

# Booster Seat Promotion in Winnipeg: Evaluation of a Three Year Campaign

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## Background

- Motor vehicle collisions are the leading cause of injury death for Canadian children, with improper restraint being an important and preventable contributing factor. Children 4 to 8 years of age are the least likely to be properly restrained in motor vehicles.
- To prevent lap belt syndrome and other serious injuries, 4 to 8 year old children should be in forward-facing car seats or booster seats until they are at least 4 feet 9 inches tall.
- To address this issue, IMPACT, the injury prevention program of the Winnipeg Regional Health Authority, in partnership with Manitoba Public Insurance and the AUTO21 Centres of Excellence launched a Winnipeg booster seat promotion campaign in 2010.



## Objective

The primary purpose of this study was to determine the effectiveness of this campaign, in terms of observed booster seat use.

## Methods

### Booster Seat Promotion Campaign

- The booster seat campaign targeted parents and pediatricians through many avenues including letters sent to all Winnipeg parents, physician education, and booster seat promotion at large community events for children and families.

### Roadside Observational Study

- Roadside observations were conducted at 27 traffic intersections throughout Winnipeg over 3 consecutive years (2010, 2011, and 2012) using Transport Canada's method for periodic child restraint surveillance.
- To be included, the vehicle had to be transporting at least 1 child estimated to be between 5 and 8 years of age.
- Vehicles were classified as: **booster users** (all 5 to 8 year olds in booster seats); **booster non-users** (none of the 5 to 8 year olds were in booster seats); or **boosters for some children** (some of the 5 to 8 year olds were in boosters while others were not).

### Data Analysis

- Data analysis involved descriptive statistics and Chi-square tests of significance. All analyses were conducted using SPSS version 11.5.

## Results

### Vehicles Observed

- 2010: 1720 vehicles** (baseline)
- 2011: 1541 vehicles**; 2026 children (all ages); 51.1% male drivers; 84.0% drivers restrained
- 2012: 3249 vehicles**; 4329 children (all ages); 51.5% male drivers; 86.7% drivers restrained

### Booster Seat Use by Vehicle

- 2010: 14.7% Users and 84.7% Non-Users** (0.9% Some Children; 0.1% Unknown)
- 2011: 20.8% Users and 77.0% Non-Users** (1.0% Some Children; 1.2% Unknown)
- 2012: 31.4% Users and 67.2% Non-Users** (1.0% Some Children; 0.4% Unknown)

\*\*\***Significant Increase in Booster Seat Use**\*\*\*  
( $\chi^2=159.66, p < .001$ )

### 2011 and 2012 Predictors of Booster Seat Use

- Driver restraint was not significantly related to booster seat use
- In 2012, booster seat use was significantly higher among female (33.2%) vs. male (30.4%) drivers
- In both years, booster use significantly decreased as the number of children in the car increased

Figure 1. Booster Seat Use Per Vehicle

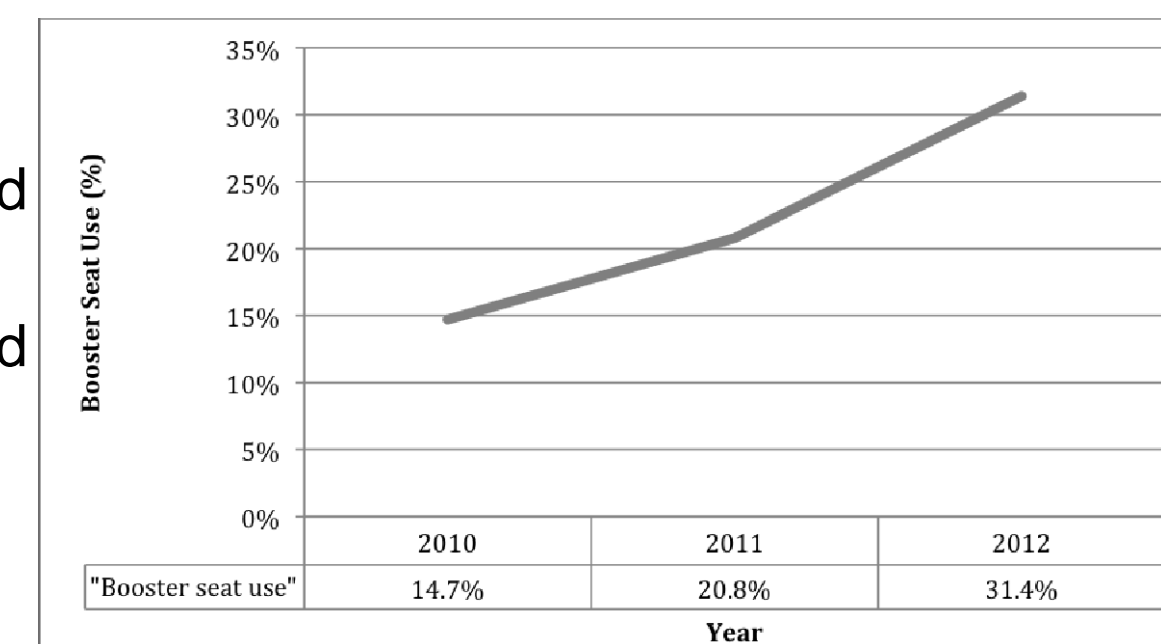


Table 1. Restraint Type for all 5 to 8 Year Olds

Restraint Type	2011 N (%)	2012 N (%)
Child seat	8 (0.5)	16 (0.4)
Booster seat	362 (20.5)	1092 (29.7)
Seat belt only	971 (55.1)	1813 (49.4)
No restraint	40 (2.3)	126 (3.4)
No booster, can't see seatbelt	367 (20.8)	602 (16.4)
Unknown	14 (0.8)	23 (0.6)
<b>Total</b>	<b>1762 (100.0)</b>	<b>3672 (100.0)</b>

## Conclusions

The booster seat campaign was likely effective in contributing to increases in the use of booster seats in Winnipeg. The next phase of the campaign and the introduction of legislation in 2013 will be important to further increase booster seat use.