



Ohio Department of Transportation

Central Office, P.O. Box 899, Columbus, Ohio 43216-0899

December 1, 2006

Mr. Dennis Decker
Division Administrator
Federal Highway Administration
200 N. High Street.
Columbus, Ohio 43215

Re: Brifen Cable ISPE, Year 3 Report

Dear Mr. Decker:

The Ohio Department of Transportation is submitting the third and final in-service performance evaluation (ISPE) report on its Brifen Wire Rope Safety Fence median cable installation in southwest Ohio. In 2002 FHWA granted ODOT permission to install this proprietary cable system as an experimental project. As part of FHWA's approval ODOT was to provide a three year ISPE on the cable's performance.

The first report was previously submitted to FHWA on January 31, 2005 and covered the period from July 2003 to June 2004. The second report was dated November 22, 2005 for the period ending June 2005. This final report covers the one year period ending June 30, 2006. It is attached.

ODOT's Office of Roadway Engineering monitored the installation and maintenance on the completed barrier system in an effort to evaluate its performance in preventing cross-median crashes. It is worthy to note not a single cross median fatality occurred during the three year period.

The information learned from following the performance of this product closely has been shared with Transportation Professionals at this year's OTEC, and various transportation entities such as AASHTO, NCHRP, TRB, other state DOT's, and other countries. That shows the true value of such an evaluation.

Respectfully,

A handwritten signature in cursive script that reads "Dirk Gross".

Dirk Gross, P.E.
Office Administrator
Office of Roadway Engineering Services

Attachment

Brifen WRSF In-Service Performance Evaluation
Year 3 Report - For the period from July 2005 to June 2006
Prepared by Dean Focke, ODOT Standards Engineer, and
Tom Arnold, District 8 Transportation Engineer
December 1, 2006

INTRODUCTION

In the United States, cross-medians crashes are a concern. As a result of a rise in these accidents on a particular segment of interstate freeway, the Ohio Department of Transportation (ODOT) received approval from the Federal Highway Administration (FHWA) to install a proprietary product which had been effective in preventing such accidents overseas but had been relatively new to the United States. This system, the Brifen Wire Rope Safety Fence, is a four-strand tensioned cable system of highly stressed cables.

ODOT believed the advantages of this system over installing standard guardrail systems are:

- 1) A tensioned cable system should maintain its redirective function after being struck, unlike the generic cable that is inoperable after even a minor accident;
- 2) Reduce the frequency and severity of nuisance accidents by maintaining a large lateral offset in the median instead of having miles of strong post w-beam guardrail at the standard offset at both edges of shoulder;
- 3) Prevent costly grading required to move guardrail further off the shoulder in an attempt to reduce accidental impacts; and
- 4) Utilizing the cable to capture large vehicles which could tear through the w-beam system.

As part of the FHWA's agreement to allow ODOT to install the Brifen WRSF as an experimental project ODOT was tasked with providing a three year In-Service Performance Evaluation (ISPE).

Reports were to be prepared one, two and three years after installation is complete and will include data on:

- 1) Crash performance as well as repair problems & costs,
- 2) Ongoing maintenance considerations & costs, and
- 3) Conclusions (views from safety and maintenance personnel regarding maintenance, repair and recommendations).

ODOT's Office of Roadway Engineering monitored the installation and maintenance on the completed barrier system in an effort to evaluate its performance. This report represents the third and final report. Unlike the first two reports which primarily covered only their specific year, this one summarizes all three years of data, covering 354 accidents.

EXISTING CONDITIONS

The location chosen for ODOT's first installation of a proprietary cable barrier was on Interstate 75 just north of Cincinnati, between State Routes 129 and 73 in Butler and Warren counties as shown below (Figure 1).

A rash of cross-median fatal accidents within a 14 month period starting in October 2000 ended with 11 fatal cross-median accidents. Investigation of each accident report showed no single factor for them.

Originally, the highway was constructed as a rural interstate in the 1960's, but urbanization has consumed the corridor.

Existing Conditions

- IR-75 from SR-129 to SR-73 in Butler and Warren Counties
- Urban Interstate
- 3 lanes in each direction



Figure 1

Median Characteristics



Figure 2

The freeway at that location is a north-south six-lane interstate with good geometrics. This section is 14.5 miles in length in this segment, mostly level and mostly tangential, that narrows to a 60 foot depressed median with 6:1 slopes and 4-foot paved inside shoulders. See photo of the median in Figure 2.

The highway to the north and south has a very wide median (200 feet), as it was planned for future dual-dual lanes in the center median.

In 2003 this segment recorded an average daily traffic of approximately 92,000 vehicles, with 22% of those vehicles classified as trucks. This data is graphed by log point in Figure 3.

Existing Conditions

- 22% Trucks throughout this time frame

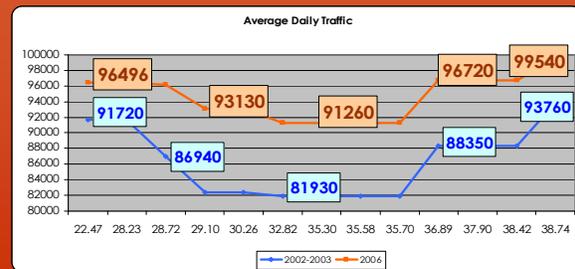


Figure 3

CABLE BARRIER INSTALLATION

Locally, the ODOT District 8 Office responded by increasing police enforcement of the speed limit. But the patrols were relaxed after shoulder rumble strips were installed. One fatal

accident occurred afterwards. At that time, it was decided to install a median barrier system. Police presence returned until the installation of the barrier was complete with no further fatalities.

Several design options were developed, but interest turned to a new technology, that of a tensioned cable system because of its success on European roadways. The 2001 estimated cost of each option can be seen in Figure 4.

Concrete barrier, ODOT's typical choice for median protection in narrow medians was not ideal in wide medians and more expensive. But it also would not have been cost effective in this segment. This is because the entire segment is scheduled for major reconstruction in the year 2009.

Brifen Installation	
■ Concrete Barrier	\$4,500,000
■ Mounding	\$2,800,000
■ Barrier Guardrail	\$1,200,000
■ Cable Barrier	\$1,045,000

Figure 4

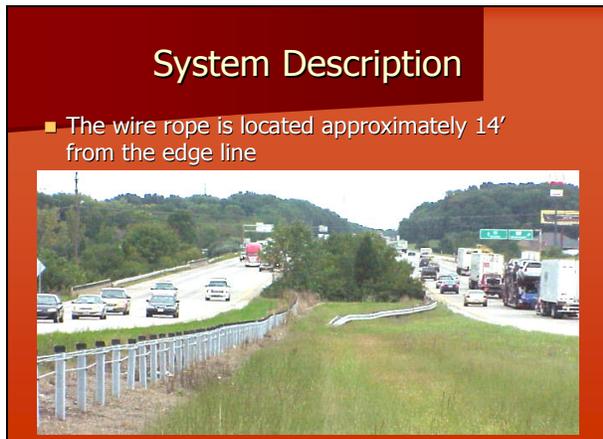


Figure 5

Originally, the construction of the cable system was to be completed at the end of 2002, but due to harsh conditions that winter, construction of the cable was not fully completed until July 2003. A photo of the completed system is seen in Figure 5.

The wire rope is located 16 feet off of the center ditch, resulting in a 14 foot lateral offset from near side traffic, and 46 feet of offset from the far side traffic.

THREE YEAR IN-SERVICE PERFORMANCE EVALUATION

Accidents on the system were investigated by District 8 personnel and were logged on a standardized "Tensioned Cable Guardrail Accident Report and Evaluation Form" (Figure 6). Supporting data such as photos and accident reports are obtained to compliment the forms. Each completed form includes data on vehicle damage, injury severity, damage to article as well as repair time and costs, parts availability, and out-of-service duration. This form was developed to meet the recommendations contained in NCHRP Project 22-13, "In-Service Performance of Traffic Barriers." The purpose of the project was to (1) develop methods and procedures that can be used by the states and other highway agencies to perform in-service evaluations and (2) to perform several example in-service evaluations that illustrate the in-service evaluation methodology.

There are three components of data needed to complete the evaluation forms. The first component of data is inspection. Each week, District 8's Tommy Arnold performed field reviews

of the wire rope. He would calibrate a data collector in the ODOT pool car to match with the mile marker posts existing in the field. Then, he drove along the highway until they observed a damaged section. If it was the first observance of that specific damage, he would take a picture of the damage.

If the damage section had occurred in a previous week, he would note that the damage still existed. This data allowed them to evaluate the second component of data collection, maintenance record investigation. Using a database query, Bill Vorst or Jay Hamilton would query a summary labor, equipment, and material costs used in fixing the wire rope. Based on the date and log point included in the query, they would match that fix with the inspection data and the third component of data collection, the OH-1 accident reports. The Ohio State Highway Patrol sent in accident reports involving the wire rope as they identified them. Based on the date of the accident and the log point, this data was linked with the inspection and maintenance data to fill out the evaluation form.



