

RURAL SEAT BELT USE

OBSERVATIONAL STUDY



1999 and 2001

SUMMARY REPORT



Alberta's Regional Health Authorities



Transport Canada

Transports Canada

ALBERTA OCCUPANT RESTRAINT PROGRAM





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In June of 2001, the 1999 seat belt survey representative of rural Alberta was replicated.

**AORP PARTNERS:**

- Alberta Centre for Injury Control & Research
- Alberta Health and Wellness
- Alberta Transportation
- Alberta Motor Association
- Calgary Police Service
- Edmonton Police Service
- Insurance Bureau of Canada
- KIDSAFE Connection
- Municipal Police Services
- Regional Health Authorities
- Royal Canadian Mounted Police
- Transport Canada

Road safety research has established that the effectiveness of seat belts in preventing death and serious injury to occupants of light duty motor vehicles involved in potentially fatal collisions ranges between 39% and 60%, depending upon the vehicle types and sizes and occupant seating position<sup>1,2,3,4</sup>. This means that for every 100 unbelted occupants who died in a given year, as many as 60 of them may have lived if they had simply worn their seat belt.

In June of 1999 a scientifically based seat belt survey representative of rural Alberta, defined as communities with populations of less than 25,000, was completed. The survey found that the estimated proportion of driver and right front seat passengers of light duty vehicles using seat belts was 69.2% for rural Alberta. The highest seat belt use rate was in passenger cars (76.0%), followed by sport utility vehicles (74.1%), then vans/minivans at 73.3%, with light trucks and pick-ups recording the lowest seat belt usage rate of 60.1%. Driver seat belt usage rates are consistently higher than right front seat passenger usage rates, and this is true for all vehicle types combined as well as for each of the four vehicle type categories analyzed separately.

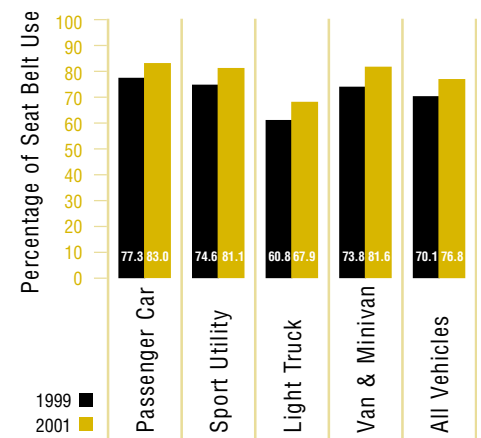
To address the issue of non-use of seat belts in rural Alberta, the RCMP, working with the Alberta Occupant Restraint Program (AORP) and its partners, implemented three selective traffic enforcement programs (STEP) which focused on seat belts beginning in 2000. Each STEP used a combination of education and enforcement strategies designed to encourage rural Albertans to wear their seat belts. In addition, the RCMP adopted the objectives of the Canadian Council of Motor Transport Administrators, Road Vision 2010 regarding occupant restraints and began taking a more integrated approach to traffic safety, and seat belt education and enforcement became a priority area. These objectives are to:

1. Raise seat belt wear rates to 95%.
2. Reduce the number of unbelted occupants killed or seriously injured by 40% by the year 2010.

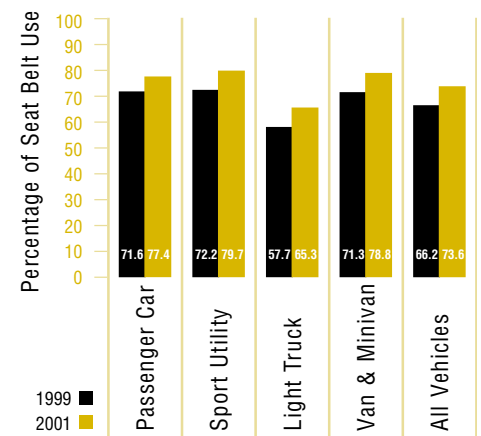
A total of 72, 593 light duty vehicles were observed at 334 survey site locations within rural Alberta between the hours of 7 a.m. and 5 p.m., during the five-day survey period of 18-22 June 2001.

