestone)

Interval “A”: \_\_\_\_\_ (miles) \_\_\_\_\_ (months)

Interval “B”: \_\_\_\_\_ (miles) \_\_\_\_\_ (months)

Interval “C”: \_\_\_\_\_ (miles) \_\_\_\_\_ (months)

Interval “D”: \_\_\_\_\_ (miles) \_\_\_\_\_ (months)

Other schedule order: \_\_\_\_\_

27. What are the most critical **safety-related** maintenance activities (e.g., change tires, calibrate brakes) for the power unit’s vehicle intervals described above? (list activities)

Interval “A” Activities: \_\_\_\_\_

Interval “B” Activities: \_\_\_\_\_

Interval “C” Activities: \_\_\_\_\_

Interval “D” Activities: \_\_\_\_\_

Other schedule order: \_\_\_\_\_

28. [If Q13. Tractor-trailer combination = Yes] Describe the preventative maintenance schedule interval mileage/months for your carrier’s trailer vehicle milestones. (list mileage, months, or event for each milestone)

Trailer Interval “A”: \_\_\_\_\_ (miles) \_\_\_\_\_ (months)

Trailer Interval “B”: \_\_\_\_\_ (miles) \_\_\_\_\_ (months)

Trailer Interval “C”: \_\_\_\_\_ (miles) \_\_\_\_\_ (months)

Trailer Interval “D”: \_\_\_\_\_ (miles) \_\_\_\_\_ (months)

Other schedule order: \_\_\_\_\_

29. [If Q13. Tractor-trailer combination = Yes] List examples of critical **safety-related** maintenance activities for trailer vehicle milestones described above. (list activities)

Trailer Interval “A” Activities: \_\_\_\_\_

Trailer Interval “B” Activities: \_\_\_\_\_

Trailer Interval “C” Activities: \_\_\_\_\_

Trailer Interval “D” Activities: \_\_\_\_\_

Other schedule order: \_\_\_\_\_

30. Does your maintenance staff receive training from major vehicle manufacturers, dealers, or system suppliers?

Yes

No

31. How would you rate its importance to the safety of your fleet (Owner-operators or carriers without maintenance staff, please rate based on your opinion for third-party maintenance service organizations.

- Not important
- Slightly important
- Moderately important
- Important
- Very important

32. Does your carrier track the following maintenance staff **training** records?

	Yes	No
Technician Training Topics	<input type="radio"/>	<input type="radio"/>
Automotive Service Excellence (ASE) Test Series	<input type="radio"/>	<input type="radio"/>
Technician Training Topics	<input type="radio"/>	<input type="radio"/>
Other (please describe): _____	<input type="radio"/>	<input type="radio"/>

33. Does your carrier provide internet or Wi-Fi for maintenance technicians to reference service publications on laptops or handheld devices?

- Yes
- No

34. [If Q33. = Yes] Does your carrier provide laptops, tablets, or handheld devices for technicians to use?

- Yes
- No

35. Does your carrier provide pre-trip and post-trip **training** to *drivers*?

- Yes
- No

36. Does your carrier provide simple maintenance repair **training** to *drivers*?

- Yes
- No

37. [If Q36. = Yes] Please list examples of the simple maintenance repair **training** provided to *drivers*.

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38. Does your carrier maintain pre- and post-trip driver reports or driver-vehicle inspection reports (**DVIR**) in the following formats?

- |   | Yes                   | No                    |
|---|-----------------------|-----------------------|
| Paper records                           | <input type="radio"/> | <input type="radio"/> |
| Electronic records with electronic logs | <input type="radio"/> | <input type="radio"/> |
| Other (please describe):<br>_____       | <input type="radio"/> | <input type="radio"/> |

39. Does your carrier use any **DVIR software** tools, including logging device related tools?
- Yes
- No

40. [If Q39. = Yes] Please describe your carrier's use of **DVIR software** tools, including logging device related tools.
- \_\_\_\_\_
- \_\_\_\_\_