**TENSIONED CABLE GUARDRAIL
ACCIDENT REPORT AND EVALUATION FORM**
Ohio Department of Transportation

CRASH LOCATION
 County: War Route: I-75 Milepost: 32.9 Direction: Southbound
 Horizontal curve: 1 (1) Tangent, (2) Radius: _____ ft. and Direction: Right - Left

COLLISION DATA (Sketch accident on reverse side or attach separately)
 Date of Accident: 5/30/04 Day of Week: Sunday Time: 4:55 PM
 Weather: 2 (1) Clear or cloudy and dry, (2) rain, (3) fog/smog/smoke, (4) snow/sleet/hail
 Estimated Angle of Impact: 60 degrees
 Estimated Speed at Impact: 65 mph
 Result of collision: 1 (1) Redirected, (2) stopped in contact, (3) snagged/spun out,
 (4) overrode, (5) underrode, (6) penetrated, (7) unknown
 Describe sequence of events leading to accident: Driver lost control, went off roadway, and struck cable rail

VEHICLE AND OCCUPANT
 Vehicle Type: 1 (1) Car, (2) Pickup/SUV/Van, (3) SU, (4) Tractor Trailer, (5) Bus,
 (6) Other _____
 Vehicle Make: Chev Model: Cavalier Year: 1997
 Describe Damage to Vehicle: Non-functional damage to front and front left
 Total Occupants: 3 Describe Occupant Injuries: (Seating position/Were seat belts used/Air bag deployed?) Seat belts used, air bag not deployed; no injuries sustained

HARDWARE
 Impact Location (Check One): Cable x Terminal section _____ Other: (Describe) _____
 Describe Damage to Barrier: _____
 Rate Overall Barrier Performance: good

REPAIR
 Number of posts damaged: Was cable damaged?:
 Did cable maintain tension?
 Cost to repair: labor \$, material \$, equipment \$.
 Total \$ see 36.3 evaluation form
 Repair problems? (Difficulties in obtaining parts/repair guidance/or other) _____

Attach any supporting information, sketches, photos, accident reports, etc.

Evaluator: Tommy Arnold Date: 8/9/04
 Title: EIT

Submit to Standards Engineer, Office of Roadway Engineering, Central Office, Thank you!

Figure 6

In some cases accident reports did not have corresponding maintenance data and vice versa. Though incomplete, this data was still entered in an evaluation form. In addition, there are several pictures that could not be linked to any accident report. There are two possibilities that explain this instance. First, the State Highway Patrol did not send in data that they have which could be the result of incomplete data. (The missing data from these cases were supplemented at a later time by GQL queries of the ODOT maintenance database.) Second, accidents occurred at the wire rope but were not reported to the Patrol.

There were some other obstacles to creating reliable data in this manner. The most difficult of these obstacles was the logging of these crashes. Unfortunately, log points from the inspection, maintenance records, and crash reports did not always match. As a result, comparing the date of the crash, the date of the inspection, and the date of the maintenance had to be the deciding factors when linking data, as long as the log points were not too far off. It is believed that this process was successful at describing the effects of the crash.

CRASH TRENDS

For the three-year data gathering period, the presence of the cable contributed to the number of crashes as one would expect by installing it in the clear zone of any roadway. Surprisingly, the total number of crashes remained about the same (Figure 7). One suggestion is that although the cable was itself hit, the lesser severity of these accidents assisted in reducing the number of collateral accidents. Accidents which would have resulted in the ensuing congestion of a more severe incident if the cable was not in place. (This data does not contain the 98 hit and runs accidents.)

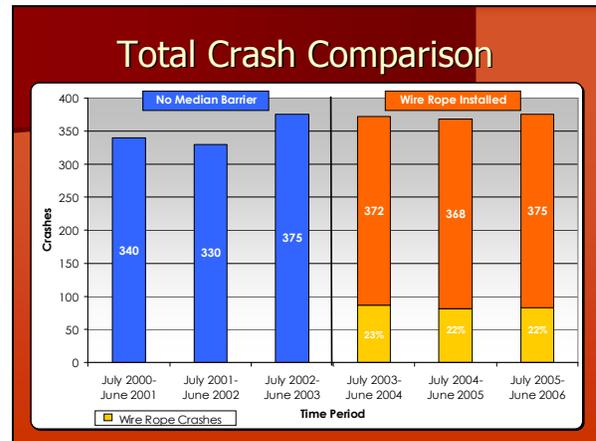


Figure 7

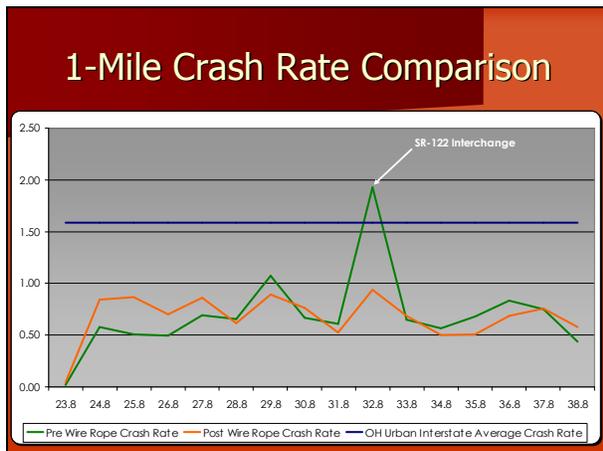


Figure 8

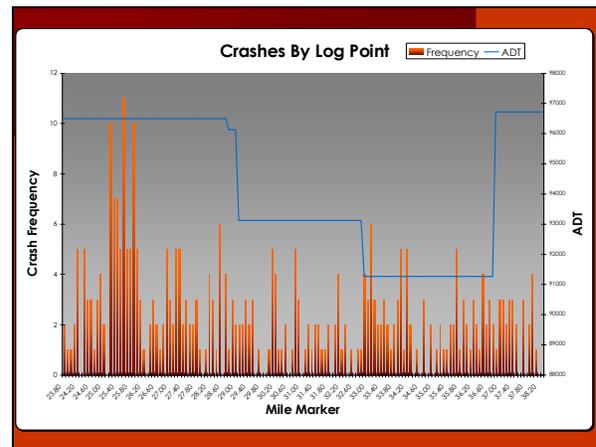


Figure 9

Figures 8 and 9 show both the crash rates and the number of crashes by crash location. The rates shown in Figure 8 are comparable with pre-existing conditions, with the exception of a reduction of the crash rate spike at the SR 122 interchange to more of a segment wide average. Figure 9 shows there is an even distribution of wire rope crashes along the entire segment, although there is an increase in the numbers at the southern end, Mile Marker 25.2 to 26.0, (left side of the graph) where the traffic volumes are higher.

With regards to that 0.8 mile segment, there were 67 total wire rope crashes, 22 of those hit & run. These crashes were distributed evenly in each year and in each direction. 60% of the crashes occurred during dark conditions.

Of the 45 wire rope crashes that have an OH-1, 80% of the crashes occurred in wet or snow conditions. It should be noted that the total number of crashes in this section during the same time frame (July 2003 – June 2006) was 101. In other words, in about 45% of the crashes in this corridor, the vehicle lost control and struck the wire rope. About 60% of these 101 crashes occurred during wet or snow conditions. The segment was observed during a rain event, but there did not appear to be any drainage issues. There are, however, a few locations that does have rough pavement. An add lane widening and resurfacing project is slated to sell for this corridor in October of 2007, which should address these crash trends.

One concern that many state DOT's have is that of the influence of interchanges on cross-median crashes. It is believed by those states that traffic conflicts caused by the weaving of exiting and merging traffic increases the number of crashes.

Looking at Figure 10, it is noted that wire rope accidents in this segment are actually less of a factor within 2,000 feet of an interchange cross road. 47% of the accidents were in proximity of an interchange, while 54% of the segment mileage is within that distance.

