# Crash Reports

Prepared by Ken Digges

Mon Jan 16 14:29:43 2006

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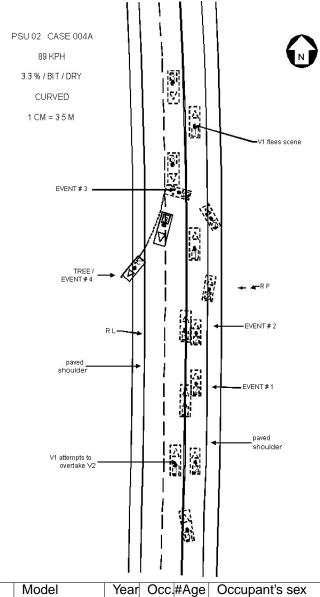
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# 1 Case 2004-2-4

#### Summary:

Vehicle 1 and vehicle 2 traveling North on an undivided three lane road negotiating a left curve on a downgrade with vehicle 1 to the rear of vehicle 2. The roadway in this area has one lane of travel for Northbound traffic and two lanes of travel for Southbound traffic. Vehicle 1 attempted to overtake vehicle 2. The right side of vehicle 1 struck the left side of vehicle 2 (EVENT 1). The vehicles traveled North a short distance and the right side of vehicle 1 struck the left side of vehicle 2 again (EVENT 2). Vehicle 1 re-entered the Northbound lane and left the scene. Vehicle 2 rotated counterclockwise after the second impact and traveled across the double yellow line and crossed into the left Southbound lane of travel. Vehicle 3 was traveling South in the left lane of travel on the same undivided three lane roadway. The front of Vehicle 3 struck the right side of vehicle 2 (EVENT 3). Vehicle 3 came to rest in the roadway. Vehicle 2 continued off the West side of the roadway and the front of vehicle 3 were towed due to damage. The driver, right front seat passenger and two rear seat passengers in vehicle 2, and the driver of vehicle 3 were tarnsported due to injuries. The right front seat passenger in vehicle 2 expired two days later at a trauma center. The weather was clear, the road was dry and it was daylight at the time of the collision. )



Vehi	clBody type	Make	Model	Year	Occ.	#Age	Occupant's sex	Maximum known occupant ais
2	4-DR SEDAN/HDTOP	Toyota	Corolla	2001	1	63	MALE	4=Severe
2	4-DR SEDAN/HDTOP	Toyota	Corolla	2001	2	61	FEMALE-NOT PREG	4=Severe
2	4-DR SEDAN/HDTOP	Toyota	Corolla	2001	3	11	MALE	1=Minor
2	4-DR SEDAN/HDTOP	Toyota	Corolla	2001	4	11	MALE	1=Minor
3	LARGE PICKUP	Ford	F-series P/U	1998	3 1	68	MALE	4=Severe

### Occupant: 2004-2-4-2-1

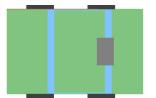




#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, centered Left side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed	No rollover 998
Total, Longitudal, and Lateral $\delta V$	57 -29 -49
Est. $\delta V$ with sequence number	DELTA V CODED 3
CDC	2 R Y E W 99
Damage (C1-C6)	00000
Crush (L and D)	0 0
Object Contacted 1	VEHICLE NO. 3
Object Contacted 2	VEHICLE NO. 1

### **NASS Weighting Factor**

Weighting factor

37.849

# **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

# **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition **Light Conditions Atmospheric Conditions** Relation to Intersection **Traffic Control Device** Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

Not DIVIDED THREE CURVE LEFT DOWNHILL GRADE ASPHALT DRY DAYLIGHT No ADVERSE COND NONINTER/NONJUNC

No ALCOHOL

es 96

# **Vehicle Factors**

Make-Model Year Class Body Type Weight Toyota Corolla 2001 PASSENGER CAR 4-DR SEDAN/HDTOP 109

# **Pre-Crash Driver Data**

Accident Type	45
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event	Same DIR-OV LEFT
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	9
Pre-impact Location	STAYED IN LANE

# **DRIVER Factors**

Age	63	Height	175	Weight	75
Gende	r		MALE		
Ejectio	n		No EJE	CTION	
Ejectio	n Area		No EJE	CTION	
Entrap	ment		Not EN7	FRAPPED	

# **Restraint Factors**

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-2-4-2-1
MAIS	4=Severe
Seat Position	Front left side

AIS Level	Injury Description	Contacts
1=Minor	Thoracic skin contu- sion	Unknown SOURCE
1=Minor	Facial skin contusion	Unknown SOURCE
1=Minor	Upper extremity skin contusion	Unknown SOURCE
2=Moderate	Acromioclavicular joint dislocation	Unknown SOURCE
4=Severe	Cerebral subdural hematoma, small (<50ccs)	Unknown SOURCE
4=Severe	Intracerebral hematoma, small petechial hemorrhage	Unknown SOURCE
3=Serious	Cerebral subarach- noid hemorrhage	Unknown SOURCE

### Occupant: 2004-2-4-2-2

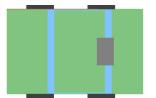




#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, centered Left side, behind rear axle No damage Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed	No rollover 998
Total, Longitudal, and Lateral $\delta V$	57 -29 -49
Est. $\delta V$ with sequence number	DELTA V CODED 3
CDC	2 R Y E W 99
Damage (C1-C6)	00000
Crush (L and D)	0 0
Object Contacted 1	VEHICLE NO. 3
Object Contacted 2	VEHICLE NO. 1

#### **NASS Weighting Factor**

Weighting factor

37.849

# **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

# **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition **Light Conditions Atmospheric Conditions** Relation to Intersection **Traffic Control Device** Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

Not DIVIDED THREE CURVE LEFT DOWNHILL GRADE ASPHALT DRY DAYLIGHT No ADVERSE COND NONINTER/NONJUNC

No ALCOHOL

es 96

# **Vehicle Factors**

Make-Model Year Class Body Type Weight Toyota Corolla 2001 PASSENGER CAR 4-DR SEDAN/HDTOP 109

# **Pre-Crash Driver Data**

Driver Data			
45	AIS Level	Injury Descrip- tion	Contacts
NEGOTIATE CURVE Same DIR-OV LEFT 99	2=Moderate	Scalp avulsion, major (>100	Cerebral in- traventricular
9		<204=Severe	hemorrhage
STAYED IN LANE		Cerebral brain	Unknown
ER Factors	2=Moderate	swelling, NFS Orbit fracture NFS	SOURCE Unknown SOURCE
FEMALE-NOT PREG	2=Moderate	Clavicle fracture	Unknown SOURCE
9 9	3=Serious	Tibial shaft fracture, open/displaced/con	Unknown SOURCE aminuted
t Factors	2=Moderate	851605	Unknown SOURCE
	2=Moderate	C-spine disloca- tion no bone or	Unknown SOURCE
Lap and shoulder YES-RES DET BAG DEPLOYED		cord involvement NFS	
	45 NEGOTIATE CURVE Same DIR-OV LEFT 99 9 STAYED IN LANE <b>ER Factors</b> 168 Weight 66 FEMALE-NOT PREG 9 9 9 9 5 <b>Factors</b>	AIS Level 45 NEGOTIATE CURVE Same DIR-OV LEFT 99 9 STAYED IN LANE 2=Moderate 3=Serious 2=Moderate 168 Weight 66 FEMALE-NOT PREG 9 9 3=Serious 2=Moderate 2=Moderate 2=Moderate 2=Moderate 2=Moderate 2=Moderate 2=Moderate 2=Moderate 2=Moderate 2=Moderate	AIS LevelInjury Description45NEGOTIATE CURVESame DIR-OV LEFT2=Moderate99Scalp avulsion, major (>100 cms2, blood loss92=Moderate9STAYED IN LANEER Factors2=Moderate168Weight 66 FEMALE-NOT PREG93=Serious168Weight 66 FEMALE-NOT PREG93=Serious168Tibial shaft fracture, open/displaced/com93=Serious168Tibial shaft fracture, open/displaced/com93=Serious1682=Moderate168Clavicle fracture93=Serious168Serious168Tibial shaft fracture, open/displaced/com93=Serious168Serious1692=Moderate93=Serious160Serious161Serious162Serious163Serious164Serious165Serious165Serious166Serious167Serious168Serious169Serious169Serious160Serious160Serious161Serious162Serious163Serious164Serious165Serious165Serious166Serious167Serious168Serious169 </td

# Injuries

Airbag Deployment - Oth Not EQUIP W/ OTH

Occupant MAIS Seat Position

Seat

PAS BAG DEPLY

Airbag Deployment - 1<sup>st</sup> Seat DR

2004-2-4-2-2 4=Severe Front right side

### Occupant: 2004-2-4-2-3

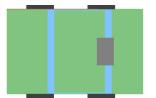




#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, centered Left side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed	No rollover 998
Total, Longitudal, and Lateral $\delta V$	57 -29 -49
Est. $\delta V$ with sequence number	DELTA V CODED 3
CDC	2 R Y E W 99
Damage (C1-C6)	00000
Crush (L and D)	0 0
Object Contacted 1	VEHICLE NO. 3
Object Contacted 2	VEHICLE NO. 1

### **NASS Weighting Factor**

Weighting factor

37.849

# **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
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Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

# **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition **Light Conditions Atmospheric Conditions** Relation to Intersection **Traffic Control Device** Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

Not DIVIDED THREE CURVE LEFT DOWNHILL GRADE ASPHALT DRY DAYLIGHT No ADVERSE COND NONINTER/NONJUNC

No ALCOHOL

es 96

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Toyota Corolla 2001 PASSENGER CAR 4-DR SEDAN/HDTOP 109

# **Pre-Crash Driver Data**

Accident Type	45
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event Attempted Avoidance Maneu- ver	Same DIR-OV LEFT 99
Pre-impact Stability	9
Pre-impact Location	STAYED IN LANE

# **PASSENGER** Factors

Age	11	Height	157	Weight	48
Gender			MALE		
Ejection			No EJI	ECTION	
Ejection	Area		No EJI	ECTION	
Entrapm	ient		Not EN	NTRAPPED	

# **Restraint Factors**

Restrain AOPS	Lap and shoulder YES-RES DET
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-2-4-2-3
MAIS	1=Minor
Seat Position	Second middle

AIS Level	Injury Description	Contacts
1=Minor 1=Minor	Facial skin abrasion Leg skin contusion (hematoma)	Unknown SOURCE Belt webb/buckle
1=Minor	Abdominal skin abra- sion	Unknown SOURCE
1=Minor	Upper extremity skin contusion	Belt webb/buckle
1=Minor	Leg skin abrasion	Belt webb/buckle

### Occupant: 2004-2-4-2-4

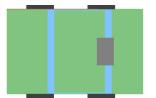




#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, centered Left side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed	No rollover 998
Total, Longitudal, and Lateral $\delta V$	57 -29 -49
Est. $\delta V$ with sequence number	DELTA V CODED 3
CDC	2 R Y E W 99
Damage (C1-C6)	00000
Crush (L and D)	0 0
Object Contacted 1	VEHICLE NO. 3
Object Contacted 2	VEHICLE NO. 1

### **NASS Weighting Factor**

Weighting factor

37.849

# **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

# **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition **Light Conditions Atmospheric Conditions** Relation to Intersection **Traffic Control Device** Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

Not DIVIDED THREE CURVE LEFT DOWNHILL GRADE ASPHALT DRY DAYLIGHT No ADVERSE COND NONINTER/NONJUNC

No ALCOHOL

es 96

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Toyota Corolla 2001 PASSENGER CAR 4-DR SEDAN/HDTOP 109

# **Pre-Crash Driver Data**

Accident Type	45
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event Attempted Avoidance Maneu- ver	Same DIR-OV LEFT 99
Pre-impact Stability	9
Pre-impact Location	STAYED IN LANE

# **PASSENGER Factors**

Age	11	Height	160	Weight	48
Gender			MALE		
Ejection			No EJE	ECTION	
Ejection	Area		No EJE	ECTION	
Entrapm	ent		Not EN	ITRAPPED	

# **Restraint Factors**

Restrain AOPS	Lap and shoulder YES-RES DET	
Airbag Deployment	Not EQUIP/AVAIL	
Airbag Deployment - 1 <sup>st</sup> Seat	DR	
PAS BAG DEPLY		
Airbag Deployment - Oth	Not EQUIP W/ OTH	
Seat		

Occupant	2004-2-4-2-4
MAIS	1=Minor
Seat Position	Second right

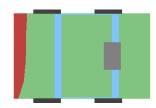
AIS Level	Injury Description	Contacts
1=Minor	Facial skin abrasion	Unknown SOURCE
1=Minor	Leg skin abrasion	Belt webb/buckle

#### Occupant: 2004-2-4-3-1



# **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, left side Left side, forward rear axle No damage Gasoline



# **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 42 -40 14
Est. $\delta V$ with sequence number	DELTA V CODED 3
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	11 F D E W 2 13 29 34 37 37 39 160 0 VEHICLE NO. 2 0

# **NASS Weighting Factor**

Weighting factor

37.849

# **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

# **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

Not DIVIDED THREE CURVE RIGHT UPHILL GRADE ASPHALT DRY DAYLIGHT No ADVERSE COND NONINTER/NONJUNC

No ALCOHOL

96

# **Vehicle Factors**

Make-Model Year Class Body Type Weight Ford F-series P/U 1998 TRUCK LARGE PICKUP 172

# **Pre-Crash Driver Data**

Accident Type	98
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event	OPP DIR-OVR LEFT
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	9
Pre-impact Location	STAYED IN LANE

Age	68	Height	188	Weight	110
Gender MALE					
Ejectior	า		No EJECTION		
Ejectior	n Area	No EJECTION			
Entrapr	nent	Not ENTRAPPED			

Restrain	None used/avail
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-2-4-3-1
MAIS	4=Severe
Seat Position	Front left side

AIS Level	Injury Description	Contacts
4=Severe	Cerebral subdural hematoma, small (<50ccs)	Windshield
1=Minor	Upper extremity skin abrasion	Air bag-DR side
1=Minor 1=Minor	Leg skin abrasion Leg skin contusion (hematoma)	Knee bolster Knee bolster

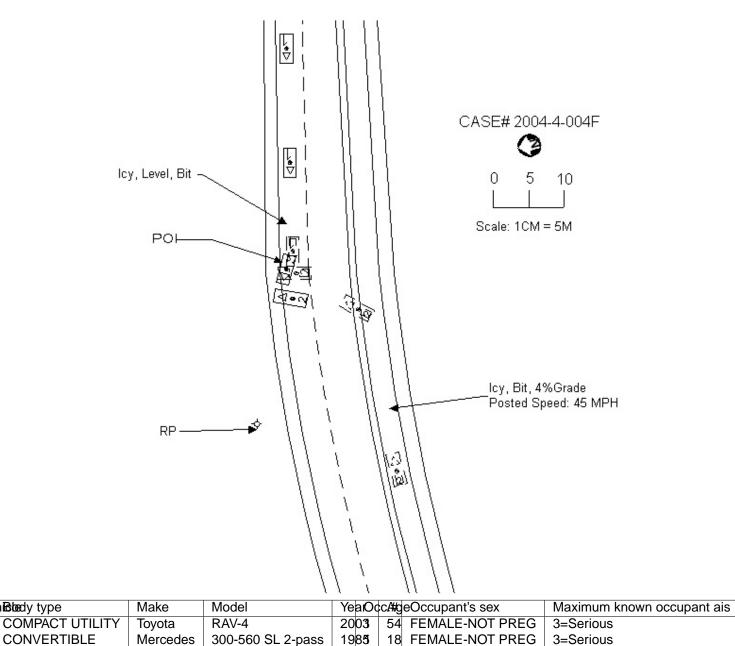
#### $\mathbf{2}$ Case 2004-4-10

#### Summary:

Vehibbedy type

1 2

V1 was traveling westbound in the outboard lane of an icy, bituminous, 3-lane roadway negotiating a curve left. The posted speed limit is 45MPH. V2 was traveling eastbound on the same roadway negotiating a curve right. The eastbound lane had a downhill grade of 4

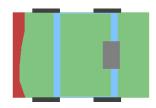


### Occupant: 2004-4-10-1-1



# **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, left side Left side, behind rear axle No damage Gasoline



# **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 47 -46 8
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	12 F D E W 2 37 19 20 26 35 36 146 0 VEHICLE NO. 2 0

# **NASS Weighting Factor**

Weighting factor

28.846

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions 9 Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED THREE CURVE LEFT LEVEL ASPHALT ICE DAYLIGHT 9 NONINTER/NONJUNC No ALCOHOL

# **Vehicle Factors**

Make-Model Year Class Body Type Weight Toyota RAV-4 2003 TRUCK COMPACT UTILITY 131

# **Pre-Crash Driver Data**

Accident Type	66
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event	OPP DIR-OVR LEFT
Attempted Avoidance Maneu-	BRAKE+STEER RT
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	54	Height	175	Weight	63
Gender		FEMALE-NOT PREG			
Ejectio	on	No EJECTION			
Ejection Area No EJECTION					
Entrapment Not ENTRAPPED					

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-4-10-1-1
MAIS	3=Serious
Seat Position	Front left side

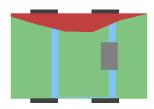
AIS Level	Injury Descrip- tion	Contacts
2=Moderate	Tibial fracture of the medial malleolus	Foot controls
2=Moderate	Lumbar fracture of vertebral body <202=Moderate	Clavicle fracture
Belt webb/buckle		
2=Moderate	Patellar fracture	Knee bolster
3=Serious	Thoracic cav- ity injury NFS, with hemo- /pneumothorax	Belt webb/buckle
1=Minor	Facial skin abrasion	Air bag-DR side
1=Minor	Facial skin contu- sion	Air bag-DR side
1=Minor	Upper extremity skin abrasion	Air bag-DR side
1=Minor	Leg skin contusion (hematoma)	Belt webb/buckle
2=Moderate	Awake on admis- sion, prior uncon- scious, length NFS	Other noncontact
1=Minor	Upper extremity skin contusion	Belt webb/buckle
1=Minor	Thoracic skin con- tusion	Belt webb/buckle
1=Minor	Leg skin contusion (hematoma)	Knee bolster
1=Minor	Leg skin contusion (hematoma)	Floor
1=Minor	Abdominal skin contusion	Belt webb/buckle

#### Occupant: 2004-4-10-2-1



# **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Behind rear axle, centered Right side, behind rear axle No damage Gasoline



# **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 37 -24 -28
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	2 R D A W 4 0 19 53 52 32 8 240 -10 VEHICLE NO. 1 0

# **NASS Weighting Factor**

Weighting factor

28.846

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

## **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED THREE CURVE RIGHT DOWNHILL GRADE ASPHALT ICE DAYLIGHT 9 NONINTER/NONJUNC No ALCOHOL

# **Vehicle Factors**

Make-Model Year Class Body Type Weight Mercedes 300-560 SL 2-pass 1985 PASSENGER CAR CONVERTIBLE 169

# **Pre-Crash Driver Data**

Accident Type	66
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event	POOR ROAD CONDIT
Attempted Avoidance Maneu-	No AVOIDANCE
ver	
Pre-impact Stability	LAT SKID-CTR CLK
Pre-impact Location	Left TRAVEL LANE

Age	18	Height	163	Weight	59
Gender		FEMALE-NOT PREG			
Ejectio	Ejection No EJECTION				
Ejection Area N		No EJECTION			
Entrapment		JAMMED DOOR/FIRE			

Lap and shoulder
NO
Not EQUIP/AVAIL
Not EQUIP/AVAIL
Not EQUIP W/ OTH

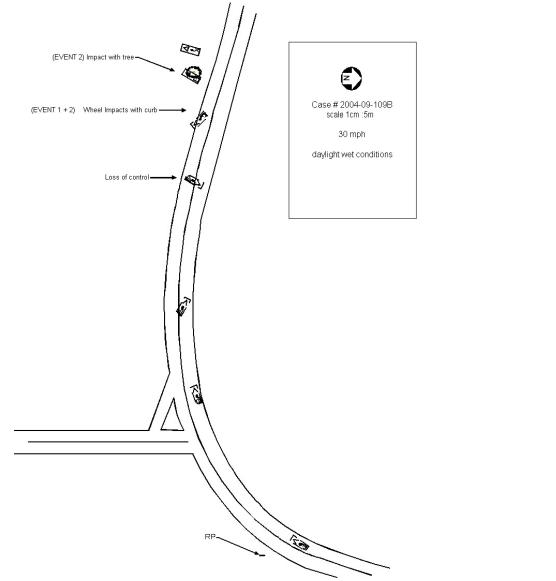
Occupant	2004-4-10-2-1
MAIS	3=Serious
Seat Position	Front left side

AIS Level	Injury Description	Contacts
3=Serious	Splenic laceration, moderate (>3 cms deep, no hilar injury)	Belt webb/buckle
2=Moderate	Lumbar fracture of transverse process without cord injury	Oth interior obj
2=Moderate	Lumbar fracture of transverse process without cord injury	Oth interior obj
2=Moderate	Lumbar fracture of transverse process without cord injury	Oth interior obj
2=Moderate	Lumbar fracture of transverse process without cord injury	Oth interior obj
2=Moderate	Lumbar fracture of transverse process without cord injury	Oth interior obj
2=Moderate	Awake on admission, prior unconscious, length NFS	Other noncontact
1=Minor	Leg skin contusion (hematoma)	Unknown SOURCE
2=Moderate	Splenic contusion NFS	Belt webb/buckle
1=Minor 1=Minor	690402 Facial skin abrasion	Oth interior obj Flying glass

# 3 Case 2004-9-109

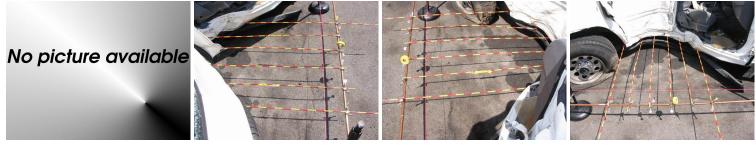
#### Summary:

V1 was traveling southbound on a two-lane, two-way roadway and was negotiating a sharp curve to the right on wet roads. V1 lost control, began a clockwise rotation for approximately 270 degrees and stuck a curb with both right side wheels. V1 continued off the roadway and made contact to a tree with its right side plane before coming to rest. V1 had two occupants. The restrained driver was transported with incapacitating injuries. The unrestrained FR occupant sustained fatal injuries. This vehicle was equipped with dual front air bags which did not deploy. V1 wa towed due to damage. )



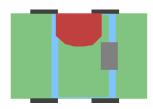
Vehicle	e Body type	Make	Model	Year	Occ.#	Age	Occupant's sex	Maximum known occupant ais
1	COMPACT UTILITY	Isuzu	Rodeo	1995	1	57	MALE	4=Severe
1	COMPACT UTILITY	Isuzu	Rodeo	1995	2	53	FEMALE-NOT PREG	6=Maximum

### Occupant: 2004-9-109-1-1



# **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Behind rear axle, centered Right side, behind rear axle No damage Gasoline



# **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 48 -16 -45
Est. $\delta V$ with sequence number	DELTA V CODED 3
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	2 R P A W 6 66 92 96 96 88 65 85 -30 LARGE TREE CURB

# **NASS Weighting Factor**

Weighting factor

28.010

# **Rollover Characteristics**

Number of Events	3			
Rollover Initiation Type	No rollover			
Location of Rollover Initiation	No rollover			
Rollover Initiation Object	No rollover			
Contacted				
Location on Vehicle where	No rollover			
Principal Tripping Force was				
Applied				
Direction of Initial Roll	No rollover			

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED TWO CURVE RIGHT DOWNHILL GRADE ASPHALT WET DARK RAIN NONINTER/NONJUNC No ALCOHOL

# **Vehicle Factors**

Make-Model Year Class Body Type Weight Isuzu Rodeo 1995 TRUCK COMPACT UTILITY 211

# **Pre-Crash Driver Data**

Accident Type	7
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event	TRAVEL TOO FAST
Attempted Avoidance Maneu-	BRAKE+STEER LEFT
ver	
Pre-impact Stability	LATERAL SKID-CLK
Pre-impact Location	DEPARTED ROADWAY

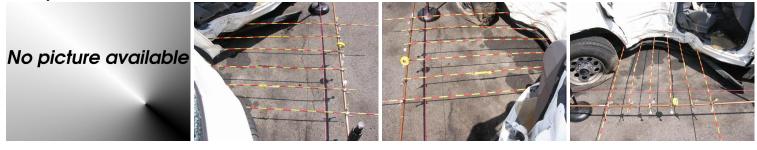
Age	57	Height	175	Weight	79	
Gender			MALE			
Ejection			No EJECTION			
Ejection Area			No EJECTION			
Entrapment No			Not EN	TRAPPED		

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-9-109-1-1
MAIS	4=Severe
Seat Position	Front left side

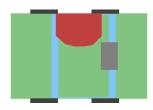
AIS Level	Injury Description	Contacts
1=Minor	Scalp laceration, NFS	Head restraint
1=Minor	Upper extremity skin contusion	Other occupants
1=Minor	Leg skin contusion (hematoma)	Other occupants
1=Minor	Thoracic skin contu-	Transmiss lever
1=Minor	Abdominal skin contu- sion	Transmiss lever
3=Serious	Cerebral subarach- noid hemorrhage	Head restraint
4=Severe	Cerebral intraventric- ular hemorrhage	Head restraint
3=Serious	450211	Transmiss lever
2=Moderate	Hepatic laceration NFS	Transmiss lever
2=Moderate	Thoracic spinous pro- cess fracture without cord injury	Transmiss lever
4=Severe	Cerebral hematoma, NFS	Head restraint

### Occupant: 2004-9-109-1-2



# **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Behind rear axle, centered Right side, behind rear axle No damage Gasoline



# **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 48 -16 -45
Est. $\delta V$ with sequence number	DELTA V CODED 3
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	2 R P A W 6 66 92 96 96 88 65 85 -30 LARGE TREE CURB

# **NASS Weighting Factor**

Weighting factor

28.010

# **Rollover Characteristics**

Number of Events	3			
Rollover Initiation Type	No rollover			
Location of Rollover Initiation	No rollover			
Rollover Initiation Object	No rollover			
Contacted				
Location on Vehicle where	No rollover			
Principal Tripping Force was				
Applied				
Direction of Initial Roll	No rollover			

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED TWO CURVE RIGHT DOWNHILL GRADE ASPHALT WET DARK RAIN NONINTER/NONJUNC No ALCOHOL

# **Vehicle Factors**

Make-Model Year Class Body Type Weight Isuzu Rodeo 1995 TRUCK COMPACT UTILITY 211

# **Pre-Crash Driver Data**

Accident Type	7
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event	TRAVEL TOO FAST
Attempted Avoidance Maneu-	BRAKE+STEER LEFT
ver	
Pre-impact Stability	LATERAL SKID-CLK
Pre-impact Location	DEPARTED ROADWAY

#### **PASSENGER Factors**

Age	53	Height	160	Weight	63
Gende	nder FEMALE-NOT PREG				G
Ejectic	n		PARTIAL EJECTION		
Ejection Area			Left FRONT		
Entrap	ment		Not ENTRAPPED		

RestrainNone used/availAOPSYES-RES DETAirbag Deployment - 1st SeatNONDEPLOYEDAirbag Deployment - 0thNot EQUIP W/ OTHSeatSeat

# Injuries

Occupant MAIS Seat Position 2004-9-109-1-2 6=Maximum Front right side

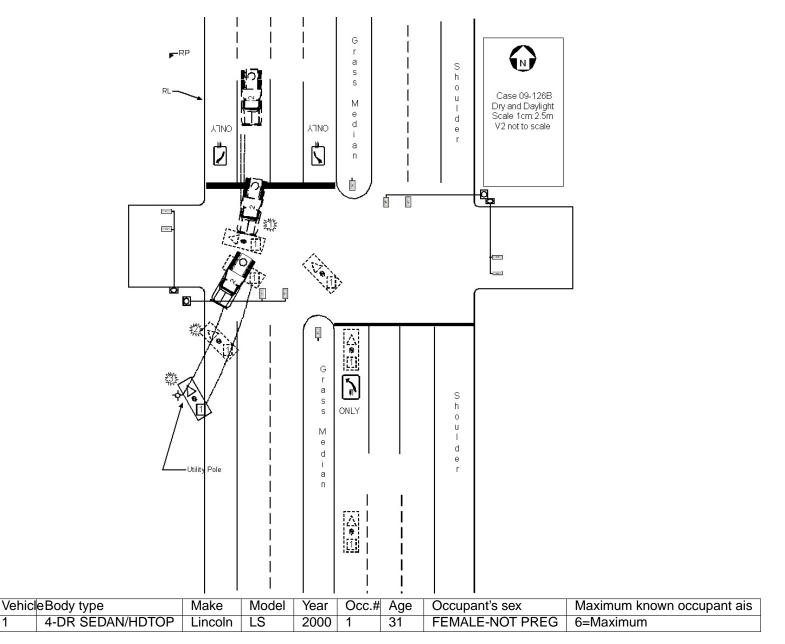
AIS Level	Injury Description	Contacts
1=Minor	Facial skin laceration, minor	Right B pillar
1=Minor	Facial skin contusion	Right B pillar
1=Minor	Facial skin abrasion	Seat, back
1=Minor	Facial skin abrasion	Right B pillar
1=Minor	Thoracic skin abra- sion	Right interior
1=Minor	Abdominal skin con- tusion	Right interior
1=Minor	690202	Seat, back
1=Minor	Neck skin abrasion	Right B pillar
1=Minor	Leg skin contusion (hematoma)	Transmiss lever
1=Minor	Upper extremity skin contusion	Transmiss lever
1=Minor	Upper extremity skin abrasion	Transmiss lever
1=Minor	Upper extremity skin abrasion	Flying glass
1=Minor	Leg skin abrasion	Transmiss lever
1=Minor	Scalp contusion	Right B pillar
6=Maximum	Brain stem laceration	Right B pillar
5=Critical	Brainstem contusion	Right B pillar
3=Serious	Cerebral subarach- noid hemorrhage	Right B pillar
3=Serious	Cerebral subarach- noid hemorrhage	Right B pillar
4=Severe	Basilar skull fracture, open, with brain tis- sue loss.	Right B pillar
6=Maximum	Cord laceration, com- plete, C3 or above, with fx&dislocation	Right B pillar
5=Critical	Thoracic aortic lacer-	Right interior
4=Severe	ation, major NFS Abdominal aorta lac- eration, NFS	Right interior
2=Moderate	Hepatic laceration NFS	Right interior
2=Moderate	Splenic laceration NFS	Transmiss lever
3=Serious	Diaphragm laceration or rupture	Transmiss lever
5=Critical	Lung laceration, bilat- eral, with blood loss >204=Severe	Lung contusion, bilat- eral
Right interior		
2=Moderate	Kidney laceration NFS	Transmiss lever
2=Moderate	Pelvic fracture NFS	Right interior
4=Severe	<ul> <li>&gt;3 rib fxs on each side, stable chest</li> </ul>	Right interior
1=Minor	Leg skin contusion (hematoma)	Seat, back

#### Case 2004-9-126 4

#### Summary:

1

V1 was traveling northbound during daylight hours on a dry, three-lane divided highway with a left turn lane. V2, a medium/heavy truck, was southbound on the same roadway approaching the same intersection intending to go straight. V2 was in lane 2. V1 attempted to turn left at the same time V2 was entering the intersection. V2 contacted V1's right side with its front. After the initial impact, V1 deflected off of V2 toward a curb and power pole on the west shoulder and contacted both with its left wheel and side respectively. V2 came to rest just south of the intersection. Both V1 and V2 were towed due to damage. The driver of V1 sustained fatal injuries.)



