



U.S. Department of Transportation
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OFFICE OF ANALYSIS, RESEARCH, AND TECHNOLOGY

Overview of FMCSA Research Division Programs and Studies April 8, 2009

Webinar Transcript

Presenters

- Dr. Martin Walker, Research Division Chief, FMCSA Office of Analysis, Research, and Technology (ART)

Speakers

- Kirse Kelly, Web Conference Host, FMCSA ART

Description:

FMCSA's Research Division helps FMCSA to reduce large truck and bus crashes, injuries, and fatalities through a program that contributes to a safe and secure commercial transportation system. This is accomplished by expanding the knowledge and portfolio of deployable technologies and innovations through systematic studies directed toward fuller scientific discovery, knowledge, or understanding. This webinar provides a unique opportunity for members of the public to get an update from Dr. Martin Walker, Research Division Chief and other members of the Research Division on the latest studies for testing and deploying innovative driver, carrier, vehicle, and roadside best practices and technologies.

PRESENTATION— OVERVIEW OF FMCSA'S RESEARCH PROGRAM**PRESENTATION TITLE SLIDE: OVERVIEW OF FMCSA'S RESEARCH PROGRAM****Kelly (Operator):**

Welcome and thank you for standing by. At this time all participants are in a listen-only mode. After the presentation is over we will conduct a Question and Answer Session. To ask a question please press *1. Today's conference is being recorded. If you have any objections you may disconnect at this time. I will turn over the meeting to Ms. Kirse Kelly. You may begin.

Kirse Kelly (Web Conference Host, FMCSA ART):

Thank you, Kelly and thanks to all of you who are participating in our webinar which is going to give you an Overview of the FMCSA ART Research Division Programs and Studies. This webinar is part of the series that is put on by FMCSA's Office of Analysis, Research and Technology.

As Kelly mentioned, time permitting, all questions will be answered at the end of the call. You can submit questions in the **Q&A Box** which is on the left side of your screen throughout the presentation and at the end of the call. You'll then be able to submit questions online and ask questions over the phone.

Please note though that, although the presentation is not yet available for you to download, it will be available to download at the end of this webinar.

We also need to let you know that members of the trade or the local media who are participating today are asked to contact the FMCSA Office of Communications at (202) 366-9999 at the conclusion of the webinar if you have any questions.

Finally, for anyone who may have a smaller screen and the virtual meeting room that we're in is—go ahead and click on the upper...Let me start again with that one. For anyone who may have a smaller screen and this virtual meeting room may just be stuck up on the left side of your screen, you might want to try **Full Screen**. You can access that by clicking on **Meeting**, which is at the very top left of your screen, choosing **Manage My Settings** in the list, and clicking on **Full Screen**.

Now let me go ahead and turn you over to our FMCSA Research Division Chief, Dr. Martin Walker.

Dr. Martin Walker (Research Division Chief, FMCSA ART):

Good Morning. My name is Martin Walker. I'm the Chief of the Research Division. What I want to do today is provide you with an overview of FMCSA's Research Program.

SLIDE 2: RESEARCH DIVISION

The Mission of FMCSA's Research Division is to conduct systematic studies directed toward fuller scientific discovery, knowledge, and understanding that will improve safety, and reduce the number and severity of commercial motor vehicle crashes.

SLIDE 3: RESEARCH DIVISION

We have a five-year strategic plan and within that five-year strategic plan, we have six focused areas:

- To Produce Safer Drivers
- To Improve the Safety in Commercial Vehicles
- To Produce Safer Carriers
- To Advance Safety Through Information-Based Initiatives
- To Improve Security through Safety Initiatives
- To Enable and Motivate Internal Excellence

Within each of those areas, within the ART office, we have kind of a complimentary role. The Research Division produces a number of studies in the first area, "Produce Safer Drivers":

- How to improve performance
- How to reduce driver errors
- How to improve alertness of drivers

The other two divisions within the ART Office also have focused areas. Within the Technology Division you'll find that many of their studies are within the area of Improving the Safety of Commercial Motor Vehicles; within the Analysis Division because they collect a lot of data on carriers. They do a lot of work in the area of Producing Safer Carriers. The three of us have work in the other three strategic areas.

