TTMA

Richard P. Bowling • President

Truck Trailer Manufacturers Association • 1020 Princess Street • Alexandria, Virginia 22314-2247 • (703) 549-3010 • Fax (703) 549-3014

June 15, 2006

Docket Management System
U.S. Department of Transportation
400 Seventh Street, SW
Nassif Building
Room PL-401
Washington, DC 20590-001

Re: RSPA-99-6223 (HM-213B)

On August 10, 2005, we forwarded to the Agency for consideration in the above-referenced NPRN a report prepared by L. Robert Shelton entitled "Potential Costs, Safety Benefits, and Cost-Effectiveness of Side Impact Guards for Truck Trailers."

This report addressed the costs and benefits of theoretical side impact guards based on the assumption that an equivalent of the current rear impact guards required by FMVSS 223 and FMVSS 224 could be installed along the sides of truck trailers in the areas in front of, but not behind, the sliding tandem axles commonly used by interstate motor carriers in the United States. The technological feasibility of such hypothetical guards was expressly not addressed. The modifications to trailer frames, floors and side wall structures needed to provide sufficiently robust mounting locations for such side guards, as well as the added weight and cost of those modifications, were also not addressed.

During a recent review of his report, Mr. Shelton detected an error in the methodology used to calculate payload displacement safety disbenefits for these hypothetical side guards. He has corrected his calculations and issued a revised report. A copy of the revised report is enclosed.

TTMA appreciates this opportunity to participate in the Agency's rulemaking process.

Sincerely,

Richard P. Bowling
President

Enclosure

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June 15, 2006

Docket Section
National Highway Traffic Safety Administration
Room 5109
400 Seventh Street SW
Washington, DC 20590

Re: Docket 1-11 Rear Impact Guards

On August 10, 2005, we forwarded to the Agency for consideration in the above-referenced Docket a report prepared by L. Robert Shelton entitled "Potential Costs, Safety Benefits, and Cost-Effectiveness of Side Impact Guards for Truck Trailers."

Although the focus of this Docket is on rear impact guards and NHTSA published its Final Rule (FMVSS 223 and FMVSS 224) in 1996, the enclosed report does address a finding made by NHTSA and filed in this Docket in the 1991 Preliminary Regulatory Evaluation that "[c]ombination truck side underride countermeasures have been determined not to be cost-effective."

The report addressed the costs and benefits of theoretical side impact guards based on the assumption that an equivalent of the current rear impact guards required by FMVSS 223 and FMVSS 224 could be installed along the sides of truck trailers in the areas in front of, but not behind, the sliding tandem axles commonly used by interstate motor carriers in the United States. The technological feasibility of such hypothetical guards was expressly not addressed. The modifications to trailer frames, floors and side wall structures needed to provide sufficiently robust mounting locations for such side guards, as well as the added weight and cost of those modifications, were also not addressed.

During a recent review of his report, Mr. Shelton detected an error in the methodology used to calculate payload displacement safety disbenefits for these hypothetical side guards. He has corrected his calculations and issued a revised report. A copy of the revised report is enclosed.

TTMA appreciates this opportunity to participate in the Agency's rulemaking process.

Sincerely,

Richard P. Bowling
President

Enclosure

PLMB00964

UTM 282181

"Data from Trailer Manufacturers to Help Estimate Potential Costs of Side Impact Guards"

1. Provide dimensions of rear impact guards for your trailers: width, height, and depth (Typical, minimum, and maximum). **Rear impact guards meet the minimum dimensional requirements of DOT 49 CFR Part 571, Standard 223/224. Vertical member fwd-aft depth is approximately 18" (top of vertical to slider rail). Vertical member height is approximately 17-1/2" tall. The horizontal member is approximately a 4" x 4" fabricated tube approximately 95-3/8" long.**

2. Provide general material and design descriptions for rear impact guards for your trailers. **Typically rear impact guard parts are made from carbon steel with 50,000-PSI minimum yield strength. Designs meet or exceed structural requirements of DOT 49 CFR Part 571, Standard 223/224.**

3. Provide the weights of rear impact guards for your trailers (typical, minimum, and maximum). **Typical weight of the rear impact guard is approximately 165 pounds.**

4. Assuming you assemble your own rear impact guards, provide *materials costs* (on a per unit basis) for these guards. Plus provide an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added. **On a per unit basis, material retail cost is approximately $295 per trailer (includes forming costs of the vertical & horizontal members).**

