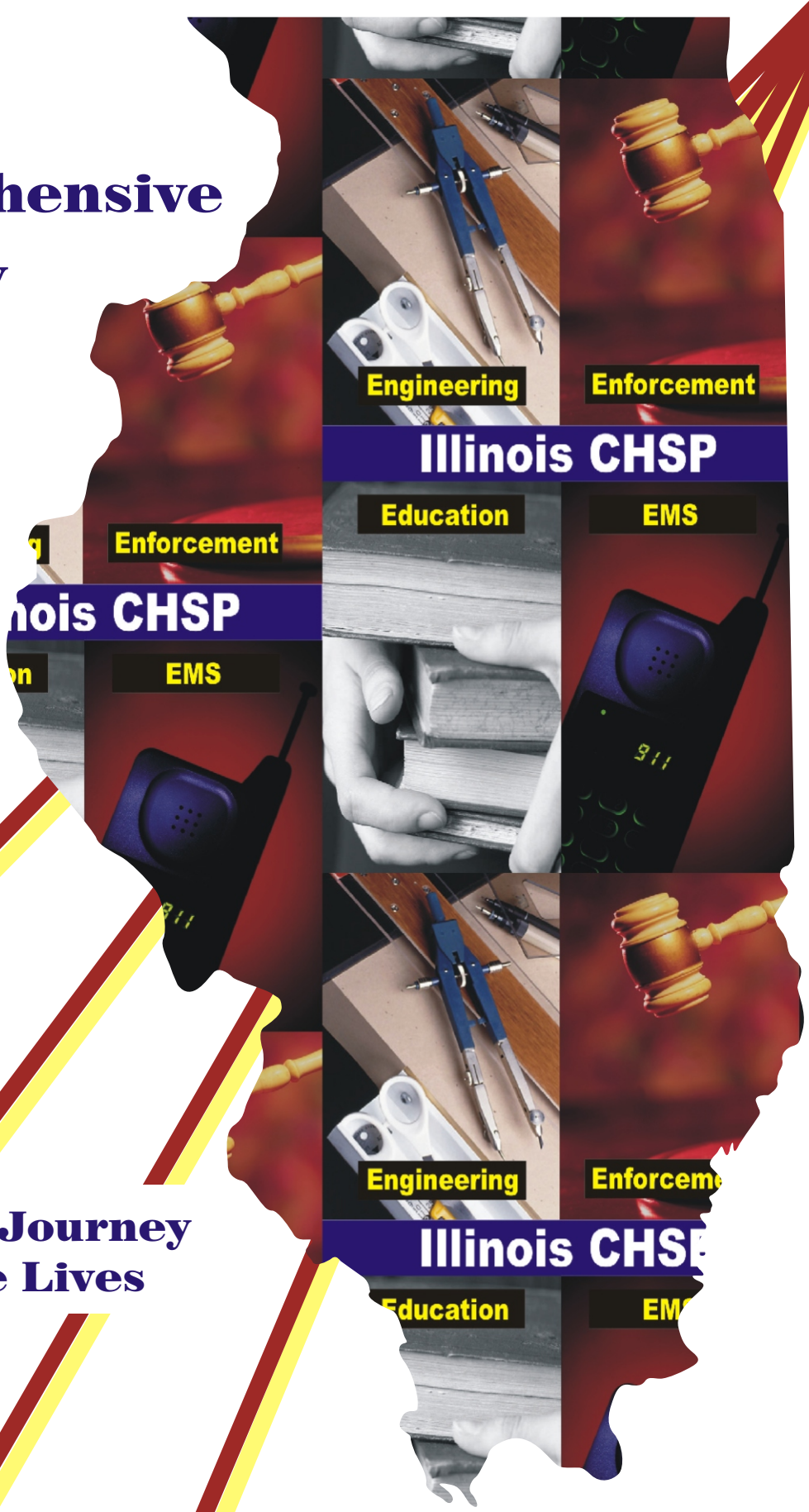
Illinois Comprehensive Highway Safety Plan



Join the Journey to Save Lives

State of Illinois

Comprehensive Highway Safety Plan
Inaugural Edition

Approved: _____ Date: _____

Rod R. Blagojevich, Governor

Recommended: _____ Date: _____

Timothy Martin, Secretary
Illinois Department of Transportation
Governor's Highway Safety Representative

Participants

AAA Chicago

American Association of Retired Persons

Chicago Area Transportation Study

Chicago Police Department

East/West Gateway Council of Governments

Federal Highway Administration

Federal Motor Carrier Safety Administration

Healthy Streets Campaign

Illinois American Traffic Safety Services Association

Illinois Association of Chiefs of Police

Illinois Association of County Engineers

Illinois Broadcasters Association

Illinois Commerce Commission

Illinois Department of Central Management Services

Illinois Department of Public Health

Illinois Department of Transportation

Illinois Municipal League Public Works

Illinois Road and Transportation Builders Association

Illinois Secretary of State

Illinois State Board of Education

Illinois State Police

Illinois State Toll Highway Authority

Illinois Traffic Safety Leaders

Illinois Trucking Association

Lincolnshire Police Department

Mid-West Truckers Association

National Highway Transportation Safety Administration

National Safety Council

State Farm Insurance Companies

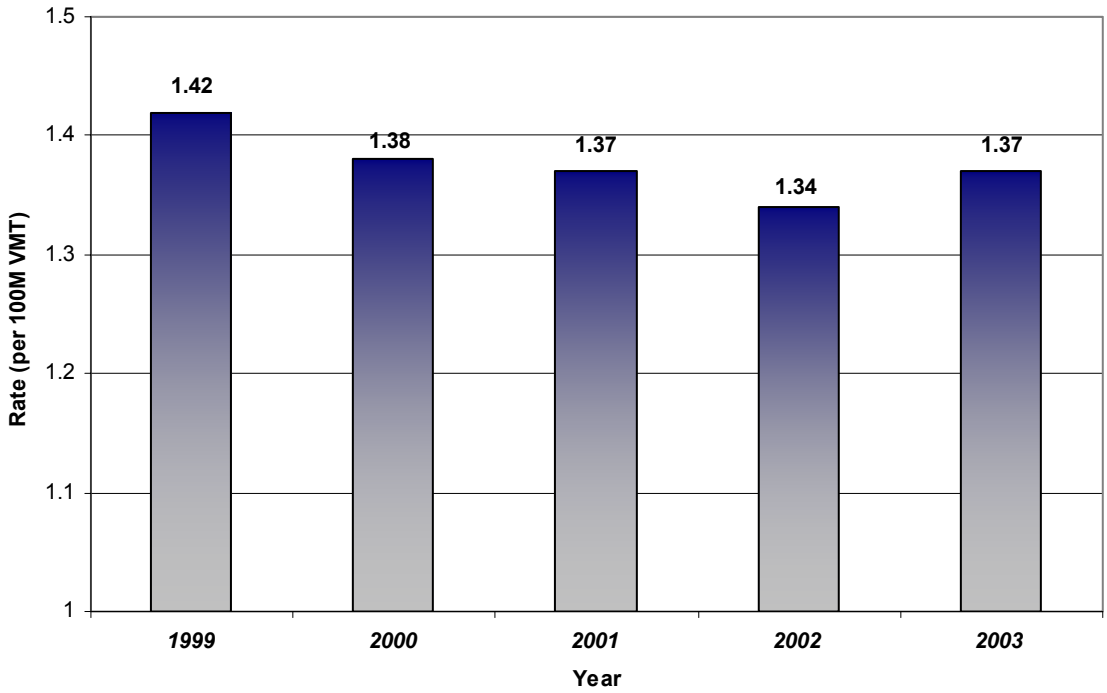
Township Highways Commissioners

Executive Summary

Deaths and injuries resulting from traffic crashes are serious public health concerns and are not conducive to the high quality of life expected in the state of Illinois. In 2003, there were 12,653,544 people residing in Illinois, and 1 of every 8,703 was killed and 1 of every 96 was injured in a traffic crash. Furthermore, traffic crashes continue to be the leading cause of death in children and young adults. The economic loss due to traffic crashes in Illinois is estimated at $10.5 billion annually. This substantial impact within local communities relative to medical costs, lost wages, insurance costs, taxes, police, fire and emergency medical services, legal and court costs, as well as property damage, is significant.

In 2003, there were 1,454 people killed in 1,308 fatal crashes for an average of 1.11 deaths per fatal crash. The corresponding traffic-related death rate was 1.37 deaths per 100 million vehicle miles traveled (VMT), while nationally the average rate was 1.48 deaths. From 1999-2003, there has been no significant reduction in the Illinois fatality rate. Preliminary numbers for 2004 show a reduction of 98 traffic-related deaths. This has been attributed to the 2003 enactment of a primary safety belt law. Highway travel in Illinois has continued to increase and reached an all-time high of over 106 billion vehicle miles traveled per year.

Figure 1. Illinois Traffic-Related Fatality Rate



Source: IDOT Division of Traffic Safety

MISSION:

Develop, implement, and manage an integrated multi-stakeholder process to improve the attributes of roads, users, and vehicles to reduce traffic-related deaths and life-altering injuries in Illinois.

VISION:

Highway users arrive safely at their destinations.

GOAL:

Reduce the number of traffic-related deaths from 1,454 in 2003 to 1,000 or fewer by 2008, a rate of 1.0 fatality per 100 million vehicle miles traveled (VMT).

Immediate and aggressive actions must be taken to significantly reduce the number of traffic-related deaths and life-altering injuries in Illinois. Refer to Figure 2. Illinois defines a traffic-related death as a highway user dying within 30 days of a crash and a life-altering injury as a highway user left physically or mentally diminished, also defined as a Type A injury, after a crash. This state of Illinois Comprehensive Highway Safety Plan (CHSP) is a tool to assist in achieving the goal. The Illinois Department of Transportation (IDOT) has an existing Highway Safety Plan (alcohol safety, occupant protection, data improvement, and other behavior programs), Hazard Elimination Safety Program (roadway infrastructure safety), and a Motor Carrier Safety Assistance Program (commercial driver and vehicle safety). This CHSP includes, builds upon, and integrates these programs in reducing fatalities and life-altering injuries on Illinois roadways and contains performance-driven strategies that focus the limited highway safety resources toward this common goal.

A Safety Summit was held in March 2005. Stakeholders from throughout Illinois were invited to be safety partners in the challenge of reducing highway-related fatalities and life-altering injuries. These stakeholders include those involved in planning, designing, constructing, operating, and maintaining the roadway infrastructure (Engineering), modifying road user behavior and preventing injury (Education and Enforcement), and also controlling injury (Emergency Medical Service). Challenges and strategies were solicited from all participants. From their input, ten data-driven emphasis areas were identified to focus immediate efforts. Refer to Figure 3. All-encompassing themes, including the importance of multi-stakeholder involvement, the effects of vehicle speed on crash severity, and the conflicting attributes between rural and urban roadways, play fundamental roles in all emphasis areas. Rural roadways are the location of 44.9 percent of Illinois traffic-related fatalities. Of these, 45 percent are on the local system. Of the 55.1 percent urban roadway fatalities, 50.7 percent are on the local system. These numbers are significant and further consideration of these will be made for each identified emphasis area. Refer to Figure 4.

Through integrating the work of stakeholders, this CHSP defines a system, organization, and process for managing the attributes of the road, driver, and vehicle to achieve the highest level of highway safety. To reduce the number of fatalities and life-altering injuries in Illinois, these stakeholders must commit resources (manpower, staff, time, dollars, etc.) to develop, implement, and maintain this CHSP.

Comprehensive, coordinated, and communicative safety strategies of Engineering, Education, Enforcement, and Emergency Medical Service will be developed collectively with the safety partners. Implementation plans with measurable objectives will be the products of these efforts. To that end, priority will be given to funding safety initiatives and projects supporting the CHSP goal.

Figure 2. Illinois Crash Data

	1999	*2000*	*2001*	*2002*	*2003*	*% Change (1999-2003)*
Crashes	*	460,172	443,293	438,990	437,289	--
Fatal Crashes	1,295	1,274	1,274	1,273	1,308	1.0%
People Killed	1,456	1,418	1,414	1,420	1,454	-0.1%
People Injured**	***	134,256	124,630	127,720	131,279	--
Fatal Crash Rate (per 100 million VMT)	1.42	1.38	1.37	1.34	1.37	-3.5%
Population (million)	12.13	12.42	12.52	12.59	12.65	4.3%
Registered Drivers (million)	7.94	8.46	8.57	8.53	8.52	7.3%
Registered Vehicles (million)	9.29	9.54	10.20	10.03	9.40	1.2%
VMT (billion)	102.19	102.94	103.12	106.18	106.46	4.2%

* No data available for Chicago area.

** Includes type A, B, and C injuries.

"A" Injury (incapacitating injury)
Any injury, other than a fatal injury, which prevents the injured person from walking, driving, or normally continuing the activities he/she was capable of performing before the injury occurred. Includes severe lacerations, broken limbs, skull or chest injuries, and abdominal injuries.

"B" Injury (non-incapacitating injury)
Any injury, other than a fatal or incapacitating injury, which is evident to observers at the scene of the crash. Includes lump on head, abrasions, bruises, minor lacerations.

"C" Injury (possible injury)
An injury reported or claimed which is not either of the above injuries, includes momentary unconsciousness, claims of injuries not evident, limping, complaint of pain, nausea, hysteria.

*** Data available for state maintained routes only.

Source: Fatality Analysis Reporting System (FARS) Internet

Figure 3. 2003 Fatal Crash Statistics by Emphasis Area

EMPHASIS AREA	Nation		Illinois	
	Fatalities	***% of Total Fatalities***	***Fatalities***	***% of Total Fatalities***
Alcohol-Related				
At least one driver tested (BAC ≥ .01)	14,260	33.4%	503	34.6%
Driver Behavior and Awareness				
Unlicensed Drivers (involved)	6,973	16.4%	200	13.8%
Highway-Railroad Grade Crossing	324	0.8%	27	1.9%
Information Systems				
Intersections	9,213	21.6%	380	26.1%
Large Trucks	4,986	11.7%	194	13.3%
Roadway Departure	25,321	59.4%	769	52.9%
Safety Belts/Occupant Protection				
No Restraint Used (known usage only)	-	52%	-	57%
Vulnerable Users				
Pedestrian	4,749	11.1%	190	13.1%
Motorcyclist	3,661	8.6%	143	9.8%
Pedalcyclist	622	1.5%	17	1.2%
Work Zones	1,028	2.4%	44	3.0%

Total Fatalities	42,643	1,454
Fatality Rate	1.48	1.37

Source: Fatality Analysis Reporting System (FARS) Internet; Illinois Crash Facts & Statistics (1999-2003); IDOT Division of Traffic Safety; Illinois Commerce Commission; FHWA Field Services

Figure 4. 2003 Fatal Crashes by Type of Roadway

TYPE OF ROADWAY	*Illinois*	
	Fatalities	***% of Total Fatalities***
Rural		
State Highways	258	17.7%
Interstate Type Roads	83	5.7%
City Streets and Roads	294	20.2%
Unmarked State Routes	18	1.2%
Rural Total	653	44.9%
Urban		
State Highways	211	14.5%
Interstate Type Roads	126	8.7%
City Streets and Roads	406	27.9%
Unmarked State Routes	58	4.0%
Urban Total	801	55.1%

Total Fatalities	1,454

Source: IDOT Division of Traffic Safety

Stakeholder Teams:

To collectively develop safety strategies, stakeholder teams were identified. Each team unit consists of two to three safety partner designees that are responsible for coordinating each phase for their agency/group. It is critical that each member of the team be committed to the success of the CHSP to save lives in Illinois.