What I am going to talk about today is to provide you a summary of 26 studies that I have currently ongoing at FMCSA.

SLIDE 4: PSD – DRIVER FATIGUE RESEARCH

PSD stands for *Produce Safer Drivers*. In the area *Driver Fatigue Research*, we have eight initiatives aimed at reducing fatigue related crashes.

The first one is the "North America Fatigue Management Program (FMP)." FMCSA and Transport Canada have been working together to jointly develop a FMP. The components of this Fatigue Management Program are sleep apnea screening, training for managers, schedulers, drivers, and of course, driver families. We have just completed or about to complete Phase III which was a pilot study that involved putting this FMP into two motor carriers in Canada, one motor carrier in the United States. This ran for a one-year period.

The next study that we have working is a study through the Small Business Innovative Research Program (SBIR). We are trying to develop and test a fatigue-alerting device that will warn drivers when their level of alertness becomes too low and they need to stop and take a break. The goal is to develop and commercialize a Multi-Measure Fatigue Monitoring and Warning System by 2013. This year, FY '09, we're going to be transitioning from a Phase I to a Phase II of this SBIR project.

SLIDE 5: PSD – DRIVER FATIGUE RESEARCH

We're also working on the "Impact of Split Sleep on Driver Alertness and Health." This study will examine and evaluate the effects of various split-sleep regimes on driver alertness and health. That study will be completed in 2011.

We have a "Driver Recovery Napping Study" that FMCSA and Transport Canada are working together to evaluate recovery periods and particularly napping strategies for commercial motor vehicle drivers. This study will investigate and make recommendation regarding the minimum duration of off-duty periods required for commercial drivers to recover from the effects of cumulative fatigue resulting from various work schedules and conditions. This study will be completed in September 2010.

SLIDE 6: PSD – DRIVER FATIGUE RESEARCH

I have a—in FY '09—a new study entitled "Advanced Fatigue Modeling for Individual Differences." The goal of this project is to improve the state-of-the-art of fatigue modeling that could greatly improve driver scheduling and reduce fatigue in commercial drivers. What we have, as far as the state-of-the-art of fatigue modeling, is some generalized models of the fatigue. What we would like to see is more advanced models that take into account potentially PERCLOS and actigraph data to give an individual assessment at the individual level what his/her fatigue are. Again, it would greatly improve driver scheduling in order to try to reduce fatigue in commercial motor vehicle drivers. Right now, we're currently—the Volpe Center who manages DOT's SBIR Program is currently requesting proposals. We believe that this will start this year and would be completed in mid 2012.

I have a "Motorcoach Driver Fatigue Study." This study is being conducted by Washington State University and Greg Belenky. The research examines operating practices and driver schedules to develop a study which would support improved regulatory policy within the area of passenger carrier operations. The "Motorcoach Driver Fatigue Study" will be completed in mid 2010.

SLIDE 7: PSD – DRIVER FATIGUE RESEARCH

Paul Jovanis from Penn State University is working on a study for us that's a "Crash Risk and Driver Operations Study." The study will evaluate Electronic Onboard Recorders, the logbooks that provide the data, and look at different operational types to examine the relationship between each and the probability of crash. This is kind of further development of Paul's work. We're hoping to increase sample size in the later hours of driving. This study will examine fatigue-

related crashes by hours of driving and then the probability of crash. This study will also be completed in September 2009. I don't think that's correct. I think it's later than that. I'll have to check on that. (Note. Correct date for completion of this study is October 2010.)