41. Does your carrier use any **DVIR paper record** tools?
- Yes
- No

42. [If Q41. = Yes] Please describe your carrier's use of **DVIR paper record** tools.
- \_\_\_\_\_
- \_\_\_\_\_

43. [If Q41. = Yes] How long does your carrier keep **DVIRs**? (select one or describe other timeframe)
- Up to 30 days
- 31 to 60 days
- 61 to 90 days
- 91 to 12 months
- Other: \_\_\_\_\_

44. Does your carrier use any preventative maintenance **management software** tools to track preventative maintenance schedules and records?
- Yes
- No

45. [If Q44. = Yes] Please describe your carrier's use of preventative maintenance **management software** tools.
- \_\_\_\_\_
- \_\_\_\_\_

46. Does your carrier use any preventative maintenance **management paper record** tools?
- Yes

No

47. [If Q46. = Yes] Please describe your carrier’s use of preventative maintenance **management paper record** tools.

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48. How long does your carrier keep preventative maintenance and vehicle repair records?

- Up to 3 months
- 4 to 6 months
- 7 to 12 months
- 13 to 24 months
- As long as each vehicle/trailer is in my carrier operation
- Other (please describe): \_\_\_\_\_

49. Does your carrier use any of the following onboard-diagnostics maintenance software?

	Yes	No
Daimler/Freightliner	<input type="radio"/>	<input type="radio"/>
OnCommand (International/Open)	<input type="radio"/>	<input type="radio"/>
PACCAR (Peterbilt/Kenworth)	<input type="radio"/>	<input type="radio"/>
Saucon	<input type="radio"/>	<input type="radio"/>
Volvo	<input type="radio"/>	<input type="radio"/>
Other (please describe): _____	<input type="radio"/>	<input type="radio"/>

50. How does your carrier stay informed about vehicle maintenance violations received at road-side or parking lot inspections? (check all that apply)

- Occasional verbal report from driver to management
- Occasional review of carrier percentile on FMCSA’s CSA web portal
- Carrier policy that drivers report all violations at end of trip or upon returning to yard site at latest
- Carrier uses software service to provide immediate or regular updates to violation record

51. [If Q50. = Carrier uses software service to provide immediate or regular updates to violation record] You indicated that your carrier uses software service to provide immediate or regular updates to your violation record. What software does your carrier use?

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**Maintenance Personnel and Maintenance Facilities**

*The following questions seek to determine which facilities are presently being used by carriers in their current maintenance and distribution depots or third-party service stations.*



52. Which of the following facilities are present at your maintenance depots or third-party service stations? *Note the term “stations” does not have to refer to separate physical locations as some could be multi-purpose.*

	Yes	No
Wash station	<input type="radio"/>	<input type="radio"/>
Service liquid station (e.g., coolant, oil, brake fluid, power steering fluid)	<input type="radio"/>	<input type="radio"/>
Driver pre/post-trip inspection station (walk around lights, tires, brakes)	<input type="radio"/>	<input type="radio"/>
Collision avoidance calibration station	<input type="radio"/>	<input type="radio"/>
Cargo securement check station	<input type="radio"/>	<input type="radio"/>
Mirror position check station	<input type="radio"/>	<input type="radio"/>
Tire pressure test/fill station	<input type="radio"/>	<input type="radio"/>
Vehicle repair pit or lift	<input type="radio"/>	<input type="radio"/>
Other (please describe): _____		

53. Which of the following facilities are present at your distribution depots? *Note the term “stations” does not have to refer to separate physical locations as some could be multi-purpose.*

	Yes	No
Wash station	<input type="radio"/>	<input type="radio"/>
Service liquid station (e.g., coolant, oil, brake fluid, power steering fluid)	<input type="radio"/>	<input type="radio"/>
Driver pre/post-trip inspection station (walk around lights, tires, brakes)	<input type="radio"/>	<input type="radio"/>
Collision avoidance calibration station	<input type="radio"/>	<input type="radio"/>
Cargo securement check station	<input type="radio"/>	<input type="radio"/>
Mirror position check station	<input type="radio"/>	<input type="radio"/>
Tire pressure test/fill station	<input type="radio"/>	<input type="radio"/>
Vehicle repair pit or lift	<input type="radio"/>	<input type="radio"/>
Other (please describe): _____		

54. [For the facilities listed as “no” in Q52 and Q53] Why do you believe that the facilities referenced in the previous question are not used in your safety operations?