Leadership Unit – **Decision-Making Representatives**

Detail: Agency/Group Executive Management or their designee that can commit resources (time, staff, dollars, ideas) to the development, implementation and auditing of the plan.

Development Unit – **CHSP Creation**

Detail: Agency/Group Representative to work on the detailed development of the CHSP. This will include identifying emphasis areas, challenges and recommending strategies.

Implementation Unit – **Action Plan**

Detail: Agency/Group Representative to work on the detailed action plan, including specific processes to implement recommended strategies. This unit's members may also consist of related standing committee members that are already established.

Result Audit Unit – **Measure Success**

Detail: Agency/Group Representative to work on measuring/auditing the success of implemented strategies and report progress and/or make adjustment recommendations.

Illinois CHSP Timeline

March 2005	**Safety Summit**
Summer 2005	**Action Plans Developed—Implementation Units** Meet to discuss action plans for each emphasis area including priorities and detailed processes.
January 2006	**Evaluation of Implemented Strategies—Audit Units**

General Strategies

Safety partners can incorporate broad overall strategies that will generally heighten safety awareness and assist in reaching the CHSP Goal. IDOT started with a focused approach to safety by creating the Bureau of Safety Engineering to assist in the development of the CHSP and the coordination of various safety initiatives throughout the department. Other agencies and organizations may also have key point positions for safety activities that can be captured as overall strategies.

A CHSP website was launched to reach out to stakeholders for the development of the CHSP document. The website will continue to be used to keep safety partners connected, monitor implementation status, and identify additional challenges and strategies as they arise. After the approval of the CHSP, the website will be expanded to allow all of the motoring public an opportunity to review the stakeholders' efforts. This will include periodic CHSP document revisions, team contacts, meeting minutes, information on future safety summits, and other various safety related links. An e-mail address was also created to allow for electronic communication specific to the CHSP.

A subscription service has been designed for easy electronic notification to subscribers of any updates and/or changes to the website information.

Illinois CHSP Internet Information

During the CHSP development phase, stakeholders can access information pertaining to the Illinois CHSP via a secure website.

http://www.dot.il.gov/illinoisCHSP/login.aspx

To access the website at this time an ID and Password must be used.

ID: chsp
Password: safety (ID and password are case sensitive)

Once the CHSP has been approved and the implementation phase has begun, the website will be opened for public access.

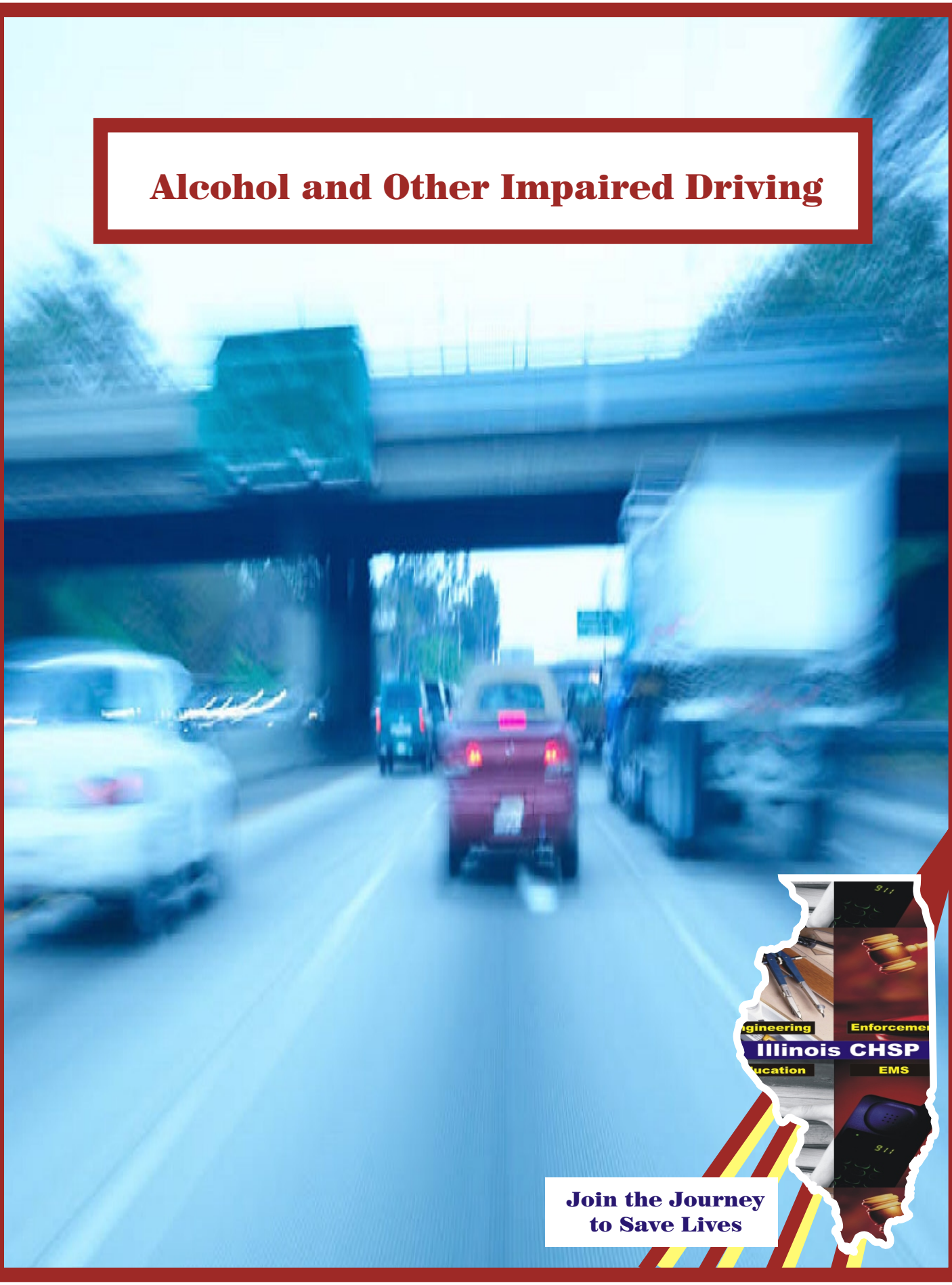
To communicate electronically, the following e-mail address has been created.

illinoisCHSP@dot.il.gov

Emphasis Areas

- Alcohol and Other Impaired Driving
- Driver Behavior and Awareness
- Highway-Railroad Grade Crossings
- Information Systems for Decision Making
- Intersections
- Large Trucks
- Roadway Departure
- Safety Belts/Occupant Protection
- Vulnerable Users
- Work Zones

Alcohol and Other Impaired Driving



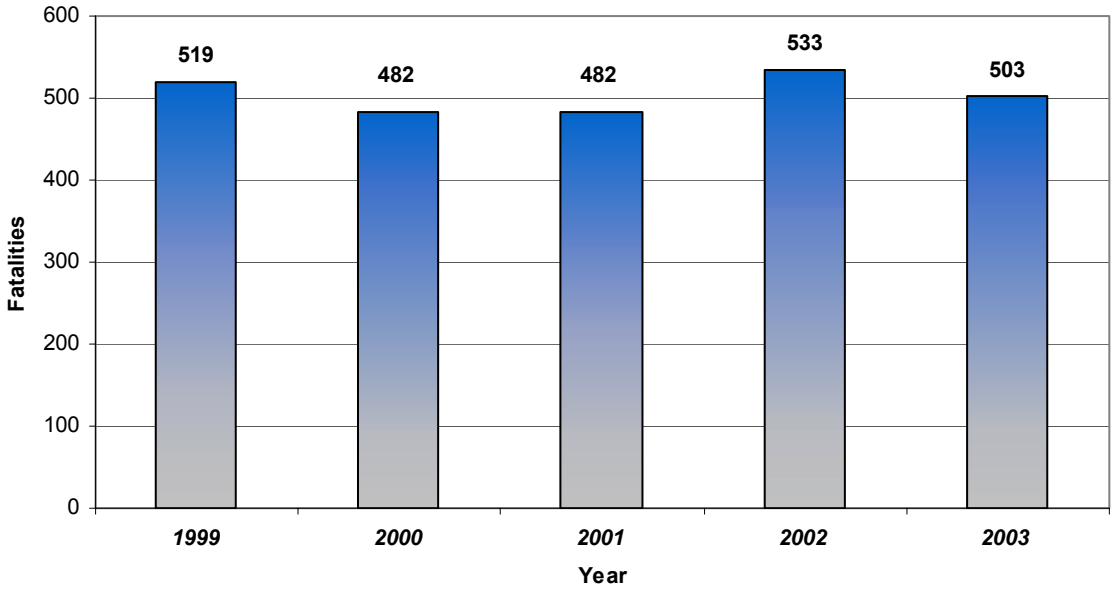
Alcohol and Other Impaired Driving

Background

In 2003, 44 percent of all Illinois' fatalities from traffic crashes were alcohol-related according to the National Highway Traffic Safety Administration (NHTSA). Of these crashes, 34.6 percent of all fatally injured drivers tested positive for Blood Alcohol Content (BAC) (result greater than or equal to .01). Of the fatally injured drivers ages 16-24 tested for alcohol, more than 50 percent returned positive BAC results. Underage male drivers, young male drivers, and weekend crashes were prominent components of alcohol/drug related crashes. Drivers under the age of 21 accounted for 14.2 percent of all driver fatalities, and 32.5 percent of these fatalities were alcohol-related. It has been shown that the fear of arrest, subsequent license loss, prosecution, and conviction are the best deterrents to impaired driving. This is especially true for the 18-34 age group. In conjunction with alcohol impairment, speed and safety belt usage are often contributing factors in these fatalities.

Figure 5. Illinois Known Alcohol-Related Fatalities

(Fatalities resulting from crashes where at least one driver, either surviving or killed, had a positive BAC of .01 or greater.)



Source: IDOT Division of Traffic Safety

Figure 5 displays the quantity of traffic fatalities known to be alcohol-related. This data is incomplete, since a large number of killed drivers and passengers are not tested for alcohol. In 2003, Illinois' BAC testing rate of all drivers involved in fatal crashes was 50.7 percent. This rate greatly exceeds the national average of 40 percent in 2003.

Recent Implemented Strategies

- Created a Governor's Alcohol Abuse Task Force to heighten public awareness and rejuvenate determination to reduce impaired driving.
- Executed year-round drunk driving enforcement.
- Provided special enforcement emphasis during national crackdown periods.
- Employed strong public information and education campaigns, such as "You Drink, You Drive, You Lose."
- Increased training for law enforcement officers and the criminal justice community.
- Increased participation and coordination by all components of the DUI system: enforcement, prosecution, adjudication, and rehabilitation.
- Increased statewide law enforcement agency participation in counties where 85 percent of the population is located.
- Implemented Illinois Impaired Driving Assessment recommendations.
- Continued implementation of IDOT's Highway Safety Plan initiatives:
    - Added hireback patrol hours of Secretary of State's Police through the Anti-Drunk Driving Enforcement Program
    - Funded Operation Straight I.D., Project 21, and the Social Norming (SONOR) Program
    - Provided local DUI law enforcement liaisons
    - Continued training for DUI law enforcement officers
    - Funded roadside safety checkpoints
    - Offered judicial training for judges
    - Funded Local Alcohol Projects and Mini-Alcohol Projects
    - Funded Alcohol Countermeasure Enforcement (ACE) projects directed at youths
    - Developed DUI and ".08" public awareness programs
    - Identified and analyzed alcohol-related crash fatalities by jurisdiction in targeted counties
    - Targeted enforcement at select high-crash locations
    - Funded "Don't Turn Your Summer into a Bummer"
    - Funded the Illinois Liquor Control Commission
    - Funded a racial profiling study
    - Purchased breath-testing instruments for local law enforcement officer training
    - Funded Beverage Alcohol Sellers and Servers Education and Training (BASSET)

Challenges

- Speeding as a frequent contributing factor in alcohol-related crashes.
- Lack of safety belt usage tied to impaired driving.
- Increase in underage and young adult drinking and driving.
- Society's acceptance of "drink and drive."
- Limited public awareness of the problem.
- High cost for airing public service announcements during primetime media.
- Inability to track DUI instances and link all DUI databases.