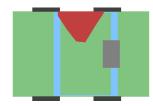
#### Occupant: 2004-9-126-1-1



## **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, centered Right side, on the rear axle No damage Gasoline



# **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 999 999 999 999
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	2 R P A W 6
Damage (C1-C6)	4 45 90 87 52 12
Crush (L and D)	278 19
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	CURB

# **NASS Weighting Factor**

Weighting factor

21.060

#### **Rollover Characteristics**

Number of Events	3
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic FlowDNumber of Travel LanesTRoadway AlignmentSRoadway ProfileLIRoadway Surface TypeARoadway Surface ConditionDLight ConditionsDLight ConditionsDAtmospheric ConditionsNRelation to IntersectionINTraffic Control DevicePolicePoliceReportedAlcohol Test (< 95 indicates</td>0BAC 0.xx)D

DVDED/NO BARRIER THREE STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

# **Vehicle Factors**

Make-Model Year Class Body Type Weight Lincoln LS 2000 PASSENGER CAR 4-DR SEDAN/HDTOP 168

# **Pre-Crash Driver Data**

Accident Type	68
Pre-event Movement	TURNING LEFT
Critical Pre-crash Event	TURN LEFT-INTERS
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	9
Pre-impact Location	STAYED IN LANE

Age	31	Height	170	Weight	117
Gende	r		FEMAL	_E-NOT PRE	G
Ejectio	n		No EJECTION		
Ejectio	jection Area No EJECTION				
Entrap	ment		Not ENTRAPPED		

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	BAG DEPLOYED
Seat	

Occupant	2004-9-126-1-1
MAIS	6=Maximum
Seat Position	Front left side

AIS Level	Injury Description	Contacts	
1=Minor	Facial skin lacera- tion, minor	Flying glass	
1=Minor	Facial skin lacera- tion, minor	Flying glass	
1=Minor	Scalp abrasion	Other air bag	
6=Maximum	Complete cord syn- drome, C3 or above, with fracture	Other noncontact	
2=Moderate	Disc injury NFS	Other noncontact	
1=Minor	Thoracic skin abra- sion	Right interior	
4=Severe	Flail chest, with lung contusion	Right interior	
3=Serious	Lung laceration, uni- lateral NFS	Right interior	
3=Serious	Hepatic lacera- tion, moderate (>3cms deep, EBL>202=Moderate	Kidney laceration, minor (<1cm, no uri- nary extravasation)	
Transmiss lever			
2=Moderate	Kidney contusion, minor (subcapsular, nonexpanding)	Transmiss lever	
3=Serious	Diaphragm lacera- tion or rupture	Right interior	
1=Minor	Upper extremity skin laceration, minor	Right interior	
1=Minor	Leg skin abrasion	Knee bolster	
1=Minor	Upper extremity skin abrasion	Flying glass	

#### $\mathbf{5}$ Case 2004-9-139

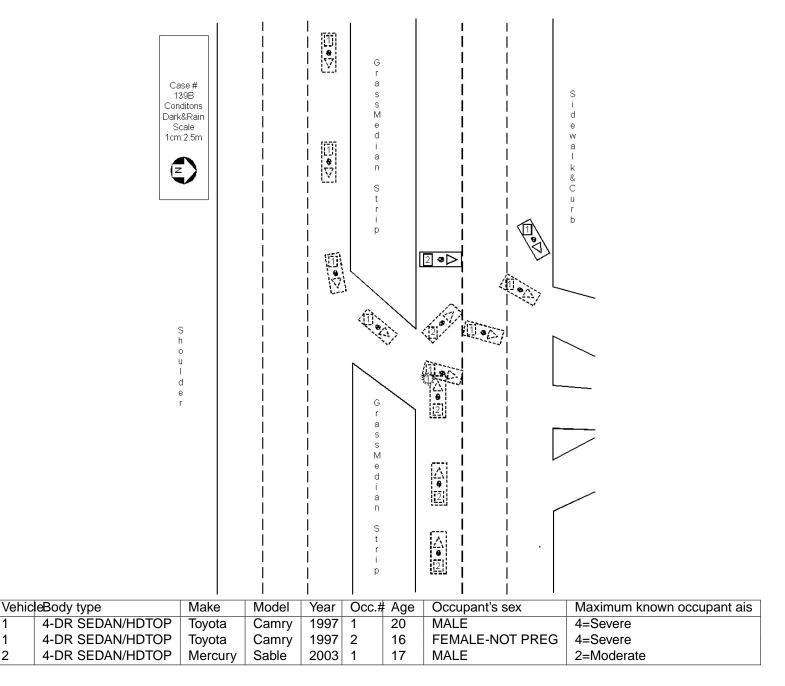
#### Summary:

1

1

2

V2 was proceeding westbound in lane 3 of a three-lane roadway, approaching an intersection. V1 was in lane 3 of a three lane roadway, headed east; V1 turned left, attempting to enter a shopping mall parking lot. V1 entered V2's path and was struck by V2. The passenger of V1 was killed. The driver of V1 and the driver of V2 were transported with incapacitating injuries. Both vehicles were towed due to damage. )



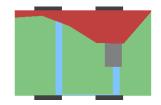
#### Occupant: 2004-9-139-1-1



# **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, centered Left side, on the rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 57 -29 -49	
$\delta V$ Est. $\delta V$ with sequence num-	DELTA V CODED 1	
ber		
CDC	2 R D E W 5	
Damage (C1-C6)	3 96 95 45 14 20	
Crush (L and D)	260 37	
Object Contacted 1	VEHICLE NO. 2	
Object Contacted 2	0	

# **NASS Weighting Factor**

Weighting factor

21.028

# **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

# **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition WET Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

DVDED/NO BARRIER THREE STRAIGHT LEVEL ASPHALT WET DARK RAIN DRIVEWAY RELATED No ALCOHOL

# **Vehicle Factors**

Make-Model Year Class Body Type Weight Toyota Camry 1997 PASSENGER CAR 4-DR SEDAN/HDTOP 149

# **Pre-Crash Driver Data**

Accident Type68Pre-event MovementTURNING LEFTCritical Pre-crash EventTURN LEFT-INTERSAttempted Avoidance Maneu-99verPre-impact StabilityPre-impact LocationSTAYED IN LANE

Age	20	Height	999	Weight	999
Gender MALE					
Ejection No EJECTION					
Ejection Area No EJECTION					
Entrapment Not ENTRAPPED					

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-9-139-1-1
MAIS	4=Severe
Seat Position	Front left side

AIS Level	Injury Description	Contacts
2=Moderate	Awake on admission, prior unconscious, length NFS	Other noncontact
3=Serious	Lung contusion, uni- lateral	Transmiss lever
4=Severe	Hepatic laceration, major (<50	

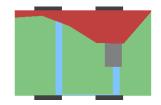
#### Occupant: 2004-9-139-1-2



# **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, centered Left side, on the rear axle No damage Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 57 -29 -49
$\delta V$ Est. $\delta V$ with sequence num-	DELTA V CODED 1
ber	
CDC	2 R D E W 5
Damage (C1-C6)	3 96 95 45 14 20
Crush (L and D)	260 37
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	0

# **NASS Weighting Factor**

Weighting factor

21.028

#### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

# **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition WET Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

DVDED/NO BARRIER THREE STRAIGHT LEVEL ASPHALT WET DARK RAIN DRIVEWAY RELATED No ALCOHOL

# **Vehicle Factors**

Make-Model Year Class Body Type Weight Toyota Camry 1997 PASSENGER CAR 4-DR SEDAN/HDTOP 149

# **Pre-Crash Driver Data**

Accident Type68Pre-event MovementTURNING LEFTCritical Pre-crash EventTURN LEFT-INTERSAttempted Avoidance Maneuver99verTRACKINGPre-impact StabilityTRACKINGPre-impact LocationSTAYED IN LANE

#### **PASSENGER Factors**

Age	16	Height	168	Weight	54
Gender	ſ		FEMAL	E-NOT PRE	G
Ejectior	n	No EJECTION			
Ejectior	n Area		No EJE	ECTION	
Entrapr	ment		JAMME	ED DOOR/FI	RE

Restrain	None used/avail
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	
Airbag Deployment Airbag Deployment - 1 <sup>st</sup> Seat PAS BAG DEPLY Airbag Deployment - Oth	BAG DEPLOYED DR

# Injuries

Occupant MAIS Seat Position 2004-9-139-1-2 4=Severe Front right side

AIS Level	Injury Description	Contacts
1=Minor	Scalp laceration, mi- nor	Right B pillar
1=Minor	297402	Right B pillar
1=Minor	297202	Right B pillar
1=Minor	Facial skin laceration, minor	Right B pillar
1=Minor	Facial skin abrasion	Right B pillar
1=Minor	Facial skin laceration, minor	Right B pillar
1=Minor	Facial skin abrasion	Right B pillar
1=Minor	Facial skin laceration, minor	Right B pillar
1=Minor	Facial skin abrasion	Right B pillar
1=Minor	Scalp contusion	Right B pillar
3=Serious	Cerebral contusions, multiple, bilateral but NFS	Right B pillar
3=Serious	Cerebral brain swelling, NFS	Right B pillar
1=Minor	Abdominal skin lacer- ation, minor	Right B pillar
3=Serious	<ul> <li>&gt;3 rib fractures one</li> <li>side &amp; &lt;3 other side,</li> <li>with stable chest</li> </ul>	Transmiss lever
4=Severe	Lung contusion, bilat- eral	Right B pillar
3=Serious	Lung laceration, uni- lateral NFS	Transmiss lever
2=Moderate	Hepatic laceration NFS	Right B pillar
2=Moderate	Splenic laceration NFS	Transmiss lever
3=Serious	Adrenal gland lacer- ation, massive (avul- sion, complex rupture	Right B pillar
2=Moderate	Pelvic fracture NFS	Right interior
1=Minor	Upper extremity skin laceration, minor	Right B pillar
1=Minor	Leg skin contusion (hematoma)	Transmiss lever
1=Minor	Leg skin contusion (hematoma)	Right interior

#### Occupant: 2004-9-139-2-1

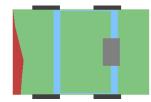


# **Fire Information**

No fire

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fuel leakage Non-metallic Forward of rear axle, centered Right side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 42 -39 14
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	71 F D E W 2
Damage (C1-C6)	23 27 32 19 7 0
Crush (L and D)	160 0
Object Contacted 1	VEHICLE NO. 1
Object Contacted 2	0

# **NASS Weighting Factor**

Weighting factor

21.028

# **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile LEVEL Roadway Surface Type Roadway Surface Condition WET Light Conditions DARK Atmospheric Conditions RAIN Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

DVDED/NO BARRIER THREE STRAIGHT LEVEL ASPHALT WET DARK RAIN DRIVEWAY RELATED No ALCOHOL

# **Vehicle Factors**

Make-Model Year Class Body Type Weight Mercury Sable 2003 PASSENGER CAR 4-DR SEDAN/HDTOP 213

# **Pre-Crash Driver Data**

Accident Type	69
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	OPP DIR-OVR LEFT
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	9
Pre-impact Location	STAYED IN LANE

Age	17	Height	999	Weight	999
Gender MALE					
Ejectior	า		No EJE	ECTION	
Ejectior	n Area		No EJE	ECTION	
Entrapr	nent		Not EN	TRAPPED	

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

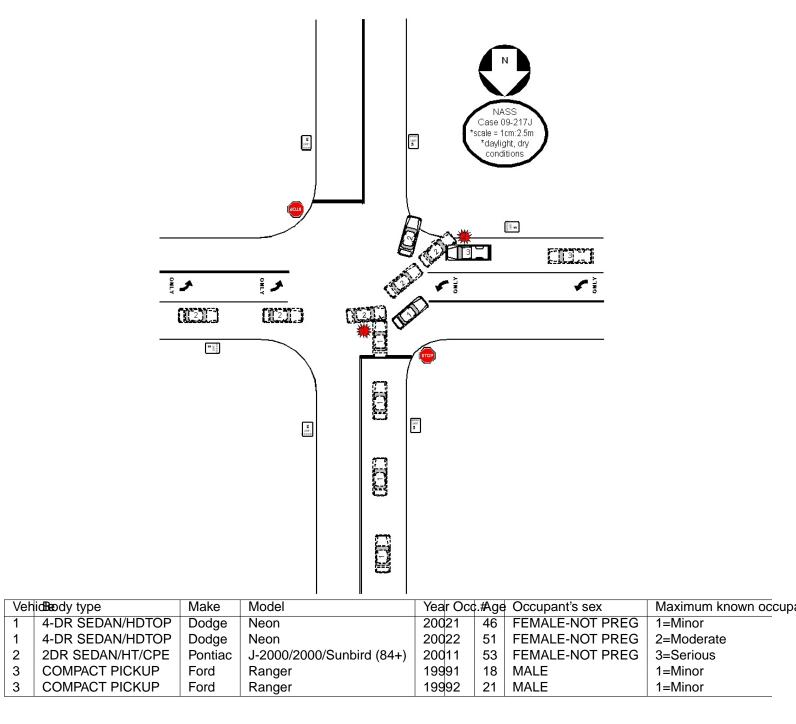
Occupant	2004-9-139-2-1
MAIS	2=Moderate
Seat Position	Front left side

AIS Level	Injury Description	Contacts	
2=Moderate	Awake on admission, prior unconscious, length NFS	Other noncontact	
1=Minor	Acute cervical spine strain without fracture or dislocation	Other noncontact	
1=Minor	Upper extremity skin contusion	Steering rim	
1=Minor	Leg skin contusion (hematoma)	Knee bolster	
2=Moderate	Ankle joint dislocation NFS	Floor	
2=Moderate	Knee sprain	Knee bolster	
1=Minor	Ankle joint sprain	Floor	
1=Minor	Wrist (carpus) joint sprain	Steering rim	
1=Minor	Facial skin contusion	Air bag-DR side	

# 6 Case 2004-9-217

#### Summary:

V1 was traveling south in lane one of a two lane undivided roadway, approaching an intersection. V2 was traveling west in lane one of a three lane undivided roadway, approaching the same intersection. V3 was traveling east in lane one of the same roadway as V2, also approaching the intersection. V1s front plane contacted V2s right plane in lane one of the westbound lanes. V2 then continued southwest across the intersection and V3s front plane contacted V2s right plane. V1 contained a driver and one other occupant. Both occupants were transported to the hospital via EMS (ambulance) for reported non-incapacitating injuries. Both occupants of V1 were treated and released the same day. V2 contained a driver and no other occupants. The driver was transported to the hospital via police (helicopter) for reported incapacitating injuries. The driver of V2 was admitted into the hospital for one night and released the following day. V3 contained a driver and one other occupant. Both occupants were not transported to the hospital and reported as uninjured. The passenger was treated and released from the hospital at a later time in the same day. )



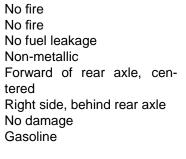
#### Occupant: 2004-9-217-1-1

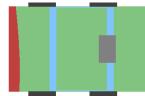


# **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type





### **Crash Severity**

Nr. Quarter Turns Impact Speed	No rollover 998
Total, Longitudal, and Lateral $\delta V$	30 -28 10
Est. $\delta V$ with sequence num-	DELTA V CODED 1
ber	
CDC	11 F D E W 2
Damage (C1-C6)	30 33 32 29 25 21
Crush (L and D)	136 0
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	0

# **NASS Weighting Factor**

Weighting factor

28.404

#### **Rollover Characteristics**

Number of Events	2		
Rollover Initiation Type	No rollover		
Location of Rollover Initiation	No rollover		
Rollover Initiation Object	No rollover		
Contacted			
Location on Vehicle where	No rollover		
Principal Tripping Force was			
Applied			
Direction of Initial Roll	No rollover		

# **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED TWO STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

# Vehicle Factors

Make-Model Year Class Body Type Weight Dodge Neon 2002 PASSENGER CAR 4-DR SEDAN/HDTOP 118

# **Pre-Crash Driver Data**

Accident Type	86
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	CROSS OVER INTER
Attempted Avoidance Maneu-	No AVOIDANCE
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	46	Height	170	Weight	136
Gender	-		FEMALE-NOT PREG		
Ejectior	า		No EJECTION		
Ejectior	Ejection Area No EJECTION				
Entrapr	nent		Not ENTRAPPED		

Restrain AOPS	Lap and shoulder YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-9-217-1-1
MAIS	1=Minor
Seat Position	Front left side

AIS Level	Injury Description	Contacts
1=Minor	Leg skin contusion (hematoma)	Knee bolster
1=Minor	Upper extremity skin contusion	Left interior
1=Minor	Upper extremity skin contusion	Belt webb/buckle
1=Minor	Thoracic skin contu- sion	Belt webb/buckle
1=Minor	Abdominal skin contu- sion	Belt webb/buckle
1=Minor	Upper extremity skin laceration, minor	Left interior
1=Minor	Wrist (carpus) joint sprain	Steering comb

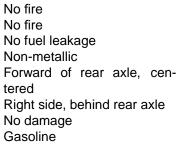
### Occupant: 2004-9-217-1-2

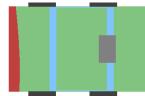


### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type





### **Crash Severity**

Nr. Quarter Turns Impact Speed	No rollover 998
Total, Longitudal, and Lateral $\delta V$	30 -28 10
Est. $\delta V$ with sequence num-	DELTA V CODED 1
ber	
CDC	11 F D E W 2
Damage (C1-C6)	30 33 32 29 25 21
Crush (L and D)	136 0
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	0

### **NASS Weighting Factor**

Weighting factor

28.404

### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED TWO STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

### Vehicle Factors

Make-Model Year Class Body Type Weight Dodge Neon 2002 PASSENGER CAR 4-DR SEDAN/HDTOP 118

### **Pre-Crash Driver Data**

Accident Type	86
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	CROSS OVER INTER
Attempted Avoidance Maneu-	No AVOIDANCE
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

### **PASSENGER Factors**

Age	51	Height	165	Weight	107
Gende	r	FEMALE-NOT PREG			
Ejectio	n		No EJECTION		
Ejectio	n Area		No EJECTION		
Entrap	ment		Not ENTRAPPED		

Restrain	None used/avail
AOPS	YES-RES DET
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-9-217-1-2
MAIS	2=Moderate
Seat Position	Second left

AIS Level	Injury Description	Contacts
1=Minor	Upper extremity skin contusion	Transmiss lever
1=Minor	Facial skin contusion	Head restraint
2=Moderate	Radial fracture, closed	Transmiss lever
1=Minor	Awake on admission, NFS	Head restraint

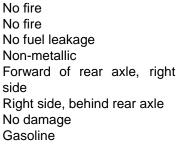
### Occupant: 2004-9-217-2-1

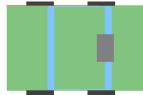


### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type





### **Crash Severity**

Nr. Quarter Turns Impact Speed	No rollover 998 42 -39 -14
Total, Longitudal, and Lateral $\delta V$	42 - 39 - 14
Est. $\delta V$ with sequence num-	DELTA V CODED 2
ber	
CDC	1 R Y A W 99
Damage (C1-C6)	000000
Crush (L and D)	0 0
Object Contacted 1	VEHICLE NO. 3
Object Contacted 2	VEHICLE NO. 1

### **NASS Weighting Factor**

Weighting factor

28.404

### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition **Light Conditions** Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED THREE CURVE RIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

### Vehicle Factors

Make-Model

Year Class Body Type Weight

Pontiac J-2000/2000/Sunbird (84+) 2001 PASSENGER CAR 2DR SEDAN/HT/CPE 118

### **Pre-Crash Driver Data**

Accident Type 87 Pre-event Movement NEGOTIATE CURVE Critical Pre-crash Event XING ST-X PATH Attempted Avoidance Maneu-99 ver Pre-impact Stability TRACKING Pre-impact Location STAYED IN LANE

### **DRIVER Factors**

Age 53 Height 999 Gender Ejection Ejection Area Entrapment

999 Weight FEMALE-NOT PREG No EJECTION No EJECTION JAMMED DOOR/FIRE

Lap and shoulder
YES-RES DET
BAG DEPLOYED
DR
Not EQUIP W/ OTH

Occupant	2004-9-217-2-1
MAIS	3=Serious
Seat Position	Front left side

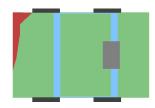
AIS Level	Injury Description	Contacts
1=Minor	Leg skin laceration, minor	Floor
3=Serious	Lung contusion, unilat- eral	Right interior
1=Minor 1=Minor	Thoracic skin abrasion Leg skin abrasion	Belt webb/buckle Transmiss lever

### Occupant: 2004-9-217-3-1



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, left side Left side, forward rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 24 -23 8
Est. $\delta V$ with sequence number	DELTA V CODED 2
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	12 F Z E W 3 1 10 15 20 22 55 144 21 VEHICLE NO. 2 0

### **NASS Weighting Factor**

Weighting factor

28.404

### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED THREE CURVE RIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

# Vehicle Factors

Make-Model Year Class Body Type Weight Ford Ranger 1999 TRUCK COMPACT PICKUP 206

### **Pre-Crash Driver Data**

Accident Type	98
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event	OPP DIR-OVR LEFT
Attempted Avoidance Maneu-	BRAKE W/O LOCKUP
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

### **DRIVER Factors**

Age	18	Height	178	Weight	59
Gender	-		MALE		
Ejectior	Ejection No EJECTION				
Ejection Area No EJECTION					
Entrapr	ntrapment Not ENTRAPPED				

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-9-217-3-1
MAIS	1=Minor
Seat Position	Front left side

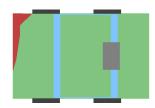
AIS Level	Injury Description	Contacts
1=Minor	Thoracic skin contu- sion	Belt webb/buckle
1=Minor	Upper extremity skin abrasion	Air bag-DR side

### Occupant: 2004-9-217-3-2



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, left side Left side, forward rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 24 -23 8
Est. $\delta V$ with sequence number	DELTA V CODED 2
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	12 F Z E W 3 1 10 15 20 22 55 144 21 VEHICLE NO. 2 0

### **NASS Weighting Factor**

Weighting factor

28.404

### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED THREE CURVE RIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

# Vehicle Factors

Make-Model Year Class Body Type Weight Ford Ranger 1999 TRUCK COMPACT PICKUP 206

### **Pre-Crash Driver Data**

Accident Type	98
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event	OPP DIR-OVR LEFT
Attempted Avoidance Maneu-	BRAKE W/O LOCKUP
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

### **PASSENGER Factors**

Age	21	Height	170	Weight	59
Gender			MALE		
Ejection	1		No EJE	CTION	
Ejection	Area		No EJE	CTION	
Entrapment Not ENTRAPPED					

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-9-217-3-2
MAIS	1=Minor
Seat Position	Front right side

AIS Level	Injury Description	Contacts
1=Minor	Facial skin abrasion	Air bag-PS side

#### 7 Case 2004-12-122

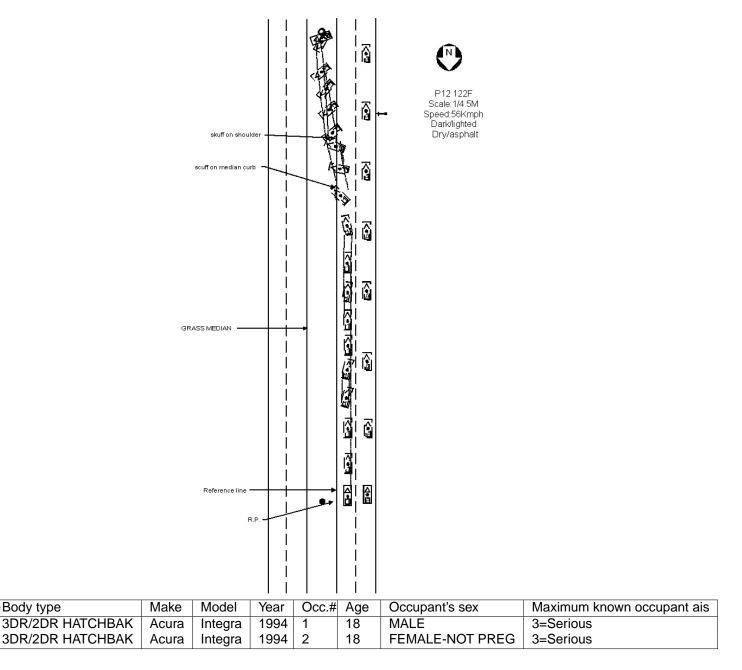
#### Summary:

VehicleBody type

1

1

V1, a 1994 Accura Integra, was traveling southbound on a two lane, one way divided asphalt roadway. The vehicle lost control and departed the roadway to the left side. V1, spun counterclockwise in the median and contacted it's right side to a tree. The tree was uprooted, and V1 came to final rest against it facing east. V1 was towed due to damage. Both passengers were transported to a local trauma facility with internal injuries. )



### Occupant: 2004-12-122-1-1



### **Fire Information**

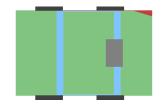
Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location

Fuel Tank Damage

Fuel Type

No fire No fire No fuel leakage Metallic Forward of rear axle, centered Left side, behind rear axle Deformed Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 999 999 999 999
$\delta V$	
Est. $\delta V$ with sequence num-	DELTA V CODED 1
ber	
CDC	65 R Z A N 4
Damage (C1-C6)	1600000
Crush (L and D)	259 -70
Object Contacted 1	SMALL TREE
Object Contacted 2	0

### **NASS Weighting Factor**

Weighting factor

258.591

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

DVDED/W/BARRIER TWO STRAIGHT LEVEL ASPHALT DRY DARK/LIGHTED No ADVERSE COND NONINTER/NONJUNC

No ALCOHOL

# tes 99

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Acura Integra 1994 PASSENGER CAR 3DR/2DR HATCHBAK 115

### **Pre-Crash Driver Data**

Accident Type	7
Pre-event Movement	ACCELER IN LANE
Critical Pre-crash Event	TRAVEL TOO FAST
Attempted Avoidance Maneu-	STEERING RIGHT
ver	
Pre-impact Stability	LATERAL SKID-CLK
Pre-impact Location	DEPARTED ROADWAY

### **DRIVER Factors**

Age	18	Height	180	Weight	66
Gender			MALE		
Ejectior	า		No EJE	CTION	
Ejectior	n Area		No EJE	CTION	
Entrapr	Entrapment Not ENTRAPPED				

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-12-122-1-1
MAIS	3=Serious
Seat Position	Front left side

AIS Level	Injury Description	Contacts
1=Minor	Scalp laceration, mi- nor	Int loose obj
1=Minor	Thoracic skin contu- sion	Belt webb/buckle
1=Minor	Acute cervical spine strain without fracture or dislocation	Seat, back
1=Minor	Leg skin abrasion	Belt webb/buckle
1=Minor	Facial skin abrasion	Steering rim
3=Serious	Lung contusion, uni- lateral	Seat, back
2=Moderate	2-3 rib fractures with stable chest	Seat, back
2=Moderate	Hepatic laceration, minor (<3cms deep, EBL<202=Moderate	
Seat, back		······
1=Minor	Scalp contusion	Int loose obj

### Occupant: 2004-12-122-1-2



### **Fire Information**

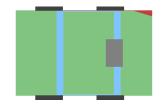
Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location

Fuel Tank Damage

Fuel Type

No fire No fire No fuel leakage Metallic Forward of rear axle, centered Left side, behind rear axle Deformed Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 999 999 999 999		
$\delta V$			
Est. $\delta V$ with sequence num-	DELTA V CODED 1		
ber			
CDC	65 R Z A N 4		
Damage (C1-C6)	1600000		
Crush (L and D)	259 -70		
Object Contacted 1	SMALL TREE		
Object Contacted 2	0		

### **NASS Weighting Factor**

Weighting factor

258.591

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

DVDED/W/BARRIER TWO STRAIGHT LEVEL ASPHALT DRY DARK/LIGHTED No ADVERSE COND NONINTER/NONJUNC

No ALCOHOL

99

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Acura Integra 1994 PASSENGER CAR 3DR/2DR HATCHBAK 115

### **Pre-Crash Driver Data**

Accident Type	7
Pre-event Movement	ACCELER IN LANE
Critical Pre-crash Event	TRAVEL TOO FAST
Attempted Avoidance Maneu-	STEERING RIGHT
ver	
Pre-impact Stability	LATERAL SKID-CLK
Pre-impact Location	DEPARTED ROADWAY

### **PASSENGER Factors**

Age	18	Height	178	Weight	54
Gende	r		FEMAL	E-NOT PRE	G
Ejection			No EJECTION		
Ejectio	n Area		No EJE	ECTION	
Entrapi	ment		JAMME	ED DOOR/FI	RE

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

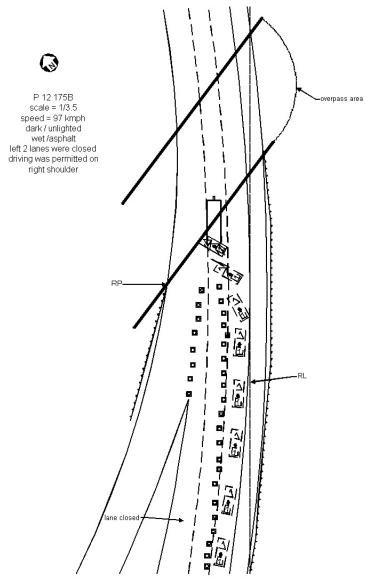
Occupant	2004-12-122-1-2
MAIS	3=Serious
Seat Position	Front right side

AIS Level	Injury Description	Contacts
2=Moderate	Thoracic spinous pro- cess fracture without cord injury	Seat, back
1=Minor	Upper extremity skin abrasion	Seat, back
1=Minor	Leg skin abrasion	Belt webb/buckle
1=Minor	Abdominal skin abra- sion	Belt webb/buckle
3=Serious	Lung contusion, uni- lateral	Seat, back
1=Minor	Scalp contusion	Roof
1=Minor	Thoracic skin contu- sion	Belt webb/buckle
1=Minor	Leg skin contusion (hematoma)	Right interior

### 8 Case 2004-12-175

#### Summary:

V1, a 1999 Chevrolet Venture, was traveling north on a wet, asphalt, expressway where 2 lanes were closed due to construction. Driving was allowed on the right shoulder. There was construction going on at the overpass where they were painting the bridge. V1 started to lose control and rotated in a counter clookwise rotation. The right of the V1 contacted a hi-lo sandblaster trailer causing severe damage to the right side of the vehicle. V1 was towed due to damage. The only occupant of V1 was dead at the scene. )



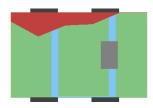
Vehicl	e Body type	Make	Model	Year	Occ.#	Age	Occupant's sex	Maximum known occupant ais
1	MINIVAN	Chevrolet	Lumina APV	1999	1	28	FEMALE-NOT PREG	6=Maximum

### Occupant: 2004-12-175-1-1



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, left side Left side, on the rear axle No damage Gasoline



### **Crash Severity**

1
BJ

### **NASS Weighting Factor**

Weighting factor

54.082

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow ONE WAY Number of Travel Lanes TWO Roadway Alignment **CURVE LEFT Roadway Profile** LEVEL Roadway Surface Type ASPHALT Roadway Surface Condition WET Light Conditions DARK Atmospheric Conditions RAIN Relation to Intersection **INTERCHANGE REL** Traffic Control Device Police Reported Alcohol ALCOHOL PRESENT Presence Alcohol Test (< 95 indicates 24 BAC 0.xx)

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Chevrolet Lumina APV 1999 TRUCK MINIVAN 168

### **Pre-Crash Driver Data**

Accident Type98Pre-event MovementNEGOTIATE CURVECritical Pre-crash EventTRAVEL TOO FASTAttempted Avoidance Maneu-99verPre-impact StabilityPre-impact LocationLAT SKID-CTR CLKLeft TRAVEL LANE

### **DRIVER Factors**

Age	28	Height	165	Weight	52
Gende	r		FEMAL	E-NOT PRE	G
Ejectio	n		No EJE	ECTION	
Ejectio	n Area		No EJE	ECTION	
Entrap	ment		ENTRA	<b>PPED</b>	

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	ONLY DR BAG DEPL
Airbag Deployment - Oth	NONDEPLOYED
Seat	

Occupant	2004-12-175-1-1
MAIS	6=Maximum
Seat Position	Front left side

AIS Level	Injury Description	Contacts
6=Maximum	Head injury, crush (massive destruction of skull and brain)	Other veh or obj
1=Minor	Facial skin laceration, minor	Other veh or obj
1=Minor	Facial bone fracture NFS	Other veh or obj
1=Minor	Teeth fracture	Other veh or obj
6=Maximum	Cord laceration, com- plete, C3 or above, with fx&dislocation	Other veh or obj
1=Minor	Upper extremity skin abrasion	Right interior
1=Minor	Abdominal skin abra- sion	Right interior
1=Minor	690202	Oth interior obj
2=Moderate	Clavicle fracture	Right interior
5=Critical	Flail chest, bilateral	Right interior
3=Serious	Lung laceration, uni- lateral NFS	Right interior
5=Critical	Massive hepatic in- jury (>503=Serious	Humeral fracture, open/displaced/comminuted
Right interior		
1=Minor	Leg skin abrasion	Center panel
1=Minor	Leg skin contusion (hematoma)	Center panel

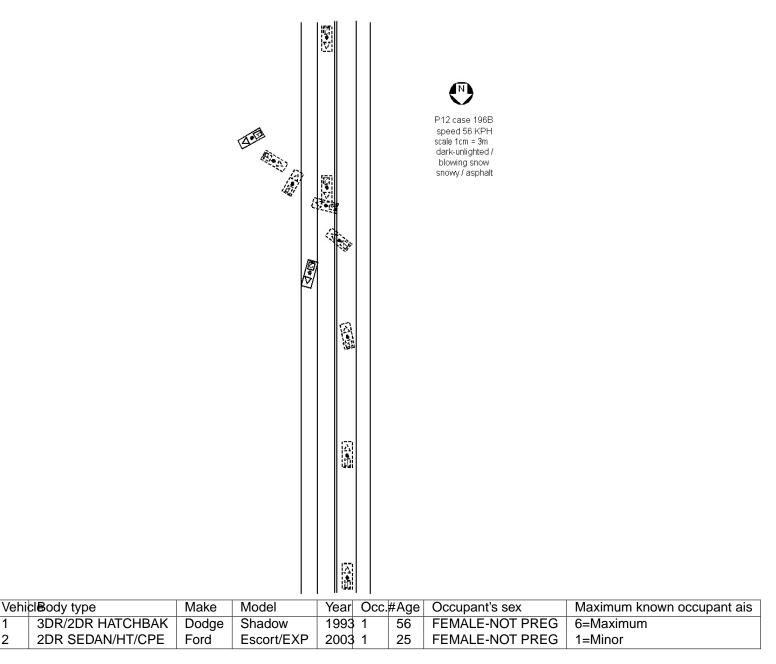
#### 9 Case 2004-12-196

#### Summary:

1

2

V1, a 1993 Dodge Shodow, was heading south on a 2 lane, snowy, asphalt roadway after dark while V2, a 2003 Ford Escort, was heading north on the same roadway. As the vehicles approached each other V1 lost control on the slipery roadway and began a counter-clockwise spin as it approached the centerline. As V1 crossed the centerline the front of V2 contacted the right of V2. Both drivers were transported for medical attention and both vehicles were towed from the scene. The driver in V2 was released from the ER with minor injuries hours after being seen while the driver of V1 was hospitalized for 1 day at which time she died of serious injuries incurred in the crash. Both vehicles contained driver side airbags which deployed upon impact.)



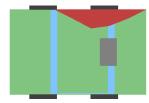
### Occupant: 2004-12-196-1-1



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, centered Right side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 40 -20 -35
δV	
Est. $\delta V$ with sequence num-	DELTA V CODED 1
ber	
CDC	62 R Z E W 4
Damage (C1-C6)	0 26 47 54 27 0
Crush (L and D)	249 -49
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	0

### NASS Weighting Factor

Weighting factor

16.397

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic FlowNNumber of Travel LanesTRoadway AlignmentSRoadway ProfileLiRoadway Surface TypeARoadway Surface ConditionSLight ConditionsDAtmospheric ConditionsSRelation to IntersectionNTraffic Control DevicePolicePoliceReportedAlcohol Test (< 95 indicates</td>0BAC 0.xx)D

Not DIVIDED TWO STRAIGHT LEVEL ASPHALT SNOW OR SLUSH DARK SNOW NONINTER/NONJUNC

No ALCOHOL

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Dodge Shadow 1993 PASSENGER CAR 3DR/2DR HATCHBAK 131

### **Pre-Crash Driver Data**

Accident Type	66
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	POOR ROAD CONDIT
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	LAT SKID-CTR CLK
Pre-impact Location	Left TRAVEL LANE

### **DRIVER Factors**

Age	56	Height	165	Weight	83
Gende	er		FEMALE-NOT PREG		
Ejectic	n		PARTIAL EJECTION		
Ejectic	on Area		Right FRONT		
Entrap	ment		Not ENTRAPPED		

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-12-196-1-1
MAIS	6=Maximum
Seat Position	Front left side

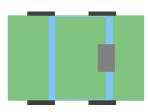
AIS Level	Injury Description	Contacts
2=Moderate	Mesenteric laceration	Transmiss lever
4=Severe	Lung contusion, bilat- eral	Belt webb/buckle
1=Minor	Scalp contusion	Right wind frame
6=Maximum	Cord laceration, com- plete, C3 or above, with fx&dislocation	Right windowsill
6=Maximum	Brain stem laceration	Right windowsill
1=Minor	Upper extremity skin contusion	Belt webb/buckle
1=Minor	Thoracic skin contu- sion	Belt webb/buckle
1=Minor	Abdominal skin con- tusion	Belt webb/buckle
1=Minor	Leg skin contusion (hematoma)	Belt webb/buckle
4=Severe	>3 rib fxs on each side, stable chest	Belt webb/buckle
2=Moderate	Sternal fracture	Belt webb/buckle
4=Severe	Lung laceration, bilat- eral NFS	Belt webb/buckle
2=Moderate	Colonic contusion (hematoma)	Belt webb/buckle

### Occupant: 2004-12-196-2-1



### **Fire Information**

Fire Occurence	No data
Fire Origin	No data
Location of Fuel Leakage	No data
Type of Fuel Tank	No data
Fuel Tank Location	No data
Fuel Cap Location	No data
Fuel Tank Damage	No data
Fuel Type	No data



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 46 -43 16
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	No data No data No data No
Damage (C1-C6)	data No data No data No data No data No data No data No data No data
Crush (L and D) Object Contacted 1	No data No data No data

### **NASS Weighting Factor**

Weighting factor

Object Contacted 2

16.397

No data

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow	Not DIVIDED
Number of Travel Lanes	TWO
Roadway Alignment	STRAIGHT
Roadway Profile	LEVEL
Roadway Surface Type	ASPHALT
Roadway Surface Condition	SNOW OR SLUSH
Light Conditions	DARK
Atmospheric Conditions	SNOW
Relation to Intersection	NONINTER/NONJUNC
Traffic Control Device	
Police Reported Alcohol	No ALCOHOL
Presence	
Alcohol Test (< 95 indicates	99
BAC 0.xx)	

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Ford Escort/EXP 2003 PASSENGER CAR 2DR SEDAN/HT/CPE 112

### **Pre-Crash Driver Data**

Accident Type Pre-event Movement Critical Pre-crash Event Attempted Avoidance Maneuver Pre-impact Stability Pre-impact Location

66 GOING STRAIGHT OPP DIR-OVR LEFT No AVOIDANCE

TRACKING STAYED IN LANE

### **DRIVER Factors**

Age	25	Height	160	Weight	66
Gender	r		FEMALE-NOT PREG		
Ejection	n		No EJECTION		
Ejection	n Area		No EJECTION		
Entrapr	ment		Not ENTRAPPED		

### **Restraint Factors**

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-12-196-2-1
MAIS	1=Minor
Seat Position	Front left side

AIS Level	Injury Description	Contacts
1=Minor	Acute cervical spine strain without fracture or dislocation	Unknown SOURCE
1=Minor	Thoracic skin abrasion	Unknown SOURCE
1=Minor	Thoracic skin contu- sion	Unknown SOURCE
1=Minor	Neck skin contusion (hematoma)	Unknown SOURCE
1=Minor	Upper extremity skin contusion	Belt webb/buckle
1=Minor	Abdominal skin contu- sion	Belt webb/buckle
1=Minor	Leg skin contusion (hematoma)	Unknown SOURCE

#### 10Case 2004-12-199

#### Summary:

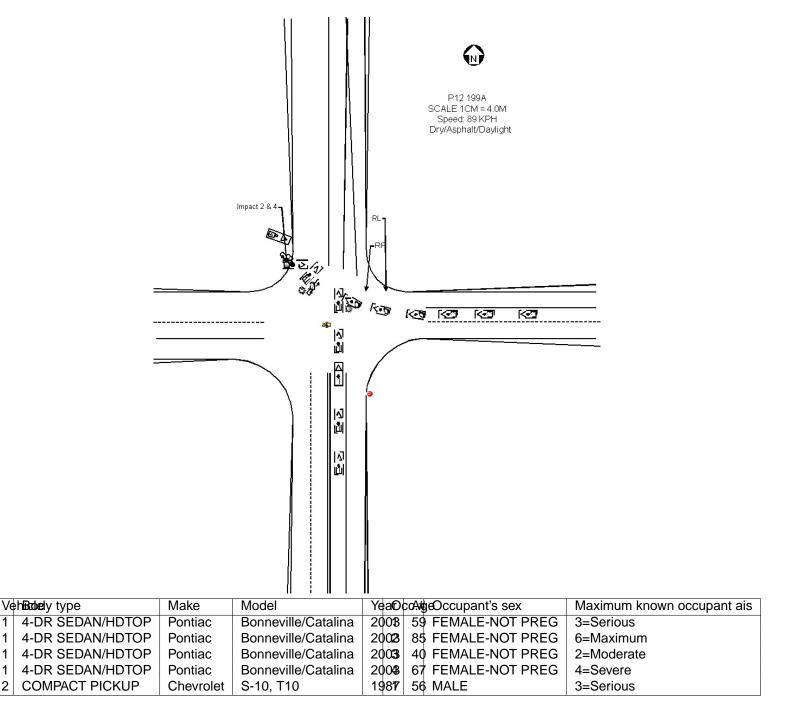
1

1

1

1 2

Vehicle 1, a 2003 Pontiac Bonneville, was stopped at a 4-way intersection with a stop sign and flashing red signal on a 2 lane, dry, asphalt roadway during daylight hours. Vehicle 2, a 1987 Chevrolet S10 pickup truck, was traveling westbound on the same type of roadway, and was approaching a flashing yellow signal at the intersection. Vehicle 1 started to pass through the intersection and was contacted on the right side by the front of vehicle 2. Both vehicles traveled off road to the northwest where the left rear wheel of vehicle 1 contacted the curb and the left back panel contacted a post before coming to rest. Vehicle 2 also left the roadway and rolled over coming to rest on it's left side. Both vehicles were towed from the scene. Occupant 2 of vehicle 1 died at the scene. All other occupants involved in the crash were transported to trauma centers for treatment.)