	Yes	No
Cost	<input type="radio"/>	<input type="radio"/>
Proximity to facility	<input type="radio"/>	<input type="radio"/>
Does not improve safety	<input type="radio"/>	<input type="radio"/>
Other (please describe) _____		

55. Do your maintenance technicians possess a degree from a National Automotive Technicians Education Foundation (NATEF) Certified School? *Note: Owner-operators or carriers without maintenance staff may answer based on opinion of necessary technician training among third-party service stations.*

- No
- Less than 25%
- Between 25% and 50%
- 50% to 75%
- More than 75%

56. [If Q54 = No] Why do you not require the degrees mentioned in the previous question for your maintenance technicians? (check all that apply)?

- |                               | Yes                   | No                    |
|-------------------------------|-----------------------|-----------------------|
| Cost                          | <input type="radio"/> | <input type="radio"/> |
| Does not improve safety       | <input type="radio"/> | <input type="radio"/> |
| Other (please describe) _____ |                       |                       |

57. Is NATEF Master Certified Technician Training Topics a minimum requirement for technicians at hire?

- Yes
- No

58. [If Q56. = Yes] Which of the following NATEF Master Certified Technician Training Topics are minimum requirements for technicians at hire? Check all that apply.

- Truck brakes and chassis
- Brakes
- Electronics
- Preventative Maintenance

59. Is Automotive Service Excellence (ASE) Test Series a minimum requirement for all technicians at hire?

- Yes
- No

60. [If Q59. = Yes] Which of the following ASE Test Series are minimum requirements for all technicians at hire? Check all that apply.

- ASE Auto Maintenance and Light Repair Certification Test (G1)
- ASE Truck Equipment Certification (E Series)
- ASE Alternate Fuels Certification Test (F1)
- ASE Transit Bus Certification (H Series)
- ASE Electronic Diesel Engine Diagnosis Specialist Certification (L2)
- Parts Specialist Certification (P1, Medium-Heavy Truck Parts)

- School Bus Certification (S Series)
  - Medium-Heavy Truck Certification (T Series)
  - ASE Master Technician Status
  - ASE Master Medium-Heavy Vehicle Technician
61. Is previous hands-on technician training considered a minimum requirement for supervisor technicians at hire?  
*Note: Owner-operators or carriers without maintenance staff may answer based on opinion of necessary technician training.*
- Yes
  - No
62. [If Q61. = Yes] How much previous hands-on technician training is considered a minimum requirement for supervisor technicians at hire? (check one)
- Minimum of 2 years
  - Minimum of 5 years
  - Minimum of 10 years
  - Other (please specify): \_\_\_\_\_
63. Is a Degree from a National Automotive Technicians Education Foundation (NATEF) Certified School considered a minimum requirement for supervisor technicians at hire?
- Yes
  - No
64. [If Q63. = Yes] Which of the following NATEF Master Certified Technician Training Topics are considered a minimum requirement for supervisor technicians at hire? (check all that apply)
- Truck brakes and chassis
  - Brakes
  - Electronics
  - Preventative Maintenance
65. Is an Automotive Service Excellence (ASE) Test Series considered a minimum requirement for supervisor technicians at hire?
- Yes
  - No
66. [If Q65. = Yes] Which ASE Auto Maintenance and Light Repair Certification Tests (G1) are considered a minimum requirement for supervisor technicians at hire? (check all that apply)
- ASE Truck Equipment Certification (E Series)
  - ASE Alternate Fuels Certification Test (F1)
  - ASE Transit Bus Certification (H Series)
  - ASE Electronic Diesel Engine Diagnosis Specialist Certification (L2)
  - Parts Specialist Certification (P1, Medium-Heavy Truck Parts)