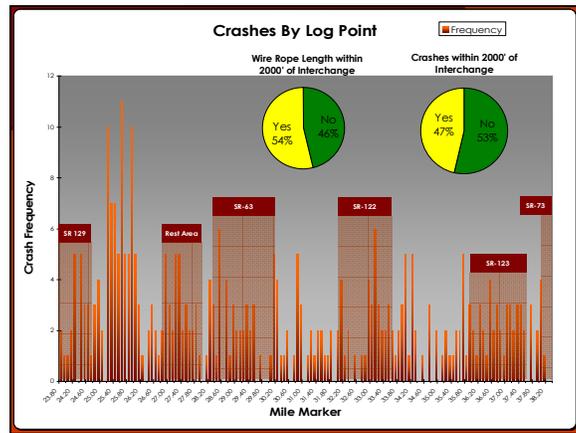


Figure 10

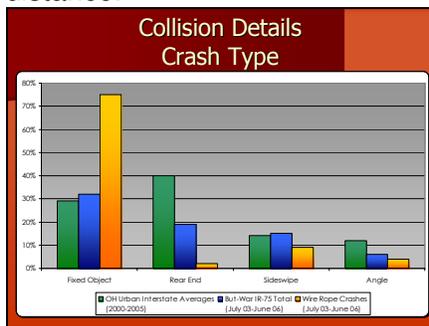


Figure 11

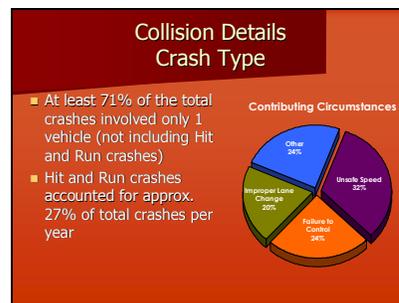


Figure 12

Figures 11 and 12 indicate that most crashes involve only one vehicle, with that vehicle hitting the cable as the first event in the accident.

There were 98 hit and run accidents, possibly representative of the “forgiving” nature of cable.

Collision Details for Peak Hour (Figure 13) for wire rope crashes is similar to rates for all crashes, both before the cable was installed, and afterwards as well.

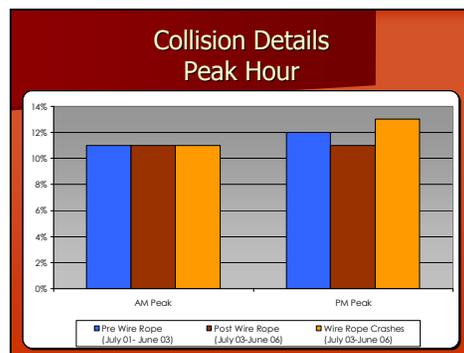


Figure 13

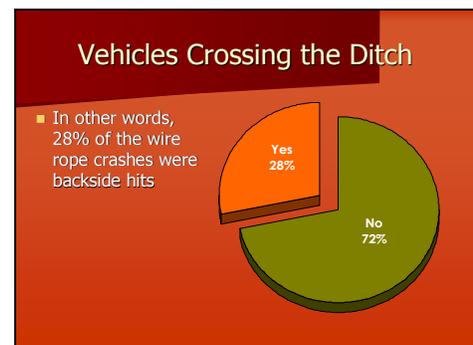


Figure 14

The vehicle's direction of travel was known for 285 accidents, leading the investigator to determine that 28% (79) of those vehicles had crossed the center ditch before impacting the cable on the far side (Figure 14). At this point these vehicles had traversed at least 46 feet of median and were only feet from high volume and high speed opposing traffic. 53% of the ditch crossings occurred in wet conditions, while 41% happened at night.

Over the three-year period, accidents with the wire rope were at a rate over the rates for all accidents for wet, snow, and ice conditions, which was expected (Figure 15). Of the 256 accidents with known pavement conditions, 56% occurred on wet, snow or ice.

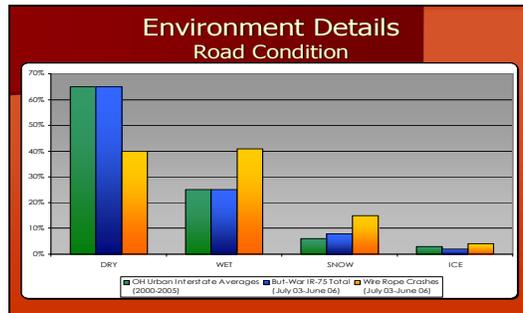


Figure 15

The decrease in cable accidents in dry conditions can be attributed to the lateral offset of the system from the traveled way.

The graph in Figure 16 depicts very little effect of ambient light conditions on the accident rates with the wire rope compared with both statewide average and the total rates for the same segment.

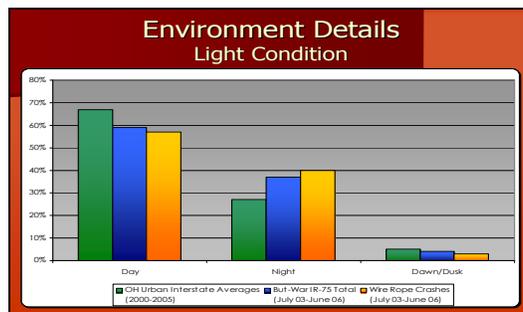


Figure 16

Interestingly, no trends were found related to age or alcohol use of the driver.

Figure 17 details the crash severity found in the study. There is a slight increase in PDO accidents (Property Damage Only), one of the least

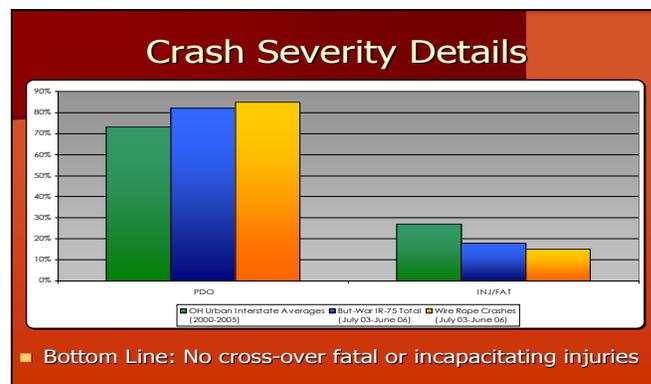


Figure 17

severe of all reporting categories. And there is a slight decrease in injuries producing accidents when graphed side-by-side with other accidents statewide, and in the corridor.

The reputed benefits of using cable over other types of median protection such a w-beam or thrie-beam guardrail and concrete barrier, is the possibility of decreased accident severity in impacts. In this study, of the 354 recorded hits with the Brifen cable in a three year period, only 39 (11%) accidents were logged as having any sort of injuries. 25 were classified as non-incapacitating, 12 as possible injuries, and 1 accident was not classified.

NOTABLE CRASH TYPES

Since tensioned cable installations are so new to the United States, the actual performance of these systems was relatively unknown prior to conducting field surveys for this report. Besides observing and reporting of various external conditions to the cable, such as road, weather, and driver parameters as was done in the previous section of this report, the performance of the cable is of interest here. On a national basis, certain states have either seen or expressed concern about the ability of the cable to perform adequately. These are ODOT's findings on three different crash types that may be of interest to future researchers on the subject.

A) Penetration

Approximately four penetrations per year occurred over the length of the system, with no discernable trends. Because of a National Crash Analysis Center (NCAC) study of cable penetrations, the total number of back-side hits are of interest. Only 3 out of the 13 were back-side hits, meaning those three vehicles crossed the ditch line and hit the cable on the upslope. The cable installation is 16 feet up the slope from the ditch line, and this offset still is greater than even the current recommendation from FHWA regarding the cable/ditch relationship.

Figures 18 and 19 are two views of the same accident in which the vehicle went through the ditch and came to a rest before entering opposing traffic lanes. Although the State Highway Patrol report did classify this as a penetration, and is logged as such for the purposes of this report, it is important to note that two of the four cables on this Brifen system did remain in contact with the vehicle (see cables leading to the right rear tire in the photo in Figure 19). The strength of the cables is such that only one is needed to engage the vehicle for a successful "capture", so the additional three cables on this particular product gives the system redundancy.

Alternatively, it is also quite apparent from these photos that the vehicle had crossed at least 46 feet of median and was very close to entering the opposing traffic lanes before it was successfully contained by two cables of the wire rope.

See ODOT's previous two reports to FHWA on this system (January 31, 2005 and November 22, 2005) for more discussion on Penetrations.



Figure 18



Figure 19

B) Entanglement

The crash depicted in Figure 20 was commented on last year. Nevertheless, it is presented again as an example of the difficulty of analyzing an accident after the vehicle has come to rest. The questions are: How did the vehicle become entangled inside of the four rope system? Was this a result of a fault of the product, the driver's actions, vehicle geometry or suspension, or the median slopes?

Only one crash of this type was observed during the entire three year reporting period.



Figure 20

C) Vehicles Exceeding Design Criteria

One issue that has developed nationally is the appropriate crash rating of a cable system; i.e., which type of vehicles should the system be designed for to be effective? The cable installed on this segment has been accepted by FHWA as a Test Level 3 system based on national crash testing criteria contained in NCHRP Report 350. TL-3 the minimum level allowed on the National Highway System (e.g. interstate freeways) and is functionally limited to a larger passenger vehicle. However, this and other TL-3 cable systems have repeatedly captured larger vehicles.



Figure 21



Figure 22

Crashes on this particular system involving large vehicles included a Mac truck, single unit truck, and a fire truck.