5. Provide your *assembly costs* (per unit basis) for rear impact guards (not counting installation on to the trailer), plus an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added. **We do not have separate sub-assemblies, see response to question #7.**

5A. Provide calculations, if any, showing how the assembly costs you identified in response to Question 5 were determined. **See response to question 7A.**

6. Provide descriptions of any necessary *supporting or attachment hardware* used for your rear impact guards, including dimensions and weight. Also, provide your costs (per unit basis) for this supporting hardware (plus an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added). **Typical rear impact guard attachment points are the slider rail and the lower area of the rear doorframe case. Minimal weight and cost were added to the attachment points to meet the current rear impact guard requirements. (See 4 & 5).**

7. Provide your *installation costs* (per unit basis) for rear impact guards, plus an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added. **Installation retail costs of the rear impact guard is approximately $270, which includes installation (welding) of vertical members to the slider rail/rear doorframe case and horizontal member to the vertical members.**

7A. Provide calculations, if any, showing how the installation costs you identified in response to Question 7 were determined. **Installation Cost of the Rear Impact Guard *equals* (Manufacture & Assembly Labor costs *plus* G&A cost) *multiplied* by the Retail Factor.**

8. Provide *testing and compliance certification costs* for rear impact guards, on an average per unit basis. Include an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added. **Initial testing and compliance costs totaled approximately $200,000. Testing and compliance costs for each additional model are approximately $85,000 (includes optional equipment designs).**

9. Provide dimensions along length of trailer for possible side impact guards mounting: Dimensions from forward most edge of front tire on rear slider (in its most forward position allowed under the California bridge law) to the expected rearward most edge of the rear tire on the attached tractor for your trailer designs. The dimensions should be chosen to maximize the length of potential side guard coverage along the side of the trailer without interfering with either the trailer's or the attached tractor's wheels and tires. **Approximately 240 inches long for a 53-foot van trailer.**

10. Provide any estimates you have on typical operating lives and annual miles driven per trailer, by type of trailer. **Vans: Typical-operating life is 12 years at approximately 80,000 miles per year.**

11. What is the average cost per hour of your employees who assemble and/or install rear impact guards? **Fully burdened rate of factory personnel is approximately $45.00 per hour.**

12. If you perform repairs on rear impact guards, provide an estimate of the typical cost you charge customers for replacement of the guard's crossbar. Please break this cost estimate down into labor, materials, and other (if applicable) charges. **Rear impact guard repairs are completed by outside repair shops who per job quote repair work and charge various hourly rates.**

Are you willing to have your company's name included in the general list of manufacturers that have responded to this questionnaire? (Your name will not be listed so as to identify your specific responses.)

Yes, include this company in those responding: _____
Name of Company

Response to: "Data from Trailer Manufacturers to Help Estimate Potential Costs"

1. Provide dimensions of rear impact guards for your trailers: width, height, and depth (Typical, minimum, and maximum). **Rear impact guards meet the minimum dimensional requirements of DOT 49 CFR Part 571, Standard 223/224. Vertical member fwd-aft depth is approximately 18" (top of vertical to slider rail). Vertical member height is approximately 17-1/2" tall. The horizontal member is approximately a 4" x 4" fabricated tube approximately 95-3/8" long.**

2. Provide general material and design descriptions for rear impact guards for your trailers. **Typically rear impact guard parts are made from carbon steel with 50,000-PSI minimum yield strength. Designs meet or exceed structural requirements of DOT 49 CFR Part 571, Standard 223/224.**

3. Provide the weights of rear impact guards for your trailers (typical, minimum, and maximum). **Typical weight of the rear impact guard is approximately 165 pounds.** Horz & Vert. attachments.

4. Assuming you assemble your own rear impact guards, provide *materials costs* (on a per unit basis) for these guards. Plus provide an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added. **On a per unit basis, material retail cost is approximately $295 per trailer (includes forming costs of the vertical & horizontal members).**

5. Provide your *assembly costs* (per unit basis) for rear impact guards (not counting installation on to the trailer), plus an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added. **We do not have separate sub-assemblies, see response to question #7.**

6. Provide descriptions of any necessary *supporting or attachment hardware* used for your rear impact guards, including dimensions and weight. Also, provide your costs (per unit basis) for this supporting hardware (plus an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added). **Typical rear impact guard attachment points are the slider rail and the lower area of the rear doorframe case. Minimal weight and cost were added to the attachment points to meet the current rear impact guard requirements. (See 4 & 5).**

