

# Evaluation of a Seat Belt Restriction in a Graduated Driver Licensing Program

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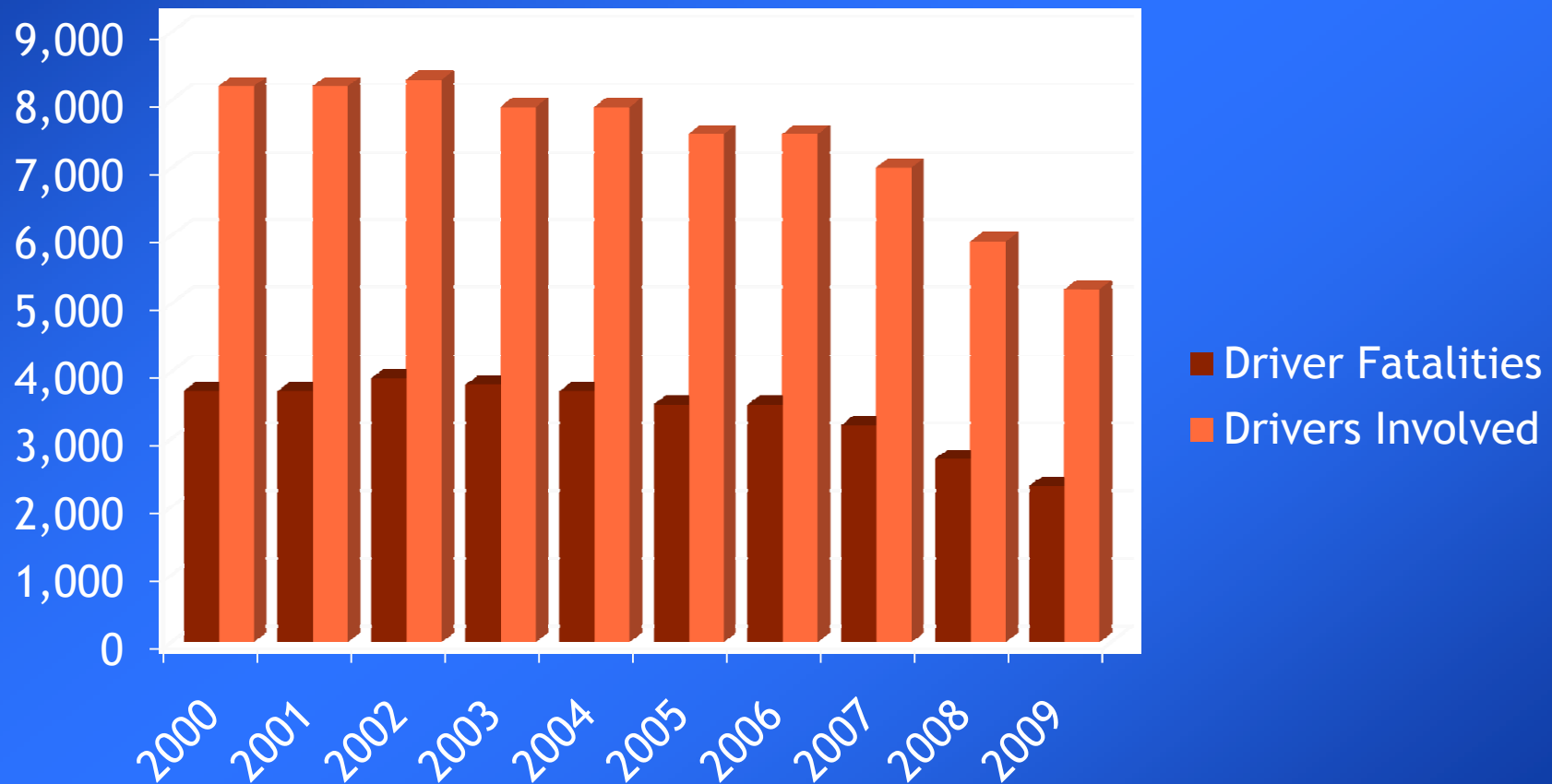
# Acknowledgments

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# Background

- Motor vehicle crashes are the leading cause of death for teens age 15-18 in the US
- In 2009 11% of all drivers in fatal crashes and 10% of all driver deaths were 15-20 year olds
- Teen drivers take risks
  - ❖ Distracted driving, Impaired driving
  - ❖ Speeding, judgment errors & other unsafe driving
  - ❖ **Low rates of seat belt use**

# Fatalities and Involvements in Fatal Crashes Among 15-20 Year Old Drivers



# Belt Use and Teens

- Teens have the lowest seat belt use of any age group - just 76% in 2006. (Overall belt use is currently 85%)
- 58% of teens killed in crashes were not wearing seat belts (2006).
- Male teens lag behind female teens in seat belt use.
- Common reasons for not wearing seat belts: uncomfortable; short trip; forgot; not "cool."