One recent accident (Figures 21 and 22), shows the results of a September 6, 2006 semi-truck hit. It actually occurred after the completion of data gathering for this report, but is included for informative purposes. No one was injured in the crash.

The maintenance crew that repaired the section indicated the truck swerved from the northbound slow lane and struck the wire rope head on. Skid marks were not very prominent on the northbound side, possibly indicating that the driver did not have a chance to slow down. The repair crew mentioned the top rope did maintain contact with the truck; however, about 575 feet of that top rope "stretched" and ultimately could not contain the truck.

MAINTENANCE CONSIDERATIONS AND COSTS

On this cable segment, as a test, ODOT installed approximately two miles of socketed posts in concrete foundations to determine the ease of repair as purported by the vendor. The remaining 12.5 miles were installed as originally planned with posts driven directly into the ground.

Quickly, the District 8 Highway Technicians discovered of the great maintenance benefits of the socketed posts which can allow an almost effortless repair of damaged posts. These repair crews then decided, at the time of an accident, to replace every damaged driven post with an individually constructed concrete socketed post. At this point gathering any meaningful data with regards to repair costs for this installation was lost, but it shows the overpowering benefits of socketed post construction.

However, as reported in prior years, the maintenance experience for Year 3 was different for the socketed sections and the driven post sections of the wire rope. Repairs of the socketed posts have been relatively straightforward. Unfortunately, it was not feasible to determine an average cost for these repairs since over half of the socketed locations were repaired before the inspection was possible. As a result, the number of damaged posts was unknown for 50% of the crashes. In contrast, repairs of driven posts have been extremely difficult during periods of rain/melting snow when the ground is too wet to support equipment. In Year 3, the average cost to repair damage in the non-socketed post locations was about \$133.73. It should be noted that this cost is slightly up from \$115.18 in Year 2. This increase in cost is most likely the result of the decreased time needed to repair many of the locations. In Year 3, more locations had unknown post damage compared to previous years. In summary, the average cost to fix a damaged section of the wire rope over the 3 years was about \$146 per damaged post. Please note that the average cost to fix a socketed section is about \$105. After repairing these sections, the tension was checked and only minor adjustments have been needed in most cases.

In general, the system has performed as expected from a maintenance point of view. The end anchors have remained stable, repair parts have been readily available, and no special problems related to winter conditions have been identified (i.e. posts frozen in sockets). Finally, the maintenance crews have been able to mow the median and spray the area under the cable to keep vegetation in check.

CONCLUSIONS

A) Performance

The crash performance of the barrier is very effective. After three years of intensive data collection on the in-situ performance of this installation, there have been 354 known vehicle impacts with the cable resulting in no cross-median fatalities.

In conclusion, it can be shown that cross-median crashes appear to be random events:

- Slightly higher percentage during dark conditions
- Significantly higher percentage during wet conditions
- Significantly higher percentage of crashes involved only one vehicle losing control

Yet the most telling number from this three year study is a comparison of the magnitude of the problem before the cable was install to the success of the cable at the end of the three year evaluation:

BEFORE - From July 2001 to June 2003...

- 17 fatal crashes (21 fatalities)
- 9 cross-over fatal crashes (11 fatalities)

AFTER - From July 2003 to June 2006...

- 4 fatal crashes (4 fatalities)
- No cross-over fatal crashes

Two documents are included in this report: 1) an analysis table summarizing the crashes, and 2) an Excel spreadsheet with individual data on all reported wire rope accidents.

B) Benefits of Reporting on In-Service Evaluations

The information learned from following the performance of this product closely has been shared with various transportation entities, such as AASHTO, NCHRP, TRB, other state DOT's, and other countries. That shows the true value of such an evaluation, it that the efforts by one state can be put to productive use by others.

To further ensure the knowledge gained in this evaluation is available to other transportation professionals, all three annual reports in this series have been submitted to AASHTO's Cable Median Barrier Technology Implementation Group. Its web page is found on the web at: <http://tiq.transportation.org/?siteid=57&pageid=1031>.

**ANALYSIS OF CRASHES
BUT/WAR IR-75 WIRE ROPE DAMAGE**

Click to Refresh Pivot Tables

Crashes Per Data Year	
Data Year	Total
Year 1	120
Year 2	113
Year 3	121
Grand Total	354

Crashes by County	
County	Total
BUT	171
WAR	183
Grand Total	354

Count of Direction of Travel (NB/SB)	
Direction of Travel (NB/SB)	Total
NB	154
SB	131
Grand Total	285

Count of Vehicle Crossed Ditch	
Vehicle Crossed Ditch	Total
No	206
Yes	79
Grand Total	285

Count of Road Condition	
Road Condition	Total
DRY	106
ICE	10
SNOW	37
WET	103
Grand Total	256

Count of Light Condition	
Light Condition	Total
DARK	101
DAWN	5
DAY	145
DUSK	5
Grand Total	256

Count of Crash Severity	
Crash Severity	Total
INJ	39
PDO	215
Grand Total	254

Count of Seatbelt In Use	
Seatbelt In Use	Total
Yes	38
Grand Total	38

Count of Injury Severity	
Injury Severity	Total
NON-INCAPACITATING	25
POSSIBLE	13
Grand Total	38

Count of Peak Hour (7-9am) or (4-6pm)	
Peak Hour (7-9am) or (4-6pm)	Total
AM PEAK	28
PM PEAK	34
Grand Total	62

Count of Crashes Within 2000' of Interchange	
Crashes Within 2000' of Interchange	Total
No	191
Yes	163
Grand Total	354

Hit and Run Crashes by Calendar Year		
Accident Point Number	Crash Year	Total
HIT AND RUN	2003	19
	2004	35
	2005	28
	2006	16
HIT AND RUN Total		98
Grand Total		98

Count of Socketed Post Location	
Socketed Post Location	Total
Socketed	24
Grand Total	24

Hit and Run Crashes by Data Year		
Accident Point Number	Data Year	Total
HIT AND RUN	Year 1	33
	Year 2	32
	Year 3	33
HIT AND RUN Total		98
Grand Total		98

Count of Calendar Crash Year	
Crash Year	Total
2003	61
2004	116
2005	130
2006	47
Grand Total	354

**Wire Rope Crash Inventory
IR-75
Butler and Warren Counties**

Last Date Modified: 11/29/2006
 Modified by: ETA
 Instructions
 - do not enter any data in the white cells
 - do not modify order of columns
 - Cable rail data inventory begins 7/1/2003 and ends 6/30/2006
 - for hit and run crashes, input the date of the maintenance costs

Year 1 07/01/2003 - 06/30/2004
 Year 2 07/01/2004 - 06/30/2005
 Year 3 07/01/2005 - 06/30/2006

ABBREVIATIONS

FTC	FAILURE TO CONTROL	DF	DRIVER FATIGUE
US	UNSAFE SPEED		
ILC	IMPROPER LANE CHANGE		
ODE	OPERATING DEFECTIVE EQUIPMENT		
DIA	DRIVER INATTENTION		
STA	SWERVING TO AVOID		
RD	RECKLESS DRIVING		
DUI	DRIVING UNDER THE INFLUENCE		

