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Evaluation of Child Safety Seat Registration

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16. Abstract

Beginning March 1993, Federal Motor Vehicle Safety Standard 213 required manufacturers to provide a postage-paid registration form with each new child safety seat sold, with the goal of increasing consumer response to child seat recalls. Before March 1993, registration was voluntary for manufacturers.

It is estimated that registration increased from 3 percent prior to 1993, to an average 27 percent over the years 1996 through 2000. Based on data from 1990 through 2000, the repair rate for recalled child seats also increased, from 13.8 percent before the registration requirement to 21.5 percent once the requirement was in effect. The cost to consumers for child seat registration and notification is approximately 43 cents per seat sold in the United States.

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Executive Summary

Beginning March 1993, Federal Motor Vehicle Safety Standard (FMVSS) 213 (Child Restraint Systems, 49 CFR 571.213) required manufacturers to provide a postage-paid registration form with each new child safety seat. This was done to improve consumer response to child seat recall campaigns. The format of the card was specified, with information pertaining to the seat pre-printed, to make it as easy as possible for consumers to register their seats. The card was attached to the seat at a location where owners would see it and handle it before they could buckle a child in the seat. Prior to the 1993 requirement of registration cards, an estimated three percent of consumers registered their child seats. Currently, the registration rate is 27 percent, according to data from the manufacturers.

What has happened to the repair rate for recalled child safety seats? There are various ways to determine the average repair rate. The preferred method in this report is to compute the percentage of seats repaired in each recall, and then take the average across recalls. Data were examined for the years 1990 through 2000. Before the rule took effect in 1993, the average repair rate was 13.8 percent. After registration cards were required, the rate rose to 21.5 percent, a 56 % increase. This 7.7 percentage point increase is statistically significant. This report will show that the 7.7 percentage point increase is consistent with expectations based on the increase in registration from 3 to 27 percent, the likelihood that consumers learn about recalls via a letter from the manufacturer as opposed to other information sources, and how frequently consumers aware of a recall actually have the seat repaired. In other words, a substantial portion, and possibly most of the 7.7 percentage point increase in recall repairs, is due to safety seat registration, although some of it may be due to other factors that increased consumer awareness of child passenger safety. These benefits have been realized at a consumer cost of about 43 cents for each seat sold in the U.S.

Other methods of computing repair rates are considered in the report, and yielded similar results. Repair rates can vary greatly from one recall to another, depending, for example, on how promptly a defect is identified, and consumers' perceptions on the seriousness of the defect. Therefore, to discern a meaningful trend, it is important to average repair rates over several years and numerous recalls, and not to be overly concerned about large swings in the repair rate from one year to the next.

Data from several sources were incorporated in this report. NHTSA's Office of Defects Investigation (ODI) provided consumer registration and recall compliance records from child seat manufacturers. Consumers, both the general public (General survey) and those known to have experienced a recall (Recall survey), were surveyed on registration and recall activities, as well as other related topics. Dealers that sell child seats were queried regarding such topics as discussing registration with consumers and providing recall information. Interviews were also completed with loaner programs, both those associated with public health agencies and those with a hospital affiliation.

One discrepancy in this evaluation is that hard data submitted by the manufacturers show an actual registration rate of 27 percent, whereas respondents in the General survey self-reported registering at a rate of 62 percent. There is no doubt that the 27 percent rate is the correct one for the overall population. The registration rate in the General survey is high presumably because (1) the type of people recruited to participate in the survey are more likely to register their seats, and (2) in addition, some may be reporting inaccurately that they registered their seats. (Similar overreporting occurs in telephone surveys of self-reported belt use.) However, this study does not use the survey to estimate overall registration rate, but rather uses the self-reports to assess consumers' feelings about recalling seats, why people do and do not register their seats, and similar topics. The important findings of the General survey – that child seat registration and the recall of unsafe seats are important to consumers, that people not registering do so because they are "too busy" and not because they are hostile to the registration process or fear how their information will be used, and that consumers receive little advice about registration when they acquire their seat – are most likely not affected by these biases.

The repair rate of 21.5 percent was determined using a specific set of recalls. Those involving label corrections only were excluded, since they are considered unverifiable. Recalls that were too recent to have reported the required six quarters of data, those involving small companies producing a limited number of seats, and those involving companies that had gone out of business were also excluded from the rate determination.

When a recall occurs, about 22 percent of those that registered their child seat first hear of it from the manufacturer's letter. Regardless of how they first find out, approximately 56 percent of people in the General survey who said they registered remembered being notified by the manufacturer. These rates could be low if some of the participants in the General survey who claimed they registered their seats, in fact, did not. In addition, some consumers may have moved and not had the notice forwarded to their new address. When data from the ODI audit are included, which was limited to people who definitely registered their seats, over 77 percent remember hearing from the manufacturer. Along with notification from the manufacturer, many consumers, whether registered or not, first find out about a recall either from a television announcement or by hearing the information from a friend or relative. A large group of unregistered owners also read about the recall in a newspaper or magazine, and others learn about them from notices posted in retail stores.

Many consumers cannot be reached by a letter from the manufacturer. About 73 percent of consumers have not registered, so contact information is unavailable. Even among those that do register, this information can become obsolete when they move and fail to notify the manufacturer. Census data suggest that about 23 percent of child seat owners may have moved within the first year, 41 percent after two years, and 54 percent within three years of purchasing the seat. This leaves less than half the child seat owners at their address of record three years after registering. Child seats are often passed on to friends or family as children grow. About 16 percent of consumers surveyed were not the original owner of the seat currently in use. Few subsequent owners register their seats, although provisions are made to allow for this. Considering these factors, manufacturers

would be able to reach between 21 and 27 percent of child seat owners after one year, and only about ten to thirteen percent after three years.

The amendment to FMVSS 213 required a label on the child seat to provide the manufacturer's contact information for second and subsequent owners to register the seat. NHTSA also offers a form on its website that can be used to register the seat with the manufacturer. More could be done to advise consumers of the availability of this. Similarly, consumers can notify the manufacturer when they move, in order to keep contact information current. Programs aimed at reminding seat owners to do this could increase the number of registered owners that can be reached by the manufacturer in the event of a recall. For example, the U.S. Post Office provides checklists and information on what to do when moving. Adding a note on updating contact information for registered child seats could serve as a reminder for seat owners.

While the current report stresses the importance of registering child seats, other methods of recall notification are clearly both important and necessary. Television programs, newspapers, and magazines providing announcements on recalls, as well as stores posting recall notices, are to be commended on the job they do of reaching consumers who would not have otherwise known about the recall.

Consumers that comply with child seat recalls generally find it easy to contact the manufacturer, the instructions easy to understand, and the repairs easy to perform. Consumers that are aware of recalls, for the most part, do follow through and fix the seat. The majority of those that are aware of a recall but do not repair their seat have an appropriate reason, such as no longer using the seat.

While the repair of unsafe child seats has increased since registration cards were required, there is ample room for even greater improvement. A very few consumers are openly hostile to the registration card and unwilling to provide the necessary information. About two percent of respondents stated they did not register because they were concerned about the possible use of the information they would need to provide. Most consumers that did not register, about 85 percent, stated they were just too busy and never got to it. In reality, very little effort is required on the part of the consumer.

Adding a space for an e-mail address on the registration form could make initial recall notification faster. It could also be helpful in locating seat owners that have changed residence but retained their e-mail address. Another way NHTSA could help publicize recalls would be to promote the Consumer Products Safety Commission recall notification subscription list. The CPSC offers a free e-mail service in which subscribers are notified of CPSC press releases, including recalls. Options are available to restrict mailings to recalls only, or just those recalls presenting a risk to children. NHTSA could mention these e-mail lists in its child-related safety materials as well as providing a link on its web page.

NHTSA could increase registration with programs aimed at those groups that currently have low registration rates. According to the consumer survey performed for this report,

the lowest registration rates were among those in the lowest income group, those with less education, and younger seat owners. Older, more educated consumers, and those with higher incomes, were more likely to register their child seats, as were consumers who spoke with someone about registration at the time they obtained their seat.

Dealers do provide information regarding child seat registration and recall, but much more could be done to support them in encouraging customers to register their child seats. Only about three percent of consumers purchasing a seat remember discussing registration with a store employee. Consumers were more likely to discuss registration when the seat was received as a gift than when it was purchased. When registration was discussed with someone at the time the seat was acquired, the registration rate increased by about seven percentage points. This is true whether the seat was purchased, and the purchaser discussed registration with someone at the store, or received as a gift, at which time the recipient may have discussed registration with the gift-giver.

The survey of dealers indicates that some types of stores do a more thorough job of keeping consumers informed about registration and recalls. Further study in this area is suggested to provide information on what types of stores might offer the largest gains from programs aimed at increasing child seat registration as well as recall notification and compliance. Store management, as well as local child safety organizations, could work to support dealers in getting more information to their customers. Dealers could be provided with a brochure outlining registration benefits, as well as how easy the process is, to hand to the customer with each child seat purchase. The brochure could also suggest that those purchasing the seat as a gift offer to register the seat in the name of the busy new parents. This small procedure could do much to increase registration.

Although only about one percent of consumers obtain their child seat from a community-based loaner program, such programs offer an important service. While many provide child seats to those that could otherwise not afford them, other programs serve to make the usage of child seats more likely. For example, there are programs that focus on loaning seats to grandparents for visiting grandchildren, who otherwise might ride unprotected during a vacation visit. Other programs provide seats for children with temporary medical conditions, who are better protected in a specific type of seat. Loaner programs do a good job of providing training for using child seats and often assist in registering the seat, as well as monitoring for recalls on the seats they loan.

Requiring registration cards has increased recall compliance at a low cost to consumers. Further steps can be taken to achieve even further improvements.

Chapter 1: Introduction and Background

Federal Motor Vehicle Safety Standard (FMVSS) 213 (Child Restraint Systems, 49 CFR 571.213) specifies requirements for child restraint systems used in motor vehicles. On March 9, 1993, the standard was amended to require manufacturers to provide a registration form with each child safety seat (57 FR 41428; 9/10/92). The goal of the new rule was to improve the percentage of recalled child restraints fixed in recall campaigns for defect or noncompliance.

Child safety seats have been determined to reduce the risk of fatal injury in passenger cars by 71% for infants (children under one year of age) and 54% for toddlers (children age one through four). In light trucks (pickup trucks, sport utility vehicles, and vans), infant fatalities are reduced 58%, and toddler fatalities, 59%[1]. From 1975 through 2000, over 4,800 lives were saved by the use of child restraints. In 2000, children under age five were restrained 91% of the time[2]. Clearly, child safety has a high priority. The excellent protection and high usage rate of child safety seats have saved thousands of young lives. The highest quality and consumer confidence must be maintained in order to preserve such high effectiveness and use rates. If child safety seat owners are assured that, should something be discovered problematic with their seat, they will be notified, that confidence increases. When recalled seats are repaired, that quality is maintained, offering the highest level of protection to young children.

1.1 1993 Changes in FMVSS 213

The major modification to FMVSS 213 in 1993 was the requirement that manufacturers include a postage paid registration form with each child safety seat. The form must be pre-addressed, postage paid, with the mailing address and child restraint information (such as seat model number and date of manufacture) preprinted. The registration card must be attached to a surface of the restraint that contacts any portion of a test dummy properly positioned in the seat. The purpose of this is to ensure that the purchaser notices the form, and must handle it in order to detach it from the restraint. A generic version of the form, without model or mailing information, is available on NHTSA's website at:

http://www.nhtsa.dot.gov/people/injury/childps/csregfrm.pdf

In addition, labeling on the child restraint itself must include both an address and phone number for the manufacturer. This would enable subsequent owners of the seat to contact the manufacturer to register the seat. Manufacturers are required to maintain these registration records for a minimum of six years from the date of manufacture of the seat. Child restraints built into vehicles at the factory are exempt from these registration requirements. Vehicle manufacturers are already able to contact purchasers in the event of a recall of built-in child seats. Vehicles that are sold to subsequent owners can be found using the Vehicle Identification Number and state registration data.

NHTSA had originally proposed manufacturers to maintain owner registration records for a minimum of eight years from the date of seat manufacture, and requested comments on

the length of this record keeping period. For the final rule, this period was shortened to six years. Influencing this change were the fact that most child restraints are sold within the first year after manufacture, most recall problems are detected within the first few years of service, and many seats are discarded after a child outgrows them (although others are handed down to a younger sibling or children in other families). At the time of the Preliminary Regulatory Evaluation, the average length of time between the date of manufacture and date of recall was 26 months, and the longest time to recall was 5½ years. Since all recalls had occurred earlier than six years from the production date, this was designated as the required length of time manufacturers were required to maintain records.

The date of manufacture was used, rather than the date of purchase, to allow manufacturers to pre-print the information on the card. It reduces the burden on the consumer as well as the chance of error, by removing one field that the consumer needs to complete.

1.2 Prior to Amending FMVSS 213

The amendment of FMVSS 213 was in response to a petition for rulemaking from Center for Auto Safety (CAS) and Consumer Action of San Francisco. NHTSA proposed the registration program to improve the distribution of recall information directly to individual owners of child safety seats.

Before amending FMVSS 213, NHTSA discussed the changes with several agencies, including the Consumer Product Safety Commission (CPSC) and the Food and Drug Administration. One of the outcomes of these discussions was the belief that requiring a card with the postage prepaid would increase the response rate. Chain-saw registration cards, for example, were returned about 40 percent of the time when the card was postage-paid, and between 20 and 30 percent when it was not. One of the manufacturers of child seats that already included (not postage-paid) warranty cards stated that they had a return rate of about 10 percent. The CPSC reported an average 7 to 10 percent return rate for warranty cards for various types of products.

As will be shown in Chapter 2, before the rule took effect, about 13.8 percent of child restraints involved in recalls were reported as "campaigned units." Campaigned units are those restraints that were reported remedied, removed from sale to the public, or removed from use by the public.

During the period from 1981 through 1989, approximately six million child restraints were recalled, with about 10.5 percent of these reported as campaigned units. During 1990 and 1991, almost twelve million child restraints were involved in recalls, of which eleven percent was reported as campaigned units. This reflects the percentage of remedied child seats for all campaigns in aggregate.

Although these low response rates might seem to indicate a lack of concern or interest on the part of the owners, clearly that is not the case. A press conference on child seat recalls held by CAS in December 1989 resulted in an overwhelming public response.

During the eight months following the press conference, NHTSA's Auto Safety Hotline received over 30,000 calls from individuals asking about child seat recalls and the safety of child seats. This suggests that many owners of child safety seats are quite motivated, and would comply with a recall if they knew about it.

NHTSA convened a series of focus groups to study consumers' attitudes about the proposed registration program and other child safety issues. Participants overwhelmingly supported the idea of child seat registration. They indicated they would be most likely to return a registration card that was postage paid, clearly stated it was to be used for registering in case of recall, and required minimal time and effort to complete. To this end, the mailing address, model name and/or number, and date of manufacture are preprinted on the card. The consumer is required only to fill in his/her name and address, and mail the card.

In the Final Regulatory Evaluation[3], NHTSA expected that the return rate of registration cards would be 30 to 40 percent. If the public became more aware of the need to return the registration cards, the return rate could go even higher.

The return rate of registration cards is related to, but different from, the percentage of child seats remedied in a recall. Someone who returns a registration card is not necessarily going to remedy the seat if the seat were recalled. Furthermore, the registrant might not be the same person that would respond to a recall if, for example, the seat had changed hands. Additionally, someone who does not return the card might still have the seat fixed in the event of a recall by learning about it from a sign posted in a store, or seeing a public announcement.

These factors also play a part in the recall of motor vehicles. At the time of the Final Regulatory Evaluation for child seat registration, about 60 percent of motor vehicles involved in recalls were remedied. This is a benchmark that NHTSA suggested for estimating potential recall compliance rates for child safety seats. (Currently, 72 percent of the owners of vehicles with safety problems have the recall work performed.) There are differences, though, between vehicles and child seats that could cause the response rates to vary. Child safety seats could possibly have an even higher rate of response, since the manufacturer usually mails the required fix to the owner, eliminating a trip to the store or dealer for repairs.

On the other hand, child seat owners, even if they have returned the registration card, are more difficult to locate than are vehicle owners. Virtually all vehicle owners can be determined and tracked by sales receipts, dealer service receipts, and/or registration data. Owners of child seats move, as well as sell or give away the seats, or simply dispose of them after two to four years as the child outgrows them. Although FMVSS 213 provides for registration of second and later seat owners, they are still more difficult to keep track of than are vehicle owners. This clearly works to lower the overall response rate to child seat recalls.

In addition, when a car owner brings his or her car to a dealer for repair, the dealer is likely to note that there is a recall notice on the car and inquire with the owner about doing the repair. There is no comparable system present for child restraints.

Obviously, there is a marked difference between the 60 percent remedy rate for recalled vehicles and the 13.8 percent for child seats before the rule took effect. Even under ideal circumstances, it is unlikely that repair rates for child seats will reach 60 percent. Vehicle owners are much easier to locate, and vehicles are far more likely to remain with the original owner and in use much longer than are child seats.

Chapter 1 Footnotes

1. *Revised Estimates of Child Restraint Effectiveness, Research Note*. U.S. Department of Transportation, National Highway Traffic Safety Administration, Washington, DC, December 1996.

2. *Traffic Safety Facts 2000: Children.* DOT HS 809 324, U.S. Department of Transportation, National Highway Traffic Safety Administration, Washington, DC, 2001.

3. *Final Regulatory Evaluation: Registration of Child Restraints FMVSS 213.* U.S. Department of Transportation, National Highway Traffic Safety Administration, Office of Plans and Policy, Office of Regulatory Analysis, May, 1992.

Chapter 2: Registration and Recall Compliance Rates

Prior to 1993, fewer than three percent of child seats were registered. Thus, it was very difficult for manufacturers to directly contact owners of child seats should a recall occur. Once the requirement for registration cards came into effect, 27 percent of child seats were registered, an increase of 24 percentage points. The data also show an increase in the proportion of child seats involved in recalls being repaired. Before the requirement, about 13.8 percent of seats were repaired. Afterward, the rate of recall response rose to 21.5 percent, and increase of 7.7 percentage points, which will be shown to be consistent with the increase in registration. Information on the recalls used for these rates is provided in Section 2.2.1.

These findings are based on analyses of statistical data that child safety seat manufacturers are required to provide to NHTSA. They report production of child seats, as well as the number or percent of seats that are registered annually. In the event of a recall, manufacturers must keep NHTSA informed of the number of seats involved in the recall as well as how many seats have been remedied.

2.1 Registration Information

Before 1993, only one major manufacturer of child safety seats had a warranty card system in place. At the time, they had been getting a return rate of about ten percent with cards that were not postage-paid. This would translate to less than three percent of all child seats being registered prior to the registration card requirement.

Child seat manufacturers provide NHTSA with information on production, registration, and recalls. These production numbers are considered proprietary information, and therefore can only be reported as aggregate numbers. Model and seat type information cannot be separately reported. Thus, for data presented in this section, booster seats as well as rear-facing, convertible, and forward-facing seats are included in all totals and percentages. All other data throughout this report include only infant and toddler safety seats. There is no known reason to expect that registration rates differ by the type of seat or age of the child. Consumers surveyed (see Chapter 3, Section 3.2.3) did not report differing rates of registration for children less than six months of age than for those age six to twenty-four months.

Production of child seats varies by manufacturer over the years. In addition, manufacturers store and manage registration information differently. Some immediately enter data from purchasers into a computerized database. Others warehouse it, accessible by seat model, until a recall occurs, and then retrieve consumer information. Note that the registration data could come from telephone contacts, letters, or other sources as well as the registration cards.

Manufacturers reported to NHTSA in September and October 2000, regarding communication to dealers, distributors, or other purchasers, concerning defects in their child seats. This was in addition to communications required to be submitted to NHTSA

pursuant to 49 CFR Part 573.5(c)(9). One of the four major manufacturers reported that phone contacts, followed by a fax or sometimes mail, were sent as an initial (non-required) notification concerning a *potential* recall. They reported that a request that stock or inventory be held or returned might be made at that time.

At the time this information was sent to NHTSA, only two of the four manufacturers had web sites, which provided consumers with recall (and other) information. Currently all four have extensive websites where recall information is easily accessible. Some of these sites also provide links to related safety information, such as NHTSA and FAA sites, as well as providing online seat registration and updating.

Yearly variations occur for all manufacturers in the production of child seats. Registration and production numbers do not necessarily coincide year-to-year. Seats manufactured in one year might be sold and/or registered the next. These variations result in yearly differences in registration rates. Examining the available data, there was no obvious trend, either increasing or decreasing, over the years since the requirement went into effect. In addition, data were not available from every manufacturer for every year. Thus, an average over a number of years provides a better estimate of the registration rate than would any individual year. Specifically, only one of the four major manufacturers of child seats had available data for the year 2000. One of the manufacturers produced no seats in 1996, and also did not have up-to-date information available for 1999, while another could not provide registration data for individual years prior to 1998. Thus, two manufacturers provided data for 1996, three for 1997, all four for 1998, three for 1999, and only one for 2000.

Using available data from the manufacturers of all child seats, over the years 1996 through 2000 (the most recent year for which both production and registration data are available from any of the manufacturers), 27 percent of all child seats were registered. The average registration rate over the years 1996 through 1999 was also 27 percent, so although only one manufacturer provided data for the year 2000, including that most current data is not influenced by the single sample.

Information supplied by the manufacturers concerned seats that were manufactured or distributed for sale in the United Stated and its territories. Thus, neither the sale nor the registration of exported seats is recorded in these data. In addition, seats that are distributed to sales outlets are, for the most part, sold. According to a large national children's specialty store, seats that don't sell well are lowered in price until they are purchased. The exception is when seats are recalled, at which point they might be returned to the manufacturer. NHTSA considers recalled seats "campaigned" whether the store or manufacturer repairs and then sell them, or if they are simply withdrawn from the supply by the manufacturer.

This means that, for the most part, child safety seats that are produced are sold. The registration rate is not artificially lowered due to seats being exported to other countries, or by seats that are poor sellers being destroyed. Only recalled seats are, under some

circumstances, removed from circulation, and in such a case are considered "campaigned units."

Manufacturers are required to retain registration data for at least six years from the date of manufacture of the seat. As noted in Section 1.1, the longest time span from date of manufacture to recall at the time of the Preliminary Regulatory Evaluation was 5½ years, with the average being 26 months. It is of interest to look at how many consumers could be contacted after a certain time span should a recall occur. Several sources of data provide an overall estimate of the percentage of people likely to relocate over a given time.

The Census Bureau reports[1] that 23.3% of individuals age 1 to 4 relocated from March 1999 to March 2000. About 60 percent of those that move do so within the same county. The same document reports, in another table[2], that 23 percent of households with children under the age of six moved in the same time period. Obviously, some households have more than one child under the age of six. However, 23 percent can be used as an upper bound estimate of how many families with children in child seats would move in any given year. In that case, one would expect at least 57 percent of households with children less than two years old to be at the same address after 26 months. This was determined as $0.77^{26/12} = 0.57$, where 0.77 is the percent of the population not moving (100 percent less the upper bound of 23 percent moving annually), and 26/12 is the span of time (on average, in months) from production of a child seat to its recall. More simply, the number of people remaining after *two* years had passed would be calculated as 0.77 x 0.77, or 0.77^2. Months must be converted to years, since the percentage of those moving is reported in years. The same method can be used to determine the percentage of people remaining in a given location after various periods of time. Thus, after two and a half years (30 months), about 52 percent of families with children in this age group would remain at the same location, and after three years, about 46 percent.

Data from the Census Bureau's Survey of Income and Program Participation (SIPP) was used for its report on duration of residence[3]. It states that 43 percent of people had lived in their current residence three years or less, and 58 percent had lived there six years or less. Thus, 42 percent (100 less 58 percent) had moved to their current residence during the previous six years.

The recall audit examined for this report (see Section 4.2) found that 43 percent of registered seat owners could still be contacted six to seven years after the seat had been manufactured. This is not necessarily inconsistent with the census data. Using the formula above, 0.77^6 or about 21 percent of families would be expected to be at the same location six years later. This is assuming a constant rate of relocation. However, those with young children tend to change residence at a higher rate than those with older children. Thus, the rate of relocating would be lower as the child(ren) grew older. Note also that not all child seat owners in the recall audit were individual consumers. Rather, some were hospitals and other organizations, which would be more likely to remain at the same address. Organizations also frequently buy large numbers of seats. In addition, as children age, households have a lower mobility. Adjusting the percent moving as the

children grow older (so that more than 80 percent remain stable in a given year) would increase those expected to remain at the same location.

The number of seat owners still at the same address is a necessary factor in determining how many consumers could be reached in the event of a recall. Recall notices are required by law to be sent as First Class mail. In the event that the addressee has moved and filed a change of address form, such mail is forwarded for one year. For the thirteenth through eighteenth month, mail will be returned to the sender with the intended recipient's new address attached. After 18 months, or if the mail is undeliverable at any time, the notice is returned with the reason for nondelivery attached. Note that, despite the requirement, it has been found that recall notices are not always sent via first class mail. Notices sent at the standard mail rate, without an Ancillary Service Endorsement, are disposed of, even if the intended recipient has filed a change of address form. Thus, those no longer living at the address at which the seat was registered will not receive the notice if it is sent via standard mail. The US Census reports that about 43 million Americans moved between March 1999 and March 2000.[4] According to the US Postal Service, 44 million change-of-address cards were processed in 2001.[5] Using this information, an upper and lower limit of consumers that will be notified of a recall can be determined. The upper bound would be more correct if the notices are forwarded to those who had moved. The lower bound assumes no notices are forwarded.

