Title
Pre-Intervention Assessment: UC Davis Medical Center and California Health Care Safety Net Institute Child Passenger Safety Initiative

Permalink
https://escholarship.org/uc/item/7j88g29j

Authors
Cooper, Jill
Ragland, David R
MacLeod, Kara E
et al.

Publication Date
2002-09-24
Pre-Intervention Assessment

UC Davis Medical Center and California Health Care Safety Net Institute
Child Passenger Safety Initiative

Prepared by

Jill Cooper
David Ragland
Kara MacLeod
University of California, Berkeley Traffic Safety Center

and

Wendy Jameson
California Health Care Safety Net Institute

September 24, 2002

RESEARCH REPORT
UCB-TSC-RR-2002-02

For more information, contact:

Jill Cooper, 510-643-4259
David Ragland, 510-642-0655
Wendy Jameson, 510-649-7654
Table of Contents

Summary .................................................................................................................................................. 3
A. Traffic Crash Injury and Fatality among Children.......................................................... 4
B. The Child Passenger Safety Initiative............................................................................... 5
C. Program Description.................................................................................................................. 6
D. Methods for the Pre-Intervention (Baseline) Assessment............................................... 7
E. Results from Pre-Intervention (Baseline) Assessment....................................................... 8
   1. Number of Adults and Children....................................................................................... 8
   2. Knowledge of the “Booster Seat Law”.......................................................................... 9
   3. Use of Child Safety Seats.............................................................................................. 10
   4. Self-reported Use for Younger versus Older Children.................................................. 10
   5. Observed Misuse—Percent Not Restrained and Percent Not Appropriately Restrained for Age and Weight.......................................................................................... 11
   6. Observed Misuse—Percent with Other Types of Misuse.............................................. 11
F. Implications of the Pre-Intervention (Baseline) Study for the CPS Initiative.............. 11
Table 1 Number and Percent of Adult Drivers Bringing Children to Public Hospitals or Clinics by Race/Ethnicity, Sex, and Relationship to Child*................................................. 14
Table 2 Children Observed who were Brought by Adult Drivers to Public Hospitals or Clinics by Age Group........................................................................................................ 15
Table 3 Survey and Observational Data on Key Outcomes for Adult Drivers and Their Children at Public Hospitals or Clinics by Site........................................................................................................... 16
Appendix A. Recommendations for Appropriate Safety Restraint by Child Age and Weight in California as of January 1, 2002, based on SB 567.................................................. 17
Appendix B. Child Passenger Observational Survey Form.................................................. 18
Summary

Proper use of child passenger safety (CPS) systems is highly effective in reducing injury and fatality in traffic crashes. While use of CPS systems is increasing, use is not universal, and there is a high level of improper use.

The Child Passenger Safety Initiative is an innovative program that provides education and training in proper CPS system use to adults bringing children to public hospitals and clinics, and adults transporting foster children. The intervention includes education, training, and delivery of resources, such as free or low-cost safety seats, to encourage universal use of CPS systems, appropriate choices of CPS systems for a child’s age and weight, and correct use of the CPS unit.

A pre-intervention baseline study of adults bringing children to public hospitals and clinics found that (i) only 81.0% of adults reported that they always use a child safety seat with their infants or toddlers (aged 0-4); (ii) only 67.2% of children were using the appropriate restraint system for their age and weight; (iii) there was a high level of misuse of child safety seats due to improper securing of the child and the safety seat, including the safety seat not being secured tightly enough to vehicle (68.6%), the harness clip not being at armpit level (62.3%), and the harness strap not fitting tightly enough on the child (60.1%); and (iv) while knowledge of a new “booster seat” law was high (84.4%), actual self-reported use of booster seats among children for whom it is appropriate was substantially lower (53.8%).

A post-intervention survey will be conducted to measure improvements in these values. Based on the results of the Child Passenger Safety Initiative, models may be developed for adults with children attending public health hospitals and clinics as well as for the larger adult population that transports children in motor vehicles.
A. Traffic Crash Injury and Fatality among Children

Vehicle collisions are a major cause of death and injury among children aged 6 and under in California. In California in the year 2000, 75 children age six and under died from motor vehicle collisions, and an additional 7,473 children aged 0-6 suffered injuries throughout the state\(^1\). Of the 75 children who died, over half (44) were not restrained. Of the 7,473 children who were injured, 16% (1,243) were not restrained. Since the restraint rate for children in California is about 85% on average\(^2\), this indicates that a disproportionate number of deaths and injuries were among children who were not restrained.