- School Bus Certification (S Series)
  - Medium-Heavy Truck Certification (T Series)
  - ASE Master Technician Status
  - ASE Master Medium-Heavy Vehicle Technician
67. How often does your carrier's maintenance staff typically receive updated hands-on training from a major vehicle manufacturer or dealer? (Owner operators or carriers without maintenance staff, please consider frequency of manufacturer training opportunities.)
- Every month
  - Every 6 months
  - Once a year
  - Once every 3 years
  - Rarely
  - Never
  - At major vehicle purchase
68. How often would your carrier prefer to receive maintenance staff updated hands-on training from a major vehicle manufacturer or dealer? (Owner operators or carriers without maintenance staff, please consider frequency of manufacturer training opportunities.)
- Every month
  - Every 6 months
  - Once a year
  - Once every 3 years
  - Rarely
  - At major vehicle purchase
  - Never
69. How often does your carrier receive maintenance notices from a major vehicle manufacturer, dealer, or system supplier? (Owner-operators or carriers without maintenance staff, please also consider frequency of manufacturer notices.)
- Every month
  - Every 6 months
  - Once a year
  - Once every 3 years
  - Rarely
  - Only at critical safety notice events
  - Never
70. How often would you prefer to receive maintenance notices from a major vehicle manufacturer, dealer, or system supplier? (Owner-operators or carriers without maintenance staff, please also consider frequency of manufacturer notices.)
- Every month

- Every 6 months
- Once a year
- Once every 3 years
- Rarely
- Only at critical safety notice events
- Never

**[If Q24. = No] Safety Impacts**

[If Q24. = No] *The following questions ask you to describe common and important vehicle maintenance issues that may impact safety on the roads.*

71. [If Q24. = No] In the last two years, what have been the three most common maintenance violations? (list)

Violation A: \_\_\_\_\_

Violation B: \_\_\_\_\_

Violation C: \_\_\_\_\_

72. [If Q24. = No] In the last two years, what have been the three most common vehicle maintenance component failures that affected the **safe vehicle operations**? (list)

Failure A: \_\_\_\_\_

Failure B: \_\_\_\_\_

Failure C: \_\_\_\_\_

73. [If Q24. = No] Think about the most serious safety-related commercial vehicle component failure you have ever experienced. Briefly describe the vehicle problem:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

74. [If Q24. = No] What was the underlying cause for the event described above [Q73.]? (check all that apply):

- Lack of regular maintenance
- Improper repair
- Excessive wear
- Component or part design flaw
- Unknown
- Other (please describe): \_\_\_\_\_

75. [If Q24. = No] Describe the result (avoid information that could be used to identify an individual) of the event described above [Q73.]:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

76. [If Q24. = No] What are three vehicle maintenance violations that you believe are most likely connected to vehicle safety or crashes?  
Violation A: \_\_\_\_\_  
Violation B: \_\_\_\_\_  
Violation C: \_\_\_\_\_
77. [If Q24. = No] What are three vehicle maintenance violations that you believe are NOT connected to vehicle safety or crashes?  
Violation A: \_\_\_\_\_  
Violation B: \_\_\_\_\_  
Violation C: \_\_\_\_\_
78. [If Q24. = No] What are three common vehicle safety issues missed by drivers during daily vehicle pre-trip inspections?  
Issue A: \_\_\_\_\_  
Issue B: \_\_\_\_\_  
Issue C: \_\_\_\_\_
79. [If Q24. = No] What would be the single most important vehicle maintenance issue that if resolved would both reduce crashes and improve delivery?  
\_\_\_\_\_  
\_\_\_\_\_

**State/Federal Periodic (Annual) Inspections**

*The following questions ask you to describe the periodic inspections that apply to your carrier's fleet(s).*

80. How often does your carrier perform periodic inspections? (select one)  
 At every Preventive Maintenance event  
 At yearly Preventive Maintenance event  
 Based on inspection sticker/record domiciled state expiration (e.g., annual or twice a year)  
 Other (please specify): \_\_\_\_\_
81. What are the top three states where the majority of your power units are domiciled? (please choose three)  
 Alabama  
 Alaska  
 Arizona  
 Arkansas  
 California  
 Colorado  
 Connecticut  
 Delaware  
 District of Columbia (D.C.)  
 Florida