Using 77 percent as those not moving in a given year, Exhibit 2-1 presents the percent of child seat owners that would still be receiving mail at the address from which they registered. Note that values in the column "Mail not Forwarded" are also the percent of consumers still residing at the address on file. When mail is not forwarded, the percent of consumers that can still be contacted is determined as described in the section above. When mail is forwarded, there is a one-year lag before the child seat owner would not be able to be contacted.

Exhibit 2-1: Child Seat Owners that would Receive Mail Sent to Address used to Register

	Percent that would Receive Notice	
Time Since Registration	**Mail Forwarded**	**Mail not Forwarded**
0 months	100	100
6 months	100	88
1 year	100	77
1.5 years	88	68
2 years	77	59
2.5 years	68	52
3 years	59	46

Section 3.2.5 discusses child seat acquisition for those participating on the consumer survey. About 84 percent of respondents were the original owner of the child seat in question, having either purchased it new or received it new as a gift, for either the child

currently using it or an older sibling. Let us assume all child seats remain with their original owner for two years, that eight percent have changed hands at 2.5 years, and sixteen percent at three years. Thus, with 84 percent of child seats being used by the original owner, and 46 percent of those owners still at the registered address, one would expect to be able to contact about 50 percent of registered users three years after the seat was manufactured if the recall notice was forwarded. If the notice were not forwarded, about 39 of registered users would receive the notice. Given 27 percent of seats are registered, this would mean about 13.4 percent of all owners of child seats involved in a recall three years after manufacture would be able to be contacted if the notices were forwarded, and 10.4 percent if they were not forwarded. Exhibit 2-2 presents the expected percent of child seat owners that manufacturers would be able to contact at various time intervals, given the available information and necessary assumptions.

Exhibit 2-2: Child Seat Owners Manufacturers Would Be Able to Contact in Event of a Recall

	Percent Able to Contact	
Time Since Registration	**Mail Forwarded**	**Mail not Forwarded**
0 months	27.0	27.0
6 months	27.0	23.8
1 year	27.0	20.8
1.5 years	23.8	18.4
2 years	20.8	15.9
2.5 years	16.9	12.9
3 years	13.4	10.4

Changing residence, something that families with young children tend to do to, is a large part of the percent of owners that can be contacted, and something over which NHTSA and child seat manufacturers have no control.

Although not required by law, child seat manufacturers can improve recall compliance rates by resending any recall notices that are returned to them with an updated address. NHTSA does not monitor whether notices are remailed to forwarding addresses. Although means are provided for consumers to update their address directly with the manufacturer, this doesn't seem to be utilized as much as it could be. Manufacturers can and do make registration updating easy by providing toll-free phone numbers and internet sites at which changes of address can be filed. Greater emphasis on keeping registration information updated could improve on this. For example, the U.S. Post Office provides checklists and other information to assist when moving to a new address. Along with reminders to notify, for example, water and cable companies, including a note to update contact information for registered child seats could encourage seat owners to do so.

2.2 Recall Information

The ultimate goal of requiring registration cards to be included with child seats was to increase child seat owners' response to recalls. If consumers are made more aware of the

occurrence of a recall, there is greater opportunity for them to participate. Therefore, an important measure of the success of the program is the change in the rate of consumer response. Certainly, the specifics of any recall, such as how long ago the seat was produced or how hazardous consumers view the situation, will have an effect on the number of people that respond. In addition, other factors since the inclusion of the registration card, such as more awareness of child seat safety, may have influenced the percent of recall respondents. Overall, however, if the recall repair rate has increased since the registration card requirement began, then it can be said that the cards are, at least in part, responsible.

Child seat manufacturers are required to provide NHTSA with specific data on the production of child seats. In addition, when a recall occurs, information must be provided over an ongoing period to keep NHTSA informed of the number of seats that are known to be non-compliant, as well as those that have been repaired. These data will be used to evaluate the recall repair rates before and after the registration card requirement.

2.2.1 NHTSA Recall Data

For the purposes of this analysis, a specific set of recalls was examined. Recalls involving label corrections only were excluded. When a label is discovered to be in error, a new label is typically mailed to the seat owner. These are ”unverifiable” recalls, since there is no confirmation made that the label is actually placed on the seat. Thus, correction data for this type of recall is not as reliable. In addition, consumers may view such a recall as less serious than one in which the seat performance is affected, and might not bother responding to it. It would introduce additional variance to perform a combined analysis of label and non-label recalls, giving an accurate picture of neither.

The Office of Defects Investigation collects data over a period of six quarters. Five recalls initiated in 2001, and three initiated in 2000, did not yet have a full six quarters of data. Since the number of repaired or even involved seats can change over this time, these were excluded from the analysis.

When a seat is discovered to be defective or non-compliant, but the company has gone out of business, there is no corrective action that can be done to the seat. When this occurs, NHTSA issues a press release to inform consumers of the recall, but the seat itself is not repaired. In such cases, no data on rates of repair are available. In addition, small companies producing only a limited number of child seats have been excluded from this analysis.

While most defects are discovered within a relatively short time, some are not discovered until years after production. As noted in Chapter 1, the average length of time between the manufacture date and recall date, as stated in the Preliminary and Final Regulatory Evaluations, was 26 months at that time. In addition, some child seat models are produced over a long span of time. If such a model is eventually recalled, seats that were produced several years previously are usually included. In such cases, the seat is rarely still used by the original purchaser, having been passed on or discarded. Of course, the

seat could also be in use by a younger sibling, but the time span involved makes such cases unusual.

In order to account for both time factors – recalls occurring either long after production or involving seats produced over an extended period – the midpoint of production was utilized. This was determined as the month midway between the start of production and the end of production of the specific non-compliant child seat. The midpoint of production is an approximate average seat build date for those seats involved in a particular recall. Using this allows a comparison of the time span from this average build date to the recall date for each of the various recalls involved. This provides an average age of the seat at the time of the recall.

Production of a child seat may be discontinued because of various market factors, or due to a recall. Some recalls do not involve all seats of a specific model. For example, if a particular fabric is found to not meet flammability standards, only child seats using the fabric will be recalled. Seats of the same model made with other fabrics would not be involved in the recall. Thus, for this evaluation, the end of production for the non-compliant seat would be considered to be when those seats with the flammable fabric are no longer produced. Production of the seat could be continued, with modifications. Throughout this evaluation, whenever the term "midpoint of production" is used, it refers to the date determined as described above.

The creation date of the manufacturer's defect/noncompliance report that NHTSA receives is referred to as the 573 date. This refers to the location in the Code of Federal Regulations of the requirement that manufacturers notify NHTSA about a defect or noncompliance. The regulation is in 49 CFR Part 573, thus the term "573 date."

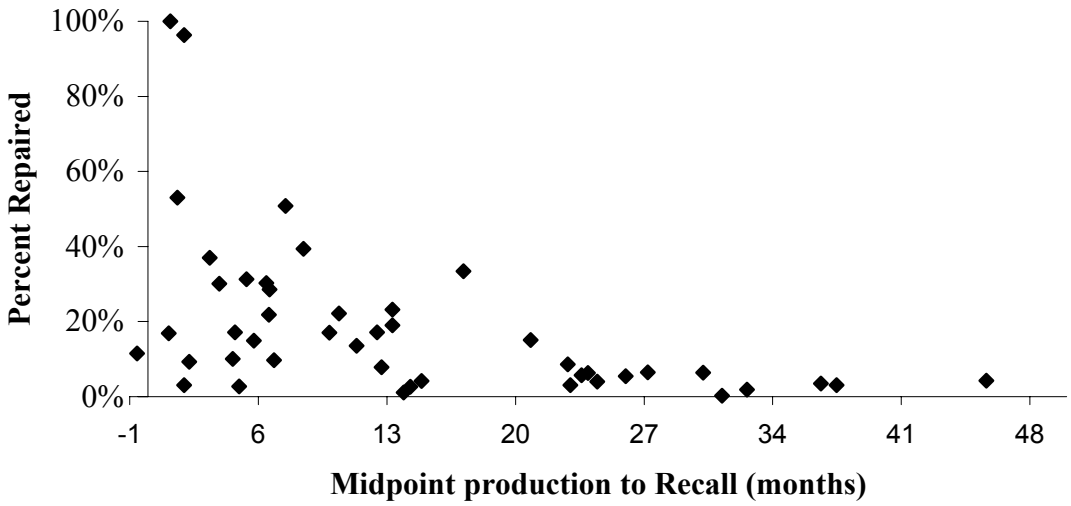
The time span from the midpoint of production to the 573 date was ascertained. In one case, the notice was received by NHTSA in July of 1993, while the seat was produced from June through October of 1993, at which point notification of the recall was sent to seat owners. Thus, the 573 date was a month prior to the midpoint of production. At the other extreme, one seat had a 573 date nearly four years (46 months) after the midpoint of production. This seat was produced from January 1993 through June 1999, and recalled in 1999.

Exhibit 2-3 presents a plot of the number of months from the midpoint of production to the recall by the percent of seats that were repaired, excluding those data mentioned previously as not being part of the current analysis.

The relationship between the length of time from production to recall and the repair rate is an important one to consider. Note the very low percent repaired when this goes beyond approximately two years. For those seats with a production to recall midpoint beyond two years, there is a very small likelihood of it being repaired in a recall. Also, note that the highest response rates are associated with very short production to recall time spans. However, not every recall with a short time span has a high rate of response. For recalls with a production to recall midpoint of less than 18 months (except the two

rates close to 100 percent) there appears to be a weaker, yet still negative, relationship between length of time to recall and repair rate. That is, longer time spans are associated with lower repair rates, but the relationship is not as strong as when the time lag is beyond one-and-one-half or two years.

Exhibit 2-3: Midpoint between Production and Recall, by Percent of Seats Repaired



For various reasons, the longer it is between the production of a child seat and a recall, the lower the repair rate. As time passes, children grow out of the seats and some remain unused. Seats that are damaged may be discarded. Others are passed on to a friend or family member, or sold, often without the benefit of registration. Owners may have moved to a new address. Thus, one avenue of learning about a recall is closed to such owners. As shown in Exhibit 2-3 above, the general relationship is negative, although not strictly linear. Recalls extending more than approximately two years beyond the midpoint of production all had repair rates of around six percent or less.

Safe Kids Buckle Up events were held throughout the United States from February through September of 2001. At these events, parents and others had the opportunity to obtain information on child seat safety. In addition, consumers shared information on their child seats. Fifty-one percent of the 15,785 child seats seen had been manufactured since the year 2000. An addition 19.5 percent had been manufactured in 1999. Note that those attending a Safe Kids Buckle Up event are not necessarily representative of all owners of child seats. This group of people could, for example, have a greater interest in child seats than does the general population of seat owners, which could conceivably result in a non-representative sample of seats. At these events, more than half of all child seats currently in use were less than two years old, and about three-fourths less than three years old. It is not surprising, then, that recalls beyond two or three years past the date of manufacture achieve very low participation rates. It is not only that seats manufactured more than two or three years ago are not registered to the current user, but far more likely that the seat isn't currently being used.

Slightly over 82 percent of child seat recalls from 1990 through 2000 (excluding label only and small/out of business companies as noted above) occurred within three years after the midpoint of production. Furthermore, 72.5 percent occurred within two years of the production midpoint. Given that the majority of seats in use are no older than this, two and three years are reasonable cutoff points when dealing with child seats. Thus, data will be limited to those recalls occurring within three years of the midpoint of production. In addition, analyses will also be examined limiting data to within two years of the midpoint of production to the recall.

Data the manufacturers provide to NHTSA do not distinguish between seats that are repaired by individual consumers and those that are retrieved from the store shelves to be either repaired or removed from circulation. Clearly, the process is more efficient at the store level, where each seat has been shipped to a known location, than at the consumer level. This likely influenced two recalls with short midpoint-to-recall spans that had exceptionally high correction rates, 96.4 and 100 percent. These seats, for the most part, never reached consumers. These extremely high response rates indicate that they were simply removed from store shelves or storage before purchase. Therefore, since registration is irrelevant, these two recalls will be excluded from analysis. Note that one of these occurred before the change in FMVSS 213, and one after, so their inclusion would have little effect on differences in registration rates. The overall rate and the variance between recalls would be affected, however, and therefore they are excluded.

After restricting the data in this manner, between 1990 and 2000 there were 40 recalls of child safety seats that took place within three years from the midpoint of production, and 35 recalls within a span of two years. For those recalls with a two year midpoint-to-recall span, 17 recalls occurred before the change in FMVSS 213 and 18 after. For recalls within the three-year midpoint-to-recall period, 21 were before the law change, and 19 after. The highest correction rate was 53 percent.

The relationship between the span of time from the midpoint of production to recall and the repair rate (expressed as a simple percentage of seats repaired) was examined. When data were restricted only to within three years, the correlation was –0.496. (The negative value indicates that a longer time span was associated with a lower repair rate.) The t-score for this correlation was 3.5, with 38 degrees of freedom and a two-tailed probability of 0.0011. Restricting the data to within two years of the midpoint of production resulted in a correlation of –0.385. The t-score for this was 2.4, with 33 degrees of freedom and a probability of 0.0223. Clearly, even when data are restricted to within two years, there is a strong relationship between time passed and rate of repair.

It is important that differences in repair (and registration) rates before and after the presence of registration cards be attributable, as much as is possible, to the presence of the card rather than some other variable associated with the time periods. Therefore, for example, if the time from production to recall was consistently higher in the earlier years, one would expect an increase in repair rates due, at least in part, to the shorter time span. For that reason, it is important to look at how these time periods differ before and after the presence of the card.

The mean number of months from the midpoint of production to the start of the recall, for the three-year group, was 15.1 before the card was present, and 10.2 months with the card. A t-tests run on the difference between these was not significant (t=1.6817, df=38, probability of 0.1008). For the two year group, the average number of months before was 11.9, and with the card, 9.0 months. Again, the t-test was not significant (t=1.1952, df=33, probability of 0.2405).

2.2.2 Repair Rates for Recalled Child Seats

The number of seats involved in a recall varies greatly. The smallest recall of those used in this analysis involved one thousand seats; the largest, over three million. While each seat represents an individual, the specifics of each recall, such as the length of time it was manufactured, the time from production to recall, and the reason for the recall can all affect the percentage of people that respond to the recall. Thus, it is informative to look at the overall repair rate for all recalled seats as well as the average over recalls, as has been done. Looking at the unweighted rates would give an "average" repair rate over all recalls, with a recall being the unit examined. Using data weighted by the number of seats would give an overall rate for all seats that have been involved in recalls. Seats considered repaired were those that were noted as being 'corrected' in NHTSA's ODI data. These seats could have been repaired by the consumer or returned to the manufacturer by the store selling them.

Exhibit 2-4 presents the average repair rates for child safety seat recalls, before and after FMVSS 213 required registration cards to be included with child safety seats. Each recall is treated as a single data point and weighted equally, regardless of the number of seats involved. In this and future tables, the terms 'Before cards' and 'After cards' will be used to distinguish these time periods. Data are shown for the 40 recalls having a midpoint of production within three years of the start of the recall ("3 Year Midpoint") and for the 35 recalls having the midpoint of production within two years of the start of the recall ("2 Year Midpoint"). These terms will also continue to be used in referring to these data subsets.

Exhibit 2-4: Average Repair Rates of Recalls, Before and After Registration Card Requirement for Recalls 1990-2000 (Percent)

	3 Year Midpoint	2 Year Midpoint
Rate before cards	**12.0**	**13.8**
Number of recalls	21	17
Standard deviation	12.6	13.5
Rate after cards	**20.5**	**21.5**
Number of recalls	19	18
Standard deviation	13.6	13.2
Percent increase after cards	**70.1%**	**56.1%**

The rates shown in Exhibit 2-4 are rounded to the nearest decimal place, but the percent increase is determined from data to eight decimal places. Therefore, the result may not

be identical to that calculated directly from the tabled values. Note that the overall rates of repair were higher when limiting data to within two years of production, but the increase was greater with data spanning three years. In both cases, the percent increase was quite high.

T-tests were performed on the differences in rates for each group, comparing the rate before the registration card requirement to the rate after. Since the expectation is that the rate of repair would increase as a consequence of seat registration, one-tailed significance tests will be used for evaluating repair (and registration) rates with and without the registration card. For the 3-year data, the t-score of -2.04 was significant, with 38 degrees of freedom, having a one-tailed probability of 0.0243. For data limited to within two years of the midpoint of production, the t-score of -1.72, with 33 degrees of freedom, was significant at the (one-tailed) level of 0.0475. The repair rate of recalled child seats did increase after registration cards were included with the seats.

The overall repair rates of all child seats recalled from 1990 through 2000 are presented in Exhibit 2-5. This differs from the previous set of numbers in that, rather than looking at individual recalls, an individual rate is computed using all recalled seats and all repaired seats, for the dataset and time period in question.

Exhibit 2-5: Repair Rates for Child Seats Involved in Recalls, Before and After Registration Card Requirement, Weighted by Number of Seats in Recall (Percent)

	3 Year Midpoint	2 Year Midpoint
Rate before cards	**8.5**	**10.9**
Number of seats recalled	8,195,834	4,075,962
Number of seats repaired	698,871	445,495
Rate after cards	**19.5**	**20.3**
Number of seats recalled	3,949,651	3,787,001
Number of seats repaired	771,939	768,886
Percent increase after cards	**129.2 %**	**85.8%**

Note that the percent increase was calculated from the actual number of seats involved and repaired, and not the percentages presented, which are rounded to one decimal place. Both the 2- and 3-year groups show a marked increase in the percent of the total number of seats repaired. For the 3-year production midpoint to recall span, which includes more of the data, the rate more than doubled.

Although in one sense these are "population" repair rates not subject to sampling error, they could also be considered weighted averages for a small number of recalls (a "cluster sample"). In that case, it is appropriate to test the differences of the "before" and "after" repair rates using the "weighted t-test" in SAS. For the three-year midpoint time span, the t-score of -3.36, with 38 degrees of freedom, was significant at the one-tailed 0.0009 level. For the two-year span, the t-score of -2.41, with 33 degrees of freedom, was also significant, with a probability of 0.0109. Whether repair rates are looked at by individual

recall, or across all recalls, a larger proportion of recalled seats are being repaired since the card has been required.

Since there is a strong relationship between the lag time from production to recall and the repair rate, and a slight (nonsignificant) tendency toward longer lag times in the pre-1993 recalls, there is a possibility that some of the observed increase in the repair rates after 1993 is due to reduced lag times, rather than registration cards. A regression analysis would be appropriate in order to control for the effect of lag times.

As seen in Exhibit 2-3, the relationship between time to recall and percent repaired is not linear. This association must be taken into account in any analysis of the data. Log-odds ratios of the rate of repair can be used for this analysis since they have a more linear relationship with the time to recall. The more extreme values are smoothed out using this method. The log-odds are determined as:

$$\text{log-odds} = \ln\left(\frac{rate}{1-rate}\right)$$

where the rate is the percentage of seats that were repaired. Values of zero would indicate a 50 percent (even odds) rate of repair. Any lower rate would result in negative log-odds, with larger negative numbers representing a lower repair rate. Note, however, that this is not saying that a 50 percent repair rate is a baseline measure, or is "expected" to occur. This is merely the value statistically represented by zero using log-odds.

Exhibit 2-6: Results of Regression Analyses, Presence of Registration Card and Time from Midpoint of Production to Recall on Repair Rate Log-Odds

	Unweighted	Weighted by Seats Involved
3 years from production midpoint to recall		
Intercept	-1.52	-1.11
Card presence estimate	0.61	0.34
t-score	1.8	1.13
Probability (one-sided)	0.0404	0.1319
Time lag estimate	-0.07	-0.06
t-score	-3.69	-3.60
Probability (one-sided)	0.0004	0.0005
2 years from production midpoint to recall		
Intercept	-1.71	-1.22
Card presence estimate	0.69	0.50
t-score	2.01	1.69
Probability (one-sided)	0.0265	0.0505
Time lag estimate	-0.05	-0.06
t-score	-2.10	-3.01
Probability (one-sided)	0.0220	0.0025

Regression analyses were performed using the GLM (General Linear Model) procedure in SAS. Each individual recall contributes a data point to the aggregate logistic regression. The dependent variable is the log-odds of the repair rate. The independent variables are the lag time from production to recall (in months) and the presence or absence of the registration card. Regressions could be run with the data points unweighted, or weighted by the number of seats involved in the recall. Results are shown in Exhibit 2-6.

For both the two and three year sets of unweighted data, the presence of the card has a significant effect on the repair rate. The data weighted by the number of involved seats recalled within two years of the production midpoint are very close to being significant.

Exhibit 2-7 presents the average repair rate of child seats before and after the inclusion of the registration card (the unweighted data), using log-odds. These rates have been reconverted back to the percent of seats repaired, and can be interpreted as such.

Exhibit 2-7: Average Repair Rate Log-Odds of Recalls, Before and After Registration Card Requirement (Percent)

	3 Year Midpoint	2 Year Midpoint
Before cards	9.6	10.1
After cards	16.1	18.2
Percent increase after cards	**67.7%**	**80.5%**

Exhibit 2-8 presents the log-odds repair rates before and after registration cards were included for the all recalled child seats combined (the weighted data).

Exhibit 2-8: Repair Rates Log-Odds for Child Seats Involved in Recalls, Before and After Registration Card Requirement (Percent)

	3 Year Midpoint	2 Year Midpoint
Before cards	14.4	17.2
After cards	19.1	28.5
Percent increase after cards	**32.4%**	**65.2%**

The repair rates themselves are higher when the data are examined in aggregate form, rather than by individual recall. The percent increase after the inclusion of the registration card is larger when recalls are considered individually. With the weighted, or aggregate, data, a few very large recalls greatly overshadow the remaining ones. The results are more a reflection of those recalls than recalls in general. However, they do represent a large number of individual consumers, so it is important to examine these rates.

2.3 Conclusions

Documented consumer response to child seat registration and recalls has been examined. There is, of course, a relationship between seat registration and recall compliance. With a greater number of seats registered, manufacturers are able to directly notify consumers in the event of a recall. Since registration cards have been required for all child seats, both registration and recall participation have increased.

2.3.1 Results of Registration Analyses

Registration of child seats was less than three percent before registration cards were required. Today, about 27 percent of child seats are registered. Given that the one manufacturer providing non-postage-paid warranty cards saw a return rate of ten percent, it is likely that other factors are also influencing this high return rate. More awareness of passenger safety in general, and child passenger safety in particular, have probably helped increase the percent of consumers registering their child seats. However, the fact that the form is very easy to complete, and the postage is paid, greatly influences the higher rate of registration. Without a convenient and accessible method of allowing seats to be registered, however, it is unlikely that such awareness would have resulted in as many seat registrations.

The registration cards were designed about ten years ago, before internet access was common. Today a large number of people use the internet and have e-mail accounts. Adding a space on the registration card for an e-mail address could increase recall notification. Initial recall notices could first be sent via e-mail, which would be far quicker to produce and distribute. This e-mail notification should be supplemental to the physical notice that is mailed. Although this would only be useful to those with an e-mail address, they would learn about the recall almost instantly. An additional use for the e-mail address could be to verify the current address of the consumer, or as a potential method of contacting those who have relocated.

Relocating does not necessarily mean changing employment also. When new parents move, it is frequently within the same county. The possibility is great that they are not changing jobs, but only residence. If a work e-mail address were used to register the child seat, contact information would remain valid even when the person changed homes. Similarly, relocating does not necessarily mean the personal e-mail address has to change. It could be suggested that, when filling out the registration card, seat owners include the e-mail address they feel has the greatest likelihood to remain valid for six years (the time span manufacturers are required to keep records). Having an easy method to update the e-mail address, such as on the manufacturers web site, could also help improve notification. Of course, the e-mail address, like all personal information provided by the consumer, should remain confidential with the manufacturer, and be used for no other purpose than recall notification.

The CPSC offers several free e-mail subscription services, including one specifically for recalls involving risk to a child. The online form to receive the e-mails is located at

http://list.cpsc.gov/

NHTSA brochures dealing with child seats, such as *Buying a Safer Car for Child Passengers* could mention the list and note how consumers can sign up. A link on NHTSA web page is also suggested. In addition, notes in NHTSA brochures suggesting seat owners register should be more prominent.

2.3.2 Results of Recall Compliance Analyses

In the analyses presented, it is clear that consumer response to recalls has increased since FMVSS 213 was amended to require registration cards be included with child seats. Estimates of repair rates ranged from 8.5 to 17.2 percent before registration cards, and from 16.1 to 28.5 after. The increase after registration cards were required ranged from 32.4 to 129.2 percent.