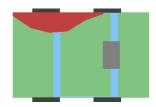
### Occupant: 2004-12-199-1-1



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, centered Left side, on the rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 27 -5 -27
$\delta V$	
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	63 R Y A W 4
Damage (C1-C6)	3 22 55 58 44 8
Crush (L and D)	237 -4
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	CURB

### NASS Weighting Factor

Weighting factor

16.397

### **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic FlowNNumber of Travel LanesTRoadway AlignmentSRoadway ProfileLiRoadway Surface TypeARoadway Surface ConditionDLight ConditionsDAtmospheric ConditionsNRelation to IntersectionINTraffic Control DevicePolicePoliceReportedAlcohol Test (< 95 indicates</td>0BAC 0.xx)D

Not DIVIDED TWO STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Pontiac Bonneville/Catalina 2003 PASSENGER CAR 4-DR SEDAN/HDTOP 165

### **Pre-Crash Driver Data**

Accident Type	87
Pre-event Movement	STARTING IN LANE
Critical Pre-crash Event	CROSS OVER INTER
Attempted Avoidance Maneu-	ACCELERATING
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

### **DRIVER Factors**

Age	59	Height	157	Weight	62
Gender FEMALE-NOT PREG			G		
Ejectio	tion No EJECTION				
Ejection Area No EJECTION					
Entrapment Not ENTRAPPE		TRAPPED			

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-12-199-1-1
MAIS	3=Serious
Seat Position	Front left side

AIS Level	Injury Description	Contacts
2=Moderate	Hepatic laceration, minor (<3cms deep, EBL<203=Serious	2-3 rib frac- tures with stable chest and hemo- /pneumothorax
Transmiss lever		
1=Minor	Upper extremity skin laceration, minor	Transmiss lever
1=Minor	Facial skin contu- sion	Other occupants
1=Minor	Upper extremity skin abrasion	Transmiss lever

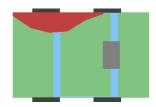
### Occupant: 2004-12-199-1-2



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, centered Left side, on the rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 27 -5 -27
$\delta V$	
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	63 R Y A W 4
Damage (C1-C6)	3 22 55 58 44 8
Crush (L and D)	237 -4
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	CURB

### NASS Weighting Factor

Weighting factor

16.397

### **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic FlowNNumber of Travel LanesTRoadway AlignmentSRoadway ProfileLIRoadway Surface TypeARoadway Surface ConditionDLight ConditionsDLight ConditionsNRelation to IntersectionINTraffic Control DevicePolicePoliceReportedAlcohol Test (< 95 indicates</td>0BAC 0.xx)D

Not DIVIDED TWO STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Pontiac Bonneville/Catalina 2003 PASSENGER CAR 4-DR SEDAN/HDTOP 165

### **Pre-Crash Driver Data**

Accident Type87Pre-event MovementSTARTING IN LANECritical Pre-crash EventCROSS OVER INTERAttempted Avoidance Maneu-ACCELERATINGverTRACKINGPre-impact StabilityTRACKINGPre-impact LocationSTAYED IN LANE

### **PASSENGER Factors**

Age	85	Height	160	Weight	63
Gender		FEMALE-NOT PREG			
Ejectior	۱		No EJECTION		
Ejection Area No EJECTION					
Entrapr	nent		9		

RestrainLap and shoulderAOPSYES-RES DETAirbag DeploymentNONDEPLOYEDAirbag Deployment - 1st SeatNONDEPLOYEDAirbag Deployment - OthNot EQUIP W/ OTHSeatSeat

### Injuries

Occupant MAIS Seat Position **ries** 2004-12-199-1-2

6=Maximum

Front right side

AIS Level	Injury Description	Contacts
1=Minor 1=Minor	Neck skin abrasion Abdominal skin con-	Belt webb/buckle Right interior
1=Minor	tusion Scalp laceration, mi- nor	Right B pillar
1=Minor	Upper extremity skin laceration, minor	Right interior
1=Minor	Upper extremity skin abrasion	Right interior
1=Minor	Leg skin laceration, minor	Right interior
1=Minor	Leg skin contusion (hematoma)	Transmiss lever
1=Minor	Leg skin contusion (hematoma)	Seat, back
4=Severe	Cerebral hematoma, NFS	Right B pillar
3=Serious	Cerebral subarach- noid hemorrhage	Right B pillar
3=Serious	Cerebral subarach- noid hemorrhage	Right B pillar
3=Serious	Basilar skull frac- ture, NFS	Right B pillar
6=Maximum	Brain stem lacera-	Right B pillar
6=Maximum	Cord laceration, complete, C3 or above, with disloca- tion	Right B pillar
2=Moderate 2=Moderate	Sternal fracture Thoracic spine frac- ture, no cord injury, NFS	Right interior Seat, back
2=Moderate	Clavicle fracture	Seat, back
2=Moderate	Clavicle fracture	Right B pillar
2=Moderate	Rib cage fracture NFS	Right interior
5=Critical	Myocardial lacera- tion with perforation (+/- tamponade)	Right interior
5=Critical	Thoracic aortic lac- eration, major NFS	Right interior
4=Severe	Lung contusion, bi- lateral	Right interior
4=Severe	Lung laceration, bi-	Right interior
2=Moderate	lateral NFS Hepatic laceration, minor (<3cms deep, EBL<202=Moderate	Splenic laceration, minor (tear<3cms deep, no major
Transmiss lever 2=Moderate 2=Moderate	Pelvic fracture NFS Pericardial lacera- tion (puncture)	vessel) Right hardware Right interior

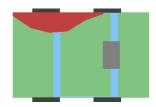
### Occupant: 2004-12-199-1-3



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, centered Left side, on the rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 27 -5 -27
$\delta V$	
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	63 R Y A W 4
Damage (C1-C6)	3 22 55 58 44 8
Crush (L and D)	237 -4
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	CURB

### NASS Weighting Factor

Weighting factor

16.397

### **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic FlowNNumber of Travel LanesTRoadway AlignmentSRoadway ProfileLiRoadway Surface TypeARoadway Surface ConditionDLight ConditionsDAtmospheric ConditionsNRelation to IntersectionINTraffic Control DevicePolicePoliceReportedAlcohol Test (< 95 indicates</td>0BAC 0.xx)D

Not DIVIDED TWO STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Pontiac Bonneville/Catalina 2003 PASSENGER CAR 4-DR SEDAN/HDTOP 165

### **Pre-Crash Driver Data**

Accident Type87Pre-event MovementSTARTING IN LANECritical Pre-crash EventCROSS OVER INTERAttempted Avoidance Maneu-ACCELERATINGverTRACKINGPre-impact StabilityTRACKINGPre-impact LocationSTAYED IN LANE

### **PASSENGER Factors**

Age	40	Height	163	Weight	59
Gender	•	FEMALE-NOT PREG			
Ejectior	า		No EJECTION		
Ejection Area No EJECTION					
Entrapr	nent		Not ENTRAPPED		

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-12-199-1-3
MAIS	2=Moderate
Seat Position	Second left

AIS Level	Injury Description	Contacts
1=Minor	Upper extremity skin abrasion	Seat, back
1=Minor	Leg skin abrasion	Seat, back
1=Minor	Leg skin contusion (hematoma)	Seat, back
1=Minor	Thoracic skin contu- sion	Other occupants
2=Moderate	Fibular head, neck, or shaft fracture	Seat, back

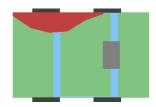
### Occupant: 2004-12-199-1-4



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, centered Left side, on the rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 27 -5 -27
$\delta V$	
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	63 R Y A W 4
Damage (C1-C6)	3 22 55 58 44 8
Crush (L and D)	237 -4
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	CURB

### NASS Weighting Factor

Weighting factor

16.397

### **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic FlowNNumber of Travel LanesTRoadway AlignmentSRoadway ProfileLiRoadway Surface TypeARoadway Surface ConditionDLight ConditionsDAtmospheric ConditionsNRelation to IntersectionINTraffic Control DevicePolicePoliceReportedAlcohol Test (< 95 indicates</td>0BAC 0.xx)D

Not DIVIDED TWO STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Pontiac Bonneville/Catalina 2003 PASSENGER CAR 4-DR SEDAN/HDTOP 165

### **Pre-Crash Driver Data**

Accident Type87Pre-event MovementSTARTING IN LANECritical Pre-crash EventCROSS OVER INTERAttempted Avoidance Maneu-ACCELERATINGverPre-impact StabilityTRACKINGPre-impact LocationSTAYED IN LANE

### **PASSENGER Factors**

Age	67	Height	160	Weight	66	
Gender			FEMAI	LE-NOT PRE	G	
Ejection			No EJECTION			
Ejection Area		No EJECTION				
Entrapment			9			

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-12-199-1-4
MAIS	4=Severe
Seat Position	Second right

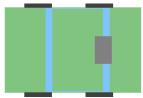
AIS Level	Injury Description	Contacts			
1=Minor	Facial skin abrasion	Oth right pillar			
1=Minor	Facial skin abrasion	Oth right pillar			
1=Minor	Abdominal skin abra- sion	Right hardware			
2=Moderate	Awake on admission, prior unconscious, length NFS	Oth right pillar			
1=Minor	Facial skin laceration	Oth right pillar			
2=Moderate	Mandible subcondylar fracture, closed	Other occupants			
2=Moderate	Alveolar ridge fracture +/- tooth injury	Other occupants			
3=Serious	Pelvic fracture,	Right interior			
	open/displaced/comminuted				
3=Serious	Pelvic fracture, Right interior open/displaced/comminuted				
2=Moderate	Pelvic fracture, closed	Right interior			
3=Serious	Pelvic fracture,	Right interior			
	open/displaced/comminuted				
4=Severe >3 rib fxs on one side & <3 other side & hemo-/pneumothorax		Right interior			
1=Minor	Scalp contusion	Oth right pillar			
2=Moderate	Hepatic contusion (hematoma) NFS	Right hardware			
3=Serious	Lung contusion, uni- lateral	Right interior			

### Occupant: 2004-12-199-2-1



### **Fire Information**

- Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type
- No fire No fire No fuel leakage Unknown type Forward of rear axle, left side Unknown No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	1 QUARTER TURN 998 36 -28 23
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	11 F D E W 3
Damage (C1-C6) Crush (L and D)	0 0 0 0 0 0 0 0
Object Contacted 1 Object Contacted 2	VEHICLE NO. 1 ROLLOVER-OVERTRN

### **NASS Weighting Factor**

Weighting factor

16.397

### **Rollover Characteristics**

Number of Events Rollover Initiation Type	4 COLLISION W/VEH	
Location of Rollover Initiation	ROADSIDE/MEDIAN	
Rollover Initiation Object	VEHICLE NO. 1	
Contacted		
Location on Vehicle where	END PLANE	
Principal Tripping Force was		
Applied		
Direction of Initial Roll	ROLL LEFT	

### Make-Model Year Class Body Type Weight

Chevrolet S-10, T10 1987 TRUCK COMPACT PICKUP 129

### **Pre-Crash Driver Data**

**Vehicle Factors** 

Accident Type	86	
Pre-event Movement	GOING STRAIGHT	
Critical Pre-crash Event	XING ST-X PATH	
Attempted Avoidance Maneu-	STEERING RIGHT	
ver		
Pre-impact Stability	TRACKING	
Pre-impact Location	Left TRAVEL LANE	

### **DRIVER Factors**

Age	56	Height	170	Weight	113
Gende	er		MALE		
Ejectio	n		No EJE	CTION	
Ejectio	on Area		No EJE	CTION	
Entrap	ment		Not EN	TRAPPED	

# **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 0 BAC 0.xx)

TWO STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

Not DIVIDED

Restrain	Lap and shoulder
AOPS	NÔ
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	Not EQUIP/AVAIL
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

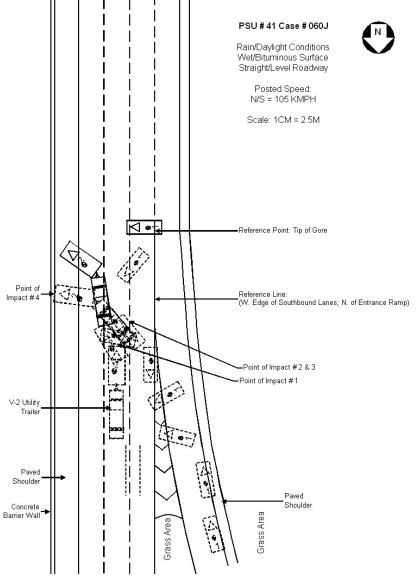
Occupant	2004-12-199-2-1
MAIS	3=Serious
Seat Position	Front left side

AIS Level	Injury Description	Contacts
1=Minor	Scalp laceration, mi- nor	Roof left rail
3=Serious	Skull fracture, vault, comminuted (com- pound, depressed)	Roof left rail
1=Minor	,	Belt webb/buckle
1=Minor	Leg skin laceration, minor	Left interior
1=Minor 1=Minor	Scalp contusion Upper extremity skin contusion	Roof left rail Left interior

### 11 Case 2004-41-60

#### Summary:

V1, a 2001 Chrysler, Town Country van with five occupants, was negotiating a single lane entrance ramp to a limited access southbound highway. V2, a 2004 Dodge, Ram 3500, 2 X 4 pickup truck with one occupant was pulling a 23-foot, Econoline trailer as it traveled southbound in lane two of a two-way, six-lane divided roadway with a positive barrier wall. As V1 neared the end of this entrance ramp it began to rotate in a counterclockwise direction, traveling esstward across southbound lanes until the right side of V1 made contact with the front of V2. The right side of V1 then made contact with the right side of V2 in two locations. V2 front then impacted the concrete barrier wall before coming to final rest in lane three. V1's final rest was between lane one and two, facing eastward, south of the first impact. Both V1 and V2 were equipped with interior first row airbags which all deployed due to impact forces. Both vehicles were towed due to damage. All five occupants of V1 were transported and hospitalized with incapacitating injuries. The driver of V2 was treated by EMS, at the scene, for non-incapacitating injuries. At the time of this crash the roadway was wet and it was raining. )



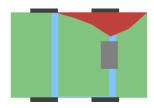
Vehi	clBody type	Make	Model	Year	Occ.	#Age	Occupant's sex	Maximum known occupant ais
1	MINIVAN	Chrysler	Town & Country	2001	1	41	FEMALE-NOT PREG	4=Severe
1	MINIVAN	Chrysler	Town & Country	2001	2	60	FEMALE-NOT PREG	4=Severe
1	MINIVAN	Chrysler	Town & Country	2001	3	25	MALE	3=Serious
1	MINIVAN	Chrysler	Town & Country	2001	4	24	FEMALE-NOT PREG	3=Serious
1	MINIVAN	Chrysler	Town & Country	2001	5	5	MALE	4=Severe
2	LARGE PICKUP	Dodge	Ram 1500 P/U	2004	1	47	MALE	1=Minor

### Occupant: 2004-41-60-1-1



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, left side Left side, forward rear axle Deformed Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 999 999 999 999
Est. $\delta V$ with sequence number	SEVERE 1
CDC	3 R Z A W 4
Damage (C1-C6)	0 47 70 35 14 0
Crush (L and D)	342 -31
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	VEHICLE NO. 2

### **NASS Weighting Factor**

Weighting factor

18.186

### **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic FlowONNumber of Travel LanesONRoadway AlignmentCURoadway ProfileLE\*Roadway Surface TypeASRoadway Surface ConditionWELight ConditionsDAAtmospheric ConditionsRARelation to IntersectionINTTraffic Control DevicePolicePoliceReportedAlcohol Test (< 95 indicates</td>0BAC 0.xx)DA

ONE WAY ONE CURVE RIGHT LEVEL ASPHALT WET DAYLIGHT RAIN INTERCHANGE REL No ALCOHOL

### **Vehicle Factors**

Make-Model Country Year Class Body Type Weight Chrysler Town

2001 TRUCK MINIVAN 194

### **Pre-Crash Driver Data**

Accident Type	48
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event	TRAVEL TOO FAST
Attempted Avoidance Maneu-	BRAKE+STEER LEFT
ver	
Pre-impact Stability	LAT SKID-CTR CLK
Pre-impact Location	Left TRAVEL LANE

### **DRIVER Factors**

Age	41	Height	160	Weight	48
Gender	ſ		FEMAL	E-NOT PRE	G
Ejectior	Ejection No EJECTION				
Ejection Area No EJECTION					
Entrapment Not ENTRAPPED					

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	BAG DEPLOYED
Seat	

Occupant	2004-41-60-1-1
MAIS	4=Severe
Seat Position	Front left side

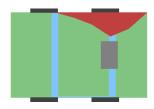
AIS Level	Injury Description	Contacts
1=Minor 1=Minor	Facial skin abrasion Facial skin abrasion	Seat, back Seat, back
4=Severe	Cerebellar hematoma, intracerebellar, small (<15ccs)	Seat, back
1=Minor	Leg skin contusion (hematoma)	Center panel

#### Occupant: 2004-41-60-1-2



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, left side Left side, forward rear axle Deformed Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 999 999 999 999
Est. $\delta V$ with sequence number	SEVERE 1
CDC	3 R Z A W 4
Damage (C1-C6)	0 47 70 35 14 0
Crush (L and D)	342 -31
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	VEHICLE NO. 2

#### **NASS Weighting Factor**

Weighting factor

18.186

#### **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic FlowONNumber of Travel LanesONRoadway AlignmentCLRoadway ProfileLERoadway Surface TypeASRoadway Surface ConditionWELight ConditionsDAAtmospheric ConditionsRARelation to IntersectionINTTraffic Control DevicePolicePoliceReportedAlcohol Test (< 95 indicates</td>0BAC 0.xx)DA

ONE WAY ONE CURVE RIGHT LEVEL ASPHALT WET DAYLIGHT RAIN INTERCHANGE REL No ALCOHOL

#### **Vehicle Factors**

Make-Model Country Year Class Body Type Weight **Chrysler** Town

2001 TRUCK MINIVAN 194

#### **Pre-Crash Driver Data**

Accident Type	48
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event	TRAVEL TOO FAST
Attempted Avoidance Maneu-	BRAKE+STEER LEFT
ver	
Pre-impact Stability	LAT SKID-CTR CLK
Pre-impact Location	Left TRAVEL LANE

#### **PASSENGER Factors**

Age60Height155Weight54GenderFEMALE-NOT PREGEjectionNo EJECTIONEjection AreaNo EJECTIONEntrapmentNot ENTRAPPED

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	BAG DEPLOYED
Seat	

Occupant	2004-41-60-1-2
MAIS	4=Severe
Seat Position	Front right side

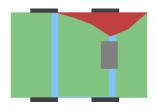
AIS Level	Injury Description	Contacts
3=Serious	Cervical pedicle frac- ture, no cord injury	Other noncontact
2=Moderate	2-3 rib fractures with stable chest	Right hardware
1=Minor	Thoracic skin contu- sion	Belt webb/buckle
1=Minor	Thoracic skin abra- sion	Right hardware
1=Minor	Leg skin contusion (hematoma)	Right hardware
2=Moderate	Kidney laceration	Right hardware
2=Moderate	Cervical vertebral body fracture, no cord injury NFS	Other noncontact
2=Moderate	Skull fracture, vault, closed (simple, undis- placed)	Right B pillar
4=Severe	Cerebral epidural or extradural hematoma, small	Right B pillar

#### Occupant: 2004-41-60-1-3



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, left side Left side, forward rear axle Deformed Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 999 999 999 999
Est. $\delta V$ with sequence number	SEVERE 1
CDC	3 R Z A W 4
Damage (C1-C6)	0 47 70 35 14 0
Crush (L and D)	342 -31
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	VEHICLE NO. 2

#### **NASS Weighting Factor**

Weighting factor

18.186

#### **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic FlowONNumber of Travel LanesONRoadway AlignmentCURoadway ProfileLERoadway Surface TypeASRoadway Surface ConditionWELight ConditionsDAAtmospheric ConditionsRARelation to IntersectionINTTraffic Control DevicePolicePoliceReportedAlcohol Test (< 95 indicates</td>0BAC 0.xx)DA

ONE WAY ONE CURVE RIGHT LEVEL ASPHALT WET DAYLIGHT RAIN INTERCHANGE REL No ALCOHOL

#### **Vehicle Factors**

Make-Model Country Year Class Body Type Weight Chrysler Town

2001 TRUCK MINIVAN 194

#### **Pre-Crash Driver Data**

48
NEGOTIATE CURVE
TRAVEL TOO FAST
BRAKE+STEER LEFT
LAT SKID-CTR CLK
Left TRAVEL LANE

#### **PASSENGER Factors**

Age25Height185Weight77GenderMALEEjectionNo EJECTIONEjection AreaNo EJECTIONEntrapmentENTRAPPED

Restrain	None used/avail
AOPS	YES-RES DET
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	BAG DEPLOYED
Seat	

Occupant	2004-41-60-1-3
MAIS	3=Serious
Seat Position	Second right

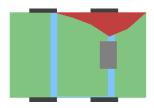
AIS Level	Injury Description	Contacts
3=Serious	450211	Right interior
2=Moderate	Sternal fracture	Right interior
2=Moderate	Lumbar fracture of transverse process without cord injury	Unknown SOURCE
3=Serious	Cerebral subarach- noid hemorrhage	OMV other front
3=Serious	Lung contusion, uni- lateral	Seat, back
1=Minor	Thoracic skin contu- sion	Right interior
1=Minor	Abdominal skin contu- sion	Right interior
3=Serious	Cerebral pneumo- cephalus	OMV other front
1=Minor	Retina laceration	OMV other front
3=Serious	Basilar skull fracture, NFS	OMV other front
2=Moderate	Skull fracture, vault, NFS	OMV other front
2=Moderate	Pelvic fracture NFS	Seat, back
2=Moderate	Pelvic fracture NFS	Right interior
3=Serious	Pelvic fracture, open/displaced/commin	0

#### Occupant: 2004-41-60-1-4



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, left side Left side, forward rear axle Deformed Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 999 999 999 999
Est. $\delta V$ with sequence number	SEVERE 1
CDC	3 R Z A W 4
Damage (C1-C6) Crush (L and D)	0 47 70 35 14 0 342 -31
Object Contacted 1 Object Contacted 2	VEHICLE NO. 2 VEHICLE NO. 2

#### **NASS Weighting Factor**

Weighting factor

18.186

#### **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic FlowONNumber of Travel LanesONRoadway AlignmentCURoadway ProfileLEYRoadway Surface TypeASRoadway Surface ConditionWELight ConditionsDAAtmospheric ConditionsRARelation to IntersectionINTTraffic Control DevicePolicePoliceReportedAlcohol Test (< 95 indicates</td>0BAC 0.xx)DA

ONE WAY ONE CURVE RIGHT LEVEL ASPHALT WET DAYLIGHT RAIN INTERCHANGE REL No ALCOHOL

#### **Vehicle Factors**

Make-Model Country Year Class Body Type Weight Chrysler Town

2001 TRUCK MINIVAN 194

#### **Pre-Crash Driver Data**

Accident Type	48
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event	TRAVEL TOO FAST
Attempted Avoidance Maneu-	BRAKE+STEER LEFT
ver	
Pre-impact Stability	LAT SKID-CTR CLK
Pre-impact Location	Left TRAVEL LANE

#### **PASSENGER Factors**

Age24Height157Weight47GenderFEMALE-NOT PREGEjectionNo EJECTIONEjection AreaNo EJECTIONEntrapmentENTRAPPED

Restrain	None used/avail
AOPS	YES-RES DET
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	BAG DEPLOYED
Seat	

Occupant	2004-41-60-1-4
MAIS	3=Serious
Seat Position	Third middle

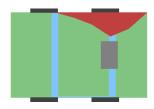
AIS Level	Injury Description	Contacts
1=Minor	Facial skin contusion	Oth right pillar
1=Minor	Upper extremity skin contusion	Right interior
1=Minor	Leg skin abrasion	Right interior
1=Minor	Leg skin contusion (hematoma)	Seat, back
1=Minor	Leg skin contusion (hematoma)	Right interior
1=Minor	Leg skin abrasion	Right interior
1=Minor	Leg skin avulsion, su- perficial (<100cms2)	Right interior
3=Serious	Pelvic fracture,	Right interior
	open/displaced/commin	uted
3=Serious	Pelvic fracture,	Right interior
	open/displaced/commin	uted
2=Moderate	Pelvic fracture, closed	Right interior
1=Minor	297402	Oth right pillar
1=Minor	Scalp contusion	Oth right pillar

#### Occupant: 2004-41-60-1-5



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, left side Left side, forward rear axle Deformed Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 999 999 999 999
Est. $\delta V$ with sequence number	SEVERE 1
CDC	3 R Z A W 4
Damage (C1-C6)	0 47 70 35 14 0
Crush (L and D)	342 -31
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	VEHICLE NO. 2

#### **NASS Weighting Factor**

Weighting factor

18.186

#### **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic FlowONNumber of Travel LanesONRoadway AlignmentCURoadway ProfileLEYRoadway Surface TypeASRoadway Surface ConditionWELight ConditionsDAAtmospheric ConditionsRARelation to IntersectionINTTraffic Control DevicePolicePoliceReportedAlcohol Test (< 95 indicates</td>0BAC 0.xx)DA

ONE WAY ONE CURVE RIGHT LEVEL ASPHALT WET DAYLIGHT RAIN INTERCHANGE REL No ALCOHOL

#### **Vehicle Factors**

Make-Model Country Year Class Body Type Weight Chrysler Town

2001 TRUCK MINIVAN 194

#### **Pre-Crash Driver Data**

48
NEGOTIATE CURVE
TRAVEL TOO FAST
BRAKE+STEER LEFT
LAT SKID-CTR CLK
Left TRAVEL LANE

#### **PASSENGER Factors**

Age5Height122Weight25GenderMALEEjectionNo EJECTIONEjection AreaNo EJECTIONEntrapmentENTRAPPED

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	BAG DEPLOYED
Seat	

Occupant	2004-41-60-1-5
MAIS	4=Severe
Seat Position	Third right

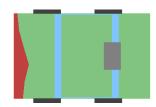
AIS Level	Injury Description	Contacts
1=Minor	Myocardial contusion	Right interior
2=Moderate	Thoracic spine frac- ture, no cord injury, NFS	Other noncontact
2=Moderate	Lumbar fracture with- out cord injury NFS	Other noncontact
2=Moderate	Lumbar fracture with- out cord injury NFS	Other noncontact
4=Severe	Lung contusion, bilat- eral	Right interior
2=Moderate	Hepatic contusion (hematoma) NFS	Right interior
4=Severe	Cerebral epidural or extradural hematoma, NFS	Right wind frame
1=Minor 1=Minor	Leg skin abrasion Leg skin laceration, minor	Seat, back Seat, back

#### Occupant: 2004-41-60-2-1



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, left side Left side, forward rear axle No damage Diesel



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 999 999 999 999
Est. $\delta V$ with sequence number	SEVERE 1
CDC	12 F D E W 2
Damage (C1-C6)	27 32 44 29 16 10
Crush (L and D)	180 0
Object Contacted 1	VEHICLE NO. 1
Object Contacted 2	CONCRETE BARRIER

#### NASS Weighting Factor

Weighting factor

18.186

#### **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

DVDED/W/BARRIER THREE STRAIGHT LEVEL ASPHALT WET DAYLIGHT RAIN INTERCHANGE REL No ALCOHOL

#### **Vehicle Factors**

Make-Model Year Class Body Type Weight Dodge Ram 1500 P/U 2004 TRUCK LARGE PICKUP 449

#### **Pre-Crash Driver Data**

Accident Type	48
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	ENTR LTD ACC HWY
Attempted Avoidance Maneu-	BRAKE W/O LOCKUP
ver	
Pre-impact Stability	Oth VEH CTL LOSS
Pre-impact Location	STAYED IN LANE

Age	47	Height	178	Weight	84
Gender			MALE		
Ejection			No EJE	CTION	
Ejection Area		No EJECTION			
Entrapm	ent		Not EN	TRAPPED	

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-41-60-2-1
MAIS	1=Minor
Seat Position	Front left side

AIS Level	Injury Description	Contacts
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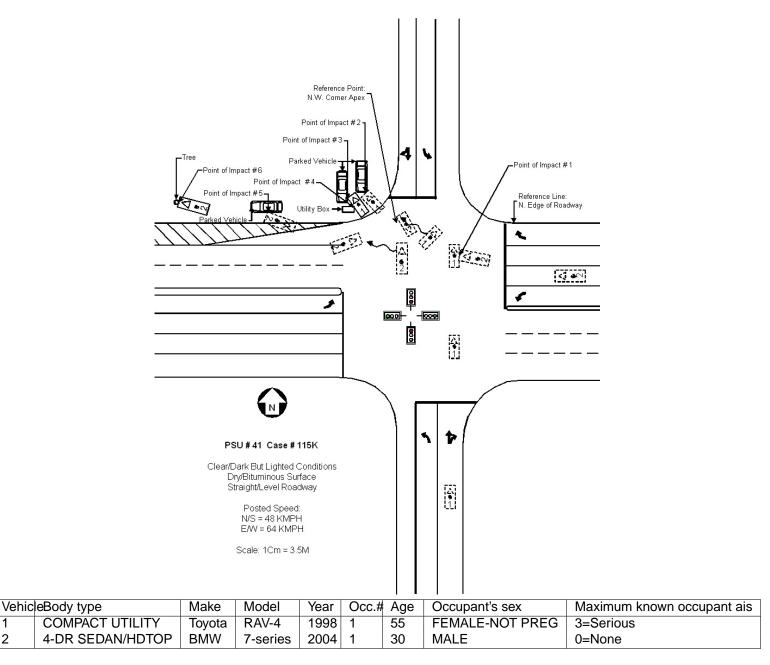
1=Minor	Thoracic	skin	contu-	Belt webb/buckle
	sion			

#### 12Case 2004-41-115

#### Summary:

1 2

V1, a 1998 Toyota Rav4, compact utility vehicle with one occupant, was traveling northbound in lane one of a two-way, three-lane undivided roadway. V2, a 2004 BMW 745LI four-door sedan with one occupant, was traveling westbound in lane three of a two-way, four lane divided roadway with a center median, without a positive barrier. As both vehicles entered the same intersection the right side of V1 struck the front end of V2. Due to the angle and placement of impact both vehicles rotated clockwise in a northwesterly direction. As V1 left the roadway its front end struck a parked vehicle. Then V1's left side struck another parked vehicle and an electrical utility box where it came to final rest. The driver of V1 was totally ejected prior to final rest. As V2 left the roadway its back end struck a parked vehicle. Then V2's front end struck a tree where it came to final rest. Both vehicles were disabled and towed. The driver of V1 was transported to a trauma center and admitted.)

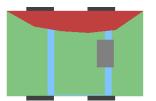


#### Occupant: 2004-41-115-1-1



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, left side Left side, behind rear axle No damage Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 34 -12 -32
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	2 R D E W 4
Damage (C1-C6) Crush (L and D)	0 55 63 58 44 0 228 -28
Object Contacted 1 Object Contacted 2	VEHICLE NO. 2 Not IN TRAN LGTVEH

#### **NASS Weighting Factor**

Weighting factor

16.900

#### **Rollover Characteristics**

Number of Events	7
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition **Light Conditions Atmospheric Conditions** Relation to Intersection **Traffic Control Device** Police Reported Alcohol Presence Alcohol Test (< 95 indicates 0 BAC 0.xx)

Not DIVIDED THREE STRAIGHT LEVEL ASPHALT DRY DARK/LIGHTED No ADVERSE COND INTERSECTION REL

No ALCOHOL

#### **Vehicle Factors**

Make-Model Year Class Body Type Weight Toyota RAV-4 1998 TRUCK COMPACT UTILITY 178

#### **Pre-Crash Driver Data**

Accident Type	87
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	CROSS OVER INTER
Attempted Avoidance Maneu-	No AVOIDANCE
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

## **DRIVER Factors**

Age	55	Height	163	Weight	62
Gende	r		FEMALE-NOT PREG		
Ejectio	n		No EJECTION		
Ejectio	ection Area No EJECTION				
Entrapr	ment		Not ENTRAPPED		

#### **Restraint Factors**

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-41-115-1-1
MAIS	3=Serious
Seat Position	Front left side

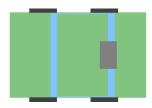
AIS Level	Injury Description	Contacts
1=Minor	Abdominal skin contu- sion	Belt webb/buckle
1=Minor	Leg skin contusion (hematoma)	Belt webb/buckle
2=Moderate	Pelvic fracture NFS	Right interior
2=Moderate	Lumbar fracture of transverse process without cord injury	Right interior
2=Moderate	Lumbar fracture of transverse process without cord injury	Right interior
3=Serious	Radial fracture, open/displaced/commin	
3=Serious		Transmiss lever
2=Moderate	Kidney contusion, minor (subcapsular, nonexpanding)	
2=Moderate	Kidney laceration NFS	Right interior

#### Occupant: 2004-41-115-2-1



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire Unknown Unknown type Unknown Right side, behind rear axle Unknown Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 30 -26 15
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	11 F D E W 1
Damage (C1-C6)	000000
Crush (L and D)	0 0
Object Contacted 1	VEHICLE NO. 1
Object Contacted 2	LARGE TREE

#### **NASS Weighting Factor**

Weighting factor

16.900

#### **Rollover Characteristics**

Number of Events	7	
Rollover Initiation Type	No rollover	
Location of Rollover Initiation	No rollover	
Rollover Initiation Object	No rollover	
Contacted		
Location on Vehicle where	No rollover	
Principal Tripping Force was		
Applied		
Direction of Initial Roll	No rollover	

#### **Pre-Crash Environment**

Traffic Flow **DVDED/NO BARRIER** Number of Travel Lanes FOUR Roadway Alignment STRAIGHT **Roadway Profile** LEVEL Roadway Surface Type ASPHALT Roadway Surface Condition DRY Light Conditions DARK/LIGHTED Atmospheric Conditions No ADVERSE COND Relation to Intersection INTERSECTION REL Traffic Control Device Police Reported Alcohol ALCOHOL PRESENT Presence Alcohol Test (< 95 indicates 97 BAC 0.xx)

#### **Vehicle Factors**

Make-Model Year Class Body Type Weight BMW 7-series 2004 PASSENGER CAR 4-DR SEDAN/HDTOP 203

#### **Pre-Crash Driver Data**

Accident Type	86
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	XING ST-X PATH
Attempted Avoidance Maneu-	STEERING RIGHT
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	30	Height	999	Weight	999
Gender MALE					
Ejection No EJECTION					
Ejection Area No EJECTION					
Entrap	ment Not ENTRAPPED				

Restrain	99
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	ONLY DR BAG DEPL
Airbag Deployment - Oth	BAG DEPLOYED
Seat	

## Injuries

Occupant	2004-41-115-2-1
MAIS	0=None
Seat Position	Front left side

AIS Level Injury Description Contacts

#### 13Case 2004-41-146

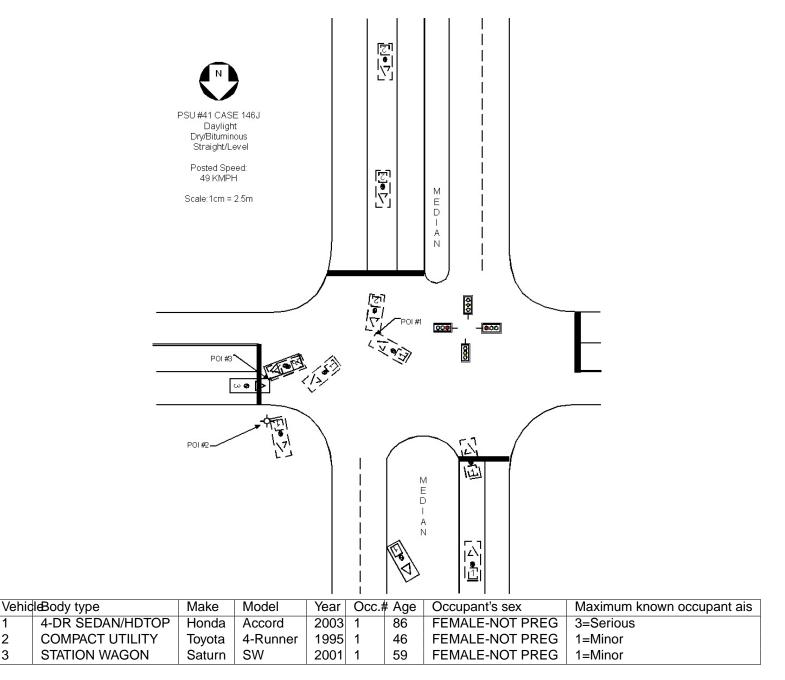
#### Summary:

1

2

3

V1, a 2003 Honda Accord, was traveling southbound in lane two of a two-way, four-lane divided roadway without positive barrier. V2, a 1995 Toyota 4Runner, was traveling northbound in lane two of a two-way, five-lane divided roadway without positive barrier. V3, a 2001 Saturn, was stopped at a traffic light facing westbound in lane one of a two-way, three-lane undivided roadway. V1 attempted to make a left turn going eastbound when V2's front end struck V1's right front in a corner type impact. V1 turned and began traveling in a northwest direction, left the roadway and it's right side struck a utility pole. V1 continued traveling in a northwest direction reentered the roadway crossed two lanes and exited the roadway a second time coming to final rest facing northwest. V2 continued traveling in a northeast direction until V2's front end struck V3's front end. V2 came to final rest facing northeast. V3 came to final rest facing west. V1, V2 and V3 were towed due to damage. the driver of V1 and the driver of V2 were transported to a trauma center for treatment.)