- Georgia
- Hawaii
- Idaho
- Illinois
- Indiana
- Iowa
- Kansas
- Kentucky
- Louisiana
- Maine
- Maryland
- Massachusetts
- Michigan
- Minnesota
- Mississippi
- Missouri
- Montana
- Nebraska
- Nevada
- New Hampshire
- New Jersey
- New Mexico
- New York
- North Carolina
- North Dakota
- Ohio
- Oklahoma
- Oregon
- Pennsylvania
- Rhode Island
- South Carolina
- South Dakota
- Tennessee
- Texas
- Utah
- Vermont
- Virginia
- Washington
- West Virginia
- Wisconsin
- Wyoming

82. What are the inspection practices required for inspections across these states? *Please provide a brief description of inspection process for each: self; third-party; state.*

[Display Q81. choice 1] \_\_\_\_\_

[Display Q81. choice 2] \_\_\_\_\_

[Display Q81. choice 3] \_\_\_\_\_

83. What benefits do the required periodic/annual state or federal inspections provide for your carrier's operations?

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84. What challenges do the required periodic/annual state or federal inspections create for your carrier's operations?

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**Miscellaneous**

*The following questions ask you about special operations.*

85. Does your carrier pay for third-party preventative maintenance and repair services on a regular basis?

- Yes
- No, we perform all preventative maintenance and repairs except in breakdown or emergency situation.

86. [If Q85. = Yes] Which third-party provides preventative maintenance and repair services on a regular basis? (check all that apply)

- Contract Dealership (e.g., Freightliner, International, Peterbilt, Volvo)
- Contract Service Organization (e.g., Nationalease, Ryder)
- As needed only (e.g., dealer or truck stop)

87. Describe your carrier's access to spare vehicles to use during planned maintenance or unplanned repair periods.

- Not accessible for my carrier due to cost or other constraints
- Available only when necessary through vehicle rental agreement with third-party
- Available based on maintenance service agreement with third-party
- Extra vehicles within fleet typically available for swap

88. Which bypass systems does your carrier use for weigh station activity? (check all that apply)

- PrePass
- Bestpass
- E-ZPass
- Other: \_\_\_\_\_
- None



- 89. Does your carrier operate power unit vehicles with collision avoidance or lane departure systems (e.g., Bendix, Detroit Assurance, Meritor-Wabco)?
  - Yes
  - No
  
- 90. [If Q89. = Yes] How many years has your current carrier been operating power unit vehicles with these systems?  
\_\_\_\_\_ years
  
- 91. [If Q89. = Yes] How often does your carrier calibrate these systems?
  - Never
  - As needed (based on vehicle dash lights)
  - Yearly
  - Monthly

**[If Q4. = “1”, “2 to 6”]**

*The following questions ask you to describe the specific needs of very small and small carriers, meaning those operating less than 7 power unit vehicles.*

- 92. [If Q5. = Yes] What are the top three challenges that exist for owner-operators to keeping vehicles properly maintained? (list three)
  - Challenge 1 \_\_\_\_\_
  - Challenge 2 \_\_\_\_\_
  - Challenge 3 \_\_\_\_\_
  
- 93. [If Q5. = Yes] What are the top three advantages owner-operators have over large carriers at keeping vehicles properly maintained? (list three)
  - Advantage 1 \_\_\_\_\_
  - Advantage 2 \_\_\_\_\_
  - Advantage 3 \_\_\_\_\_
  
- 94. [If Q5. = No] What are the top three challenges that exist for small carriers to keeping vehicles properly maintained? (list three)
  - Challenge 1 \_\_\_\_\_
  - Challenge 2 \_\_\_\_\_
  - Challenge 3 \_\_\_\_\_
  
- 95. [If Q5. = No] What are the top three advantages small carriers have over large carriers at keeping vehicles properly maintained? (list three)
  - Advantage 1 \_\_\_\_\_
  - Advantage 2 \_\_\_\_\_
  - Advantage 3 \_\_\_\_\_
  
- 96. [If Q4. = “1”] As a commercial vehicle driver, have you ever had your vehicle pulled out-of-service due to maintenance violations?