While several estimates have been discussed, perhaps the overall "best" estimate would be the unweighted data limited to within two years of production (Exhibit 2-4). Each recall is unique, and the repair rate can be effected by, among other things, the specific defect involved and the length of time since the seat was manufactured. While the weighted data is valuable in describing how consumers have responded, the overall effect of requiring registration cards is better demonstrated by looking at each recall as an equal unit. Restricting the time lag to two years includes most of the cases (35 of the 40 qualifying for this analysis). Once more than two years have passed since the manufacturer of the seat, however, time has a far greater influence on the repair rate than any other factor. The unweighted data restricted to two years had a repair rate of 13.8 percent before and 21.5 percent after, an increase of 56 percent (in relative terms), or 7.7 percentage points (in absolute terms).

The change in repair rates is not necessarily due only to the presence of registration cards. Other factors, such as better media announcements and greater safety awareness by parents, may also play a role. However, the size of the increase is consistent with other findings of this report. Section 2.1 discussed the increase in registrations since the cards have been required. Before the requirement for registration cards, fewer than three percent of all seats were registered. Now, about 27 percent are, an increase of 24 percentage points.

Chapter 4, Section 4.3.6, presents the results of a consumer survey, which found that 21.7 percent of *registered* owners of child seats involved in a recall first found out about it through a letter from the manufacturer (Exhibit 4-9, General Survey). Regardless of how they first found out, 56.5 percent of *registered* owners in the General Survey remembered being notified by the manufacturer. It is likely that some of the 21.7 percent that first learned of the recall via a letter from the manufacturer heard about it elsewhere, again, at a later date. Moreover, some proportion of the 56.5 percent that remembered a letter from the manufacturer certainly also heard about it elsewhere. Although consumers report hearing about the recall from other sources, such as television and word of mouth, it is unknown how confident they are at that point that the recall applies to them. Child seat recalls are for specific models of seats, sometimes restricted by production dates and/or serial numbers. Even if consumers hear of the recall from another source, the manufacturer's letter may be the key piece of information that prompts their awareness of

the recall, or elicits their responding to it. Thus, the most likely percent of registered owners that depend heavily on the manufacture's notification to realize their child seat is involved in a recall is probably between the 21.7 percent that first heard from the manufacturer, and the 56.5 percent that heard about the recall from the manufacturer at some point. Somewhere in this range is the percent of registered owners who would not have known of the recall, or would not have responded to it, had it not been for the manufacturer's notification letter.

Consumers that were aware of a recall had their seats repaired at a rate of 84.2 percent (Section 4.3.7). Most of those choosing not to repair their seats no longer used or owned the seat. Bearing in mind that registration increased by 24 percentage points, consumers learn about the recall from the manufacturer's letter between 21.7 and 56.5 percent of the time, and 84.2 percent of seat owners aware of a recall will repair the seat, the predicted increase in recall response, due to increased registration, is 4.4 to 11.4 percent. (Calculated as 0.24 x 0.217 (lower bound) or 0.565 (upper bound) x 0.842). Thus, the lower bound would be determined at 0.24 x 0.217 x 0.842 = 0.044. The actual rate of recall response, according to data provided to NHTSA by the manufacturers (and reported in Exhibit 2-2), went from 13.8 to 21.5, an increase of 7.7 percentage points. This is within the range predicted above.

More consumers are aware of recalls than had been in the past, at least in part due to the registration process. It follows that this would translate into a larger percent of child seats being repaired or replaced. The increase in the percentage of consumers participating in recalls is clear. This, in turn, has resulted in a greater level of protection for their children.

The time from when a child seat is produced to when it is recalled heavily influences the number of seats eventually repaired. This strong relationship has been noted several times. In the extreme, when a defect is found in testing before the seat leaves the manufacturer's warehouse, all seats can be repaired or removed from circulation before they reach the public. Of course, not all defects can be found through testing new seats. Some defects are not apparent until there is wear on the seat, only happening after months or even years of use. In any case, the sooner defects are identified, the higher the chances they will be repaired.

Chapter 2 Footnotes

1. *Geographic Mobility March 1999 to March 2000 Detailed Tables,* Table 1. Current Population Survey. U.S. Census Bureau, Economic and Statistics Administration, U.S. Department of Commerce. http://www.census.gov/population/socdemo/migration/p20-538/tab01.txt

2. *Geographic Mobility March 1999 to March 2000 Detailed Tables,* Table 14. Current Population Survey. U.S. Census Bureau, Economic and Statistics Administration, U.S. Department of Commerce. http://www.census.gov/population/socdemo/migration/p20-538/tab14.txt

3. Hansen, K. A. *Seasonality of Moves and Duration of Residence,* Current Population Reports, Household Economic Studies, P70-66. U.S. Census Bureau, Economic and Statistics Administration, U.S. Department of Commerce. October, 1998.

4. *Geographic Mobility March 1999 to March 2000 Detailed Tables.* Current Population Survey. U.S. Census Bureau, Economic and Statistics Administration, U.S. Department of Commerce.

5. *2001 Comprehensive Statement on Postal Operations.* United States Postal Service, p 63.

Chapter 3: Consumer Response

Consumer response is at the heart of child seat registration and, ultimately, recall compliance. At the time the Final Regulatory Evaluation was written in 1992, before there was a requirement to include registration cards with child safety seats, public announcements were the main process by which manufacturers informed consumers about child restraint recalls.

A survey of child seat owners with children younger than two years was conducted during March and April, 2001, for this evaluation. (The survey instrument is presented in Appendix A.) Questions were asked of these consumers to find out, for example, why people do or don't register their seats, the importance they place on registration and recalls, and what information or assistance is provided in stores.

3.1 Consumer Survey Background

The names of potential survey respondents were obtained from a targeted list of 4,500 households with children less than two years old. The list, purchased from a sampling house, was originally generated from a combination of self-reported data, commercial data, and public record information. Sources for the data included hospital records of recent births, users of coupons for free merchandise, baby store mailing lists, warranty cards for a variety of products, and similar sources. If the list included a large amount of self-reported information, as opposed to hospital records, it is possible that including consumers that provided information and/or returned a warranty card for another product could result in higher than average registration rates for safety seats. However, people who are particularly cautious with such information would be unlikely to participate in the survey, even if they were randomly contacted. Individual names were not identified as to their source. In addition, any particular name could have been included in the database from multiple sources. Because of this, and since the database is constantly updated, it is not possible to determine a definitive breakdown of the exact makeup of the targeted sample used for this survey, but other than the concerns mentioned should not affect the results.

The list was stratified by:

- age group (half with children under six months of age, half at least six to 23 months old)
- area of residence (Northeast, Midwest, South, West) structured so as to reflect the relative proportion of the U.S. population in each census region

and was distributed as shown in Exhibit 3-1. Goals were set to provide a sample that would be geographically representative of the country, with an equal number in each age group. A pilot study was conducted in January 2001, and the final questionnaire modified based on findings from the pretest. This consisted principally of simplifying and/or expanding answer choices. The final survey was conducted over a 17-day period, from March 20 through April 4, 2001, and on April 12 and 13, 2001.

Exhibit 3-1: Sample Records by Census Region and Age Category

Census Region	Age under 6 months	Age 6 to 23 months	Total
CR1 Northeast	428	428	856
CR2 Midwest	523	523	1,046
CR3 South	803	803	1,606
CR4 West	496	496	992
Total	2,250	2,250	4,500

Data were gathered using computer-assisted telephone interviewing (CATI) technology. The CATI system displays individual questions on a computer terminal. The interviewer reads the question to the respondent over the telephone, and records the respondent's answer directly into the computer. The survey is programmed so that only relevant questions are presented for a specific respondent. The question appearing on the computer screen is dependent on previous answers. For example, those that stated they had borrowed their child seat would not be asked where it had been purchased.

In the pilot study, it was necessary to contact 75 households to obtain ten completed surveys (five with children under six months and five with children age six to 23 months), a resulting response rate of 13.3%. Goal numbers for the full survey were determined for each age/census region cell, based on the population distribution and the expected response rate from the pilot study. The goal and actual numbers of completed interviews, by age group and Census region, are presented in Exhibit 3-2.

Exhibit 3-2: Goal and Actual Completed Interviews by Quota Cell

Quota Cell	Goal	Actual	Percent of Total
Under six months			
CR1 Northeast	52	52	9.2
CR2 Midwest	64	64	11.3
CR3 South	98	100	17.7
CR4 West	61	71	12.6
Total under 6 mo	**275**	**287**	
Under two years			
CR1 Northeast	52	53	9.4
CR2 Midwest	64	65	11.5
CR3 South	98	98	17.4
CR4 West	61	61	10.8
Total under 2 years	**275**	**277**	
Total	**550**	**564**	**100**

As an alternative to using a targeted list, random digit dialing was considered. While it is true that a different population of consumers would have been sampled using random digit dialing, it was felt that the use of a targeted list would benefit the study. The

consumers on the list were, at some point, willing to provide personal information to someone, which may be related to behavior concerning sending in a registration card. However, it is likely that those people especially concerned with privacy might also not have responded to the survey. Therefore, it is felt that the use of a targeted list did not adversely affect the study.

The use of this list did, however, allow a larger sample size at a lower cost, and at less of a burden on the public. Of the original sample, 4,165 consumers were called at least once. Exhibit 3-3 shows the resolution of these calls. There were 566 completed surveys, for a response rate of 13.6%, very close to that of the pilot study. This is a very good rate of response, likely reflecting consumer interest in child safety. However, the sample consisted entirely of households believed to have a child age 2 or under. If households had not been pre-screened on that factor, a much larger number of consumers would have had to have been contacted. Before deciding to use the targeted list, NHTSA estimated a response rate of just 1%, given the requirement of having a child age two or under as well as being willing to participate.

Exhibit 3-3: General survey - Attempted Sample Records by Final Disposition

Call Disposition	Count	Percent
Completed interviews	**566**	**13.6**
Refusals	**484**	**11.6**
Other calls not producing data	**3,115**	**74.8**
Answering machine	1,056	25.4
No answer	662	15.9
Non-working number	313	7.5
Wrong number	203	4.9
Busy	200	4.8
Call back	190	4.6
No safety seat used	127	3.0
Blocked call/privacy manager	118	2.8
Age quota met	99	2.4
Language problem	54	1.3
Fax/modem line	46	1.1
Contact not available	42	1.0
Child uses booster or built-in seat	3	0.1
Duplicate sample	2	0.0
Total	**4,165**	**100%**

Obtaining a completion rate of over 13 percent is excellent. A recent NHTSA report employed a survey to study consumers' use and knowledge of country of origin label on motor vehicles[1]. Random Digit Dialing, stratified by county, state, Metropolitan Statistical Area, and Census Region, was used. Respondents were required to either have purchased a new vehicle in the last six months, or be in the market to purchase one within

three months. In that survey, 646 complete interviews resulted from a total of 17,839, or a completion rate of 3.6%, much lower than the 13.6% in the current survey. In addition, there were 839 refusals in the label survey, or about 1.3 refusals per complete interview. In the current survey, with 566 complete interviews and 484 refusals, there were 0.86 refusals per complete interview. This likely reflects the high interest consumers have in child seat safety. It is an important topic to them, and they are willing to give their time by participating in what they consider a worthwhile study. The content label survey had 6,558 contacts that were considered successful, people who were willing to participate but were not planning to purchase a new vehicle in the near future and had not recently done so. In addition, there were 9,796 other calls that did not produce data, consisting of many of the same circumstances as those calls listed for the present survey in Exhibit 3-3.

It should be noted that while two people indicated that they had completed the interview at an earlier date (listed as Duplicate Sample above in Exhibit 3-3), no evidence could be found that either had been previously contacted, during either the pilot study or the full survey. Also, while a total of 566 interviews was completed, as shown in Exhibit 3-2, only 564 interviews were usable. Two of the respondents were deleted during verification/editing of the data, due to apparent age inconsistencies that could not be corrected by follow-up calls to the respondents.

3.2 Consumer Survey Results

In addition to the survey of the general population with children up to age 23 months, a survey was also conducted of consumers known to have been previously involved in a recall. Also, a number of the respondents to the General survey had owned a child safety seat that had been recalled. Information on the recall-related experiences of consumers will be presented in Chapter 4, which covers the impact of the registration requirement on recalls.

As stated previously, respondents were selected based on the child's age and region of the country. Since the composition of the completed interviews closely matched the goal for each cell, further weighting of the data to accomplish a nationally representative geographic sample is unnecessary. This is not the case, however, for children's ages. Although equal samples were desired for the 'Under 6 month' and '6 to 23 months' groups, since the second age group covers three times the age span, there are roughly three times as many children nationally in that group.

Therefore, to obtain nationally representative estimates, when the age groups are combined they will be weighted appropriately. Specifically, of all children in the U.S. age two and under, 73.86% are over six months old, while the remaining 26.14% are under six months. The survey sample contained 287 respondents with a child under 6 months old, and 277 with a child age 6 months to 2 years. Thus, the weighting factor for the younger group is 0.2614/287, and for the older group, 0.7386/277. This allows the data to more accurately represent each of the age groups, while accounting for the slight difference in their sample sizes. When the data are weighted in this way, the percentages obtained will be nationally representative. Whenever percentages are presented for data that is not grouped by the age of the child, the data are weighted unless otherwise

specified. Individual counts refer the actual number of respondents, not a population based weighted number.

Respondents were screened for eligibility before the survey was administered. The person named on the targeted list was requested, and the purpose of the study briefly described. The survey taker stated that questions would be asked about any child safety seats that were currently owned or being borrowed by the household, for use by a young child that lived either full- or part-time in the household. It was stated that this did not include seats built into a vehicle, but only those purchased separately and installed into the vehicle. If the respondent owned more than one child seat for a child in the appropriate age group, they were asked to consider only the most recently obtained. If the respondent was using child seats for children in both age groups, the CATI program assigned him or her to one of the age groups, and the survey taker asked them to consider that seat only.

The type of child seat used was of interest. Exhibit 3-4 presents the type of child restraint used overall (weighted) as well as separated by age group (unweighted). The survey specifically asked about a child seat currently being used by a child in the household. The choices offered to respondents were rear-facing infant seat, convertible seat, forward-facing child seat, or some other kind. Convertible seats were defined to the respondents as those seats that can be installed as either rear- or forward-facing. No one reported using a booster seat or any other type of child seat, and only one respondent, in the younger age grouping, reported not knowing what type of seat she owned.

Exhibit 3-4: Type of Child Seat by Age Group (Percent)

Type of Child Seat	Overall	Under 6 months	6-11 months	12 to 17 months	18 months to 23 months
Rear-facing	34.2	75.9	45.7	4.7	4.4
Convertible	42.9	22.4	48.9	55.8	47.8
Forward-facing	22.9	1.7	5.3	39.5	47.8

Data in Exhibit 3-4 are broken out by 6-month age groupings, showing the percent within each age group using a particular type of seat. This makes it easier to see changes as they occur as children age across equal-size age groups. The sample size for each age group cell is shown in Exhibit 3-5.

Exhibit 3-5: Type of Child Seat by Age Group (Cell Size)

Type of Child Seat	Under 6 months	6 to 11 months	12 to 17 months	18 to 23 months
Rear-facing	217	129	12	12
Convertible	64	138	144	132
Forward-facing	5	15	102	132
Total	286	282	258	276

The sample size of the 6 to 23 month age group is approximately equal to that of the under 6 month age group. However, there are roughly the same number of children in each 6 month age grouping. Therefore, the N for each cell in the 6 to 23 month groups has been multiplied by 3 for easier comparison across age groups.

Depending on the size and age of the child, those in the older age groups might be appropriately seated in either a rear- or forward-facing child seat. Children may be moved to a forward facing seat at one year of age and when they weigh about 20 pounds. Those in the youngest age group in this survey should be seated in a rear-facing child seat. Only 1.7% (5 of the 286 children for whom type of seat was recorded) of this group was reported to be in a forward-facing seat. More than three fourths of the younger children were reported to be in rear-facing child seat, with the remainder reported to be in convertible seats.

Note that the number of children in each age group is relatively constant. This suggests that children, specifically those that are using child seats at an early age, continue to use them as they grow older. Very few children are "graduating" out of safety seats, at least before the age of two. While the children in the 'Under 6 months group' were sampled separately, the remaining children made up a single group at the time data were sampled. Respondents were asked if a safety seat was being used by a child at least six months old but under the age of two. (They were also asked if a child seat was being used by a child under the age of six months, and were randomly assigned if they responded positively to both questions.) If large numbers of children were not continuing to use safety seats as they age, a larger proportion of the sample would have been in the younger segment of the group. Fortunately, instead, all segments are approximately equal.

As the data in Exhibits 3-4 and 3-5 show, infants in rear-facing seats are either moved to a convertible seat between 6 and 11 months, or to a convertible or forward-facing seat by their first birthday. While about three-fourths of infants under six months old are reported to be in rear-facing seats, by the time they reach their first birthday they are evenly divided between convertible and forward-facing seats. It may be that infants *reported* to be in rear-facing child seats are actually in convertible seats in the rear-facing position. This would account for the large number of children less than six months of age reported to be in rear-facing seats who later, apparently, switch to a convertible seat. Other possibilities are that a convertible seat is purchased and used only as a forward-facing seat, or that the child later moves into a convertible seat handed down from a friend, relative, or even older sibling within the household.

3.2.1 General Demographics

As background, some general demographics at this point would be useful. Later, when examining specific topics in detail, they will be investigated according to relevant demographic data. The data presented in this section are not weighted, since the sample itself is being described. The majority of (adult) respondents in the survey, 83.9%, were female. Since the targeted list came from, among other sources, doctor and hospital records, this would be expected. Almost half (47.9%) live in a suburban neighborhood, with 27.9% in rural areas and 21.5% in urban. About three percent either didn't know or

refused to say the type of area. The age groups are presented in Exhibit 3-6, overall and by sex of the respondent. The males in this survey tend to be older. Females have higher percentages in the two youngest age groups, while males have higher percentages in the oldest three. Age groups are broken out by ten-year age ranges, except for those under 21. Since the oldest respondent was 55, the final age group is listed as '51-55.'

Exhibit 3-6: Age Groups of Adult Respondent (Percent, Unweighted)

Age Group	Overall	Female	Male
Under 21	6.9	7.8	2.2
21-30	42.0	43.2	35.6
31-40	44.1	43.6	46.7
41-50	5.4	4.1	12.2
51-55	1.6	1.3	3.3

The marital status of respondents is presented in Exhibit 3-7. Given that the sample consists of those with a child less than two years of age, it is not surprising that the overwhelming majority of respondents are married.

Exhibit 3-7: Marital Status of Respondents (Percent, Unweighted)

Marital Status	Percent
Married/living as married	87.5
Divorced/separated	1.6
Widowed	0.4
Single/never married	9.4
Refused to answer	1.1

Respondents were also asked the number of children under age 13 living in the household. Exhibit 3-8 presents these data for those respondents that provided it. Five respondents chose not to answer this question. The majority of respondents (53.1%) had one child.

Exhibit 3-8: Number of Children Under Age 13 (Percent, Unweighted)

Number of Children	Percent
1	53.1
2	29.7
3	11.4
4	4.7
5	0.9
6	0.2

Consumers were asked to identify whether or not they were of Hispanic background, and, in a separate question, their race. The options for these questions mirrored the groupings used by the U.S. Census Bureau. However, there was some confusion in the data. Respondents were first asked whether they were of Hispanic, Latino, or Spanish background or cultural heritage. After this was answered, they were then asked for their race and given the choices White, Black/African American, American Indian/Alaska Native, Asian, Native Hawaiian/Other Pacific Islander, or Some Other Race. A number of people responded "Some Other Race" and then specified Hispanic as the race.

Therefore, in order to report the data as accurately as possible, when race is considered, those reporting Hispanic background will be combined into a separate group, regardless of whether or not race was reported. Hispanic background and race are reported in Exhibit 3-9, with data from the Census Bureau[2] provided also. The five respondents listing two races (none listed more) are included in the 'Other' group.

Exhibit 3-9: Race and Hispanic Background (Percent, Unweighted)

Race/Hispanic Background	Survey	Census
White (non-Hispanic)	79.8	71.9
Black/African American	4.8	12.1
Hispanic any race	9.9	11.5
American Indian/Alaska Native	0.5	0.7
Asian/Pacific Islander	2.7	3.7
Other race(s)	1.1	-
Refuse to answer	1.2	-

Overall, the present survey overrepresents Whites and underrepresents other races by varying degrees. Because the numbers are small, further analyses looking at race will combine the American Indian/Alaska Native and Asian/Pacific Islander groups with the 'Other' group.

Educational level of the respondent and, where appropriate, his or her spouse, was recorded. The data are presented in Exhibit 3-10, with married couples represented by the higher education level in the household. The levels shown in the table are somewhat condensed from the data collected in the survey. Some of the groups had small numbers of respondents, and therefore were combined with a larger group of similar education level. Appendix A provides the full consumer survey as it was presented.

Exhibit 3-10: Education Level of Respondents (Percent, Unweighted)

Education Level	Percent
High school grad or less	21.1
Some college	21.5
Associate/B.A. degree	37.6
Advanced degree	18.1
Refuse to answer	1.8

According to the U.S. Census Bureau, the median family household income in 1999 was $49,940[3]. The Census Bureau defines a family household as one that "… includes a householder and one or more people living in the same household who are related to the householder by birth, marriage, or adoption."[4] Since all households in the present survey had children under the age of two living in them, a family can be assumed. The median income for those in the present survey was in the $50,000 to $60,000 range, slightly higher than the national average.

In the United States, about 76.8% of all family households consist of married-couple families, with a median income of $56,827. In the present survey, 88.5% of the respondents reporting marital status consisted of married households, with median income (of those reporting their income) in the $50,000 to $60,000 range. In the U.S., 17.6% of family households are headed by a single female, with a median income of $26,164. About 10.6% of the respondents to this survey were single females, with a median income in the $20,000 to $30,000 range. Single males make up 5.6% of U.S. family households, with a median income of $41,838. In the present survey, only four respondents (less than one percent) were single males, and their median income was in the $40,000 to $50,000 range. Overall, each household's median income range in the survey contained the U.S. median for the type of family. As mentioned previously, since these are all households with children under the age of two, it is not surprising that a larger proportion is married than is found in the general population. The sample used for this analysis appears to be representative of U.S. families with young children.

3.2.2 Child Safety Seat Registration

Consumers were asked whether the child safety seat they obtained came with a registration card. The registration card was briefly described to respondents at the beginning of this section of questions. Overall, 73.8% of the respondents said that a mail-in registration card came with the seat, and 14% said there was no card. A fairly large group, 12.2%, could either not remember whether there was a card, or refused to answer the question. Therefore, of those that could remember and did answer, 84% stated that a registration card was included with their seat.

The rule requiring registration cards became effective early in 1993. Only three respondents had obtained their seats prior to this. Two said a registration card was included, and one could not remember. Some child seat manufacturers did include warranty cards in earlier years. Not all respondents obtained their seat new, in which case some of them would not have had a card come with the seat when they got it.

Those consumers that stated there was a registration card when they got their seat were asked whether they filled the card out and mailed it. Of those that agreed to answer this question and remembered whether they sent the card in or not, 75.2% said they did mail their card in. Those with children in the younger age group returned the form at a slightly higher percent – 79% vs 74% of those with children over six months of age.

More than 12 percent of respondents could not or would not say whether a registration card came with their child seat. However, if the seat was purchased new after 1993, it

almost certainly came with a card. Although it is possible that the seat was tampered with, the seat was produced before the rule took effect, or a problem at the manufacturer resulted in a seat being produced without a card attached, these scenarios are highly unlikely. The odds are overwhelming that twelve percent of the respondents did not purchase seats under such circumstances. Far more likely is that the respondent did not notice the registration card, did not realize what it was, or misrepresented what actually occurred.

If the assumption is made that any *new* seat purchased after 1993 came with a registration card, alternative registration rates can be determined. Respondents that received a seat as a gift were not asked if it was new or used, so no assumption can be made with this group regarding the presence of a card. People who were given a seat by a friend or relative who had used it and would no longer need it likely would consider it a gift. In the present survey, these were not specifically distinguished from those receiving the seat as, for example, a gift at a baby shower. Consumers that said no card came with their seat were, of course, not asked if they mailed it in.

A registration rate was calculated for only those who purchased their seat new and/or reported that a card came with the seat. Included in the denominator were those who either purchased their seat new or received one as a gift with the registration card included, and returned the registration card. The numerator included all those who purchased their seat new, as well as those who received one as a gift and reported the card was present. The registration rate in this case was 61.8 percent.

Looking only at those that purchased their seat new (and therefore it presumably came with a registration card) can provide an additional registration rate. Those that did not state a card came with the seat were assumed to not have mailed it in. For those that purchased their seat new, 61.6 percent registered it. This is extremely close to the previously calculated rate of 61.8 percent.

The same assumption, that a registration card necessarily came with any seat purchased new, can be used in determining a registration rate for the full group of respondents. Additionally, if the respondent did not specifically state the card was mailed in (i.e. refused or did not recall), the assumption can be made that the card was not returned. This would present a stricter, more conservative rate. This rate would primarily be calculated on those initially obtaining the seat. Those purchasing a used seat, receiving a gift handed down from another family's child, or borrowing from a friend, relative, or loaner program would not be the original recipient of the seat. In most of these cases, there would no longer be a registration card to mail in. Under these circumstances, the manufacturer can be contacted by mail or phone to register the seat. However, this report focuses on registration by first time owners who would have obtained a card when the seat was acquired.