We are also doing another fatigue study which is an Investigation into Motor Carrier Driver Practices to Achieve Optimal Commercial Motor Vehicle Driver Performance. This study is examining the effectiveness of current restart provisions under the best case and worst case conditions; best case being daytime drivers; worst case being nighttime drivers. We're examining how the restart provision of the current hours of service rule is working in both of those situations. The first phase of this study will be completed in September 2009.

SLIDE 8: PSD – DRIVER RISK AND MITIGATION

In the area of *Produce Safer Drivers* and *Driver Risk and Mitigation* we have three different driver risk studies. One study that provides drivers with defensive driving tips to mitigate crash risk. I'm doing a large-scale case control study on individual differences. This study will identify the most critical driver risk factors through a case-control study approach and will collect data on over 20,000 drivers. We're looking at factors such as demographic characteristics, medical conditions, personality traits, attitude, work environment, and behavioral history. This study will be completed in May 2012.

I have a "Crash Analysis using Naturalistic and Large Truck Crash Causation Study (LTCCS) Data." This study provides an opportunity to learn about crash causation by analyzing comparing the LTCCS Data and the Naturalistic Driving Data. We will look at separate crash types using what we've learned from the Large Truck Crash Causation Study. Then overlay what we know from the Naturalistic Driving of those kinds of events that occurred and that we have captured events or captured video on what has occurred prior to them. It gives us a fuller and more interesting look at what goes on prior to a crash. That is what—the thrust of this study is to provide better information about crash causation. This study will be completed next year, December 2010.

SLIDE 9: PSD – DRIVER RISK AND MITIGATION

I have a "Driver Distraction Study in Commercial Motor Vehicle Operation." This study is characterizing 20,000 safety critical events and baseline events recorded in Naturalistic Driving Data. The characterization of these events will focus on identifying the secondary task and other activities that the drivers were engaged prior to the event occurring. The goal is assess the frequency and percentage of various distraction types. This study, we're reviewing right now. It will be completed this month.

I have a "Defensive Driving Tips for Commercial Fleet Safety Managers and Drivers Study." This study—what we're trying to do is synthesis the literature on the defensive driving. We used the Large Truck Crash Causation Study's critical reason framework to organize a Website for Defensive Driving Tips. The Website and provided video examples of the "do's and don'ts" for commercial drivers to provide ideas and tips to the safety managers and drivers. The idea came really from the safety managers who saw some of the unique video that was being produced at

Virginia Tech on what drivers do in the Naturalistic Driving Study. The safety managers asked us to put together this Website that they could use to help train or remediate their drivers and provide information to their drivers the kind of the things they should or should not do behind the wheel. This study was completed in January. The web page is currently on FMCSA's Website. It was launched in February 2009.

SLIDE 10: PSD – PERFORMANCE IMPROVEMENTS

In the area of *Performance Improvements* I have three different studies to Improve Commercial Motor Vehicle Driver Performance.

We're working on a "Simulator Validation for Training Commercial Motor Vehicle Drivers." This study is evaluating, really four groups:

- Conventional training,
- Simulator-supported training,
- CDL focused training, and
- No formal training group.

You can show up at a motor vehicle agency and take the CDL and you don't really need to demonstrate that you've had any training. In my experience, I learned to drive a truck working for my father in a Heating and Air Conditioning business. I was (one of) a lot of people who have learned through family and friends, and then show up at the DMV. What we're trying to do with this study is to really see how each of these groups perform and really to validate the use of simulators; to validate the use of formal training for training commercial motor vehicle drivers. This study will also showcase the advanced capabilities of simulators to replicate emergency situations and emergency maneuvers; it will replicate tankers, doubles; it provides—within a simulator you can do all kinds of different scenarios with weather—changing weather conditions. The study will be complete in September 2010. It's being conducted by Virginia Tech and at Delaware Technical Community College.