**HIGHLIGHTS 2001**

Estimates of seat belt use by type of vehicle, for drivers and right front seat passengers



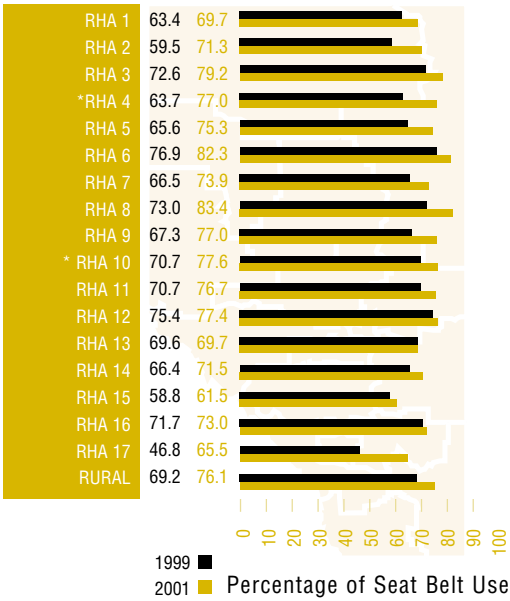
**DRIVERS**



**PASSENGERS**



**Seat belt use for all vehicle types in the Regional Health Authorities**

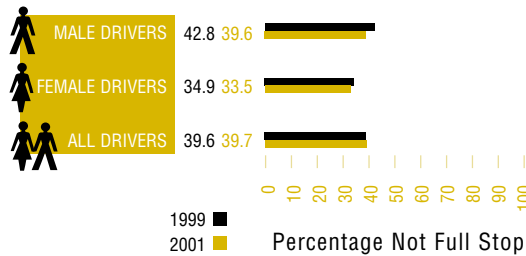


\* Survey was conducted in communities with populations less than 25,000.

- The survey found that the estimated proportion of driver and right front seat passengers of light duty vehicles using seat belts was 76.1%.
- The highest seat belt use rate for drivers was in passenger cars (83.0%), vans and minivans (81.6%), followed by sport utility vehicles at 81.1%, with light trucks and pick-ups recording the lowest seat belt usage rate of 67.9%.
- Driver seat belt usage rates are consistently higher (76.8%) than right front seat passenger usage rates (73.6%), and this is true for all vehicle types combined as well as for each of the four vehicle type categories analyzed separately.
- Comparisons of male and female drivers reveal significantly lower seat belt usage rates for men. For rural Alberta as a whole, 84.2% of all female drivers were belted compared with only a 70.0% wearing rate for men.

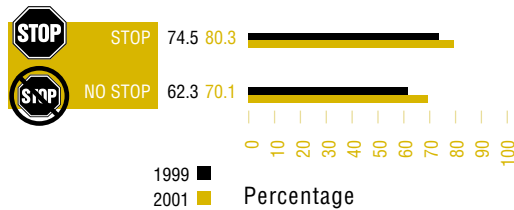
- With respect to stop sign violations, 39.7% of all drivers do not bring their vehicle to a full stop at a stop sign. This estimate is higher for male drivers (39.6%) compared to female drivers (33.5%).

Estimates of drivers who did not bring the vehicle to a full stop at a stop sign by gender for all vehicle types



- An analysis of stop sign violations in conjunction with seat belt usage rates demonstrates a correlation existing between these two behaviours. The seat belt usage rate of 80.3% for rural Alberta drivers that obey the law and bring their vehicle to a full stop at a stop sign is significantly higher than the 70.1% seat belt usage rate found for drivers that violate stop signs. This finding is consistent across all RHAs for all drivers, and is generally true for both male and female drivers.