Crash Data Last Updated Through June of 2004

Accident Point Number	Local Report Number	Date of Accident	Crash Location (mm)	County	Time of Crash	Peak Hour (7-9am) or (4-6pm)	Direction of Travel (NB/SB)	Cable Rail Location (R/L)	Vehicle Crossed Ditch	Crashes Within 2000' of Interchange	Socketed Post Location	Result of Crash	Vehicle Type	Type of Crash	Contributing Circumstances	Crash Severity	Injury Severity	Seatbelt In Use	Road Condition	Light Condition	Damage to Cable Rail (# of posts)	Repair Cost	Inspection Picture Taken	Evaluation Form Completed	Data Year
HIT AND RUN		11/17/2003	23.30	BUT						No											n/a	\$ 546.63	NO	YES	Year 1
HIT AND RUN		11/18/2003	23.40	BUT						No											n/a	\$ 328.72	NO	YES	Year 1
038322928	83-1782-09	11/18/2003	24.10	BUT	2:30 PM		NB	R	No	Yes			CAR	FO	FTC	PDO			DRY	DAY	1	\$ 810.25	YES	YES	Year 1
038349184	09-0738-09	12/14/2003	24.20	BUT	11:15 AM		NB	R	No	Yes			CAR	FO	ILC	PDO			WET	DAY	n/a	\$ 696.13	NO	YES	Year 1
HIT AND RUN		3/29/2004	24.20	BUT						Yes											3	\$ 123.80	YES	YES	Year 1
038209814	09-0412-09	7/30/2003	24.40	BUT	7:38 AM	AM PEAK	NB	R	No	Yes			SUV	SIDESWIPE	ILC	PDO			DRY	DAY	3	\$ 1,131.60	NO	YES	Year 1
048060754	09-0153-09	3/6/2004	24.40	BUT	2:13 AM		NB	R	No	Yes			CAR	FO	ILC	PDO			DRY	DARK	10	\$ 360.23	NO	YES	Year 1
048181073	09-0425-09	6/29/2004	24.40	BUT	8:00 AM	AM PEAK	NB	R	No	Yes			CAR	ANGLE	ILC	INJ	NON-INCAPACITATING	Yes	DRY	DAY	n/a	n/a	NO	YES	Year 1
048031124	09-0093-09	2/5/2004	24.50	BUT	8:05 PM		NB	R	No	Yes			CAR	FO	FTC	PDO			WET	DAY	4	\$ 260.34	YES	YES	Year 1
HIT AND RUN		4/5/2004	24.70	BUT						Yes											n/a	\$ 1,144.44	NO	YES	Year 1
HIT AND RUN		2/27/2004	24.80	BUT						No											n/a	\$ 965.62	NO	YES	Year 1
038224814	09-0423-09	8/3/2003	24.90	BUT	11:07 AM		NB	R	No	No			CAR	SIDESWIPE	ILC	PDO			DRY	DARK	4	\$ 642.61	NO	YES	Year 1
HIT AND RUN		10/21/2003	24.90	BUT						No											n/a	\$ 464.02	NO	YES	Year 1
038353028	09-0719-09	12/9/2003	25.00	BUT	6:25 PM		NB	R	No	No			CAR	FO	DIA	PDO			DRY	DARK	n/a	\$ 1,022.49	NO	YES	Year 1
038244205	09-0474-09	9/1/2003	25.20	BUT	5:46 PM	PM PEAK	SB	R	Yes	No			SUV	FO	FTC	PDO			WET	DAY	7	\$ 711.44	NO	YES	Year 1
048116205	09-0257-09	4/25/2004	25.20	BUT	8:43 AM	AM PEAK	SB	R	Yes	No			SUV	FO	FTC	PDO			WET	DAY	3	SEE 25.2	YES	YES	Year 1
038244206	09-0475-09	9/1/2003	25.30	BUT	7:15 PM		SB	R	Yes	No			CAR	FO	FTC	PDO			WET	DUSK	n/a	SEE 25.2	NO	YES	Year 1
HIT AND RUN		1/13/2004	25.30	BUT						No											n/a	\$ 799.22	YES	YES	Year 1
048089358	09-0188-09	3/29/2004	25.30	BUT	10:55 PM		NB	R	No	No			CAR	FO	FTC	PDO			WET	DARK	n/a	N/A	NO	YES	Year 1
038331430	09-0679-09	11/27/2003	25.40	BUT	8:45 AM	AM PEAK	SB	R	Yes	No			CAR	FO	FTC	PDO			WET	DAY	6	\$ 377.31	YES	YES	Year 1
HIT AND RUN		3/8/2004	25.40	BUT						No											11	\$ 1,067.67	YES	YES	Year 1
HIT AND RUN		3/22/2004	25.40	BUT						No											n/a	\$ 1,123.22	NO	YES	Year 1
038278754	09-0579-09	10/14/2003	25.50	BUT	10:40 AM		NB	R	No	No			CAR	FO	FTC	PDO			WET	DAY	n/a	\$ 901.24	NO	YES	Year 1
038300550	09-0616-09	10/29/2003	25.50	BUT	6:57 PM		NB	R	No	No			CAR	SIDESWIPE	RD	PDO			DRY	DARK	n/a	SEE 25.5	NO	YES	Year 1
048031127	09-0084-09	1/31/2004	25.50	BUT	4:16 PM	PM PEAK	NB	R	No	No			CAR	FO	RD	PDO			DRY	DAY	32	\$ 2,468.09	YES	YES	Year 1
HIT AND RUN		11/3/2003	25.60	BUT						No											n/a	\$ 321.36	NO	YES	Year 1
038368705	03120361	12/14/2003	25.60	BUT	9:35 AM		NB	R	No	No			SUV	FO	FTC	PDO			SNOW	DAY	n/a	SEE 25.4	NO	YES	Year 1
048089356	06-0186-09	3/29/2004	25.60	BUT	8:56 AM	AM PEAK	NB	R	No	No			VAN	FO	FTC	PDO			WET	DARK	5	\$ 520.75	YES	YES	Year 1
048104345	09-0246-09	4/22/2004	25.60	BUT	7:00 PM		SB	R	Yes	No			SUV	FO	FTC	PDO			WET	DAY	n/a	SEE 25.6	NO	YES	Year 1
048006737	09-0002-09	1/1/2004	25.80	BUT	10:18 AM		SB	L	No	No			CAR	FO	US	INJ	NON-INCAPACITATING	YES	WET	DARK	4	\$ 602.05	YES	YES	Year 1
048116208	09-0272-09	5/2/2004	25.80	BUT	1:34 AM		SB	L	No	No			CAR	FO	FTC	PDO			WET	DARK	n/a	\$ 836.44	NO	YES	Year 1
HIT AND RUN		8/7/2003	25.90	BUT						No											n/a	\$ 1,268.43	NO	YES	Year 1
HIT AND RUN		10/21/2003	25.90	BUT						No											n/a	\$ 592.68	NO	YES	Year 1
048006941	09-0008-09	1/4/2004	26.00	BUT	8:22 AM	AM PEAK	NB	L	Yes	No			SUV	FO	FTC	PDO			WET	DAY	2	SEE 25.8	NO	YES	Year 1
048033043	09-0060-09	1/28/2004	26.00	BUT	5:09 AM		NB	L	Yes	No			CAR	FO	ODE/ACDA	PDO			WET	DARK	6	SEE 25.8	YES	YES	Year 1
HIT AND RUN		3/5/2004	26.00	BUT						No											n/a	\$ 696.22	NO	YES	Year 1
HIT AND RUN		4/26/2004	26.00	BUT						No											n/a	\$ 238.37	NO	YES	Year 1
038336221	09-0682-09	11/28/2003	26.10	BUT	5:00 AM		SB	L	No	No			CAR	FO	US	INJ	POSSIBLE	YES	WET	DARK	1	\$ 901.74	YES	YES	Year 1
HIT AND RUN		5/11/2004	26.10	BUT						No											n/a	\$ 474.45	NO	YES	Year 1
038195664	09-0362-09	7/4/2003	26.60	BUT	4:28 AM		NB	L	Yes	No			CAR	FO	FTC	PDO			DRY	DARK	n/a	\$ 614.12	NO	YES	Year 1
048006938	09-0005-09	1/4/2004	26.60	BUT	7:10 AM	AM PEAK	SB	L	No	No			CAR	FO	FTC	PDO			WET	DARK	7	SEE 26.1	NO	YES	Year 1
038300504	09-0622-09	11/1/2003	26.90	BUT	12:35 PM		SB	L	No	Yes			CAR	ANGLE	FTC	PDO			DRY	DAY	n/a	\$ 1,388.63	NO	YES	Year 1
HIT AND RUN		3/3/2004	26.90	BUT						Yes											3	\$ 408.52	YES	YES	Year 1
048127921	09-0297-09	5/12/2004	26.90	BUT	11:13 PM		NB	L	Yes	Yes			CAR	FO	US/FTC	PDO			DRY	DARK	n/a	\$ 95.50	NO	YES	Year 1
048006759	09-0009-09	1/4/2004	27.10	BUT	8:05 PM		SB	L	No	Yes			CAR	FO	FTC	PDO			WET	DARK	7	\$ 1,105.95	YES	YES	Year 1
HIT AND RUN		12/3/2003	27.20	BUT						Yes											n/a	\$ 209.53	NO	YES	Year 1
HIT AND RUN		4/28/2004	27.20	BUT						Yes											n/a	\$ 242.26	YES	YES	Year 1
048057525	09-0141-09	3/1/2004	27.30	BUT	3:15 AM		SB	L	No	Yes			CAR	FO	FTC	PDO			DRY	DARK	11	\$ 1,321.56	YES	YES	Year 1
048116204	09-0256-09	4/25/2004	27.30	BUT	8:07 AM	AM PEAK	SB	L	No	Yes			CAR	FO	ILC	PDO			WET	DAY	8	\$ 870.16	NO	YES	Year 1
038253334	09-0495-09	9/11/2003	27.50	BUT	3:00 PM		SB	L	No	Yes			SUV	FO	STA	PDO			DRY	DAY	n/a	\$ 1,133.98	NO	YES	Year 1
HIT AND RUN		1/21/2004	27.50	BUT						Yes											n/a	\$ 739.85	YES	YES	Year 1
HIT AND RUN		8/12/2003	27.70	BUT						Yes											n/a	\$ 666.61	NO	YES	Year 1
HIT AND RUN		11/4/2003	27.80	BUT						Yes											n/a	\$ 2,249.03	NO	YES	Year 1
048023464	09-0122-09	2/20/2004	28.10	BUT	7:17 PM		NB	L	Yes	No			CAR	FO	FTC	PDO			WET	DARK	7	SEE 26.9	YES	YES	Year 1
038349181	09-0735-09	12/14/2003	28.20	BUT	5:52 AM		NB	L	Yes	No			CAR	FO	US	PDO									

