

# RescueNet Road Safety for Manitoulin-Sudbury EMS

Better Driving  
Better Safety  
Better Results

June 22, 2011

**ZOLL**<sup>®</sup>









# ZOLL

- A strong, reliable partner
  - Built on the vision of Dr. Paul ZOLL
- A technology innovator
  - Solutions focused on the chain of survival
  - Provides the most current technology for customers
- A focus on improving patient outcomes
  - Saving lives while driving your success



# ZOLL – Improving Patient Outcomes

## ZOLL Expanded Chain of Survival

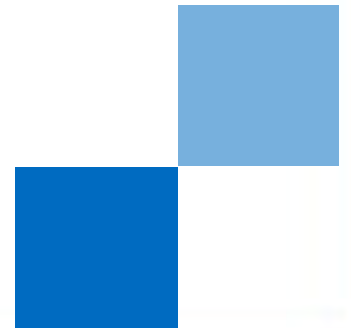
Early Intervention	Access	CPR	Defibrillation	ACLS	Post Resuscitation Care
					
LifeVest	Road Safety Dispatch Navigator	AutoPulse	AED Pro AED Plus	E Series ePCR	IVTM



# What is RescueNet Road Safety?

Road Safety is a driver behavior modification technology.

Immediate, audible feedback adjusts driving behaviors which results in safer driving and minimized impact to vehicle wear and tear.



# What does Road Safety Provide?

**Greater safety for your staff and patients**

**&**

**Significant cost savings on vehicle maintenance  
and insurance**



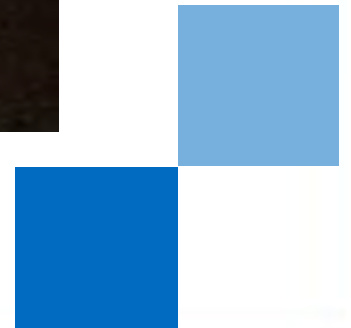
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Road Safety prevents scenarios like this...



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# Emergency Vehicle Accidents

## Frequency breeds severity

Even slightly dangerous driving behavior increases the number and severity of accidents

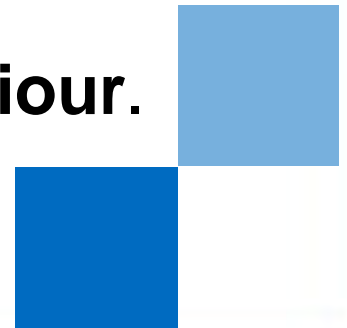


# How does Road Safety work?

**Proactively modifies driver behavior by providing immediate audible feedback on:**

- Speed
- Cornering force – G-force
- RPMs
- Braking intensity
- Seat belts
- Rear spotter

**Monitoring alone doesn't change behaviour.**





# Other events and behaviors monitored

- Emergency lights, sirens, warning lamps
- Acceleration
- Engine RPM
- Engine idle time - Indicates wasted fuel
- Distance driven
- Turn signals
- Doors
- Auxiliary Power



# Data Collection and Driver Feedback System

- Onboard computer installed in each vehicle to assess driving performance
- Data sent wirelessly back to HQ for reporting
- Real-time audible feedback puts drivers in control of performance

Onboard  
Computer



Audio  
Speaker



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# Unsafe backing

Estimated 85% of all EMS collisions occur while vehicle is in reverse.

Rear bumpers alone can cost upward of \$1200

Audible tone alerts driver that spotter has not verified safe back up situation.