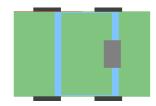
#### Occupant: 2004-41-146-1-1



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, centered Left side, behind rear axle No damage Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 23 -12 -20
$\delta V$	
Est. $\delta V$ with sequence num-	DELTA V CODED 1
ber	
CDC	2 R F E W 3
Damage (C1-C6)	000000
Crush (L and D)	0 0
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	MEDIUM POLE

#### **NASS Weighting Factor**

Weighting factor

23.385

#### **Rollover Characteristics**

Number of Events	3	
Rollover Initiation Type	No rollover	
Location of Rollover Initiation	No rollover	
Rollover Initiation Object	No rollover	
Contacted		
Location on Vehicle where	No rollover	
Principal Tripping Force was		
Applied		
Direction of Initial Roll	No rollover	

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

DVDED/W/BARRIER TWO STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

## Vehicle Factors

Make-Model Year Class Body Type Weight Honda Accord 2003 PASSENGER CAR 4-DR SEDAN/HDTOP 139

#### **Pre-Crash Driver Data**

Accident Type	68
Pre-event Movement	TURNING LEFT
Critical Pre-crash Event	TURN LEFT-INTERS
Attempted Avoidance Maneu-	STEERING LEFT
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	86	Height	168	Weight	71
Gender FEMALE-NOT PREG			G		
Ejectior	า		No EJECTION		
Ejection Area No EJECTION					
Entrapr	nent		Not ENTRAPPED		

Lap and shoulder
YES-RES DET
BAG DEPLOYED
DR
Not EQUIP W/ OTH

Occupant	2004-41-146-1-1
MAIS	3=Serious
Seat Position	Front left side

AIS Level	Injury Description	Contacts
1=Minor	Upper extremity skin contusion	Air bag-DR side
1=Minor	Leg skin contusion (hematoma)	Knee bolster
3=Serious	,	Knee bolster
0.0	open/displaced/commin	
3=Serious	851614	Floor
2=Moderate	Rib cage fracture NFS	Left interior
1=Minor	Facial skin contusion	Steering rim
1=Minor	Leg skin contusion (hematoma)	Belt webb/buckle

#### Occupant: 2004-41-146-2-1

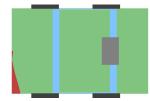


#### **Fire Information**

No fire

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fuel leakage Metallic Forward of rear axle, right side Right side, on the rear axle No damage Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 19 -19 3
$\delta V$	DELTA V CODED 1
Est. $\delta V$ with sequence number	DELIA V CODED I
CDC	12 F L E E 2
Damage (C1-C6)	26 19 12 6 0 4
Crush (L and D)	160 -62
Object Contacted 1	VEHICLE NO. 1
Object Contacted 2	VEHICLE NO. 3

#### **NASS Weighting Factor**

Weighting factor

23.385

#### **Rollover Characteristics**

Number of Events	3
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

DVDED/NO BARRIER THREE STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

# Vehicle Factors

Make-Model Year Class Body Type Weight Toyota 4-Runner 1995 TRUCK COMPACT UTILITY 171

#### **Pre-Crash Driver Data**

Accident Type	69
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	OPP DIR-OVR LEFT
Attempted Avoidance Maneu-	STEERING RIGHT
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	46	Height	999	Weight	999
Gender FEMALE-NOT PREG			G		
Ejectior	า		No EJECTION		
Ejection Area No EJECTION					
Entrapr	oment Not ENTRAPPED				

Restrain	Lap and shoulder
AOPS	NÔ
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	Not EQUIP/AVAIL
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-41-146-2-1
MAIS	1=Minor
Seat Position	Front left side

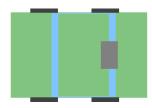
AIS Level	Injury Description	Contacts
1=Minor	Thoracic skin contu- sion	Belt webb/buckle
1=Minor	Lumbar spine acute strain without fracture or dislocation	Other noncontact

#### Occupant: 2004-41-146-3-1



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, left side Left side, behind rear axle No damage Gasoline



#### **Crash Severity**

Nr. Quarter Turns	No rollover
Impact Speed	999
Total, Longitudal, and Lateral $\delta V$	999 999 999
Est. $\delta V$ with sequence number	MINOR 3
CDC	12 F L E S 99
Damage (C1-C6)	0 0 0 0 0 0 0
Crush (L and D)	0 0
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	0

#### **NASS Weighting Factor**

Weighting factor

23.385

#### **Rollover Characteristics**

Number of Events	3			
Rollover Initiation Type	No rollover			
Location of Rollover Initiation	No rollover			
Rollover Initiation Object	No rollover			
Contacted				
Location on Vehicle where	No rollover			
Principal Tripping Force was				
Applied				
Direction of Initial Roll	No rollover			

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED THREE STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

#### **Vehicle Factors**

Make-Model Year Class Body Type Weight Saturn SW 2001 PASSENGER CAR STATION WAGON 112

#### **Pre-Crash Driver Data**

Accident Type	98
Pre-event Movement	STOPPED IN LANE
Critical Pre-crash Event	OPP DIR-OVR LEFT
Attempted Avoidance Maneu-	No AVOIDANCE
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	59	Height	160	Weight	73
Gende	er		FEMAL	E-NOT PRE	G
Ejectic	n		No EJE	CTION	
Ejectic	on Area		No EJE	ECTION	
Entrapment			Not EN	TRAPPED	

Restrain	None used/avail
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

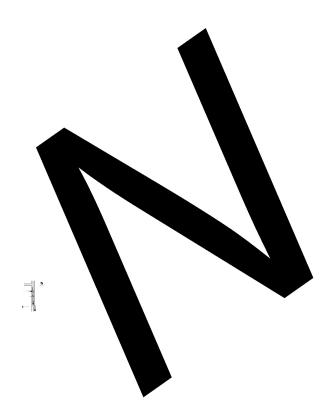
Occupant	2004-41-146-3-1
MAIS	1=Minor
Seat Position	Front left side

AIS Level	Injury Description	Contacts
1=Minor 1=Minor 1=Minor 1=Minor	Scalp contusion 297402 297402 Upper extremity skin contusion	Steering rim Sunvisor Steering rim Unknown SOURCE

#### 14 Case 2004-43-144

#### Summary:

This was a single vehicle crash that occurred in a rural area. It was dark and rainy at the time of the crash. V1, a 1995 Ford Explorer, was traveling north on a 2-lane undivided road approaching a right curve. As V1 negotiated the curve, it lost traction and began to rotate counterclockwise. V1 passed through the southbound travel lane while continuing to rotate, then departed the roadway altogether to the left (West). The right plane of V1 struck a tree on the West roadside, where it came to immediate rest. The vehicle was towed from the scene. The restrained driver of V1, its sole occupant, received "A" injuries and was hospitalized. )



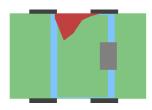
Vehicle	Body type	Make	Model	Year	Occ.#	Age	Occupant's sex	Maximum known occupant ais
1	COMPACT UTILITY	Ford	Bronco II	1995	1	24	MALE	5=Critical

#### Occupant: 2004-43-144-1-1



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, left side Left side, behind rear axle No damage Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 51 9 -50
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	3 R P A W 6
Damage (C1-C6)	0 6 18 57 78 14
Crush (L and D)	247 -9
Object Contacted 1	LARGE TREE
Object Contacted 2	0

#### **NASS Weighting Factor**

Weighting factor

40.259

#### **Rollover Characteristics**

Number of Events	1			
Rollover Initiation Type	No rollover			
Location of Rollover Initiation	No rollover			
Rollover Initiation Object	No rollover			
Contacted				
Location on Vehicle where	No rollover			
Principal Tripping Force was				
Applied				
Direction of Initial Roll	No rollover			

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED TWO CURVE RIGHT LEVEL ASPHALT WET DARK RAIN NONINTER/NONJUNC No ALCOHOL

#### **Vehicle Factors**

Make-Model Year Class Body Type Weight Ford Bronco II 1995 TRUCK COMPACT UTILITY 170

#### **Pre-Crash Driver Data**

Accident Type7Pre-event MovementNEGOTIATE CURVECritical Pre-crash EventTRAVEL TOO FASTAttempted Avoidance Maneu-<br/>ver99VerPre-impact StabilityLATERAL SKID-CLKPre-impact LocationDEPARTED ROADWAY

Age	24	Height	999	Weight	999
Gender			MALE		
Ejection No EJECTION					
Ejection	Area		No EJE	ECTION	
Entrapm	ent		ENTRA	\PPED	

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-43-144-1-1
MAIS	5=Critical
Seat Position	Front left side

AIS Level	Injury Description	Contacts
3=Serious	Cerebral subarach- noid hemorrhage	Right wind frame
5=Critical	Intracerebral hematoma, small, bilateral	Right wind frame
2=Moderate	Clavicle fracture	Right B pillar
1=Minor	Neck skin laceration, minor	Right B pillar
3=Serious	Cerebral contusions, multiple, unilateral but NFS	Right wind frame
4=Severe	Cerebral intraventric- ular hemorrhage	Right wind frame
2=Moderate	Skull fracture, vault, closed (simple, undis- placed)	Right wind frame

## 15 Case 2004-43-312

#### Summary:

V1 was traveling South in lane 1 of a 2-lane roadway while negotiating a curve left. The driver of V1 lost control, rotated counter-clockwise and exited the roadway to the left. V1 struck four fence posts with its right side and then struck a tree with its right side. V1 rotated to the right and struck a tree with its front and came to rest facing South. V1 was towed from the scene. The driver of V1 reported moderate injuries and was transported to a trauma center by EMS. Occupants 2 and 3 of V1 suffered fatal injuries. )

Vehic	leBody type	Make	Model	Year	Occ.#	Age	Occupant's sex	Maximum known occupant ais
1	4-DR SEDAN/HDTOP	Acura	Legend	1993	1	31	MALE	4=Severe
1	4-DR SEDAN/HDTOP	Acura	Legend	1993	2	26	FEMALE-NOT PREG	6=Maximum
1	4-DR SEDAN/HDTOP	Acura	Legend	1993	3	5	MALE	5=Critical

#### Occupant: 2004-43-312-1-1



#### **Fire Information**

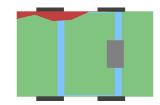
Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location

Fuel Tank Damage

Fuel Type

No fire No fire No fuel leakage Metallic Forward of rear axle, centered Left side, behind rear axle Deformed Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 29 -19 -22
Est. $\delta V$ with sequence number	DELTA V CODED 5
CDC	2 R Y A W 3
Damage (C1-C6)	0 0 23 27 8 21
Crush (L and D)	390 104
Object Contacted 1	LARGE TREE
Object Contacted 2	LARGE TREE

#### **NASS Weighting Factor**

Weighting factor

40.581

#### **Rollover Characteristics**

Number of Events	6				
Rollover Initiation Type	No rollover				
Location of Rollover Initiation	No rollover				
Rollover Initiation Object	No rollover				
Contacted					
Location on Vehicle where	No rollover				
Principal Tripping Force was					
Applied					
Direction of Initial Roll	No rollover				

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

Not DIVIDED TWO CURVE LEFT LEVEL ASPHALT DRY DARK/LIGHTED No ADVERSE COND NONINTER/NONJUNC

No ALCOHOL

96

#### **Vehicle Factors**

Make-Model Year Class Body Type Weight Acura Legend 1993 PASSENGER CAR 4-DR SEDAN/HDTOP 160

#### **Pre-Crash Driver Data**

Accident Type	7
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event	OFF EDGE-LEFT
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	LAT SKID-CTR CLK
Pre-impact Location	DEPARTED ROADWAY

Age	31	Height	999	Weight	999	
Gender			MALE			
Ejection	1		No EJECTION			
Ejection Area			No EJECTION			
Entrapment			Not ENTRAPPED			

Lap and shoulder
YES-RES DET
BAG DEPLOYED
DR
Not EQUIP W/ OTH

Occupant	2004-43-312-1-1
MAIS	4=Severe
Seat Position	Front left side

AIS Level	Injury Description	Contacts
1=Minor	297202	Air bag-DR side
1=Minor	Abdominal skin abra- sion	Transmiss lever
1=Minor	Abdominal skin contu- sion	Belt webb/buckle
1=Minor	Upper extremity skin abrasion	Seat, back
1=Minor	Upper extremity skin abrasion	Center panel
3=Serious	Thoracic cavity injury NFS, with hemo- /pneumothorax	Belt webb/buckle
4=Severe	Cerebral hematoma, NFS	Roof
3=Serious	Cerebral subarach- noid hemorrhage	Roof

#### Occupant: 2004-43-312-1-2



#### **Fire Information**

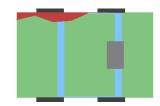
Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location

Fuel Tank Damage

Fuel Type

No fire No fire No fuel leakage Metallic Forward of rear axle, centered Left side, behind rear axle Deformed Gasoline



#### **Crash Severity**

No rollover 998 29 -19 -22
DELTA V CODED 5
2 R Y A W 3
0 0 23 27 8 21
390 104
LARGE TREE
LARGE TREE

#### **NASS Weighting Factor**

Weighting factor

40.581

#### **Rollover Characteristics**

Number of Events	6				
Rollover Initiation Type	No rollover				
Location of Rollover Initiation	No rollover				
Rollover Initiation Object	No rollover				
Contacted					
Location on Vehicle where	No rollover				
Principal Tripping Force was					
Applied					
Direction of Initial Roll	No rollover				

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

Not DIVIDED TWO CURVE LEFT LEVEL ASPHALT DRY DARK/LIGHTED No ADVERSE COND NONINTER/NONJUNC

No ALCOHOL

96

#### **Vehicle Factors**

Make-Model Year Class Body Type Weight Acura Legend 1993 PASSENGER CAR 4-DR SEDAN/HDTOP 160

#### **Pre-Crash Driver Data**

Accident Type7Pre-event MovementNEGOTIATE CURVECritical Pre-crash EventOFF EDGE-LEFTAttempted Avoidance Maneu-<br/>ver99VerPre-impact StabilityLAT SKID-CTR CLKPre-impact LocationDEPARTED ROADWAY

#### **PASSENGER Factors**

Age	26	Height	155	Weight	77	
Gende	r		FEMALE-NOT PREG			
Ejectio	n		PARTIAL EJECTION			
Ejection Area		9				
Entrapment		Not ENTRAPPED				

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

## Injuries

Occupant MAIS Seat Position

2004-43-312-1-2 6=Maximum Front right side

AIS Level	Injury Description	Contacts
1=Minor	Facial skin laceration, minor	Other veh or obj
1=Minor	Facial skin laceration, minor	Other veh or obj
3=Serious	Skull fracture, vault, comminuted (com- pound, depressed)	Other veh or obj
1=Minor	Scalp laceration, mi-	Right A pillar
1=Minor	Facial skin abrasion	Flying glass
1=Minor 4=Severe	Scalp contusion Basilar skull fracture, open, with brain tis- sue loss.	Other veh or obj Other veh or obj
3=Serious	Cerebral subarach- noid hemorrhage	Other veh or obj
6=Maximum	Brain stem laceration	Other veh or obj
1=Minor	Thoracic skin abra- sion	Flying glass
1=Minor	Thoracic skin contu- sion	Right interior
1=Minor	Abdominal skin abra- sion	Right interior
1=Minor	Abdominal skin con- tusion	Right interior
1=Minor	Perineal laceration NFS	Right interior
4=Severe	>3 rib fxs on one side & <3 other side &	Right interior
5=Critical	hemo-/pneumothorax Thoracic aortic lacer- ation, major NFS	Right interior
4=Severe	440606	Right interior
5=Critical	Massive hepatic in- jury (>502=Moderate	Pelvic fracture NFS
Right interior 1=Minor	Leg skin laceration	Pight interior
	Leg skin laceration NFS	Right interior
3=Serious	Femur fracture NFS	Right interior
3=Serious	Tibial shaft fracture, open/displaced/commir	Right interior
2=Moderate	Fibular head, neck, or shaft fracture	Right interior
1=Minor	Leg skin contusion (hematoma)	Right panel
2=Moderate	851605	Right panel
2=Moderate	Tibial fracture NFS	Right panel
1=Minor	Leg skin abrasion	Right panel
1=Minor	Upper extremity skin abrasion	Right interior
1=Minor	Upper extremity skin contusion	Right interior

#### Occupant: 2004-43-312-1-3



#### **Fire Information**

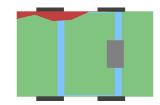
Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location

Fuel Tank Damage

Fuel Type

No fire No fire No fuel leakage Metallic Forward of rear axle, centered Left side, behind rear axle Deformed Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 29 -19 -22
Est. $\delta V$ with sequence number	DELTA V CODED 5
CDC	2 R Y A W 3
Damage (C1-C6)	0 0 23 27 8 21
Crush (L and D)	390 104
Object Contacted 1	LARGE TREE
Object Contacted 2	LARGE TREE

#### **NASS Weighting Factor**

Weighting factor

40.581

#### **Rollover Characteristics**

Number of Events	6
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

Not DIVIDED TWO CURVE LEFT LEVEL ASPHALT DRY DARK/LIGHTED No ADVERSE COND NONINTER/NONJUNC

No ALCOHOL

96

#### **Vehicle Factors**

Make-Model Year Class Body Type Weight Acura Legend 1993 PASSENGER CAR 4-DR SEDAN/HDTOP 160

#### **Pre-Crash Driver Data**

Accident Type7Pre-event MovementNEGOTIATE CURVECritical Pre-crash EventOFF EDGE-LEFTAttempted Avoidance Maneu-<br/>ver99VerPre-impact StabilityLAT SKID-CTR CLKPre-impact LocationDEPARTED ROADWAY

#### **PASSENGER Factors**

Age	5	Height	112	Weight	24
Gender			MALE		
Ejection	1		No EJE	ECTION	
Ejection	Area		No EJE	ECTION	
Entrapn	nent		ENTR/	APPED	

Lap and shoulder
YES-RES DET
Not EQUIP/AVAIL
DR
Not EQUIP W/ OTH

Occupant	2004-43-312-1-3
MAIS	5=Critical
Seat Position	Second right

AIS Level	Injury Description	Contacts
1=Minor	297402	Right interior
1=Minor	297402	Right interior
2=Moderate	Nose fracture, open/displaced/commin	Right interior
2=Moderate	Mandible body (+/- ramus) fracture, open/displaced/commin	Right interior
1=Minor	Facial skin contusion	Right interior
1=Minor	Facial skin abrasion	Right interior
2=Moderate	Skull fracture, vault, NFS	Roof right rail
3=Serious	Cerebral subarach- noid hemorrhage	Roof right rail
1=Minor	Facial skin laceration	Flying glass
1=Minor	Neck skin abrasion	Unknown SOURCE
1=Minor	Neck skin contusion (hematoma)	Unknown SOURCE
1=Minor	Neck skin abrasion	Belt webb/buckle
5=Critical	Cord laceration, com- plete, C4 or below, with fracture	Roof right rail
1=Minor	Upper extremity skin abrasion	Right interior
1=Minor	Upper extremity skin contusion	Right interior
4=Severe	<ul><li>&gt;3 rib fxs on one side</li><li>&amp; &lt;3 other side &amp;</li><li>hemo-/pneumothorax</li></ul>	Right interior
1=Minor	Leg skin contusion (hematoma)	Right interior
1=Minor	Leg skin abrasion	Right interior
1=Minor	Leg skin contusion (hematoma)	Seat, back
2=Moderate	Fibular head, neck, or shaft fracture	Right interior
2=Moderate	Tibial shaft fracture	Right interior

## 16 Case 2004-45-4

#### Summary:

Vehicle #1 (1995 Dodge Intrepid) was traveling west from a fast-food restuarant driveway across a five lane roadway toward a shopping center driveway on the west side of the roadway. Vehicle #2 (1989 Chevrolet Blazer) was traveling south in the center travel lane of a five lane roadway that has a center right/left turn lane. Vehicle #1 was struck on the right side (front) by the front of Vehicle #2. Vehicle #1 rotated counterclockwise and Vehicle #2 rotated clockwise, Vehicle #1's right (back) striking the left side of Vehicle #2. Vehicle #1 then came to rest on the west side paved shoulder facing south just beyond the entrance to a shopping center driveway. Vehicle #2 then came to rest in the shopping center driveway facing southwest. The belted driver of the non-deployed aribag equipped Vehicle #1 was transported to a medical facility. The vehicles were towed from the scene of the event. Note: The driver of Vehicle #1 died of medical problems, not related to the event, a few days later. )

# No picture available

Vehic	leBody type	Make	Model	Year	Occ.#	Age	Occupant's sex	Maximum known occupant ais
1	4-DR SEDAN/HDTOP	Dodge	Intrepid	1995	1	79	MALE	3=Serious
2	COMPACT UTILITY	Chevrolet	S-10 Blazer	1989	1	24	MALE	1=Minor
2	COMPACT UTILITY	Chevrolet	S-10 Blazer	1989	2	25	MALE	1=Minor

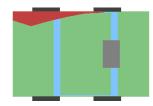
#### Occupant: 2004-45-4-1-1



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, centered Right side, behind rear axle No damage Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 31 -20 -24
$\delta V$ Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	2 R Y A W 3
Damage (C1-C6)	2 5 15 27 42 24
Crush (L and D)	214 151
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	VEHICLE NO. 2

#### **NASS Weighting Factor**

Weighting factor

41.436

#### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

ONE WAY TWO STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND DRIVEWAY RELATED

No ALCOHOL

#### Vehicle Factors

Make-Model Year Class Body Type Weight Dodge Intrepid 1995 PASSENGER CAR 4-DR SEDAN/HDTOP 146

#### **Pre-Crash Driver Data**

Accident Type	87
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	TURN LEFT-INTERS
Attempted Avoidance Maneu-	No AVOIDANCE
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	Left TRAVEL LANE

Age	79	Height	173	Weight	64
Gende	r		MALE		
Ejection		No EJECTION			
Ejection Area		No EJECTION			
Entrapment		Not ENTRAPPED			

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-45-4-1-1
MAIS	3=Serious
Seat Position	Front left side

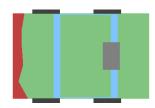
AIS Level	Injury Description	Contacts
2=Moderate 2=Moderate	Pelvic fracture NFS Pelvic fracture NFS	Oth interior obj Oth interior obj
1=Minor	Leg skin contusion (hematoma)	Knee bolster
1=Minor	Leg skin abrasion	Knee bolster
3=Serious	2-3 rib fractures with stable chest and hemo-/pneumothorax	Oth interior obj
2=Moderate	Tibial condylar frac- ture	Knee bolster
1=Minor	Thoracic skin contu- sion	Unknown SOURCE

#### Occupant: 2004-45-4-2-1



#### Fire Information

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Behind rear axle, centered Left side, behind rear axle No damage Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 26 -20 17
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	11 F D E W 2
Damage (C1-C6)	44 17 31 27 26 34
Crush (L and D)	160 0
Object Contacted 1	VEHICLE NO. 1
Object Contacted 2	VEHICLE NO. 1

#### **NASS Weighting Factor**

Weighting factor

41.436

#### **Rollover Characteristics**

Number of Events	2			
Rollover Initiation Type	No rollover			
Location of Rollover Initiation	No rollover			
Rollover Initiation Object	No rollover			
Contacted				
Location on Vehicle where	No rollover			
Principal Tripping Force was				
Applied				
Direction of Initial Roll	No rollover			

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED FIVE STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND DRIVEWAY RELATED

Not REPORTED

# Vehicle Factors

Make-Model Year Class Body Type Weight Chevrolet S-10 Blazer 1989 TRUCK COMPACT UTILITY 151

#### **Pre-Crash Driver Data**

Accident Type86Pre-event MovementGOING STRAIGHTCritical Pre-crash EventXING ST-SAME DIRAttempted Avoidance Maneu-99verPre-impact StabilityPre-impact LocationSTAYED IN LANE

Age	24	Height	180	Weight	91
Gender		MALE			
Ejection		No EJECTION			
Ejection Area		No EJECTION			
Entrapment		Not ENTRAPPED			

Restrain	Lap and shoulder
AOPS	NÔ
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	Not EQUIP/AVAIL
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

## Injuries

Occupant	2004-45-4-2-1
MAIS	1=Minor
Seat Position	Front left side

### AIS Level Injury Description Contacts

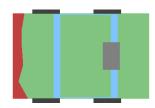
1=Minor	Lumbar spin	e acute	Other noncontact
	strain without	fracture	
	or dislocation		

### Occupant: 2004-45-4-2-2



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Behind rear axle, centered Left side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 26 -20 17
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1	11 F D E W 2 44 17 31 27 26 34 160 0 VEHICLE NO. 1
Object Contacted 2	VEHICLE NO. 1

### **NASS Weighting Factor**

Weighting factor

41.436

### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED FIVE STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND DRIVEWAY RELATED

Not REPORTED

# Vehicle Factors

Make-Model Year Class Body Type Weight Chevrolet S-10 Blazer 1989 TRUCK COMPACT UTILITY 151

### **Pre-Crash Driver Data**

Accident Type86Pre-event MovementGOING STRAIGHTCritical Pre-crash EventXING ST-SAME DIRAttempted Avoidance Maneu-99verPre-impact StabilityPre-impact LocationSTAYED IN LANE

### **PASSENGER Factors**

Age	25	Height	185	Weight	91
Gende	er		MALE		
Ejectic	n		No EJE	CTION	
Ejectio	on Area		No EJE	CTION	
Entrap	ment		Not EN7	RAPPED	

Restrain	Lap and shoulder
AOPS	NÔ
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	Not EQUIP/AVAIL
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

## Injuries

Occupant	2004-45-4-2-2
MAIS	1=Minor
Seat Position	Front right side

AIS Level Injury Description Contacts

1=Minor 1=Minor	Scalp contusion Leg skin contusion (hematoma)	Int loose obj Glove door
1=Minor	Acute cervical spine strain without fracture or dislocation	Other noncontact

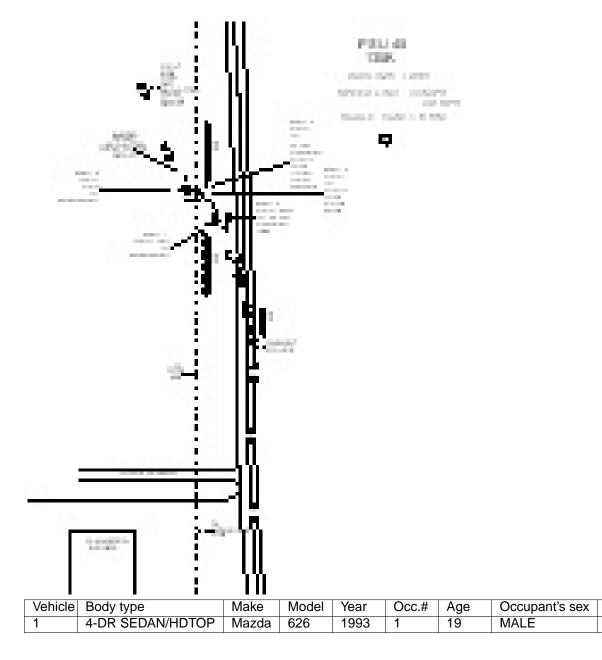
### 17 Case 2004-45-130

### Summary:

V1 was traveling west on a two-lane undivided roadway with two-way traffic. The driver was exiting a right curve in the roadway when the vehicle departed the right edge of the pavement. The driver attempted to correct by steering to the left. The vehicle entered a counter-clockwise yaw as it departed the left side of the roadway, traveling southwest. The front left bumper impacted an embankment. Then the right side back contacted a 55-centimeter tree. As the vehicle contacted the utility pole, the front right bumper struck an embankment and the right front door came open due to body deformation, ejecting the belted driver. The driver came to rest approximately 4 meters southwest of the struck pole. The vehicle came to rest facing southwest approximately 17 meters southwest of the struck pole. The ejected driver was hospitalized. The vehicle was equipped with a driver airbag, which was deployed. The disabled vehicle was towed from the crash. Please see case notes concerning belt usage. )

Maximum known occupant ais

4=Severe



### Occupant: 2004-45-130-1-1



### **Fire Information**

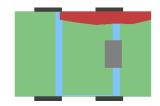
Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location

Fuel Tank Damage

Fuel Type

No fire No fire No fuel leakage Metallic Forward of rear axle, centered Left side, behind rear axle Deformed Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 999 999 999 999
Est. $\delta V$ with sequence number	DELTA V CODED 4
CDC	2 R Z A W 3
Damage (C1-C6)	23 36 34 38 32 23
Crush (L and D)	74 -100
Object Contacted 1	MEDIUM POLE
Object Contacted 2	LARGE TREE

### **NASS Weighting Factor**

Weighting factor

51.137

### **Rollover Characteristics**

Number of Events	5
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

Not DIVIDED TWO CURVE RIGHT UPHILL GRADE ASPHALT DRY DAYLIGHT No ADVERSE COND NONINTER/NONJUNC

No ALCOHOL

### **Vehicle Factors**

97

Make-Model Year Class Body Type Weight Mazda 626 1993 PASSENGER CAR 4-DR SEDAN/HDTOP 124

### **Pre-Crash Driver Data**

Accident Type	7
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event	TRAVEL TOO FAST
Attempted Avoidance Maneu-	BRAKE+STEER LEFT
ver	
Pre-impact Stability	LAT SKID-CTR CLK
Pre-impact Location	DEPARTED ROADWAY

Age	19	Height	183	Weight	79
Gende	r		MALE		
Ejectio	n		COMPL	ETE EJECT	-
Ejection Area		Right FRONT			
Entrap	ment		Not EN	FRAPPED	

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR BAG DEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

# Injuries

Occupant	2004-45-130-1-1
MAIS	4=Severe
Seat Position	Front left side

AIS Level	Injury Description	Contacts
3=Serious	Humeral fracture, open/displaced/commin	Ground
4=Severe	Splenic laceration, major (segmental injury, no hilar injury	Ground
4=Severe	Lung contusion, bilat-	Ground
1=Minor	Thoracic skin abra- sion	Ground
1=Minor	Leg skin contusion (hematoma)	Ground
1=Minor	Leg skin abrasion	Ground
1=Minor	Facial skin contusion	Ground
1=Minor	Facial skin contusion	Ground
1=Minor	Upper extremity skin contusion	Ground
1=Minor	Facial skin laceration, minor	Ground
1=Minor	Facial skin laceration, minor	Ground
1=Minor	Scalp laceration, mi- nor	Ground
3=Serious	Cerebral contusions, multiple, unilateral, small (<30ccs)	Ground
2=Moderate	Skull fracture, vault, closed (simple, undis- placed)	Ground
3=Serious	Basilar skull fracture, NFS	Ground
2=Moderate	Orbit fracture, closed	Ground
1=Minor	297402	Ground
3=Serious	>3 rib fractures one side & <3 other side, with stable chest	Ground

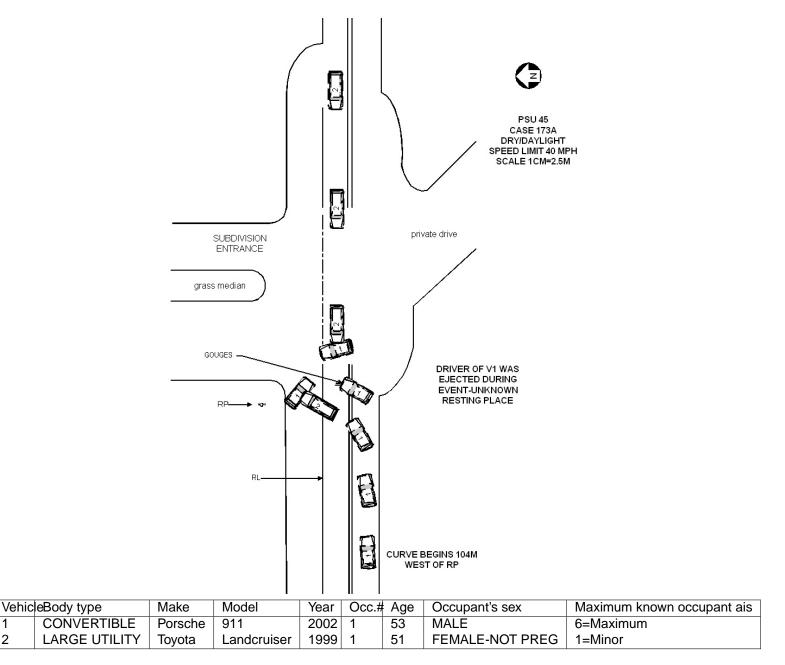
### Case 2004-45-173 $\mathbf{18}$

### Summary:

1

2

V1, a 2002 Porsche 911 was eastbound on a two lane suburban roadway under dry/daylight conditions with a speed limit of 40 MPH. V2, a 1999 Toyota Landcruiser, was westbound on the same road. As V1 exited a left curve, V1 lost control, entered a counterclockwise yaw and crossed over into the westbound lane. V2 front impacted V1 in the right side. V1 came to final rest facing southeast in the westbound lane. V2 came to final rest facing northeast. Belted driver of V1 was completely ejected via the LF door and was fatal at the scene. Belted driver of V2 was transported for treatment. Both frontal, and the right front side airbag deployed on V1. Both frontal airbags deployed on V2. Both vehicles were towed from the scene. )



### Occupant: 2004-45-173-1-1

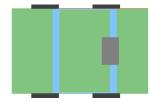


### **Fire Information**

No fire

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire Unknown Metallic Forward of rear axle, centered Right side, forward rear axle Unknown Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 67 -23 -63
$\delta V$ Est. $\delta V$ with sequence num-	DELTA V CODED 1
ber	
CDC	2 R Z A W 7
Damage (C1-C6)	000000
Crush (L and D)	0 0
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	0

### **NASS Weighting Factor**

Weighting factor

44.296

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic FlowNNumber of Travel LanesTIRoadway AlignmentCRoadway ProfileURoadway Surface TypeARoadway Surface ConditionDLight ConditionsDLight ConditionsNRelation to IntersectionNTraffic Control DevicePolicePoliceReportedAlcohol Test (< 95 indicates</td>0BAC 0.xx)0

Not DIVIDED THREE CURVE LEFT UPHILL GRADE ASPHALT DRY DAYLIGHT No ADVERSE COND NONINTER/NONJUNC

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Porsche 911 2002 PASSENGER CAR CONVERTIBLE 144

### **Pre-Crash Driver Data**

Accident Type	66
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event	OVER LINE-LEFT
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	LAT SKID-CTR CLK
Pre-impact Location	Left TRAVEL LANE

Age	53	Height	180	Weight	82
Gende	r		MALE		
Ejectio	n		PARTIA	L EJECTIO	N
Ejection Area		Left FRONT			
Entrapment Not		Not EN	TRAPPED		