Specifically, the rate was determined with these assumptions:

- if the seat was purchased new, a card was present

- if a card was present (stated or assumed) and not specifically stated to have been mailed, the seat was not registered. (That is, those saying they didn't remember mailing the card or refusing to answer whether they did or not were assumed not to have mailed the card.)
- those who did not purchase a seat new, and did not specifically state a card came with the seat, were not included in the calculation (That is, if it was stated that there was no card, or if the person could not remember if there was a card or refused to answer, the respondent was not included in the rate determination.).

The overall registration rate, determined in this manner, was 62.3 percent.

Note that in the previous chapter it was found that, on average, about 27 percent of child seats are actually registered, based on manufacturer-reported counts of seats sold and card returned. The large gap between observed and reported registration is a concern. Several factors likely contribute to this difference. Observed registration rates for this report were determined by dividing the number of registered seats (provided to NHTSA by the manufacturers) by the number of seats manufactured. There is some ambiguity in these calculations, since seats sold in one year may be registered in the following (or even later) year. Several years of data were combined to compensate for this. The registration rate would increase if either the number of seats registered was larger, or the number of seats sold or manufactured was smaller.

In an attempt to reconcile observed and reported registration rates, it was considered that the number of child seats manufactured might not be the correct denominator. If many seats were being exported and not registered, then the rate would increase since it would be calculated on a smaller basis. Examination of manufacturer data showed this was not the case. It was also considered that a large number of seats were removed from circulation if, for example, they hadn't sold well. Through communication with a major retailer, it was learned that a seat's price would be reduced until it was sold. Such seats were not destroyed or returned to the manufacturer.

There is the possibility that survey respondents were not accurate in reporting registration. They may have, for example, registered a seat purchased earlier but not registered the one in question. Alternatively, they may have meant to, but never actually mailed the card. They may have erroneously assumed their spouse or someone else had sent the card in. It may be that a number of respondents were not truthful, either putting themselves in a better light or reporting what they thought the survey taker wanted them to say, rather than what had actually occurred.

Similar problems occur when determining restraint use. *Process and Outcome Evaluation of the Buckle Up America Initiatives*[5] reports on both observed and self reported belt use. Restraint data from the National Occupant Protection Use Survey (NOPUS), an observational study, and self-reported information from the Motor Vehicle Occupant Safety Survey (MVOSS) are presented. The only directly comparable rates in the report are for adult front seat belt use in 1996. No more recent data are presented for the same year for both surveys. At that time, observed use (NOPUS) was 61 percent

while reported use was (MVOSS) 76 percent. Reported use was 15 percentage points higher than observed use. While this is a smaller difference than was found in the current report, where manufacturers report that 27 percent of child seats are registered but more than 62 percent of respondents stated that they had registered their seats, probably similar factors are at work.

What perhaps accounts for a large part of the difference between reported and observed registration in the present report is a self-selection bias. Recall that consumers were contacted from a targeted list of parents of young children. As noted in Section 3.1, it is possible that using such a list influenced the study, in that people who were willing to provide information that resulted in their being placed on such a list might also be more likely to send in a registration card. Again, however, people unwilling to provide this type of information would have also been unlikely to participate in the survey. As such, any voluntary survey will result in a larger proportion of respondents willing to provide information, whether it's to a caller on the phone or a child seat manufacturer.

As reported in Exhibit 3-3, about a quarter of the phone calls made for the survey were answered by an answering machine. About three percent were calls blocked by a privacy manager, and nearly 16 percent were not answered. It is likely that a substantial proportion of these were due to people screening telephone calls, being unwilling to provide information or take the time to participate in the survey. In all probability, were these people able to be questioned, the survey would have shown a registration rate closer to the actual 27 percent.

Since the inconsistency remains, it is clear that respondents to the present survey did not report registration behavior in a way that is typical of child seat owners' actual behavior. It is important, then, to determine which responses, if any, are inordinately influenced by this difference. One that immediately comes to mind involves the reasons people choose not to register their child seats. Recall that only about two percent of respondents said it was because of concern as to how their personal information would be used. However, the question was asked only of those respondents that stated they had not registered their child seat, so the discrepancy between observed and reported response rates would not be an issue.

Looked at differently, the population of consumers that (in reality) do not register their seats is made up of those that would not have participated in the survey, those that would have given wrong information and said they did register, and those that would have stated no card was mailed. From the current survey, about two percent of those in the third group (the only one of the three for which this information is available) were concerned about the use of the information. Even if a much larger percentage of the other two groups were concerned about the use of information, it would still be a small percentage of the total number of people that (in reality) do not register their child seats. The actual percentage would depend on the relative proportions of each group that make up those that do not register, and the percent of each group with this concern.
One statistic that likely is affected by actual vs reported registration concerns the percent that said they had registered and were involved in a recall, and whether or not they ever

received notification from the manufacturer. When asked if they remembered being notified by the manufacturer, only 56.5 percent of those in the General survey stated they did. When respondents in the Recall survey were included, the percent of those stating they received a letter from the manufacturer jumped to over 77 percent. If respondents were not accurate in their answer about registering their seats, then some portion of (actual) non-registered owners were asked whether they had ever heard from the manufacturer. If they had indeed not registered, they of course would not have heard from the manufacturer. Exhibit 4-9 shows another substantial difference between those in the Recall survey (where respondents were known to have registered) and the General survey. Recall survey participants *first* heard about the recall from the manufacturer about 88 percent of the time, while those in the General survey did so about 22 percent of the time.

The major findings of this report, however, should not be affected even if some number of General survey participants misrepresented registering their seats. Clearly, child seat registration has increased since the cards have been required. In addition, child seat registration and the recall of unsafe seats are seen as important by the overwhelming majority of consumers. The reasons given as to why people do or do not register, even about whether they fear how the information would be used, and that those discussing registration at the time they acquire the seat are more likely to register, are other important points that remain valid.

3.2.3 Child Safety Seat Registration Demographic Data

Throughout the remainder of this chapter, registration rates are compared for various subgroups of survey participants. These rates average out to 62 percent. In reviewing the tables, readers should keep in mind that if they had been based on the general population rather than survey participants, they would average out to 27 percent – but the relative differences between subgroups might be similar to the tables. It is also educational to know which specific groups of people do or do not mail in their registration card. Therefore, registration rates were determined for several types of demographic groups, in an attempt to better describe the situation.

Exhibit 3-11: Registration Rates by Census Region

Census Region	Overall	Age under 6 months	Age 6 months to 2 years
CR1 Northeast	61.0	73.3	57.1
CR2 Midwest	74.5	77.4	73.6
CR3 South	58.2	52.5	60.0
CR4 West	57.6	68.0	54.0
Nation	62.3	65.8	61.2

Exhibit 3-11 presents the rates of registration by Census Region. Note that nationwide, and in most individual regions, the return rate for registration cards is higher for those with children in the younger age group. In the South, however, this is reversed. Overall, the Midwest has a much higher return rate than the other regions.

A chi-square test was run on the unweighted data to test the differences in registration rates among regions. SAS, the statistical package used to analyze the data, does not adequately account for weighted samples in chi-square tests. When data are weighted, SAS interprets that as the number of observations rather than a weighting factor, which results in testing the data with less variability than is actually present. Therefore, unweighted data will be used for the analysis. The unweighted registration rates were, in the Northeast, 64.9%; Midwest, 75.5%; South, 56.5%; West, 61.0%. There is little difference between the rates in the weighted and unweighted data. The resulting chi-square of 10.514, with 3 degrees of freedom, has a probability of 0.015. There are significant differences in the registration rates in different regions of the country. The Midwest has the highest overall rate of registration, and the South, the lowest.

Exhibit 3-12: Registration Rates by Age Group (Percent, Weighted)

Age Group	Percent Registered
Under 21	54.3
21-30	56.4
31-40	68.9
41-50	72.2
51-55	40.3

If specific groups of people that are less likely to register a child seat can be identified, programs can be aimed at these groups in an attempt to increase registration. Looking at the return rate of registration cards by various demographic factors would help pinpoint such groups. Exhibit 3-12 presents the registration rates by age group of the respondent. The pattern here is clear – the registration rate increases with age. The youngest age group, those under 21, had a registration rate substantially lower than the survey average of 62.3. Although the 51-55 age group also has a very low rate, there is a very small number of respondents in that age group. It should be noted that the largest groups were the 21 to 30 and 31 to 40 year olds.

A logistic regression was run on the age of the adult, using the actual ages rather than grouping them, to determine its influence on registering a child seat. As for the previous significance tests, unweighted data were used. The resulting chi-square of 4.5875, with a probability of 0.0322, shows that the age of the respondent does affect the likelihood of whether or not a child seat is registered. Older applicants are more likely than younger ones to register a child seat, all other circumstances being equal.

Registration rate by marital status is presented in Exhibit 3-13 Since so few of the respondents were divorced or widowed, they were combined with the 'Single' group. Note that, for those participating in this survey, marital status was heavily influenced by age, with the younger consumers much more likely to be single. Thus, although those that were single were less likely to register, this is related to the fact that those in the youngest age group were more likely to be single.

Exhibit 3-13: Registration Rate by Marital Status (Percent, Weighted)

Marital Status	Registration Rate
Single	48.9
Married	64.0

There was little difference in the registration rates between those with one child (62.9% returned the cards) and those with two or more children (62.0%).

Exhibit 3-14 presents the registration rates by race and Hispanic background. A chi-square test was run on registration rates by race, including only those races with enough data to be individually represented. The 'Other race(s)' category was excluded. Using the unweighted data, the resulting chi-square was 2.693, with 2 degrees of freedom and a probability of 0.260. Thus, the difference in registration rates among races was not significant. There is no significant difference among the race/ethnic groups for rate of registration. (Recall that Hispanics could be of any race, and that the survey was presented in English only.)

Exhibit 3-14: Registration Rate by Race/Hispanic Background (Percent, Weighted)

Race/Background	Registration Rate
White (non-Hispanic)	63.1
Black/African American	55.4
Hispanic (any race)	61.3
Other race(s)	56.8

Education seems to influence return rates of registration cards, as shown in Exhibit 3-15. Levels have been combined from those recorded in the survey, as shown in Exhibit 3-10. Note that the lowest rate of return was for those with no college experience. On the other hand, those with an advanced degree were very likely to have returned the registration card.

Exhibit 3-15: Registration Rates by Education Level (Percent, Weighted)

Education Level	Registration Rate
High school grad or less	53.6
Some college	57.6
Associate/B.A. degree	64.0
Advanced degree	73.2

A logistic regression was run on the number of years of schooling as a predictor of registration. The available data did not contain the actual years of schooling, but rather, information on highest degree completed. Therefore, estimates were made to represent the most probable number of years of school. For those that stated they had less than a

high school education, 10 years of schooling was used. The number of years of schooling for the remaining choices was: high school graduate or GED, 12; some college, 13; associate degree, 14; bachelors degree, 16; Masters degree, 18; and Doctorate or Professional degree, 20 years of schooling. While it is true that any particular respondent in a specific education category may have had more or fewer years of schooling, it is felt that these numbers best represent the most likely numbers overall.

The resulting chi-square of 10.1687 had a probability of 0.0014, showing that education has a very strong association with the likelihood of registering a child seat. As was seen earlier, age is also a strong predictor. As consumers age, they are more likely to register a child safety seat. Age and education are themselves associated, in that respondents may very well further their education as they age. Another influencing factor may be that, since the study involves households with a child under the age of two, there may be even more of an age/schooling relationship than in the general population. Older respondents may very well have put off childbirth until after completing a desired level of education.

Finally, income level also appears to influence the rate of registration. Respondents were grouped into three income levels, with approximately one-third of respondents in each. The resulting groups were those with household income under $40,000, those ranging from $40,000 to $70,000, and those above $70,000. Registration rates are shown in Exhibit 3-16. There was little difference between the higher two income levels, but those earning under $40,000 annually registered their seats at a lower rate.

Exhibit 3-16: Registration Rates by Income Level (Percent, Weighted)

Income Level	Registration Rate
Under $40,000	54.0
$40,000-$70,000	64.0
Over $70,000	68.7

The logistic regression run on the influence of income on registration had a resulting chi-square of 4.0738, with a probability of 0.0436, just significant at the 0.05 level. Thus, it can be said that, as income increase, so does the probability of registering the child seat. The available data only grouped respondents into income groups, and did not provide an exact dollar amount. Therefore, the midpoint of each group was used. For those in the "under $20,000" group, a value of $15,000 was used, and for those making over $70,000 per year, an estimate of $100,000 was used.

Overall, then, the consumers with the lowest rates of registration are those that are young and those in the lower income and education groups. Higher registration rates are seen at the higher age, income and education levels.

3.2.4 Reasons for Registering/Not Registering Child Seats

Consumers that reported returning the card were asked why they did so. Respondents were permitted to select multiple responses. Three people selected three responses, while

45 chose two responses. Three others did not give any response, and are not included in the percentages below. The remainder chose a single response. Because the (weighted) percent of respondents selecting each option is reported, the totals will sum to more than 100%. An exceptionally high 95.1% of the respondents that returned the card (and provided a reason) did so to allow notification of recall. Clearly, consumers understand the purpose of the registration card. The straightforward design of the card is, without a doubt, getting the message across. In addition, 15.3% returned the card to provide warranty protection, and 2% because someone else told them to return it. Other reasons were specified by 3.4% of the respondents. Four respondents said they always return registrations for all products they purchase. Two people returned the card because the card itself says it was important, and another two said they sent it in because it came with the child seat. One person had had a seat recalled in the past, and felt it was important to mail in the card. Another person could give no specific reason. One person stated the reason she returned the card was that she works in a law firm.

Those people that explicitly reported they did not return their card were also asked why. Multiple responses were again permitted. No one selected more than two choices, and this occurred only four times. Since only four respondents selected more than one response, and were recorded in the order given, data are presented in Exhibit 3-17 for what each respondent considered the most important reason the registration card was not returned. Using a single reason for each respondent allows the data to be looked at further without complicating the situation with multiple responses while still counting each individual only once. Note that only those consumers that specifically stated they did not send the card in could be asked to give a reason, and therefore only they are included in this section. Consumers who, for example, purchased their seat new and said no card was included are considered 'non-registered' for purpose of registration rates (see above) but contribute no data here.

Exhibit 3-17: Reasons Registration Card was Not Returned (Percent, Weighted)

Reason for Not Returning Card	Percent
Too busy	85.2
Lost card	6.0
Consider unimportant	2.8
Concerned about use of information	2.2
Other	3.8

Consumers said the main reason they did not return the card was that they were too busy and just never got around to it. This response was selected by 85.2% of respondents. The card was lost or misplaced by 6.0% of the respondents, and 2.2% were concerned about the potential uses of the information they would need to provide. Respondents were not explicitly asked what specific potential use of the information concerned them. Potential concerns could have been that the information would be shared with telemarketers, possible identity theft, or just a general invasion of privacy. Another concern could have been identifying the location of a child, which could lead to someone stalking or otherwise harming the child.

It is especially encouraging that only 2.2 percent of those not registering (0.4% of all respondents) are hostile to the card because of concerns regarding privacy. Another 2.8 percent of those not sending in the card don't see the need to register a child seat. However, the 85.2 percent of non-registers who said they were too busy might also be considered as people who don't understand the importance of the card. Had they considered it important, likely they would have found or taken the time to complete the card and mail it in.

An option that was offered but never selected was having a handicap or literacy problem that prevented the form from being filled out and mailed. The remaining 6.6% (8 respondents) specified a reason not among the choices given. Two of these had just purchased the seat within the last two days and had not gotten around to sending in the card. Another did not have a permanent address. The remaining five can be grouped together under the category of 'Consider registration unimportant and/or don't understand the need to register.' Although small, this is an important group, since these are people that are not receiving the message that child seat registration is important. However, the much larger group who were "too busy" to send in the card could also be interpreted as not considering it very important.

There are differences in the stated reason for not returning the registration card across age groups. Although being too busy is mentioned by the majority of respondents regardless of age, the proportion decreases by about 8% for each increasing age group. Also, losing the card was reported by about ten percent of the 21 to 30 year olds, but few others. The only group with any concern regarding the use of information was the 31 to 40 year old group. Recall that in order for the respondent to state a reason for not returning the registration card, they had to specifically state that they did receive a card with the seat and did not mail it in. Because of this, some of the age groups have such small sample sizes. Therefore, they are combined into two groups as presented in Exhibit 3-18, and the statistical testing that follows.

Exhibit 3-18: Reasons Registration Card was Not Returned, by Age Group (Percent, Weighted)

Reason for Not Returning Card	30 and Under	31-50
Too busy	88.1	76.2
Lost card	8.9	1.3
Concerned about use of information	0.0	5.3
Other	3.0	17.1

Even dividing consumers into just two age groups can still prove useful. For example, if younger child seat owners (a group with one of the lowest registration rates) are targeted for a campaign to increase registration, there is little reason to stress privacy. Those in this group need to be encouraged to make the time to fill in the card and return it. Another potential campaign aimed at the younger group could give information on what to do if the card has been lost, such as noting that the manufacturer's name and address

must be identified on the seat somewhere, or that a generic form is available on the NHTSA website.

A chi-square test was run on the respondent's age group by reason for not returning the card. The resulting chi-square of 7.679, with 3 degrees of freedom, had a probability of 0.053. The differences between these two age groups do significantly differ with regard to reasons for not registering their child seats. Younger respondents were more likely to state that they were either too busy or had lost the card. While the majority of older respondents also stated being too busy, they were much more likely than the younger ones to name some other reason for not sending in their card. Such reasons included not having a permanent address and having just bought the seat a few days earlier. Singles were slightly more likely than married people to report losing the card (7.8% vs 5.3%). Concern about potential uses of the information was reported only by married people, but by a very small number (2.6%).

There is little difference in reasons stated for not returning the registration card between families with one child and those with more. Respondents with one child were slightly more likely to report losing the card (7.1% vs 5.2%) and slightly less likely to report being too busy (81.1% vs 84.5%).

Inspecting the data according to race and Hispanic background shows some differences among the groups, as shown in Exhibit 3-19. Non-Hispanic Whites are most likely to report being too busy – all other groups are much below the average of 83% reporting this. On the other hand, nationwide, about 6% report misplacing the card. Non-Hispanic whites are far less likely to fail to register for this reason, but those of Hispanic descent, Blacks/African Americans, and other races are much more likely to cite this as the reason when the card is not returned. Non-Hispanic whites alone report any occurrence of concern with the use of the information.

Exhibit 3-19: Reasons Registration Card was Not Returned, by Race/Hispanic Background (Percent, Weighted)

Race/Background	White (Non-Hispanic)	Black/ African American	Hispanic (any race)	Other Race(s)
Too busy	89.1	59.9	54.3	60.2
Lost card	1.4	26.6	36.4	10.2
Concerned about use of information	2.7	0.0	0.0	0.0
Other	6.8	13.5	9.3	29.7

Since the numbers of respondents in the three groups other than non-Hispanic whites were small, a chi-square test was done to examine differences between non-Hispanic whites and all others in their reasons for not registering child seats. The resulting chi-square of 13.292, with 3 degrees of freedom, had a probability of 0.004. Clearly non-Hispanic white respondents report different reasons for not registering their child seats than do the others. While respondents of all races were most likely to report being too

busy, non-Hispanic Whites stated this far more often. The other groups were more likely to report losing the card, or report some other reason for not registering.

Some differences appear when reasons for not returning the card are broken out by income group. Across the three groups, those in the middle income group were most likely to report being too busy. In addition, those in the highest income group were the only ones concerned about uses of the information. The data are shown in Exhibit 3-20.

Exhibit 3-20: Reasons Registration Card was Not Returned, by Income Group (Percent, Weighted)

Reason for Not Returning Card	Under $40,000	$40 to $70,000	Over $70,000
Too busy	83.5	92.9	65.1
Lost card	5.6	7.2	7.0
Concerned about use of information	0.0	0.0	7.0
Other	11.0	0.0	21.0

Consumers differ somewhat as to the reason for not registering based on educational levels, as shown in Exhibit 3-21. Those with a high school degree or less were most likely to report having lost the card, whereas those with either some college or an advanced degree were particularly likely to report being too busy to return the card.

Exhibit 3-21: Reasons Registration Card was Not Returned, by Educational Level (Percent, Weighted)

Educational Level	High School or Less	Some College	Associate or B.A. Degree	Advanced Degree
Too busy	81.2	94.2	75.9	94.9
Lost card	10.5	2.9	5.3	0.0
Concerned about use of information	0.0	0.0	5.3	0.0
Other	8.3	2.9	13.4	5.1

Overall, then, the majority of those that do not return their registration card give the reason that they are just too busy. This is especially true for those that are under age 21, Whites, those in the middle ($40,000 to $70,000) income range, and those with either some college or an advanced degree. Although nowhere near as prevalent as stating they were too busy, the only other reason a sizable number of people gave for not registering was that they lost the card. This is especially true for those aged 21 through 30, Blacks/African Americans, those of Hispanic background, and those with a high school degree or less.

3.2.5 Acquisition of a Child Restraint

Of those respondents that could remember the approximate month and year their seat was obtained, 37.9% had acquired it within the previous 6 months. Another 24.9% had gotten

the seat 7 to 12 months earlier, and 19.1% had gotten it more than one year but less than two years earlier. The remaining 18.1% had gotten their seat more than two years earlier. The earliest a seat had been purchased was January 1991, over ten years ago. These data are similar to the information provided by consumers at Safe Kids events, presented in Section 2.2.1.

When looked at by age group of the child, the data reflect what would be expected. A larger percentage of those with children under 6 months obtained their seat within the previous 6 months (56.3%) than did those with children age 6 months to two years (31.3%). The percentages of seats acquired 7 to 12 months ago were about equal for the younger (23.7%) and older (25.4) age groups. For the younger age group, only 4.7% were obtained 1 to 2 years ago, while 24.3% of those with older children acquired their seat during that time. Logically this makes sense, since a seat purchased over a year ago could have been used for the child in the older age group throughout the time period. The remaining 15.3% of those in the younger group, and 19 percent in the older, acquired their seat over two years earlier. In general, those in the younger group acquired their seat more recently than did those in the older group. This could potentially influence how accurately information was recalled throughout the survey. Of course, seats obtained many months or years ago may have originally been for an older child in the household.

Exhibit 3-22: How Child Restraint was Acquired (Percent, by Age Group)

How Seat was Acquired	Overall	Under 6 months	6 months to 2 years
Purchased			
For this child			
New	48.6	39.0	52.0
Used	2.9	3.8	2.5
For an older sibling			
New	11.0	9.4	11.6
Used	0.5	0.0	0.7
Received as gift			
For this child			
New	18.1	23.3	16.6
Used	6.8	8.7	6.1
For an older sibling			
New	5.8	7.0	5.4
Used	1.9	2.1	1.8
Borrowed from friend/relative	2.5	5.6	1.4
Loaner program	0.4	0.7	0.4
Other	1.1	1.1	1.1
No answer	0.4	0.4	0.4

How the seat was acquired potentially has an influence on registration. The data on acquisition are shown in Exhibit 3-22. Note that the percents given in these exhibits may

not sum to 100%, due to rounding. There are numerous ways in which child seats are acquired. The survey specifically asked whether the seat had been purchased, received as a gift, borrowed from either a friend/relative or a loaner program, or some other way that the respondent could specify. Those reporting they had purchased their seat were asked if it had been new or used.

Although the survey didn't ask this for those receiving seats as a gift, it is possible that such seats could also be either new or used. For example, friends or relatives may have given the respondent a no-longer-used child seat, which would be categorized as a gift. Since the new/used issue is particularly relevant to child seat registration, it was important to distinguish new from previously used seats as accurately as possible. The seat may have been acquired for this child, or it could have been a hand-me-down from an older sibling in the same household.

The presence or absence of a registration card was used to determine whether a seat that was obtained as a gift was new or used. The assumption was made that new seats would have the card, while for used seats it would have been missing. Respondents were not directly asked whether their seat was previously used for an older child. However, if an infant or convertible seat was obtained more than nine months before the child's birth, or a forward-facing seat obtained more than nine months before the child's first birthday, and there was an older child in the household, the seat was assumed to have been used originally for an older child. In actuality, about 85 percent of the all seats determined in this way to have been previously used for an older sibling were obtained a year or more before the subject child was born. Thus, the likelihood of the seat having been used for the first time for the child currently using the seat is very small.

Overall, about twice as many people had purchased their child restraint (63.1%) as had received it as a gift (32.6%). Of those that purchased the seat themselves, 94.6% bought the seat new, and only 5.4% bought a used seat. There is little difference between the children's age groups on this. The overwhelming majority of those that purchased their seat did so at a store (91.6%). Others purchased theirs at garage sales (2.4%), on the internet (2.3%) and through mail order catalogs (1.0%). Other sources mentioned by one or two respondents were an individual, an auction, police department, a class on child seats, a hospital, a car dealer, and directly from the manufacturer. There was little difference between the younger and older child age groups with regard to the circumstances of seat purchase. Among those that purchased their child restraint, over 90% of each group bought the seat new, and over 90% of them bought it at a store.