Spotter Switch



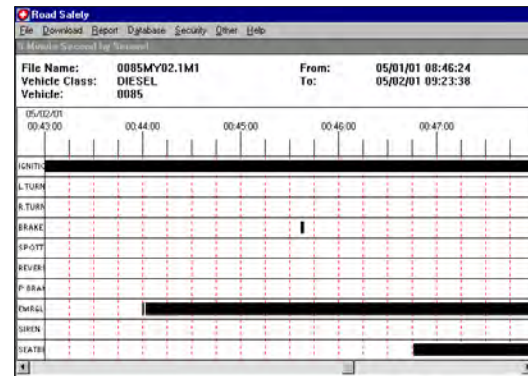
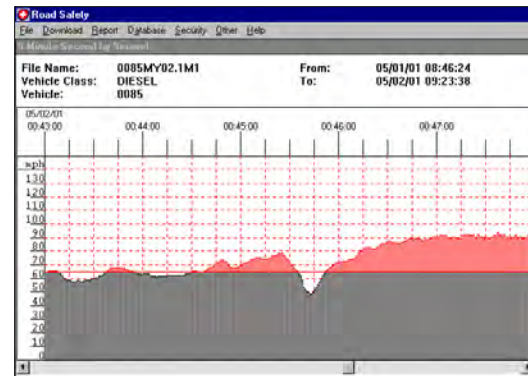
# Road Safety Works with Your Agency

- *You* define the safe driving conditions for your service (control your parameters)
- *You* monitor and provide feedback on elements that are critical to your organization
- Every unique driver is identified

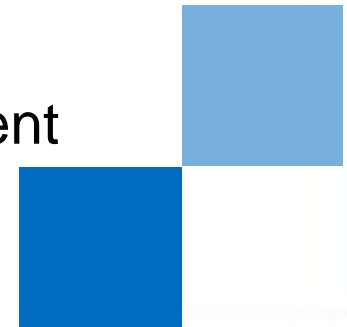


# Data upload and reporting

Second-by-second data collected onboard is fed to central computer.



Multiple reports are available for management analysis and creation of action plans



# ABC's of Safe Driving

Driver grading system

Average miles

Between

Counts (violations)