I'm also working on a "DriveCam Pilot Test." The DriveCam System integrates in-vehicle video, driver performance management software and also incorporates driver counseling. Within this pilot test, we have involved two carriers—a local short-haul and long-haul operation. It included a total of 100 vehicles that participated in a 16-week pilot test. The preliminary results for this pilot test suggests that the training based on the information gathered by the DriveCam System can greatly reduce driver errors. Some of the preliminary results suggest that we can reduce captured events. The DriveCam reduces captured events by more than 50 percent. The study will be completed late this year in July.

SLIDE 11: PSD – PERFORMANCE IMPROVEMENTS

I have a large-scale "Onboard Monitoring System Field Operational Test" that will begin this year. The goal of this study is to develop and evaluate onboard monitoring that measures a set of driving characteristics that are indicators of unsafe driving behavior. The five core behavioral categories that served as a basis for monitoring include:

- Speed selection,
- Following behavior,
- Attention and inattention,
- Fatigue, and
- Good safety practices, like wearing ones safety belt, drivers using their turn signals.

This is an Onboard Monitoring Study that will provide the carrier with information about driver behavior and then he or she can take into account, in their counseling with drivers, to try to change that driver's behavior. This FOT will involve more than 200 trucks, and it could involve as many as a thousand commercial motor vehicle drivers. We have a letters of commitment from two large motor carriers. We also are going to be collecting naturalistic driving data with these 200-plus trucks. In this study—we estimate it will be the largest naturalistic driving study that has ever been conducted for commercial vehicles. It will provide over 200 truck years of driving data which we can use—evaluate things later on as we evaluate that data in years—in the out years. The study will be completed in May 2012, but we are hoping that trucks will start running with the system later this year.

SLIDE 12: IMPROVE SAFETY OF CMVS

In the area of *Improving the Safety of Commercial Motor Vehicles*, I have five different studies to improve the safety of commercial motor vehicle studies. I am assessing the exposure risk of trucking occupations. In this particular study we are measuring air-pollution concentration, noise and vibration inside cabs and sleeper berths while we're driving at different speeds and idling at truck stops. The study will be completed later this year, May 2009.

I have a study to look at the "Factors that Affect the Service Life of Cargo Tanks." This study is being conducted for our HazMat Division at FMCSA. It will identify the factors that affect the service life of cargo tanks, and will help to develop guidelines for testing, inspection, and assembly and repair of cargo tanks, and develop information needed to propose changes in regulations involving cargo tanks. That study will be completed in June 2009.

SLIDE 13: IMPROVE SAFETY OF CMVS

We're also working on a multimodal study with NHTSA—"Engineering and Root Causes of Motorcoach Fires." What we're trying to do is investigate and categorize and of course, eliminate fires in motorcoaches. The findings of this analysis will lead to DOT to generate specific recommendations for preventing future fire incidents. This study will be completed in 2013.

We're testing the "Recommended Improvements to Nurse Tank Safety." This study will measure the stresses on a number of nurse tanks and, in high failure rates of those tanks, areas where they are likely to rupture. We are developing an algorithm for predicting which tanks should be taken out of service, at what time period, and make recommendations as to the proper maintenance of those tanks. This study was in response to NTSB recommendation regarding nurse tank safety. This study will be completed in July 2012.

SLIDE 14: IMPROVE SAFETY OF CMVS

For the last few years we've been working on the development of a "Low Cost Device to Increase Safety-Belt Use" through our Small Business Innovation Research Program. We're transitioning to Phase II this year. What we are trying to do is a low-cost, easily installed device that will increase the safety belt use in commercial motor vehicle drivers. This was a part of a study that we conducted in 2006. The recommendation of that study was to develop a device that could be put on trucks that would provide an incentive for the drivers to use their safety belts. This study will be completed in June 2011.