# How do we increase teen seat belt use?

Programs that combine education, peer-to-peer strategies, publicized enforcement, and parental monitoring may increase teen seat belt use.

One method is to leverage the Graduated Drivers Licensing (GDL) programs to raise teen motivation to wear seat belts



# Graduated Drivers Licensing Programs

- Phase in driving privileges in stages as driving skills develop
- 3 stages:
  - ❖ Learner's Permit
  - ❖ Intermediate or Restricted Driver's License
  - ❖ Full or Unrestricted Driver's License

# Graduated Drivers Licensing Programs

## GDL Intermediate Phase

- Restrictions include:
  - ❖ Passenger restrictions
  - ❖ Nighttime driving restrictions
  - ❖ Cell phone restrictions
  - ❖ Seat belt violation provision
- In the most comprehensive programs there are penalties for GDL violations





# Demonstration & Research Objectives

- Increase seat belt use among young teen drivers and passengers via GDL opportunities
- Use social marketing and enforcement interventions to increase awareness of the GDL seat belt use provision and motivate belt use
- Evaluate the effects of demonstration projects in Tennessee and Wisconsin with those intervention components

# TN & WI Demonstration Program

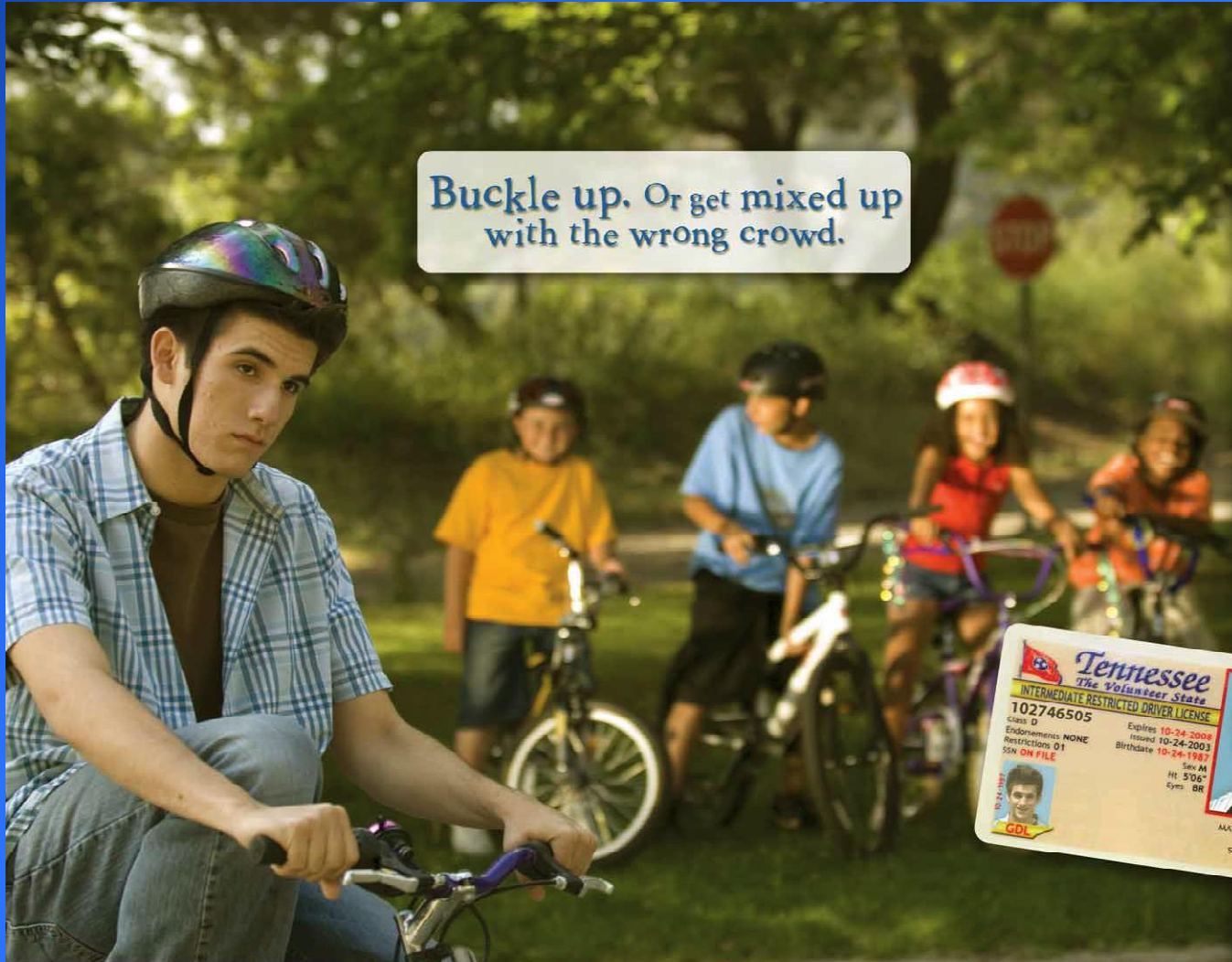
- In both TN and WI, violation of the GDL seat belt provision results in a penalty- extension of the GDL restriction period for 3-6 months
- States conducted media campaigns, school activities, and enhanced enforcement activities
- Measured seat belt use and changes in knowledge attitudes and behavior