Identify your drivers

Reward safe drivers

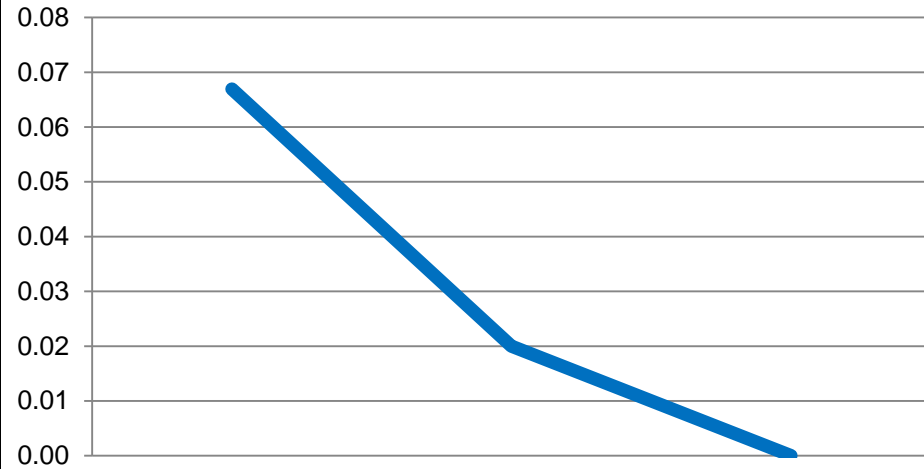
Manage the exceptions

Driver Safety Summary (Emergency & Non-Emergency Driving)											
Driver ID	Driver	Distance	Force Counts		Over Speed Counts		Seatbelt Counts	Unsafe Reverse	ABC Miles	Level	
			Total	High	Total	High					
3428	Phessant, Jr., Lincoln	130.5	1	0	0	0	2	1	32.656		
2107	Spishak, Kevin	195.2	5	0	0	0	0	1	32.535		
3217	Crawford, Broderick	509.9	15	0	1	0	0	0	31.867		
3005	Anderson, Dwayne	1,449.8	34	0	7	0	4	2	30.846		
3273	Barrett, Brennan	302.4	5	0	5	0	0	0	30.243		
3140	Roebuck, Fred	658.0	6	0	14	0	0	2	29.907		
2142	Natles, Preston	118.2	2	0	0	0	0	2	29.540		
3305	Nash, Graham	1,098.1	11	0	27	0	0	0	28.899		
3334	Selznik, Brian	402.2	14	0	0	0	0	0	28.725		
3062	Kingsley, Jason	55.8	0	0	0	0	0	2	27.922		
3378	Minnows, Tim	686.8	15	0	0	0	0	10	27.471		
3338	Cross, Chris	1,032.4	30	0	3	0	0	6	26.471		
3054	Tufur, Chris	1,070.3	33	0	3	0	3	2	26.105		
8085	Walken, Christopher	50.1	0	0	0	0	0	2	25.052		
3322	Oshkavitz, Onesha	48.3	0	0	0	0	0	2	24.134		
3010A	Hardie, Linda	950.9	34	0	1	0	0	6	23.193		
2158	Wadlee, Patrice	116.0	2	0	0	0	0	3	23.190		
3317	Sizemore, Emily	1,223.3	45	0	0	0	0	8	23.082		
3405	Rubenstein, Christine	1,307.3	52	0	2	0	0	6	21.789		
8205	Shopsmith, Art	1,039.9	22	1	0	0	0	1	21.665		
1846	Mackeralle, Hollie	86.5	4	0	0	0	0	0	21.630		
1604	Haksley, Melvin	237.5	11	0	0	0	0	0	21.587		
1993	Wrangler, Wes	590.8	0	0	1	1	0	2	21.100		
3388	Speedwack, Richard	143.4	3	0	0	0	0	4	20.481		
8195	Hartley, Danielle	20.3	1	0	0	0	0	0	20.347		
1962	Rice, Andrew	39.3	0	0	0	0	0	2	19.665		
3402	Hillard, Debby	1,188.7	14	2	0	0	0	1	18.288		
3413	Belman, Carla	910.3	27	0	2	0	10	11	18.206		
3368	Russo, Marcario	1,518.1	17	0	17	2	0	1	17.860		
2116	Bennett, Didi	1,131.8	30	0	15	0	11	11	16.892		
1968	Burras, Chrissy	315.8	19	0	0	0	0	1	15.791		
3410	Amann, Hank	142.2	8	0	3	0	0	0	12.923		
2164	Brothers, Mario	154.1	12	0	0	0	0	0	12.840		
3259	Robertson, Cliff	867.9	38	0	6	1	0	0	12.579		
2134	Tablesmith, Tiffany	145.1	12	0	0	0	0	0	12.095		
3345B	Swanson, Emily	1,224.1	35	3	0	0	0	1	11.028		
3160	Caine, Dwayne	138.8	8	0	0	0	0	5	10.678		
3438	Jones, Jimmy	40.1	4	0	0	0	0	0	10.037		
3398	Desmond, Nora	19.8	2	0	0	0	0	0	9.880		
1479	Hand, Joe	127.8	12	0	0	0	0	1	9.832		
7370	Bearman, Alex	1,234.7	144	0	2	0	0	6	8.123		
<b>S I A N D A R D L I N E</b>											
3439	Bridges, Jennifer	245.8	9	1	0	0	0	0	7.230	4	
1829	Williams, Vanessa	19.5	3	0	0	0	0	0	6.504	4	
3383	Williamson, William	104.4	17	0	0	0	0	2	5.497	4	
3376	Merriwether, Jackie	66.5	0	0	0	0	0	19	3.502	3	
00187	Training	86.6	14	0	0	0	0	31	1.925	2	
Total Drivers:		152									
Fleet Totals:		63,777.1	1,103	7	127	4	45	218	36.073	7	
Average Driver:		419.6	7	0	1	0	0	1		8	