- Yes
- No

97. [If Q96. = Yes] Please describe 1) the cause and 2) how you resolved the issue and returned the vehicle to service.

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98. [If Q11. Passenger – Children to/from school OR Passenger – Adults and/or Children (not going to/from school) = Yes] Think about the needs specific to passenger carriers. In your opinion, what are the top three challenges that exist for carriers that operate passenger carrying vehicles that are different from those that operate freight? (list three)

Challenge 1 \_\_\_\_\_

Challenge 2 \_\_\_\_\_

Challenge 3 \_\_\_\_\_

99. [If Q13. Single-unit trucks = Yes] Think about the needs specific to single-unit truck carriers. In your opinion, what are the top three challenges that exist for carriers that operate only single-unit trucks that are different from those that operate combination trucks? (list three)

Challenge 1 \_\_\_\_\_

Challenge 2 \_\_\_\_\_

Challenge 3 \_\_\_\_\_

**[If Q24. = Yes] Intervention Effects**

*The following questions ask you to describe your carrier's experience with state or federal interventions.*

100. [If Q24. = Yes] Describe what are you doing about resolving the status of any currently open interventions or investigations related to maintenance practices at the carrier:

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101. [If Q24. = Yes] Describe what you did about resolving any recently closed interventions or investigations related to maintenance practices at the carrier:

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102. [If Q24. = Yes] What type of agency have you interacted, or are you interacting, with during past/current CSA interventions? (check all that apply)

- State
- Federal

103. [If Q24. = Yes] Which of the following types of intervention activity did you experience?

	Yes	No
Warning letter	<input type="radio"/>	<input type="radio"/>
Targeted roadside inspections	<input type="radio"/>	<input type="radio"/>
Off-site investigation	<input type="radio"/>	<input type="radio"/>
On-site focused investigation	<input type="radio"/>	<input type="radio"/>
On-site comprehensive investigation	<input type="radio"/>	<input type="radio"/>
Cooperative safety plan	<input type="radio"/>	<input type="radio"/>
Notice of violation without penalty	<input type="radio"/>	<input type="radio"/>
Notice of claim with penalty	<input type="radio"/>	<input type="radio"/>
Operations OOS order	<input type="radio"/>	<input type="radio"/>

104. [If Q24. = Yes] Overall, do you believe the violations underlying the intervention or investigation were accurate?

- Yes
- No

105. [If Q24. = Yes] What action(s) did you take in response to the intervention or investigation? (check all that apply)

- None
- Submitted a Request for Data Review to FMCSA to dispute or correct inaccurate violation(s) that led to the intervention
- Made changes to your carrier maintenance operations
- Made changes to other carrier operations

106. [If Q24. = Yes] Which, if any, of the following changes did you make to your carrier operations related to vehicle maintenance?

	Yes	No
Personnel change internally	<input type="radio"/>	<input type="radio"/>
Initiate/modify third-party maintenance service contract	<input type="radio"/>	<input type="radio"/>
Change record keeping of maintenance activities	<input type="radio"/>	<input type="radio"/>
Change record keeping of driver vehicle inspection reports	<input type="radio"/>	<input type="radio"/>
Implement/modify a preventative maintenance schedule	<input type="radio"/>	<input type="radio"/>
Initiate/modify maintenance software system	<input type="radio"/>	<input type="radio"/>
Change maintenance physical facility or tools	<input type="radio"/>	<input type="radio"/>
None	<input type="radio"/>	<input type="radio"/>
Other: (Describe) _____		

107. [If Q24. = Yes] In your opinion, what was one significant benefit of the intervention or investigation process which may help to improve compliance in your company with FMCSA vehicle maintenance requirements?

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108. [If Q24. = Yes] Based on your experience, do you have any suggestions about how FMCSA could improve the investigation process to ensure better compliance with FMCSA vehicle maintenance requirements?

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