Estimates of seat belt use of drivers who did and did not bring the vehicle to a full stop at a stop sign for all vehicle types



**ALL DRIVERS**

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# RURAL SEAT BELT USE



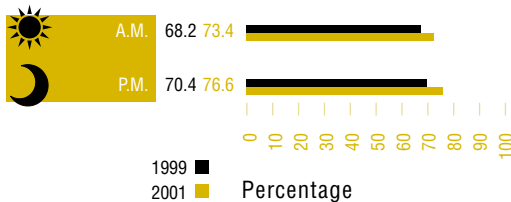
## ACKNOWLEDGEMENTS

- Some difference exists in seat belt usage rates by time of day, with 73.4% of all driver and right front seat passengers belted in the morning hours of the day (i.e., 7 a.m. to 12 p.m.) and 76.6% of them belted in the afternoon hours of the day (i.e., 12 p.m. to 5 p.m.).

Estimates of front occupant seat belt use by the time of day for all vehicle types

A.M. (7:00 a.m. to 11:59 a.m.)

P.M. (12:00 noon to 4:50 p.m.)



## RURAL ALBERTA

In 1999, we estimated that if the rural Alberta seat belt usage rate of 69.2% could be increased incrementally by 3.3% in 2000 and 2.5% in each of the subsequent years 2001 through 2009 inclusive, thereby achieving the 95% goal by the year 2009, then:

- The total estimated number of additional light duty vehicle occupant lives that would be saved in potentially fatal motor vehicle collisions over the 10-year period would be about 305.
- The total estimated number of additional light duty vehicle occupant injuries that would be prevented in potentially injurious motor vehicle collisions over the 10-year period would be about 1830.

## WE ARE ON OUR WAY.

Implementation of the AORP ten-year strategic plan, through multistakeholder community and provincial partnerships, will continue to achieve significant gains in rural seat belt wearing rates. If our current forward momentum is sustained, the economic burden of injuries related to non-use of seat belts in Alberta would be reduced by up to \$475 million.

An initiative of this magnitude would not be possible without the partnership and support of many organizations and individuals. The Alberta Centre for Injury Control & Research, the Royal Canadian Mounted Police, and Transport Canada would like to thank a number of people for supporting the surveys as well as the Selective Traffic Enforcement Programs. Alberta has experienced an encouraging change in seat belt wearing rates through the dedication of important individuals like the over 700 community volunteers, the community agencies, the Regional Health Authority personnel, and the front-line Royal Canadian Mounted Police officers.

## REFERENCES

- [1] Stewart, D.E., Arora, H.R., Dalmotas, D., "Estimation Methodologies for Assessing Effectiveness of Seat Belt Restraint Systems and the National Occupant Restraint Program", Publication TP13110 E/F, Transport Canada, Safety and Security, Road Safety, Ottawa, Canada, October 1997.
- [2] Stewart, D.E., "An Evaluation of 'Seat Belt Effectiveness' Using Transport Canada's Accident Investigation Data Base, 1984-1989". A publication prepared and submitted as expert evidence to the PROVINCIAL COURTS (HALIFAX CENTRE AND WINNIPEG CENTRE). MATERIAL RE: TESTIMONY OF DELBERT E. STEWART, Evaluation and Data Systems Division, Road Safety Directorate, Transport Canada, August 1992.
- [3] Evans, L., "Estimating Fatality Reductions from Increased Safety Belt Use", Risk Analysis, Volume 7, No. 1, 1987.
- [4] "Estimating the Benefits from Increased Safety Belt Use", Office of Regulatory Analysis, Plans and Policy, U.S. Department of Transport, National Highway Traffic Safety Administration, June 1994.
- [5] Stewart, D.E., MacDonald, S.D., "Rural Seat Belt Survey" Publication unnumbered, Transport Canada, Safety and Security, Road Safety, Ottawa, Canada, February 2000.