When used correctly, child restraint systems are highly effective in preventing injury and fatality in event of a traffic crash. The National Highway Traffic Safety Administration (NHTSA), the federal agency with primary responsibility for traffic safety in the United States, estimates that properly installed child safety seats can reduce the risk of fatality by 69% for infants and 47% for toddlers\(^3\).

Despite the effectiveness of child restraint seats, many children in California are not restrained. The Statewide Seat Belt Usage Survey conducted in spring 2002, found that the overall occupant restraint use for infants and toddlers was 85.6%, down two percentage points from 86.6% in spring 2001\(^4\). The usage rate is substantially lower in some areas of the state, and is much lower for vehicles such as pickups. Even when a child restraint system is used, in many cases, the restraint system may be incorrectly installed or used inappropriately for the child’s age and weight. A recent California law, SB 567 (the “booster seat” law), clarifies appropriate

---
\(^1\) California Highway Patrol, 2001
\(^2\) California Seat Belt Survey, Betancourt, 2002
\(^3\) NHTSA, 2000
\(^4\) California Seat Belt Survey, Betancourt, 2002
restraint system use by age and weight, and requires use of child safety restraints for children up
to age 6 or up to 60 pounds (Appendix A).

B. The Child Passenger Safety Initiative

Clearly, increasing the correct use of child restraint systems is critical to reducing traffic
injuries and fatalities among California children. The Child Passenger Safety Initiative is an
innovative program designed to increase the use of child restraint systems in California.

The Initiative is made possible by a two-year, $1.5 million grant from the California
Office of Traffic Safety (OTS), which is charged with reducing fatalities, injuries and economic
losses resulting from motor vehicle crashes through the California Highway Safety Plan (HSP).
The OTS is responsible for funding and coordinating traffic safety efforts throughout the state\(^5\)
and funded this effort through the Business, Transportation and Housing Agency.

The California Health Care Safety Net Institute (SNI), an affiliate of the California
Association of Public Hospitals and Health Systems, in collaboration with University of
California Davis Medical Center (UCDMC), heads the Initiative. The SNI is dedicated to
advancing community health through the resources and expertise of California’s open-door
providers\(^6\).

The Initiative focuses on public hospitals in California. In 1999, California's public
hospitals treated as many as 3,000 children who had been injured in motor vehicle collisions.
The majority of patients at public hospitals (76%) are people of color, and 70% are low-income
or uninsured\(^7\). In the face of recent research showing that underserved populations are at greater
risk for motor vehicle injuries, public hospitals and health systems—which serve this patient

\(^5\) [http://www.ots.ca.gov]
\(^6\) [http://www.safetynetinstitute.org]
\(^7\) California Association of Public Hospitals and Health Systems
population—are striving to prevent motor vehicle deaths and injuries through the Child Passenger Safety Initiative.

Seven public hospitals and health systems throughout Northern, Central and Southern California are involved in the initiative, including Contra Costa Regional Medical Center, Monterey County Health Department/Natividad Medical Center, San Joaquin General Hospital, UC San Diego Medical Center, and the Los Angeles County Department of Health Services and three of its public hospitals: Olive View-UCLA Medical Center, LAC+USC Medical Center, and Martin Luther King, Jr./Drew Medical Center.

C. Program Description

Project sites participating in the Initiative receive funding and technical assistance to expand and improve child passenger safety education and to develop innovative models for reaching underserved populations. Activities include educating parents and caregivers about good child passenger safety practices, distributing free car seats, offering child safety seat inspections, and training physicians and nurses to teach patients about proper car seat use. There is also a special outreach component that focuses on education of foster parents and child welfare workers about child passenger safety.

The goals and objectives of the Initiative are to:

- Increase child safety-seat use among families using services at participating public health care systems;
- Decrease the rate of child safety-seat "misuse" among these families; and
- Increase awareness of the new child passenger safety law, SB 567, the “booster seat” law that requires child safety restraints for children up to age 6 or 60 pounds.
To measure the impact of the project on parent knowledge and behavior, UCDMC and SNI have contracted with the University of California at Berkeley Traffic Safety Center (TSC) to evaluate the project\(^8\). Evaluation results will further understanding of effective interventions to maximize child passenger safety among underserved populations.