Those with children in the younger group bought the seat less frequently (52.6%) than did those with older children (66.8%), but received it as a gift more often (40.1% vs. 30.0%).

Overall, approximately two-thirds (66.7%) of all respondents obtained the child safety seat new for the child currently using it. About half of the respondents (48.6%) bought the seat new for this child, while 18.1% received the new seat as a gift for the child currently using the seat. Looking at these respondents according to the age group of the

child using the seat shows some differences. Thirty-nine percent of those with children under six months of age purchased their seat new for the child, while 52.0% of those with children between six months and two years did so. Conversely, a larger proportion, 23.3%, of those with children under six months old received the new seat as a gift for the child using it, while only 16.6% of those with children in the older age group did. This may be related to traditional gift giving behavior such as baby showers, where an expectant parent receives a child seat as a gift. A seat usable by a child in the younger age group would be a more likely gift.

The majority of child seat owners either purchased their seat or received it as a gift. The few remaining respondents that reported how the seat had been acquired had borrowed it from a friend or relative (2.5%) or borrowed it from a loaner program (0.4%). In addition, the survey allowed respondents to select the option 'Other' and then give more information, which 1.1% did. In the younger age group, two had been given the seat by the hospital in which they had given birth, and one stated she had bought it in a 'grab sale'. For those in the older age group, one gave no further information and two had been given the seat by the hospital.

A separate survey of retailers, as well as interviews with loaner programs, was undertaken for this report. These data will be presented in Chapters 5 and 6.

About 84 percent of all respondents obtained a new seat, whether purchased or received as a gift. Twelve percent obtained a used seat, with nearly three-fourths of these being gifts. Used seats are assumed to not come with a registration card, unless the respondent specifically stated otherwise. This is how a used seat was defined for gifts, and only one of the twenty seats purchased used was accompanied by a card. Overall, nearly 90% of people that bought their seat and about 81% of those that received one as a gift noted the presence of the registration card. Only about 22% of those that borrowed a seat from a friend or relative received a registration card with it. Since these seats were owned by a previous user, it is not surprising that such a small percentage came with a registration card. Indeed, it would be hoped that the card had been sent in by the owner of the seat, and not be available to be loaned out with the seat. The amendment of FMVSS 213 included provisions for these types of situations by requiring an address and phone number of the manufacturer for registering the seat to be included on the restraint labeling. It is also possible that the original owner removed and saved, but did not mail in, the registration card from the child seat, and the subsequent seat user found the card among the owners manual and other papers.

Registration rates for seats that were obtained new have been calculated based on how the seat was acquired, and are shown in Exhibit 3-23. Registration rates are approximately the same for purchases and gifts. As above, all seats obtained new are assumed to come with a registration card, and the seat is considered unregistered unless the respondent specifically states the card was mailed in.

Exhibit 3-23: Registration Rates of Child Seat for New Seats by How Seat Acquired and Whether for Child Currently Using Seat (Percent, Weighted)

How Seat was Acquired	Percent Registered
Purchased for this child	60.3
Purchased for older sibling	67.5
Received as gift for this child	60.4
Received as gift for older sibling	67.7

When these data are grouped by age of the child using the seat, those that purchased their seat or received it as a gift did not differ. Those that borrowed the seat from a friend or relative, however, did. For those with a child under six months, only 14% stated that they received a registration card with the seat. For those with a child six months to two years of age, 33% said the seat came with a card.

The two respondents with children under six months of age that borrowed their seat from a loaner program did not receive a registration card with the seat. Presumably, the seats were registered by the loaner program and/or had been used previously. The one respondent in the older age group that borrowed from a loaner program stated a card was included with the seat, but was not mailed in. More information on loaner programs will be presented in Chapter 6.

Four respondents, two in each age group, reported that they had been given the restraint in the hospital where the child was born. One of the respondents in with a child under six months said a card was not supplied with the seat, while the other three said they did receive a card.

It is of some interest to examine registration rates by demographic data according to whether the seat was purchased or received as a gift. Therefore, these data are presented in Appendix C: Additional Tables, using the respondents' self-reports as to whether a card was received when the seat was obtained. Although this discussion is not central to the report, some observations are worth noting at this point. While respondents under age 21 tended to have lower registration rates overall, this is particularly true when the seat is received as a gift. On the other hand, those in the 41 to 50 age group had a slightly higher rate when the seat was received as a gift. Looking at how the seat is acquired by race of the respondent, it is seen that Hispanics alone have a slightly higher registration rate when the seat is a gift. While each education level and income group shows a higher registration rate when the seat is purchased, those with advanced degrees and those making over $70,000 per year show the greatest difference in rates based on how the seat was obtained.

A survey of dealers was also performed for this evaluation, and will be reported on in Chapter 5. However, since the dealer is an intermediary between the manufacturer and the consumer, and can play a role in registration, the type of store at which the seat is purchased is of interest. Overall, most consumers that purchased their seat at a store bought it at either a chain child specialty store, such as Toys a Us, or a discount

department store, such as Target. Data on where the child restraints were purchased are presented in Exhibit 3-24. The registration rate did not differ significantly by the type of store where the seat was purchased.

Exhibit 3-24: Type of Store Where Seat Purchased (Percent, by Age Group of Child)

	Overall	Under 6 months	6 months to 2 years
Chain child specialty store	45.3	52.9	43.2
Discount department store	39.3	28.6	42.6
Independent child specialty store	6.5	6.4	6.5
Department store	5.4	5.7	5.3
Resale shop	1.9	4.3	1.2
Military base store	0.6	0.7	0.6
Other	0.2	0.7	0.0
No answer	0.6	0.7	0.6

Consumers were asked how wide a selection of child safety seats was available when they purchased their seat. They were asked to specify whether there were not many at all, a lot to choose from, somewhere in between, or if the seat that was purchased was the only one available. Most consumers felt they had a reasonable choice in child seats, with over half (54.3%) saying there were a lot to choose from, and another 31.5% saying the choice was somewhere in between. Only 8.7% felt there was not much of a choice, and 4.4% purchased the only seat available.

There were only six individuals that purchased a seat on the internet, but all felt that there were either a lot to choose from or somewhere in between. The majority of those that said the seat was the only one available (6 of the 11) purchased it at a garage sale. Three others with no choice of seats purchased them from individuals.

It is of some interest to explore registration rates by demographic data according to the type of store from which the seat was purchased. Again, however, this discussion is not a focal point of the report. Therefore, these data are presented in Appendix C: Additional Tables. Briefly, the registration rate for those purchasing a child seat at a store was 79.0%. Certain groups purchasing their seat at child chain specialty stores, notably whites, those with a high school degree or less, and those earning under $40,000 per year, had lower than average registration rates. Whites purchasing a seat at a department store also had lower rates.

3.2.6 Information on Child Safety Seat Selection

People that bought their seat were also asked about their main reason for selecting the seat they purchased. The majority, 65%, responded that they liked one or more features of the seat or its appearance. Nearly ten percent chose the seat because of brand loyalty or the brand's reputation, and another ten percent selected the seat based on price. Data

for this is presented in Exhibit 3-25. Note that, while no one chose the option 'Recommended by a Non-Government Organization,' it is important to note it was one of the options available.

Exhibit 3-25: Main Reason for Selecting the Seat Purchased (Percent, by Age Group)

Reason	Overall	Under 6 months	6 months to 2 years
Feature(s) or appearance	65.0	71.3	63.2
Brand	9.8	8.0	10.3
Price	9.6	9.3	9.7
Rec by general/consumer media	3.1	2.7	3.2
Rec by friend	2.7	2.7	2.7
Rec by government agency	2.4	1.3	2.7
Rec by child/parenting media	1.6	1.3	1.6
Rec by non-govt organization	0.0	0.0	0.0
Safety	3.4	2.0	3.8
Other	0.6	0.7	0.5
No answer	1.8	0.7	2.2

Several of the consumers that responded 'Other' to this question mentioned safety, so that is presented separately in the Exhibit. Of the two remaining respondents that answered 'Other,' the one in the younger age group chose the seat because it was the only one available, and the consumer in the older age grouping chose the seat because there were two matching seats for her twins.

Ten consumers said that it was a recommendation in a general or consumer medium that influenced their decision. Nine of them cited *Consumer Reports* magazine, and the other had seen it on a television program, but could not remember the program. Seven respondents stated that they selected the seat they purchased based on the recommendation of a government agency. For four of them, it was the Consumer Products Safety Commission, for two it was a police department, and one, NHTSA. Of the five consumers that said they chose their seat based on a recommendation from a child or parenting medium, three mentioned *Parenting* magazine, one *Child* magazine, and one the book, Baby Bargains. Again, no respondents based their decision on the recommendation of a non-government organization.

The Transportation Recall Enhancement, Accountability, and Documentation (TREAD) Act requires that NHTSA establish a child restraint safety rating consumer information program. The goal of the program is to provide information to consumers for use in making informed decisions in the purchase of a child safety seat. As part of this process, NHTSA reviewed existing rating systems used by other countries and organizations as well as conducting performance tests. As of this writing, the agency has provisionally concluded that the most effective consumer information system would be one that would give the consumer information on the ease of use of specific child restraints as well as

dynamic performance. Dynamic performance would be obtained through higher-speed sled-testing and/or in-vehicle New Car Assessment Program (NCAP) testing. NHTSA published a document, available on the internet at

http://www.nhtsa.dot.gov/cars/rules/rulings/CRS-Rate/Index.html

which provides a review of the information and reasoning the agency used to reach this conclusion, as well as describing the ratings systems planned to meet the TREAD requirement. Additionally, comments were sought on the plan, which were due January 7, 2002. NHTSA is required to publish the selected plan by November 1, 2002. It is important to note that the survey was conducted before NHTSA began planning such a rating system. Thus, consumers would have no way of knowing about or using such information. In the future, if a survey question regarding recommendations for child seat selection were conducted, such a rating system would presumably be noted by consumers.

Although a very small percentage of consumers reported utilizing loaner programs, each one that responded to the survey used a loaner program associated with a hospital. The choices offered by the survey were hospital, public health department, school, day care program, or other (to specify). Only "hospital" was selected.

The majority (80% of the unweighted data) of consumers that borrowed their child seat from a friend or relative were those with children under six months. When asked the length of time they expected to borrow the seat, 28% of those with children under six months responded between two and six months, 22% between seven and twelve months, six percent for 13 to 24 months, and 39% for more than two years. About six percent did not know or refused to answer the question. For those with children between six months and two years of age, 40% expected to borrow the seat for seven to twelve months, and 60% for more than two years. None of the respondents with children in the older age group expected to borrow the seat for one to two years, and no respondents in either group expected to borrow the seat for one month or less.

3.2.7 Receiving Information Regarding Registration

Survey respondents were asked if, when they obtained their seat, anyone provided them with information on the registration process. If the response was positive, they were asked whether it was a friend or relative, a store employee, a manufacturer's representative, a loaner program representative, or someone else that provided the information. Overall, only nine percent of consumers reported someone discussing registration with them at that time. Since how a child seat is obtained influences who is available at that time, it is important to look at this factor in conjunction with who gave the information.

For those that bought their seat, only 6.6 percent said that someone spoke to them about the registration process at the time. None of the consumers that purchased a used seat said registration was discussed at the time of purchase. About twelve percent of those that received their seat as a gift discussed registration at that time. Since speaking to

someone about registration can serve as both an incentive and a reminder to register the seat, this discussion should be encouraged as a potential way of increasing the registration rate. The overall low rate of this discussion (about one in ten consumers reported such an occurrence) is disappointing. However, knowing that the rate is more than doubled when the seat is presented as a gift is encouraging. Possibly, it may be that another person known to the seat owner is present when the seat is obtained and the discussion simply occurs. It would be beneficial to encourage those presenting a child seat as gift to mention registration of the seat at that time. An alternative would be for the gift giver to present a gift certificate to purchase a child seat. This would allow the new owner of the seat to select one that best meets the needs of the child and parent, as well as meeting any vehicle compatibility needs. This would also serve to encourage the parent to visit the retail store where additional educational information on the registration process could be obtained. In addition, friends and family members can encourage registration far more frequently than they currently do even when the seat is not given as a gift.

Data on whether someone was spoken with regarding registration at the time the seat was obtained, for those that either purchased their seat new or received it as a gift, are presented in Exhibit 3-26.

Exhibit 3-26: Who Consumers Spoke with Regarding Registration, When Seat was Obtained (Weighted)

Person	Purchased New	Received as Gift
Friend/relative	1.8	5.2
Store employee	2.7	3.3
Manufacturer's rep	0.7	2.5
Loaner program rep	0.0	0.3
Spoke to someone else	0.9	0.0
Don't remember who spoken to	0.5	0.8
Spoke to no one	91.4	86.0
Don't remember if spoke to anyone	2.0	1.9

In general, those receiving their seat as gift were much more likely to discuss registration at the time. Not surprisingly, those receiving the seat as a gift spoke with friends or relatives most often. Similarly, those who purchased the seat new were most likely to speak with a store employee, if anyone. The other people mentioned by those purchasing seats were medical personnel (e.g. a nurse) and a salesperson at the car dealership where the child seat was ordered.

The two consumers that borrowed the seat from a friend or relative and discussed registration both discussed it with a friend or relative. Similarly, the one person that borrowed a seat from a loaner program and spoke to someone regarding registration spoke to a loaner program representative. Four respondents noted that they were given a

child seat at the hospital where their child had been born, and three of them spoke with someone at the hospital regarding registration.

Exhibit 3-27: Registration Rates by How Seat Acquired and Whether Registration was Discussed

How Seat Acquired/Discussion	Registration Rate
Purchased	
Discussed registration	68.3
Did not discuss registration	62.4
Received as gift	
Discussed registration	71.0
Did not discuss registration	61.5

The goal of speaking with someone about registration is that it will result in that person registering the child seat. Exhibit 3-27 shows, for those who either purchased their seat or received it as a gift, the registration rates according to whether the seat owner discussed registration at the time the seat was obtained. When someone discusses registration with the recipient the registration rate increases regardless of how the seat is obtained. Encouraging those presenting child seats as gifts to mention registration to the recipient could be one way of increasing registration rates.

3.2.8 Importance of Registering Child Safety Seats

All respondents, whether or not they had ever experienced a recall, were asked for their opinions about the importance of registering and recalling child safety seats. Exhibit 3-28 presents the responses, both weighted and, separately by age group, unweighted. Over three-fourths of the consumers believe that registering child safety seats is very or extremely important. Those with children in the younger age group placed slightly more importance on registering.

Exhibit 3-28: Importance of Registering Child Safety Seats (Percent, Weighted and by Age Group)

	Overall	Under 6 months	6 months to 2 years
Extremely important	37.1	41.8	35.4
Very important	39.6	40.4	39.4
Fairly important	9.4	6.3	10.5
Somewhat important	8.5	7.0	9.0
Not at all important	3.8	2.4	4.3
No opinion	1.6	2.1	1.4

It is interesting to look at consumers' opinion of the importance of registering child seats with their actual behavior. Exhibit 3-29 presents the data by whether or not they reported mailing in the registration card. Note that more than half of the respondents that returned

the card believe that it is extremely important to register child seats. Overall, 91.6% of those that returned the card believe it very or extremely important to register the seats. While it is not surprising that those that did not return the card see it as less important than those that did, more than ten percent of those that did not return the card still considered it extremely important to register the seats, and nearly half of them considered it very or extremely important.

Exhibit 3-29: Importance of Registering Child Safety Seats by Action taken with Registration Card (Percent, Weighted)

	Returned Card	Did Not Return Card
Extremely important	53.2	10.8
Very important	38.4	36.8
Fairly important	3.7	18.8
Somewhat important	4.5	16.3
Not at all important	0.2	12.2

There is an obvious relationship between how important the consumer feels it is to register the seat and whether he or she mails in the registration card. This suggests that, if a campaign could successfully convince child seat owners that registering the seat is important, they might be more likely to return the registration card. To that end, it is worthwhile to more closely examine which groups of people tend to think registration is less important and do not return the registration card. This information is presented in Appendix C. Overall, regardless of demographic groups, those that stated a belief that registration was important were more likely to have actually registered their child seat.

3.2.9 Importance of Recalling Child Safety Seats

Consumers were also asked how important they felt it was to recall unsafe child seats. There was general agreement in the importance of this, as shown in Exhibit 3-30.

Exhibit 3-30: Importance of Recalling Unsafe Child Safety Seats (Percent, Weighted and by Age Group of Child)

	Overall	Under 6 months	6 months to 2 years
Extremely important	61.7	64.8	60.7
Very important	36.1	34.2	36.8
Fairly important	1.2	0.7	1.4
Somewhat important	0.6	0.4	0.7
Not at all important	0.0	0.0	0.0
No opinion	0.3	0.0	0.4

Those with children under six months of age thought it slightly more important to recall unsafe child seats than did those with older children. However, overall, over 97% of respondents thought it either very or extremely important to recall unsafe child seats, and

no one thought it not at all important. More than half of the consumers felt it extremely important. Although Americans are known for their strong and varied opinions, child safety is one issue that nearly everyone agrees is very important.

Again looking only at those consumers that reported a card came with their child seat, Exhibit 3-31 shows how important respondents feel recalling a child seat by whether or not they returned the registration card. Indeed, those that returned the card seemed to place a higher importance on recalling child seats. However, even among those that did not mail in the registration card, more than half believe it is extremely important to recall unsafe child seats.

Exhibit 3-31: Importance of Recalling Unsafe Child Safety Seats by Action taken with Registration Card (Percent, Weighted)

	Returned Card	Did Not Return Card
Extremely important	70.2	54.6
Very important	29.1	40.3
Fairly important	0.0	3.6
Somewhat important	0.7	0.0
Not at all important	0.0	0.0
No opinion	0.0	1.5

Examining the importance of recalling child seats by various demographics is useful. An extremely large proportion of the data is in the 'Extremely' and 'Very' Important cells. Even more so than for the importance ratings of registering child seats, the data for importance of recalling child seats would be quite sparse in the remaining cells. Therefore, the data will be explored for ratings of importance, but will not be further analyzed by registration rates. The tables with explanatory text appear in Appendix C.

Overall, the large majority of Americans believes that recalling child seats is important. Even for groups with lower percentages of respondents reporting it is 'Very Important,' the majority still felt that way. This is one area in which NHTSA's message seems to have spread – if a child seat is unsafe in some way, it should be recalled. It may not always translate into registering the seat, or even correcting the seat when it is recalled (as will be examined in Chapter 4), but the feeling is strong that non-compliant child safety seats must be recalled. People know this, and do not need to be convinced this is true.

3.2.10 Perceived Best Methods of Recall Notification

Clearly, whether or not the card that comes with the seat is returned, consumers feel strongly that it is important to recall unsafe child seats. However, recalling seats does no good if consumers aren't aware of the recall. Thus, the survey asked consumers what they felt the most effective method of informing people of recalls. Exhibit 3-32 shows the overall response to this, as well as the percent for each of the two age groups of children. More than half of the respondents thought the most effective method of alerting

owners to child seat recalls was a letter from the manufacturer. The second most effective method was seen to be a television announcement, with about a fourth of the people selecting that.

Exhibit 3-32: Most Effective Method of Informing Consumers of Recalls of Child Safety Seats (Percent, Weighted)

Method of Informing	Overall	Under 6 months	6 months to 2 years
Letter from the manufacturer	56.9	55.4	57.4
Television announcement	24.2	27.2	23.1
Notice posted in retail store	3.7	2.1	4.3
Newspaper or magazine announcement	1.8	2.8	1.4
Announcement on the internet	1.2	2.4	0.7
All of the above	11.1	9.1	11.9
Notice posted in doctor/pediatrician's office	0.6	0.4	0.7
Other	0.5	0.7	0.4

No notification method had been previously mentioned in the survey to influence the respondent. Note that only the first five methods listed in the exhibit (letter from manufacturer, television announcement, notice in store, newspaper/magazine announcement, internet announcement) were offered as choices, along with the option to specify another unlisted choice. 'Other' was chosen by 12.2% of respondents, with over 90% of them saying, "All of the above."

A notice posted in doctor/pediatrician's offices was also not offered as a choice, but because multiple respondents mentioned this, it is listed separately in the exhibit. Of the remaining consumers that selected another option, one mentioned radio announcements, one a phone call, and one person did not specify what other method was thought most effective.

For those methods selected by a large number of respondents, there is no meaningful difference between the two age groups of children. Those with children in the younger age group were slightly less likely to think a letter from the manufacturer was effective, although still more than half of this group thought this the most effective. They were also more likely to think a television announcement more effective. Although the number of consumers selecting other choices was much smaller, there are some notable differences.

Twice as many of the eighteen consumers stating that a notice posted in a retail store was the most effective method had children in the older age group. This may come from additional parenting experience – those with children under six months of age may not yet appreciate the frequency with which child-centered retail stores tend to be visited in later years. The opposite was true for those stating that a newspaper or magazine announcement would be most effective – twice as many (of the twelve) respondents selecting this option had children in the younger age group. Three respondents chose the "Other" option and mentioned the doctor's or pediatrician's office, two of them with

children in the younger age group. This may be another artifact of having very young children, as recommended visits to the doctor are more frequent during the first few months of life. As children grow older, visits are less common, and it would be less likely to receive up-to-date information on recalls from this source. Interestingly, the majority of those that responded "Other/All of the above" were those with children in the older age group – 33 of the 59 (55.9%) that gave this response.

Nine consumers selected an announcement on the internet as the most effective method to alert owners of child seats to recalls. The large majority of these, 77.8%, had children in the younger age group. NHTSA posts information on child seat recalls on their web site at

http://www.nhtsa.dot.gov/people/injury/childps/recall/canister.htm

as do many other child safety organizations. An advantage of this method over newspaper, magazine, or television announcements is that the information is available when someone is looking for it, not only when it is "news." If the consumer doesn't own the seat at the time of the recall (not yet purchased, bought or borrowed secondhand, etc.), he or she may miss the media announcement. Notices on the internet, providing they stay in place, are easier to reference later, and can even be useful to those in the process of shopping for a car seat. NHTSA, for example, has all recalls dating back to January 1990.

Exhibit 3-33 presents, for those that noted a registration card came with their child seat, what was reported to be the most effective method to inform consumers of recalls, in light of whether the registration card was sent in or not. Note that those mailing in the registration card were far more likely to select a letter from the manufacturer as the most effective method than were those that did not return the card. This may be the reason that the card was not mailed. Alternatively, knowing they had not sent the card in could have influenced some consumers to choose an alternative other than a letter from the manufacturer.

Exhibit 3-33: Most Effective Method of Informing Consumers of Recalls of Child Safety Seats (Percent, Weighted)

Method of Informing	Returned Card	Did Not Return Card
Letter from the manufacturer	71.9	34.7
Television announcement	11.0	40.3
Notice posted in retail store	0.2	11.2
Newspaper or magazine announcement	0.5	2.0
Announcement on the internet	0.9	2.0
All of the above	14.8	8.3
Notice posted in doctor/pediatrician's office	0.5	0.0
Other	0.3	1.5

On the other hand, those that did not return the card were much more likely to state that a television announcement was most effective. This was the first choice of those that did not return the registration card. Those that did not return the card were also more likely to select a notice posted in stores, or a newspaper, magazine, or internet announcement than were those that did return the card. Those that returned the card were also much more likely to have chosen 'Other' and said, "All of the Above."

Recall that about 85% of those that did not return the card said it was because they were too busy and just didn't get around to it. Most consumers not returning the card report it was a simple oversight, rather than a deliberate decision not to return the card. Only about 2 percent, for example, did not return the card because they were concerned about the potential use of the information. However, as seen in Exhibit 3-33, there are meaningful differences between those that find the time to mail the card and those that don't. For some reason, this group of people does not see the manufacturer's letter regarding a recall as an essential part of the recall process. Indeed, they feel a televised announcement is a more effective method of notification. This may be why returning the card wasn't important enough for them to remember. Alternatively, it may be that something other than the manufacturer's letter was selected *because* the card had not been mailed.

It is important to note that the belief that a television announcement can provide the necessary message to the extensive audience that needs to hear it is misleading. Respondents may have felt that a television announcement would be a good method since most people own a television and watch it for at least some amount of time each day. However, it is unlikely that any given person with a child seat being recalled would happen to catch the announcement at exactly the moment it was broadcast. True, friends, family, or others might see the announcement and mention it. However, with the wide variety of child seats available, it is improbable that people outside the home would know offhand exactly which seat is owned. Nor it is likely that others would continue to report hearing such information regularly.

In addition, even if the message reaches the right person, he or she would need to record information to both verify that the manufacturer, model number, and possibly serial number and/or date of manufacture of his/her seat is one that is affected, and retain the phone number and/or address to comply with the recall. Clearly, a written notice is superior, particularly one that is put into the hand of the person needing it. For those that do not register their child seat (and therefore cannot be contacted directly by the manufacturer), a central location that can be updated regularly with information on recalls is a better solution, but only if those that need the information will access it. The NHTSA web site and recall information published in Consumer Reports are two good sources.