SLIDE 15: PRODUCE SAFER CARRIERS

In the area of *Producing Safer Carriers* we have four different projects that will try to improve safer carriers. We have a "Safety Impacts of Speed Limiters Devices." This study will collect safety data to evaluate the impacts of speed limiters. The impacts can be safety, as well as economic—i.e., to increase fuel economy and reduce maintenance. This study actually started a few months ago and it will be completed in July 2010.

I have a study that is about to start on the "Effectiveness of Fostering Safety Culture in Motor Carriers." We're going to evaluate the effectiveness of having a proactive business training in partnership with the SCORE (the Service Corps for Retired Executives), where SCORE goes in and provides new entrants kind of a proactive training on how to run a business. They also—then we have a third-party educator (who) will provide training to new entrants on FMCSA's safety regulations. This study will be completed in March 2012.

SLIDE 16: PRODUCE SAFER CARRIERS

Also, we are looking at—because more and more of our regulations are being posted to the web, and more and more we are using web-based instruction, our regulatory group wanted us to take a look at the efficacy of the web-based instruction for "training motor carrier" regulations and then develop a best-practice guide. This study will be completed in November. This is a short-term study and will be completed in November 2009.

We're doing a "Synthesis of the Literature and Operating Safety Practice Related to Cell Phones and PDAs in Commercial Motor Vehicles." Generally speaking, we're also looking at trucking and motorcoach operations. This is kind of incorporation with the "Driver Distraction Study" we're doing. We're trying to look at cell phones from a trucking perspective, (and) from a motorcoach perspective, to provide information to our Regulatory Division. This is response to a NTSB recommendation to limit cell phone use in motorcoach operations. This study will be completed in February 2010.

SLIDE 17: ADVANCE SAFETY THROUGH INFORMATION-BASED INITIATIVES

In the area of *Advance Safety through Commercial Based Initiatives*, I have one effort currently ongoing; it's an FMCSA Nlets Research Demonstration Project. This study will determine the

safety benefits and costs of providing more accurate, more updated commercial drivers license information via the Nlets-to-law enforcement officials. The law enforcement officers need a simple status to alert them when to call a MCSAP-trained officer to deal with commercial motor vehicle drivers that they have stopped for the traffic violations and for other problems indicated by FMCSA safety data. This study will provide a link from FMCSA systems to the Nlets so the officer can readily have our data. I think in a lot of cases right now, an officer has access to it, but it's not readily available. They have to log-off of Nlets and then log-on to our system. What we are trying to do is provide all of that data through the Nlets Network.

SLIDE 18: ENABLE & MOTIVATE INTERNAL EXCELLENCE

In the area of trying to *Improve and Motivate Internal Excellence*, the Research Division is working to improve its performance and to more effectively and more economically serve the customers within USDOT, State agencies, and the industry. We are currently working on developing the ART Office Five-Year Strategic Plan. This “study” will begin later this month, and it will be developing our Five-Year Strategic Plan. It also will be developing our performance metrics—updating and developing more additional performance metrics for all divisions within the ART Office—Analysis, Research and Technology Divisions.

We also provide—FMCSA Research Division provides support for different conferences. We just held a conference in Boston—the International Fatigue in Transportation Operations Conference.

We are supporting the Human Factors in Driver Assessment, Training, and Vehicle Design Conference that will be later this year in Big Sky, Montana.

We're planning for a FMCSA/NIOSH/TRB Commercial Motor Vehicle Driver Health and Wellness Conference that will be held probably in 2010.

SLIDE 19: SUMMARY

In summary, the Research Program is trying to provide a balance of research that supports the agency and our industry through our Strategic Roadmaps that we have developed and the Research Executive Board that we have. We tried to develop a Research Program that is forward looking and taking into account future trends, our stakeholder input and Agency needs. We're always looking to forge new partnerships to develop innovative tools to improve safety from our fatigue-alerting devices to naturalistic driving. We achieve, I think, considerable accomplishments given a fairly limited amount of resources. The Research Division typically receives about \$4 million a year and has around—well I think at this point, we have five FTEs or full time equivalents of personnel.

