

**July 20, 2009**

John Dal Santo, FACBS

MCJ Inc.

9019 Fincham Drive

Rockford, Illinois 61108 USA

Subject: Update on Implementation of the Fatigue Program and EyeCheck® Pupillometer

Dear John,

I am forwarding you a progress report on our continuing efforts with the Fatigue Training Program (FTP) and use of EyeCheck® pupillometer. The EyeCheck® as a screening tool for impairment detection of sleep/wakefulness for our bus drivers, to include the complete training program has become a standard for our company's safety management team. As a measure for our "Fit for to Drive" and since we started the program in 2007, it will become a benchmark for the bus industry throughout the country of Mexico, as we discussed from the start, this was a goal for Grupo Tranpais.

This effort could not have been started nor implemented without your technology, consulting expertise and continued sincere efforts to work jointly with us.

I have out lined our continued efforts below.

Very Kind Regards,

**Santiago Sosa Compean (VIA E-MAIL)**

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**TRANSPAIS UNICO S.A DE C.V.**



## **FATIGUE PROGRAM IMPLEMENTATION**

### **Who Are We:**

Transpais is a Passenger Transport Corporation located in the North of Mexico, on the border with the United States.

Our vision is to transport our passengers securely and on time to their different destinations, giving our best to achieve these results.

Our fleet consists of approximately 450 buses and around 650 operators, 1100 employees total. We have a very diverse route schedule spread out during a 24-hour day, 7 days a week. We also have Inter-city bus routes operating independently with 250 buses and 400 additional bus drivers, which have not started this program.

### **OUR NEED**

At the end of 2006 one of our units was involved in a crash, cause of this crash, the operator fell asleep while driving and 9 passengers were killed. It was a rude awakening for our company. From that moment on we committed ourselves to finding a program and/or technology that would allow us to have operators that could drive without fatigue, as well, that their quality of life could and would improve.

### **WHY WE CHOSE MCJ Inc. and EYECHECK® Pupillometer**

After researching many areas, such a method for fatigue management was discovered with promising results. I found several reports on a solution that could enable our company to assess awake/sleepiness by measuring the person's pupil. Immediately I searched for additional information on this method and became convinced that this was the solution to our company's problem, given that the different research and studies conducted were very conclusive. Furthermore, I realized that MCJ Inc. with the EyeCheck® provided professional services with many years of experience.

After many conferences with MCJ Inc. and a on site evaluations in Mexico of 200 operators by MCJ (Attached Document 1) we realized that we needed to implement a solution as soon as possible for our operators.

### **PREPARATIONS**

The findings of these efforts would be used to develop a bus driver fatigue program that will incorporate known scientific data about fatigue; physiological issues concerning fatigue; and operational issues which affect the bus driver's activities and fatigue and stress. Suggested countermeasures for fatigue issues would also be part of



this program, to provide all bus drivers with the knowledge of what causes fatigue and how to combat it.

After discussions with MCJ Inc. we believed the best approach was to develop a Fatigue Training Program (FTP) for the drivers. Before training our personnel, it was necessary to train and inform management of the need for this product that would help us save the lives of our passengers, to save money and to be at the leading edge regarding security.

## **OUTLINE**

***A. Training materials would be developed in Spanish to address and understand sleep requirements for Grupo Transpais Bus drivers. This will include an assessment test. MCJ Inc. has worked with Grupo Transpais staff members for this effort to teach this in Spanish, MCJ Inc., program development and a “train the trainer” would be conducted at MCJ’s offices.***

***B. A Fatigue Awareness course for fleet managers, supervisors and drivers is part of this program development.***

***C. A major part of the over program is the need for a collective device which included the EyeCheck®. A course of instruction on this, which included hands on for each person, was conducted and has been included in the classroom program instruction. (8-hour set aside)***

- 1. A separate program designed for families of drivers was also developed; brochures and information was given to each family member addressing these issues at home. Grupo Transpais staff members have been teaching this portion.***

Before going to MCJ’s offices for the training, we obtained all the operators medical evaluations, as this was a very important issue such as; medications, diabetes and other illness, which could affect night, time driving. We also researched the concept of *OWL/Lark* Profile and a modified testing version was used as an assessment for the driver time to be on duty. We then realized that it was not enough to train the personnel or to implement the equipment, it was also necessary to change their eating habits, work/rest habits, schedules and routes were used for the over all driver assessment.

In the company, the use of caffeine pills was standard for the operators to combat fatigue while driving. This was a cultural obsession which went on for years and this was the first thing we changed; we took away the pills and informed the operators they would no longer be used, instead we would implement a new stage of training to combat fatigue.