7. Provide your *installation costs* (per unit basis) for rear impact guards, plus an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added. **Installation retail costs of the rear impact guard is approximately $270, which includes installation (welding) of vertical members to the slider rail/rear doorframe case and horizontal member to the vertical members.**

8. Provide *testing and compliance certification costs* for rear impact guards, on an average per unit basis. Include an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added. **Initial testing and compliance costs totaled approximately $200,000. Testing and compliance costs for additional models are approximately $85,000 (including optional equipment designs).**

9. Provide dimensions along length of trailer for possible side impact guards mounting: Dimensions from forward most edge of front tire on rear slider (in its most forward position allowed under the California bridge law) to the expected rearward most edge of the rear tire on the attached tractor for your trailer designs. The dimensions should be chosen to maximize the length of potential side guard coverage along the side of the trailer without interfering with either the trailer's or the attached tractor's wheels and tires. **Approximately 240 inches long for a 53-foot van trailer.**

10. Provide any estimates you have on typical operating lives and annual miles driven per trailer, by type of trailer. **Vans: Typical-operating life is 12 years at approximately 80,000 miles per year.**

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GLEN M. DARBYSHIRE

September 3, 2004

John Stanton, Esq.
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City of Industry, CA 91749-1299

Re: TTMA Special Project
Attorney/Client Communication and Requested Attorney Work Product

Dear John,

As you know, I am working on a TTMA-funded project as your attorney to develop and evaluate possible defense strategies to side underride lawsuits. I write to you in that capacity, seeking information that will assist one of our consultants in analyzing the theoretical costs of side impact guards.

Enclosed is a list of ten questions in response to which I hope that you can provide data to be used in that analysis. Please review the questions and let me know if any of them needs clarification. If not, please gather this information and then complete the questionnaire.

As you will see, some of the questions seek material and labor cost figures which no doubt will constitute confidential proprietary information within your company. So that this information can be gathered without disclosing it to other manufacturers, I am requesting that you not include in your answers any information from which I will be able to identify the responding manufacturer.

Instead, each TTMA member to whom this questionnaire is sent will receive an identical copy of the questionnaire and an identical blank envelope in which the completed responses should then be sealed. That envelope should be placed in the second pre-addressed, and pre-stamped envelope, which you will mail back to our office. It is directed to the attention of my legal assistant, and I have instructed her to open only the first envelope, and discard it immediately, and then deliver all of the inside envelopes to me without making any record of any mailing source. This will make sure that neither I nor our consultant will be in a position to trace a particular response to any TTMA member. My legal assistant will have no record that will enable her to trace a particular response. I trust that this approach will be satisfactory to all, but

if not please let me know immediately.

We need your responses by Friday, September 17, 2004, if at all possible.

Thank you for your assistance.

Sincerely,

Glen M. Darbyshire

GMD/jg
Enclosure

UTM 282187

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Glen M. Darbyshire

November 16, 2004

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Robert O. Maharry
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P.O. Box 849
Lufkin, TX 75902-0849

Dear Gentlemen:

Enclosed is a comprehensive questionnaire seeking the information requested for completion of the costs/benefit analysis of side guards. Some of you have already responded to most of the questions, but for all of you at least Question 12 is new. So that I will have one complete set of responses, I am asking you each to again answer all questions, even if you have no revisions to make to your prior responses. Thus, for some of you responding to this questionnaire will be redundant in part, and I do appreciate your cooperation in that regard.

We know that there are differences in manufacturing processes, as some of you build the rear impact guard as part of the overall rear frame, while others assemble the guard and then attach it to the

frame in a separate operation. If you assemble the entire frame and rear impact guard in a single operation, then please estimate the cost of the guard alone as best you can. If you believe your assembly is unique, feel free to explain how you have derived your answers. I am looking for exactly the type of response you would send NHTSA if you were responding to a request for this information. If a particular question does not apply to your operations, or if you do not have information that you believe is sufficiently reliable to form a response, please note that in your answers.

I am also requesting that you confer with management and decide whether you are willing to allow me to list your company as a responding party, instead of submitting these responses on a totally anonymous basis. I am enclosing an envelope that will allow you to respond anonymously, but if you are willing to have your company identified, then please also return the separate note to that effect. My plan would be not to identify specific responses to a specific manufacturer, but rather to list by name those manufacturers that did respond to the questionnaire. Thus, from a competitive standpoint, you would not be able to analyze the data with reference to any particular manufacturer, but you would know how you stand with respect to the other manufacturers that do respond and are willing to be named generally. I will disclose only those manufacturers willing to be identified as having participated in the survey. Again, I will not identify specific data as having been submitted by a particular manufacturer.