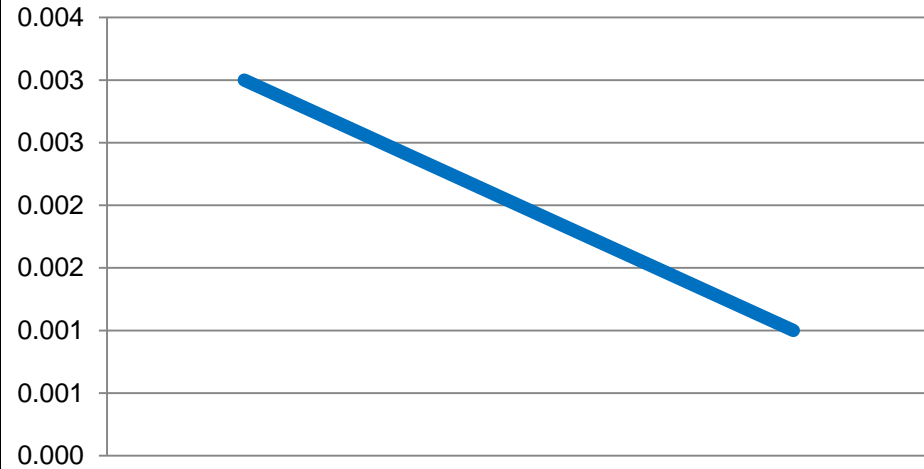


# Immediate, Radical Improvement

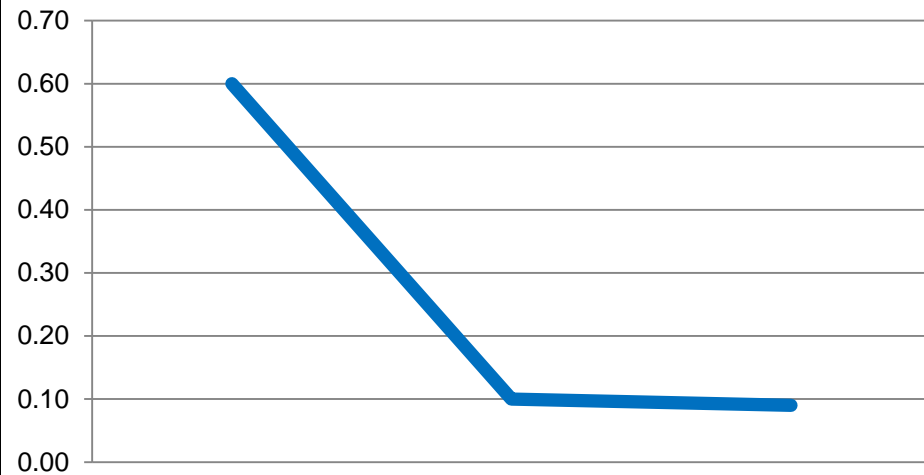
## High Speed Violations Per Mile



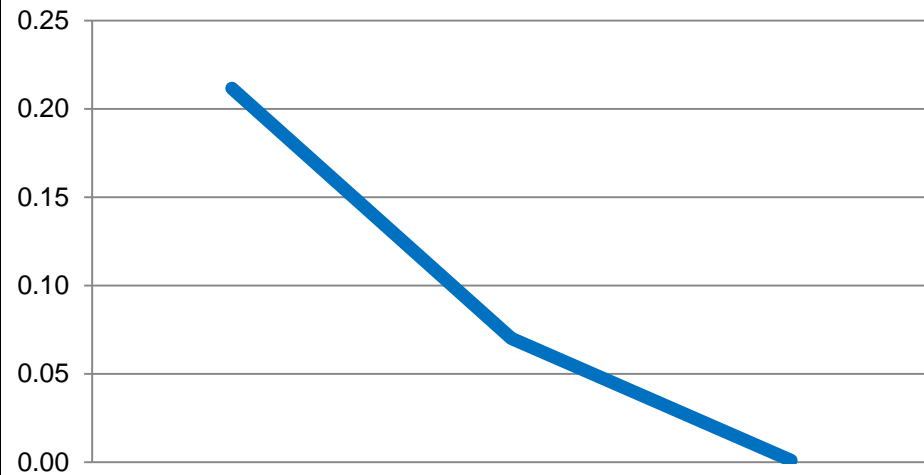
## Over Force Violations Per Mile



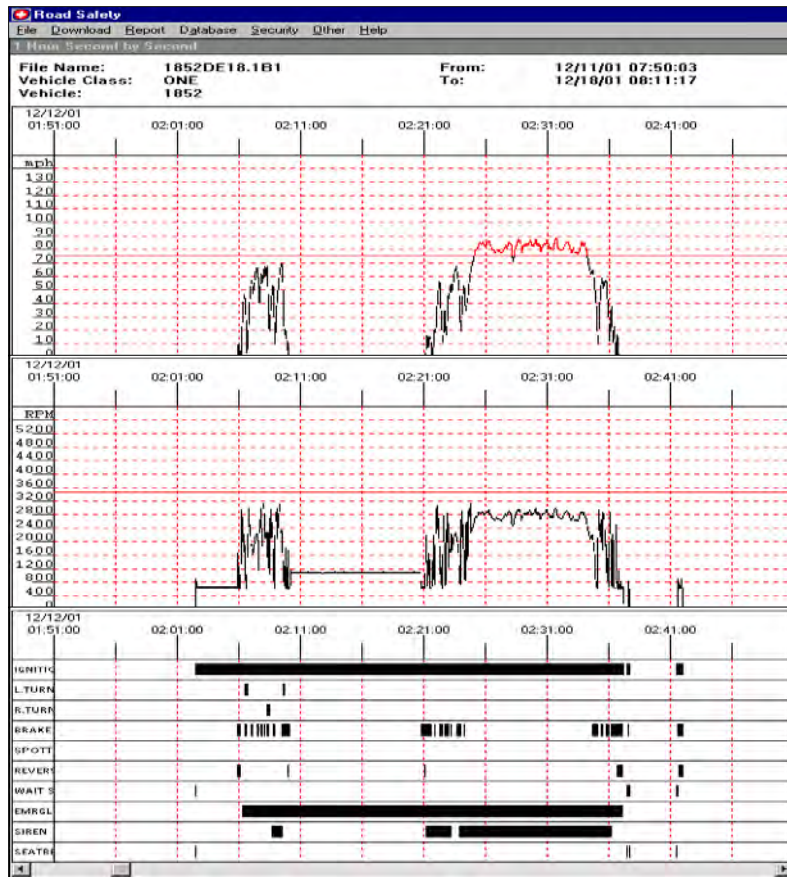
## Reverse Violations Per Mile



## Seatbelt Violations Per Mile



# Vehicle Response analysis



- Second-by-second response data analysis:
  - Speeds
  - Braking
  - Overforce occurrences
  - Lights and sirens