SLIDE 20: ALBERT EINSTEIN

I'll leave you with a parting thought...

*Research without action is time wasted; action without research just passes time.
Research with action can change the world.*

That's what we're trying to do within FMCSA and that is to change our world for the better to reduce suffering and the number of fatalities and injuries on our nation's highways.

At this point, we'll turn it over for any questions that you might have.

[32:23]

QUESTIONS AND ANSWERS

Kirse Kelly: Thanks Martin. Like he said, if you'd like to ask a question you can go ahead and submit questions in the **Q & A Box** that is on the left side of your screen. If you would like to ask questions over the phone, you can just hit *1 and when your line is open, Kelly, our phone operator, will announce you by name. Please state your name clearly for proper pronunciation. Questions will be answered in the order that they are received.

As mentioned at the beginning of this call, you will be given an opportunity to download the presentation. You'll be able to come back to our Website later. We can explain that a little bit more after that.

Joe Marsh: *Explain the role of Volpe in FMCSA research.*

Martin Walker: The Volpe center is—right now I have no studies that are being—well, one study that's being worked by the Volpe Center. Our Analysis Division uses the Volpe Center quite a lot for collection of data and systems and for studies. I also know that the Volpe Center is working a lot with Gary Woodford on developing a CSA 2010 effort. We have a lot of work ongoing with the Volpe Center, but most of my research is being conducted through an indefinite quantity contact IQC contract for different contracts with different universities or private companies.

Helmut Knee: *How long will the actual data collection be ongoing for the Onboard Monitoring System FOT?*

Martin Walker: The data collection for the FOT will be a total of a year. There will be a rolling start because we're hoping to have as many as 250 trucks on the road, but we can't, obviously, put them on all at once, so there will be a rolling start. The goal here is to collect one year of data for each truck. It may take us six months to outfit all 250 trucks, but we should be able to collect one year of the naturalistic driving data for each of those trucks.

Steven Norbeck: *Will the CDLIS information be made available to company safety managers?*

Martin Walker: We have a couple projects in which we're trying to provide information to safety managers. We have this project, a PSP, that contract will probably be let later this year and will provide a central depository of information to companies to get information on driver records. We're providing—to my understanding is that we will provide that data and the private company will be able to provide it to carrier safety managers.

Kirse Kelly: Kelly, do we have questions on the line right now?

Kelly: There are no questions at this time.

Bill Bennett: *Is the FMP available to download?*

Martin Walker: In the fourth phase of the North American Fatigue Management Program will be development of all of the materials that have been used so that they can be downloadable. We're not going into the business of training drivers to try to alleviate fatigue. The goal here is to put all of the information in a Website that companies can download and provide that information to their drivers.

Kirse Kelly: Yes, Kelly?

Kelly: I'm sorry we do have a question by the phone; did you want to take it?

Kirse Kelly: Sure.

Kelly: Okay. You may go ahead and ask your question.

Caller: *Actually, it's more of an administrative question. These questions that are being presented on the discussion, will that be documented and posted to the Website as well? Because right now under the chat Q&A I am not seeing any written questions or responses.*

Kirse Kelly: Yes. We will be posting both an audio file as well as a transcript, so you'll be able to read them. Right now we are reading them aloud as well as answering them aloud, obviously.

Leigh Merino: *While this is probably not in your direct area—are you aware of the status of the Truck Stability Control Research at NHTSA?*

Martin Walker: It's not my area, but I do know that Tim Johnson at NHTSA is working in that particular area. You might want to send your question or comments to him regarding the work. Yes, we're aware of NHTSA's work in the area of Electronic Stability Control.

Dan Murray: *Have these initiatives directly populated the efforts of CSA 2010?*

Martin Walker: On some of the future work, we'll look at—we have been in discussions with Gary Woodford on CSA 2010, in particular, changing driver behavior. I am a

big believer in Onboard Monitoring and its capability to change driver behavior. So, the answer is yes—we're working with CSA 2010 on once they identify problem drivers, how drivers can be mediated and change their behavior.