I need this information from you as soon as possible. If you have any questions, please let me know immediately.

Thank you for your assistance.

Sincerely,

Glen Darbyshire

GMD/jg
Enclosures

2ND

11/16/04

Data from Trailer Manufacturers to Help Estimate Potential Costs of Side Impact Guards

1. Provide dimensions of rear impact guards for your trailers: width, height, depth (typical, minimal, and maximum).

2. Provide general material and design descriptions for rear impact guards for your trailers.

3. Provide the weights of rear impact guards for your trailers (typical, minimal, and maximum).

4. Assuming you assemble your own rear impact guards, provide *materials costs* (on a per unit basis) for these guards. Plus provide an estimate of how these costs translate into increased costs for trailer purchasers, once overheard, normal profit, etc. are added.

5. Provide your *assembly costs* (per unit basis) for rear impact guards (not counting installation on to the trailer), plus an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added.

5A. Provide calculations, if any, showing how the assembly costs you identified in response to Question 5 were determined.

6. Provide descriptions of any necessary *supporting or attachment hardware* used for your rear impact guards, including dimensions and weight. Also, provide your costs (per unit basis) for this supporting hardware (plus an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added).

7. Provide your *installation costs* (per unit basis) for rear impact guards, plus an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added.

7A. Provide calculations, if any, showing how the installation costs you identified in response to Question 7 were determined.

8. Provide *testing and compliance certification costs* for rear impact guards, on an average per unit basis. Include an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added.[1]

9. Provide dimensions along length of trailer for possible side impact guards mounting: Dimensions from forwardmost edge of front tire on rear slider (in its most forward position allowed under the California bridge law) to the expected rearwardmost edge of the rear tire on the attached tractor for your trailer designs. The dimensions should be

[1] The cost answers to questions 4, 5, 6, 7, and 8 should add up to the typical total incremental costs of adding rear impact guards to each of your trailers.

chosen to maximize the length of potential side guard coverage along the side of the trailer without interfering with either the trailer's or the attached tractor's wheels and tires.

10. Provide any estimates you have on typical operating lives and annual miles driven per trailer, by type of trailer.

11. What is the average cost per hour of your employees who assemble and/or install rear impact guards?

12. If you perform repairs on rear impact guards, provide an estimate of the typical cost you charge customers for replacement of the guard's crossbar. Please break this cost estimate down into labor, materials, and other (if applicable) charges.

Are you willing to have your company's name included in the general list of manufacturers that have responded to this questionaire? (Your name will not be listed so as to identify your specific responses.)

Yes, include this company in those responding: _____

Name of Company

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December 15, 2004

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Brian Ling
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Dear Gentlemen:

On November 16, 2004, I sent the enclosed comprehensive questionnaire to you, but have not yet received any responses. If at all possible, please reply by the end of the year.

If you have any questions please let me know immediately. Thank you.

Sincerely,

Glen Darbyshire
Enclosures

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November 16, 2004

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Dear Gentlemen:

Enclosed is a comprehensive questionnaire seeking the information requested for completion of the costs/benefit analysis of side guards. Some of you have already responded to most of the questions, but for all of you at least Question 12 is new. So that I will have one complete set of responses, I am asking you each to again answer all questions, even if you have no revisions to make to your prior responses. Thus, for some of you responding to this questionnaire will be redundant in part, and I do appreciate your cooperation in that regard.

We know that there are differences in manufacturing processes, as some of you build the rear impact guard as part of the overall rear frame, while others assemble the guard and then attach it to the

frame in a separate operation. If you assemble the entire frame and rear impact guard in a single operation, then please estimate the cost of the guard alone as best you can. If you believe your assembly is unique, feel free to explain how you have derived your answers. I am looking for exactly the type of response you would send NHTSA if you were responding to a request for this information. If a particular question does not apply to your operations, or if you do not have information that you believe is sufficiently reliable to form a response, please note that in your answers.

I am also requesting that you confer with management and decide whether you are willing to allow me to list your company as a responding party, instead of submitting these responses on a totally anonymous basis. I am enclosing an envelope that will allow you to respond anonymously, but if you are willing to have your company identified, then please also return the separate note to that effect. My plan would be not to identify specific responses to a specific manufacturer, but rather to list by name those manufacturers that did respond to the questionnaire. Thus, from a competitive standpoint, you would not be able to analyze the data with reference to any particular manufacturer, but you would know how you stand with respect to the other manufacturers that do respond and are willing to be named generally. I will disclose only those manufacturers willing to be identified as having participated in the survey. Again, I will not identify specific data as having been submitted by a particular manufacturer.