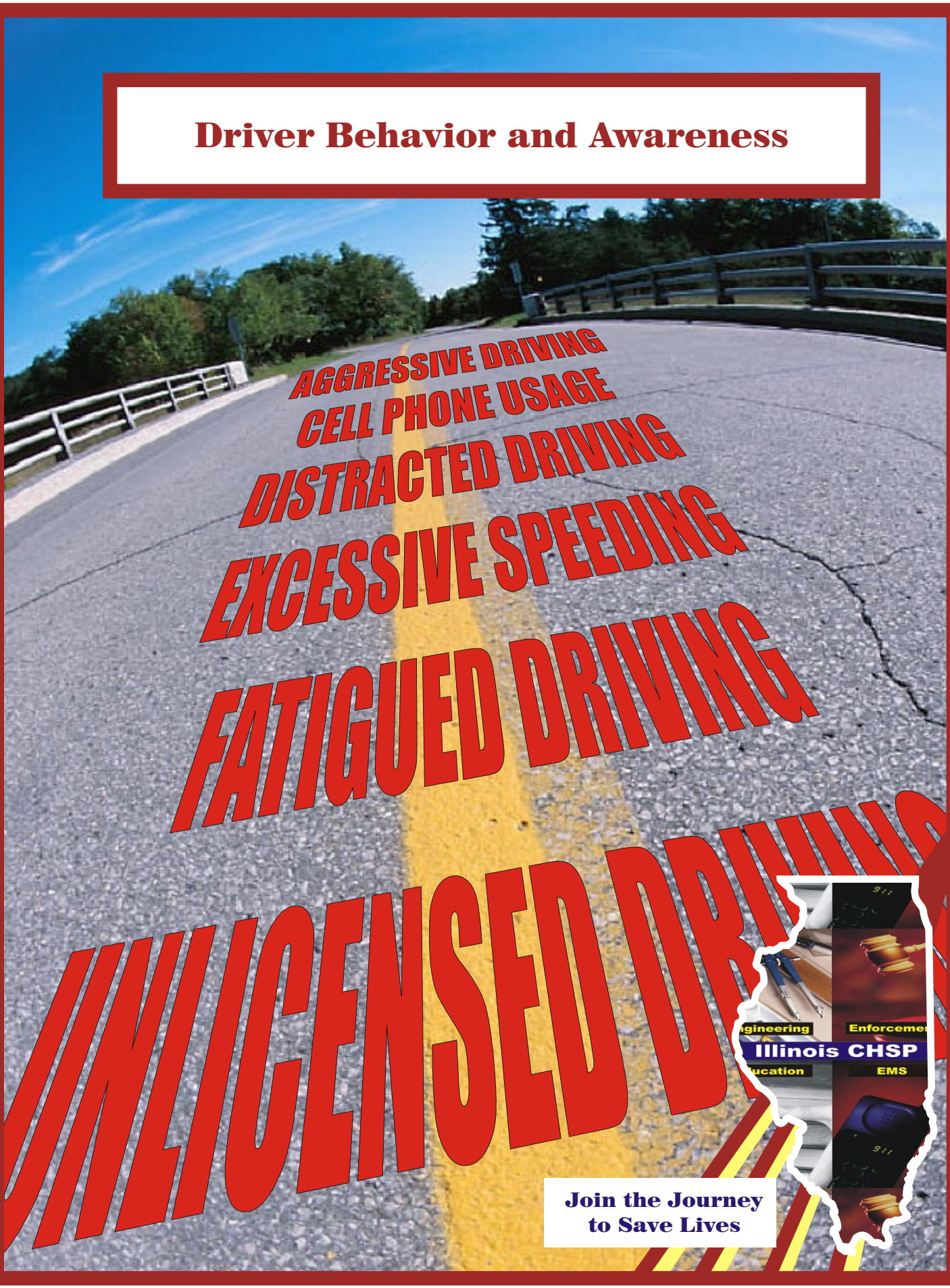
- Repeat offenders who continue to drive.
- Limited resources for offender rehabilitation programs.
- Complicated existing legislation that is difficult to enforce and adjudicate.
- Prosecution and judiciary coordination.
- Judicial system that typically gives court supervision for first DUI offense.
- Limited resources for enforcement, prosecution, and judiciary.
- Inconsistent BAC testing for fatally injured drivers, passengers, and pedestrians.
- Updating crash reports with BAC test results.

Proposed Strategies

- Implement driver awareness programs on the dangers of impaired, fatigued, and distracted driving.
- Focus more resources on high-visibility enforcement.
- Provide selective enforcement directed at speeding and impaired driving.
- Support cross-jurisdictional agreements among law enforcement agencies.
- Promote stricter enforcement of laws prohibiting underage drinking, serving, and purchasing of alcohol.
- Continue to conduct strong public information and education campaigns.
- Provide media campaign literature at public information meetings for proposed construction projects.
- Continue a Governor's Alcohol Abuse Task Force to heighten public awareness and rejuvenate determination to reduce impaired driving and implement recommendations.
- Develop and implement initiatives to reduce underage alcohol use and drunk driving.
- Review recommendations from the National Academy of Sciences "Report on Underage Drinking" for possible implementation.
- Consider development of an Illinois Fatal Alcohol Crash Team (F.A.C.T.).
- Promote mandatory field sobriety testing.
- Require mandatory skills testing of officers involved in DUI enforcement.
- Increase BAC testing of killed drivers, passengers, and pedestrians.
- Promote the need for mandatory blood draw requirement compliance to the health care industry.
- Train paramedics to draw blood on scene and testify in court.
- Support Illinois State Police (ISP) research of instruments that can detect impaired drivers by scanning their eyes.
- Develop a DUI tracking system that links several DUI databases available at various state agencies.
- Develop and implement rehabilitation programs for repeat offenders.
- Improve coordination and communication of DUI enforcement, prosecution, and adjudication, such as increase usage of DUI/drug courts to reduce recidivism.
- Designate specific DUI courts with judges that only adjudicate DUIs.
- Promote accountability among the judicial system for DUI convictions.

- Engineer vehicles to prohibit impaired drivers from operating them.
- Investigate engineering solutions to mitigate the occurrence and severity of alcohol-related crashes such as:
    - Enhanced and/or innovative traffic control devices (signs, signals and markings)
    - Traffic barriers (guardrail, median barriers, bridge railing and crash cushions)
    - Improved roadway geometrics and channelization
- Continue implementing and developing IDOT's Highway Safety Plan initiatives.
- Investigate all recent implemented strategies for success.

Driver Behavior and Awareness



Driver Behavior and Awareness

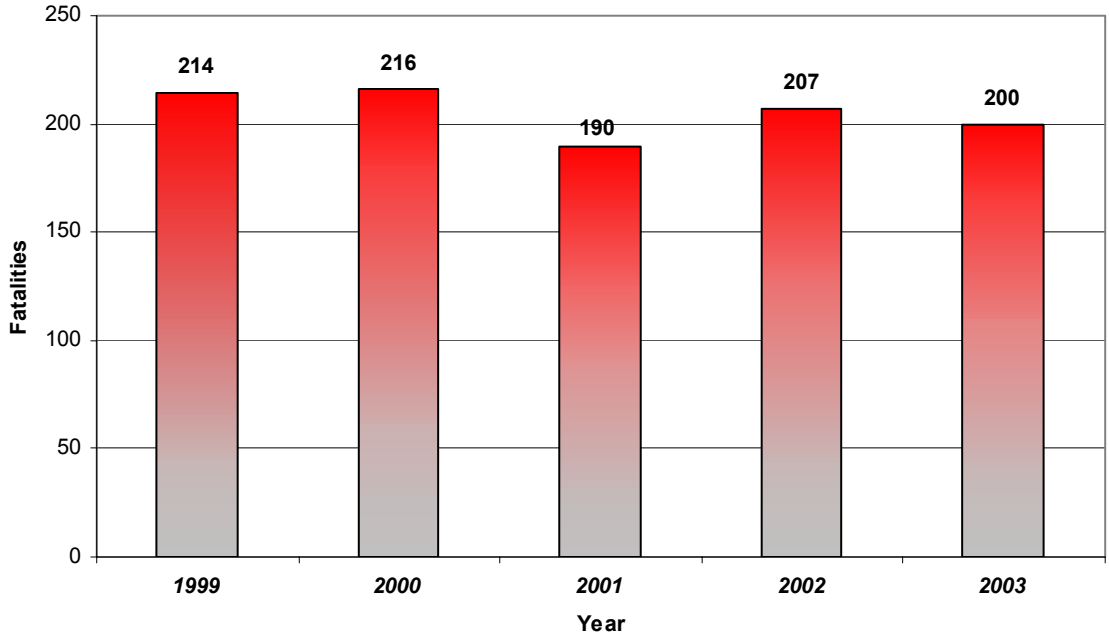
Background

Addressing inappropriate or hazardous driver behaviors is a critical factor in reducing fatal and life-altering injury crashes. Unsafe driving behavior may include, but is not limited to, aggressive driving, excessive speeding, distracted driving such as cell phone usage, drowsy or fatigued driving, and unlicensed driving (suspended, revoked, or no valid license).

Nationally, more than 60 percent of drivers consider unsafe driving by others as a major personal threat to themselves and their families. Statistics show that unsafe driving is becoming more prevalent across the country and is also increasing in severity.

Figure 6. Illinois Unlicensed Driver Fatalities

(Drivers, either surviving or killed, who did not have a valid driver's license at the time of the fatal crash. Includes drivers who were unlicensed or whose license was suspended, revoked, expired, cancelled, or denied.)



Source: IDOT Division of Traffic Safety

Young drivers ages 16-24 continue to be overrepresented in fatal and life-altering injury crashes. In 2003, 502 drivers (ages 16-24) were involved in fatal crashes. The five major contributing factors in such youthful driver fatal crashes are speeding, traveling on the wrong side of the road, failing to yield, reckless driving, and drinking.

In 2003, there were 1,109,131 older (ages 65+) licensed drivers in Illinois; 13 percent of all licensed Illinois drivers. While the data show most older drivers are quite responsible (e.g., high safety belt usage, low alcohol-related crash rates), national fatality rates per 100 million VMT for these drivers mirror the high rates for teen drivers. Furthermore, the inherent frailty of older drivers reduces their chances of surviving a crash and increases the risk of receiving life-altering injuries.

Speed, drowsiness, and unlicensed drivers pose problems to the transportation community. In 2003, 39 percent of Illinois fatal crashes were speed related. The National Highway Traffic Safety Administration (NHTSA) estimates that nationally drowsiness is a factor in 100,000 police reported crashes each year, resulting in 76,000 injuries and 1,500 deaths. In 2003, it was estimated that 200 traffic fatalities were caused by a driver that did not possess a valid driver's license. Refer to Figure 6.

Recent Implemented Strategies

- Enhanced graduated licensing program.
- Focused awareness and enforcement efforts on the 23 counties where 85 percent of the population resides.
- Banned hand-held cell phone usage while driving in Chicago (July 8, 2005).
- Continued implementation of IDOT's Highway Safety Plan initiatives.
- Funded Speeding and Traffic Accident Reduction (STAR) program enabling Secretary of State Police to utilize roving patrols.
- Funded Injury Prevention Programs promoting safe driving behaviors.
- Photo enforcement for red-light running in Chicago.
- Photo enforcement at highway-railroad grade crossings in DuPage County.

Challenges

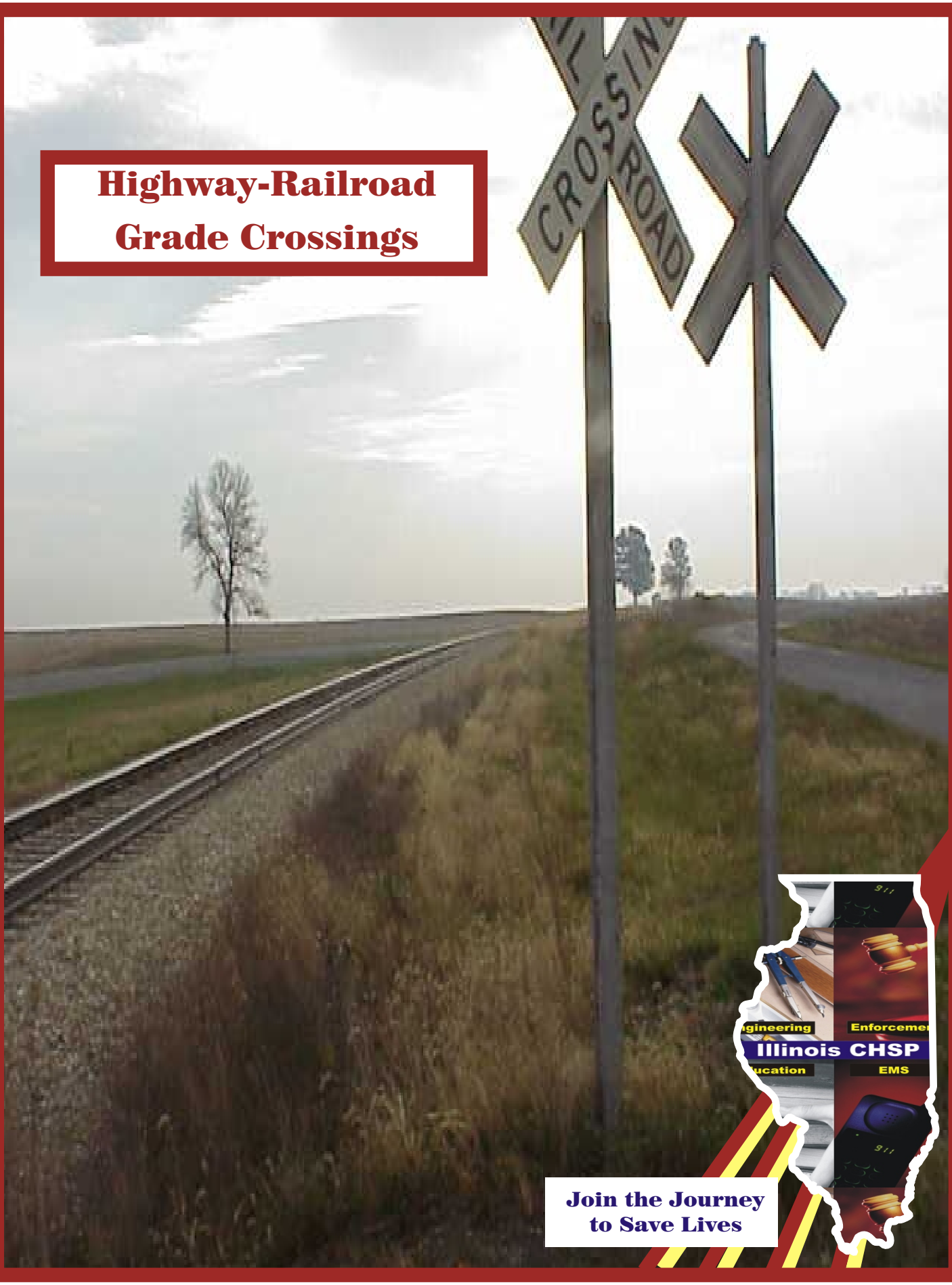
- Increasing speeds.
- Growing disrespect for other drivers and pedestrians.
- Aggressive and reckless driving habits.
- Drowsy drivers, including shift workers and commercial drivers.
- Increase in unlicensed drivers.
- Driver distraction and cell phone usage.
- Growing population of older drivers (ages 65+).
- Increasing disregard for traffic laws and traffic control devices.
- Youthful driver attitudes toward and exposure to risk.
- Decreasing engineering, enforcement, education, and emergency medical service resources.
- Auto industry marketing of high performance "fast" cars.
- Suicide classification, by state law, requires intent to be proven.