In developing the survey, the TSC worked with each site, as well as SNI and UCDMC, to develop a survey tool and a data collection plan. The full evaluation will consist of data collection both before (baseline) and after the intervention, with a before-after comparison to measure the impact. This report summarizes the pre-intervention (baseline) data collected between October, 2001, and June, 2002, at four of the participating sites: Contra Costa; Monterey; San Joaquin; and Los Angeles (Martin Luther King, Jr./Drew Medical Center). A future report will summarize any changes that may take place resulting from the CPS Initiative.

**D. Methods for the Pre-Intervention (Baseline) Assessment**

The pre-intervention assessment gathered information on adults (through interviews) and children (through observations) when the children were 0-8 years of age. The baseline data collection included two elements. The *first* element was an interview with the parent or guardian in Spanish or English to inquire about:

- Knowledge of the child passenger safety seat ("booster seat") law that went into effect on January 1, 2002, and that extended the age and weight requirements for children to be restrained from ages four to six years and from 40 to 60 pounds;
- History of child safety seat use; and
- Basic demographics (sex, age, race/ethnicity, and zip code), as well as vehicle and seat belt characteristics.

\(^8\) [http://www.tsc.berkeley.edu/]
The second element was a direct observation of child restraint use and misuse. The data collection instrument is included in Appendix B.

To recruit adults into the study, the Child Passenger Safety (CPS) Coordinator at each site determined the days when groups of parents or guardians of well babies or children were scheduled for visits. When the patient and parent/guardian left their appointments, the CPS Coordinator approached them, explained the study, and asked permission to conduct a brief interview and accompany them to their car to observe their child(ren) once they were in their car seat(s). The adults included parents coming to prenatal classes, at discharge from delivery, and attending well-baby or well-child visits, i.e., the adults were in different stages of CPS knowledge and use.

A potential bias exists with the data collected in this study. Parents knew they were participating in a safety survey and, therefore, could have given more favorable answers in the interview and could have been more careful in placing their children in safety seats during the observations than usual.

E. Results from Pre-Intervention (Baseline) Assessment

1. Number of Adults and Children

The main results are described below and in the tables that follow. Baseline information was collected at four public hospital/health clinic sites about:

- knowledge of the booster seat law,
- self-reported child safety seat usage, and
- observed use and misuse of safety seats.

Results are reported separately for the four sites and combined for sites that had all data available.
A total of 515 adults participated in the survey. Three sites collected demographic information (Contra Costa, Monterey, and San Joaquin). Among these sites, over two thirds of the adults were Hispanic, two thirds were female, and almost 80% were parents of the children (Table 1).

Observations of children in vehicles were conducted only at hospital or clinic sites in Contra Costa, Monterey, and San Joaquin. At these sites, 463 children were observed (Table 2). Demographic information for the adults was collected; however, there were no apparent differences in child safety seat use or misuse by race/ethnicity, sex, or relationship to the child among the sites. Therefore, survey results are not broken down by demographic variables in this report.

2. Knowledge of the “Booster Seat Law”

Overall, 84.4% of the participants reported that they knew about the change in the child passenger safety law that went into effect on January 1, 2002, that included a provision about proper restraint for children ages four to six or between 40 and 60 pounds (Table 3, A). While this percentage is relatively high, and higher than might be expected for a new law, it means that almost 16% were not aware of the new law. This finding suggests that information about the new law should be a critical component of the CPS Initiative.

It is interesting to note that at the Contra Costa site, knowledge of the new law was only 50.8%. This low rate, compared to the other sites, is probably due to the fact that half of the surveys were conducted prior to January 1, 2002. The percentage with knowledge increased after January 1 and is likely due to post January 1, 2002 activities around the new law, including public educational efforts and enforcement. For all other sites, data collection was after January 1, 2002.
3. **Use of Child Safety Seats**

   Overall, reported use of child safety seats for child passengers less than age four or less than 40 pounds was about 81%. This means that 19% of children in this category were not always restrained. This 19% represents a critical target group for the CPS initiative and other CPS efforts.