## **INITIATION**

After learning about all the concepts of fatigue, the use of the equipment and the planning of the initial implementation, we organized a presentation for the directors. We introduced a working plan of implementation, considering the following steps.

- Training of the Directors, Management, Supervisors in the area.
- Delivery of Equipment
- Training of the first group of the operators
- Installation and starting of the program in the first city on test stages

Within the implementation stage we will concentrate on the following points:

- Policy of work schedules and rest between trips
- New Schedules, sleeping facilities for drivers
- Study EyeCheck® recommendations

## **TRAINING DIRECTORS, MANAGERS, SUPERVISORS IN THE AREA**

The first training was for the directors and the managers of the company, with the objective of having them be part of the implementation of the program. They should experience the training in the same manner as the operators, so that the program can be implemented 100% in all locations.

### **Training of Operators**

The course comprises the following points:

#### **Touching Fibers**

We have a relaxation exercise, where we tell a story to the operators in which they are involved in an accident caused by fatigue, and they are at fault. The results were excellent and they allowed all operators to start at the same level.

#### **Training Concepts**

Explanation of concepts of sleep and fatigue, what it is, how to detect it, how to combat it, how to avoid it.



### **Training on the use of the equipment**

Practice with fatigue goggles, EyeCheck® computer generated Eye/Hand coordination testing for cognitive functioning.

### **Sleep Hygiene**

Better sleep practices; sleep habits, eating habits etc.

### **Practice**

During half of the day, we practice driving with fatigue goggles, so that the concept of fatigue can be well understood.

### **IMPLEMENTATION: TESTING STAGE**

Once all the operators of a route were trained, we proceeded to install the software and the equipment so we could test the operators for a period of 30 days, before their scheduled trip, taking into consideration that there would be no penalties to the driver if the test result were positive. However the situation would be taken under consideration, so we could change their schedules.

This testing period resulted in the fact that certain operators had their departure schedules modified, for example: one operator would start driving at 4:00 p.m. and his new schedule was changed at 2:00 a.m. After that change we no longer had a positive result. Taking into consideration all testing and profiling of the driver for “best time of a 24 hour period for him to drive”.

*The up to program results are attached (PROGRAM RESULTS).*

This process was spread out and completed in all offices. Additionally a “Supportive Questionnaire”, trying to detect the reason for the operator’s fatigue, accompanied it: medical, non-compliance to company policy on fatigue, second job and so on.

### **OFFICIAL IMPLEMENTATION**

After September 9<sup>th</sup> 2008, we officially implemented the first route, a restriction for operators that tested positive. We did not allow them to drive, therefore the punitive damage to the driver for non-compliance and other then medical, they were not able to earn their wage that day.

### **ECONOMIC BENEFITS**

The economic benefits can be calculated in many forms I have chosen the following since the implementation of the program as compared to the previous year:

- No crash’s caused by fatigue or any other incident, resulting in deaths



- Reduction of minor repairs to buses-**39%** (backing into buildings, damage to other vehicles, minor accidents and incidents because of inattention)
- Reduction of medical time off for illness-**47%** (healthier work force)
- Reduction of health care cost-**28%**
- **Increase bottom line cash flow of company-23%**

### **OTHER BENEFITS**

Joined to the economic and security benefits, the medical personnel of TRANSPAIS, consulting with MCJ, realized that EyeCheck® gave them data that allowed them to see medical problems among the operators. Their doctors, as related to certain drugs being consumed, were misdiagnosing some drivers; some were unaware of being diabetics, having eye problems or taking prescriptions that impaired their ability to drive safely. Thanks to the results and the study of each case, we have been able to deal in depth, resulting in improvement of the general health of our employees, thus saving thousand of dollars of sick time, down time of routes and complications of other illness which would have gone undetected, or worse resulting in another crash and deaths.

### **RESISTANCE TO CHANGE**

As with all new implementations, we found that some operators and some managers were resisting the program and tests, because they did not trust the tools or because they considered that their experience would be more valuable than the equipment or the methodology being tested in different parts of the world.

To minimize this change, we spoke to some of the operator's wives, explaining and making them understand, that changes start at the home and that operators must have their rest periods well set and defined. We benefited from these talks, since the families of the operators felt involved in this new practice, knowing that it was for the benefit of their spouses.

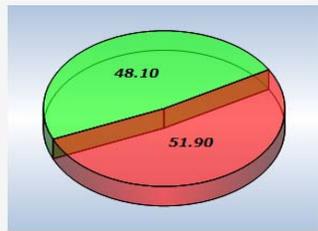
#### **The Fatigue Training Program and EyeCheck® Technology.**

Grupo Transpais believes that adopting the Training Program and EyeCheck® Pupillometer that MCJ Inc. developed, has enabled us to be a model in the Country of Mexico for transport safety in our industry. Further more, to implement a credible program as a "Fit for to Drive" management system for our drivers, that has saved lives, enhanced health, produced personal and family benefits. The total program has had a major impact on the economic growth of Grupo Transpais.