Proposed Strategies

- Explore possible engineering countermeasures such as:
    - Rumble strips
    - Rumble stripes
    - Innovative pavement marking and signing
    - 3-D tape pavement marking
- Pursue more easily read sign fonts such as Clearview.
- Design enforcement "pull over" areas into roadway construction projects.
- Pursue use of speed trailers on routes with high fatality rates.
- Encourage state and local adoption of photo enforcement.
- Expand use of speed monitoring and changeable message signs.
- Consider policies to regulate cell phone and other electronic device usage.
- Use standardized vehicle categorizers for speed monitoring.
- Develop unlicensed/revoked/suspended licenses distribution lists for law enforcement.
- Define and determine the scope of hazardous driver behaviors.
- Educate all roadway users on the dangers of poor driving behaviors.
- Improve the driving environment to minimize or eliminate the external "triggers" of aggressive driving, such as reducing and providing better information about delays.
- Evaluate the impact of poor vehicle maintenance on fatalities and crashes.
- Improve driver compliance with traffic control devices.
- Support increases in traffic violation penalties such as those in school zones.
- Evaluate Illinois Rules of the Road for effectiveness of covered information.
- Assess impact and effectiveness of the Graduated Driver Licensing (GDL) law and ensuing reduction in crash involvement.
- Enhance and strictly enforce current GDL laws.
- Enhance driver education:
    - Determine effectiveness of new and existing private and in-school programs
    - Standardize curriculum for classroom and behind-the-wheel education
    - Update instructor preparation and continuing-education programs
- Initiate driver education programs at younger ages.
- Increase required classroom and behind-the-wheel education hours.
- Work with traditional and non-traditional educational organizations to evaluate curriculum effectiveness and promote increased awareness of safer driving.
- Require driver testing on a more frequent basis.
- Identify high-risk demographics (i.e., age, sex, etc.) and direct tailored messages toward select groups.
- Identify other successful age-specific strategies by reviewing research for reducing other risky behaviors (drug use, alcohol use, etc.).
- Work with national partners, advertisers, and media to deliver consistent safety messages.
- Promote National Safety Council's "Teen Driver: A Family Guide to Teen Driver Safety" as a resource.
- Provide educational programs for high-risk groups (e.g., drivers ages 15-24) addressing injury prevention, occupant protection, DUI, speed, and distraction issues.

- Review Illinois Department of Public Health (IDPH) Drowsy Driving Committee recommendations for possible implementation.
- Review IDPH Illinois Suicide Prevention Task Force recommendations for possible implementation.
- Review State Farm Insurance's "Project Ignition" program for potential development of traffic safety messages in conjunction with the National Youth Leadership Council.
- Expand implementation of Older Driver Highway Design Handbook.
- Emphasize use of the driver's license "re-testing" form to law enforcement and the Secretary of State for older drivers who seem confused.
- Increase awareness through multiple campaigns:
    - Produce "orange bracelets" and attach to cards containing Illinois CHSP information and the motorists' role as a partner
    - Develop a "Be Safe, Inflate!" campaign for proper tire inflation
    - Provide air pressure gauges with supplemental safety information during National Tire Safety Week
    - Partner with shopping centers to display safety information on advertisement screens, boards, and kiosks
    - Partner with local sports arenas to display information on outfield fences and ice rink boards
    - Hold American Traffic Safety Services Association (ATSSA) Foundation poster and calendar contests
    - Organize and operate a CHSP and safety booth at the Illinois State Fair
    - Partner with American Association of Retired People (AARP) and insurance companies to add supplemental safety information to regular mailings
    - Create lobby displays of CHSP information and highlights for stakeholder office buildings
    - Include safety information with employee paychecks
    - Present safety information on "Illinois Channel," the new government cable television channel
    - Create a lottery game related to safety
    - Accompany parking passes with alcohol-related and general traffic safety literature to university students
    - Require work zone awareness training (view six-minute video) prior to receiving or renewing driver's license
    - Develop safety-related Secretary of State license plates with wide distribution and commitment from stakeholders
- Continue implementing and developing IDOT's Highway Safety Plan initiatives.
- Utilize NCHRP Report 500 - Volume 1: A Guide for Addressing Aggressive-Driving Collisions.
- Utilize NCHRP Report 500 - Volume 2: A Guide for Addressing Collisions Involving Unlicensed Drivers.
- Utilize NCHRP Report 500 - Volume 9: A Guide for Addressing Collisions Involving Older Drivers.
- Investigate all recent implemented strategies for success.

Highway-Railroad Grade Crossings



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Highway-Railroad Grade Crossings

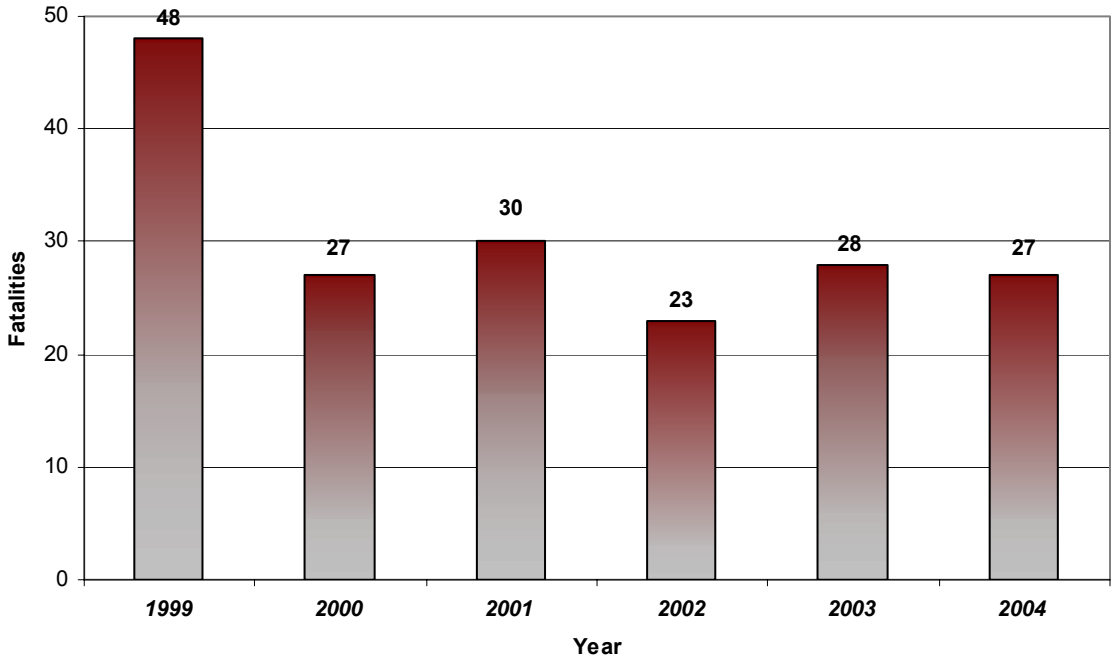
Background

Illinois has the second largest railroad network in the nation, and the Chicago area is its largest single point of rail traffic interchange where all major railroads meet. Illinois has approximately 7,300 miles of railroad line and 8,485 public highway-railroad grade crossings. Of these crossings, 7,632, or 90 percent, are on the local system. Furthermore, there are 5,000 private highway-railroad grade crossings and 300 pedestrian-railroad grade crossings in the state.

The railroad safety environment in Illinois is characterized by intense use of both the rail and highway systems. Rail ton-miles of travel, as well as highway vehicle miles traveled, have both increased by over 30 percent during the past ten years. In the same time frame, the number of rail-related incidents has declined by approximately half. Refer to Figure 8.

Crashes at public highway-railroad grade crossings accounted for 27 fatalities in 2004. While vehicle-train crashes are not as frequent as other types of traffic crashes, they tend to be more severe than a typical vehicle-vehicle crash. A vehicle-train crash is over 11 times more likely to result in a fatality and 5.5 times more likely to result in a life-altering injury than crashes not involving a train.

Figure 7. Illinois Public Highway-Railroad Grade Crossing Fatalities



Source: Illinois Commerce Commission

Illinois experienced two of the most tragic highway-railroad grade crossing crashes in recent U.S. history:

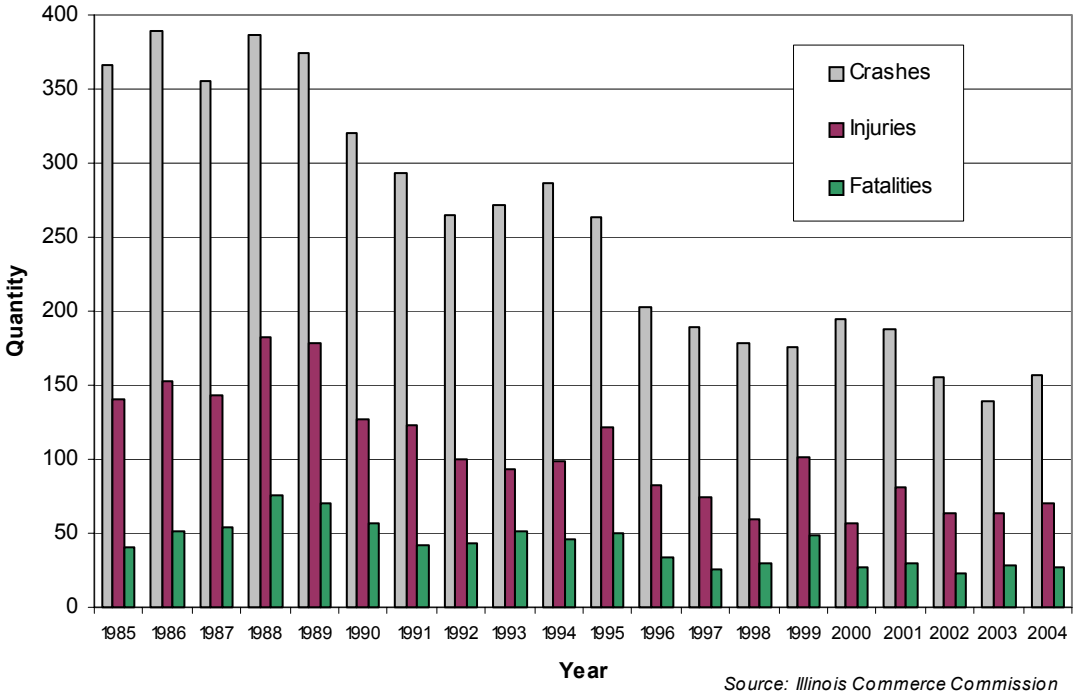
Bourbonnais – March 15, 1999
When Amtrak Train No. 59 struck a tractor-trailer hauling steel products at the McKnight Road grade crossing, 11 passengers were killed and 122 others injured.

Fox River Grove – October 25, 1995
When a Metra train struck a school bus at the Algonquin Road grade crossing, 7 passengers were killed and 24 others injured.

During the past ten years, Illinois has seen significant reductions among vehicle-train crashes and fatalities. Refer to Table 1.

TABLE 1	***1995***	***2004***	***Change***	***Reduction***
Vehicle-Train Crashes	263	157	106	40%
Vehicle-Train Fatalities	50	27	23	46%

Figure 8. Illinois Public Grade Crossing Crashes: 1985-2004



The Federal Railroad Administration (FRA) published its final rule pertaining to the "Use of Locomotive Horns at Highway-Rail Grade Crossings" on April 27, 2005. The effective date of the final rule was June 24, 2005. This will need to be considered as safety efforts are made to reduce vehicle-related fatalities.

Recent Implemented Strategies

- Continued support of Operation Lifesaver efforts to educate motorists on the hazards of highway-railroad grade crossings and the motorists' responsibility to comply with existing rail-crossing laws.
- Continued enforcement activities through Illinois Operation Lifesaver and Public Education and Enforcement Study (PEERS) programs.
- Operated an in-service grade crossing automatic enforcement system (DuPage County).
- Designed and installed state-of-the-art, four-quadrant gate systems equipped with trapped vehicle detection.
- Improved highway-railroad warning systems interconnected with highway traffic signal systems.
- Installed electronic monitoring devices at grade crossings equipped with active warning devices, enabling immediate notification of signal malfunctions.
- Implemented low-cost safety improvements at unsignalized grade crossings.
- Enforced compliance of state and federal signing, marking, signal, gate, and other warning device installation standards.
- Comprehensive review by Illinois Commerce Commission (ICC) to pursue closure of nonessential highway-railroad grade crossings.
- Performed comprehensive engineering grade crossing reviews, including corridor-based studies.
- Initiated a statewide project to upgrade all crossings marked with only passive crossbuck warning signs with reflectorized striping and a corresponding yield or stop sign.
- Drivers Education Packets are distributed to high schools and school bus companies.

Challenges

- 8,485 public highway-railroad grade crossings in Illinois:
    - 7,623 crossings on the local system
    - 862 crossings on the state system
- Increasing volumes of rail and highway traffic.
- Quantifying queue crashes while waiting for trains.
- Quantifying run-off-road crashes where railroad signs/signals are hit.
- Large number of at-grade crossings increase train passenger exposure.
- Dense commuter rail network in northeastern Illinois.
- Adverse public reactions to public grade crossing closures.
- Train horn ban regulations.
- Identification of grade crossings on crash report.
- Train not listed as a vehicle type on crash report.

Proposed Strategies

- Develop new high-visibility and high-profile law enforcement programs to reduce rail signal and gate violations.
- Promote automated enforcement of grade crossing violations.
- Investigate use of signs with Radio Frequency Identification (RFID) chips that can capture gate violation data.
- Provide special consideration to grade crossings within work zones.
- Determine where increased railway traffic is occurring.
- Pursue safety analysis information for northeastern Illinois prepared by the Chicago Area Transportation Study (CATS).
- Consider suicide-by-train issues as addressed by IDPH's Illinois Suicide Prevention Task Force.
- Investigate all recent implemented strategies for success.

Information Systems
for
Decision Making
Illinois CHSP
Join the Journey
to Save Lives

Information Systems For Decision Making

Background

Understanding and making optimal use of information technology is a critical challenge facing Illinois' highway safety professionals. Knowing the "who, what, when, where, why, and how" of traffic crashes is the foundation of a comprehensive traffic safety analysis system. In order to help protect public safety, proper understanding and use of integrated traffic records is necessary to plan and assess safety programs and influence resources.

Crash, traffic, citation, medical, judiciary, and driver records must be available to enable proper decision-making for applying limited resources to safety improvements and providing better services to taxpayers. Furthermore, these data influence effective development and implementation of safety policies and projects. This effort requires coordination among all stakeholders.

A complete traffic records program is necessary for planning, problem identification, operational management or control, and evaluation of a state's highway safety activities. This program should include and provide information for the entire state. Its functionality is basic to the implementation of all highway safety countermeasures and is the key ingredient to its effective and efficient management.

Timely and accurate crash data is vital to the analysis necessary for successful highway safety public information and enforcement programs. In order to provide easy access to the data, a comprehensive data mining and reporting system, as well as appropriate staffing, must be pursued.