   The percentage of drivers who report that they always use booster seats (for children aged four to six or weighing from 40 to 60 pounds) was significantly lower than the percentage of drivers who say they know about the booster seat law. Knowledge was, on the average, 84.4%, while self-reported use of booster seats was, on the average, 53.8%. This finding constitutes a difference between knowledge and self-reported behavior (Table 3, A.). It is possible that while participants knew about the new law, they where not aware of the details, misunderstood the law, and/or had not implemented the provisions concerning restraint use for children over four years and 40 pounds. Again, information and training about the new CPS law should be an important component of the CPS Initiative.

4. **Self-reported Use for Younger versus Older Children**

   Overall, self-reported use of infant and forward-facing safety seats for children under four years and 40 pounds (81.3%) is greater than self-reported use of booster seats for children between ages four and six years and between 40 and 60 pounds (53.8%). This again illustrates that the stipulations of the new law have not been fully adopted by participants. Just passing the law is not sufficient; beyond participants knowing about the law, barriers to compliance should be identified and remedied.
5. **Observed Misuse—Percent Not Restrained and Percent Not Appropriately Restrained for Age and Weight**

A total of 14.4% of children observed were not restrained, and this varied substantially across the three sites where observations were made. Even more striking, however, is that 32.8% of the children were not restrained appropriately with regard to their age and weight. Encouraging use at all times, and education in use appropriate for a child’s age and weight are clear objectives for CPS efforts.

6. **Observed Misuse—Percent with Other Types of Misuse**

Even when children are restrained appropriately for their age and weight, there are a number of errors that can be made with respect to actual installation and usage. For forward-facing safety seats, the most common forms of misuse were:

- the safety seat not being secured tightly enough to vehicle (68.6%);
- the harness clip not being at armpit level (62.3%); and
- the harness strap not fitting tightly enough on the child (60.1%).

The observed misuse of booster seats (Table 3, D) is lower than misuse of infant or forward-facing car seats. This finding is probably due to booster seats being much simpler to use. Nevertheless, it is important to note that the vehicle belt was not properly routed through the seat for 8.6% of the children in booster seats, and the seat back was at an improper level for the child’s head for 21.4%.

F. **Implications of the Pre-Intervention (Baseline) Study for the CPS Initiative**

The results of this pre-intervention (baseline) survey suggest important areas for CPS Initiative. These issues include:
- **Increased use of all types of child safety seats.** Both self-reported and observed usage was lower than desirable. Strategies are needed that emphasize the importance of restraining children in vehicles.

- **Increased information about appropriate use considering age and weight of the child.** Recommendations for appropriate use of CPS systems by age and weight, including those reflected in the new “booster seat” law, are complicated and may be difficult for parents and other adults transporting children to understand. Strategies should be developed to clearly communicate these recommendations to parents and other adults who may have responsibility for transporting children.

- **Increased information and “hands-on” training about correct installation and use of child safety seats.** A high rate of errors was observed in the actual use of a child-restraint system, even when the system was appropriate for age and weight of the child. Detailed training should be made available to adults on the how to position the seat, how to connect the harness strap, and how to secure the seat itself with the seat belt.

- **Integration of CPS into health care systems.** Child safety seats prevent injuries to children. Integrating a CPS focus into public hospitals and clinics is key to protecting the health of children in California.

- **Increased attention to environmental factors which impede correct use of child safety seats.** Cost of child safety seats can be an issue for low-income people. Further, non-English speaking parents or guardians may face barriers in gaining access to information about proper use. With regard to vehicle and safety seat design, there is a great deal of complexity in fitting seats appropriately in vehicles.
Technology which makes it easier to fit child safety seats into cars is critical; however, it will take time to achieve broad-based access to these advances.