# Tennessee Program – 8 counties

Primary Seat Belt Law – 2<sup>nd</sup> GDL violation gets 90 day extension of Intermediate restriction period

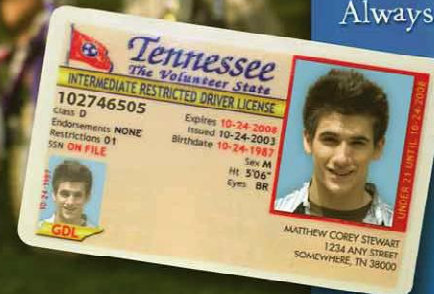
- Media/Social Marketing - 2 counties
- Social Marketing + Enhanced Police Training and Enforcement – 2 counties
- Social Marketing, Enhanced Police Training and Enforcement & School Activities - 2 counties
- Control - 2 counties

# Tennessee Program



Buckle up. Or get mixed up  
with the wrong crowd.

Always buckle up.



# Tennessee Program Data Collection

## Seat Belt Observations

- Conducted in all 8 counties in 7 waves
- 20 intersections in each county
  - ❖ Random sites
  - ❖ Targeted sites
- 106,832 observations; (~10%) coded age 15-17

# Tennessee Program Data Collection

## Public Knowledge, Attitude, & Behavior Surveys

- Conducted in all 8 counties
- 5 waves; all ages
- Self administered at county driver license stations
- 5,576 surveys completed

# Tennessee Program Data Collection

## Law Enforcement Knowledge, Attitude, & Behavior Surveys

### Pre and Post training survey

- Trained 39 officers from 4 counties with enhanced law enforcement intervention
- Emphasized knowledge of the GDL law, attitudes and behavior regarding issuing citations for GDL violations

# Tennessee Program Data Collection

## Crash and Citation Data

- Sought 5 years of crash and citation data (3 pre; 2 during)
- Citation data - all types of moving violations and specifically GDL violations
- Crash data were not available at all
- Citation data were not available for all



# Wisconsin Program

- Secondary Seat Belt Law - First seat belt violation can result in 6 month extension of 9 month probationary license period
- Intervention in one county (Jefferson)
- Control county (Wood)

# Wisconsin Program

## Social Marketing & Media Campaign

- Local Movie Theater PSA Preview designed by Jefferson County Safe Communities Coalition
- Year 1 - Grassroots approach at 11 local schools
  - ❖ “Safety belts save your (social) life”
  - ❖ Tool kits distributed to each of the schools
  - ❖ Student liaisons in each school coordinated the campaign

# Wisconsin Program



# Wisconsin Program

## Social Marketing & Media Campaign

- Year 2 - Campaign with NASCAR driver Matt Kenseth, Jefferson County native
  - ❖ “Hear the Clicks or Do the Six”
  - ❖ Billboard on local interstate
  - ❖ Flyers, Posters, Radio and TV PSA
  - ❖ Clicks or Six website with GDL Quiz and IPOD Giveaways

# Wisconsin Program



# Wisconsin Program

## Enhanced Law Enforcement

- GDL law enforcement training and enhanced enforcement in the intervention county
- \$ Grants provided to participating LE agencies
- Local DA's Office participated; agreed to prosecute all GDL violations during the demo
- Enhanced enforcement took place March – May 07
- Activity reporting was sparse

# Wisconsin Program Data Collection

## Seat Belt Observations

- Four waves in 2 counties
- Conducted at five intersections in each county
- Targeted likely teen locations
- 11,065 observations were collected