The method of informing consumers of a child seat recall perceived to be most effective was explored by various demographic groupings. Tables of data and further information are presented in Appendix C. In brief, receiving a letter from the manufacturer was the method chosen by the largest percent of people regardless of demographic grouping. The

second most popular choice, a television announcement, was chosen more often by some groups than others. The oldest and youngest groups, those with less education, and African Americans tended to select this more often than other groups.

While a letter from the manufacturer was the overall preferred method of notification, several groups feel that a television announcement is nearly as effective. When the registration card is not returned, there is no contact information available to the manufacturer. In these cases, a television announcement may be the next best alternative.

3.3 Conclusions

Programs aimed at increasing the registration rates of child safety seats would do well to focus on some specific target groups with low registration rates, as well as the reason given for not registering associated with a particular group. The demographic groups with the lowest registration rates are those under age 21, those with a high school diploma or less education, and those making under $40,000 annually.

Those receiving a seat as a gift were twice as likely to discuss registration at the time the seat was obtained than were those who purchased a seat. In addition, this discussion does seem to influence whether the seat is registered. A potential program here could focus on those giving a seat as a gift, either encouraging them to remind the recipient to register, or to actually register the seat for them.

For most people that did not register, the reason given was that they were just too busy and never got around to it. This is especially true for those with high school or less education and those under the age of 21. Any programs aimed at encouraging registration among these groups, or for the largest population in general, would do well to focus on encouraging owners of child seats to make the time to fill out and mail the card, as it could be important to their child's safety. The form was designed to be particularly easy to fill out, needing little time or effort. Campaign information could stress that it only takes a minute to fill in the card, and that it definitely is worth that investment of time. Another method would be to put the card in an even more conspicuous place. Currently, NHTSA requires manufacturers to attach the registration card on a surface contacted by a test dummy properly restrained in the seat. An examination of the locations the cards are actually placed could be useful. If it could be determined that attaching the card in certain locations resulted in higher registration rates, NHTSA might consider being more specific with regards to where the card is attached. In addition, a more prominent reminder to mail in the card could also increase registration.

Overall, fewer than six percent of those not registering said the reason was that they lost the form. Blacks/African Americans that did not register said the form was lost more than 26 percent of the time, and those of Hispanic descent, about 36 percent. Consumers with a high school degree or less and those age 21 to 30 also misplaced the form at a high rate, about ten percentfor each group. Programs would do well to include information on what to do in case of a lost form (such as calling the manufacturer's number which is on the child seat or using the generic form on the NHTSA website) as well as encouraging them to find the time to make the effort.

Only about three percent of people who purchased child safety seats received advice on registration from the salesperson or others in the stores where they bought them. A brochure given to purchasers at the point-of-sale could serve as a reminder and incentive to register the seat. Not only would this encourage registration among those purchasing the seat for their own child, but also could serve to encourage those purchasing the seat as a gift to discuss registration when they present the seat. The vast majority of respondents that did not register, 85 percent, said it was because they were too busy. This makes sense, as new parents certainly have a great deal to keep them busy. The point-of-purchase brochure could suggest to gift-givers that they offer to register the seat for the new parents (in the parents' name).

Expanding on this, a NHTSA promotional campaign on the registration process could be beneficial in raising the registration rate. The importance of child safety seat registration could be promoted by the use of flyers, stickers, and posters. The flyers could be provided to NHTSA Regional Offices and State Highway Safety Offices for distribution throughout the sates at checkup events, law enforcement stops, hospitals and emergency rooms, doctors' offices, vehicle dealerships, etc. Posters could be posted in the child safety seat area of retail stores as another means for parents to receive the information. Stickers could be provided to doctors' offices, vehicle dealerships, and retail stores to place on child seat boxes.

The majority of consumers believe that a letter from the manufacturer is the best way to inform those with defective child seats of a recall. This is, of course, dependent on consumers registering the seats so that the manufacturers would be able to contact them directly. Effort must be made to inform consumers that they will not receive any letters unless they send in the registration card, and that television announcements are an unsatisfactory substitute for registration, since there is no guarantee they will be watching television just at the time the recall is announced.

Child safety seats are an item with a limited lifetime for any given child. As children grow, they move out of infant seats and in to toddler or convertible seats, booster seats, and eventually seat belts. Thus, they have the potential to be passed on to other children. Previously used safety seats seldom come with a registration card, and are rarely registered by second and subsequent owners. There are alternative ways of registering a used seat, including using a form NHTSA provides or calling the manufacturer.

Respondents were asked how long ago they had obtained the child seat, but not about its age if it was acquired used. Those who had used seats (defined as either bought used, borrowed, or received as a gift with no registration card) had themselves owned the seat an average (mean) of fifteen months. The median number of months a used seat was owned, however, was seven months. Nearly 70 percent of people with a used seat had acquired it in the past year. A relatively small number of used seat owners had acquired the seat several years before – 45 of 379 (slightly less than 12 percent) had received it more than three years earlier.

Recall that 85 percent of all seats determined to have been used previously for an older sibling had been obtained a year or more before the subject child was born. Even owners that have registered their child seats might be unaware of a recall if they no longer live at the same address. Again, the process exists to allow people to notify manufacturers with their change of address, although this is rarely done. While a letter from the manufacturer is the most reliable way for someone to learn about a recall, other methods are certainly needed to supplement this. Internet notices (including NHTSA's web site), bulletins posted in stores, and magazine listings of recalls can provide permanent locations for people to research information. This could be especially useful when borrowing or being given a used child seat, or using one purchased over a year ago and/or while living at a different address. Television announcements, while not very reliable, are seen by many people, and are sometimes mentioned to the needed party by friends or family. E-mail notification offered by CPSC, as described in Section 3.2.1 offers an additional method for the consumer to stay informed about recalls.

The most important factor is getting the message across that registration of child seats and recalling unsafe child safety seats are important. These messages have been successfully communicated to consumers. People are made aware of recalls in various ways, some more effective than others. For the most part, when consumers learn of a recall, they participate. Every seat that is repaired is a potential injury averted or life saved. Therefore, every effort should be made to alert child seat owners when recalls occur. Registration cards are one method, and they have increased registration and recall compliance rates. Other methods can also be used to supplement this.

Chapter 3 Footnotes

1. Kavalauskas, Juanita S. and. Kahane, Charles J, *Evaluation of the American Automobile Labeling Act*. NHTSA Report Number HS 809 208, U.S. Department of Transportation, National Highway Traffic Safety Administration, Washington, DC, January 2001.

2. *Statistical Abstract of the United States: 2000*. U.S. Census Bureau, Department of Commerce, June 2001.

3. *Money Income in the United States 1999*. U.S. Census Bureau, Department of Commerce, September 2000.

4. *Profiles of General Demographic Characteristics 2000*. U.S. Census Bureau, Department of Commerce, May 2001.

5. *Process and Outcome Evaluation of the Buckle Up America Initiatives*. DOT HS 809 272, U.S. Department of Transportation, National Highway Traffic Safety Administration, Washington, DC, May 2001.

Chapter 4: Impact on Recalls

Consumers who have experienced a recall can provide valuable information on the topic. Their behavior and opinions can shed light on how the situation is perceived by those going through the process. Since a relatively small number of those in the General Consumer survey had experienced a recall, additional participants with recall experience were surveyed. The full survey instrument is presented in Appendix B. The data provided from the perspective of someone who has owned a recalled child seat is valuable for learning more about how consumers respond to recalls, as well as what factors tend to be associated with higher and lower rates of registration and recall compliance.

4.1 Recall Audit

The consumer survey discussed in the previous chapter queried whether consumers had previously been involved in a recall of a child safety seat. Of the 564 completed surveys, 39 (less than seven percent) had, at some time, owned a child seat that had been recalled. In order to get a broader view of the experience people have when a seat is recalled, an additional survey was conducted. Periodically, NHTSA's Office of Defects Investigation (ODI) in the Office of Safety Assurance conducts audits on recall campaigns, to ensure that manufacturers are properly complying with recall requirements. The list of child seat owners involved in the most recently completed (at that time) audit was made available for research purposes for this report.

The specific recall campaign was selected for practicality only, in that the most recent occurrence would provide the freshest, best-recalled data from the consumers. It is not meant to be singled out in any way as either typical or atypical, but as descriptive of what a set of consumers experienced in a recall campaign. It should be noted here that all manufacturers producing child seats today have, at one time or another, experienced a recall. A list of all recalls, from January 1990 to the present, is available on NHTSA's website at:

http://www.nhtsa.dot.gov/people/injury/childps/recall/canister.htm

Specifics of the particular child seat involved, however, do have some bearing on the survey results. Therefore, relevant details of the recall and the seat itself are included for information purposes. The subject of this particular recall was a rear-facing infant seat that could also be used as a car bed, which is the recommended method of transporting premature infants born earlier than 37 weeks.[1] Very small infants often have problems breathing when sitting semi-reclined, and therefore would not be able to sit in a standard infant seat. While this car seat is not designed *only* for premature infants, it is one of a very small number of seats suitable for them. Thus, the experiences of owners of this child seat, and therefore the survey results, are influenced by the fact that the seat was for infants (rather than a toddler or convertible infant/toddler seat), in many cases a premature and/or low birthweight infant. In addition, the seats were originally purchased in 1994 and 1995. There are likely factors, such as the development of the internet,

which could influence the acquisition and registration of a child seat, that have changed over this time period.

In January 1996, a recall notice was released for the child safety seat involved in the audit. The restraint, which was manufactured between April 1994 and June 1995, did not meet the maximum back angle requirement of FMVSS 213. In the event of a crash, infants in the seat would face an increased risk of injury. No information is provided regarding how great an increased risk this would be, but the fact that the child would be at a greater risk makes it of considerable importance. The manufacturer provided owners of the child restraint a free retrofit kit and installation instructions. The kit included a metal plate that hooked over the base of the seat and snapped in place by two plastic fasteners. The kit was described as "easy-to-install" and (as noted in section 4.3.7 below) consumers found that to be the case.

NHTSA's audit of this recall was in the form of a survey mailed in November 1998, to registered owners of the seats. The seats were manufactured about a year after FMVSS 213 was amended, and therefore had the postage paid registration card.

4.2 Recall Survey Background

A survey was conducted based on a list of 646 names provided from the audit of the recalled child seat. Several of those on the list owned more than one of the seats, and some of those listed were organizations that owned several. Thus, the 646 names accounted for 1,008 of the seats sold. This particular recall campaign involved 15,370 seats. The remaining owners had not returned the registration card, and therefore the manufacturer had no way of directly contacting them.

The list contained the names and addresses of the owners of the seats. Since the survey for this report was conducted via telephone, contact phone numbers had to be obtained. From this list of 646 names, a reverse directory search was employed to identify telephone numbers for 236 consumers, 37 percent of the records in the original file. Of the remaining names, 359 were not listed (either the name provided was not listed at the address, or the address was not listed), 45 were unlisted phone numbers (although the name matched the address), 4 were not available (source not available to search military/foreign addresses), and 2 were blank or duplicate records.

A pilot study was conducted between Monday, January 29 and Wednesday, January 31, 2001, between the hours of 10:00 am and 5:00 p.m., EST, with a goal of ten completed interviews. The pilot study had several objectives. Primarily, since it had been more than five years since the recall occurred, there was concern that consumers might have difficulty remembering details of the experience. This turned out to not be the case. It was also desired to pretest the length of the survey as well as the clarity of the questions. As a result of this, some of the questions were reworded or their options altered. None of the respondents objected to the length of the survey, which ranged from 6 to 11 minutes. In total, 59 calls were made to 47 consumers. Specifically, 35 numbers were called once and 12 were attempted twice. Seven individuals and three organizations completed the surveys for the pilot test.

The questionnaire itself was similar to the one used for the General survey, although tailored to consumers known to have both registered their child seat and been involved in a recall. Data for the full Recall survey were gathered by telephone. Interviews were conducted over a 12-day period, from March 29 through April 9, 2001. It was stated at the beginning of the interview that the call was in regard to the recall, and the consumer was asked if he/she remembered the recall. Only those that that stated they did remember the recall were included in the survey. Of those asked, only three people (of the total 236 consumers) stated they did not remember the recall.

Exhibit 4-1 presents the outcome of the telephone calls made to the 236 consumers for which contact information was obtained.

Exhibit 4-1: Recall survey - Attempted Sample Records by Final Disposition

Call Disposition	Count	Percent
Completed interviews	**73**	**30.9**
Completed pretest interviews	**10**	**4.2**
Refusals	**50**	**21.2**
Other calls not producing data	**103**	**43.6**
Answering machine	14	5.9
No answer	5	2.1
Non-working number	13	5.5
Wrong number	18	7.6
Busy	8	3.4
Call back	36	14.5
Blocked call/privacy manager	4	1.6
Language problem	1	0.4
Fax/modem line	1	0.4
Consumer did not remember recall	3	1.2
Total	**236**	**100%**

Remember that the General survey had a completion rate of 13.6 percent, which was considered quite good. The Recall survey, including the full and pretest completed interviews, had a completion rate of over 35 percent. It is important to note, however, that this was a self-selected group, having already sent in their registration card. In addition, these respondents had experienced the recall process, and therefore may have had more incentive to participate. Interestingly, the outright refusal rate for the Recall survey was 21.2, nearly twice the 11.6 percent rate found in the General survey.

The results in this section will combine, wherever possible and appropriate, data from respondents in the general consumer survey that experienced a recall with the data from the Recall survey, both the pretest and final survey, for a total of 122 consumers whose child seats had been recalled (73 in the Recall survey, 10 in the Recall pretest, and 39 from the General survey). Comparisons will be made between this group and consumers

in the General survey that did not experience a recall. The larger sample of seat owners involved in a recall will give a more stable basis of information for examination and comparison. In addition, information specific to the recall experience will be investigated.

4.3 Survey Results for Consumers Experiencing a Recall

Survey results for those experiencing a recall are not weighted. For the Recall survey, no attempt was made to sample a representative group. Rather, as many seat owners as could be contacted were included. When consumers who participated in the General survey and experienced a recall are included, they will also not be weighted.

Note that many of the respondents in the Recall survey and pretest that said it was because of a specific feature that they chose this particular seat likely were referring to the ability to be used as a car bed and/or transport low birthweight infants. Information on which specific feature to which respondents were referring was not gathered. No questions were asked about the seat itself or the age of the child using it, since the seats were designed for infants only.

Bear in mind that the seat accommodating low birthweight infants may influence the method by which the owners acquired the seats. If many of the infants for whom these seats were bought were premature, the parents may not have had the chance to purchase a child seat before the birth of the child. This may explain why a larger proportion of seats was obtained as gifts and/or borrowed than in the general consumer survey. In fact, several of the registered owners were organizations that owned a number of the seats, and either loaned or gave them away.

4.3.1 General Demographics of the Recall survey

Again, wherever possible, data from the full Recall survey will be combined with data from the pretest as well as respondents to the General survey that had experienced a recall. These data will be labeled 'Recall Occur' in tables, to distinguish them from data from the Recall/Pretest surveys only. Since the Recall survey was related to seats manufactured in 1994 and 1995, the age of respondents to that survey would be expected to be somewhat higher than that of the General survey. This group of people purchased a seat for an infant approximately six years ago, compared with the General survey respondents, all currently having at least one child under two years of age. The age difference, however, was not statistically significant. More information on this, and other non-significant comparisons between those that experienced a recall and those that did not, is presented in Appendix C.

The overwhelming majority of respondents was female – 92 percent of those for whom gender was recorded. Because of this, further breakdowns by gender will not be reported.

As in the General survey, over 80 percent of respondents reported being married. A much larger percent, however, refused to answer this question – nearly ten percent in the Recall survey as compared to only 1.1 percent in the General survey.

Respondents in the Recall survey seem to have, on average, larger families than those in the General survey. Note that in the General survey, the majority reported having only one child under the age of 13, while only about sixteen percent reported having three or more children. For those involved in a recall, 41.1 percent reported three or more children. However, since those in the Recall survey were known to have had an infant about six years ago, this is possibly simply an artifact due to time passing since the seat was purchased. Data on number of children by recall status are presented in Exhibit 4-2.

Exhibit 4-2: Number of Children Under Age 13 (Percent)

Number of Children	Recall Occur	General No Recall
0	0.9	0.0
1	28.6	55.4
2	29.5	28.8
3	36.6	10.0
4	4.5	4.7
5	0.0	1.0
6	0.0	0.2

A logistic regression was run on the number of children, to determine whether family size for those respondents in the recall group was different than for those in the group not experiencing a recall. As for the previous significance tests, unweighted data were used. The resulting chi-square of 22.1692, with a probability of 0.0001, shows that there is a significant difference in the number of children for the two groups. Note that, since the majority of the respondents experiencing a recall did so several years ago, this does not imply that the seat in question was used by either an 'only' child or a 'younger sibling.' The number of the children given is current, and not reported for the time of the recall.

As with the question on marital status, a larger percent of respondents chose not to identify their race in the Recall survey as compared to the General survey. There is even less diversity in the recall group than there had been in the General survey. The majority again are whites, and there were none of Hispanic descent. These data are shown in Exhibit 4-3.

Exhibit 4-3: Race and Hispanic Background (Percent)

Race/Hispanic Background	Recall Occur	General No Recall
White (non-Hispanic)	82.8	79.4
Black/African American	3.3	4.8
Hispanic any race	3.3	9.9
American Indian/Alaska Native	0.8	0.0
Asian/Pacific Islander	1.6	2.7
Other race(s)	0.0	5.9
Refuse to answer	8.2	0.0

A chi-square was run on race data, comparing those in the recall group to those never having a recall. Because of the small number of people of American Indian/Alaskan and Asian/Pacific Islander respondents, these groups were combined with 'Other races' for this analysis. The chi-square value of 7.611, with 3 degrees of freedom, was nearly significant, with a probability of 0.055. There was a higher proportion of Whites in the recall group, compared to a higher proportion of minorities (Black/African Americans, Hispanic, and Other Races) in the non-recall group.

A much higher proportion of those in the Recall survey had an associate or B.A. degree than did those in the General survey. A larger percentage of those in the General survey, however, received an advanced degree than did those in the Recall survey. Exhibit 4-4 presents educational level data by recall status.

Exhibit 4-4: Education Level of Respondents (Percent)

Education Level	Recall Occur	General No Recall
High school grad or less	9.8	21.5
Some college	11.6	20.8
Associate/B.A. degree	67.9	37.3
Advanced degree	4.5	18.9
Refuse to answer	6.3	1.5

A logistic regression run on the years of education (as determined as noted in Section 3.2.3) by recall experience was significant, with a chi-square of 4.7060 and a probability of 0.0301, with those in the recall group having more education. The mean number of years of education did not differ greatly, 14.7 years for those not involved in a recall as compared to 15.3 years for those that were. However, the variance for each of the two groups was very dissimilar. The standard deviation for the recall group was 1.8, while for those not having a recall it was 2.4. There was much greater variation in years of education for those not experiencing a recall. In addition, the number of years having passed since the recall of seats involved in the audit may have had some effect on the education of the Recall group.

4.3.2 Reasons for Registering Child Seats

Respondents to the Recall survey were asked about their reasons for registering their child seats. Since all respondents had experienced a recall after registering the seat, it is possible that it could influence their subsequent answers to the survey questions. A chi-square run on the data was non-significant. Further information is presented in Appendix C. Overall, those involved in a recall chose to register their seats for the same reasons as did those not experiencing one. This certainly is reasonable, since at the time the card is sent, the consumer would not be aware of a recall occurring sometime in the future.

4.3.3 Acquisition of a Child Restraint

Differences in the relative timing of the surveys prevented an exact mirroring of the General survey by the Recall survey and pretest. Since the recall itself had taken place

about six years earlier, asking participants to remember when they had obtained the child seat would likely not have provided accurate data. In addition, since the seat was not currently in use, there is nothing similar to the breakdown provided in Exhibit 3-22, noting whether the seat was acquired for 'this child' or an older sibling. Furthermore, it was known that all seats in the Recall survey came with cards, so respondents were not asked about its presence. Consequently, no new/used breakdown is possible for seats received as gifts. Within these limitations, however, data are available on how the recalled child seat had been obtained, as shown in Exhibit 4-5.

Exhibit 4-5: How Child Restraint was Acquired (Percent)

How Seat was Acquired	Recall Occur	General No Recall
Purchased		
New	42.6	59.6
Used	1.6	3.4
Received as gift	53.3	32.6
Borrowed from friend/relative	1.6	2.5
Loaner program	0.0	0.4
Other	0.0	1.1
No answer	0.8	0.4

A chi-square run on these data was significant at the 0.011 level (chi-square value of 14.794 with 5 degrees of freedom, omitting those not answering the question). The majority of those in the General survey had purchased their child seat (a total of 63 percent, 59.6 percent new and an additional 3.4 percent used), with most of the remaining consumers (32.6%) receiving it as a gift. This is reversed for those having had a recall, with the majority of the respondents having received the seat as a gift. Keep in mind that the subject seat of the recall audit was a seat especially for premature and/or low birthweight infants. With a premature birth, the parent(s) may not have completed all expected preparations before the birth, and the seat may have then been purchased by someone else. In addition, very few of the seats were purchased used, and none were borrowed from a loaner program. Overall, the majority of those that experienced a recall received their seat as a gift, while most of those that did not have a recall purchased their seat new.

Most of those that purchased their child seat and later had a recall obtained it from a store (74.5%). Another 7.3% purchased it from via mail order. A chi-square run on the type of store at which the child seat was purchased was non-significant; the data are presented in Appendix C. None of those experiencing a recall borrowed a seat from a loaner program, and only two people borrowed the seat from a friend or relative.

Those that bought their child seat were asked what the most important reason was in selecting the seat that they purchased. Like those in the General survey, the majority of respondents that had experienced a recall chose their seat because of the features of the seat itself, rather than a person's or organization's recommendation.

Participants that experienced a recall were asked who, if anyone, had provided them with information regarding registration when they obtained their child safety seat. Overall, about 16 percent of these respondents said that someone had spoken to them. As was seen in the General survey (Exhibit 3-27) discussing registration with someone seems to increase the likelihood of registering the seat.

4.3.4 Importance of Registering and Recalling Child Safety Seats

All participants in the Recall survey and pretest had experienced a recall, which could conceivably influence their feelings on the importance of registering and recalling child seats. Exhibit 4-6 shows the importance consumers place on registering a child safety seat. Data from those in the General Survey that did not experience a recall are included here for comparison. More than 84% of respondents who had experienced a recall replied that it was extremely important to register child seats, compared to less than 40% of those in the General survey that did not experience one. While it was stated earlier that there was agreement by most consumers that registering child seats is at least very important, more than 21% of respondents rated it less important than that. Only about four percent of those that had experienced a recall thought it was 'Fairly' or 'Somewhat' important. None believed it to be 'Not at all important.' Again, the fact that several years have passed, and that respondents in the Recall survey are generally older at the time of the survey, may be have some bearing on the data.

Exhibit 4-6: Importance of Registering Child Safety Seats, by Survey (Percent)

	Recall Occur	General No Recall
Extremely important	84.4	37.1
Very important	11.5	40.6
Fairly important	1.6	8.8
Somewhat important	2.5	8.0
Not at all important	0.0	3.6
No opinion	0.0	1.9

A logistic regression was run on those consumers with an opinion of the importance of registering child safety seats. The chi-square of 46.7327 was significant at the 0.0001 level, confirming that those who have experienced a recall see greater importance in registering seats than those who have not.

Similarly, Exhibit 4-7 shows the importance respondents placed on recalling unsafe child seats, for both those in the Recall survey and those in the General survey that experienced a recall. Weighted data from the full General survey separated by whether or not the card was returned (shown earlier in Exhibit 3-31) are also presented for comparison. Of the 122 consumers experiencing a recall, only twelve people did not feel it was extremely important to recall unsafe child seats.

Exhibit 4-7: Importance of Recalling Unsafe Child Safety Seats, by Survey (Percent)

	Recall Occur	General No Recall	Returned Card (General)	Did not Return Card (General)
Extremely important	90.2	62.1	70.2	54.6
Very important	9.0	36.2	29.1	40.3
Fairly important	0.8	1.0	0.0	3.6
Somewhat important	0.0	0.6	0.7	0.0
Not at all important	0.0	0.0	0.0	0.0
No opinion	0.0	0.2	0.0	1.5

Logistic regression on these data, with a chi-square of 46.0805, was significant at the 0.0001 level. As with registering seats, the experience of a recall seems to influence consumers' opinions on the importance of recalling unsafe child seats. In both cases, while there is a large proportion of people stating they believe it is at least very important, experiencing a recall appears to intensify this importance for many.

Since the overwhelming majority of those in the Recall survey felt that both registering and recalling child seats are extremely important, further examination of the data by demographic variables would not be useful. Given the small number of participants that did not feel registration or recalling unsafe seats was very important, it would be unproductive to further break down the data by age group, education level, etc.

4.3.5 Perceived Best Methods of Recall Notification

Exhibit 4-8 presents information on which method respondents felt would be most effective to inform people of a recall. Weighted data, from the General survey by whether or not the respondent had stated returning the registration card (shown previously in Exhibit 3-33) are presented for comparison.