A new Crash Information System (CIS) is being developed for Illinois that will, as a whole, reduce manual processes and greatly increase the flexibility and efficiency of the data system itself. It is incumbent on IDOT to further equip key users with the appropriate mechanism to query the data as the sheer volume of data within the organization can be overwhelming. Yet these data alone cannot give Illinois the advantage needed to reduce traffic-related deaths and life-altering injuries. The measure of any data warehousing solution is its ability to derive knowledge from the data. This challenge is met with the ability to identify patterns, trends, and relationships from volumes of information too large to be processed by human analysis alone. All of these challenges must be met without having to turn basic business users into computer programmers.

In addition to the new CIS, the Mobile Capture and Reporting (MCR) system is being implemented in Illinois law enforcement communities. This system provides for electronic capture and submission of crash reports. In 2004, over 532,000 paper-copy crash reports were submitted to IDOT's Division of Traffic Safety. This number alone illustrates the advantages to be gained from the MCR system, which is currently used by 470 Illinois State Police (ISP) troopers. Additionally, the MCR system is in pilot mode with ISP District 15, the Illinois Tollway, and the city of Peoria. The rollout of MCR within county and municipal law enforcement agencies will continue through the end of 2005. When completed, the system will improve the quality of crash data and reduce the amount of manual processes currently required.

Recent Implemented Strategies

- Continued operation of the new Traffic Records Coordinating Committee to review all crash databases and identify ways to integrate them.
- Introduced MCR to ISP.
- Continued implementation of IDOT's Highway Safety Plan initiatives:
    - Funded development of an effective Injury Surveillance System (ISS) and web-based system
    - Funded local agency MCR training
    - Enhanced automated crash data transmission capabilities
- Regulation and maintenance of the Illinois Prehospital Care Report Database, the Illinois Trauma Registry, the Illinois Head and Spinal Cord Injury Registry, and the Illinois Violent Injury Registry.

Challenges

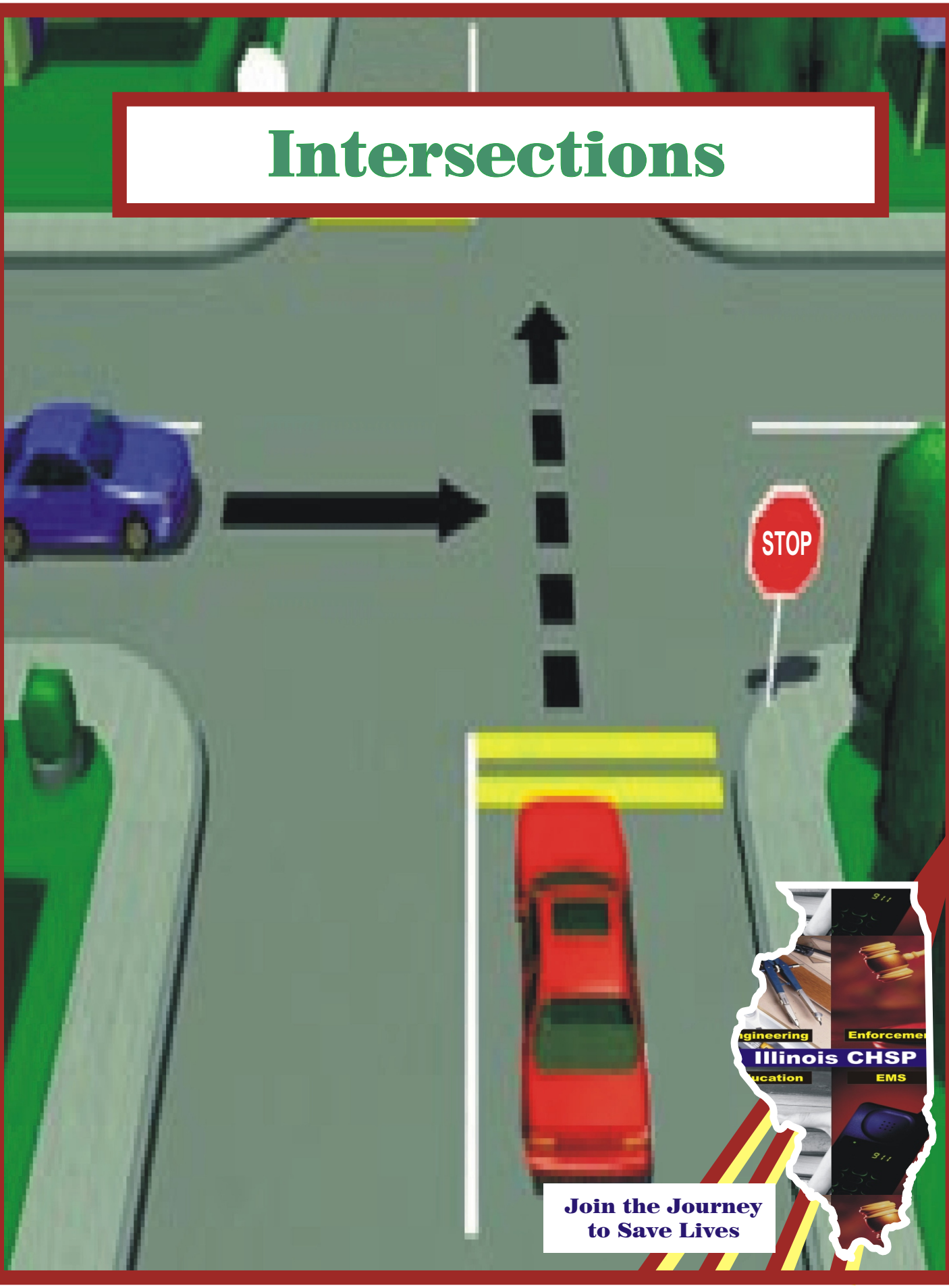
- Data capture of exact crash locations.
- Training law enforcement officers on crash reporting.
- Tracking of injuries resulting from crashes.
- Lack of user-friendly and easily-accessible crash data.
- Lack of rapid access to Secretary of State driver's license information.
- Lack of crash data and data analysis understanding.
- Transformation from a "total crash" system to a "crash severity" system.
- Limited system-wide approach to identify problem areas.
- Local information capturing.
- Limited resources (funding and staff).

Proposed Strategies

- Improve the quality and timeliness of crash data.
- Improve location coding for all rural roads and residential streets.
- Implement a continuously-operating help desk to accommodate law enforcement personnel in crash reporting.
- Offer the latest technology to all state and local law enforcement agencies for electronic crash data collection.
- Consider wireless citations as a potential future application.
- Enhance MCR to:
    - Ensure compatibility with multiple software and hardware platforms and multiple wireless environments
    - Provide the appropriate capacity to accommodate the large number of law enforcement officers
    - Develop and implement branding and marketing as a necessary tool for crash reporting
    - Make attractive and desirable to all law enforcement agencies
    - Enhance to provide web services across all communication barriers

- Identify and integrate all crash databases for easy user access.
- Assess and improve current active information systems to meet user needs.
- Develop a system-wide approach to identify problem areas.
- Use CODES to link crash data to medical databases.
- Enhance the Traffic Records Coordinating Committee to include all partners involved with crash-related data so it can be shared and used to identify more effective crash mitigating solutions.
- Continue implementing and developing IDOT's Highway Safety Plan initiatives.
- Investigate all recent implemented strategies for success.
- Improve data collection for all users through the newly implemented web-based Illinois Trauma Registry, collaboration with IDOT on the Crash Outcomes Data Reporting System (CODES), and investigate the feasibility of incorporating the National EMS Information System (NEMSIS) core data set into the Illinois Prehospital Care Report Database.
- Encourage EMS providers to accurately document occupant restraint usage and alcohol/ substance use for inclusion in the Illinois Prehospital Care Report Database.

Intersections

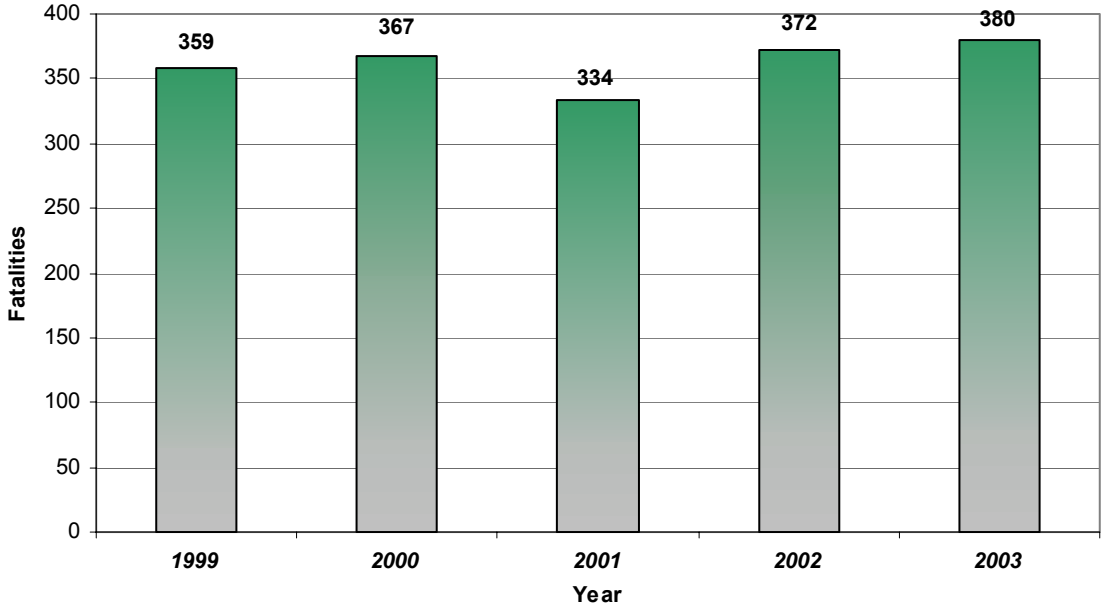


Intersections

Background

Although intersections only constitute a small portion of the overall highway system, nationally they are the location of more than 50 percent of all traffic crashes in urban areas and more than 30 percent of those occurring in rural areas. The majority (79 percent) of all fatal crashes occur at non-intersection locations, suggesting that the severity of intersection crashes is lower than elsewhere. Furthermore, it is expected that crashes are concentrated at intersections, since they create numerous conflict points where differing traffic movements converge in one place.

Figure 9. Illinois Intersection Fatalities



Source: Fatality Analysis Reporting System (FARS) Internet

In 2003, intersection-related crashes accounted for 6,458 life-altering injuries and 383 fatalities, or 26 percent of all Illinois fatalities. Refer to Table 2. Of these fatalities, 68 percent occurred at urban locations and the other 32 percent were at rural locations. Nationally, 21 percent of fatalities occurred at intersections.

TABLE 2	***2003 Illinois Fatalities***
All Intersections	383
Rural Intersections	123
Signalized	96
Unsignalized	27
Urban Intersections	260
Signalized	210
Unsignalized	50

Recent Implemented Strategies

- Increased roadway safety enhancements:
    - LED signals
    - In-pavement lighting
    - Interconnected signals
    - Exclusive left-turn lanes
    - Roadway lighting
    - Audible pedestrian signals
    - Countdown pedestrian crosswalk signals
- Local police agency identification and enforcement of “top ten” problem intersections.
- Photo enforcement for red-light running in Chicago.

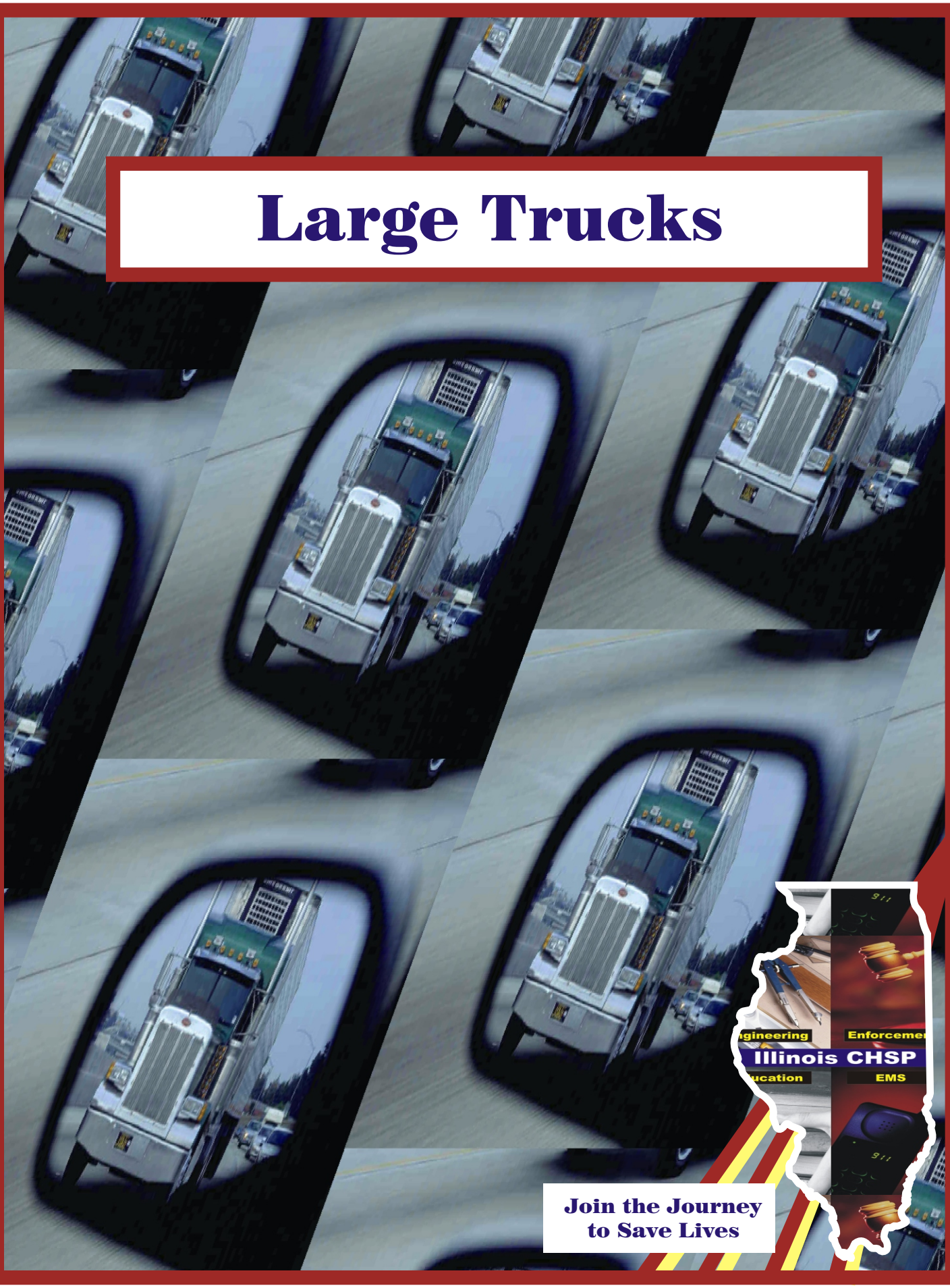
Challenges

- Increasing number of intersections at or nearing capacity.
- Older drivers’ limited ability to navigate complex intersections.
- Driver overload (too many signs, signals, markings, lanes, etc.).
- Identification of intersections having disproportionately large numbers of actual and potentially fatal and life-altering injury crashes.
- Local agency identification of problem intersections and commitment of funding for improvements.
- Joint state and local intersection ownership.
- Right-of-way (ROW) constraints at intersections and the high cost of purchasing ROW.
- Environmental and economic impacts of intersection improvements.
- Transformation from a “total crash” system to a “crash severity” system.