# Wisconsin Program Data Collection

## Public Knowledge, Attitude, & Behavior Surveys

4 waves in intervention county, 3 in control county

- Samples sizes and sites varied across waves
- Paper questionnaire form
- All ages of drivers were surveyed



# Wisconsin Program Data Collection

## Pre-Post Training Law Enforcement Knowledge, Attitude, & Behavior Surveys

Survey of knowledge/attitude gain

- Intervention county
  - ❖ At June-September 2006 training
  - ❖ Focused on knowledge of GDL statute and provisions
  - ❖ 40 participants

# Wisconsin Program Data Collection

## Law Enforcement Knowledge, Attitude, & Behavior Surveys – Outside of Training

- Surveyed in intervention and control counties
  - ❖ Conducted in 4 waves
  - ❖ Distributed via Chiefs of Police
  - ❖ Knowledge of GDL as well as attitudes and behavior of officers towards teen violations

# Wisconsin Program Data Collection

## Crash and Citation Data

- 5 years of fatal and injury crash data for control and intervention counties, but only 2 years with injury level data
- 5 years of citation data for control and intervention counties; includes all moving violations including GDL violations

# Data Analyses

- Frequencies:
  - ❖ Tennessee & Wisconsin Citation Data
  - ❖ Wisconsin Crash Data
  - ❖ Wisconsin Public KAB Survey Data
  - ❖ Tennessee & Wisconsin Law Enforcement KAB Data
- Logistic regression analysis and statistical modeling conducted for:
  - ❖ Tennessee and Wisconsin Seat Belt Observation Data
  - ❖ Tennessee Public KAB Data

# Findings – Citations & Law Enforcement Activity

## Citations

- Tennessee and Wisconsin overall show little change in seat belt citations issued to teens
- Tennessee had slight increase in proportion of seatbelt citations issued to teens in the counties with LE and the Media/LE/School Programs counties

## Law Enforcement Activity

- Insufficient data in both states prevented evaluation of changes in the level of enforcement

# Findings - Crashes

## Wisconsin

- Data for teen involved crashes suggest that:
- Severe (A) injury crashes decreased substantially (21 vs. 4 in Wood and 11 vs. 0 in Jefferson) from intervention period 1 to 2
- There was a shift to less severe injury severity (fewer A and more B and C injuries) in both counties
- Short time span & small number of crashes make it impossible to conclude the crash severity effect of the intervention

# Findings – Seat Belt Use

## Seat Belt Use - Tennessee

- Teen Driver and passenger belt use in all counties declined across waves
- Treatment components had no discernible effect on teen belt use
  - Belt use by teen drivers and passengers did not differ significantly by county
  - Belt use by teens did not differ from non-teens
  - Belt use was unaffected by any of the intervention components (media, school based programs, enforcement)

# Findings - Seat Belt Use

## Seat Belt Use - Wisconsin

- Driver belt use lower among males than among females.
- Driver belt use strongly affected passenger belt use
- The intervention had a positive effect on belt use for teen drivers, teen drivers with passengers, and teen passengers
- The more comprehensive the treatment, the greater the effect on belt use for teen drivers, teen drivers with passengers, and teen passengers



# Findings – Public Knowledge, Attitudes and Behavior

## Tennessee

- Neither presence nor prevalence of School Based, Media and Enforcement intervention activities affected teen perceptions of the intervention components
- Knowledge of the penalties for violating the GDL restrictions was highest for teen respondents with learners permits and restricted licenses, but not very high at <50%

# Findings – Public Knowledge, Attitudes and Behavior

## Wisconsin

- Knowledge of GDL seat belt restriction increased in both intervention and control counties from Baseline to Wave 3;
- “All of the time” seat belt use rates declined between Baseline and Wave 3 in intervention county
- Awareness of the GDL media campaign was higher in the intervention county and increased there between Baseline and Wave 3
- The most frequent sources of information were drivers ed, materials from schools, television, and theater ads

# Findings - Law Enforcement Knowledge, Attitudes and Behavior

- Tennessee (Primary) & Wisconsin
  - The training increased familiarity with GDL but there were still gaps in knowledge post training
  - Attitudes regarding enforcement of the seat belt provision of the GDL law changed only slightly
- Wisconsin - Knowledge of GDL violations improved and likelihood to issue citations increased in later survey waves.

# Lessons Learned

- These were complicated programs, especially in Tennessee
- Some aspects of demos showed significant effects; other analyses were hindered by data limitations
- Change in belt use is likely to be small and hard to measure objectively
- Programs like these need focus, strong leadership, teamwork, coordination and time to achieve effects
- Evaluation projects need strong design and careful execution, especially with regard to objective data