Exhibit 4-8: Most Effective Method of Informing Consumers of Recalls of Child Safety Seats, by Survey (Percent)

Method of Informing	Recall Occur	General No Recall	Returned Card (General)	Did not Return Card (General)
Letter from the manufacturer	36.9	57.5	71.9	34.7
Television announcement	54.9	24.4	11.0	40.3
Notice posted in retail store	0.0	3.4	0.2	11.2
Newspaper/magazine announcement	0.8	2.1	0.5	2.0
Announcement on the internet	0.0	1.7	0.9	2.0
All of the above	6.6	9.7	14.8	8.3
Notice posted in pediatrician's office	0.0	0.6	0.5	0.0
Other	0.8	0.6	0.3	1.5

Surprisingly, the responses from those experiencing a recall were more similar to the General survey participants that did *not* register their child seats. In both groups, the majority believed that a television announcement was the most effective method, while about one-third of those consumers felt a letter from the manufacturer was best. This is in sharp contrast to those in the General survey that registered their seat, where 71.9% believed a letter from the manufacturer was the most effective method, and only 11.0% chose a television announcement.

Note that, while all participants in the Recall survey and pretest are known to have registered their child seat, this is not true for all those experiencing a recall in the General survey. Of the 39 respondents in the General survey that had a recall, about 60 percent (23 of the 39) stated they had mailed in the registration card. However, even looking only at those in the Recall survey and pretest, for whom it is known that a letter was received from the manufacturer, only 35 percent believe a letter from the manufacturer is the best method to inform consumers of a recall. Nearly 64% of these consumers feel that a televised announcement is the most effective method.

4.3.6 Actual Method of Recall Notification

Those involved in a recall were asked how they first found out about the recall. The results for consumers who stated they returned the registration card are shown in Exhibit 4-9. In addition to the choices listed in the table, consumers were also given 'Radio announcement' and 'Announcement on the internet' as options, but none of those who had registered selected either one.

It is important to note that the majority of these respondents (83 of 106 who had registered) participated in the ODI audit. Of those in the recall survey, 88 percent first found out via written notification from the manufacturer. Interestingly, only 21.7 percent of those in the General survey that registered said they first found out through a written notification. The largest group, about 30.4 percent, said they first found out about the recall through a televised announcement. An additional 21.7 percent heard from a friend or relative, as many as first found out from the manufacturer.

Exhibit 4-9: How Registered Owners First Found out About Recall, by Survey (Percent)

How Informed	Recall Survey	General Survey	All Registered & Recalled
Written notification from manufacturer	88.0	21.7	73.6
Television announcement	2.4	30.4	8.5
Newspaper/magazine announcement	2.4	8.7	3.8
Notice posted in retail store	1.2	4.3	1.9
Friend/relative	3.6	21.7	7.5
Other	0.0	8.7	1.9
Don't remember/refused to answer	2.4	4.3	2.8

Exhibit 4-10 shows how those that did not register their child seat first found out about the recall. Note that, while none of those that had registered learned of the recall via the internet, none of those that did not register saw a notice on a store bulletin board. Also, equal proportions found out through a televised announcement, newspaper or magazine announcement, and from friends or relatives. Keep in mind, however, that the number of consumers in the General survey that did not register and knew their seat had been recalled was small, only sixteen people.

Exhibit 4-10: How Non-registered Owners First Found out About Recall (Percent)

How Informed	General Survey
Television announcement	25.0
Newspaper/magazine announcement	25.0
Announcement on internet	6.3
Friend/relative	25.0
Other	12.5
Don't remember/refused to answer	6.3

The consumers contacted for the Recall survey were known to have registered their seats, and therefore are not a random group of child seat owners. Looking at only those respondents in the General survey that knew their seat had been recalled offers a more accurate picture of how a typical consumer might first learn about the recall of a child seat. Exhibit 4-11 presents data on how those in the General survey first learned of the recall, regardless of whether the seat was registered or not. Overall, the largest group of people first learned of the recall from a television announcement, followed by hearing the information from a friend or relative. Slightly more people first learned of it by reading about it in a newspaper or magazine than receiving notification from the manufacturer.

Exhibit 4-11: How All Consumers in General Survey First Found out About Recall (Percent)

How Informed	General Survey
Written notification from manufacturer	12.8
Television announcement	28.2
Newspaper/magazine announcement	15.4
Announcement on Internet	2.6
Notice posted in retail store	2.6
Friend/relative	23.1
Other	10.3
Don't remember/refused to answer	5.1

Regardless of how they *first* found out, 67.2 percent of consumers involved in a recall remembered being informed of the recall by a written notice from the manufacturer. An additional 9.0 percent could not recall whether the manufacturer had contacted them or

not, leaving 23.8 percent stating that they had not been contacted by the manufacturer. Note that not all those experiencing a recall registered their seat with the manufacturer. In such a case, there would be no way to contact the consumer. Looking only at those that were known to have registered their seat, 77.4 percent stated that they remembered receiving a written notice from the manufacturer. Again, more than two-thirds of consumers in these surveys were part of the ODI audit and known to have registered their seats, thus heavily influence the percentage. Looking only at those in the general survey that registered their seats, 56.5 percent stated that they remembered receiving a letter from the manufacturer.

4.3.7 The Recall Experience

Consumers that experienced a recall were asked whether the manufacturer provided them with instructions (either written or verbal) regarding what to do with the recalled child seat until it was repaired or replaced. The majority, 70.2%, said they did receive such instructions. A relatively large group, 22.3%, said they did not receive any instructions, while 7.4% said they could not remember whether they had been told or not. Of those that did recall receiving such instructions, 90.7% reported that the instructions were extremely clear. An additional 5.8% said they were fairly clear instructions, while only 3.5% felt the instructions were not clear at all.

When asked whether the recalled child seat had been repaired or replaced, 84.2% of consumers answering the question said it had been. Only two respondents refused to answer the question. Those that did not have the seat fixed were asked why, for which multiple responses were collected. Only three respondents chose to give two responses (none gave more), but there was still a wide variety of responses. The largest group, seven of the nineteen that did not fix their seats, no longer used or owned the seat at the time of the recall. Three did not understand what they were to do, and two reported being too busy and just not getting around to it. Respondents were permitted to provide an answer if it was felt that the choices given did not reflect their reason. Using this option, individual respondents also reported the following reasons: Lost recall information or parts; Didn't feel the defect would cause an injury; Would only be using the seat for one additional month and did not use handle; Had just bought the seat so returned it to the store; Threw the seat away; Didn't meet the criteria for the recall; Manufacturer did not provide parts, refund, or new seat; Unable to reach manufacturer; and Baby was due and they wanted everything ready. It is not known whether this last respondent decided to purchase a new seat and/or return or dispose of the recalled seat. The only other comment this respondent provided is that s/he did not know what do to. One additional respondent chose not to say why the seat was not repaired.

The respondent stating that the manufacturer did not provide the parts had originally called to purchase a replacement pad and was told at that time the seat had been recalled. He was told the part would be mailed to him, but had not yet received it. The recall occurred during the year 2000, while the survey took place in January 2001. It is not known how long the person had been waiting. The consumer stating she was unable to reach the manufacturer said she just didn't know how to contact them.

Those consumers that were provided replacement parts or a retrofit kit to repair their seat were asked how easy or difficult it was to fix the seat. Eighty-two percent stated that it was extremely easy to do, while only one person stated it was difficult. This person reported it was difficult to reach the parts. When asked about clarity of the instructions the manufacturer provided to fix the seat, 86.5% said they were extremely easy to understand. Only one person found them difficult to understand.

Even though more than two-thirds of these respondents (83 of the 122) were from a single recall incident and therefore had the same repair requirement, it does seem that overall, the instructions were easy to understand and follow, and the actual seat repairs were easy to perform. In addition, for those consumers that chose to comply with the recall, the majority stated that it was not difficult to contact the manufacturer. Once consumers know about a recall, most do comply. For those that are aware and choose not to comply, there is usually a suitable reason for not doing so that did not expose their child to riding in an unsafe child seat.

Chapter 4 Footnotes

1. Tip #3: How to protect your new baby in the car. *Child Transportation Safety Tips*, National Highway Traffic Safety Administration, http://www.nhtsa.dot.gov/people/injury/childps/newtips/tip3.html.

Chapter 5: The Role of Dealers in Child Seat Registration

The primary objective of the revised FMVSS 213 was to increase the proportion of child seats repaired when a recall occurs. The method for accomplishing this was to require registration cards with new child seats, providing a means for manufacturers to contact consumers directly should the need arise. There are, however, intermediaries between the manufacturer and consumer who may be able to influence whether consumers register child safety seats and/or respond to recalls. As demonstrated by the consumer survey (Section 3.2.7), consumers are more likely to register their child seats if they receive information about the registration process when they acquire their seat. A survey of child safety seat dealers was performed to examine whether, why, and how retailers encourage consumers to register their child seats.

5.1 Dealer Survey Background

The survey was conducted between March 8 and May 17, 2000. A pilot test was conducted to test the questionnaire and data collection procedures. As a result of this, enhancements were made to the procedures for notifying dealers about the survey and recruiting respondents.

To ensure geographic diversity, various types of stores were recruited and surveyed in each of the four census regions (northeast, midwest, south, and west). Exhibit 5-1 shows the states included in each region.

Exhibit 5-1: States within each Census Region

West	Midwest	South	Northeast
Alaska	Illinois	Alabama	Maine
Arizona	Indiana	Arkansas	New Hampshire
California	Iowa	Florida	Vermont
Colorado	Kansas	Georgia	Massachusetts
Hawaii	Michigan	Kentucky	Rhode Island
Idaho	Minnesota	Louisiana	New York
Montana	Missouri	Mississippi	Connecticut
Nevada	Nebraska	North Carolina	New Jersey
New Mexico	Ohio	Oklahoma	Pennsylvania
North Dakota	Wisconsin	South Carolina	Delaware
Oregon		Tennessee	Maryland
South Dakota		Texas	West Virginia
Utah			Virginia
Washington			District of Columbia
Wyoming			

A cross section of types of stores was sampled to get a varied representation. The four store types were defined as follows:

- Department – Large national chain stores that sell a range of products, such as Sears and Montgomery Wards.

- Boutique – Small, independently owned stores selling baby products. For this classification, boutiques with no more than three stores were included.

- Specialty – Typically large national chain stores that sell one type of product, such as Toys a Us. Also included in this category were boutique stores with more than three stores.

- Discount – Large, national chain stores that sell a wide range of products at discount prices, such as Target, Wal-Mart, and K-Mart.

The survey sample was identified through a multi-step process. First, candidate stores were located through general knowledge and via internet searches. A number of stores were obvious potential candidates for the study, such as Sears, Toys a Us, and large national department store chains. Other, less well-known stores were located through internet searches. Many of these stores were located through baby furniture association web sites that have member stores all over the country. After candidate stores were located, a determination was made (via the store's web page or through a telephone call) as to whether or not the store sold child safety seats.

The final step consisted of identifying prospective survey respondents. Two methods were used to recruit stores for participation in the study: telephone calls and direct mailing of the survey to stores. In some instances, prospective survey respondents were identified through telephone calls made to the store manager or employees in the department selling child safety seats. After the study was explained to the employee, s/he was asked if their store would be interested in participating, and if so, to whom should the survey be sent. In other instances, surveys were sent directly to store managers, without an initial telephone call to identify a specific point-of-contact. Store addresses were obtained through the internet.

Exhibit 5-2: Region of Contacted and Participating Child Safety Seat Dealers

	Contact	Participate
West	34	15
Midwest	22	12
South	37	12
East	28	15
Total	**120**	**54**

These procedures, implemented on an ongoing basis throughout the survey administration, produced a pool of 120 stores used as candidates for inclusion in the study. Fifty-four surveys were ultimately returned. Exhibit 5-2 shows the number of stores in each region of the country that were contacted and that returned the survey. Exhibit 5-3 presents the number of each type of store contacted, and the number eventually participating in the final survey.

Exhibit 5-3: Type of Contacted and Participating Child Safety Seat Dealers

	Contact	Participate
Discount	44	19
Specialty	25	13
Boutique	26	16
Department	25	6
Total	**120**	**54**

5.2 Dealer Survey Results

The survey, a nationwide sample of 54 retailers that sell child safety seats, examined their participation in and knowledge of the child safety seat registration and recall process, including whether (and how) dealers promote consumer registration of child seats and participation in recalls. The sample is made up of data from all regions of the United States and various types of stores that sell child seats, but is not necessarily nationally representative. It does, however, offer a picture of how dealers enter into the registration and recall process for many consumers. The dealer survey was conducted primarily for anecdotal information. Thus, the data were treated as a random sample and no weighting was applied.

5.2.1 Dealer Information

The majority of the respondents queried (51.9 percent) stated their job title was department manager, while 18.5 percent were store managers and 20.4 percent the president/owner of the store. Sales associate and buyer were each noted once (1.9 percent) as job titles, and 5.5 percent did not state a job title.

Ages of the respondents range from 23 to 61, with a median age of 37 years. The time they stated having been employed at the store ranged from one to 26 years, with a median of six years. When asked how long they had worked in the same department, their responses again ranged from one to 26 years, but with a median of three years.

The large majority of respondents in this survey were higher level and/or supervisory employees. For the most part, they had a fair amount of experience at both the store and the specific department in which they were employed. They were overall likely to be quite knowledgeable about store policy and activities regarding child seat recalls.

To get a better portrayal of the stores, dealers were asked how many child seats were typically sold per month. Responses ranged from three to 800. About half sold 45 or fewer seats in a month, with another 25 percent selling 50 or 60 monthly. About eighteen percent sold over one hundred seats per month. Each type of store reported, in at least one instance, selling at least one hundred seats monthly.

Dealers were also asked about the number of different kinds of child safety seats they typically kept in stock. About seven percent sold three or fewer types, eleven percent offered four to six, 24 percent had seven to ten, and one-third stocked eleven to fifteen types. Twenty-four percent of the respondents said that they normally had more than fifteen types of seats available in stock. Specialty stores were most likely to report offering more than fifteen types of seats, and boutique stores more frequently offered three or fewer types. Stores in the midwest most often reported having the largest selection.

5.2.2 The Dealer Viewpoint on Registration

Respondents were asked how familiar they felt they were with the requirements for registering child safety seats. About thirty percent said they were 'Not at all familiar' while another thirty percent said they were 'very familiar.' Ten to fifteen percent selected each of the three options in between. Boutique and specialty stores were more likely to report being very familiar with the requirements, while department stores did not feel they knew much about the requirements. Dealers in the midwest expressed the most familiarity with the requirements, while those in the south reported knowing the least about them.

When asked how important they thought it was to register child seats, nearly seventy percent said it was very important. Discount stores placed less importance on registration than did the other types of stores. Stores in the east and midwest were less likely than the other regions to feel that registration was 'Very important.'

Dealers were asked whether child seat manufacturers took steps to encourage store employees to increase registration. Only three respondents (less than six percent) said they did. These three came from three different store types and three different regions. All three mentioned the registration card itself, either its presence or the information it provides. Two of the responses simply noted the cards, and it is not clear whether it was meant that the card itself was the encouragement or whether manufacturers went out of their way to mention it to store employees. The third dealer said he was encouraged to inform the customer that they needed to mail in the registration card in order to be notified of recalls by the manufacturer.

Dealers were also asked whether any groups encouraged store employees to work to increase child seat registration. While only 5.6 percent of those surveyed said this occurred, all three stores were in the west. One store employee stated that the Washington State Safety Restraint Coalition had provided car seat safety certification, and that he now trains store employees. Another stated that all employees encouraged

this, with the goal that a customer well served would return to the store for future purchases. The final group mentioned was a store safety committee.

5.2.3 Registration Information Dealers Provide to the Consumer

Dealers were asked whether they typically provided information to customers about how child seats are registered. Fifty-four percent said they did provide information – 19 percent stated they provided only general information about registration, and 35 percent reported they also provide information about the registration form. Stores in the midwest provided information most frequently, 75 percent of the time. Only one-third of the stores located in the east provided information on registration. Discount stores were the least likely to offer information, doing so only 42 percent of the time, while 69 percent of specialty stores stated they offered information.

When asked if their store provided information on why (rather than how) child seats should be registered, 43 percent of the stores stated they did. Only 20 percent of stores in the east provided this information, while two-thirds of the stores in the midwest did so. Specialty and boutique stores gave this type of information about seventy percent of the time, while department stores did so only fifteen percent of the time, and discount stores only ten.

Overall, 46 percent of dealers stated that they encouraged customers to register the seats they purchased. Two-thirds of the stores in both the west and midwest did so, as did 75 percent of boutique stores. Only one in five stores in the east encouraged registration, as did about a third of stores in the south. Stores that did encourage consumers to register were then asked what percentage of those customers said they would register the child seat. Forty-four percent of dealers stated that more than 75 percent of their customers said they would register the seat. Department stores were the least likely to report that more than three-fourths of customers would register seats.

5.2.4 Dealers and Recall Information

Dealers were asked how their store finds out about child safety seat recalls. The percent of respondents selecting each response is presented in Exhibit 5-4. Respondents were permitted to select multiple answers, so the total sums to more than 100.

Exhibit 5-4: Methods by which Dealers Learn about Child Seat Recalls

Method	Percent
Letter from the manufacturer	75.9
Television announcement	37.0
Notified by store management/headquarters	55.6
Read in magazine/newspaper	20.4
Saw on internet	7.4
Notified by consumer group	14.8
Other	7.4

Other methods through which dealers became aware of recalls were customers, their distributor, a buying group, and e-mail. The source of this 'other' e-mail was not stated, but several other dealers mentioned e-mail communications from company headquarters, which were included in the group 'Notified by store management/headquarters.'

Dealers were also asked what they felt were the most effective methods for stores to find out about child seat recalls. Results are presented in Exhibit 5-5, and again, multiple responses were allowed.

Exhibit 5-5: Methods Dealers feel are Most Effective to Learn about Child Seat Recalls

Method	Percent
Letter from the manufacturer	85.2
Television announcement	14.8
Notified by store management/headquarters	46.3
Read in magazine/newspaper	9.3
Saw on internet	5.6
Notified by consumer group	25.9
Other	7.4

The overwhelming majority felt that a letter from the manufacturer is the most effective method for stores to learn about child seat recalls. This coincides with data from the previous table, stating that this is, indeed, how most stores find out. Similarly, about half felt that being notified by store management and/or headquarters was effective, which was close to the percent noting they learned of recalls that way. While more than a third of the dealers said that they learned of child seat recalls via television announcements, only a small percentage thought this was an effective method. Methods mentioned by dealers selecting "other" were e-mail from the manufacturer and getting information from the buyer.

The majority of dealers (81.5 percent) said they informed customers about child seat recalls. Every store surveyed in the midwest reported notifying consumers about recalls. The lowest percentage was in the south, where only two-thirds of the stores provided recall notifications. Likewise, all of the department stores that were asked said that they did inform customers about recalls, while only 61.5 percent of child specialty stores did so.

Respondents were asked in what ways they informed customers about recalls. Posting signs in the stores was the most frequent method employed. Overall, 86.8 percent of dealers that stated they informed consumers of recalls did so by posting signs, most frequently at the front of the store or near the child seat stock. Discount stores were the only type of store to report posting notices in both locations. In fact, the majority of discount stores that notify customers about recalls posted in both locations, which would be especially helpful in this type of store because of the size. One department store mentioned placing an ad in a newspaper along with posting signs. A few stores, most

frequently boutiques, said they informed the consumer directly, either phoning if they had a record of the sale or by recognizing them on a return visit. This type of personalized service would be very difficult to offer in the larger types of store. The small boutiques usually often posted notices as well.

Dealers were then asked what methods they felt were most effective for consumers to learn about recalls. Data are presented in Exhibit 5-6. Multiple responses were allowed.

Exhibit 5-6: Methods Dealers feel are Most Effective for Consumers to Learn about Child Seat Recalls

Method	Percent
Letter from the manufacturer	81.5
Television announcement	68.5
Dealer announcement	20.4
Read in magazine/newspaper	38.9
See on internet	20.4
Notify by consumer group	14.8
Hear from friend or relative	3.7
Other	1.9

Not surprisingly, a letter from the manufacturer was felt to be effective by a large number of respondents. However, television announcements were also thought to be quite effective for consumers, although these same dealers did not think this an effective method by which they, the dealers, would find out about a recall.

Similarly, reading about a recall in a newspaper or magazine, or on the internet, were thought by dealers to be effective for consumers but not for themselves. Only about one in five dealers thought a dealer announcement was an effective method. In actuality, none of these methods was noted by a large number of consumer respondents stating how they had first learned of the recall (Exhibit 4-11). A very small number of dealers thought that a consumer hearing about a recall from a friend or relative was an effective method, although a number of consumers reported first learning of it this way.

5.2.5 Dealer Experience with Recalls of Seats still in Stock

When a recall occurs, the manufacturer must instruct dealers on what to do with seats currently in stock. Two dealers, both child specialty stores, did not report ever having had a child seat in their store recalled. The remaining dealers were asked how clear such instructions typically were. Thirty-eight percent felt the instructions were extremely clear, and another 35 felt they were very clear. Nineteen percent considered them fairly clear, while "somewhat clear" and "not at all clear" were each reported by four percent of the dealers.

Boutiques were the only type of store to indicate that the instructions were "not at all clear," while discount stores were the most likely to feel instructions were at least "very clear." Moreover, the majority of discount stores (53%) said instructions were

"extremely clear." No store in the east or midwest felt manufacturer's instructions were "not at all clear," and midwestern stores were the most likely to feel instructions were at least "very clear."

Those dealers experiencing a recall in the past were then asked how the recall was resolved. Choices offered, and the percent each one was selected, are presented in Exhibit 5-7. Respondents were permitted to select multiple responses, so they sum to more than 100 percent.

Exhibit 5-7: Dealers – How recall of Child Seat was Resolved

How Resolved	Percent
Manufacturer replaced them	53.8
Manufacturer sent parts	46.2
Manufacturer fixed them	24.4
Manufacturer credited store	65.4
Manufacturer had customer call	5.8
Seats were not fixed or replaced	0.0
Other	1.9

Respondents were given a choice of options for this question, including "other," for which they would then specify additional information. Three dealers said that the manufacturer provided a telephone number for the customer to call. The question referred to child seats that were unsold when recalled, but it is possible that the respondent misunderstood the question. They may have mistakenly answered regarding recall response after the seat had been sold, rather than while it was still in stock.

Another dealer specifying "other" said that the method to resolved recalls varied, but did not identify any specific ways. The most common method of resolving child seat recalls, at the dealer level, was the manufacturer crediting the store. This was followed by the manufacturer replacing the seats, and then by sending parts for the dealer to perform the repair.

Those dealers that were sent parts to repair seats were asked how easy it was to understand the directions. Two-thirds of the dealers reported that the instructions were either "very" or "extremely easy" to understand. Only one dealer, a discount store, felt instructions were "not at all easy" to understand. The dealers were also asked how easy it was to actually fix the seats in question. About half felt it was at least "very easy" to repair the seats, and none reported that it was "not at all easy."

5.3 Conclusions

The stores participating in this survey were not a nationally representative sample. An attempt was made to represent the four types of stores identified, and the four U.S. census regions. Beyond that, however, no claim is made regarding their representation. Stores were contacted that declined to participate, and their inclusion may have influenced the outcome. However, the participating stores do sell child safety seats, and the majority

have experienced recalls of such seats. Generalizations refer only to the stores included in the survey, although of course similar tendencies may apply to other stores of the same type and/or in the same region of the country.

Boutique stores, because of their small size, do not offer as broad a selection of seats as their larger competitors. What they can offer, however, is greater familiarity with their customers. These stores were the most likely to recognize customers and personally speak to them about a recall. These stores were also among the most familiar with registration requirements.

Child specialty stores were also familiar with these requirements, and the most likely to provide information on registration. They also had the largest selection of child seats. However, they were the least likely to report notifying customers about recalls.

Stores in the midwest reported the largest selection of seats. They also tended to be familiar with registration requirements and encouraged customers to register their seats. Midwestern stores also reported high rates of providing registration and recall information.

Dealers most often became aware of recalls through a letter from the manufacturer and/or by being notified by store management or headquarters. The larger groups of stores often mentioned e-mail alerts from headquarters, a fast and efficient way to get information out to individual stores. This seems to be working well.

When a recall does occur, dealers rarely find the manufacturer's instructions on how to proceed difficult to understand. In cases where the dealer was to perform the repair, both the instructions and performing the repair were not difficult.

Dealers seem reasonably knowledgeable about the registration and recall processes. They currently receive little encouragement from either child seat manufacturers or other groups to promote registration to their customers. Since a consumer is more likely to register his or her child seat if registration is mentioned at the time the seat is acquired, such encouragement could be very beneficial to the process. Even so, at present, the majority of dealers stated that they do provide information to customers about registration. A very low percent of consumers in the General survey recalled speaking to anyone at a store when the seat was purchased. However, information may have been provided in other ways, such as signs posted near the seats or brochures available at the checkout.

Dealers should be encouraged to continue providing information and advocate registration. Both public and private safety groups should do more to encourage dealers in this respect. The point of purchase provides an excellent opportunity to reach a large number of child seat owners to encourage registration. As seen in the General (Consumer) Survey, this can make a difference in whether a person registers or not. Sponsoring a program in which dealers mention registration and/or provide a brochure with registration information to give to purchasers at the time of the sale could provide a

substantial increase in child seat registration. The addition of posters to the child seat section of the store would create an even more complete program. Local grassroots organizations could work with local retailers, both small boutiques and larger stores, to emphasize child seat registration. Regional and nationwide organizations could introduce programs on a larger level, working with discount, department, and child specialty stores with multiple locations. NHTSA could sponsor and support some of these programs.