The National Highway Traffic Safety Administration (NHTSA) has observed that there is a very high level of child safety seat misuse in general. The findings here should generalize to all adults who bring children to public hospitals and clinics in California, and they suggest an urgent need for interventions to increase proper use of child restraint systems in vehicles. It is hoped that the CPS Initiative will be able to develop programs for parent education and training that can be used as models for increasing proper child restraint use.
Table 1  Number and Percent of Adult Drivers Bringing Children to Public Hospitals or Clinics by Race/Ethnicity, Sex, and Relationship to Child*

<table>
<thead>
<tr>
<th></th>
<th>Study Site**</th>
<th>Contra Costa</th>
<th>Monterey</th>
<th>San Joaquin</th>
<th>Los Angeles***</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Surveys Conducted</td>
<td></td>
<td>90</td>
<td>199</td>
<td>171</td>
<td>55</td>
<td>515</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td></td>
<td>2.2</td>
<td>3.0</td>
<td>17.7</td>
<td>N/A</td>
<td>8.3</td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td>17.8</td>
<td>0.6</td>
<td>15.3</td>
<td>N/A</td>
<td>9.4</td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td>61.1</td>
<td>88.6</td>
<td>47.1</td>
<td>N/A</td>
<td>67.8</td>
</tr>
<tr>
<td>White</td>
<td></td>
<td>12.2</td>
<td>5.4</td>
<td>17.1</td>
<td>N/A</td>
<td>11.1</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>6.7</td>
<td>5.6</td>
<td>1.8</td>
<td>N/A</td>
<td>4.4</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td>17.8</td>
<td>44.9</td>
<td>26.3</td>
<td>N/A</td>
<td>32.7</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>82.2</td>
<td>55.1</td>
<td>73.7</td>
<td>N/A</td>
<td>67.3</td>
</tr>
<tr>
<td>Relationship to Child</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent</td>
<td></td>
<td>86.7</td>
<td>73</td>
<td>83.3</td>
<td>N/A</td>
<td>79.5</td>
</tr>
<tr>
<td>Relative</td>
<td></td>
<td>7.8</td>
<td>16.9</td>
<td>9.5</td>
<td>N/A</td>
<td>12.4</td>
</tr>
<tr>
<td>Guardian</td>
<td></td>
<td>5.5</td>
<td>2.3</td>
<td>1.8</td>
<td>N/A</td>
<td>2.7</td>
</tr>
<tr>
<td>Friend/ Other</td>
<td></td>
<td>0.0</td>
<td>7.9</td>
<td>5.4</td>
<td>N/A</td>
<td>5.4</td>
</tr>
</tbody>
</table>

* Percents are weighted by number of participants at each site.
** Columns for each category sum to 100%, except for rounding error.
*** Only the interview was conducted and demographic information was not collected.
Table 2  Children Observed who were Brought by Adult Drivers to Public Hospitals or Clinics by Age Group

<table>
<thead>
<tr>
<th>Age Category (Years)</th>
<th>Study Site</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Contra Costa</td>
<td>Monterey</td>
</tr>
<tr>
<td>birth to 1 year</td>
<td>24</td>
<td>63</td>
</tr>
<tr>
<td>1 to 4 years</td>
<td>36</td>
<td>81</td>
</tr>
<tr>
<td>4 to 6 years</td>
<td>17</td>
<td>32</td>
</tr>
<tr>
<td>6 and older</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>79</td>
<td>191</td>
</tr>
</tbody>
</table>