Proposed Strategies

- Identify intersections with disproportionately large numbers of fatal and life-altering injury crashes.
- Initiate and participate in intersection Road Safety Assessments.
- Use alternative designs, such a roundabouts, for intersection improvements.
- Install illuminated street signs.
- Improve sight distance at intersection approaches.
- Improve access management near intersections.
- Apply rumble strips at unsignalized stop approaches.
- Implement dynamic flashing beacons.
- Increase law enforcement at high-crash intersection locations.
- Pursue legislation to allow “Red Light Running” cameras outside the city of Chicago.
- Implement “Red Light Running” countermeasures including photo enforcement cameras and “tell-tale” or “confirmation” lights.
- Install rumble strips at high-speed stop-controlled intersections.
- Develop a procedure for law enforcement officers to request engineering assessments of crash sites.
- Improve driver awareness and knowledge.
- Contribute to a National Cooperative Highway Research Program (NCHRP) “Lead State” initiative for reducing intersection crashes by developing and implementing an action plan.
- Utilize NCHRP Report 500 - Volume 5: A Guide for Addressing Unsignalized Intersection Collisions.
- Utilize NCHRP Report 500 - Volume 12: A Guide for Addressing Collisions at Signalized Intersections.
- Investigate all recent implemented strategies for success.

Large Trucks

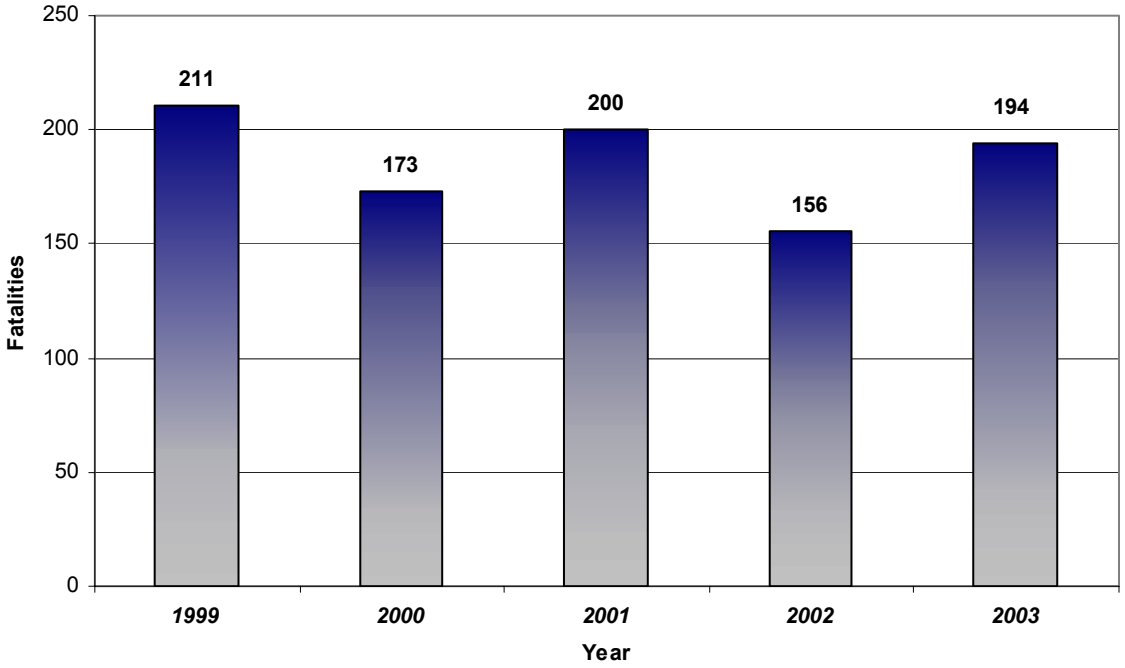


Large Trucks

Background

In 2003, 194 lives were lost on Illinois highways in crashes involving large trucks. Approximately one out of every eight highway deaths involved a large truck, which is defined as a vehicle having a gross vehicle weight rating (GVWR) over 10,000 pounds. These crashes differ from others in that the large trucks typically increase crash severity due to their size and weight. When compared to the overall crash picture, large truck crashes are typically attributed to unit separations, jackknifes, cargo losses and shifts, and increases in rear-end collision fatalities, work zone fatalities, multi-vehicle crashes, and on-the-road crashes. Furthermore, it has been shown that a disproportionate number of work zone fatal crashes involve large trucks.

Figure 10. Illinois Large Truck Fatalities



Source: Fatality Analysis Reporting System (FARS) Internet

Recent Implemented Strategies

- Implemented commercial driver license requirements mandated by the Motor Carrier Safety Improvement Act of 1999.
- Implemented the Commercial Vehicle Information Systems and Networks (CVISN).
- Implemented the Performance Registration Information Systems Management (PRISM).
- Utilized ISP Motor Carrier Safety Assistance Program (MCSAP) enforcement.
- Innovative use of MCSAP funds (i.e., work zones).

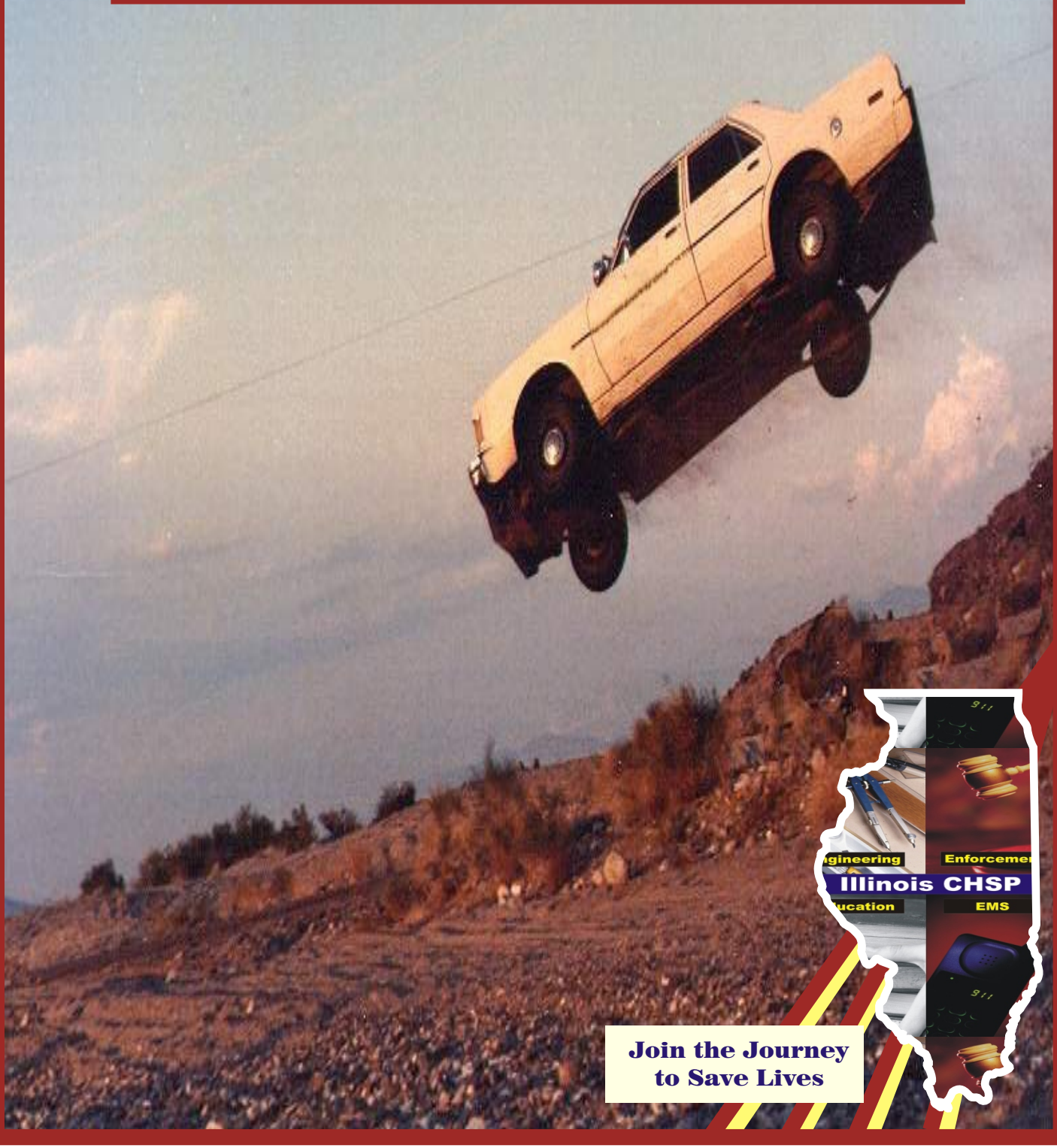
Challenges

- Compliance with federal and state safety regulations.
- Safety compliance of large trucks operated exclusively within Illinois.
- Truck driver seat belt usage.
- Fatigue resulting from unusual work hours.
- Identification of truck driver needs that can help improve safety.
- Noncommercial driver behaviors that contribute to large truck crashes.
- Identification of causal factors through data analysis.
- Coordination between local municipalities, state districts, and federal agencies to address large truck safety issues through engineering, enforcement, educational, and emergency medical service solutions.
- Trucking industry push for higher speed limits, larger and heavier trailers, multiple trailers and access to more state and local routes.
- Delivery of real-time road information such as congested routes and unexpected backups.

Proposed Strategies

- Identify high-crash corridors and initiate appropriate engineering and enforcement interventions.
- Implement other strategies identified in the Illinois' annual MCSAP.
- Add large truck exterior lighting to indicate restraint usage.
- Promote in-cab video monitoring of commercial drivers.
- Train local, ISP, Illinois Commerce Commission (ICC), and Secretary of State (SOS) police to "cross enforce" safety laws.
- Aggressively identify carriers with recurring unsafe practices.
- Pursue legislation to prevent triple trailers.
- Utilize NCHRP Report 500 - Volume 13: A Guide for Reducing Collisions Involving Heavy Trucks.
- Pursue use of ITS or use of "detectors" and message boards to communicate congested areas and back up occurrences to truck drivers.
- Investigate all recent implemented strategies for success.

Roadway Departure



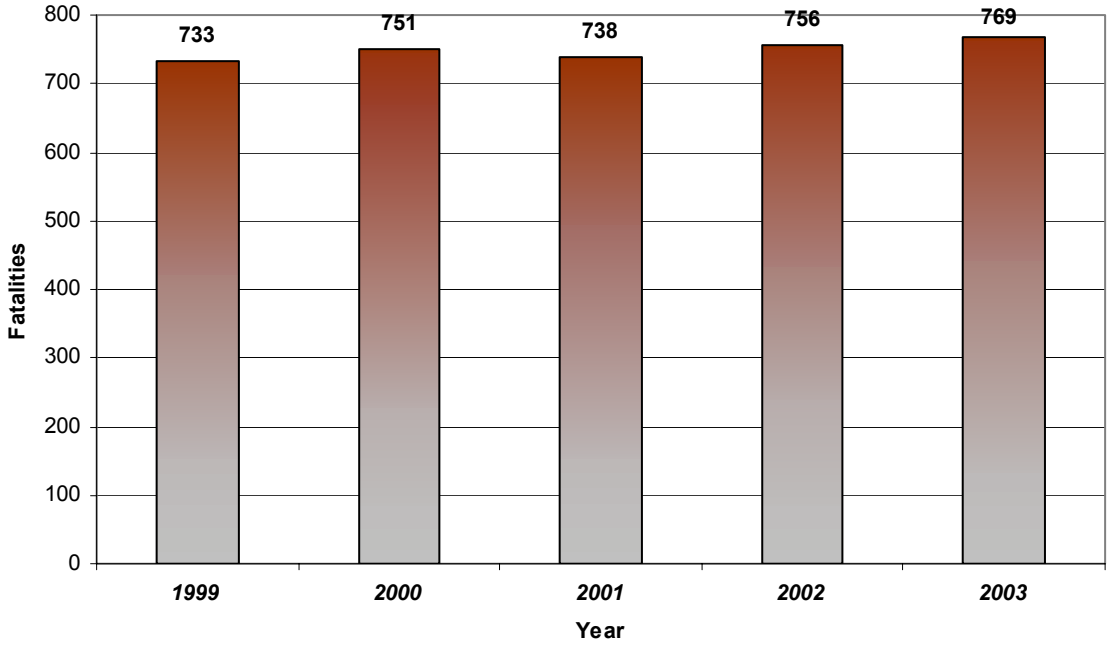
Roadway Departure

Background

Each year, roadway departure crashes account for more than 700 deaths, or about half of all Illinois highway fatalities. One of the most serious lane departure crashes is a “head-on” crash, which occurs when a vehicle departs its travel lane and collides with an oncoming vehicle. Another lane departure crash that often results in fatalities and life-altering injuries is a “run-off-road” crash, which occurs when a vehicle departs its travel lane and collides with a fixed object or overturns.

The ideal solution to roadway departure crashes is to keep vehicles from leaving the travel lane. One means of doing so is to identify cost-effective strategies that reduce unintentional lane departures. For events when departure is imminent, the primary objective is to alert the driver beforehand. The secondary objective is to assist the driver in safely returning to the travel lane and minimize the consequences of departure by creating clear zones along the roadside. The most common fixed objects involved in run-off-road crashes are trees, and the results of such crashes are generally quite severe. Nationally, fatal tree crashes account for 8 percent of all traffic fatalities, with 90 percent occurring on two-lane roads.

Figure 11. Illinois Roadway Departure Fatalities



Source: FHWA Field Services

Utility poles represent one of the more substantial objects that are intentionally placed on roadsides, and the United States has more than 88 million utility poles on highway right-of-way. Due to a pole's structural strength and small vehicle contact area, crashes involving them are often severe and are second only to trees for fatal fixed-object crashes.