058024242	83-0120-83	1/20/2005	30.10	WAR	5:30 PM	PM PEAK	NB	L	Yes	Yes	Socketed	STOPPED IN CONTACT	SUV	FO	US	PDO		ICE	DUSK	2	\$	381.05	NO	YES	Year 2	
058023962	83-0146-83	1/22/2005	30.10	WAR	9:00 AM		SB	L	No	Yes	Socketed	STOPPED IN CONTACT	CAR	FO	US	PDO		ICE	DAY	see 30.1d	see 30.1d	YES	YES	Year 2		
058041510	83-0193-83	1/29/2005	30.10	WAR	3:00 PM		NB	L	Yes	Yes	Socketed	STOPPED IN CONTACT	CAR	FO	US	PDO		ICE	DAY	see 30.1d	see 30.1d	NO	YES	Year 2		
058041514	83-0201-83	1/30/2005	30.10	WAR	4:30 AM		SB	L	No	Yes	Socketed	REDIRECTED	SUV	FO	ODE	PDO		WET	DARK	see 30.1d	see 30.1d	NO	YES	Year 2		
058013471	83-0021-83	1/4/2005	30.20	WAR	11:15 PM		NB	L	Yes	Yes	Socketed	STOPPED IN CONTACT	CAR	FO	FTC	PDO		WET	DARK	see 30.1d	see 30.1d	see 30.1d	YES	Year 2		
HIT AND RUN		4/4/2005	30.20	WAR			NB	L	Yes	Yes	Socketed					unknown				2	\$	200.01	NO	YES	Year 2	
048381223	83-2153-83	12/22/2004	30.30	WAR	12:52 PM		SB	L	No	No	Socketed	SPUN OUT	CAR	FO	FTC	PDO		SNOW	DAY	1	\$	254.06	YES	YES	Year 2	
058143750	83-0732-83	5/17/2005	30.40	WAR	1:50 PM		NB	L	Yes	No	Socketed	REDIRECTED	SUV	FO	US	PDO		WET	DARK	11	\$	362.34	YES	YES	Year 2	
048289376	83-1692-83	10/18/2004	30.46	WAR	3:45 PM		NB	R	No	No	Socketed	SPUN OUT	CAR	FO	US	PDO		WET	DAY	1	\$	90.17	YES	YES	Year 2	
058166963	09-0235-83	6/17/2005	30.80	WAR	2:50 AM		NB	R	No	No	Socketed	STOPPED IN CONTACT	CAR	FO	DF	PDO		DRY	DARK	9	\$	300.68	YES	YES	Year 2	
HIT AND RUN		12/29/2004	31.40	WAR						No	Socketed					unknown				10	\$	635.88	YES	YES	Year 2	
HIT AND RUN		9/9/2004	31.50	WAR						No	Socketed					unknown				n/a	\$	140.35	NO	YES	Year 2	
058097730	83-0512-83	3/27/2005	31.50	WAR	2:20 AM		NB	R	No	No	Socketed	BECAME ENTANGLED	CAR	FO	FTC	PDO		WET	DARK	15	\$	617.78	YES	YES	Year 2	
058024239	83-0117-83	1/20/2005	31.60	WAR	3:40 PM		NB	R	No	No	Socketed	STOPPED IN CONTACT	SUV	FO	US	PDO		SNOW	DAY	4	\$	182.65	YES	YES	Year 2	
058024238	83-0116-83	1/20/2005	31.70	WAR	3:15 PM		NB	R	No	No	Socketed	STOPPED IN CONTACT	CAR	FO	OFE	PDO		SNOW	DAY	SEE 31.6	see 31.6	see 31.6	YES	Year 2		
048385868	83-2223-83	12/30/2004	31.80	WAR	5:30 PM	PM PEAK	NB	R	No	No	Socketed	STOPPED IN CONTACT	CAR	FO	ILC	PDO		WET	DARK	10	\$	342.62	see 32.8	YES	Year 2	
058093374	83-0496-83	3/24/2005	32.10	WAR	3:20 PM		NB	R	No	No	Socketed	STOPPED IN CONTACT	CAR	SIDESWIPE	ILC	PDO		DRY	DAY	n/a	n/a	NO	YES	Year 2		
048381221	83-2149-83	12/22/2004	32.13	WAR	11:15 AM		NB	R	No	Yes	Socketed	STOPPED IN CONTACT	CAR	ANGLE	FTC	PDO		SNOW	DAY	3	\$	178.83	YES	YES	Year 2	
058082282	09-0098-83	3/9/2005	32.30	WAR	4:40 PM	PM PEAK	NB	L	Yes	Yes		REDIRECTED IN MEDIAN	TRUCK	FO	ODE	PDO		DRY	DAY	n/a	\$	100.72	NO	YES	Year 2	
048340232	83-1996-83	12/1/2004	32.50	WAR	6:30 AM		NB	L	Yes	Yes		SPUN OUT	CAR	SIDESWIPE	ILC	PDO		WET	DARK	n/a	\$	262.27	NO	YES	Year 2	
HIT AND RUN		12/29/2004	32.90	WAR			NB	R	No	Yes						unknown				1	\$	121.09	YES	YES	Year 2	
058038954	83-0109-83	1/20/2005	33.00	WAR	12:11 PM		NB	R	No	Yes		STOPPED IN CONTACT	CAR	FO	ILC	PDO		SNOW	DAY	10	\$	1,495.85	YES	YES	Year 2	
058024247	83-0125-83	1/20/2005	33.10	WAR	7:30 PM		NB	R	No	Yes		STOPPED IN CONTACT	SUV	FO	FTC	PDO		SNOW	DARK	see 33.0	see 33.0	see 33.0	YES	Year 2		
058075786	83-0414-83	3/9/2005	33.20	WAR	2:50 AM		SB	R	Yes	Yes		SPUN OUT	CAR	FO	DUI	PDO		DRY	DARK	n/a	see 33.b	NO	YES	Year 2		
058024237	83-0115-83	1/20/2005	33.30	WAR	2:45 PM		SB	R	Yes	Yes		REDIRECTED	SUV	ANGLE	ILC	INJ	NON-INCAPACITATING	YES	ICE	DAY	3	\$	428.66	YES	YES	Year 2
058023958	83-0142-83	1/22/2005	33.30	WAR	7:25 AM	AM PEAK	NB	R	No	Yes		STOPPED IN CONTACT	CAR	FO	US	PDO		ICE	DAY	see 33.3b	see 33.3b	YES	YES	Year 2		
048381216	83-2143-83	12/22/2004	33.50	WAR	9:05 AM		SB	R	Yes	Yes		STOPPED IN CONTACT	SUV	FO	US	PDO		SNOW	DAY	4	\$	332.81	YES	YES	Year 2	