I need this information from you as soon as possible. If you have any questions, please let me know immediately.

Thank you for your assistance.

Sincerely,

Glen Darbyshire

GMD/jg
Enclosures

2nd (2nd request)

12/15/04

Data from Trailer Manufacturers to Help Estimate Potential Costs of Side Impact Guards

1. Provide dimensions of rear impact guards for your trailers: width, height, depth (typical, minimal, and maximum).

2. Provide general material and design descriptions for rear impact guards for your trailers.

3. Provide the weights of rear impact guards for your trailers (typical, minimal, and maximum).

4. Assuming you assemble your own rear impact guards, provide *materials costs* (on a per unit basis) for these guards. Plus provide an estimate of how these costs translate into increased costs for trailer purchasers, once overheard, normal profit, etc. are added.

5. Provide your *assembly costs* (per unit basis) for rear impact guards (not counting installation on to the trailer), plus an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added.

5A. Provide calculations, if any, showing how the assembly costs you identified in response to Question 5 were determined.

6. Provide descriptions of any necessary *supporting or attachment hardware* used for your rear impact guards, including dimensions and weight. Also, provide your costs (per unit basis) for this supporting hardware (plus an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added).

7. Provide your *installation costs* (per unit basis) for rear impact guards, plus an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added.

7A. Provide calculations, if any, showing how the installation costs you identified in response to Question 7 were determined.

8. Provide *testing and compliance certification costs* for rear impact guards, on an average per unit basis. Include an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added.[1]

9. Provide dimensions along length of trailer for possible side impact guards mounting: Dimensions from forwardmost edge of front tire on rear slider (in its most forward position allowed under the California bridge law) to the expected rearwardmost edge of the rear tire on the attached tractor for your trailer designs. The dimensions should be

[1] The cost answers to questions 4, 5, 6, 7, and 8 should add up to the typical total incremental costs of adding rear impact guards to each of your trailers.

chosen to maximize the length of potential side guard coverage along the side of the trailer without interfering with either the trailer's or the attached tractor's wheels and tires.

10. Provide any estimates you have on typical operating lives and annual miles driven per trailer, by type of trailer.

11. What is the average cost per hour of your employees who assemble and/or install rear impact guards?

12. If you perform repairs on rear impact guards, provide an estimate of the typical cost you charge customers for replacement of the guard's crossbar. Please break this cost estimate down into labor, materials, and other (if applicable) charges.

Are you willing to have your company's name included in the general list of manufacturers that have responded to this questionaire? (Your name will not be listed so as to identify your specific responses.)

Yes, include this company in those responding: _____

Name of Company

September 2, 2004

Data from Trailer Manufacturers to Help Estimate Potential Costs of Side Impact Guards

1. Provide dimensions of rear impact guards for your trailers: width, height, depth (typical, minimum, and maximum)

2. Provide general material and design descriptions for rear impact guards for your trailers

3. Provide the weights of rear impact guards for your trailers (typical, minimum, and maximum)

4. Assuming you assemble your own rear impact guards, provide *materials costs* (on a per unit basis) for these guards. Plus provide an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added.

5. Provide your *assembly costs* (per unit basis) for rear impact guards (not counting installation on to the trailer), plus an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added.

6. Provide descriptions of any necessary *supporting or attachment hardware* used for your rear impact guards, including dimensions and weight. Also, provide your costs (per unit basis) for this supporting hardware (plus an estimate of how these costs translate into increased costs for trailer purchasers, once overhead, normal profit, etc. are added).

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[1] The cost answers to questions 4, 5, 6, 7, and 8 should add up to the typical total incremental costs of adding rear impact guards to each of your trailers.

9. Provide dimensions along length of trailer for possible side impact guards mounting: Dimensions from forwardmost edge of front tire on rear slider (in its most forward position allowed under the California bridge law) to the expected rearwardmost edge of the rear tire on the attached tractor for your trailer designs. The dimensions should be chosen to maximize the length of potential side guard coverage along the side of the trailer without interfering with either the trailer's or the attached tractor's wheels and tires.

10. Provide any estimates you have on typical operating lives and annual miles driven per trailer, by type of trailer.