* Table includes those for whom age was available; n=463
<table>
<thead>
<tr>
<th></th>
<th>Contra Costa</th>
<th>Monterey</th>
<th>San Joaquin</th>
<th>Los Angeles</th>
<th>Total*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Survey data – booster seat law (n)</td>
<td>(65)</td>
<td>(198)</td>
<td>(171)</td>
<td>(55)</td>
<td>(489)</td>
</tr>
<tr>
<td>Drivers with knowledge of the booster seat law effective January 1, 2002</td>
<td>50.8</td>
<td>93.4</td>
<td>84.2</td>
<td>92.7</td>
<td>84.4</td>
</tr>
<tr>
<td>B. Survey data – car seat use (n)</td>
<td>(70)</td>
<td>(146)</td>
<td>(140)</td>
<td>(49)</td>
<td>(405)</td>
</tr>
<tr>
<td>Drivers who report they always use car seats for child passengers (0-4 and to 40 lbs.)</td>
<td>88.6</td>
<td>84.9</td>
<td>75.0</td>
<td>75.5</td>
<td>81.0</td>
</tr>
<tr>
<td>C. Survey data – booster seat use (n)</td>
<td>(26)</td>
<td>(27)</td>
<td>(100)</td>
<td>(37)</td>
<td>(190)</td>
</tr>
<tr>
<td>Drivers who report they always use booster seats for child passengers (between ages 4-6 and 40-60 pounds)</td>
<td>57.7</td>
<td>44.5</td>
<td>58.0</td>
<td>67.6</td>
<td>53.8</td>
</tr>
<tr>
<td>D. Observational data – all child passenger safety restraint types (n)</td>
<td>(67)</td>
<td>(187)</td>
<td>(142)</td>
<td>N/A</td>
<td>(396)</td>
</tr>
<tr>
<td>Children restrained in child safety seats or vehicle belts, when appropriate</td>
<td>83.6</td>
<td>78.6</td>
<td>95.8</td>
<td>N/A</td>
<td>85.6</td>
</tr>
<tr>
<td>Correct restraint type for age and weight</td>
<td>68.7</td>
<td>59.4</td>
<td>76.8</td>
<td>N/A</td>
<td>67.2</td>
</tr>
<tr>
<td>E. Observational data – Infant and forward-facing child safety seats (n)</td>
<td>(58)</td>
<td>(119)</td>
<td>(141)</td>
<td>N/A</td>
<td>(318)</td>
</tr>
<tr>
<td>Seat not in correct reclining or vertical position in vehicle</td>
<td>15.5</td>
<td>23.5</td>
<td>23.4</td>
<td>N/A</td>
<td>22.0</td>
</tr>
<tr>
<td>Harness clip not at armpit level</td>
<td>48.3</td>
<td>81.5</td>
<td>51.8</td>
<td>N/A</td>
<td>62.3</td>
</tr>
<tr>
<td>Harness strap not at appropriate level re: child’s shoulders</td>
<td>13.8</td>
<td>20.2</td>
<td>35.5</td>
<td>N/A</td>
<td>25.8</td>
</tr>
<tr>
<td>Harness strap not tight enough on child</td>
<td>62.0</td>
<td>74.8</td>
<td>46.8</td>
<td>N/A</td>
<td>60.1</td>
</tr>
<tr>
<td>Safety seat not secured tightly enough to vehicle by seat belt</td>
<td>65.5</td>
<td>72.3</td>
<td>66.7</td>
<td>N/A</td>
<td>68.6</td>
</tr>
<tr>
<td>F. Observational data – Booster seats (n)</td>
<td>(9)</td>
<td>(28)</td>
<td>(33)</td>
<td>N/A</td>
<td>(70)</td>
</tr>
<tr>
<td>Vehicle belt not properly routed through seat</td>
<td>22.2</td>
<td>7.1</td>
<td>6.1</td>
<td>N/A</td>
<td>8.6</td>
</tr>
<tr>
<td>Seat back at improper level for child’s head</td>
<td>0.0</td>
<td>50.0</td>
<td>3.0</td>
<td>N/A</td>
<td>21.4</td>
</tr>
<tr>
<td>G. Observational data – all child passenger safety error (n)</td>
<td>(80)</td>
<td>(194)</td>
<td>(189)</td>
<td>N/A</td>
<td>(463)</td>
</tr>
<tr>
<td>76.3</td>
<td>90.2</td>
<td>74.6</td>
<td>N/A</td>
<td>81.4</td>
<td></td>
</tr>
</tbody>
</table>

*Percents are weighted by number of participants at each site.*
Appendix A. Recommendations for Appropriate Safety Restraint by Child Age and Weight in California as of January 1, 2002, based on SB 567

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>Weight in Pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;20</td>
</tr>
<tr>
<td>Birth to 1 year</td>
<td>Infant (rear facing) safety seat</td>
</tr>
<tr>
<td>1-4 years</td>
<td>Infant (rear facing) safety seat</td>
</tr>
<tr>
<td>4-6 years</td>
<td>NA</td>
</tr>
<tr>
<td>6 and older</td>
<td>NA</td>
</tr>
</tbody>
</table>
Appendix B. Child Passenger Observational Survey Form

Child Passenger Usage Observational Survey Form

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Location</th>
<th>Surveyor</th>
</tr>
</thead>
</table>