Recent Implemented Strategies

- Installed milled-in rumble strips to both shoulders of Interstate roadways.
- Updated IDOT's Resurface, Restoration, Rehabilitation (3R) policy, directing levels of improvement in pavement width, shoulder width and type, and roadside clearing and barrier installation.
- Continued IDOT's Hazard Elimination Safety Program through annual identification of high crash locations.
- Installed only new guardrail end sections that pass NCHRP 350 crash testing requirements.
- Enhanced county 911 systems to coordinate with highway road signs.

Challenges

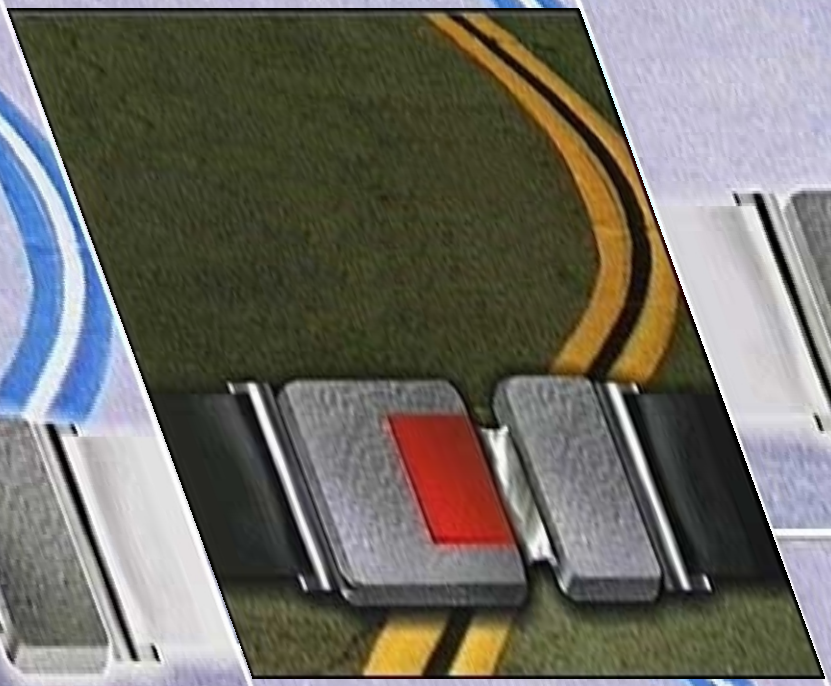
- Inaccurate crash locating from crash reports.
- Data issues regarding local system roadway characteristics and inventory.
- Lack of a common local reference system.
- Identification of driver and roadway causal factors.
- Instances of suicide unknown.
- Retro-reflectivity maintenance of signs.
- Development and retrofit of improved and crashworthy roadside hardware.
- Limited resources to upgrade or rebuild existing roadway infrastructures.
- Geographical constraints of EMS response capabilities and "911" range.
- Determination of accurate impact of deer crashes.
- Lack of trauma centers in lower half of the state.
- Malpractice crises limits the surgical resources available in some trauma centers and prevents recruiting effort for potential trauma centers.

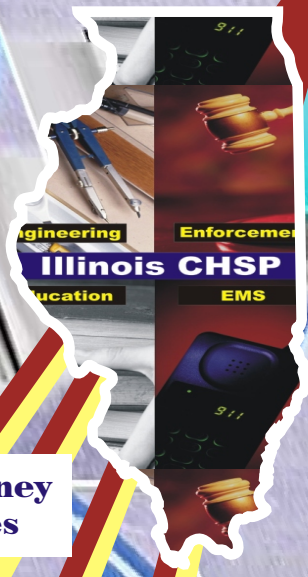
Proposed Strategies

- Initiate and participate in Road Safety Assessments.
- Develop standard operating procedures for implementing roadway safety improvements such as:
    - Centerline rumble strips and stripes
    - Shoulder rumble strips and stripes
    - All-weather pavement markings
    - Wide pavement markings
    - Raised pavement markings
    - 3-D tape
    - Alignments meeting minimum design speeds

    - Improved shoulders
    - Directional signs
    - New median barrier devices and installations
    - Passing lanes on rural two-lane roads
    - NCHRP 350 crash tested devices
- Apply forgiving roadway design concepts such as:
    - Fixed object removal and relocation
    - Barrier protections of fixed objects
    - Adequate clear zones
    - Flattened slopes
- Provide training to local agencies on roadside safety design.
- Implement asset management for roadside safety features.
- Expand and maintain roadway visibility features.
- Implement greater legibility standards, including Clearview Font, for sign fonts.
- Develop a procedure for law enforcement officers to request engineering assessments of crash sites.
- Train and educate drivers to safely recover after leaving the roadway.
- Provide selective enforcement directed at speeding and impaired driving.
- Evaluate the use of Intelligent Transportation Systems (ITS) to alert traffic of errant vehicles.
- Update, enhance, and maintain 911 systems and databases to better facilitate EMS response.
- Implement driver awareness programs on the dangers of impaired, fatigued, and distracted driving.
- Utilize NCHRP Report 500 - Volume 3: A Guide for Addressing Collisions with Trees in Hazardous Locations.
- Utilize NCHRP Report 500 - Volume 4: A Guide for Addressing Head-On Collisions.
- Utilize NCHRP Report 500 - Volume 6: A Guide for Addressing Run-Off-Road Collisions.
- Utilize NCHRP Report 500 - Volume 7: A Guide for Addressing Collisions on Horizontal Curves.
- Utilize NCHRP Report 500 - Volume 8: A Guide for Addressing Collisions Involving Utility Poles.
- Investigate all recent implemented strategies for success.

Safety Belts/Occupant Protection





Join the Journey to Save Lives

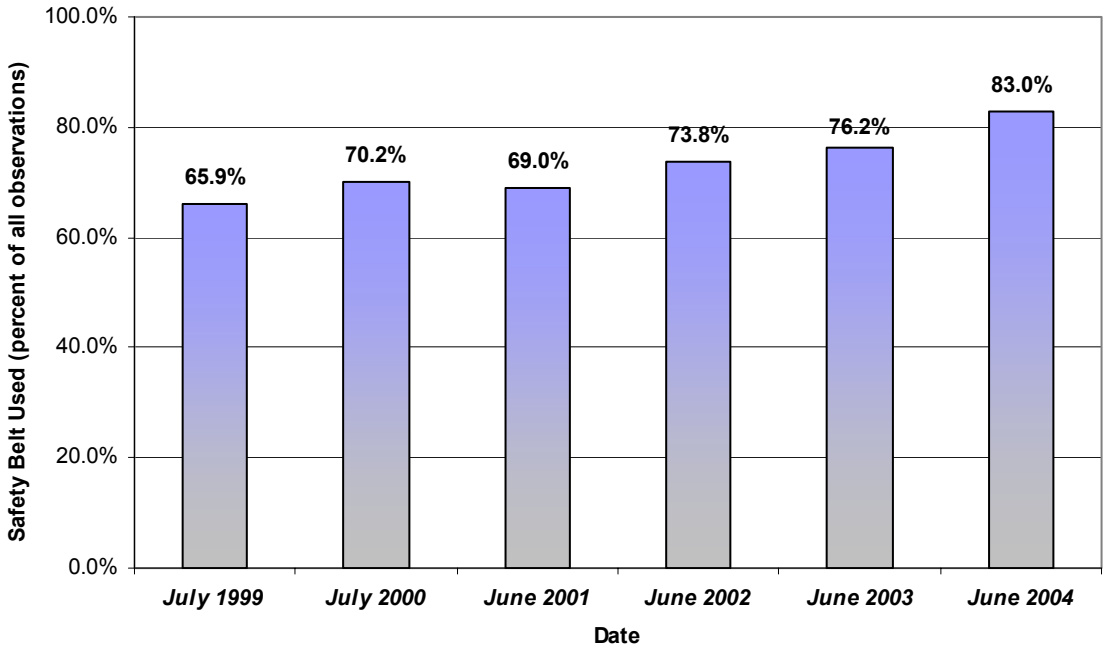
Safety Belts/Occupant Protection

Background

According to NHTSA, proper use of passenger restraints is the single most cost-effective and immediate means of reducing motor vehicle deaths and injuries. Drivers and occupants are becoming more aware of the importance of using safety belts, how to properly use them, and how to properly position children using safety restraints within air bag-equipped vehicles.

Safety belt usage in Illinois started increasing in the early 1990s but began leveling off and declining during the late 1990s. In July 2003, Governor Blagojevich signed the primary safety belt enforcement bill into law, making it possible for law enforcement to stop and ticket drivers based solely on a safety belt violation. Consequently, Illinois now has primary enforcement for the driver and front passenger, as well as an elevated child restraint requirement .

Figure 12. Illinois Observed Front Seat Safety Belt Usage



Source: Illinois Crash Facts & Statistics (2003)

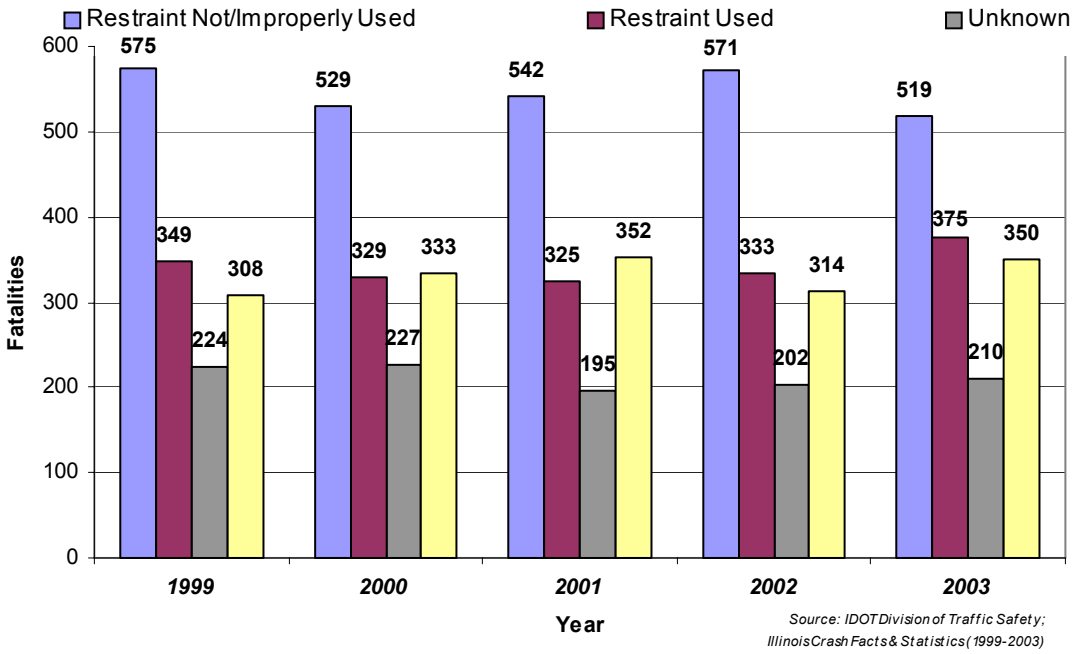
In fatal crashes where occupant restraint usage was reported, 48 percent of those killed were not wearing safety belts. The 2004 statewide safety belt usage rate rose from 76.2 percent to 83.0 percent. Refer to Figure 12. According to NHTSA, this increase translates into an estimated 90 lives saved and 2,791 injuries prevented. An overall increase in restraint usage, for both children and adults, will continue to decrease vehicular fatalities in Illinois. Public information and education campaigns, such as "Click It or Ticket," have also increased awareness on the importance of safety belt usage throughout the state. Furthermore, the fine for a violation is $25 plus a $55 required bond.

State and national fatality and injury data show that men ages 16-34 are most likely to be involved in a crash and least likely to be wearing safety belts. This group, identified as "at-risk," also engages in other high-risk driving behaviors such as speeding and reckless and impaired driving. Improving safety belt usage of this group will significantly decrease vehicular fatalities.

According to NHTSA, nearly 73 percent of child restraints are improperly used. Research on the effectiveness of child safety seats in passenger cars has found them to reduce fatal injuries for infants (children less than one-year-old) by 71 percent and by 54 percent for toddlers (children one- to four-years-old). For infants and toddlers placed in light trucks, the corresponding reductions are 58 percent and 59 percent, respectively.

On January 1, 2004, the Illinois Child Passenger Protections Act was amended to require that children under the age of eight must be secured in an appropriate child safety seat. A violation of the act is punishable by a fine of not more than $50 waived upon proving possession of an appropriate child restraint system. A subsequent violation of this Act is punishable by a fine of not more than $100.

Figure 13. Illinois Occupant Fatalities



* Vulnerable Users - Restraint usage not applicable to pedestrians, pedalcyclists, and motorcyclists.

Recent Implemented Strategies

- Identified and focused efforts on nonusers and part-time belt users.
- Supported public information and education campaigns, including earned and paid media.
- Increased high-visibility law enforcement efforts.
- Provided incentives to law enforcement for their efforts.
- Continued implementation of IDOT's Highway Safety Plan initiatives:
    - Funded Speeding and Traffic Accident Reduction (STAR) programs enabling Secretary of State Police to utilize roving patrols
    - Funded "Click It or Ticket" paid media and campaign efforts
    - Enabled purchasing of child safety seats and promotional material to demonstrate proper usage
    - Promoted Child Passenger Safety initiatives among small law enforcement agencies
    - Enabled increased ISP enforcement of occupant protection laws
    - Continued operation of child passenger safety resource centers
    - Revitalized "Saved by the Belt" program
    - Funded the Protectors Program
    - Provided hireback hours during enforcement campaign periods
    - Funded child safety seat technician training
    - Maintained five child safety seat installation check locations

Challenges

- Accurate crash reporting of restraint usage.
- Separation of not applicable and unknown usage on crash report.
- Limited public awareness of consequences of non-usage (i.e., fines, injury, death, etc.).
- Difficulty in reaching "at-risk" group (males ages 16-34).
- Limited personnel available to enforce occupant restraint laws.
- Difficulty in determining safety belt usage in moving vehicles.
- Racial profiling concerns.

Proposed Strategies

- Improve crash reporting accuracy.
- Increase fines for not using safety restraints.
- Aggressively enforce occupant restraint laws.
- Enhance "Safety Belt Enforcement" programs at the local level.
- Increase public awareness of consequences of non-usage (i.e., fines, injury, death, etc.).
- Provide safety belt/occupant protection literature to increase awareness via:
    - Safety partner facilities
    - Project public information meetings
- Educate parents and other caregivers on proper child restraint selection and installation.
- Identify and focus efforts on underserved and at-risk populations.
- Survey focus groups, such as by school district, age group, short distance travel, etc., on safety belt usage.