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	BAG DEPLOYED
Seat	

# Injuries

Occupant	2004-45-173-1-1
MAIS	6=Maximum
Seat Position	Front left side

AIS Level	Injury Description	Contacts
6=Maximum	Head injury, crush (massive destruction of skull and brain)	Right A pillar
2=Moderate	Sclera laceration involving globe (in- cludes rupture)	Right A pillar
2=Moderate	Clavicle fracture	Belt webb/buckle
2=Moderate	Clavicle fracture	Right interior
2=Moderate	Sternal fracture	Right interior
2=Moderate	2-3 rib fractures with stable chest	Right interior
1=Minor	Upper extremity skin abrasion	Belt webb/buckle
1=Minor	Thoracic skin abra- sion	Belt webb/buckle
3=Serious	Pelvic fracture, open/displaced/commin	Right interior
3=Serious	851801	Right interior
3=Serious	Penile laceration, massive (amputation, complex, rupture)	Right interior
2=Moderate	Scrotal laceration, major (amputation, avulsion, complex)	Right interior
1=Minor	Leg skin laceration, minor	Left interior
2=Moderate	Humeral fracture NFS	Right interior
1=Minor	Upper extremity skin laceration NFS	Right interior

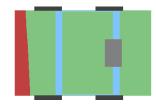
### Occupant: 2004-45-173-2-1



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, centered Left side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 32 -28 16
δV	
Est. $\delta V$ with sequence num-	DELTA V CODED 1
ber	
CDC	51 F D E W 2
Damage (C1-C6)	45 43 40 38 34 32
Crush (L and D)	178 0
Object Contacted 1	VEHICLE NO. 1
Object Contacted 2	0

### **NASS Weighting Factor**

Weighting factor

44.296

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

Not DIVIDED THREE STRAIGHT DOWNHILL GRADE ASPHALT DRY DAYLIGHT No ADVERSE COND NONINTER/NONJUNC

No ALCOHOL

### Vehicle Factors

97

Make-Model Year Class Body Type Weight Toyota Landcruiser 1999 TRUCK LARGE UTILITY 311

### **Pre-Crash Driver Data**

Accident Type	66
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	OPP DIR-OVR LEFT
Attempted Avoidance Maneu-	BRAKE W/O LOCKUP
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	51	Height	165	Weight	61	
Gende	er		FEMAL	E-NOT PRE	G	
Ejection			No EJECTION			
Ejection Area			No EJECTION			
Entrap	ment		Not EN	TRAPPED		

Lap and shoulder
YES-RES DET
BAG DEPLOYED
DR
Not EQUIP W/ OTH

# Injuries

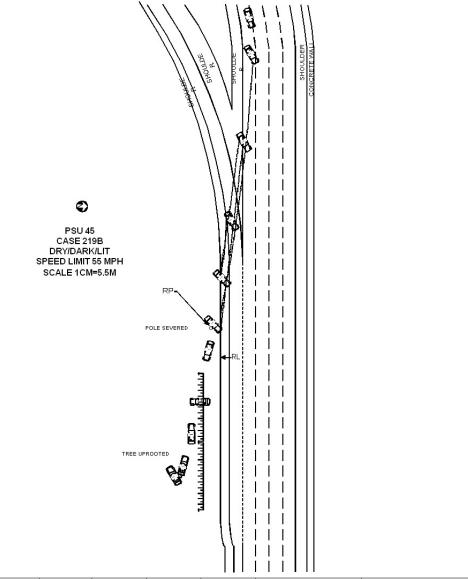
Occupant	2004-45-173-2-1
MAIS	1=Minor
Seat Position	Front left side

AIS Level	Injury Description	Contacts
1=Minor	Facial skin contusion	Air bag-DR side
1=Minor	Upper extremity skin abrasion	Left interior
1=Minor	Upper extremity skin contusion	Left interior
1=Minor	Leg skin contusion (hematoma)	Knee bolster
1=Minor	Acute cervical spine strain without fracture or dislocation	Air bag-DR side
1=Minor	Facial skin contusion	Air bag-DR side
1=Minor	Facial skin contusion	Air bag-DR side
1=Minor	Thoracic skin contu- sion	Belt webb/buckle
1=Minor	Abdominal skin contu- sion	Belt webb/buckle
1=Minor	Leg skin contusion (hematoma)	Floor

### 19 Case 2004-45-219

### Summary:

V1, a 2004 Nissan 350Z, was eastbound on a 4 lane divided interstate road with a merging lane to the south (five lanes total), under dry/dark/lit conditions with a speed limit of 55 MPH. V1 lost control, entered into a counterclockwise yaw, departed the road to the right side, and impacted a metal utility pole with the right side. V1 continued east, traveled down an embankment and impacted a tree with the rear. V1 caught fire and was partially burned, with most of the fire damage coming to the right side and front of the vehicle. Both belted occupants expired at the scene. No airbags deployed. V1 was towed from the scene. )



Vehicle	Body type	Make	Model	Year	Occ.#	Age	Occupant's sex	Maximum known occupant ais
1	3DR/2DR HATCHBAK	35	48	2004	1	25	MALE	6=Maximum
1	3DR/2DR HATCHBAK	35	48	2004	2	18	MALE	6=Maximum

### Occupant: 2004-45-219-1-1



### **Fire Information**

Major fire

Fuel tank

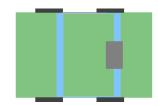
Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location

Fuel Tank Damage

Fuel Type

Tank Metallic Forward of rear axle, right side Right side, behind rear axle Unknown Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 999 999 999 999
Est. $\delta V$ with sequence number	SEVERE 1
CDC	2 R P A W 5
Damage (C1-C6) Crush (L and D)	0 0 0 0 0 0 0 0
Object Contacted 1 Object Contacted 2	LARGE POLE LARGE TREE

### **NASS Weighting Factor**

Weighting factor

80.065

### **Rollover Characteristics**

Number of Events	3						
Rollover Initiation Type	No rollover						
Location of Rollover Initiation	No rollover						
Rollover Initiation Object	No rollover						
Contacted							
Location on Vehicle where	No rollover						
Principal Tripping Force was							
Applied							
Direction of Initial Roll	No rollover						

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 97 BAC 0.xx)

DVDED/W/BARRIER FIVE STRAIGHT DOWNHILL GRADE ASPHALT DRY DARK/LIGHTED No ADVERSE COND NONINTER/NONJUNC

### **Vehicle Factors**

9

Make-Model Year Class Body Type Weight

35 48 2004 PASSENGER CAR 3DR/2DR HATCHBAK 143

### **Pre-Crash Driver Data**

Accident Type	2
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	TRAVEL TOO FAST
Attempted Avoidance Maneu-	BRAKE W/ LOCKUP
ver	
Pre-impact Stability	LAT SKID-CTR CLK
Pre-impact Location	DEPARTED ROADWAY

Age	25	Height	185	Weight	88
Gender			MALE		
Ejection	1		No EJE	CTION	
Ejection Area			No EJECTION		
Entrapn	nent		ENTRA	PPED	

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

# Injuries

Occupant	2004-45-219-1-1
MAIS	6=Maximum
Seat Position	Front left side

AIS Level	Injury tion	Desci	rip-	Contacts
6=Maximum	3rd	degr	ee,	115999
Linknown SOLIRCE	>907=U	nk. sev	<i>'</i> .	

Unknown SOURCE

### Occupant: 2004-45-219-1-2

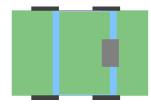


### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type

Major fire Fuel tank Tank Metallic Forward of rear axle, right side Right side, behind rear axle Unknown Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 999 999 999 999
Est. $\delta V$ with sequence number	SEVERE 1
CDC	2 R P A W 5
Damage (C1-C6) Crush (L and D)	0 0 0 0 0 0 0 0
Object Contacted 1 Object Contacted 2	LARGE POLE LARGE TREE

### **NASS Weighting Factor**

Weighting factor

80.065

### **Rollover Characteristics**

Number of Events	3			
Rollover Initiation Type	No rollover			
Location of Rollover Initiation	No rollover			
Rollover Initiation Object	No rollover			
Contacted				
Location on Vehicle where	No rollover			
Principal Tripping Force was				
Applied				
Direction of Initial Roll	No rollover			

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 97 BAC 0.xx)

DVDED/W/BARRIER FIVE STRAIGHT DOWNHILL GRADE ASPHALT DRY DARK/LIGHTED No ADVERSE COND NONINTER/NONJUNC

### **Vehicle Factors**

9

Make-Model Year Class Body Type Weight

35 48 2004 PASSENGER CAR 3DR/2DR HATCHBAK 143

### **Pre-Crash Driver Data**

Accident Type	2
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	TRAVEL TOO FAST
Attempted Avoidance Maneu-	BRAKE W/ LOCKUP
ver	
Pre-impact Stability	LAT SKID-CTR CLK
Pre-impact Location	DEPARTED ROADWAY

### **PASSENGER Factors**

Age	18	Height	183	Weight	77
Gender			MALE		
Ejection No EJECTION					
Ejectior	n Area		No EJE	CTION	
Entrapr	nent		ENTRA	PPED	

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

# Injuries

Occupant	2004-45-219-1-2
MAIS	6=Maximum
Seat Position	Front right side

AIS Level	Injury Desc	ription	Contacts
6=Maximum	Burn, 2nd or gree, >903=\$		Thoracic cavity injury NFS, with hemo- /pneumothorax
Right interior 2=Moderate	Humeral NFS	fracture	Right interior
3=Serious	Femur fractu	re NFS	Right interior

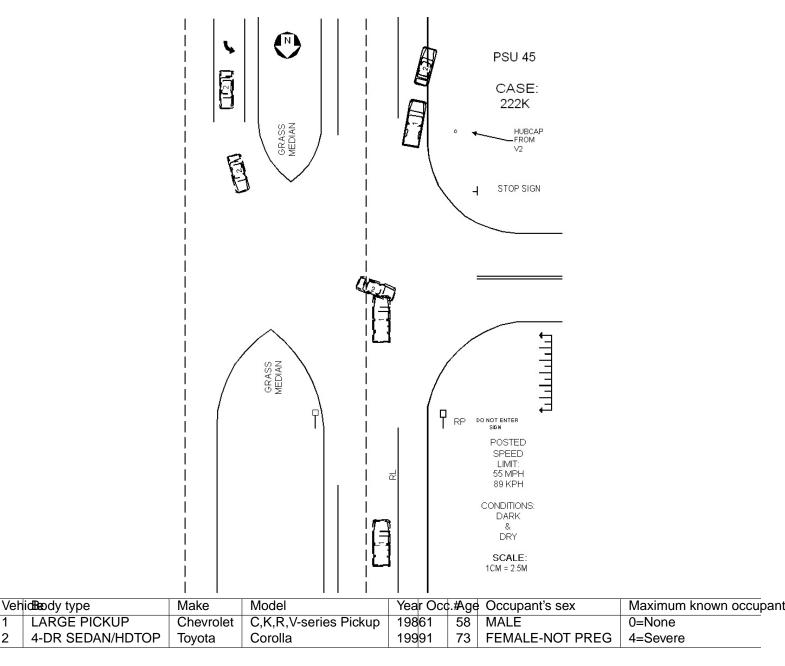
### $\mathbf{20}$ Case 2004-45-222

### Summary:

1

2

Vehicle #1 (1986 Chevrolet Custom-Deluxe Pick-up with a camper top) was traveling south in the outside travel lane on a four lane roadway that has a center grass median and a cross-over in the center for an intersection roadway. Vehicle #2 (1999 Toyota Corolla 4-door sedan) was traveling north on a five lane roadway that has a center grass median and a left turn lane in the turn lane. Vehicle #2 crossed through the cross-over and across the southbound lanes and was struck in the right side by the front of Vehicle #1. Vehicle #2 rotated counterclockwise and came to rest beyond the intersection on the paved shouder. Vehicle #1 came to rest beyond the intersection on the paved shoulder. The belted driver of Vehicle #1 was not injured. The belted driver of the airbag deployed Vehicle #2 was transported to a medical facility. The vehicles were towed from the scene of the event. )



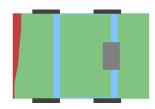
### Occupant: 2004-45-222-1-1



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type

No fire No fire No fuel leakage Metallic Forward of rear axle, left side Left side, forward rear axle No damage Gasoline



### Crash Severity

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 22 -22 4
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	12 F D E W 1 6 6 16 19 24 25 180 0 VEHICLE NO. 2 0

### **NASS Weighting Factor**

Weighting factor

87.855

### **Rollover Characteristics**

Number of Events	1			
Rollover Initiation Type	No rollover			
Location of Rollover Initiation	No rollover			
Rollover Initiation Object	No rollover			
Contacted				
Location on Vehicle where	No rollover			
Principal Tripping Force was				
Applied				
Direction of Initial Roll	No rollover			

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes TWO Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition DRY Light Conditions DARK **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol No ALCOHOL Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

**DVDED/NO BARRIER** STRAIGHT LEVEL ASPHALT No ADVERSE COND INTERSECTION REL

# **Vehicle Factors**

Make-Model

Year Class Body Type Weight

Chevrolet C,K,R,V-series Pickup 1986 TRUCK LARGE PICKUP 191

### **Pre-Crash Driver Data**

Accident Type 69 Pre-event Movement **GOING STRAIGHT** Critical Pre-crash Event XING ST-X PATH Attempted Avoidance Maneu-BRAKE UNK LOCKUP ver Pre-impact Stability TRACKING Pre-impact Location STAYED IN LANE

Age	58	Height	185	Weight	100
Gende	er		MALE		
Ejection No EJECTION					
Ejection Area No			No EJE	CTION	
Entrap	ment		Not EN	TRAPPED	

Restrain	Lap and shoulder
AOPS	NÔ
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	Not EQUIP/AVAIL
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

## Injuries

Occupant	2004-45-222-1-1
MAIS	0=None
Seat Position	Front left side

AIS Level Injury Description Contacts

### Occupant: 2004-45-222-2-1



### **Fire Information**

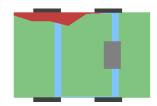
Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location

Fuel Tank Damage

Fuel Type

No fire No fire No fuel leakage Metallic Forward of rear axle, centered Left side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 40 -20 -35
$\delta V$ Est. $\delta V$ with sequence num-	DELTA V CODED 1
ber	
CDC	2 R Y A W 3
Damage (C1-C6)	1 3 38 25 24 7
Crush (L and D)	265 86
Object Contacted 1	VEHICLE NO. 1
Object Contacted 2	0

### **NASS Weighting Factor**

Weighting factor

87.855

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

DVDED/NO BARRIER THREE STRAIGHT LEVEL ASPHALT DRY DARK No ADVERSE COND INTERSECTION REL

No ALCOHOL

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Toyota Corolla 1999 PASSENGER CAR 4-DR SEDAN/HDTOP 115

### **Pre-Crash Driver Data**

Accident Type	68
Pre-event Movement	TURNING LEFT
Critical Pre-crash Event	TURN LEFT-INTERS
Attempted Avoidance Maneu-	No AVOIDANCE
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	73	Height	160	Weight	70	
Gende	er		FEMALE-NOT PREG			
Ejectic	n		No EJECTION			
Ejectic	Ejection Area No EJECTION					
Entrap	ment		JAMME	ED DOOR/FI	RE	

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

# Injuries

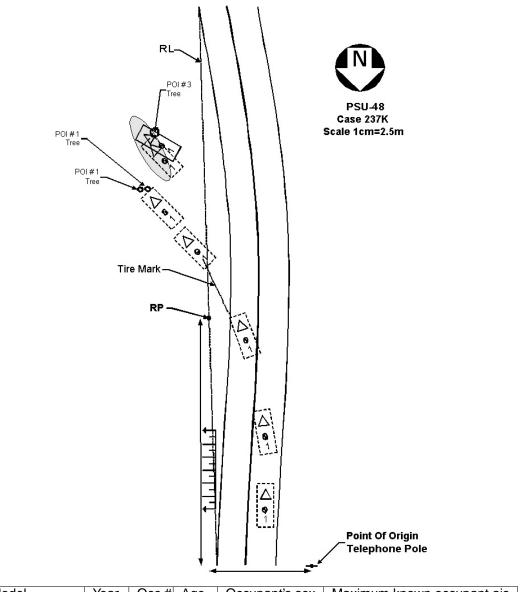
Occupant	2004-45-222-2-1
MAIS	4=Severe
Seat Position	Front left side

AIS Level	Injury Description	Contacts
2=Moderate 4=Severe	Clavicle fracture >3 rib fxs on one side & <3 other side & hemo-/pneumothorax	Belt webb/buckle Belt webb/buckle
4=Severe	Intracerebral hematoma, small (<30ccs)	Right interior
1=Minor	Abdominal skin contu- sion	Belt webb/buckle
1=Minor	Upper extremity skin contusion	Belt webb/buckle
1=Minor	Thoracic skin contu- sion	Belt webb/buckle
1=Minor	Leg skin contusion (hematoma)	Knee bolster
1=Minor	Facial skin laceration, minor	Right interior
1=Minor	Leg skin contusion (hematoma)	Transmiss lever
1=Minor	Scalp contusion	Right interior

### 21 Case 2004-48-237

### Summary:

V1, a 1997 Chevrolet Tahoe, was traveling southbound in the first lane of a two-lane, two-way, undivided, bituminous roadway, curving leftward. V1 crossed the northbound lane and departed the roadway to the left side, where the front of V1 impacted two trees, knocking them down. V1 deflected right and rotated away from the first impacts, and struck a third tree with its right side, where V1 came to rest. At rest, V1 experienced a major fire, which spread from the engine compartment rearward. V1 was towed due to damage. The restrained driver of V1 sustained incapacitating injuries and was transported to a trauma center and hospitalized. V1 was equipped with dual frontal airbags, which both deployed. V1 was also equipped with a supported EDR, from which data was recovered. )



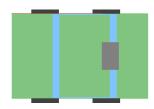
Vehic	le Body type	Make	Model	Year	Occ.#	Age	Occupant's sex	Maximum known occupant ais
1	LARGE UTILITY	Chevrolet	Fullsize Blazer	1997	1	35	MALE	3=Serious

### Occupant: 2004-48-237-1-1



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type Major fire Engine compart No fuel leakage Metallic Forward of rear axle, left side Left side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 999 999 999 999
Est. $\delta V$ with sequence number	>24 AND <40 KMPH 3
CDC	61 R Y A W 4
Damage (C1-C6)	000000
Crush (L and D)	0 0
Object Contacted 1	LARGE TREE
Object Contacted 2	SMALL TREE

### **NASS Weighting Factor**

Weighting factor

379.927

### **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic FlowNNumber of Travel LanesTRoadway AlignmentCRoadway ProfileLiRoadway Surface TypeARoadway Surface ConditionDLight ConditionsDAtmospheric ConditionsNRelation to IntersectionNTraffic Control DevicePolicePoliceReportedAlcohol Test (< 95 indicates</td>0BAC 0.xx)0

Not DIVIDED TWO CURVE LEFT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND NONINTER/NONJUNC

No ALCOHOL

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Chevrolet Fullsize Blazer 1997 TRUCK LARGE UTILITY 223

### **Pre-Crash Driver Data**

Accident Type	8
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event	OFF EDGE-LEFT
Attempted Avoidance Maneu-	STEERING LEFT
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	DEPARTED ROADWAY

Age	35	Height	180	Weight	104
Gender MALE					
Ejectio	n		No EJECTION		
Ejectio	n Area	No EJECTION			
Entrap	ment		Not ENTRAPPED		

Lap and shoulder
YES-RES DET
BAG DEPLOYED
DR
Not EQUIP W/ OTH

# Injuries

Occupant	2004-48-237-1-1
MAIS	3=Serious
Seat Position	Front left side

AIS Level	Injury Description	Contacts
3=Serious	Inhalation injury, minor (CO level<20 mg1=Minor	Facial skin abrasion
Flying glass	-	
1=Minor	Upper extremity skin abrasion	Belt webb/buckle
1=Minor	Upper extremity skin contusion	Belt webb/buckle
1=Minor	Thoracic skin abra- sion	Belt webb/buckle
1=Minor	Thoracic skin contu- sion	Belt webb/buckle
1=Minor	Abdominal skin contu- sion	Belt webb/buckle
1=Minor	Upper extremity skin abrasion	Left interior
1=Minor	Upper extremity skin contusion	Left interior
1=Minor	Leg skin contusion (hematoma)	Knee bolster

### 22Case 2004-48-298

### Summary:

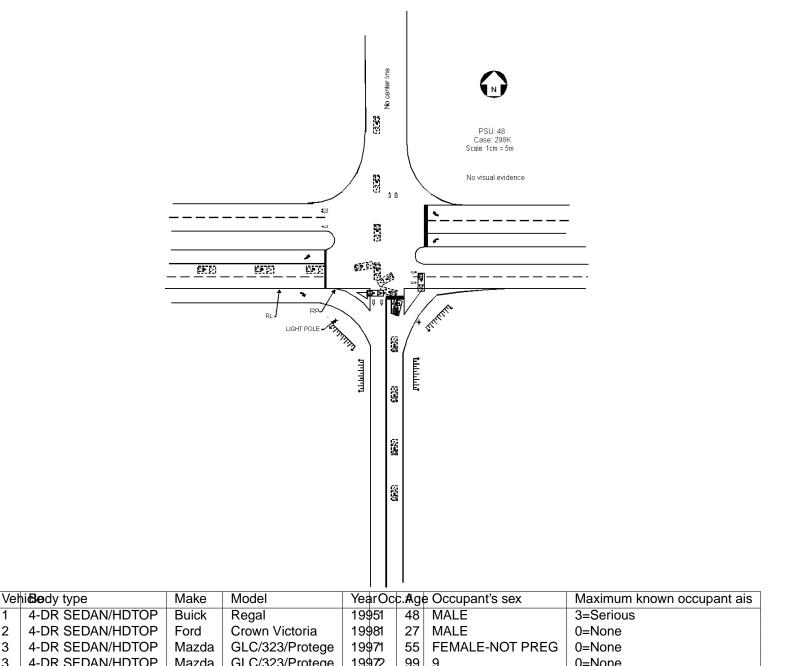
1

2

3

З

The crash occurred on six lane, asphalt, level, roadway with a grassy median dividing opposing traffic crossed by a two lane, asphalt roadway with no roadway dividers for opposing lanes of traffic. The road surfaces were wet and level. It was nighttime and the roadway was lighted. It was raining at the time of the crash. Vehicle one, a 1995 Buick Regal, was crossing the red light controlled intersection traveling south on the two lane roadway when its' right rear plane came into contact with the frontal plane of vehicle two, a 1998 Ford Crown Victoria Police Cruiser, which was traveling east in lane three of the six lane roadway. The Police cruiser was on an emergency run with the siren and lights activated. After vehicle one impacted with vehicle two it rotated clockwise 90 degrees and its' left rear plane came into contact with the frontal plane of vehicle three, a 1997 Mazda Prot?g?, which was stopped on the two lane roadway facing north. Vehicle one came to rest facing west in the intersection. Vehicle two came to rest facing north/east in the intersection and vehicle three came to rest facing north in its' original travel lane. All three vehicles were towed due to damage. Vehicle one was equipped with driver and passenger frontal airbags, which deployed from impact. The driver of vehicle one, restrained with lap and shoulder belts, was hospitalized with left femur and lower back fracture. Vehicle two was equipped with driver and passenger frontal airbags, which were reported deployed according to the PAR. The driver of vehicle two, restrained with lap and shoulder belts, was not reported injured. Vehicle three was equipped with driver and passenger frontal airbags, which deployed from impact. The driver and right front passenger, both restrained with lap and shoulder belts, were not reported injured.)



### Occupant: 2004-48-298-1-1



### **Fire Information**

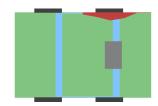
Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location

Fuel Tank Damage

Fuel Type

No fire No fire No fuel leakage Metallic Forward of rear axle, centered Left side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 999 999 999 999
Est. $\delta V$ with sequence num-	MODERATE 1
ber	
CDC	2 R B E W 3
Damage (C1-C6)	0 0 16 22 12 5
Crush (L and D)	135 -162
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	VEHICLE NO. 3

### **NASS Weighting Factor**

Weighting factor

824.779

### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic FlowNNumber of Travel LanesTRoadway AlignmentSRoadway ProfileLIRoadway Surface TypeARoadway Surface ConditionWLight ConditionsDAtmospheric ConditionsRRelation to IntersectionINTraffic Control DevicePolicePoliceReportedAlcohol Test (< 95 indicates</td>0BAC 0.xx)D

Not DIVIDED TWO STRAIGHT LEVEL ASPHALT WET DARK/LIGHTED RAIN INTERSECTION REL

No ALCOHOL

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Buick Regal 1995 PASSENGER CAR 4-DR SEDAN/HDTOP 151

### **Pre-Crash Driver Data**

Accident Type	90
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	CROSS OVER INTER
Attempted Avoidance Maneu-	No AVOIDANCE
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	48	Height	185	Weight	109
Gender MALE					
Ejectio	n	No EJECTION			
Ejection Area No EJECTION					
Entrapi	ment	Not ENTRAPPED			

Restrain AOPS	Lap and shoulder YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

# Injuries

Occupant	2004-48-298-1-1
MAIS	3=Serious
Seat Position	Front left side

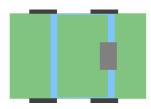
AIS Level	Injury Description	Contacts
3=Serious	Intertrochanteric femoral fracture	Knee bolster
2=Moderate	Lumbar fracture of transverse process	Left B pillar
2=Moderate	without cord injury Lumbar fracture of transverse process without cord injury	Left B pillar
2=Moderate	C-spine disk hernia- tion NFS	Other noncontact
1=Minor	Upper extremity skin abrasion	Left interior
1=Minor	Upper extremity skin contusion	Left interior

### Occupant: 2004-48-298-2-1



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire Unknown Metallic Behind rear axle, centered Left side, behind rear axle Unknown Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 999 999 999 999
Est. $\delta V$ with sequence number	MODERATE 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	99 9 9 9 9 9 99 0 0 0 0 0 0 0 0 0 VEHICLE NO. 1 0

### **NASS Weighting Factor**

Weighting factor

824.779

### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

DVDED/NO BARRIER FOUR STRAIGHT LEVEL ASPHALT WET DARK/LIGHTED RAIN INTERSECTION REL

No ALCOHOL

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Ford Crown Victoria 1998 PASSENGER CAR 4-DR SEDAN/HDTOP 175

### **Pre-Crash Driver Data**

Accident Type	90
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	XING ST-X PATH
Attempted Avoidance Maneu-	BRAKE+STEER LEFT
ver	
Pre-impact Stability	LONGITUDINAL SKID
Pre-impact Location	STAYED IN LANE

Age	27	Height	188	Weight	93
Gender			MALE		
Ejection			No EJE	ECTION	
Ejection	Area		No EJE	ECTION	
Entrapm	nent		Not EN	TRAPPED	

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	Unk IF DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS UNK DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

# Injuries

Occupant	2004-48-298-2-1
MAIS	0=None
Seat Position	Front left side

AIS Level Injury Description Contacts

### Occupant: 2004-48-298-3-1

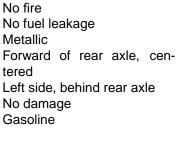


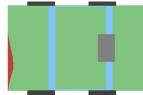
### **Fire Information**

No fire

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type





### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 24 -24 4
$\delta V$ Est. $\delta V$ with sequence number	DELTA V CODED 2
CDC	12 F Y E W 1
Damage (C1-C6)	0 7 17 14 7 1
Crush (L and D)	150 -18
Object Contacted 1	VEHICLE NO. 1
Object Contacted 2	0

### **NASS Weighting Factor**

Weighting factor

824.779

### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED TWO STRAIGHT LEVEL ASPHALT WET DARK/LIGHTED RAIN INTERSECTION REL

No ALCOHOL

# Vehicle Factors

Make-Model Year Class Body Type Weight Mazda GLC/323/Protege 1997 PASSENGER CAR 4-DR SEDAN/HDTOP 108

### **Pre-Crash Driver Data**

Accident Type98Pre-event MovementSTOPPED IN LANECritical Pre-crash EventOPP DIR-OVR LEFTAttempted Avoidance Maneu-<br/>ver99VerTRACKINGPre-impact StabilityTRACKINGPre-impact LocationSTAYED IN LANE

Age	55	Height	163	Weight	54
Gender	•		FEMAL	E-NOT PRE	G
Ejectior	า	No EJECTION			
Ejectior	n Area		No EJE	ECTION	
Entrapr	nent		Not EN	ITRAPPED	

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	BAG DEPLOYED
Seat	

# Injuries

Occupant	2004-48-298-3-1
MAIS	0=None
Seat Position	Front left side

AIS Level Injury Description Contacts

### Occupant: 2004-48-298-3-2

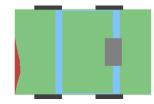


### **Fire Information**

No fire

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fuel leakage Metallic Forward of rear axle, centered Left side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 24 -24 4
$\delta V$ Est. $\delta V$ with sequence number	DELTA V CODED 2
CDC	12 F Y E W 1
Damage (C1-C6)	0 7 17 14 7 1
Crush (L and D)	150 -18
Object Contacted 1	VEHICLE NO. 1
Object Contacted 2	0

### **NASS Weighting Factor**

Weighting factor

824.779

### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED TWO STRAIGHT LEVEL ASPHALT WET DARK/LIGHTED RAIN INTERSECTION REL

No ALCOHOL

# Vehicle Factors

Make-Model Year Class Body Type Weight Mazda GLC/323/Protege 1997 PASSENGER CAR 4-DR SEDAN/HDTOP 108

### **Pre-Crash Driver Data**

Accident Type98Pre-event MovementSTOPPED IN LANECritical Pre-crash EventOPP DIR-OVR LEFTAttempted Avoidance Maneu-<br/>ver99VerTRACKINGPre-impact StabilityTRACKINGPre-impact LocationSTAYED IN LANE

### **PASSENGER Factors**

Age	99	Height	999	Weight	999
Gender			9		
Ejection		No EJECTION			
Ejection Area		No EJECTION			
Entrapment			Not EN	ITRAPPED	

Restrain	Lap and shoulder				
AOPS	YES-RES DET				
Airbag Deployment	BAG DEPLOYED				
Airbag Deployment - 1 <sup>st</sup> Seat	DR				
PAS BAG DEPLY					
Airbag Deployment - Oth	BAG DEPLOYED				
Seat					

# Injuries

Occupant	2004-48-298-3-2
MAIS	0=None
Seat Position	Front right side

AIS Level Injury Description Contacts

### $\mathbf{23}$ Case 2004-49-84

### Summary:

Vehid Beody type

LARGE PICKUP

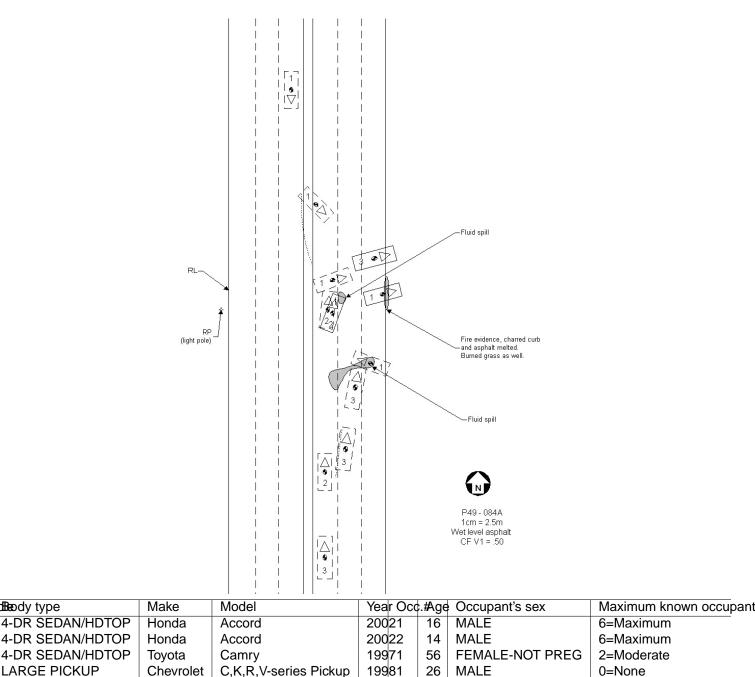
1

1

2

3

V1 was southbound in the third lane of a three-lane divided roadway (total six lanes with no positive barrier). V2 and V3 were northbound in the third lane of a three-lane divided (six lanes overall with no positive barrier) roadway, approaching V1. V1 lost traction on the wet surface and began to rotate counter- clockwise. V1 departed the road to the left and crossed the center median, into northbound traffic, where the front of V2 impacted the right side of V1. V1 rotated clockwise and entered the second lane. V3 moved into the second lane, where the front of V3 impacted V1's left side. V1 rotated clockwise further and impacted left of V1 to right of V3. V1 and V3 moved to final rest northeasterly. After final rest, V1 caught fire, sustaining major damage. All three vehicles were towed due to damage. All three vehicles were equipped with dual frontal airbags. V2 frontal bags deployed, V3 driver bag deployed. V3 was equipped with manual passenger-bag suppression switch in "off" position. V3 was also equipped with a supported EDR, data recovered. The driver of V1 was fatal at the scene with brain stem laceration, brain hemorrhage and third degree burns to back and legs. The front seat passenger was fatal at the scene with 100



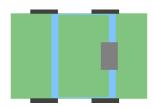
### Occupant: 2004-49-84-1-1



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type

Major fire 9 Unknown Unknown type Unknown Left side, behind rear axle Other damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 61 11 -60
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	99 R 9 9 9 99
Damage (C1-C6)	000000
Crush (L and D)	0 0
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	VEHICLE NO. 3

### **NASS Weighting Factor**

Weighting factor

11.174

### **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 0 BAC 0.xx)

**DVDED/NO BARRIER** THREE STRAIGHT LEVEL ASPHALT WET DARK/LIGHTED No ADVERSE COND NONINTER/NONJUNC

### **Vehicle Factors**

9

Make-Model Year Class Body Type Weight

Honda Accord 2002 PASSENGER CAR 4-DR SEDAN/HDTOP 142

### **Pre-Crash Driver Data**

Accident Type	64
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	POOR ROAD CONDIT
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	LAT SKID-CTR CLK
Pre-impact Location	Left TRAVEL LANE

Age	16	Height	165	Weight	55
Gende	r		MALE		
Ejectio	n		No EJE	CTION	
Ejectio	n Area		No EJE	CTION	
Entrapi	ment		JAMME	D DOOR/FI	RE

### AIS Level

			In	Con
Restrain AOPS Airbag Deployment Airbag Deployment - 1 <sup>st</sup> Seat Airbag Deployment - Oth	Lap and shoulder YES-RES DET NONDEPLOYED NONDEPLOYED BAG DEPLOYED		jury De- scrip tion	-
Seat		6=Maximum		Unknowi SOURC
Inju			er- a-	
Occupant MAIS Seat Position	2004-49-84-1-1 6=Maximum Front left side	5=Critical	tion Ceret	oldari knowi SOURCI
			small (<50c bi-	
		4=Severe	con-	Unknowi SOURCI
			tu- sion, bi- lat- eral	
		5=Critical	Burn, 2nd or 3rd	Cerebral sub- arach- noid hem-
			gree, 403=3 ri- ous	or- Sbage
		Unknown SOURCE		
		3=Serious		
		2=Moderate	Disloo of atlant	datikanowi SOURCI 0-
		2=Moderate	con- tu- sion, mi-	tidepatic lac- er- a- tion, mi-
			•	101

cap- (<3cms

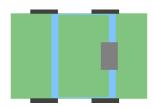
# Occupant: 2004-49-84-1-2



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type

Major fire 9 Unknown Unknown type Unknown Left side, behind rear axle Other damage Gasoline



# **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 61 11 -60
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	99 R 9 9 9 9 99 0 0 0 0 0 0 0 0 VEHICLE NO. 2 VEHICLE NO. 3

# **NASS Weighting Factor**

Weighting factor

11.174

### **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

# **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 0 BAC 0.xx)

**DVDED/NO BARRIER** THREE STRAIGHT LEVEL ASPHALT WET DARK/LIGHTED No ADVERSE COND NONINTER/NONJUNC

### **Vehicle Factors**

9

Make-Model Year Class Body Type Weight

Honda Accord 2002 PASSENGER CAR 4-DR SEDAN/HDTOP 142

# **Pre-Crash Driver Data**

Accident Type	64
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	POOR ROAD CONDIT
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	LAT SKID-CTR CLK
Pre-impact Location	Left TRAVEL LANE

#### **PASSENGER Factors**

Age	14	Height	160	Weight	51
Gende	r		MALE		
Ejectio	n		No EJE	CTION	
Ejectio	n Area		No EJE	CTION	
Entrap	ment		JAMME	D DOOR/FI	RE