### INTERVIEW

#### Demographics
- Driver (check one): Parent, Relative, Foster/Guardian, Friend, Sitter, Other
- Driver's Age
- Gender (circle one): M / F
- Driver Race (check one): Asian, Black, Hispanic, Native American, White, Other

#### Transportation
- Own Car
- Other's Car
- Public Transit
- Taxi
- Walk
- Other

**How do you usually travel?**
- Do you know of the January 1st law that requires children ages 4-6 or 40-60 lbs to be seated in a car or booster seat?
- Do you have a car seat for each child up to age 4 and 40 lbs?
- How often do you use car seat(s) for child(ren) 0-4 and up to 40 lbs?
- How often do you use car seat(s) for child(ren) 4-6 or 40-60 lbs?
- How often do you move car seat(s) and base for travel in different cars?

**By who:**

**Comments:**

### OBSERVATION -- Child Passenger 1

#### Vehicle Information
- Make
- Model
- Year

#### Airbags
- Front Driver
- Front Passenger
- Side
- Other

#### Child Passenger
- Child's Age
- Child's Weight

#### Seating
- Not restrained
- In rear facing car seat
- In front facing car seat
- In booster seat

**Location**
- In front seat
- In back seat
- Front / Side Airbags

**Belt(s)**
- No seatbelt
- Lap belt only
- Lap/shoulder belt

**Comments:**

#### For Car Seat
- Harness retainer clip not at armrest level
- Harness straps not at or BELOW shoulders
- Harness straps not at or ABOVE shoulders
- Strapped in, more than one adult finger fits b/t chest and harness
- Vehicle belt not secured in seat tightly
- Car seat not appropriate for height and weight of child

**Other misuse/Comments:**

#### For Booster Seat
- Vehicle belt not properly routed
- Middle of ears not higher than vehicle seat back

**Other misuse/Comments:**
<table>
<thead>
<tr>
<th>Observation</th>
<th>Child Passenger 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Child Passenger</strong></td>
<td></td>
</tr>
<tr>
<td>Child's Age</td>
<td>Child's Weight</td>
</tr>
<tr>
<td><strong>Seating</strong></td>
<td>Check all that apply</td>
</tr>
<tr>
<td>☐ Not restrained</td>
<td>☐ In front seat</td>
</tr>
<tr>
<td>☐ In rear facing car seat</td>
<td>☐ In back seat</td>
</tr>
<tr>
<td>☐ In front facing car seat</td>
<td>☐ Front / Side Airbags</td>
</tr>
<tr>
<td>☐ In booster seat</td>
<td></td>
</tr>
<tr>
<td>Comments</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Observation</th>
<th>Child Passenger 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Child Passenger</strong></td>
<td></td>
</tr>
<tr>
<td>Child's Age</td>
<td>Child's Weight</td>
</tr>
<tr>
<td><strong>Seating</strong></td>
<td>Check all that apply</td>
</tr>
<tr>
<td>☐ Not restrained</td>
<td>☐ In front seat</td>
</tr>
<tr>
<td>☐ In rear facing car seat</td>
<td>☐ In back seat</td>
</tr>
<tr>
<td>☐ In front facing car seat</td>
<td>☐ Front / Side Airbags</td>
</tr>
<tr>
<td>☐ In booster seat</td>
<td></td>
</tr>
<tr>
<td>Comments</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Observation</th>
<th>Child Passenger 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>For Car Seat</strong></td>
<td>Check all that apply</td>
</tr>
<tr>
<td>☐ Harness retainer clip not at amplt level</td>
<td>☐ Vehicle belt not properly routed</td>
</tr>
<tr>
<td>☐ Harness strap not at or BELOW shoulders</td>
<td>☐ Middle of ears not higher than vehicle seat back</td>
</tr>
<tr>
<td>☐ Harness strap not at or ABOVE shoulders</td>
<td></td>
</tr>
<tr>
<td>☐ Strapped in, more than one adult finger fits b/t chest and harness</td>
<td></td>
</tr>
<tr>
<td>☐ Vehicle belt not secured car seat tightly</td>
<td></td>
</tr>
<tr>
<td>☐ Car seat not appropriate for height and weight of child</td>
<td></td>
</tr>
<tr>
<td>Other misuse/Comments</td>
<td></td>
</tr>
</tbody>
</table>