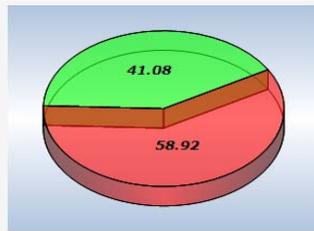


**(ATTACHMENT)**

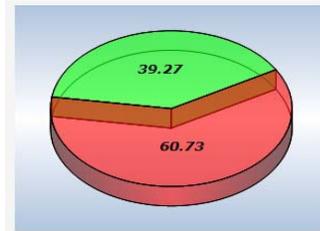
**PROGRAM RESULTS TOM DATE**



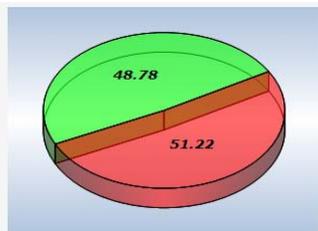
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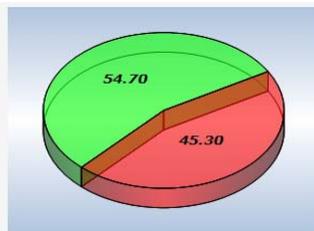
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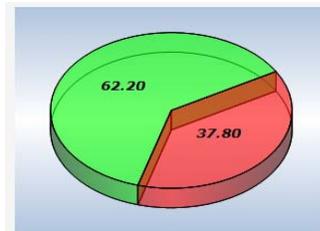
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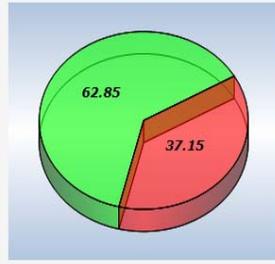
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At the completion of each training course we started with EyeCheck® data collection on each driver to see if the course had an actual impact on the driver. This was compared to MCJ Team evaluation that was completed for the same routes, which involved 400 drivers in April 2007. At that time in 2007 the total fatigued drivers would have shown over 90% in RED if graphed.

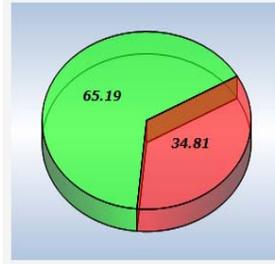
The above represents the start of six (6) bus routes, one per month after the driver same drivers received the training course and prior to the start of the bus routes and on going implementation of the EyeCheck®.

This seriously shows the impact of education, training and proper health care as it relates to a compressive training course in fatigue management.

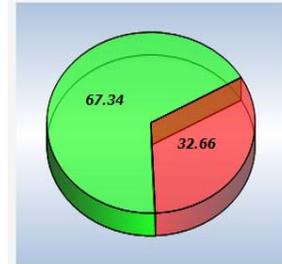
The total number of drivers above is 618, on the next page will represent the progress of these same drivers from January 2009 through June 2009.



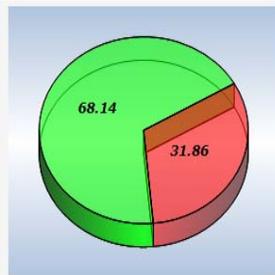
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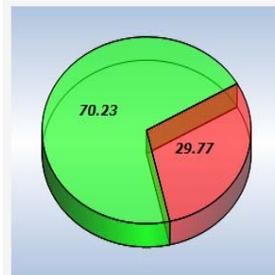
February 2009



March 2009



April 2009



May 2009



June 2009

The above graphs represents all 618 drivers for each month on all routes, the total number of Kilometers driven is 3, 507, 112 per quarter, to date our drivers have driven a total of 7, 514, 224 Kilometers.

From the above graphs you can see the study decline in driver fatigue as we progressed with our program. We have also added additional items to the program, such as further medical exams for drivers that have a continuous fatigue indication on the EyeCheck® device, more counseling in fatigue management and checks for on going stimulants use, such as the caffeine pills.

We will now begin to institute our “Fit to Drive” program in to our inter city bus routes, as well; Tranpais has a Tour operation which travels into the USA and Canada. In August of 2009 we will begin the EyeCheck® Pupillometer since our drivers have finished the training portion.

We have recognized and witnessed the very serious effects of driver fatigue and are committed to be the world’s leaders in combating it in our industry.