Roxanne Williams:

You mentioned training to new operators, is there currently training on the Website for current entities?

Martin Walker: We are currently working on an entry level training rule that's within the regulatory organization. I'm sure that you're probably aware that we put out an NPRM out on new entry training. The SimVal project will probably support some aspects of that training rule. I would just query our Website on training and it provides some of information.

Jeremy Byrd: ***Will Onboard Monitoring become mandatory in the near future or ever?***

Martin Walker: That's a pretty speculative question. My guess is we've been trying to foster voluntary adoption of technologies, onboard technologies on commercial motor vehicles. The office has been working on product guides through our Technology Division. I couldn't really speculate whether it'd ever be mandated.

Virginia Spence: ***Does the completion date encompass the release date of safety results to the project?***

Martin Walker: That's a great question. No, they're not the same. Typically the end dates on these studies that I mentioned is when the study is due or the contract is up. The release date would come—we have been working real hard to try to improve and reduce the time, from the time we get the study report to the time it is actually released to the internet. The release date would be one or two months after a study was completed.

Kirse Kelly: Kelly, do we have any questions on the phone?

Kelly: No further questions at this time.

Thomas Bray: ***Could you provide more details on the DriveCam Study using two-sided views, (inward and outward) normalization of data, if any, to compensate for driver knowing about the devices, do all drivers know that they are there and so on.***

Martin Walker: In the DriveCam Study, the pilot test, of course drivers do know that they've been installed in their vehicles. In fact, DriveCam wants them to know. If in fact there is a captured event, the system has a little green light. It tells the driver that he has just committed something where there is a captured event. Just to give some people a little understanding of the DriveCam system, the DriveCam system gives you a forward view video and a rearward view of the

driver and what occurred. It captures video continuously, but if there's a captured event, it will store that data, store that video a few seconds before the captured event and then a few seconds after that captured event. Then it wirelessly transmits that information back to the DriveCam folks. They do their event analysis with it. Then it's available for the drivers to take a look at, or for the safety managers to take a look at and counsel their drivers on what occurred there and what should they have done, or what shouldn't have done and that kind of thing. In DriveCam, in my view, it's a low-cost driver behavior monitoring system because it captures through accelerometers hard-braking events, or lane encroachments—quick maneuver type events. The next generation of onboard monitoring will have a lot of additional capabilities and a lot of different things that will be captured.

Kirse Kelly: Kelly, anymore questions on the phone line?

Kelly: No further questions.

[45:35]

Kirse Kelly: That concludes this webinar. We would just like to ask you before you sign off to please complete the evaluation that you see on the screen here. We welcome your comments about this webinar and your suggestions for future webinars. Simply type comments in this space at the bottom of the pod and then you can click the return arrow. The comments submitted here will be viewed by all of the participants in the meeting room. If you would like to remain anonymous you should click on the word **Everyone** and then just choose **FMCSA Host** and then it will be get to us.

You're going to be given the opportunity to download a PDF version of today's presentation in the next couple of days. It will be put on our FMCSA ART Website. If you would like to receive notice of when that information is available, you can submit your e-mail address here and we will send you a note that it is available.

On May 6th we're going to follow up with an overview of the FMCSA Technology Division Studies and Projects given by the acting Technology Division Chief, Michael Johnsen and members of the Technology Team. Registration for that is already open. You can go to our Website at www.fmcsa.dot.gov/art as you see here on the screen and you can register. We are also going to be sending out an announcement about that and about upcoming webinars. If you are not yet on our list go ahead and contact me at Kirse.Kelly@dot.gov. Feel free to contact me and request that your name be added to our list.

That concludes the webinar. Once again, we thank you all for participating and thank you, also, Kelly, for being our phone operator.

[48:09]