#### AIS Level

Restrain AOPS Airbag Deployment Airbag Deployment - 1 <sup>st</sup> Seat Airbag Deployment - Oth Seat	99 YES-RES DET NONDEPLOYED NONDEPLOYED BAG DEPLOYED	6=Maximum	In- jury De- scri tion Burr
			2nd or
Inju	ries		3rd
Occupant	2004-49-84-1-2		de-
MAIS	6=Maximum		gree
Seat Position	Front right side		>90
			ri-
			ous
		Unknown SOURCE	440
		4=Severe	440
		4=Severe	Lung
			con-
			tu-
			sion
			bi-
			lat-
			eral
		3=Serious	Sac
			frac-
		2=Moderate	ture Pelv
		Z=INDUEIALE	frac
			ture
			clos
		2=Moderate	Нер
			con-
			tu-
			sion
			mi-
			nor
			(sub
			cap- su-
			lar,
			<50
			er-
			ate
		Splenic laceration, minor (tear<3cms deep, no major vessel)	Unk
			SOL
		1=Minor	Adre
			glan
			con-
			tu- sion
			mi-
			nor
		2=Moderate	Kidr
			con-
			tu-

sion

# Occupant: 2004-49-84-2-1

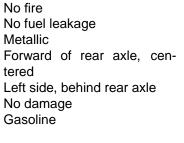


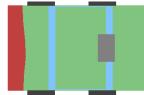
# **Fire Information**

No fire

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type





#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 65 -64 11
$\delta V$	00 04 11
Est. $\delta V$ with sequence num-	DELTA V CODED 1
ber	
CDC	12 F D E W 3
Damage (C1-C6)	46 48 53 51 45 43
Crush (L and D)	156 0
Object Contacted 1	VEHICLE NO. 1
Object Contacted 2	0

# **NASS Weighting Factor**

Weighting factor

11.174

#### **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

DVDED/NO BARRIER THREE STRAIGHT LEVEL ASPHALT WET DARK/LIGHTED No ADVERSE COND NONINTER/NONJUNC

No ALCOHOL

# Vehicle Factors

96

Make-Model Year Class Body Type Weight Toyota Camry 1997 PASSENGER CAR 4-DR SEDAN/HDTOP 135

# **Pre-Crash Driver Data**

Accident Type	65
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	OPP DIR-OVR LEFT
Attempted Avoidance Maneu-	No AVOIDANCE
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	56	Height	160	Weight	86
Gender FEMALE-NOT PREG			G		
Ejectior	า	No EJECTION			
Ejection Area No EJECTION					
Entrapr	nent		Not EN	ITRAPPED	

Restrain AOPS	Lap and shoulder YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-49-84-2-1
MAIS	2=Moderate
Seat Position	Front left side

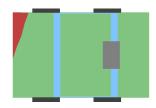
AIS Level	Injury Description	Contacts
2=Moderate	Rib cage fracture NFS	Steering comb
1=Minor	Upper extremity skin laceration, minor	Windshield
1=Minor	Leg skin contusion (hematoma)	Knee bolster
1=Minor	Leg skin contusion (hematoma)	Foot controls
1=Minor	297402	Air bag-DR side
1=Minor	Upper extremity skin contusion	Belt webb/buckle
1=Minor	Abdominal skin contu- sion	Belt webb/buckle

# Occupant: 2004-49-84-3-1



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, left side Left side, forward rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 37 -37 < 0.5 KMPH
Est. $\delta V$ with sequence number	DELTA V CODED 2
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	12 F Z E W 2 0 1 12 26 34 46 186 34 VEHICLE NO. 1 VEHICLE NO. 1

### **NASS Weighting Factor**

Weighting factor

11.174

### **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

# **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

DVDED/NO BARRIER THREE STRAIGHT LEVEL ASPHALT WET DARK/LIGHTED No ADVERSE COND NONINTER/NONJUNC

No ALCOHOL

# **Vehicle Factors**

Make-Model

Year Class Body Type Weight Chevrolet C,K,R,V-series Pickup 1998 TRUCK LARGE PICKUP 194

### **Pre-Crash Driver Data**

Accident Type	98
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	OPP DIR-OVR LEFT
Attempted Avoidance Maneu-	BRAKE+STEER RT
ver	
Pre-impact Stability	LONGITUDINAL SKID
Pre-impact Location	Left TRAVEL LANE

Age	26	Height	178	Weight	84
Gende	r		MALE		
Ejectio	n		No EJE	CTION	
Ejectio	n Area		No EJE	CTION	
Entrapi	ment		Not ENTRAPPED		

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	ONLY DR BAG DEPL
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

# Injuries

Occupant	2004-49-84-3-1
MAIS	0=None
Seat Position	Front left side

AIS Level Injury Description Contacts

#### $\mathbf{24}$ Case 2004-49-221

#### Summary:

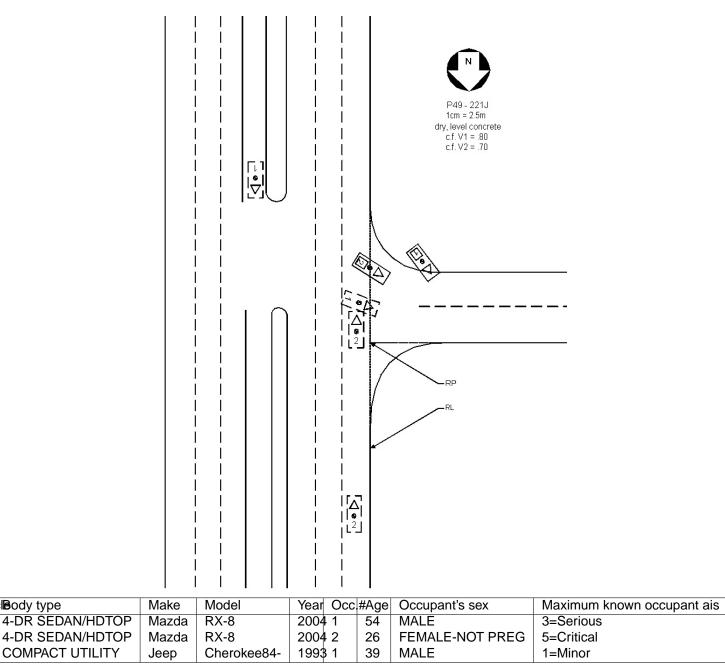
Vehicleody type

1

1

2

V1, a late-model-year vehicle, was traveling northbound in the fourth lane of a four-lane, divided (seven lanes overall, no positive barrier) trafficway, about to turn left at an intersection. V2 was traveling southbound in the first lane of a three-lane divided (seven lanes overall, no positive barrier) traffic way, approaching the same intersection. As V1 made its turn, the front of V2 impacted the right side of V1. Both vehicles rotated clockwise as they moved southwest. V1 departed the road and came to rest on the southwest curb, causing damage to the left rear wheel. V2 came to rest in the first southbound lane. Both vehicles were towed due to damage. The restrained right front passenger of V1 sustained incapacitating injuries and was transported and hospitalized. The drivers of V1 and V2 sustained minor injuries and sought treatment later. V1 was equipped with dual frontal, side, and head curtain airbags. The seat mounted side and side curtain bags deployed. V2 was equipped with driver airbag, which also deployed.)



#### Occupant: 2004-49-221-1-1

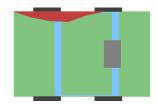


# **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type

No fire No fire No fuel leakage Non-metallic Forward of rear axle, centered Left side, behind rear axle No damage Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 27 -17 -21
$\delta V$ Est. $\delta V$ with sequence num-	DELTA V CODED 1
ber	
CDC	2 R Y A W 3
Damage (C1-C6)	0 11 29 27 17 0
Crush (L and D)	288 6
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	CURB

# **NASS Weighting Factor**

Weighting factor

9.457

### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes FOUR Roadway Alignment STRAIGHT **Roadway Profile** LEVEL Roadway Surface Type Roadway Surface Condition DRY Light Conditions DAYLIGHT Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 97 BAC 0.xx)

**DVDED/NO BARRIER** CONCRETE No ADVERSE COND INTERCHANGE REL

ALCOHOL PRESENT

# **Vehicle Factors**

Make-Model Year Class Body Type Weight

Mazda RX-8 2004 PASSENGER CAR 4-DR SEDAN/HDTOP 142

# **Pre-Crash Driver Data**

Accident Type	68
Pre-event Movement	TURNING LEFT
Critical Pre-crash Event	TURN LEFT-INTERS
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	9
Pre-impact Location	STAYED IN LANE

Age	54	Height	183	Weight	91
Gender	•		MALE		
Ejectior	า		No EJE	CTION	
Ejectior	n Area		No EJE	CTION	
Entrapr	nent		Not ENTRAPPED		

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	BAG DEPLOYED
Seat	

Occupant	2004-49-221-1-1
MAIS	3=Serious
Seat Position	Front left side

AIS Level	Injury Description	Contacts
3=Serious	Lung injury NFS	Unknown SOURCE

#### Occupant: 2004-49-221-1-2

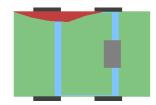


# **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type

No fire No fire No fuel leakage Non-metallic Forward of rear axle, centered Left side, behind rear axle No damage Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 27 -17 -21	
$\delta V$ Est. $\delta V$ with sequence num-	DELTA V CODED 1	
ber		
CDC	2 R Y A W 3	
Damage (C1-C6)	0 11 29 27 17 0	
Crush (L and D)	288 6	
Object Contacted 1	VEHICLE NO. 2	
Object Contacted 2	CURB	

### **NASS Weighting Factor**

Weighting factor

9.457

#### **Rollover Characteristics**

Number of Events	2		
Rollover Initiation Type	No rollover		
Location of Rollover Initiation	No rollover		
Rollover Initiation Object	No rollover		
Contacted			
Location on Vehicle where	No rollover		
Principal Tripping Force was			
Applied			
Direction of Initial Roll	No rollover		

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes FOUR Roadway Alignment STRAIGHT **Roadway Profile** LEVEL Roadway Surface Type Roadway Surface Condition DRY Light Conditions DAYLIGHT Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol ALCOHOL PRESENT Presence Alcohol Test (< 95 indicates 97 BAC 0.xx)

**DVDED/NO BARRIER** CONCRETE No ADVERSE COND INTERCHANGE REL

# **Vehicle Factors**

Make-Model Year Class Body Type Weight

Mazda RX-8 2004 PASSENGER CAR 4-DR SEDAN/HDTOP 142

# **Pre-Crash Driver Data**

Accident Type	68
Pre-event Movement	TURNING LEFT
Critical Pre-crash Event	TURN LEFT-INTERS
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	9
Pre-impact Location	STAYED IN LANE

#### **PASSENGER Factors**

Age	26	Height	175	Weight	77
Gender FEMALE-NOT PREG				G	
Ejection	n		No EJECTION		
Ejection Area N		No EJECTION			
Entrapn	Entrapment ENTRAPPED				

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	BAG DEPLOYED
Seat	

Occupant	2004-49-221-1-2
MAIS	5=Critical
Seat Position	Front right side

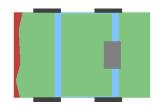
AIS Level	Injury Description	Contacts
4=Severe	Cerebral subdural hematoma, small (<50ccs)	OMV hood edge
3=Serious	Cerebral subarach- noid hemorrhage	OMV hood edge
3=Serious	540640	Right interior
3=Serious	Pelvic fracture,	Right interior
	open/displaced/commin	uted
2=Moderate	Pelvic fracture, closed	Transmiss lever
5=Critical	Unconscious on	OMV hood edge
	admission, inappro-	
	priate movements	
1=Minor	Upper extremity skin laceration, minor	Right hardware
1=Minor	Leg skin contusion (hematoma)	Right interior

#### Occupant: 2004-49-221-2-1



# **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Behind rear axle, centered Left side, behind rear axle No damage Gasoline



# **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 24 -23 8
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	11 F D E W 2 18 6 19 17 14 25 160 0 VEHICLE NO. 1 0

# **NASS Weighting Factor**

Weighting factor

9.457

### **Rollover Characteristics**

Number of Events	2			
Rollover Initiation Type	No rollover			
Location of Rollover Initiation	No rollover			
Rollover Initiation Object	No rollover			
Contacted				
Location on Vehicle where	No rollover			
Principal Tripping Force was				
Applied				
Direction of Initial Roll	No rollover			

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

DVDED/NO BARRIER THREE STRAIGHT LEVEL CONCRETE DRY DAYLIGHT No ADVERSE COND INTERCHANGE REL

No ALCOHOL

# Vehicle Factors

Make-Model Year Class Body Type Weight Jeep Cherokee84-1993 TRUCK COMPACT UTILITY 167

# **Pre-Crash Driver Data**

Accident Type	69
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	OPP DIR-OVR LEFT
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	9
Pre-impact Location	STAYED IN LANE

Age	39	Height	170	Weight	73
Gender	ſ		MALE		
Ejectio	n		No EJE	CTION	
Ejection Area		No EJECTION			
Entrapr	ment		Not EN	TRAPPED	

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR BAG DEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-49-221-2-1
MAIS	1=Minor
Seat Position	Front left side

AIS Level	Injury Description	Contacts
1=Minor	Thoracic spine strain, acute without fracture or dislocation	Belt webb/buckle
1=Minor	Acute cervical spine strain without fracture or dislocation	Belt webb/buckle

#### 25Case 2004-49-260

#### Summary:

1

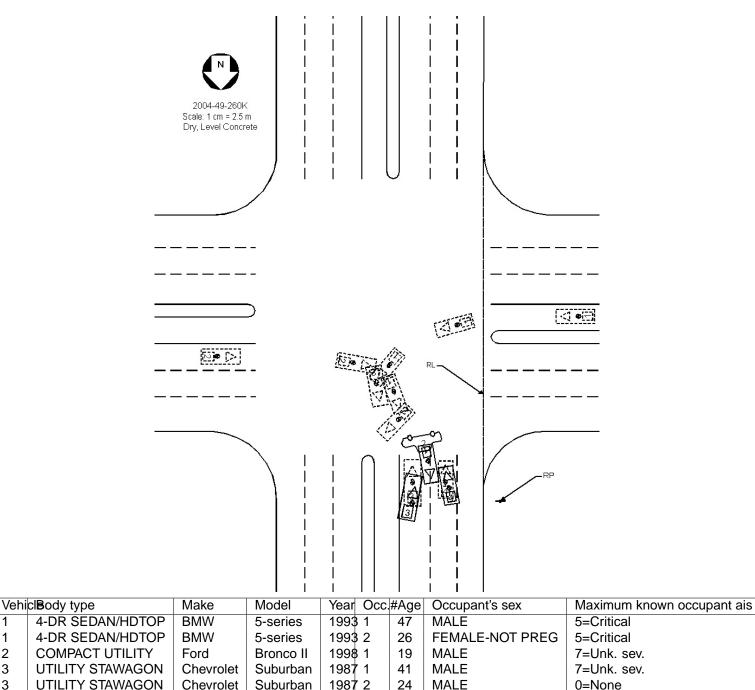
1

2

3

3

V1, a 1993 BMW M5, was traveling east in the fourth lane of a four-lane, divided (seven lanes overall, divided by raised median), concrete roadway, turning left at an intersection. V2, a 1998 Ford Explorer, was traveling west in the third lane of opposing traffic, approaching the same intersection. V3, a 1987 Chevrolet Suburban, and V4, a 2002 Mitsubishi Montero, were stopped facing southbound at the same intersection in the third and second lanes, respectively. As V1 made its turn, the front of V2 impacted the right side of V1. V1 and V2 rotated towards each other, and the left side of V2 impacted the right side of V1 in a "sideslap" configuration. V1 deflected northwest and the front of V1 impacted the front of V3. V1 continued northwest, and the left side of V1 sideswiped the left side of V4, where V1 came to rest. V2 rotated clockwise from impact and moved northwest. V2 tripped and rolled towards its left side, but the roll was arrested by V1 at final rest. V2 came to rest with its left side in contact with V1's back and trunk lid. V1, V2 and V3 were towed due to damage. V4 was driven from the scene. The restrained driver of V1 was hospitalized with brain contusion and hemorrhage as well as lung contusion and neck fracture. The right front passenger was hospitalized with multiple skull fracture and massive brain injury. The restrained drivers of V2 and V3 were injured and refused transport. V1 was equipped with a first-generation driver's frontal airbag, which deployed. Safety equipment and status of the other vehicles is unknown.)

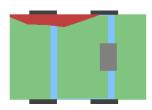


#### Occupant: 2004-49-260-1-1



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Behind rear axle, centered Right side, behind rear axle No damage Gasoline



# **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 21 -18 -11
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	1 R Y A W 3 0 18 36 30 28 6 217 20 VEHICLE NO. 2 VEHICLE NO. 3

# **NASS Weighting Factor**

Weighting factor

8.788

### **Rollover Characteristics**

Number of Events	5
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

# **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

DVDED/NO BARRIER FOUR STRAIGHT LEVEL CONCRETE DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

# **Vehicle Factors**

Make-Model Year Class Body Type Weight BMW 5-series 1993 PASSENGER CAR 4-DR SEDAN/HDTOP 173

# **Pre-Crash Driver Data**

Accident Type	68
Pre-event Movement	TURNING LEFT
Critical Pre-crash Event	OPP DIR-OVR RGHT
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	9
Pre-impact Location	STAYED IN LANE

Age	47	Height	180	Weight	68
Gender			MALE		
Ejection			No EJE	ECTION	
Ejection	on Area No EJECTION				
Entrapm	ient		Not EN	ITRAPPED	

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR BAG DEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-49-260-1-1
MAIS	5=Critical
Seat Position	Front left side

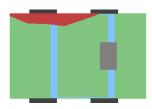
AIS Level	Injury Description	Contacts
5=Critical	Unconscious on admission, inappro- priate movements	Center panel
3=Serious	Cerebral contusions, multiple, unilateral, small (<30ccs)	Center panel
3=Serious	Cerebral subarach- noid hemorrhage	Center panel
4=Severe	Cerebral subdural hematoma, small (<50ccs)	Center panel
4=Severe	Cerebral intraventric- ular hemorrhage	Center panel
2=Moderate	Cervical transverse process fracture, no cord injury	Center panel
3=Serious	Lung contusion, uni- lateral	Steering comb
3=Serious	Pharyngeal laceration without perforation, mucosal tear	Steering rim
1=Minor	Scalp abrasion	Center panel
1=Minor	Scalp laceration, mi- nor	Center panel

#### Occupant: 2004-49-260-1-2



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Behind rear axle, centered Right side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 21 -18 -11
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	1 R Y A W 3 0 18 36 30 28 6 217 20 VEHICLE NO. 2 VEHICLE NO. 3

# **NASS Weighting Factor**

Weighting factor

8.788

### **Rollover Characteristics**

Number of Events	5
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

DVDED/NO BARRIER FOUR STRAIGHT LEVEL CONCRETE DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

# Vehicle Factors

Make-Model Year Class Body Type Weight BMW 5-series 1993 PASSENGER CAR 4-DR SEDAN/HDTOP 173

# **Pre-Crash Driver Data**

Accident Type	68
Pre-event Movement	TURNING LEFT
Critical Pre-crash Event	OPP DIR-OVR RGHT
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	9
Pre-impact Location	STAYED IN LANE

#### **PASSENGER Factors**

Age	26	Height	999	Weight	999
Gender			FEMA	LE-NOT PRE	G
Ejection			No EJI	ECTION	
Ejection	Area		No EJI	ECTION	
Entrapm	ent		Not ENTRAPPED		

Restrain AOPS Airbag Deployment Airbag Deployment - 1st SeatDR BAG DEPLOYEDAirbag Deployment - OthNot EQUIP W/ OTH Seat

# Injuries

Occupant MAIS Seat Position

2004-49-260-1-2 5=Critical Front right side

Lap and shoulder

Not EQUIP/AVAIL

YES-RES DET

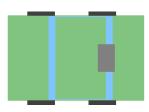
AIS Level	Injury Description	Contacts
5=Critical	Brainstem com- pression (includes herniation)	Right A pillar
5=Critical	Brain stem hemor- rhage	Right A pillar
3=Serious	Cerebellar subarach- noid hemorrhage	Right A pillar
3=Serious	Cerebral contusions, multiple, unilateral, small (<30ccs)	Right A pillar
3=Serious	Cerebral subarach- noid hemorrhage	Right A pillar
3=Serious	Cerebral subarach- noid hemorrhage	Right A pillar
4=Severe	Cerebral subdural hematoma, small (<50ccs)	Right A pillar
5=Critical	Cerebral brain swelling, severe	Right A pillar
5=Critical	Cerebral brain swelling, severe	Right A pillar
3=Serious	Cerebral pneumo- cephalus	Right A pillar
3=Serious	Skull fracture, vault, comminuted (com-	Right A pillar
3=Serious	pound, depressed) Skull fracture, vault, comminuted (com- pound, depressed)	Right A pillar
3=Serious	Orbit fracture, open/displaced/commir	Right A pillar
4=Severe	Lung contusion, bilat- eral	
3=Serious	2-3 rib fractures with stable chest and hemo-/pneumothorax	Right interior
3=Serious	Pelvic fracture, open/displaced/commir	Right hardware
2=Moderate	Pelvic fracture, closed	Right hardware
2=Moderate	Clavicle fracture	Right interior
5=Critical	Internal carotid artery laceration	Right A pillar
2=Moderate	Thoracic transverse process fracture without cord injury	Right interior
1=Minor	Scalp laceration, mi-	Right A pillar
1=Minor	Facial skin laceration, minor	Right A pillar
1=Minor	Facial skin abrasion	Right A pillar
1=Minor	Facial skin abrasion	Right A pillar
1=Minor	Facial skin laceration, minor	Right A pillar
1=Minor	Neck skin contusion	Belt webb/buckle
1=Minor	(hematoma) Neck skin laceration, minor	Belt webb/buckle
	minor	

# Occupant: 2004-49-260-2-1



# **Fire Information**

Fire Occurence	No data
Fire Origin	No data
Location of Fuel Leakage	No data
Type of Fuel Tank	No data
Fuel Tank Location	No data
Fuel Cap Location	No data
Fuel Tank Damage	No data
Fuel Type	No data



# **Crash Severity**

Nr. Quarter Turns Impact Speed	No rollover 998
Total, Longitudal, and Lateral $\delta V$	21 -18 11
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	No data No data No data No
Damage (C1-C6)	data No data No data No data No data No
	data No data No data
Crush (L and D)	No data No data
Object Contacted 1	No data
Object Contacted 2	No data

## **NASS Weighting Factor**

Weighting factor

8.788

# **Rollover Characteristics**

Number of Events Rollover Initiation Type Location of Rollover Initiation	5 No rollover No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	N
Direction of Initial Roll	No rollover

# **Pre-Crash Environment**

Traffic Flow	DVDED/NO BARRIER
Number of Travel Lanes	FOUR
Roadway Alignment	STRAIGHT
Roadway Profile	LEVEL
Roadway Surface Type	CONCRETE
Roadway Surface Condition	DRY
Light Conditions	DAYLIGHT
Atmospheric Conditions	No ADVERSE COND
Relation to Intersection	INTERSECTION REL
Traffic Control Device	
Police Reported Alcohol	No ALCOHOL
Presence	
Alcohol Test (< 95 indicates	96
BAC 0.xx)	

# **Vehicle Factors**

Make-Model Year Class Body Type Weight Ford Bronco II 1998 TRUCK COMPACT UTILITY 182

# **Pre-Crash Driver Data**

Accident Type69Pre-event MovementGOING STRAIGHTCritical Pre-crash EventCROSS OVER INTERAttempted Avoidance Maneu-99verPre-impact Stability9STAYED IN LANE

# **DRIVER Factors**

Age	19	Height	180	Weight	58
Gender			MALE		
Ejection			No EJE	ECTION	
Ejection	Area		No EJE	CTION	
Entrapm	ent		9		

# **Restraint Factors**

Restrain	99
AOPS	VIN DET AIR BAG
Airbag Deployment	9
Airbag Deployment - 1 <sup>st</sup> Seat	9
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

# Injuries

Occupant	2004-49-260-2-1
MAIS	7=Unk. sev.
Seat Position	Front left side

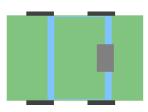
# AIS Level Injury Description Contacts

# Occupant: 2004-49-260-3-1



# **Fire Information**

Fire Occurence	No data
Fire Origin	No data
Location of Fuel Leakage	No data
Type of Fuel Tank	No data
Fuel Tank Location	No data
Fuel Cap Location	No data
Fuel Tank Damage	No data
Fuel Type	No data



# **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 999 999 999 999
Est. $\delta V$ with sequence num-	9 99
ber	
CDC	No data No data No data No
Damage (C1-C6)	data No data No data No data No data No data No data No data No data
Crush (L and D)	No data No data
Object Contacted 1	No data
Object Contacted 2	No data

# **NASS Weighting Factor**

Weighting factor

8.788

# **Rollover Characteristics**

Number of Events	5
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

# **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes	DVDED/NO BARRIER FOUR
Roadway Alignment	STRAIGHT
Roadway Profile	LEVEL
Roadway Surface Type	CONCRETE
Roadway Surface Condition	DRY
Light Conditions	DAYLIGHT
Atmospheric Conditions	No ADVERSE COND
Relation to Intersection	INTERSECTION REL
Traffic Control Device	
Police Reported Alcohol	No ALCOHOL
Presence	
Alcohol Test (< 95 indicates	96
BAC 0.xx)	

# **Vehicle Factors**

Make-Model Year Class Body Type Weight Chevrolet Suburban 1987 TRUCK UTILITY STAWAGON 191

# **Pre-Crash Driver Data**

Accident Type Pre-event Movement Critical Pre-crash Event Attempted Avoidance Maneuver Pre-impact Stability Pre-impact Location

98 STOPPED IN LANE OPP DIR-OVR LEFT No AVOIDANCE

TRACKING STAYED IN LANE

# **DRIVER Factors**

Age	41	Height	175	Weight	86
Gender			MALE		
Ejection			No EJE	ECTION	
Ejection	Area		No EJE	ECTION	
Entrapm	nent		9		

# **Restraint Factors**

Restrain	99
AOPS	NO
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	Not EQUIP/AVAIL
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

# Injuries

Occupant	2004-49-260-3-1
MAIS	7=Unk. sev.
Seat Position	Front left side

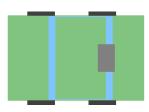
# AIS Level Injury Description Contacts

# Occupant: 2004-49-260-3-2



# **Fire Information**

Fire Occurence	No data
Fire Origin	No data
Location of Fuel Leakage	No data
Type of Fuel Tank	No data
Fuel Tank Location	No data
Fuel Cap Location	No data
Fuel Tank Damage	No data
Fuel Type	No data



# **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 999 999 999 999
Est. $\delta V$ with sequence num-	9 99
ber	
CDC	No data No data No data No
Damage (C1-C6)	data No data No data No data No data No data No data No data No data
Crush (L and D)	No data No data
Object Contacted 1	No data
Object Contacted 2	No data

# **NASS Weighting Factor**

Weighting factor

8.788

# **Rollover Characteristics**

Number of Events Rollover Initiation Type Location of Rollover Initiation	5 No rollover No rollover
Rollover Initiation Object	No rollover
Contacted Location on Vehicle where Principal Tripping Force was	No rollover
Applied Direction of Initial Roll	No rollover

# **Pre-Crash Environment**

Traffic Flow	DVDED/NO BARRIER
Number of Travel Lanes	FOUR
Roadway Alignment	STRAIGHT
Roadway Profile	LEVEL
Roadway Surface Type	CONCRETE
Roadway Surface Condition	DRY
Light Conditions	DAYLIGHT
Atmospheric Conditions	No ADVERSE COND
Relation to Intersection	INTERSECTION REL
Traffic Control Device	
Police Reported Alcohol	No ALCOHOL
Presence	
Alcohol Test (< 95 indicates	96
BAC 0.xx)	

# **Vehicle Factors**

Make-Model Year Class Body Type Weight Chevrolet Suburban 1987 TRUCK UTILITY STAWAGON 191

# **Pre-Crash Driver Data**

Accident Type Pre-event Movement Critical Pre-crash Event Attempted Avoidance Maneuver Pre-impact Stability Pre-impact Location

98 STOPPED IN LANE OPP DIR-OVR LEFT No AVOIDANCE

TRACKING STAYED IN LANE

# **PASSENGER** Factors

Age	24	Height	999	Weight	999
Gender	Gender MALE				
Ejection			No EJECTION		
Ejection /	Area		No EJE	ECTION	
Entrapme	ent		9		

# **Restraint Factors**

Restrain	99
AOPS	NO
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	Not EQUIP/AVAIL
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

# Injuries

Occupant	2004-49-260-3-2
MAIS	0=None
Seat Position	Front right side

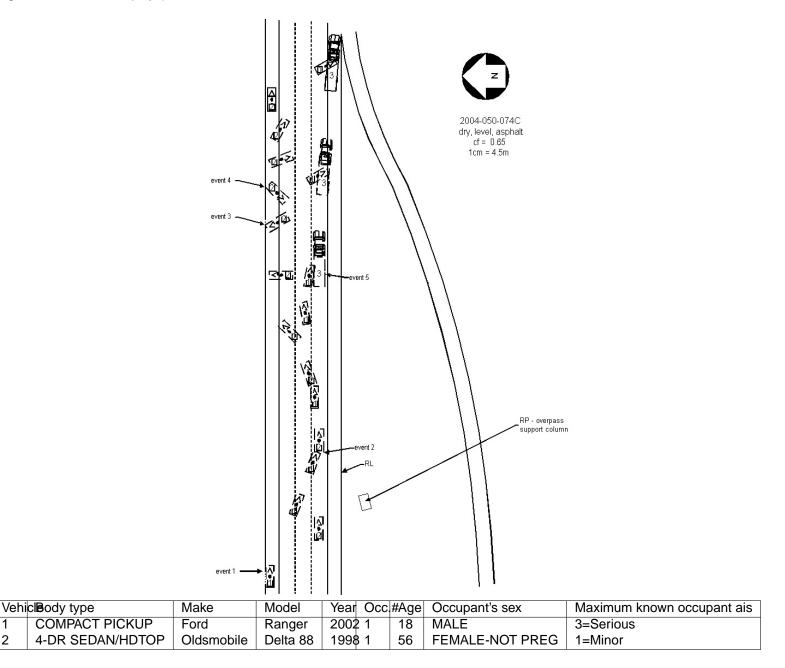
AIS Level Injury Description Contacts

#### $\mathbf{26}$ Case 2004-50-74

#### Summary:

1 2

Vehicle 1 (a 2002 Ford Ranger) was eastbound on a three-lane, divided, level asphalt state highway. Vehicle 2 (a 1998 Oldsmobile Delta 88) and vehicle 3 (a 1999 International 8100 tractor-trailer) were eastbound in lane one of the same roadway. Vehicle 1 traveled off the left side of the roadway and the left side struck the median concrete wall. Vehicle 1 then moved across the roadway into lane one, and the front of vehicle 1 struck the back of vehicle 2. Vehicle 2 rotated counterclockwise, moving across the roadway and the front then the back struck the median concrete wall. Vehicle 2 came to rest on the shoulder facing east. Vehicle 1 continued east, rotating clockwise, and the right side struck the left side of the trailer of Vehicle 3. Vehicle 1 continued traveling until it was under vehicle 3's trailer. Vehicles 1 and 3 came to rest off the right side of the highway. Vehicles 1 and 2 were towed due to damage. The restrained driver of vehicle 1 was hospitalized overnight for observation of loss of consciousness and released with contusions. The restrained driver of vehicle 2 was treated later for minor contusion. The air bags in vehicle 1 did not deploy, the air bags in vehicle 2 did deploy. )



# Occupant: 2004-50-74-1-1



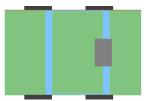




# **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type

No fire No fire No fuel leakage Non-metallic Forward of rear axle, left side Left side, forward rear axle No damage Gasoline



# **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 999 999 999 999
Est. $\delta V$ with sequence number	9 5
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	99 R D A W 99 0 0 0 0 0 0 0 0 VEHICLE NO. 3 VEHICLE NO. 2

# **NASS Weighting Factor**

Weighting factor

5.442

# **Rollover Characteristics**

Number of Events	5		
Rollover Initiation Type	No rollover		
Location of Rollover Initiation	No rollover		
Rollover Initiation Object	No rollover		
Contacted			
Location on Vehicle where	No rollover		
Principal Tripping Force was			
Applied			
Direction of Initial Roll	No rollover		

## **Pre-Crash Environment**

DVDED/W/BARRIER THREE STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERCHANGE REL ALCOHOL PRESENT

# **Vehicle Factors**

34

Make-Model Year Class Body Type Weight Ford Ranger 2002 TRUCK COMPACT PICKUP 140

# **Pre-Crash Driver Data**

Accident Type	6
Pre-event Movement	CHANGING LANES
Critical Pre-crash Event	OFF EDGE-LEFT
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	9
Pre-impact Location	DEPARTED ROADWAY

# **DRIVER Factors**

Age	18	Height	160	Weight	73
Gender	r		MALE		
Ejection No EJECTION					
Ejection	n Area		No EJE	CTION	
Entrapr	ment		Not EN	TRAPPED	

# **Restraint Factors**

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-50-74-1-1
MAIS	3=Serious
Seat Position	Front left side

AIS Level	Injury Description	Contacts
3=Serious	Unconscious on ad- mission, length <1 hour	Unknown SOURCE
1=Minor	Facial skin laceration,	Unknown SOURCE
1 Minor	minor	
1=Minor	Scalp laceration, mi- nor	Unknown SOURCE
1=Minor	Thoracic skin abrasion	Belt webb/buckle
1=Minor	Upper extremity skin	Belt webb/buckle
	abrasion	
1=Minor	Upper extremity skin abrasion	Unknown SOURCE

#### Occupant: 2004-50-74-2-1

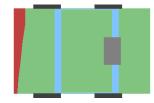


## **Fire Information**

No fire

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fuel leakage Metallic Forward of rear axle, centered Left side, behind rear axle No damage Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed	No rollover 998
Total, Longitudal, and Lateral	25 -24 -9
$\delta V$	
Est. $\delta V$ with sequence num-	DELTA V CODED 3
ber	
CDC	1 F D E W 2
Damage (C1-C6)	10 14 20 26 33 33
Crush (L and D)	162 0
Object Contacted 1	CONCRETE BARRIER
Object Contacted 2	VEHICLE NO. 1

### NASS Weighting Factor

Weighting factor

5.442

#### **Rollover Characteristics**

Number of Events	5
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

DVDED/W/BARRIER THREE STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERCHANGE REL

No ALCOHOL

#### **Vehicle Factors**

Make-Model Year Class Body Type Weight Oldsmobile Delta 88 1998 PASSENGER CAR 4-DR SEDAN/HDTOP 157

# **Pre-Crash Driver Data**

Accident Type	98
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	Same DIR-OV LEFT
Attempted Avoidance Maneu-	No AVOIDANCE
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	56	Height	152	Weight	81
Gender FEMALE-NOT PREG				G	
Ejection No EJECTION					
Ejection Area No EJECTION					
Entrapment Not ENTRAPPED					

Lap and shoulder
YES-RES DET
BAG DEPLOYED
DR
Not EQUIP W/ OTH

Occupant	2004-50-74-2-1
MAIS	1=Minor
Seat Position	Front left side

AIS Level	Injury Description	Contacts
1=Minor	Thoracic skin contu- sion	Belt webb/buckle
1=Minor	Leg skin contusion (hematoma)	Knee bolster

#### 27Case 2004-74-55

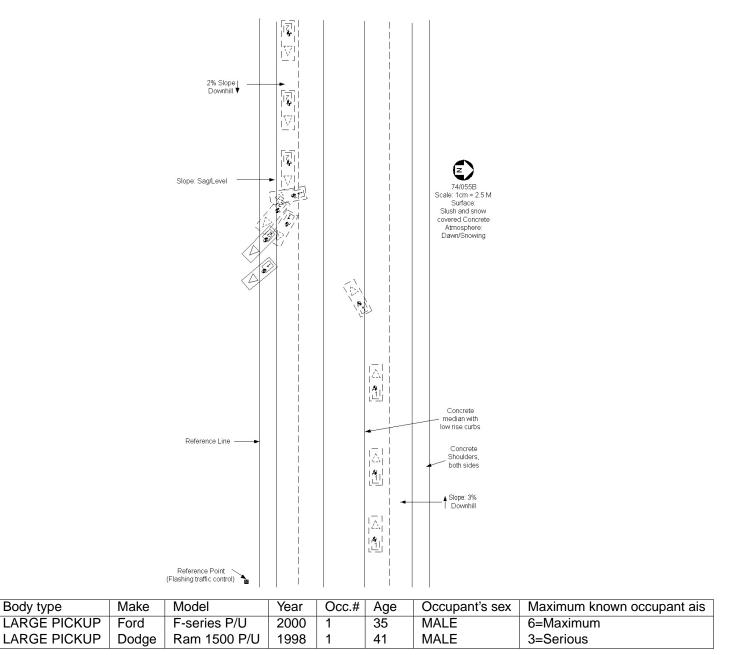
#### Summary:

Vehicle Body type

1

2

Vehicle 1, a 2000 Ford F250, was westbound in lane 2 of a 4 lane, median divided, downhill, slush covered, concrete roadway. Vehicle 2, 1998 Dodge Ram, was eastbound in lane 1 of the same roadway, also traveling downhill. It was approximately dawn and it was snowing. Vehicle 1 lost control and crossed the median, entering westbound lanes. The front end of Vehicle 2 struck vehicle 1s' right side. Both vehicles moved towards the east and the south shoulder as they side-slapped. Vehicle 1 came to rest off the side of the shoulder facing southwest. Vehicle 2 came to rest over the shoulder facing southeast. Both vehicles were towed due to damage. Driver of vehicle 1 was restrained by lap and shoulder belts. V1 was equipped with redesigned airbags which did not deploy. RF airbag switch was in "on" position. Driver of vehicle 2 was restrained by lap and shoulder belts. Retractor type pretensioners fired in both the LF and RF positions. Vehicle 2 was equipped with redesigned airbags which did deploy. RF airbag switch was in "on" position. The restrained driver of vehicle 1 was fatal at the scene with fracture-dislocation of the neck and laceration of the pontine-medullary junction of brain stem. The restrained driver of vehicle 2 was hospitalized with both bone lower leg fracture.)