048322160	83-1883-83	11/13/2004	33.80	WAR	12:30 AM		NB	n/a	No	No		STOPPED IN CONTACT	CAR	FO	FELL ASLEEP	PDO		DRY	DARK	1	\$	136.35	YES	YES	Year 2	
HIT AND RUN		2/2/2005	33.80	WAR			NB	n/a	No	No						unknown				2	\$	344.69	YES	YES	Year 2	
048287687	83-1696-83	10/18/2004	33.90	WAR	4:00 PM	PM PEAK	SB	n/a	No	No		SPUN OUT	CAR	FO	US	PDO		WET	DAY	6	\$	660.62	YES	YES	Year 2	
058023945	83-0127-83	1/20/2005	33.90	WAR	8:10 PM		SB	n/a	No	No		STOPPED IN CONTACT	CAR	FO	US	PDO		SNOW	DARK	9	\$	998.02	YES	YES	Year 2	
83-2103-83	83-2103-83	12/18/2004	34.10	WAR	1:00 AM		SB	n/a	No	No		REDIRECTED	CAR	FO	DIA	INJ	POSSIBLE	YES	DRY	DARK	SEE 34.2	SEE 34.2	SEE 34.2	YES	Year 2	
HIT AND RUN		11/17/2004	34.20	WAR						No						unknown				n/a	\$	217.30	NO	YES	Year 2	
83-2095-83	83-2095-83	12/16/2004	34.20	WAR	11:38 AM		SB	n/a	No	No		STOPPED IN CONTACT	CAR	FO	ILC	unknown		DRY	DAY	14	\$	1,205.53	YES	YES	Year 2	
058097732	83-0514-83	3/28/2005	34.30	WAR	7:15 AM	AM PEAK	SB	n/a	No	No		REDIRECTED	CAR	FO	US	PDO		WET	DAY	4	\$	437.35	YES	YES	Year 2	
HIT AND RUN		12/29/2004	34.50	WAR			NB	n/a	No	No						unknown				2	\$	336.98	YES	YES	Year 2	
048309891	83-1854-83	11/9/2004	34.64	WAR	9:02 AM		SB	n/a	No	No		SPUN OUT	CAR	FO	US/ILC	PDO		DRY	DAY	13	\$	958.17	YES	YES	Year 2	
HIT AND RUN		11/17/2004	34.70	WAR						No						unknown				n/a	\$	162.37	NO	YES	Year 2	
HIT AND RUN		12/29/2004	34.70	WAR			NB	n/a	No	No						unknown				2	\$	242.86	YES	YES	Year 2	
058074208	83-0395-83	3/5/2005	35.10	WAR	6:45 AM		SB	n/a	No	No		SPUN OUT	CAR	FO	FTC	INJ	POSSIBLE	YES	ICE	DAWN	7	\$	418.01	YES	YES	Year 2
048381217	83-2145-83	12/22/2004	35.20	WAR	10:15 AM		SB	n/a	No	No		SPUN OUT	PICK UP	FO	FTC	PDO		SNOW	DAY	2	\$	289.28	YES	YES	Year 2	
HIT AND RUN		12/29/2004	35.50	WAR			NB	n/a	No	No						unknown				1	\$	516.48	YES	YES	Year 2	
N/A	83-2158-83	12/22/2004	35.60	WAR	8:38 PM		SB	n/a	No	No		STOPPED IN CONTACT	CAR	FO	FTC	PDO		SNOW	DARK	1	\$	n/a	YES	YES	Year 2	
048210547	83-1264-83	8/4/2004	35.70	WAR	1:05 PM		NB	n/a	No	No		REDIRECTED INTO TRAFFIC	SUV	FO	ODE	PDO		WET	DAY	n/a	\$	504.33	YES	YES	Year 2	
058017430	83-0056-83	1/12/2005	35.70	WAR	4:50 AM		NB	n/a	No	No		REDIRECTED	CAR	FO	FELL ASLEEP	PDO		WET	DARK	see 35.9	see 35.9	NO	YES	Year 2		
HIT AND RUN		4/12/2005	35.70	WAR						No						unknown				n/a	\$	122.30	NO	YES	Year 2	
058017390	83-0070-83	1/16/2005	35.90	WAR	7:15 AM	AM PEAK	NB	n/a	No	No		STOPPED IN CONTACT	CAR	FO	US	PDO		SNOW	DARK	16	\$	1,115.70	see 35.7	YES	Year 2	
048381215	83-2141-83	12/22/2004	36.50	WAR	7:40 AM	AM PEAK	SB	L	No	Yes		STOPPED IN CONTACT	CAR	FO	US	PDO		SNOW	DAY	2	\$	440.74	YES	YES	Year 2	
048381224	83-2154-83	12/22/2004	36.50	WAR	3:23 PM		SB	L	No	Yes		STOPPED IN CONTACT	CAR	FO	US	PDO		SNOW	DARK	6	\$	601.83	YES	YES	Year 2	
058046356	83-0164-83	1/25/2005	36.60	WAR	12:55 PM		SB	L	No	Yes		STOPPED IN CONTACT	CAR	RE	US	PDO		DRY	DAY	2	\$	208.67	NO	YES	Year 2	
058097938	83-0517-83	3/28/2005	36.60	WAR	6:45 AM		SB	L	No	Yes		STOPPED IN CONTACT	CAR	FO	US	PDO		WET	DARK	2	\$	209.15	YES	YES	Year 2	
058075781	83-0408-83	3/7/2005	36.90	WAR	5:13 PM	PM PEAK	NB	L	Yes	Yes		SPUN OUT	CAR	FO	US	PDO		WET	DAY	3	\$	n/a	YES	YES	Year 2	
048334229	83-1946-83	11/23/2004	37.20	WAR	11:21 AM		NB	n/a	No	Yes		SPUN OUT	CAR	SIDESWIPE	ILC	PDO		DRY	DAY	7	\$	490.91	YES	YES	Year 2	
HIT AND RUN		1/10/2005	37.30	WAR			NB	n/a	No	Yes						unknown				n/a	\$	155.07	NO	YES	Year 2	
058023949	83-0133-83	1/21/2005	37.40	WAR	9:35 AM		NB	n/a	No	Yes		STOPPED IN CONTACT	SUV	FO	US	INJ	POSSIBLE	YES	WET	DAY	4	\$	923.77	YES	YES	Year 2
058160969	83-0898-83	6/10/2005	37.90	WAR	6:00 PM		SB	L	No	No		REDIRECTED	CAR	SIDESWIPE	ILC	INJ	NON-INCAPACITATING	YES	DRY	DAY	6	\$	653.82	YES	YES	Year 2