- Determine quantity of child safety seats needed to sufficiently address the low socio-economic community.
- Continue implementing and developing IDOT's Highway Safety Plan initiatives.
- Utilize NCHRP Report 500 - Volume 11: A Guide for Increasing Seatbelt Use.
- Investigate all recent implemented strategies for success.

Vulnerable Users

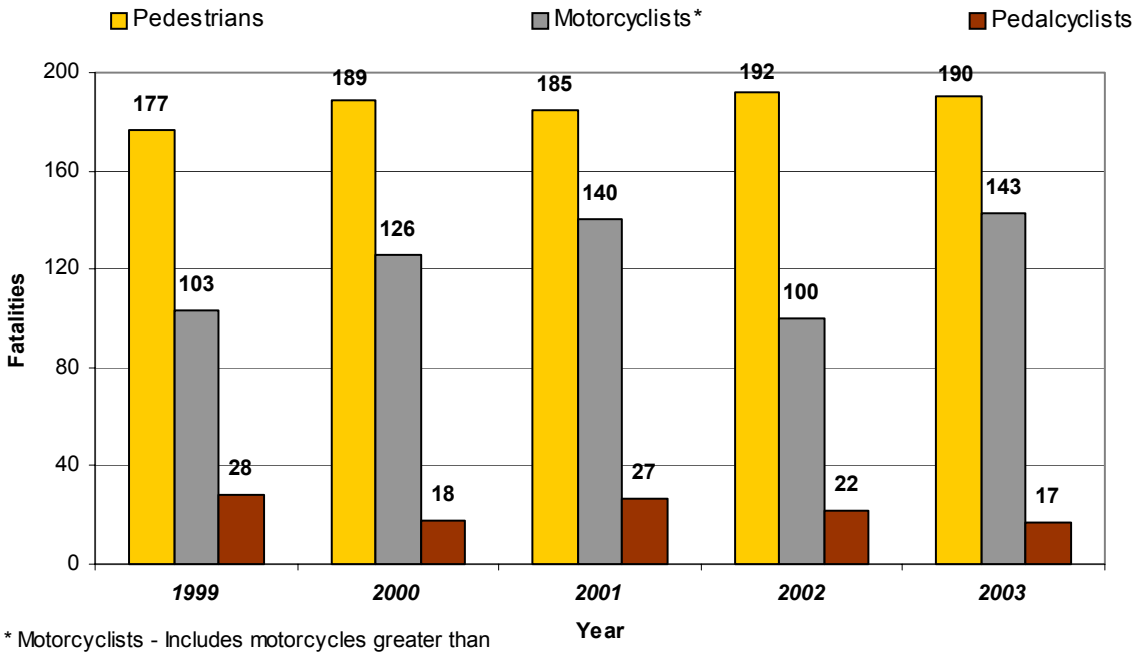
Join the Journey to Save Lives

Vulnerable Users

Background

Traffic is a relatively broad term that encompasses more groups than just passenger cars and large trucks. Pedestrians, pedalcyclists, motorcyclists, and other alternative transportation mode users, all deemed "vulnerable users," are part of the everyday roadway environment and attention should be paid to their presence. Even though vulnerable users are legitimate roadway users, they are frequently overlooked in the quest to develop today's transportation systems, and understanding the associated traffic safety issues has proven difficult for engineers and planners.

Figure 14. Illinois Vulnerable User Fatalities



* Motorcyclists - Includes motorcycles greater than 150cc and less than 150cc.

Source: Illinois Crash Facts & Statistics (1999-2003)

In 2003, 190 pedestrians were killed and 5,889 were injured in Illinois traffic crashes. Over 95 percent of all reported pedestrian crashes occurred in urban areas. Although pedestrian crashes make up less than two percent of all traffic crashes, pedestrian fatalities account for over 13 percent of all Illinois traffic fatalities. Furthermore, approximately one-third of these killed pedestrians had been drinking.

From 2002 to 2003, motorcycle fatalities increased by 43 percent, totaling 143 motorcycle riders killed in 2003 or 9.8 percent of all traffic fatalities. In the same time period, registered motorcycles increased from 237,319 to 254,643. Furthermore, 4,376 motorcycle crashes occurred in 2003 and a total of 2,588 injuries were sustained.

Pedalcyclists were also involved in a large number of crashes in 2003. From 3,199 pedalcycle-vehicle crashes, 19 pedalcyclists were killed and 3,113 were injured. Specifically, riders under age 16 accounted for 11.8 percent of pedalcyclist fatalities and over 42 percent of the injuries. Refer to Figure 14.

Recent Implemented Strategies

- Increased roadway safety enhancements:
    - Countdown pedestrian crosswalk signals
    - Enhanced roadway lighting
    - In-pavement lighting
- Implemented "Safe Routes to School" programs.
- Continued analysis and problem identification of motorcycle crash data.
- Continued implementation of IDOT's Highway Safety Plan initiatives:
    - Funded a motorcycle assessment to review program administration, personal protective equipment, rider education, licensing, and impaired riding
    - Funded a 50,000-copy reproduction of "Safe Bicycling in Chicago" in Spanish and English

Challenges

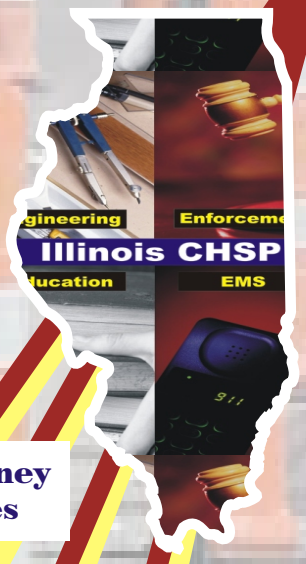
- Resistance to and lack of a mandatory motorcycle helmet law.
- Impaired pedestrians.
- Nighttime vulnerable user conspicuity.
- Limited pedestrian crash and exposure data.
- Lack of pedestrian advocacy groups.
- Lack of marked and lighted crossings and sidewalks.
- Incorporation of pedestrian facilities into all road projects.
- 50/50 state and local cost sharing.
- Local agency concern for exposure to liability.
- Capture of accurate crash data.
- Combination of contributing driver and vulnerable user factors.

Proposed Strategies

- Pursue legislation for a mandatory motorcycle helmet law.
- Promote programs to discourage drinking and motorcycling.
- Identify locations having disproportionately large numbers of vulnerable user crashes.
- Increase enforcement and education at identified high-crash zones.
- Increase lighting at high-crash locations.
- Improve pedestrian signing and pavement markings.
- Update existing and prepare new guidelines for pedestrian facilities at new construction and reconstruction projects.

- Increase state financial contributions for pedestrian facilities.
- Increase pedestrian and bicycle safety education programs in schools.
- Encourage communities to enact local mandatory bicycle helmet ordinances.
- Implement bicycle helmet distribution programs.
- Pursue further “Safe Routes to School” programs.
- Propose legislation, similar to California, to give pedestrians right-of-way.
- Participate in NCHRP “Lead City” program for pedestrian safety (Chicago Area Transportation Study (CATS) and Chicago Department of Transportation (CDOT)).
- Continue implementing and developing IDOT’s Highway Safety Plan initiatives.
- Utilize NCHRP Report 500 - Volume 10: A Guide for Reducing Collisions Involving Pedestrians.
- Investigate all recent implemented strategies for success.

Work Zones



Join the Journey to Save Lives

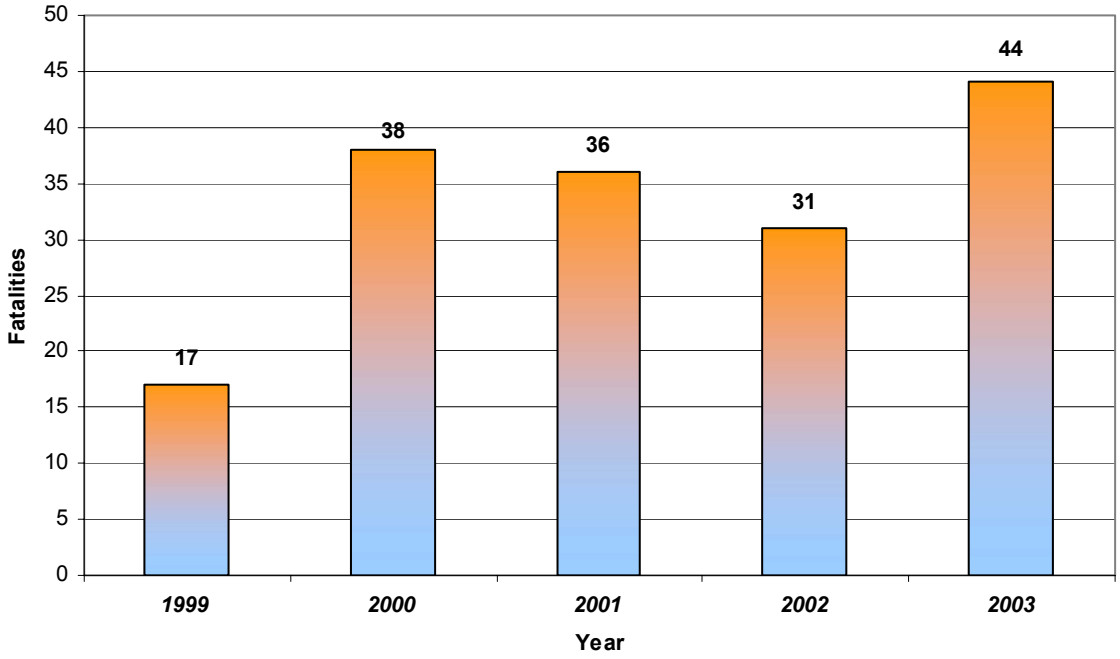
Work Zone

Background

Each year, hundreds of work zones present hazards, inconveniences, and delays to motorists. The definition of a work zone-related motor vehicle crash is a crash that occurs in the vicinity of a work zone (construction, maintenance, or utility) or within an area marked by signs, barricades, or other devices. This designation does not imply that the crash was caused by the work activity or zone. In 2003, work zone crashes supplied three percent of all Illinois fatalities and 12 percent of Interstate fatalities. These percentages are the result of 6,982 Illinois work zone crashes, 31 of which were fatal. These crashes left 44 roadway users dead, including 5 workers and 1 pedestrian.

In Illinois, disproportionate numbers of work zone fatalities occur on the Interstate system and involve large trucks. Furthermore, most crashes in 1999 occurred during the morning and afternoon rush "hours." This trend has shifted, and a majority of crashes are now occurring late at night or during early morning hours. To improve work zone safety and address current trends, increased communication, coordination, and cooperation among stakeholders is necessary. To facilitate this process, IDOT has a Work Zone Safety Committee that was created by legislation in response to high-profile fatal crashes and includes a wide range of representatives.

Figure 15. Illinois Work Zone Fatalities



Source: Illinois Crash Facts & Statistics (1999-2003)

Recent Implemented Strategies

- Implemented several recommendations from the Governor's Work Zone Safety Task Force:
    - Revised legislation to clarify the definition of work zone speeding
    - Increased minimum fine for speeding to $375 for the first offense and $1000 for the second offense
    - Legislatively enabled photo speed enforcement in work zones
    - Increased the use of police authority in work zones
    - Revised highway standards to provide more consistent work zones on high-speed facilities
    - Enhanced use of stationary and portable changeable message signs in and near work zones
    - Implemented ISP hireback program and increased its funding
    - Implemented "Trooper in a Truck" program
- Implemented "Scott's Law" regarding proper action in response to emergency vehicles in the roadway and added "Hit a Worker" signs to construction projects.
- Provided work zone training and information for public agencies and industry personnel.
- Redirected focus of the Work Zone Safety Committee.
- Initiated a plan for the Work Zone Public Relations Committee.
- Continued the Illinois Road and Transportation Builders Association (IRTBA) Safety Committee.
- Conducted work zone reviews with IDOT central office and FHWA staff.
- Continued implementation of IDOT's Highway Safety Plan initiatives: Funded local police departments to conduct Work Zone Safety patrols to reduce speeds and increase worker safety.

Challenges

- Inaccurate crash locating from crash reports.
- Speed enforcement in work zones.
- Maintenance of proper work zone signing and traffic control devices.
- Turnover of public and private work zone personnel.
- Relationship between contractors and unions for addressing safety issues.
- Development and implementation of cost-effective ITS and other emerging technologies to improve mobility and safety.
- Limited resources for public agency and industry personnel training.
- Limited resources to develop and conduct public outreach campaigns.
- Delivery of real-time work zone information to the traveling public.
- Queuing beyond the work zone area.

Proposed Strategies

- Pilot and implement photo speed enforcement as well as other innovative speed enforcement strategies.
- Design enforcement “pull over” areas into roadway construction projects.
- Pursue use of speed trailers to determine speed problem areas.
- Provide real-time work zone information to the traveling public.
- Utilize ITS technology to provide accurate queuing information.
- Identify contributing factors for fatal work zone crashes.
- Add rumble strips within and prior to work zones.
- Implement innovative merge techniques.
- Develop a procedure for law enforcement officers to request engineering assessments of crash sites.
- Work with contractors and labor unions to improve safety.
- Expand Work Zone Safety Committee membership to include engineering, enforcement, education, and emergency medical service organizations.
- Expand membership into other organizations’ work zone safety committees.
- Prepare and air public service announcements in coordination with work zone safety campaigns.
- Pursue use of “detectors” and message boards to communicate to motorists when a backup occurs.
- Create a five-year strategic plan for outreach opportunities.
- Continue implementing and developing IDOT’s Highway Safety Plan initiatives.
- Investigate all recent implemented strategies for success.

Next Steps

Implementation Teams will be created for all ten emphasis areas. Existing groups consistent with the emphasis areas will be utilized when possible and members will be representative of Engineering, Enforcement, Education, and Emergency Medical Services, including representation from IDOT's Bureau of Safety Engineering and Division of Traffic Safety. Implementation Teams will develop action plans, including priorities and detailed processes, to begin implementing strategies for the emphasis areas. Routine meetings will be held and minutes will be recorded to document past efforts, reviews of national databases, additional proposed strategies, and results from prior implementations. All information, data, and ideas will be assembled to create a "Tool Box" for each emphasis area.

Immediately following implementation, Result Audit Units will begin measuring the success of implemented strategies through evaluation and investigation in order to determine their effectiveness. In particular, they will analyze whether crash numbers have increased or decreased and where they are being best influenced. Next the units will determine whether the strategies should be further implemented in other areas. Following their recommendations, strategies will be added, removed, or modified to enhance the safety of Illinois roadways.