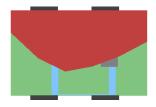
#### Occupant: 2004-74-55-1-1



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type

No fire No fire No fuel leakage Non-metallic Forward of rear axle, left side Left side, forward rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 74 < 0.5 KMPH -74
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	63 R D A W 8
Damage (C1-C6)	91 133 163 178 140 64
Crush (L and D)	266 -41
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	VEHICLE NO. 2
Damage (C1-C6) Crush (L and D) Object Contacted 1	91 133 163 178 140 64 266 -41 VEHICLE NO. 2

# **NASS Weighting Factor**

Weighting factor

7.980

#### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 0 BAC 0.xx)

**DVDED/NO BARRIER** TWO STRAIGHT DOWNHILL GRADE CONCRETE SNOW OR SLUSH DAWN SNOW NONINTER/NONJUNC

# **Vehicle Factors**

9

Make-Model Year Class Body Type Weight

Ford F-series P/U 2000 TRUCK LARGE PICKUP 260

# **Pre-Crash Driver Data**

Accident Type	66
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	POOR ROAD CONDIT
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	LAT SKID-CTR CLK
Pre-impact Location	DEPARTED ROADWAY

Age	35	Height	170	Weight	77
Gende	Gender MALE				
Ejectio	n	No EJECTION			
Ejectio	n Area	No EJECTION			
Entrapi	ment		Not ENTRAPPED		

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-74-55-1-1
MAIS	6=Maximum
Seat Position	Front left side

AIS Level	Injury Description	Contacts
6=Maximum 2=Moderate	Brain stem laceration Cervical vertebral body fracture, no cord injury NFS	Right interior Right interior
3=Serious	Lung contusion, uni- lateral	Transmiss lever
2=Moderate	Splenic laceration, minor (tear<3cms deep, no major vessel)	Belt webb/buckle
3=Serious	Cerebral subarach- noid hemorrhage	Right interior
1=Minor	Scalp laceration, mi-	Right interior
1=Minor	Facial skin laceration, minor	Right interior
1=Minor	Leg skin abrasion	Belt webb/buckle
1=Minor	Leg skin abrasion	Transmiss lever
1=Minor	Leg skin abrasion	Steering rim
1=Minor	Upper extremity skin abrasion	Right interior
1=Minor	Upper extremity skin abrasion	Belt webb/buckle
1=Minor	Upper extremity skin contusion	Belt webb/buckle

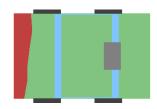
#### Occupant: 2004-74-55-2-1



# **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type

No fire No fire No fuel leakage Non-metallic Forward of rear axle, left side Left side, forward rear axle No damage Diesel



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 66 -65 11
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1	12 F D E W 2 31 39 41 47 54 51 170 0 VEHICLE NO. 1
Object Contacted 2	VEHICLE NO. 1

# **NASS Weighting Factor**

Weighting factor

7.980

### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 0 BAC 0.xx)

**DVDED/NO BARRIER** TWO STRAIGHT DOWNHILL GRADE CONCRETE SNOW OR SLUSH DAWN SNOW NONINTER/NONJUNC

# **Vehicle Factors**

9

Make-Model Year Class Body Type Weight

Dodge Ram 1500 P/U 1998 TRUCK LARGE PICKUP 283

# **Pre-Crash Driver Data**

Accident Type	66
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	OPP DIR-OVR LEFT
Attempted Avoidance Maneu-	BRAKE W/O LOCKUP
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	41	Height	178	Weight	70
Gender			MALE		
Ejectior	n		No EJECTION		
Ejection Area		No EJECTION			
Entrapment		Not ENTRAPPED			

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

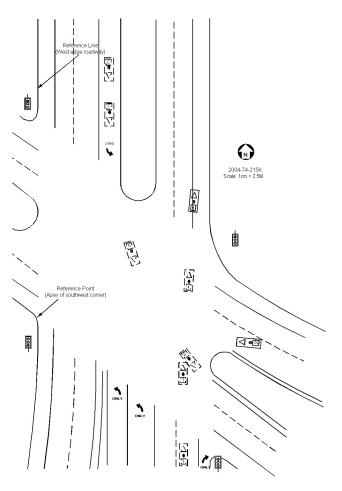
Occupant	2004-74-55-2-1
MAIS	3=Serious
Seat Position	Front left side

AIS Level	Injury Description	Contacts
3=Serious	Tibial shaft fracture, open/displaced/commin	Floor outed
2=Moderate	Fibular head, neck, or shaft fracture	Floor
1=Minor 1=Minor	297202 Leg skin abrasion	Bag-DR side+eyew Floor

### 28 Case 2004-74-215

#### Summary:

Vehicle 1, a 1987 Chevrolet Blazer, was northbound in lane one of a seven-lane, median divided, dry, level, concrete roadway, approaching an intersection. Vehicle 2, a 1999 Pontiac Grand Am, was southbound in lane three on the same roadway. As vehicle 2 turned left at the intersection, the right side was struck by the front of vehicle 1. Vehicle 1 continued northbound after impact, moving over to the east curb on the north side of the intersection to final rest. Vehicle 2 rotated clockwise, coming to rest facing west just north of the median on the east side of the intersection. Both vehicles were towed due to damage. Vehicle 2 was equipped with left and right front air bags that deployed. Vehicle 1 restrained driver was hospitalized for observation of head injury and released with a right forehead abrasion. Vehicle 2 restrained driver was hospitalized with neck fractures and a brain injury. )



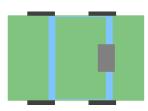
Vehic	cleBody type	Make	Model	Year	Occ.#	t Age	Occupant's sex	Maximum known occupant ais
1	COMPACT UTILITY	Chevrolet	S-10 Blazer	1987	1	44	MALE	1=Minor
2	4-DR SEDAN/HDTOP	Pontiac	Grand AM	1999	1	65	MALE	4=Severe

### Occupant: 2004-74-215-1-1



### **Fire Information**

Fire Occurence	No data
Fire Origin	No data
Location of Fuel Leakage	No data
Type of Fuel Tank	No data
Fuel Tank Location	No data
Fuel Cap Location	No data
Fuel Tank Damage	No data
Fuel Type	No data



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 999 999 999 999
Est. $\delta V$ with sequence num-	9 99
ber	
CDC	No data No data No data No
Damage (C1-C6)	data No data No data No data No data No data No data No data No data
Crush (L and D)	No data No data
Object Contacted 1	No data
Object Contacted 2	No data

### **NASS Weighting Factor**

Weighting factor

9.408

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes	DVDED/NO BARRIER FIVE
	STRAIGHT
Roadway Alignment	LEVEL
Roadway Profile	
Roadway Surface Type	CONCRETE
Roadway Surface Condition	DRY
Light Conditions	DARK/LIGHTED
Atmospheric Conditions	No ADVERSE COND
Relation to Intersection	INTERSECTION REL
Traffic Control Device	
Police Reported Alcohol	ALCOHOL PRESENT
Presence	
Alcohol Test (< 95 indicates	20
BAC 0.xx)	

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Chevrolet S-10 Blazer 1987 TRUCK COMPACT UTILITY 144

### **Pre-Crash Driver Data**

Accident Type69Pre-event MovementGOING STRAIGHTCritical Pre-crash EventCROSS OVER INTERAttempted Avoidance Maneu-99verPre-impact Stability99Pre-impact LocationSTAYED IN LANE

### **DRIVER Factors**

Age	44	Height	183	Weight	100
Gender MALE					
Ejection No EJECTION					
Ejection Area No EJECTION					
Entrapn	nent Not ENTRAPPED				

### **Restraint Factors**

Restrain	Lap and shoulder
AOPS	NÔ
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	Not EQUIP/AVAIL
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-74-215-1-1
MAIS	1=Minor
Seat Position	Front left side

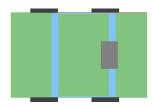
AIS Level	Injury Description	Contacts
1=Minor	Awake on admission, never unconscious	Windshield
1=Minor 1=Minor	Facial skin abrasion Facial skin contusion	Windshield Windshield

### Occupant: 2004-74-215-2-1



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire Unknown Unknown type Unknown Right side, behind rear axle Unknown Gasoline



### **Crash Severity**

Nr. Quarter Turns	No rollover
Impact Speed	999
Total, Longitudal, and Lateral	999 999 999
$\delta V$ Est. $\delta V$ with sequence number	SEVERE 1
CDC	1 R Z A W 99
Damage (C1-C6)	0 0 0 0 0 0 0
Crush (L and D)	0 0
Object Contacted 1	VEHICLE NO. 1
Object Contacted 2	0

### **NASS Weighting Factor**

Weighting factor

9.408

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

DVDED/NO BARRIER FOUR STRAIGHT LEVEL CONCRETE DRY DARK/LIGHTED No ADVERSE COND INTERSECTION REL

No ALCOHOL

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Pontiac Grand AM 1999 PASSENGER CAR 4-DR SEDAN/HDTOP 145

### **Pre-Crash Driver Data**

Accident Type	68
Pre-event Movement	TURNING LEFT
Critical Pre-crash Event	OPP DIR-OVR RGHT
Attempted Avoidance Maneu-	No AVOIDANCE
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	65	Height	183	Weight	95
Gende	r		MALE		
Ejectio	n		No EJE	CTION	
Ejectio	n Area		No EJE	CTION	
Entrap	ment		Not EN	TRAPPED	

#### In- C Restrain Lap and shoulder jury ta AOPS De-YES-RES DET Airbag Deployment **BAG DEPLOYED** scrip-Airbag Deployment - 1<sup>st</sup> Seat DR tion PAS BAG DEPLY Airbag Deployment - Oth Not EQUIP W/ OTH 2=Moderate Lethar Seat on in ad- te mis- rie Injuries sion, un-Occupant 2004-74-215-2-1 con-MAIS 4=Severe scious Front left side Seat Position <1 hour 2=Moderate Cervic ver- ve te- te bral b bodybo frac-fra ture, tu no no cord co in- in jury, ju <202 er- ei ate at Cervical spinous process fx, no cord injury, +/- dislocation Right interior Cere 3=Serious brainin swellte mild rie 4=Severe Intrack hemaint smallte (<30¢a 3=Serious Cere con- in tu- te sion, rie single, small (<30cc 1=Minor ScalpR con- in tu- te sion rid FaciaR 1=Minor skin in abra-te sion rid

**AIS Level** 

#### 29Case 2004-74-247

#### Summary:

1

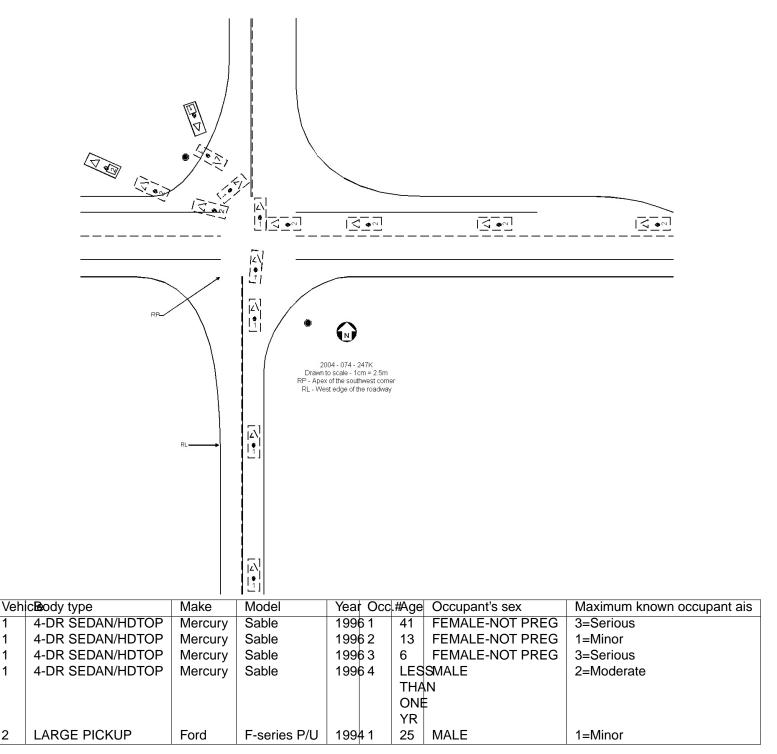
1

1

1

2

Vehicle 1 (1996 Mercury Sable) was traveling north on a two-lane, undivided, level, bituminous roadway, approaching an intersection. Vehicle 2 (1994 Ford F-150) was traveling west on an intersecting, three-lane, undivided, level, bituminous roadway. In the intersection, the front of vehicle 2 struck the right rear side of vehicle 1. Both vehicles moved off to the northwest corner to final rest. Both vehicles were towed due to damage. Both front air bags in vehicle 1 deployed. Vehicle 2 was equipped with a driver air bag that deployed. Vehicle 1 restrained driver was hospitalized with neck fracture. Vehicle 1 restrained front seat passenger was treated and released with abrasion and contusion. Vehicle 1 unrestrained left rear seat passenger, who was completely ejected, was hospitalized with a skull fracture. Vehicle 1 right rear seat passenger, who was restrained in a child seat, was hospitalized overnight and released with neck dislocation. Vehicle 2 restrained driver received a minor forearm burn but was not treated.)



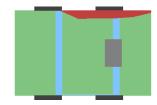
### Occupant: 2004-74-247-1-1



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, centered Right side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed	No rollover 998
Total, Longitudal, and Lateral	18 -14 -12
$\delta V$	
Est. $\delta V$ with sequence num-	DELTA V CODED 1
ber	
CDC	1 R Z A W 3
Damage (C1-C6)	6 18 22 22 23 0
Crush (L and D)	220 -135
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	0

### NASS Weighting Factor

Weighting factor

9.408

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED TWO STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Mercury Sable 1996 PASSENGER CAR 4-DR SEDAN/HDTOP 154

### **Pre-Crash Driver Data**

Accident Type87Pre-event MovementGOING STRAIGHTCritical Pre-crash EventCROSS OVER INTERAttempted Avoidance Maneu-99verPre-impact StabilityPre-impact LocationSTAYED IN LANE

Age	41	Height	165	Weight	48
Gender		FEMALE-NOT PREG			
Ejectior	า		No EJECTION		
Ejectior	n Area	Area No EJECTION			
Entrapn	nent		Not ENTRAPPED		

Restrain AOPS	Lap and shoulder YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-74-247-1-1
MAIS	3=Serious
Seat Position	Front left side

AIS Level	Injury Description	Contacts
3=Serious	Cervical pedicle frac- ture, no cord injury	Head restraint
2=Moderate	Awake on admission, unconscious <1 hour	Head restraint
1=Minor	Facial skin abrasion	Flying glass

### Occupant: 2004-74-247-1-2

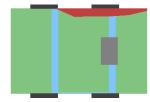


### **Fire Information**

No fire

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fuel leakage Metallic Forward of rear axle, centered Right side, behind rear axle No damage Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed	No rollover 998
Total, Longitudal, and Lateral	18 -14 -12
$\delta V$	
Est. $\delta V$ with sequence num-	DELTA V CODED 1
ber	
CDC	1 R Z A W 3
Damage (C1-C6)	6 18 22 22 23 0
Crush (L and D)	220 -135
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	0

### NASS Weighting Factor

Weighting factor

9.408

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED TWO STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

# Vehicle Factors

#### Make-Model Year Class Body Type Weight

Mercury Sable 1996 PASSENGER CAR 4-DR SEDAN/HDTOP 154

### **Pre-Crash Driver Data**

Accident Type87Pre-event MovementGOING STRAIGHTCritical Pre-crash EventCROSS OVER INTERAttempted Avoidance Maneu-99verPre-impact StabilityPre-impact LocationSTAYED IN LANE

Age	13	Height	999	Weight	999
Gender	-		FEMALE-NOT PREG		
Ejectior	า		No EJECTION		
Ejection Area No EJECTION					
Entrapr	nent		Not ENTRAPPED		

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-74-247-1-2
MAIS	1=Minor
Seat Position	Front right side

AIS Level	Injury Description	Contacts
1=Minor	Thoracic skin contu- sion	Right interior
1=Minor	Upper extremity skin abrasion	Right interior

### Occupant: 2004-74-247-1-3

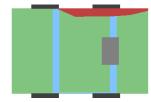


### **Fire Information**

No fire

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fuel leakage Metallic Forward of rear axle, centered Right side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed	No rollover 998
Total, Longitudal, and Lateral	18 -14 -12
$\delta V$	
Est. $\delta V$ with sequence num-	DELTA V CODED 1
ber	
CDC	1 R Z A W 3
Damage (C1-C6)	6 18 22 22 23 0
Crush (L and D)	220 -135
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	0

### NASS Weighting Factor

Weighting factor

9.408

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED TWO STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

# Vehicle Factors

Make-Model Year Class Body Type Weight

Mercury Sable 1996 PASSENGER CAR 4-DR SEDAN/HDTOP 154

### **Pre-Crash Driver Data**

Accident Type87Pre-event MovementGOING STRAIGHTCritical Pre-crash EventCROSS OVER INTERAttempted Avoidance Maneu-99verPre-impact StabilityPre-impact LocationSTAYED IN LANE

Age	6	Height	999	Weight	999
Gende	r		FEMALE-NOT PREG		
Ejectio	n		COMPLETE EJECT		
Ejectio	jection Area Right REAR				
Entrap	ment		Not ENTRAPPED		

None used/avail
YES-RES DET
Not EQUIP/AVAIL
DR
Not EQUIP W/ OTH

Occupant	2004-74-247-1-3
MAIS	3=Serious
Seat Position	Second left

AIS Level	Injury Description	Contacts
3=Serious	Basilar skull fracture, without CSF leak	Ground
1=Minor	Scalp contusion	Ground
1=Minor	Scalp laceration, mi- nor	Ground
1=Minor	690202	Ground
1=Minor	Upper extremity skin contusion	Ground
1=Minor	Facial skin abrasion	Ground

### Occupant: 2004-74-247-1-4

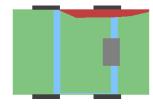


### **Fire Information**

No fire

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fuel leakage Metallic Forward of rear axle, centered Right side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed	No rollover 998
Total, Longitudal, and Lateral	18 -14 -12
δV	
Est. $\delta V$ with sequence num-	DELTA V CODED 1
ber	
CDC	1 R Z A W 3
Damage (C1-C6)	6 18 22 22 23 0
Crush (L and D)	220 -135
Object Contacted 1	VEHICLE NO. 2
Object Contacted 2	0

### NASS Weighting Factor

Weighting factor

9.408

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED TWO STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

### Vehicle Factors

Make-Model Year Class Body Type Weight Mercury Sable 1996 PASSENGER CAR 4-DR SEDAN/HDTOP 154

### **Pre-Crash Driver Data**

Accident Type87Pre-event MovementGOING STRAIGHTCritical Pre-crash EventCROSS OVER INTERAttempted Avoidance Maneu-99verPre-impact StabilityPre-impact LocationSTAYED IN LANE

Age	LESS THAN ONE YR	Height	999	Weight	999
Gender			MALE		
Ejection			No EJEC	TION	
Ejection /	Area		No EJEC	TION	
Entrapment			Not ENTRAPPED		

Restrain	Lap+sh w/ch seat
AOPS	YES-RES DET
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-74-247-1-4
MAIS	2=Moderate
Seat Position	Second right

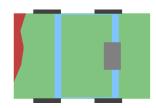
AIS Level	Injury Description	Contacts
2=Moderate	C-spine dislocation no bone or cord involve- ment NFS	Other occupants
1=Minor	Scalp laceration, mi- nor	Flying glass
1=Minor	Scalp laceration, mi- nor	Flying glass

### Occupant: 2004-74-247-2-1



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, left side Left side, forward rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 15 -10 12
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	10 F D E W 2 0 1 22 29 19 35 180 110 VEHICLE NO. 1 0

### **NASS Weighting Factor**

Weighting factor

9.408

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover



Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED THREE STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

### Vehicle Factors

Make-Model Year Class Body Type Weight Ford F-series P/U 1994 TRUCK LARGE PICKUP 184

### **Pre-Crash Driver Data**

Accident Type	86
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	XING ST-X PATH
Attempted Avoidance Maneu-	BRAKE W/O LOCKUP
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	25	Height	173	Weight	70
Gende	er		MALE		
Ejectic	on		No EJE	CTION	
Ejectic	on Area		No EJE	CTION	
Entrapment No			Not EN	TRAPPED	

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR BAG DEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

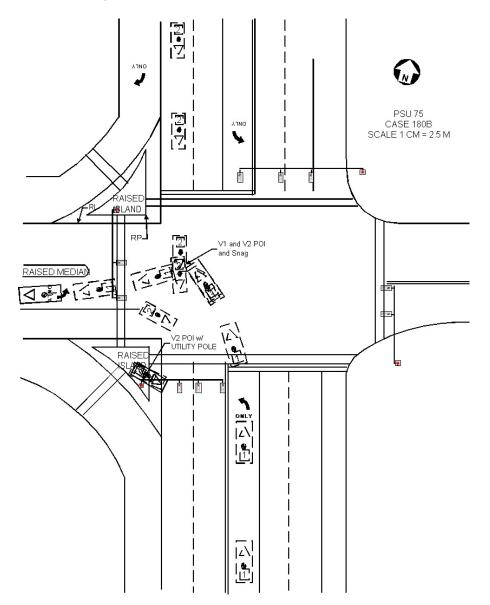
Occupant	2004-74-247-2-1
MAIS	1=Minor
Seat Position	Front left side

AIS Level	Injury Description	Contacts
1=Minor	792002	Air bag exh has

### 30 Case 2004-75-180

#### Summary:

This two-vehicle crash occurred at 1635 hours on a straight, downhill, undivided, bituminous, dry, seven-lane, state highway. The crash occurred at a four-way traffic controlled intersection. The highway is a designated east-west roadway that runs generally north-south at the location of the crash. The southbound lanes of traffic consist of one right turn lane, two through lanes, and a left turn lane. The northbound lanes of traffic consist of one left turn lane, two through lanes, and a right turn lane. The intersection is located at the sag of two downhill sections of the roadway. The roadway was free of defects and there were no adverse atmospheric conditions present at the time of the crash. V1, a 1997 Dodge Grand Caravan, was traveling northbound in lane four intending to turn left at the intersection. V2, a 1991 BMW 325ix, was traveling in lane two intending to go straight. The front of V1 contacted the left side of V2. After the initial impact, V2 rotated counterclockwise to the southwest and contacted its right side with a utility pole. V1 traveled to the west and came to final rest in the left turn lane of eastbound traffic on its wheels facing west. V2 came to final rest at the point of impact with the utility pole on its wheels facing southeast. V1 was equipped with driver and passenger frontal airbags, neither of which deployed. V2 was equipped with a driver airbag, which did not deploy. V1 was towed from the scene. V2 was towed from the scene due to severe damage to the right side. The driver of V1 was wearing her lap and shoulder belt and was not injured. Both occupants in the third row were restrained with lap and shoulder belts and were not injured. The driver of V2 was wearing his lap and shoulder belt and was pronounced dead at the scene with neck fracture and brain stem injury. )



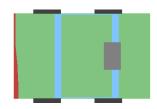
Vehic	eBody type	Make	Model	Year	Occ.#	Age	Occupant's sex	Maximum known occupant ais
1	MINIVAN	Dodge	Caravan	1997	1	38	FEMALE-NOT PREG	0=None
1	MINIVAN	Dodge	Caravan	1997	2	7	FEMALE-NOT PREG	0=None
1	MINIVAN	Dodge	Caravan	1997	3	4	MALE	0=None
1	MINIVAN	Dodge	Caravan	1997	4	9	MALE	0=None
1	MINIVAN	Dodge	Caravan	1997	5	9	MALE	0=None
2	2DR SEDAN/HT/CPE	BMW	3-series	1991	1	41	MALE	5=Critical

### Occupant: 2004-75-180-1-1



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, left side Left side, forward rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 17 -13 -11
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	1 F D E W 1 13 13 11 5 5 6 166 -21 VEHICLE NO. 2 0

### **NASS Weighting Factor**

Weighting factor

35.092

### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED SEVEN OR MORE STRAIGHT DOWNHILL GRADE ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Dodge Caravan 1997 TRUCK MINIVAN 197

### **Pre-Crash Driver Data**

Accident Type	68
Pre-event Movement	TURNING LEFT
Critical Pre-crash Event	TURN LEFT-INTERS
Attempted Avoidance Maneu-	No AVOIDANCE
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	38	Height	178	Weight	75
Gende	er		FEMAL	E-NOT PRE	G
Ejectic	n		No EJE	CTION	
Ejectic	on Area		No EJE	CTION	
Entrap	Entrapment Not ENTRAPPED				

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

### Injuries

Occupant	2004-75-180-1-1
MAIS	0=None
Seat Position	Front left side

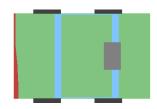
AIS Level Injury Description Contacts

### Occupant: 2004-75-180-1-2



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, left side Left side, forward rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 17 -13 -11
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	1 F D E W 1 13 13 11 5 5 6 166 -21 VEHICLE NO. 2 0

### **NASS Weighting Factor**

Weighting factor

35.092

### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition **Light Conditions Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED SEVEN OR MORE STRAIGHT DOWNHILL GRADE ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

# Vehicle Factors

Make-Model Year Class Body Type Weight

Dodge Caravan 1997 TRUCK MINIVAN 197

### **Pre-Crash Driver Data**

Accident Type68Pre-event MovementTURNING LEFTCritical Pre-crash EventTURN LEFT-INTERSAttempted Avoidance Maneu-<br/>verNo AVOIDANCEPre-impact StabilityTRACKINGPre-impact LocationSTAYED IN LANE

Age	7	Height	122	Weight	22
Gende	r		FEMA	LE-NOT PRE	G
Ejectio	n	No EJECTION			
Ejectio	n Area		No EJ	ECTION	
Entrapi	ment		Not ENTRAPPED		

Restrain	Lap+sh w/ch seat
AOPS	YES-RES DET
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

### Injuries

Occupant	2004-75-180-1-2
MAIS	0=None
Seat Position	Second left

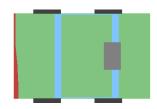
AIS Level Injury Description Contacts

### Occupant: 2004-75-180-1-3



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, left side Left side, forward rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 17 -13 -11
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	1 F D E W 1 13 13 11 5 5 6 166 -21 VEHICLE NO. 2 0

### **NASS Weighting Factor**

Weighting factor

35.092

### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED SEVEN OR MORE STRAIGHT DOWNHILL GRADE ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

# Vehicle Factors

### Make-Model Year Class Body Type

Weight

Dodge Caravan 1997 TRUCK MINIVAN 197

### **Pre-Crash Driver Data**

Accident Type	68
Pre-event Movement	TURNING LEFT
Critical Pre-crash Event	TURN LEFT-INTERS
Attempted Avoidance Maneu-	No AVOIDANCE
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	4	Height	76	Weight	14
Gender MALE					
Ejection No EJECTION					
Ejection Area No EJECTION					
Entrapme	nt	Not ENTRAPPED			

Restrain	Lap+sh w/ch seat
AOPS	YES-RES DET
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

### Injuries

Occupant	2004-75-180-1-3
MAIS	0=None
Seat Position	Second right

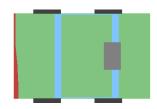
AIS Level Injury Description Contacts

#### Occupant: 2004-75-180-1-4



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, left side Left side, forward rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 17 -13 -11
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	1 F D E W 1 13 13 11 5 5 6 166 -21 VEHICLE NO. 2 0

### **NASS Weighting Factor**

Weighting factor

35.092

### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED SEVEN OR MORE STRAIGHT DOWNHILL GRADE ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

# Vehicle Factors

Make-Model Year Class Body Type Weight

Dodge Caravan 1997 TRUCK MINIVAN 197

### **Pre-Crash Driver Data**

Accident Type	68
Pre-event Movement	TURNING LEFT
Critical Pre-crash Event	TURN LEFT-INTERS
Attempted Avoidance Maneu-	No AVOIDANCE
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	9	Height	152	Weight	29
Gender MALE					
Ejectio	n		No EJE	ECTION	
Ejectio	n Area		No EJE	ECTION	
Entrapment Not ENTRAPPED					

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

### Injuries

Occupant	2004-75-180-1-4
MAIS	0=None
Seat Position	Third left

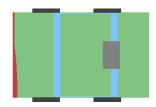
AIS Level Injury Description Contacts

### Occupant: 2004-75-180-1-5



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, left side Left side, forward rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 17 -13 -11
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	1 F D E W 1 13 13 11 5 5 6 166 -21 VEHICLE NO. 2 0

### **NASS Weighting Factor**

Weighting factor

35.092

### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED SEVEN OR MORE STRAIGHT DOWNHILL GRADE ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Dodge Caravan 1997 TRUCK MINIVAN 197

### **Pre-Crash Driver Data**

Accident Type68Pre-event MovementTURNING LEFTCritical Pre-crash EventTURN LEFT-INTERSAttempted Avoidance Maneu-<br/>verNo AVOIDANCEPre-impact StabilityTRACKINGPre-impact LocationSTAYED IN LANE

Age	9	Height	160	Weight	34
Gender			MALE		
Ejection	n		No EJE	ECTION	
Ejection	n Area		No EJE	ECTION	
Entrapn	nent		Not EN	ITRAPPED	

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

## Injuries

Occupant	2004-75-180-1-5
MAIS	0=None
Seat Position	Third right

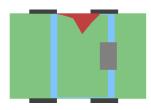
AIS Level Injury Description Contacts

### Occupant: 2004-75-180-2-1



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire Unknown Metallic Forward of rear axle, left side Right side, behind rear axle Deformed Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 37 6 -36
Est. $\delta V$ with sequence number	DELTA V CODED 2
CDC	63 R P A W 6
Damage (C1-C6)	0 26 59 13 4 0
Crush (L and D)	338 96
Object Contacted 1	LARGE POLE
Object Contacted 2	VEHICLE NO. 1

### **NASS Weighting Factor**

Weighting factor

35.092

### **Rollover Characteristics**

Number of Events	2
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 0 BAC 0.xx)

Not DIVIDED SEVEN OR MORE STRAIGHT DOWNHILL GRADE ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

### **Vehicle Factors**

Make-Model Year Class Body Type Weight BMW 3-series 1991 PASSENGER CAR 2DR SEDAN/HT/CPE 136

### **Pre-Crash Driver Data**

Accident Type	69
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	OPP DIR-OVR LEFT
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	9
Pre-impact Location	STAYED IN LANE

Age	41	Height	180	Weight	109
Gender			MALE		
Ejection			No EJE	ECTION	
Ejection .	Area		No EJE	ECTION	
Entrapmo	ent		ENTRA	APPED	

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-75-180-2-1
MAIS	5=Critical
Seat Position	Front left side

AIS Level	Injury Description			Contacts
5=Critical	Brain NFS	stem	injury,	Right interior
2=Moderate	Cervical fracture with- out cord injury +/- dis- location NFS		Right interior	

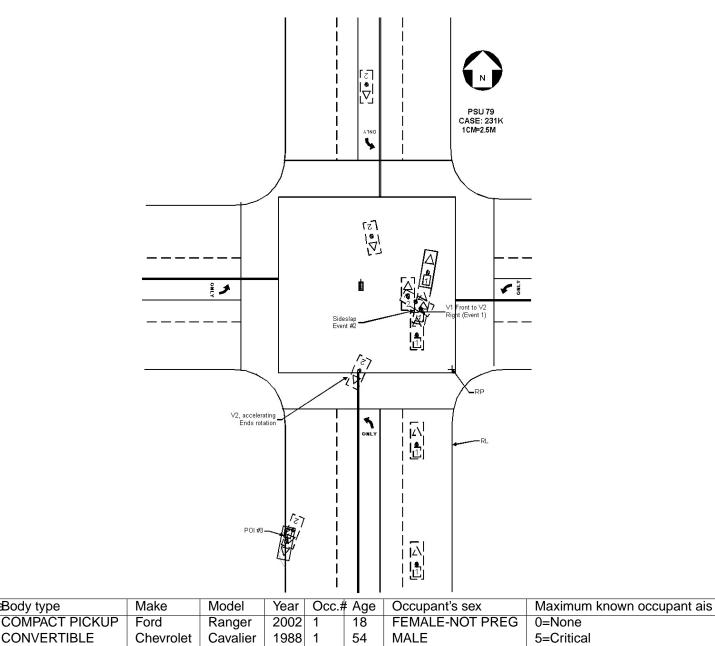
#### 31Case 2004-79-231

#### Summary:

VehicleBody type

1 2

Vehicle one is a 2002 Ford Ranger with manual lap and shoulder belts and dual front airbags. Vehicle two is a 1988 Chevy Cavalier Z24 convertible with manual lap and shoulder belts. Vehicle two was traveling south making a left turn from the number three lane of a five lane, dry, level, asphalt, undivided roadway. Vehicle one was traveling north in the number one lane of the same roadway. The front of vehicle two impacted the right side of vehicle one. V2 then rotated counterclockwise, side-slapped right side to the left side of V1, continued rotating and accelerating, so that when the rotation ended, V2 proceeded on a southwest trajectory and its front impacted the west curb and V2 then came to rest. V1 came to rest facing northeast in the intersection. Vehicle one was towed with moderate damage and deployed airbags. Vehicle two was towed with major damage. The restrained driver of vehicle one was not reported injured. The restrained driver of vehicle two was hospitalized with skull fractures and multiple brain hemorrhage.)