058185236	09-0281-09	7/16/2005	27.00	BUT	6:45 PM		NB	L	Yes	Yes		SPUN OUT IN MEDIAN	SUV	FO	US	INJ	POSSIBLE	YES	WET	DAY	6	\$	601.71	YES	YES	Year 3
HIT AND RUN		10/21/2005	27.00	BUT			SB	L	No	Yes						unknown			DRY	DAY	12	\$	778.98	YES	YES	Year 3
058295724	09-0453-09	11/10/2005	27.20	BUT	7:35 AM	AM PEAK	SB	L	No	Yes		PENETRATION OF RAIL	CAR	SIDESWIPE	ILC	PDO			DRY	DAY	4	\$	174.90	YES	YES	Year 3
HIT AND RUN		4/19/2006	27.20	BUT			NB	L	Yes	Yes						unknown					10	\$	854.14	YES	YES	Year 3
HIT AND RUN		6/20/2006	27.20	BUT						Yes						unknown					?	\$	663.29	NO	YES	Year 3
068152410	09-0246-09	6/30/2006	27.20	BUT	6:42 PM		SB	L	No	Yes		STOPPED IN CONTACT	CAR	RE	ACDA	PDO			DRY	DAY	?	\$	n/a	NO	YES	Year 3
HIT AND RUN		3/14/2006	27.30	BUT						Yes						unknown					9	\$	612.23	YES	YES	Year 3
058341943	09-0481-09	11/23/2005	27.40	BUT	12:05 AM		SB	L	No	Yes		STOPPED IN CONTACT	CAR	RE	DIA	PDO			DRY	DARK	5	\$	592.31	YES	YES	Year 3
058329041	09-0516-09	12/8/2005	27.40	BUT	4:43 PM	PM PEAK	SB	L	No	Yes		STOPPED IN CONTACT	SUV	FO	US	PDO			SNOW	DAY	8	\$	1,571.44	YES	YES	Year 3
058338662	09-0527-09	12/13/2005	27.50	BUT	1:16 AM		SB	L	No	Yes		STOPPED IN CONTACT	CAR	FO	FTC	PDO			DRY	DARK	14	\$	SEE 27.4B	YES	YES	Year 3
058174841	09-0264-09	7/1/2005	27.60	BUT	2:20 AM		NB	L	Yes	Yes		Redirected	CAR	FO	ILC	INJ	POSSIBLE	YES	WET	DARK	5	\$	505.23	YES	YES	Year 3
HIT AND RUN		7/5/2005	27.70	BUT			NB	L	Yes	Yes						unknown					5	\$	639.62	NO	YES	Year 3
058311426	09-0476-09	11/22/2005	28.50	BUT	7:15 AM	AM PEAK	NB	R	No	Yes		STOPPED IN CONTACT	CAR	FO	ILC	PDO			DRY	DAY	9	\$	1,012.79	YES	YES	Year 3
058338656	09-0517-09	12/8/2005	28.50	BUT	7:32 PM		SB	R	Yes	Yes		STOPPED IN CONTACT	CAR	FO	FTC	INJ	POSSIBLE	YES	SNOW	DARK	1	\$	298.34	YES	YES	Year 3
HIT AND RUN		8/9/2005	28.70	BUT						Yes						unknown					?	\$	74.30	NO	YES	Year 3
HIT AND RUN		10/19/2005	28.70	BUT						Yes						unknown					?	\$	95.64	NO	YES	Year 3
HIT AND RUN		12/22/2005	28.70	BUT						Yes						unknown					?	\$	381.80	NO	YES	Year 3
HIT AND RUN		2/27/2006	28.70	BUT						Yes						unknown					?	\$	117.46	NO	YES	Year 3
058197249	09-0296-09	7/29/2005	28.90	WAR	4:24 PM	PM PEAK	NB	L	Yes	Yes		STOPPED IN CONTACT	TRUCK	FO	FTC	PDO			DRY	DAY	?	\$	n/a	NO	YES	Year 3
N/A	09-306-83	8/6/2005	29.10	WAR	9:50 AM		NB	L	Yes	Yes		STOPPED IN CONTACT	CAR	FO	US	INJ	NON-INCAPACITATING	YES	WET	DAY	1	\$	220.42	YES	YES	Year 3
058255759	09-0357-83	9/15/2005	29.30	WAR	8:00 AM	AM PEAK	NB	L	Yes	Yes		SPUN OUT IN MEDIAN	PICK UP	FO	ODE	PDO			DRY	DAY	12	\$	646.37	YES	YES	Year 3
068015290	83-0106-83	1/23/2006	29.40	WAR	4:15 AM		NB	L	Yes	Yes		SPUN OUT IN MEDIAN	SUV	FO	US	PDO			WET	DARK	5	\$	767.26	YES	YES	Year 3
058206378	83-1166-83	7/29/2005	29.70	WAR	11:25 PM		NB	R	No	Yes		STOPPED IN CONTACT	CAR	FO	DIA	PDO			DRY	DARK	10	\$	1,013.84	YES	YES	Year 3
068078542	83-0471-83	4/2/2006	30.10	WAR	11:53 PM		SB	L	No	Yes	Socketed	REDIRECTED IN MEDIAN	PICK UP	FO	DUI	PDO			WET	DARK	?	\$	940.92	NO	YES	Year 3
058241768	83-1408-83	9/15/2005	30.20	WAR	5:10 PM	PM PEAK	NB	L	Yes	Yes	Socketed	STOPPED IN CONTACT	CAR	FO	ODE	PDO			DRY	DAY	?	\$	96.63	NO	YES	Year 3
068059101	83-0357-83	3/12/2006	30.20	WAR	6:50 AM		SB	L	No	Yes	Socketed	SPUN OUT IN MEDIAN	CAR	FO	US	PDO			WET	DARK	?	\$	587.02	NO	YES	Year 3
HIT AND RUN		7/20/2005	30.50	WAR			NB	R	No	No	Socketed					unknown					4	\$	221.10	NO	YES	Year 3
058279985	83-1630-83	10/21/2005	30.80	WAR	12:25 PM		SB	R	Yes	No	Socketed	STOPPED IN CONTACT	CAR	FO	ACDA	PDO			WET	DAY	3	\$	168.44	NO	YES	Year 3
068136688	83-0813-83	6/7/2006	30.80	WAR	8:45 PM		NB	R	No	No	Socketed	STOPPED IN CONTACT	CAR	FO	US	PDO			WET	DUSK	1	\$	454.96	YES	YES	Year 3
058206117	83-1198-83	8/6/2005	30.90	WAR	9:25 AM		NB	R	No	No	Socketed	STOPPED IN CONTACT	CAR	FO	FTC	PDO			WET	DAY	?	\$	383.67	NO	YES	Year 3
068005887	83-0042-83	1/11/2006	30.90	WAR	10:05 AM		NB	R	No	No	Socketed	STOPPED IN CONTACT	CAR	FO	ODE	PDO			DRY	DAY	1	\$	241.95	YES	YES	Year 3
058241605	83-1409-83	9/16/2005	31.20	WAR	12:50 AM		NB	R	No	No	Socketed	STOPPED IN CONTACT	PICK UP	FO	US	PDO			WET	DARK	4	\$	139.45	YES	YES	Year 3
058241766	83-1422-83	9/17/2005	31.20	WAR	4:13 PM	PM PEAK	NB	R	No	No	Socketed	STOPPED IN CONTACT	CAR	FO	ODE	PDO			DRY	DAY	?	\$	SEE 30.2A	NO	YES	Year 3
HIT AND RUN		12/21/2005	31.30	WAR			NB	R	No	No	Socketed					unknown					1	\$	114.91	YES	YES	Year 3
HIT AND RUN		9/1/2005	32.10	WAR						No	Socketed					unknown					?	\$	2,299.61	NO	YES	Year 3
068037987	09-0055-83	2/12/2006	32.10	WAR	4:35 AM		NB	R	No	No	Socketed	REDIRECTED IN MEDIAN	CAR	FO	US	PDO			SNOW	DARK	?	\$	264.50	NO	YES	Year 3
HIT AND RUN		3/22/2006	32.10	WAR						No	Socketed					unknown					1	\$	112.40	NO	YES	Year 3
058196338	83-1121-83	7/21/2005	32.70	WAR	8:40 PM		SB	n/a	No	Yes		STOPPED IN CONTACT	CAR	FO	ILC	unknown			DRY	DAY	?	\$	n/a	NO	YES	Year 3
058225824	83-1368-83	9/5/2005	33.00	WAR	3:45 PM		NB	R	No	Yes		SPUN OUT IN MEDIAN	CAR	FO	ACDA	INJ	POSSIBLE	YES	DRY	DAY	7	\$	SEE 33.2	NO	YES	Year 3
HIT AND RUN		3/22/2006	33.00	WAR			NB	R	No	Yes						unknown					5	\$	818.56	YES	YES	Year 3
058216770	83-1340-83	8/31/2005	33.10	WAR	1:35 PM		NB	R	No	Yes		STOPPED IN CONTACT	SUV	FO	FTC	PDO			DRY	DAY	7	\$	650.49	YES	YES	Year 3
058273999	83-1576-83	10/14/2005	33.10	WAR	2:25 PM		NB	R	No	Yes		STOPPED IN CONTACT	PICK UP	FO	ACDA	PDO			DRY	DAY	5	\$	525.82	YES	YES	Year 3
058225469	83-1354-83	9/3/2005	33.20	WAR	3:55 AM		NB	R	No	Yes		SPUN OUT IN MEDIAN	CAR	FO	FTC	PDO			DRY	DARK	5	\$	SEE 33.2	YES	YES	Year 3
068000912	83-0011-83	1/3/2006	33.20	WAR	5:10 PM	PM PEAK	NB	R	No	Yes		STOPPED IN CONTACT	CAR	FO	FTC	PDO			DRY	DAY	2	\$	739.13	NO	YES	Year 3
058331965	83-1950-83	12/8/2005	33.40	WAR	4:28 PM	PM PEAK	NB	R	No	Yes		STOPPED IN CONTACT	CAR	SIDESWIPE	US	INJ	NON-INCAPACITATING	YES	SNOW	DAY	1	\$	107.40	NO	YES	Year 3
058329535	83-1952-83	12/8/2005	33.50	WAR	6:55 PM		SB	R	Yes	Yes		STOPPED IN CONTACT	CAR	FO	STA	PDO			SNOW	DARK	see 33.4	\$	see 33.4	NO	YES	Year 3
058266048	09-0399-83	10/11/2005	33.70	WAR	9:25 AM		NB	n/a	No	Yes		SPUN OUT IN MEDIAN	PICK UP	FO	FTC	PDO			DRY	DAY	?	\$	339.48	NO	YES	Year 3
058179802	83-1028-83	7/6/2005	33.90	WAR	7:30 AM	AM PEAK	SB	n/a	No	No		REDIRECTED IN MEDIAN	CAR	SIDESWIPE	ILC	INJ	NON-INCAPACITATING	YES	DRY	DAY	12	\$	1,430.95	YES	YES	Year 3
HIT AND RUN		7/12/2005	34.00	WAR			SB	n/a	No	No						unknown					10	\$	137.49	NO	YES	Year 3
HIT AND RUN		12/14/2005	34.00	WAR			SB	n/a	No	No						unknown					5	\$	201.52	YES	YES	Year 3
HIT AND RUN		3/22/2006	34.00	WAR			SB	n/a	No	No						unknown					1	\$	185.83	YES	YES	Year 3
058241609	83-1394-83	9/11/2005	34.20	WAR	10:30 AM		NB	n/a	No	No		STOPPED IN CONTACT	CAR	SIDESWIPE	ILC	INJ	NON-INCAPACITATING	YES	DRY	DAY	?	\$	293.75	NO	YES	Year 3
068150649	83-0946-83	6/30/2006	34.70	WAR	2:17 PM		NB	n/a	No	No		STOPPED IN CONTACT	VAN	FO	FTC	PDO					?	\$	n/a	NO	YES	Year 3
068132787	83-0773-83	6/1/2006	34.90	WAR	3:15 AM		SB	n/a	No	No		STOPPED IN CONTACT	PICK UP	RE	ACDA	INJ	NON-INCAPACITATING	YES	DRY	DARK	?	\$	n/a	NO	YES	Year 3
HIT AND RUN		3/22/2006	35.40	WAR			SB	n/a	No	No						unknown					2	\$	245.65	YES	YES	Year 3
058206110	83-1191-83	8/5/2005	35.70	WAR	3:05 PM		NB	n/a	No	No		SPUN OUT IN MEDIAN	CAR	SIDESWIPE	STA	PDO			DRY	DAY	?	\$	120.41			