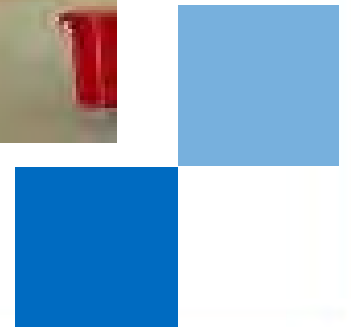


# Road Safety Provides Cost Savings

Save money on maintenance and insurance

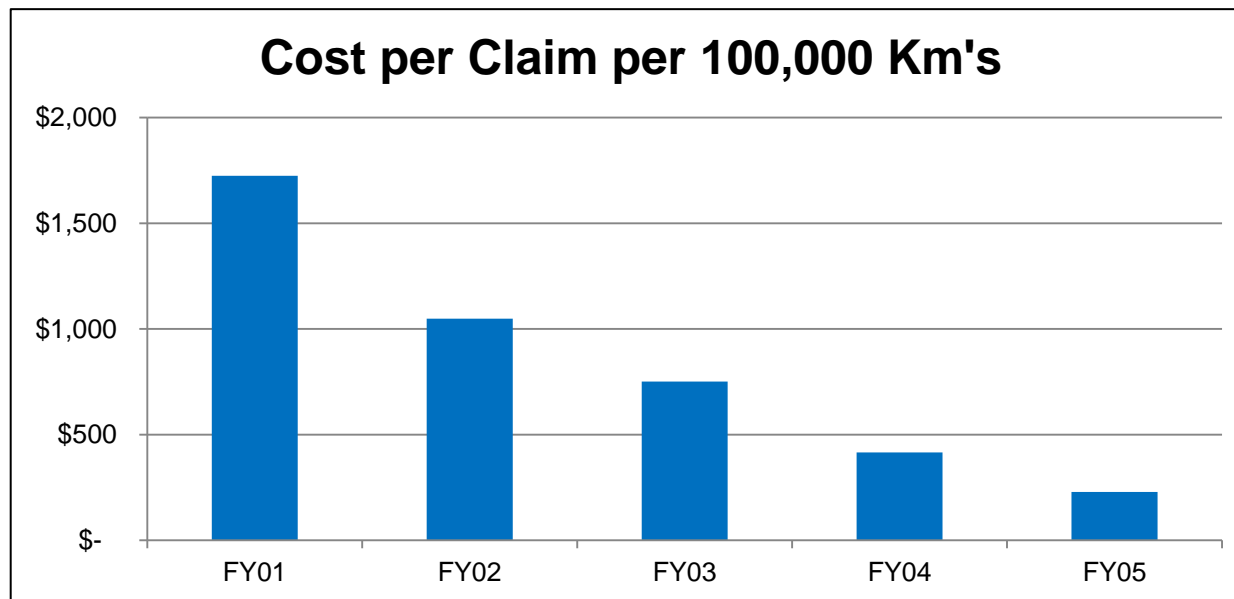


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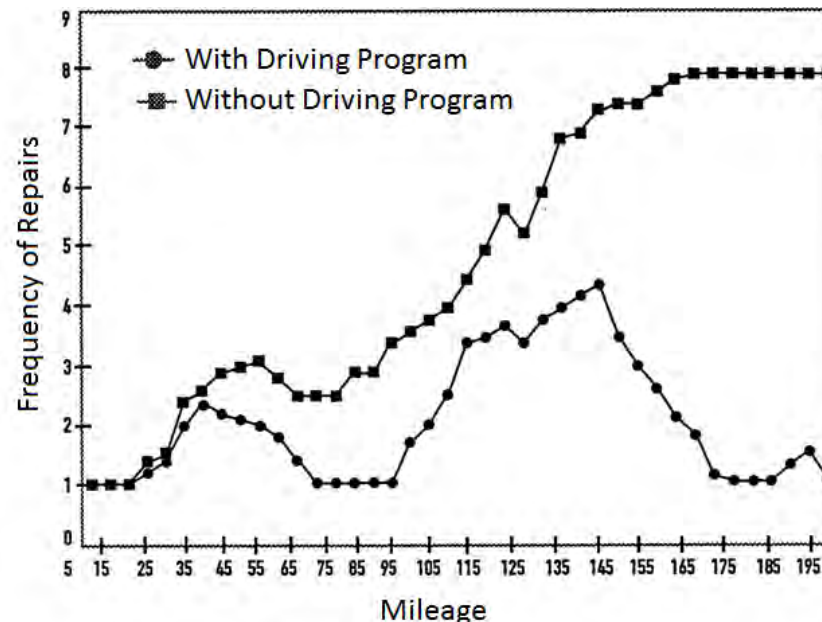
# Results at Emergency Medical Care

- Collisions reduced by 31% over 3 years
- Cost per claim reduced by 75%



# Results at RAA

- \$1,364 annual maintenance savings per vehicle
- 20% increased vehicle life expectancy
- 28% decrease in crash related repairs
- 450,000 miles between at fault events