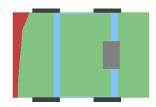


### Occupant: 2004-79-231-1-1



### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, left side Left side, forward rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 46 -45 8
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	12 F D E W 2 15 15 19 24 28 49 154 0 VEHICLE NO. 2 VEHICLE NO. 2

### **NASS Weighting Factor**

Weighting factor

8.119

### **Rollover Characteristics**

Number of Events	3		
Rollover Initiation Type	No rollover		
Location of Rollover Initiation	No rollover		
Rollover Initiation Object	No rollover		
Contacted			
Location on Vehicle where	No rollover		
Principal Tripping Force was			
Applied			
Direction of Initial Roll	No rollover		

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED FIVE STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

No ALCOHOL

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Ford Ranger 2002 TRUCK COMPACT PICKUP 148

### **Pre-Crash Driver Data**

Accident Type	69
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	OPP DIR-OVR LEFT
Attempted Avoidance Maneu-	BRAKE W/O LOCKUP
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	18	Height	165	Weight	59
Gender	ſ		FEMALE-NOT PREG		
Ejectio	n		No EJECTION		
Ejection Area			No EJECTION		
Entrapment			Not ENTRAPPED		

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

## Injuries

Occupant	2004-79-231-1-1
MAIS	0=None
Seat Position	Front left side

AIS Level Injury Description Contacts

### Occupant: 2004-79-231-2-1

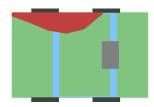


### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type

No fire No fire No fuel leakage Metallic Forward of rear axle, centered Right side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral	No rollover 998 54 -35 -41
$\delta V$ Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	2 R Y A W 5
Damage (C1-C6)	3 48 61 52 29 9
Crush (L and D)	265 25
Object Contacted 1	VEHICLE NO. 1
Object Contacted 2	VEHICLE NO. 1

### **NASS Weighting Factor**

Weighting factor

8.119

### **Rollover Characteristics**

Number of Events	3		
Rollover Initiation Type	No rollover		
Location of Rollover Initiation	No rollover		
Rollover Initiation Object	No rollover		
Contacted			
Location on Vehicle where	No rollover		
Principal Tripping Force was			
Applied			
Direction of Initial Roll	No rollover		

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 0 BAC 0.xx)

Not DIVIDED FIVE STRAIGHT LEVEL ASPHALT DRY DAYLIGHT No ADVERSE COND INTERSECTION REL

### **Vehicle Factors**

9

Make-Model Year Class Body Type Weight

Chevrolet Cavalier 1988 PASSENGER CAR CONVERTIBLE 124

### **Pre-Crash Driver Data**

Accident Type	68
Pre-event Movement	TURNING LEFT
Critical Pre-crash Event	TURN LEFT-INTERS
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

Age	54	Height	175	Weight	54
Gende	r		MALE		
Ejection			No EJECTION		
Ejection Area		No EJECTION			
Entrapment		Not ENTRAPPED			

Restrain	Lap and shoulder
AOPS	NÔ
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	Not EQUIP/AVAIL
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

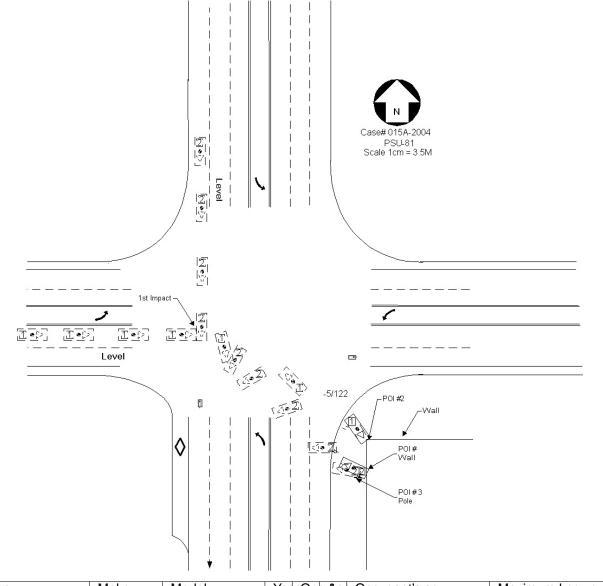
Occupant	2004-79-231-2-1
MAIS	5=Critical
Seat Position	Front left side

AIS Level	Injury Description	Contacts
5=Critical	Unconscious on admission, inappro- priate movements	Right interior
2=Moderate	Skull fracture, vault, closed (simple, undis- placed)	Right interior
3=Serious	Basilar skull fracture, without CSF leak	Right interior
5=Critical	Cerebral diffuse ax- onal injury	Right interior
3=Serious	Cerebral subarach- noid hemorrhage	Right interior
3=Serious	Cerebral subarach- noid hemorrhage	Right interior
5=Critical	Intracerebral hematoma, small, bilateral	Right interior
3=Serious	Cerebral contusion, single, small (<30ccs)	Right interior
3=Serious	Cerebral brain swelling, mild	Right interior
1=Minor	Scalp laceration, mi- nor	Right interior
1=Minor	Facial skin abrasion	Flying glass
1=Minor	Facial skin laceration, minor	Flying glass
1=Minor	Thoracic skin contu- sion	Seat, back
1=Minor	Upper extremity skin abrasion	Right interior

# 32 Case 2004-81-15

#### Summary:

Vehicle 1, a 1999 Chevrolet Tahoe, was traveling eastbound, in lane two of a two-way, five-lane, undivided, wet, bituminous roadway, approaching an intersection. Vehicle 2, a 2002 Toyota Camry, was traveling southbound in lane one of a two-way, seven-lane, undivided, wet, bituminous roadway, approaching the same intersection. As both vehicles entered the intersection, the front of V1 collided with the right side V2. Both vehicles rotated clockwise from impact, moving southeast, and crossing all traffic lanes. Both vehicles departed the roadway onto the southeast corner, where the front of V1 impacted a wall, where V1 came to rest. V2 impacted the same wall with its back plane as its left side impacted a pole, where V2 came to rest. Both vehicles were towed due to damage. The restrained driver of V1 was not injured. The restrained driver of V2 was hospitalized for observation and released with a wrist fracture. The restrained right front passenger of V2, who was fully reclined at the time of the crash, sustained thoracic aorta transection and cervical spinal cord transection, and was declared dead at the scene. V1 was equipped with redesigned dual frontal airbags, which deployed. V2 was equipped with advanced dual frontal airbags, which did not deploy. V2 was also equipped with dual front-row seatback-mounted side airbags and dual head curtains. The right seatback and head curtain deployed. )



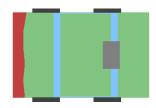
Ve	hi <b>ße</b> dy type	Make	Model	YearOc	c.#ge	e Occupant's sex	Maximum known occupant ais
1	LARGE UTILITY	Chevrolet	Fullsize Blazer	19991	28	MALE	0=None
2	4-DR SEDAN/HDTOP	Toyota	Camry	20021	23	FEMALE-NOT PREG	3=Serious
2	4-DR SEDAN/HDTOP	Toyota	Camry	20022	24	MALE	6=Maximum

#### Occupant: 2004-81-15-1-1



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Forward of rear axle, left side Left side, behind rear axle No damage Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 24 -21 12
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	11 F D E W 2 35 30 35 31 32 41 185 0 VEHICLE NO. 2 WALL

#### **NASS Weighting Factor**

Weighting factor

8.911

#### **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic Flow Not DIVIDED Number of Travel Lanes FIVE Roadway Alignment STRAIGHT **Roadway Profile** LEVEL Roadway Surface Type ASPHALT Roadway Surface Condition WET Light Conditions DARK/LIGHTED **Atmospheric Conditions** No ADVERSE COND Relation to Intersection INTERSECTION REL Traffic Control Device Police Reported Alcohol ALCOHOL PRESENT Presence Alcohol Test (< 95 indicates 97 BAC 0.xx)

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Chevrolet Fullsize Blazer 1999 TRUCK LARGE UTILITY 246

### **Pre-Crash Driver Data**

Accident Type86Pre-event MovementGOING STRAIGHTCritical Pre-crash EventCROSS OVER INTERAttempted Avoidance Maneu-99verPre-impact StabilityPre-impact LocationSTAYED IN LANE

#### **DRIVER Factors**

Age	28	Height	170	Weight	104
Gender MALE					
Ejectio	n		No EJE	CTION	
Ejection Area No EJECTION					
Entrap	ment		Not EN	TRAPPED	

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

# Injuries

Occupant	2004-81-15-1-1
MAIS	0=None
Seat Position	Front left side

AIS Level Injury Description Contacts

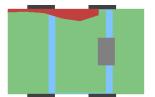
#### Occupant: 2004-81-15-2-1



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, centered Left side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 39 -19 -34
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	2 R Y E W 3 17 34 27 11 7 8 275 56 VEHICLE NO. 1 WALL

# **NASS Weighting Factor**

Weighting factor

8.911

#### **Rollover Characteristics**

Number of Events	4
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition **Light Conditions Atmospheric Conditions** Relation to Intersection **Traffic Control Device** Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

Not DIVIDED SEVEN OR MORE STRAIGHT LEVEL ASPHALT WET DARK/LIGHTED No ADVERSE COND INTERSECTION REL

No ALCOHOL

es 96

#### **Vehicle Factors**

Make-Model Year Class Body Type Weight Toyota Camry 2002 PASSENGER CAR 4-DR SEDAN/HDTOP 146

Accident Type	87
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	XING ST-X PATH
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

# **DRIVER Factors**

Age	23	Height	173	Weight	91	
Gende	er		FEMALE-NOT PREG			
Ejectio	n		No EJECTION			
Ejection Area			No EJECTION			
Entrapment Not				ITRAPPED		

# **Restraint Factors**

Restrain	Lap and shoulder	
AOPS	YES-RES DET	
Airbag Deployment	NONDEPLOYED	
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED	
Airbag Deployment - Oth	BAG DEPLOYED	
Seat		

# Injuries

Occupant	2004-81-15-2-1
MAIS	3=Serious
Seat Position	Front left side

# AIS Level Injury Description Contacts

3=Serious	Radial		fracture,	Left apnel		
	open/displaced/comminuted					
1=Minor	Facia	l skin a	brasion	Flying glass		
1=Minor	Leg	skin	contusion	Transmiss lever		
	(hematoma)					

#### Occupant: 2004-81-15-2-2



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Forward of rear axle, centered Left side, behind rear axle No damage Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed	No rollover 998
Total, Longitudal, and Lateral $\delta V$	39 -19 -34
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	2 R Y E W 3
Damage (C1-C6)	17 34 27 11 7 8
Crush (L and D)	275 56
Object Contacted 1	VEHICLE NO. 1
Object Contacted 2	WALL

# **NASS Weighting Factor**

Weighting factor

8.911

#### **Rollover Characteristics**

Number of Events	4					
Rollover Initiation Type	No rollover					
Location of Rollover Initiation	No rollover					
Rollover Initiation Object	No rollover					
Contacted						
Location on Vehicle where	No rollover					
Principal Tripping Force was						
Applied						
Direction of Initial Roll	No rollover					

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition **Light Conditions Atmospheric Conditions** Relation to Intersection **Traffic Control Device** Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

Not DIVIDED SEVEN OR MORE STRAIGHT LEVEL ASPHALT WET DARK/LIGHTED No ADVERSE COND INTERSECTION REL

No ALCOHOL

es 96

#### **Vehicle Factors**

Make-Model Year Class Body Type Weight Toyota Camry 2002 PASSENGER CAR 4-DR SEDAN/HDTOP 146

Accident Type	87
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	XING ST-X PATH
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

# **PASSENGER** Factors

Age	24	Height	175	Weight	133
Gender					
Ejection		ECTION			
Ejection Area			No EJECTION		
Entrapme	ent		9		

# **Restraint Factors**

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	BAG DEPLOYED
Seat	

# Injuries

Occupant MAIS Seat Position

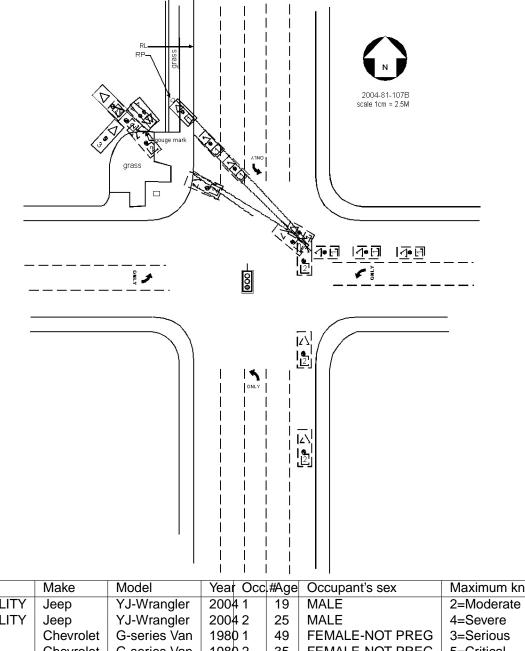
2004-81-15-2-2 6=Maximum Front right side

AIS Level	Injury Description	Contacts
6=Maximum	Cord laceration, com- plete, C3 or above, with dislocation	Right interior
5=Critical	Thoracic aortic lacer- ation, major, & medi- astinal bleeding	Right B pillar
4=Severe	Lung contusion, bilat- eral	Right B pillar
3=Serious	Hepatic lacera- tion, moderate (>3cms deep, EBL>203=Serious	Cerebral subarach- noid hemorrhage
Right interior		
3=Serious	Cerebral subarach- noid hemorrhage	Right interior
1=Minor	Facial skin abrasion	Right interior
1=Minor	297202	Right interior
1=Minor	Facial skin abrasion	Right interior
1=Minor	Thoracic skin abra- sion	Right B pillar
1=Minor	Abdominal skin abra- sion	Right B pillar
1=Minor	Upper extremity skin abrasion	Right B pillar
1=Minor	Upper extremity skin abrasion	Right interior
1=Minor	Upper extremity skin contusion	Right interior
1=Minor	Upper extremity skin abrasion	Flying glass

#### 33 Case 2004-81-107

#### Summary:

Vehicle one (V1), a 2004 Jeep Wrangler, was traveling westbound in lane one on a three-lane, two-way, undivided, bituminous roadway, approaching an intersection. V2, a 1980 Chevrolet van, was traveling northbound in lane one on a two-way, five-lane, undivided, intersecting roadway. V3, a 1994 Ford Ranger, and V4, a 2004 Chrysler PT Cruiser, were parked in a parking lot in the NW corner of the intersection. In the intersection, the front of V1 struck the right side of V2. The vehicles rotated, the left side of V1 struck the right side of V2 and the vehicles traveled toward the NW corner of the intersection. The right front wheel/tire of V2 struck the curb. V1 traveled over the curb, the front struck the concrete base of a pole and the vehicle came to rest. V2 continued on and the front struck the right side of V4, the left side struck the front of V3 and V2 came to final rest. V1 and V2 were towed due to damage. V1 was equipped with front air bags that deployed. V1 restrained driver was hospitalized with a hand fracture. V1 restrained passenger was hospitalized with multiple rib fractures, upper leg fracture, and small spleen laceration. V2 restrained driver was hospitalized with multiple pelvic and lower back fractures as well as brain injury. V2 restrained front seat passenger was fatal at the scene with multiple rib fractures and internal injuries. V3 unrestrained passenger, located in the rear of the van, was hospitalized with multiple internal injuries and fractures. )



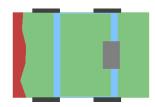
Vehicteody type		Make	Model	Year	Occ	.#Age	Occupant's sex	Maximum known occupant ais
1	COMPACT UTILITY	Jeep	YJ-Wrangler	2004	11	19	MALE	2=Moderate
1	COMPACT UTILITY	Jeep	YJ-Wrangler	2004	12	25	MALE	4=Severe
2	LARGE VAN	Chevrolet	G-series Van	1980	) 1	49	FEMALE-NOT PREG	3=Serious
2	LARGE VAN	Chevrolet	G-series Van	1980	)2	35	FEMALE-NOT PREG	5=Critical
2	LARGE VAN	Chevrolet	G-series Van	1980	) 3	36	FEMALE-NOT PREG	4=Severe

#### Occupant: 2004-81-107-1-1



## **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Behind rear axle, centered Left side, behind rear axle No damage Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 42 -40 14		
Est. $\delta V$ with sequence number	DELTA V CODED 1		
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	71 F D E W 2 39 22 37 39 27 30 160 0 VEHICLE NO. 2 MEDIUM POLE		

### **NASS Weighting Factor**

Weighting factor

8.911

#### **Rollover Characteristics**

Number of Events	6
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic Flow Not DIVIDED Number of Travel Lanes THREE Roadway Alignment STRAIGHT **Roadway Profile** LEVEL Roadway Surface Type ASPHALT Roadway Surface Condition DRY Light Conditions DARK/LIGHTED Atmospheric Conditions No ADVERSE COND Relation to Intersection INTERSECTION REL Traffic Control Device Police Reported Alcohol ALCOHOL PRESENT Presence Alcohol Test (< 95 indicates 11 BAC 0.xx)

#### **Vehicle Factors**

Make-Model Year Class Body Type Weight Jeep YJ-Wrangler 2004 TRUCK COMPACT UTILITY 173

### **Pre-Crash Driver Data**

Accident Type	86
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	CROSS OVER INTER
Attempted Avoidance Maneu-	No AVOIDANCE
ver	
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

#### **DRIVER Factors**

Age	19	Height	175	Weight	113
Gender			MALE		
Ejection			No EJECTION		
Ejection	Area		No EJECTION		
Entrapm	ent		Not ENTRAPPED		

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	BAG DEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	DR
PAS BAG DEPLY	
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-81-107-1-1
MAIS	2=Moderate
Seat Position	Front left side

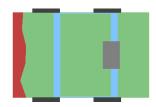
AIS Level	Injury Description	Contacts
2=Moderate	Carpus or metacar- pus fracture	Left apnel
2=Moderate	Awake on admission, unconscious <1 hour	Steering comb
1=Minor	Facial skin laceration, minor	Steering comb
1=Minor	Thoracic skin abra- sion	Left interior
1=Minor	Upper extremity skin laceration, minor	Left apnel
1=Minor	Leg skin abrasion	Knee bolster

#### Occupant: 2004-81-107-1-2



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Non-metallic Behind rear axle, centered Left side, behind rear axle No damage Gasoline



#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 42 -40 14
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	71 F D E W 2 39 22 37 39 27 30 160 0 VEHICLE NO. 2 MEDIUM POLE

#### **NASS Weighting Factor**

Weighting factor

8.911

#### **Rollover Characteristics**

Number of Events	6
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic Flow Not DIVIDED Number of Travel Lanes THREE Roadway Alignment STRAIGHT **Roadway Profile** LEVEL Roadway Surface Type ASPHALT Roadway Surface Condition DRY Light Conditions DARK/LIGHTED **Atmospheric Conditions** No ADVERSE COND Relation to Intersection INTERSECTION REL Traffic Control Device Police Reported Alcohol ALCOHOL PRESENT Presence Alcohol Test (< 95 indicates 11 BAC 0.xx)

#### **Vehicle Factors**

Make-Model Year Class Body Type Weight Jeep YJ-Wrangler 2004 TRUCK COMPACT UTILITY 173

#### **Pre-Crash Driver Data**

Accident Type86Pre-event MovementGOING STRAIGHTCritical Pre-crash EventCROSS OVER INTERAttempted Avoidance Maneu-No AVOIDANCEverPre-impact StabilityTRACKINGPre-impact LocationSTAYED IN LANE

#### **PASSENGER Factors**

Age	25	Height	188	Weight	149.5KG AND OVER
Gender			MALE		
Ejection			No EJE	ECTION	
Ejection	Area		No EJE	ECTION	
Entrapm	ient		Not EN	ITRAPPED	

Lap and shoulder
YES-RES DET
BAG DEPLOYED
DR
Not EQUIP W/ OTH

Occupant	2004-81-107-1-2
MAIS	4=Severe
Seat Position	Front right side

AIS Level	Injury Description	Contacts
4=Severe	Rib fxs (=>1), open/displaced/commin hemo-/pneumo thx	Belt webb/buckle uted,&
3=Serious	Femoral shaft fracture	Center panel
2=Moderate	Splenic laceration, mi- nor (tear<3cms deep, no major vessel)	Belt webb/buckle
1=Minor	Abdominal skin abra- sion	Belt webb/buckle
1=Minor	Upper extremity skin laceration, minor	Center panel

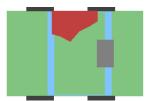
#### Occupant: 2004-81-107-2-1



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location **Fuel Cap Location** Fuel Tank Damage Fuel Type

No fire No fire No fuel leakage Metallic Behind rear axle, centered Left side, behind rear axle No damage Gasoline



# **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 35 -12 -33
Est. $\delta V$ with sequence num-	DELTA V CODED 1
ber	
CDC	2 R P E W 5
Damage (C1-C6)	30 46 60 89 75 67
Crush (L and D)	196 55
Object Contacted 1	VEHICLE NO. 1
Object Contacted 2	Not IN TRAN LGTVEH

### **NASS Weighting Factor**

Weighting factor

8.911

### **Rollover Characteristics**

Number of Events	6
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection **Traffic Control Device** Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

Not DIVIDED FIVE STRAIGHT LEVEL ASPHALT DRY DARK/LIGHTED No ADVERSE COND INTERSECTION REL

No ALCOHOL

96

### **Vehicle Factors**

Make-Model Year Class Body Type Weight

Chevrolet G-series Van 1980 TRUCK LARGE VAN 178

			injury bescription	Oomacia
Accident Type	87			
Pre-event Movement Critical Pre-crash Event	GOING STRAIGHT XING ST-X PATH	3=Serious	Cerebral subarach- noid hemorrhage	Other occupants
Attempted Avoidance Maneu- ver	99	3=Serious	Cerebral subarach- noid hemorrhage	Other occupants
Pre-impact Stability Pre-impact Location	TRACKING STAYED IN LANE	3=Serious	Cerebral brain swelling, mild	Other occupants
		3=Serious	Cerebral brain swelling, mild	Other occupants
DRIVER	Factors	2=Moderate	Hepatic contusion,	Pelvic fracture,
Age 49 Height Gender	168 Weight 64 FEMALE-NOT PREG	Transmiss lever	minor (subcapsular, <503=Serious	open/displaced/comminut
Ejection Ejection Area Entrapment	No EJECTION No EJECTION Not ENTRAPPED	2=Moderate	Pelvic fracture, closed	Transmiss lever
Lintapinent		2=Moderate	Pelvic fracture, closed	Transmiss lever
Restrain	t Factors	2=Moderate	Lumbar fracture of transverse process without cord injury	Transmiss lever
Restrain AOPS Airbag Deployment	Lap and shoulder NO Not EQUIP/AVAIL	2=Moderate	Lumbar fracture of transverse process without cord injury	Transmiss lever
Airbag Deployment - 1 <sup>st</sup> Seat Airbag Deployment - Oth	Not EQUIP/AVAIL Not EQUIP W/ OTH	1=Minor 1=Minor	Scalp contusion Leg skin contusion	Left B pillar Transmiss lever

AIS Level

1=Minor

1=Minor

2=Moderate

Injury Description

(hematoma) Leg skin abrasion

894004

Leg skin abrasion

# Injuries

Occupant MAIS Seat Position

Seat

2004-81-107-2-1 3=Serious Front left side

B pillar Transmiss lever Left apnel Floor

Contacts

Transmiss lever

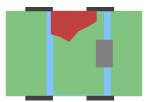
#### Occupant: 2004-81-107-2-2



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location **Fuel Cap Location** Fuel Tank Damage Fuel Type

No fire No fire No fuel leakage Metallic Behind rear axle, centered Left side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 35 -12 -33
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	2 R P E W 5
Damage (C1-C6)	30 46 60 89 75 67
Crush (L and D)	196 55
Object Contacted 1	VEHICLE NO. 1
Object Contacted 2	Not IN TRAN LGTVEH

### **NASS Weighting Factor**

Weighting factor

8.911

### **Rollover Characteristics**

Number of Events	6
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection **Traffic Control Device** Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

Not DIVIDED FIVE STRAIGHT LEVEL ASPHALT DRY DARK/LIGHTED No ADVERSE COND INTERSECTION REL

No ALCOHOL

96

### **Vehicle Factors**

Make-Model Year Class Body Type Weight

Chevrolet G-series Van 1980 TRUCK LARGE VAN 178

Accident Type	87
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event Attempted Avoidance Maneu- ver	XING ST-X PATH 99
Pre-impact Stability	TRACKING
Pre-impact Location	STAYED IN LANE

# **PASSENGER** Factors

Age	35	Height	155	Weight	77
Gender FEMALE-NOT PREG				G	
Ejectio	ection No EJECTION				
Ejectio	n Area		No EJE	ECTION	
Entrap	ment		Not EN	TRAPPED	

# **Restraint Factors**

Restrain AOPS	Lap and shoulder NO
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	Not EQUIP/AVAIL
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

# Injuries

Occupant MAIS Seat Position 2004-81-107-2-2 5=Critical Front right side

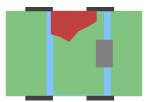
AIS Level	Injury Description	Contacts
5=Critical	Trachea and main stem bronchus lac- eration, complex injury	Right interior
3=Serious	Rib fractures (=>1 rib), open/displaced/commin	Right interior
3=Serious	Lung laceration, uni- lateral NFS	
3=Serious	Lung contusion, uni- lateral	Right interior
2=Moderate 3=Serious	Pleural laceration Hepatic lacera- tion, moderate (>3cms deep, EBL>202=Moderate	Right interior Ankle joint dislocation NFS
Floor 1=Minor	Scalp laceration, mi-	Flying glass
	nor	i iying gidoo
1=Minor	Facial skin laceration, minor	Flying glass
1=Minor	Neck skin abrasion	Belt webb/buckle
1=Minor	Abdominal skin contu- sion	Belt webb/buckle
1=Minor	Leg skin abrasion	Belt webb/buckle
1=Minor	Upper extremity skin abrasion	Flying glass
1=Minor	Leg skin contusion (hematoma)	Right interior
1=Minor	Leg skin contusion (hematoma)	Right panel
1=Minor	Leg skin abrasion	Right panel
1=Minor	Leg skin contusion (hematoma)	Floor

#### Occupant: 2004-81-107-2-3



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location Fuel Cap Location Fuel Tank Damage Fuel Type No fire No fire No fuel leakage Metallic Behind rear axle, centered Left side, behind rear axle No damage Gasoline



### **Crash Severity**

Nr. Quarter Turns	No rollover
Impact Speed	998
Total, Longitudal, and Lateral $\delta V$	35 -12 -33
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	2 R P E W 5
Damage (C1-C6)	30 46 60 89 75 67
Crush (L and D)	196 55
Object Contacted 1	VEHICLE NO. 1
Object Contacted 2	Not IN TRAN LGTVEH
	NOUN IN AN EGIVEN

### **NASS Weighting Factor**

Weighting factor

8.911

## **Rollover Characteristics**

Number of Events	6
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition Light Conditions **Atmospheric Conditions** Relation to Intersection **Traffic Control Device** Police Reported Alcohol Presence Alcohol Test (< 95 indicates BAC 0.xx)

Not DIVIDED FIVE STRAIGHT LEVEL ASPHALT DRY DARK/LIGHTED No ADVERSE COND INTERSECTION REL

No ALCOHOL

es 96

### **Vehicle Factors**

Make-Model Year Class Body Type Weight Chevrolet G-series Van 1980 TRUCK LARGE VAN 178

87			-	
GOING STRAIGHT	4=Severe	440606		Int loos
XING ST-X PATH	4=Severe	Rib fxs	s (=>1),	Int loos
99		open/displaced/comminuted,&		
		hemo-/pne	umo thx	
TRACKING	4=Severe	Cerebral e	epidural or	Int loos
STAYED IN LANE		extradural	hematoma,	
		small		
ER Factors	4=Severe	Cerebral	subdural	Int loos
1	GOING STRAIGHT XING ST-X PATH 99 TRACKING	GOING STRAIGHT4=SevereXING ST-X PATH4=Severe99TRACKING4=SevereSTAYED IN LANE4=Severe	87 GOING STRAIGHT 4=Severe 440606 XING ST-X PATH 4=Severe Rib fxs 99 TRACKING 4=Severe Cerebral 6 STAYED IN LANE extradural small	GOING STRAIGHT XING ST-X PATH4=Severe 4=Severe440606 Rib open/displaced/commin hemo-/pneumo thx994=SevereRib open/displaced/commin hemo-/pneumo thxTRACKING STAYED IN LANE4=SevereCerebral epidural or extradural hematoma, small

#### PASSENGER Factors

Age	36	Height	165	Weight	999
Gende	r		FEMALE-NOT PREG		
Ejectio	n		No EJECTION		
Ejectio	n Area		No EJECTION		
Entrap	ment		ENTRAPPED		

# **Restraint Factors**

Restrain	None used/avail
AOPS	NO
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	Not EQUIP/AVAIL
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

# Injuries

Occupant MAIS Seat Position

2004-81-107-2-3 4=Severe Other seat

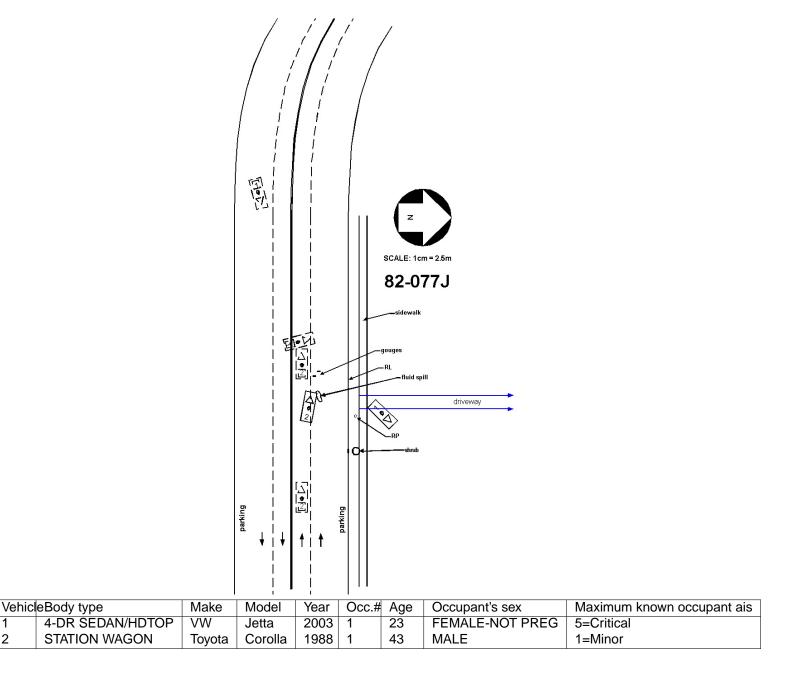
AIS Level	Injury Description	Contacts
4=Severe	440606	Int loose obj
4=Severe	Rib fxs (=>1), open/displaced/commin	Int loose obj uted,&
4=Severe	hemo-/pneumo thx Cerebral epidural or extradural hematoma, small	Int loose obj
4=Severe	Cerebral subdural hematoma, small (<50ccs)	Int loose obj
2=Moderate	Lethargic on admis- sion, unconscious <1 hour	Int loose obj
3=Serious	Radial fracture, open/displaced/commin	Int loose obj uted
3=Serious		Int loose obj
2=Moderate	Tibial fracture me- dial malleolus,	Int loose obj
a <b>a</b> .	open/displaced/commin	
3=Serious	Tibial fracture of the posterior malleolus, open/displaced/c	Int loose obj
3=Serious	Femoral shaft fracture	Int loose obj
2=Moderate	Scapular fracture	Int loose obj
2=Moderate	Scapular fracture	Int loose obj
1=Minor	Upper extremity skin laceration, minor	Int loose obj
1=Minor	Leg skin laceration, minor	Int loose obj

#### $\mathbf{34}$ Case 2004-82-77

#### Summary:

1 2

Vehicle 1 (V1) was traveling eastbound in lane one of a four-lane, two-way, wet roadway negotiating a curve to the left. V2 was traveling westbound in lane two of the same four-lane, two-way roadway. V1 lost control while braking to negotiate the curve. V1 crossed over the center lane line into westbound traffic. V2 front plane impacted V1 right plane. V1 came to final rest northwest of impact on the sidewalk. V2 came to final rest a short distance west of impact. V1 and V2 were towed due to damage. The driver of V1 was restrained with a manual lap and shoulder belt. V1 was equipped with front driver and passenger air bags that did not deploy. V1 was also equipped with side curtain air bags and side thorax air bags; the right side curtain and seat back air bags deployed. The driver of V2 was restrained with a manual lap and shoulder belt. The driver of V1 was hospitalized with brain hemorrhage. The driver of V2 was treated and released with minor contusion. )



#### Occupant: 2004-82-77-1-1



#### **Fire Information**

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type

No fire No fire No fuel leakage Non-metallic Forward of rear axle, centered Right side, behind rear axle No damage Gasoline



# **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 43 8 -42
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC Damage (C1-C6) Crush (L and D) Object Contacted 1 Object Contacted 2	3 R D E W 4 28 56 57 54 48 27 159 13 VEHICLE NO. 2 0

## **NASS Weighting Factor**

Weighting factor

3.877

### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment Roadway Profile Roadway Surface Type Roadway Surface Condition **Light Conditions Atmospheric Conditions** Relation to Intersection **Traffic Control Device** Police Reported Alcohol Presence Alcohol Test (< 95 indicates 0 BAC 0.xx)

Not DIVIDED FOUR CURVE LEFT DOWNHILL GRADE CONCRETE WET DAYLIGHT RAIN NONINTER/NONJUNC

**Vehicle Factors** 

9

Make-Model Year Class Body Type Weight

VW Jetta 2003 PASSENGER CAR 4-DR SEDAN/HDTOP 134

Accident Type	64
Pre-event Movement	NEGOTIATE CURVE
Critical Pre-crash Event	TRAVEL TOO FAST
Attempted Avoidance Maneu-	99
ver	
Pre-impact Stability	LAT SKID-CTR CLK
Pre-impact Location	Left TRAVEL LANE

# **DRIVER Factors**

Age	23	Height	175	Weight	82
Gende	r	FEMALE-NOT PREG			
Ejectio	n		No EJECTION		
Ejectio	ction Area No EJECTION				
Entrap	ment		Not ENTRAPPED		

# **Restraint Factors**

Restrain	Lap and shoulder
AOPS	YES-RES DET
Airbag Deployment	NONDEPLOYED
Airbag Deployment - 1 <sup>st</sup> Seat	NONDEPLOYED
Airbag Deployment - Oth	BAG DEPLOYED
Seat	

Occupant	2004-82-77-1-1
MAIS	5=Critical
Seat Position	Front left side

AIS Level	Injury Description	Contacts
5=Critical	Cerebral diffuse ax- onal injury	Right interior
3=Serious	Cerebral contusions, multiple, unilateral, small (<30ccs)	Right interior
3=Serious	Unconscious on ad- mission, length <1 hour	Right interior
1=Minor	Leg skin contusion (hematoma)	Transmiss lever
1=Minor	Upper extremity skin contusion	Seat, back
1=Minor	Neck skin contusion (hematoma)	Right interior

#### Occupant: 2004-82-77-2-1

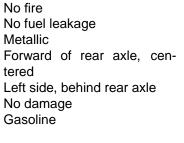


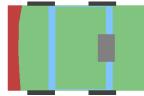
#### **Fire Information**

No fire

Fire Occurence Fire Origin Location of Fuel Leakage Type of Fuel Tank Fuel Tank Location

Fuel Cap Location Fuel Tank Damage Fuel Type





#### **Crash Severity**

Nr. Quarter Turns Impact Speed Total, Longitudal, and Lateral $\delta V$	No rollover 998 55 -54 10
Est. $\delta V$ with sequence number	DELTA V CODED 1
CDC	12 F D E W 2
Damage (C1-C6)	38 34 32 32 33 42
Crush (L and D)	146 0
Object Contacted 1	VEHICLE NO. 1
Object Contacted 2	0

### **NASS Weighting Factor**

Weighting factor

3.877

#### **Rollover Characteristics**

Number of Events	1
Rollover Initiation Type	No rollover
Location of Rollover Initiation	No rollover
Rollover Initiation Object	No rollover
Contacted	
Location on Vehicle where	No rollover
Principal Tripping Force was	
Applied	
Direction of Initial Roll	No rollover

#### **Pre-Crash Environment**

Traffic Flow Number of Travel Lanes Roadway Alignment **Roadway Profile** Roadway Surface Type Roadway Surface Condition Light Conditions Atmospheric Conditions Relation to Intersection Traffic Control Device Police Reported Alcohol Presence Alcohol Test (< 95 indicates 96 BAC 0.xx)

Not DIVIDED FOUR STRAIGHT UPHILL GRADE CONCRETE WET DAYLIGHT RAIN NONINTER/NONJUNC

No ALCOHOL

# Vehicle Factors

Make-Model Year Class Body Type Weight Toyota Corolla 1988 PASSENGER CAR STATION WAGON 104

### **Pre-Crash Driver Data**

Accident Type	65
Pre-event Movement	GOING STRAIGHT
Critical Pre-crash Event	OPP DIR-OVR LEFT
Attempted Avoidance Maneu-	BRAKE W/ LOCKUP
ver	
Pre-impact Stability	LONGITUDINAL SKID
Pre-impact Location	STAYED IN LANE

#### **DRIVER Factors**

Age	43	Height	185	Weight	88
Gende	r		MALE		
Ejectio	n		No EJECTION		
Ejectio	Ejection Area No EJECTION				
Entrapment		Not ENTRAPPED			

Restrain	Lap and shoulder
AOPS	NÔ
Airbag Deployment	Not EQUIP/AVAIL
Airbag Deployment - 1 <sup>st</sup> Seat	Not EQUIP/AVAIL
Airbag Deployment - Oth	Not EQUIP W/ OTH
Seat	

Occupant	2004-82-77-2-1
MAIS	1=Minor
Seat Position	Front left side

AIS Level	Injury Description	Contacts
1=Minor	Thoracic skin contu- sion	Belt webb/buckle
1=Minor	Leg skin abrasion	Left apnel
1=Minor	Leg skin contusion (hematoma)	Left apnel
1=Minor	Upper extremity skin contusion	Belt webb/buckle
1=Minor	Facial skin contusion	Steering rim