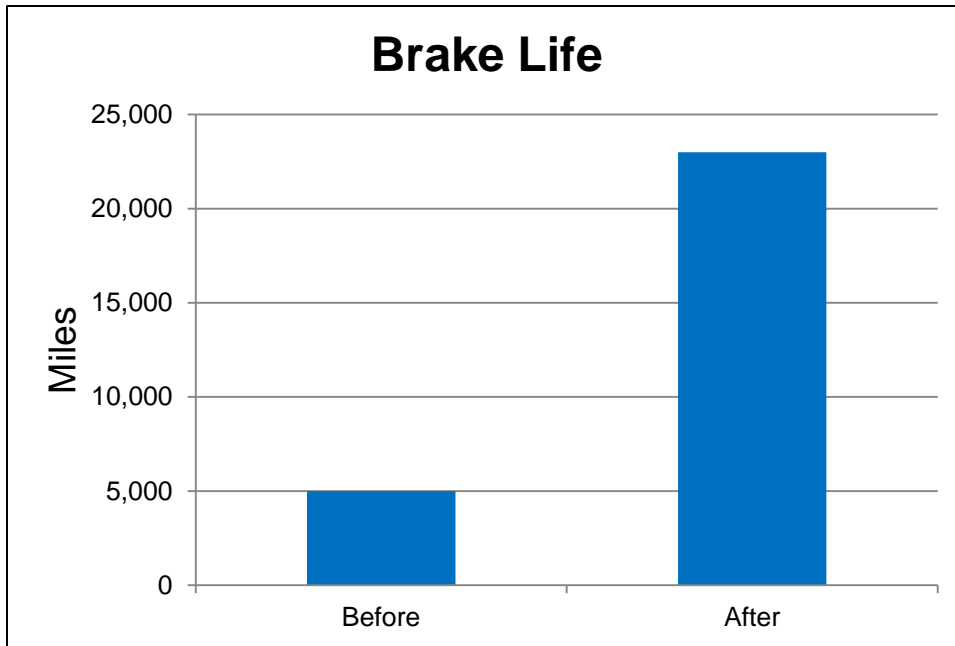


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Source: Overton, J., Blake, C., Register, T. 1998. *Maximizing Fleet Performance*, JEMS – Journal of Emergency Medical Services. October 1998, Vol.23, No.10, p. 36-42

# Results at LifeCare Ambulance

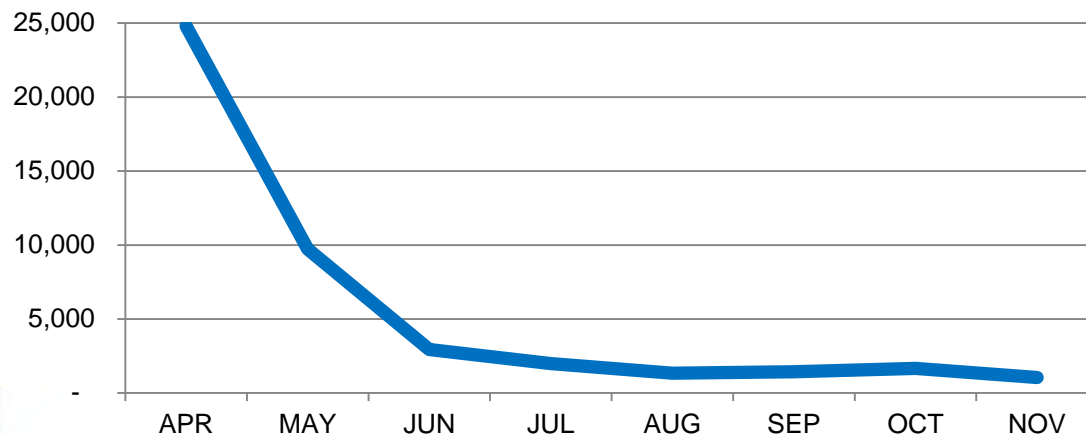
- Insurance premiums reduced by 30%
- Over 3,000,000 miles with no injury crashes



# Results at Metropolitan EMS

- 20% reduction in fleet maintenance costs
- 1.9 million miles between crashes
- Incident severity dramatically decreased
- No increase in response times

**# of Overforce Events**



Source: Metropolitan EMS internal analysis

# Return on Investment

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Customers have reported:

- ROI of initial investment within 8-24 months
- Over \$1500 savings in maintenance per vehicle
- Vehicle life expectancy increased by 20%
- Significant reductions in insurance
- \$300 - \$1300 in fuel savings per vehicle



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**What positive impact could  
RescueNet Road Safety have  
for your Service?**

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