In addition, dealer personnel should do more to encourage consumers to register their child seats. There already exists a successful means of communication throughout stores with multiple locations. Much of this is instantaneous, via e-mail. Reminders, including graphical items such as signs to post, could easily be sent to individual stores from headquarters. If management places importance on child seat registration, employees will follow. An added benefit for the store is good public relations, being seen as a company that cares about children beyond the sale. This would then result in a greater number of child seat owners to be aware of recalls, which in turn results in greater child safety.

Dealers clearly play an important intermediary role between the child seat manufacturers and consumers. Communicating information regarding registration can substantially increase the registration rate. Retailers also serve as an information point in the event of a recall. Typically, parents of young children return to the place at which they purchased their child seat, regardless of the type of store it is, for other child-related purchases. Recall notices seen on subsequent visits can alert them if their seat is non-compliant. Discount stores were less likely to provide information on registration at the time of sale, and department stores reported little knowledge of the registration process. To the extent that such stores represent a large share of the child seat market, there is a clear opportunity to improve dealer-level communication about the registration process.

Chapter 6: The Role of Loaner Programs in Child Seat Registration

Like dealers, child safety seat loaner and giveaway programs serve as an intermediary between manufacturers and consumers. Interviews were conducted with nine community-based programs that either lend seats to consumers or give them away at low or no cost. These interviews focused on whether and how such programs register their seats, and how they manage child seat recalls. They also examined what kind of information, if any, such programs provide to consumers regarding the registration and recall processes.

The information is presented here to give an overview of how a number of child seat loaner programs operate. The programs are not nationally representative, and generalizations cannot be made beyond the programs sampled. Loaner programs function at the local level, and operate by methods designed to best suit their specific clientele. Therefore, policies are individualized to meet the needs of those participating in, as well as sponsoring, the particular program.

6.1 Loaner Program Interview Background

Less than one percent of child seats belonging to participants in the Consumer survey were obtained from loaner programs (Section 3.2.5). In NHTSA's 1998 Motor Vehicle Occupant Safety Survey[1], about one percent of respondents using child seats reported obtaining them from a loaner program.

Programs to be interviewed, identified through an internet search, were selected to provide diversity on two key characteristics – organizational affiliation and type of service. A loaner program loans a seat to a family for a small fee. The seat is expected to be returned to the program and loaned again to another family. In low-cost giveaway programs, new seats are bought by the participants at a reduced price and become their property. Child seats that are rented through a car rental agency are not included in such programs.

Identified programs received a telephone call, during which the study was described, and an interview with program staff requested. Letters with discussion topics were faxed to the program office, in order to give the staff members time to review them prior to the interview. A follow-up call was then made to schedule the interview. The telephone interviews were conducted between December 1999 and March 2000. Each interview lasted approximately 25 to 45 minutes.

Nine programs were interviewed. Two of these programs were operated by the same institution, and thus one interview covered both programs. Five programs in the sample were affiliated with hospitals and four with public health agencies. In addition, five of the programs were low-cost "giveaway" programs, while the remaining four were loaner programs. Unless specifically looking at programs that loan seats as distinct from those

that give them away or sell them at low cost, the term "Loaner Program" will be used to refer to all these types of programs.

6.2 Loaner Program Demographics

The programs interviewed had been in existence between two and nineteen years. Three programs had existed for nineteen years and another for eighteen. These older programs appear to have been founded in response to laws requiring the use of child safety seats, providing a resource for families who otherwise could not have afforded a seat.

Programs interviewed provide from 100 to 1,000 seats each year. In most cases, the loaner programs had a much lower volume, three of the four loaning 100 seats annually. The fourth program loaned 800 seats each year. One giveaway program sold 150 seats each year, but the remaining ones sold 350 or more each year.

Child seat loaner and giveaway programs typically have participants come to the program site to receive some measure of training. Usually this consists of a short video and/or demonstration on the correct use and installation of the child seat. Participants read and sign a contract or waiver form, and provide some amount of personal information, such as name, address, and telephone number.

Funding sources can be public or private. Programs operated by public health agencies rely on Federal and State fund and grant money to purchase seats. Hospital-affiliated programs receive private donations and also use public funds to purchase seats. One of the programs interviewed is currently supported by grant money obtained from a hospital. Another was originally funded with a grant from the Department of Transportation, but currently operates through a local health department. Other sources of funding mentioned were insurance companies and local National Basketball Association players.

Two of the programs began as loaner programs, but are currently giveaway programs. Problems with seats not being returned, or returned damaged, were mentioned. Another program operates as a loaner program, but noted that it has few re-rentals because of damage or non-return. One program staff member stated seeing program loaner seats for sale at yard sales.

Most of the programs charge between $10 and $25 for the use of the seat, whether loaner or giveaway program. One loaner program charges half the purchase price, and one of the giveaway programs asks only that participants donate what they can, if they are able to contribute at all.

Four of the programs require that participants meet specific low-income requirements. Some have residency requirements in addition to, or instead of, income limits. In general, public health agency affiliated programs were more likely to have strict eligibility criteria. Two of the programs serve needs other than low-income families. One of the programs is used primarily by grandparents, loaning seats for short-term use for visiting grandchildren. The program has only twenty seats, but notes about 100 to 150 rentals per year. This popular program serves a need in its community. Another

program targets parents of special-needs children. Because the seats are designated for children with special medical problems, parents usually learn of the program from hospital staff. Recipients of this program are more economically diverse than most of the other programs.

Some programs specialize in certain types of seats, such as only loaning infant seats. Many of the programs interviewed offer some combination of infant, toddler, convertible, and booster seats.

Two programs do not have any stated requirements or targeting criteria, but their outreach programs are designed to reach those who could most benefit from the program. Outreach for all the various programs is done at such places as health fairs, police departments, and hospitals. Specific methods of outreach mentioned by program staff were bulletin boards, newsletters, announcements in pre-natal classes, word of mouth, and referrals.

None of the organizations record demographic data on participants. Two respondents attempted to estimate the age of participants, one saying 15 to 21, and the other 20 to 25. Those that were able to characterize the race and ethnic makeup of participants mentioned African-American (four programs), Hispanic (three), and white (one). There was overlap among the populations, and five programs were unable to provide any description.

The interviews revealed that the length of the loan period (for loaner programs) is typically based on the type of seat. Infant seats are typically loaned for nine months, toddler and booster seats for up to three years. The program loaning special-needs seats provides them for children with medical problems. The seats are usually only needed for up to nine weeks during post-surgical recovery. The loaner program targeted at grandparents loans seats generally between three days and six months.

6.3 Loaner Programs and Registration

Seven of the nine programs have procedures by which staff members register the seat, thereby ensuring the seats are registered with the manufacturer. In these programs, the cards are completed either by the participants themselves or by program staff, and then mailed (usually by program staff) to the manufacturer. Generally, programs register seats in the name of the program rather than the participant. However, this is not always the case. One loaner program has the first recipient of a new seat register the seat in his or her name. If the seat is returned and loaned to another participant, the registration is not updated.

Two programs did not provide for or encourage registration. Furthermore, these programs did not even discuss registration with their participants. Both of these were giveaway programs, in which case program staff would have no further knowledge of the seat in question. In these programs, it is completely up to the participants to register their seats. In such cases the likelihood of seat registration is, at best, the same as with seats purchased new from a dealer.

Overall, the program either takes complete responsibility for registering the seat, or none at all. It certainly would be beneficial if all programs registered the seats themselves, or at least would mention registration to participants at some point, thereby increasing the likelihood that it will be done.

6.4 Loaner Programs and Recalls

All programs contacted create log-sheets of the information collected from participants. In most of the programs, these are used to track participants in the event of a recall. However, none of the programs has any procedure to ensure the accuracy of this information. In addition, if a participant moves and does not update his/her new contact information, the program would be unable to communicate information about a recall. Thus, the effectiveness of these log-sheets is limited by the willingness and ability of the participants to keep their information with the program current.

Eight of the nine programs contacted do some type of recall monitoring. Some programs actively monitor recalls by looking through periodicals that report recalls and/or checking NHTSA's web site. Other methods mentioned were receiving recall lists and mailings from manufacturers. Two programs, both affiliated with public health departments, do not monitor recalls themselves, but rely on another local agency (in these cases, a hospital and a local police department) to monitor recalls for them.

It is noteworthy that several of the giveaway programs continue to monitor recalls and, if possible, notify participants when one occurs. Both programs that did not discuss registration with participants did monitor recalls. One of these programs developed a public service announcement alerting recipients to a recall involving a seat another agency had distributed.

Three of the nine interviewed programs had experienced a recall in the past. Two of these were loaner programs associated with public health departments. The third was a hospital-affiliated giveaway program. The giveaway program, where seats are currently registered in the program's name, experienced a recall about thirteen years ago. The respondent could not remember details, but did know that the program contacted families with the recalled seats and distributed repair kits, which the participants themselves installed. One of the loaner programs, which also currently registers seats in the name of the program, experienced a recall about ten years ago. Staff members contacted participants by mail. Clients responding to the mail brought the seat to the program office, where program staff installed the repair kit. In fact, many of the participants had heard about the recall on the news and contacted the programs before notices had been mailed by the loaner program. Overall, 200 of the 300 program participants involved in this recall returned to have their seat fixed. The other loaner program experiencing a recall was the one that currently registers seats in the name of the first participant to use the new seat. None of the involved seats was on loan at the time, so program staff repaired the seats with the kits sent by the manufacturer. No estimate of the time of this recall was given, but at least two of the experienced recalls occurred prior to the registration card requirement. The programs, and even the seat owners, became aware of the recalls by means other than notices from the manufacturers.

6.5 Conclusions

Local programs exist to meet the needs of those they serve. Parents needing a seat in order to transport their newborn home from the hospital and grandparents needing to use a seat for a few days or weeks when a grandchild visits, as well as low-income parents who otherwise could not afford a child seat, are able to obtain a seat easily and at a low cost. In most cases the programs go a step further, making sure the seats are registered, seeing that the children continue to be protected should a recall occur.

All of the interviewed loaner and giveaway programs provide some type of training on how to use and install child safety seats. Most of the programs have registration procedures in place to ensure that seats in their program are registered with the manufacturer. All three instances where seats used by one of the programs were recalled were managed successfully. All programs retain contact information on participants that can be used to inform them of a recall. However, the cooperation of participants is necessary for this to be effective. They must keep their contact information current, and must also respond if the seat they are using is involved in a recall. For those programs that register the seat in their own name, participants must respond when contacted by the program. Programs that register the seat in the participants' names rely on the individual to have the seat repaired. Those few programs that do not discuss registration rely on the participants to both mail in the card and, should the need arise, respond in the event of a recall. Programs can also contact these owners using their records of seat models loaned and contact information, if the information is current.

There are some areas in need of improvement. Principally, those programs that neither register their seats nor discuss registration with participants are missing an opportunity to further their goal of increased child safety. In addition, the loaner program that registers the seat in the name of the initial recipient, and doesn't update the information on subsequent loans, might find more success using an alternate method. However, most of the programs (eight of the nine) do monitor recalls, and all keep records of how to contact participants. In addition, when recalls do occur, these programs use a variety of methods to make sure participants are informed.

Chapter 6 Footnotes

1. *1998 Motor Vehicle Occupant Safety Survey Volume 3: Child Safety Seat Report*. DOT HS 809-182, U.S. Department of Transportation, National Highway Traffic Safety Administration, Washington, DC, 2000.

Chapter 7: Costs and Benefits

Requiring a registration card to be attached to each child seat manufactured has increased the number of seats registered as well as the number repaired. The total cost to consumers for child seat registration and notification is approximately $2.6 million annually, or 43 cents per seat sold in the United States. This report estimates that an additional 20 to 40 thousand child seats involved in recalls are repaired each year because of the registration card requirement. The cost per child seat repaired is estimated to be between $66 and $132, close to the current cost of a new convertible child seat.

7.1 Background: Cost Estimates in the Final Regulatory Evaluation (1992)

At the time the registration rule was issued, NHTSA estimated that related increases in the manufacturers' production cost would be $0.20 to $0.22 for high volume manufacturers, and $0.40 to $0.53 for medium volume manufacturers, per restraint, with a weighted average cost of $0.34.[1] These estimates, from the Final Regulatory Evaluation published in 1992, were in 1990 dollars. At the time there were two high volume and four medium volume manufacturers. Medium volume manufacturers were defined as those producing between 100,000 and one million seats per year, while high volume manufacturers produced over one million seats annually.

Based on information from the manufacturers, the agency determined the markup from manufacturing cost to retail price is 2.37 times. This would result in a consumer cost of $0.47 to $0.52 per restraint for high volume manufacturers, and $0.95 to $1.26 for medium volume manufacturers. While there were a few manufacturers with smaller numbers of sales, whose costs were estimated to be twice that of the medium-sized manufacturers, they sell such a small number of seats that including them would not have a meaningful effect on the weighted cost average. NHTSA estimated that the average cost increase would be $0.80 per child restraint. With annual sales (at the time) of 4.5 million child seats, the total cost was estimated to be about $3.6 million per year. (Currently, about six million child seats are produced annually.)

The ranges of costs above resulted from the differing estimates of the return rate of registration cards (30 to 40 percent), and a range of estimates for record keeping costs for the medium volume manufacturers. As the return rate increases, the cost per card would become lower while, of course, the total cost will increase. The weighted average of $0.80 per child restraint was based on a 35 percent return rate.

At the time of the rule, the price of infant seats averaged about $30, with a range from $20 to $82. The price of convertible seats ranged from $45 to $120, with an average price of $50. The child restraint market has not historically been a high profit industry. If the total expense of the registration card (the average 80 cents per seat) were added to the child restraint rather than taken out of manufacturers profits, it would have increased the price of a typical infant seat by 2.7 percent, and a typical convertible seat by 1.6 percent.

7.2 Updated Estimate of Costs Associated with Child Seat Registration

There are several sources of expenses to consider in determining the overall cost of amending FMVSS 213 to require registration cards accompany all child seats sold. The cards themselves are produced and attached to every child seat that is manufactured. These costs are realized regardless of whether the consumer actually registers the seat, and whether or not a recall occurs.

The number of child seats produced each year varies by manufacturer. Using available production data from 1994 through 2000 provided to NHTSA by the manufacturers, an average number of seats manufactured each year was determined for each manufacturer. Total production averaged 6,115,000 seats per year, including 6,000,000 by high-volume manufacturers and 115,000 by medium volume manufacturers.

When a consumer completes and mails the form, the return postage cost is then realized. In addition, expenditures must be made for recording and storing the information. The remaining costs involved occur only if there is a recall. These involve mailing the recall notification to the consumer. The actual costs involved to repair the seat, which can range from mailing a label to the consumer to providing a replacement child seat, will not be counted as a "cost of registration," even though higher registration rates will increase the number of seats actually repaired in a recall.

Several costs were estimated in the Final Regulatory Evaluation (FRE). For costs that would not be expected to change, the same estimates will be used. Costs in the FRE were expressed in 1990 dollars. These costs will be adjusted to 2000 dollars in the present report, obtained by multiplying costs by 1.237, according to the U. S. Department of Commerce Bureau of Economic Analysis's Implicit Price Deflator for Gross Domestic Product.

7.2.1 Cost of the Registration Card

Cost estimates in the FRE were obtained by summing several individual sources. The cost of cutting and printing the cards themselves was estimated to be $0.02 (in 1990 dollars), regardless of the size of the manufacturer. An additional cost of $0.05 per seat would be required for materials needed to attach the card to the child seat. The method of attachment is left up to the manufacturer, as long as it is attached to any surface of the restraint that will make contact with a child properly placed in the restraint. This is to assure the seat owner will notice the registration card.

In addition to providing a postage-paid registration card, manufacturers are also required to attach a label to the car seat. The purpose of the label is to provide information on child seat registration, particularly for consumers who are not the original owners of the seat. If a seat were obtained secondhand, the registration card would no longer be attached. Therefore, the label provides a phone number and/or mailing address that subsequent owners can use to register the seat. The estimated cost of this differed by the number of seats produced by the manufacturer. High volume manufacturers were expected to spend $0.04 per child seat for labeling, and medium volume manufacturers, $0.07.

In combination, printing and attaching the card and label would cost high volume manufacturers $0.11 per each child seat produced, and medium volume manufacturers, $0.14. Multiplying each of these by 1.237 gives the equivalent in 2000 dollars, $0.14 for high volume manufacturers, and $0.17 for medium volume manufacturers. Thus, the cost of the label and registration card, for each seat manufactured, would be:

$$(\$0.14 \times 6{,}000{,}000) + (\$0.17 \times 115{,}000) = \$859{,}550$$

This would be the actual cost incurred by the manufacturers. Using information provided by the manufacturers, the FRE estimated the price markup from manufacturing cost to retail cost to be 2.37. Thus, the consumer cost is:

$$\$859{,}550 \times 2.37 = \$2{,}037{,}134$$

This would be the cost to consumers for producing and attaching the label and registration card to each child seat produced.

7.2.2 Cost of Returned Registration Cards

According to the United States Postal Service Business Office, there are four payment options for business reply mail (BRM). Each of the four alternatives requires an annual permit fee of $125. Basic BRM would be used for the smallest volume mailings, as the cost per piece is the charge for first class postage plus 35 cents per piece. Since the registration reply is a card, rather than a letter, the charge would be the 21 cents postage plus the per piece charge, for a total of 56 cents per piece. High-Volume BRM is available at an additional annual accounting fee of $375. With this option, the postage for each card remains the same, but the per piece charge is ten cents. Thus, the annual cost is $500 ($125 + $375), with a per piece cost of 31 cents. This is best suited if the return volume is approximately 1,500 pieces or more per year. If barcoded automation compatible cards are used, then Qualified Business Reply Mail (QBRM) can be used. This also requires the annual permit and accounting fees totaling $500, but qualifies for a lower QBRM automation First-Class Mail postage rate. For cards, this postage cost is 18 cents, added to a five cent per piece charge, for a total cost of 23 cents per piece. Finally, High-Volume QBRM also requires the annual permit and accounting fees, as well as an additional quarterly fee of $1,800. The postage for each card is the same as for QBRM (18 cents), but the per piece charge is reduced to one cent, for a total of 19 cents per piece. This is best suited if return volume is approximately 45,000 pieces or more quarterly.

Each of the three large volume manufacturers would expect to receive more than 180,000 (4 x 45,000) returned registration cards annually. The most cost effective option for them would be the High-Volume QBRM. For the medium volume manufacturer, producing an average of 115,000 seats per year, the registration rate of 27 percent would yield about 31,000 cards per year. The QBRM would be most cost effective for this manufacturer.

To determine the total annual cost of the returned registration cards, the yearly and the total cost per piece must be used. Assuming the appropriate QBRM is used by each

manufacturer, this would cost each of the three high volume manufacturers the annual permit fee of $125, the annual accounting fee of $375, and four quarterly High Volume QBRM fees of $1,800, for a total of $7700. The cost for all three manufacturers would total $23,100. Using a registration rate of 27 percent, the number of cards returned to these manufacturers would be (0.27 x 6,000,000) or 1,620,000. At a cost of 19 cents per piece, this totals $307,800. Added to the yearly charge, this results in a cost of $330,900 for the high volume manufacturers.

For the medium volume manufacturer, the annual permit and accounting fees would total $500. The QBRM cost of 23 cents per piece, plus the annual fees, would result in an annual cost of [$500 + (0.27 x 115,000 x 0.23) = $7,642. The total return postage cost for all child seat manufacturers would then be $330,900 plus $7,642, or $338,542. Because year 2000 data is the most recent used, and costs are expressed in year 2000 dollars, postage prices in effect in the year 2000 are used for all calculations.

Manufacturers are permitted to retain purchasers' information by any method that would allow retrieval in the event of a recall. Large manufacturers indicated that they had available storage facilities for all required recordkeeping. Smaller manufactures might find it more cost effective to hire an outside records retention firm to manage the data. Recordkeeping costs are estimated to be about $.04 per returned card for the high volume manufacturers. Estimates for medium volume manufacturers range from $0.25 to $0.38. Using the midpoint gives an estimate of $0.315 per returned card. These costs are based on costs estimated in the FRE, updated to 2000 dollars.

As stated earlier, approximately 27 percent of consumers return the registration card. Therefore, the storage cost to manufacturers for each returned card is:

$$[(\$0.04 \times 6{,}000{,}000) + (\$0.315 \times 115{,}000)] \times .27 = \$74{,}581$$

The total of return postage plus storage costs, for all manufacturers, is $338,542 + $74,581, or $413,123.

This is still a cost of doing business for the manufacturer, but not one that involves the retailer. Since cards are mailed directly to the manufacturer by the consumer, and the dealer is not involved in the transaction, there is no dealer profit involved. Thus, while there would be some markup expected for the consumer by the manufacturer, it would not be the factor of 2.37 used above. The wholesale or dealer cost markup of 1.33 is used for vehicles as well as original equipment components or parts in NHTSA cost analyses of safety equipment.[2] The same markup will be assumed for wholesale costs incurred for child seats, in this case the cost of returning the registration card. The cost to consumers would then be:

$$\$413{,}123 \times 1.33 = \$549{,}454$$

This is the cost of the cards that are returned and the data stored. The rate of return obviously affects this cost. If more people registered their child seats, the total cost would increase.

7.2.3 Cost of Recall Notification Mailed to Consumers

The costs associated with recall notification are the production and mailing of the notice. The cost of the notice itself will be assumed the same as the registration card. The size of the two-part registration card (the form itself is half of the card, torn off at a perforation from the instructions) is approximately the same as a recall notification card typically mailed to consumers. Thus, the current cost is estimated at $0.03 per card, regardless of the volume of the manufacturer.

The cost associated with mailing the notification is based on the size of the card, considered letter rate, and the method by which the cards are pre-sorted. The current cost to mail an 8 ½ by 5 ½ card at the First Class pre-sorted 3-digit zip code rate is $0.269 per card. The cost is the same regardless of the number of cards mailed, but the rate requires that at least 150 pieces be sent to a 3-digit zip code, each covering a major metropolitan area. Therefore, at this postal rate, the total cost of the card to notify consumers of a recall would be $0.299 per card. If fewer than 150 cards were to be sent to any 3-digit zip code location, they would still cost only 28 cents each to mail, provided the appropriate address barcode was printed on each card. The total cost to print and mail each notice would then be 31 cents for those not meeting the 150 minimum for a 3-digit zip code.

Notices are sent to consumers if the child seat they registered is recalled. For estimating the cost of the FMVSS 213 amendment, costs of recall notification mailings would apply only to those experiencing a recall. Thus, the percentage of recalled seats must be determined. This value is greatly affected by the number of seats recalled in a given year. To minimize yearly variations, recall and manufacturing data will be used for 1995 through 1999. For these years, data from each of the three high volume and the one medium volume manufacturer used above are available. An overall average recall rate will thereby be determined.

For recalls involving seats produced in earlier and/or later years as well as the included years for which manufacturing data are available, it will be assumed that an equal number of seats were produced each month, and the appropriate proportional count will be used. With these parameters, there were an estimated total 2,468,921 seats manufactured (by the noted four manufacturers) from 1995 through 1999 that were later recalled. During these same five years, these manufactures produced a total of 31,300,900 seats. Thus, the rate of recall for child seats over these years was 7.89 percent.

Given that 27 percent of seats are registered, and an average of 7.89 percent are recalled, this makes the manufacturers' cost of recall notification:

$$(\$0.299 \times 6{,}115{,}000) \times 0.27 \times 0.0789 = \$38{,}950$$

Again, this cost does not involve the retailer, so the cost to the consumer is then:

$$\$38{,}950 \times 1.33 = \$51{,}804$$

This is the annual cost to all consumers for the mailing of recall notices to those that have registered their child seats. Obviously, the cost depends on the number of seats recalled. Even though seats were manufactured in an earlier year, these costs are realized at the time of the recall. However, given the year-to-year variation, this is the average yearly cost that would be expected.

Exhibit 7-1 summarizes the costs previously determined. Both costs to manufacturers and the final cost to consumers are presented. Note that registration cards are attached to every child seat manufactured and the cost to consumers assumes a 2.37 retail markup. The cost of printing and receiving the registration cards, and mailing recall notifications, do not involve the dealer, and thus assume a wholesale markup of 1.33.

Exhibit 7-1: Costs Associated with Child Seat Registration

	Cost to Manufacturers	Cost to Consumers
Attached Registration Cards	$859,550	$2,037,134
Returned Cards	$413,123	$549,454
Recall Notification	$38,950	$51,804
Total	**$1,311,623**	**$2,638,392**

The cost to consumers for child seat registration and notification is approximately $2.6 million annually.

7.3 Benefits of Required Child Seat Registration Cards

After the seat registration requirement, the rate of recall response (reported in Exhibit 2-4) went from 13.8 to 21.5 percent, an increase of 7.7 percentage points. As noted in Section 7.2.3, there were approximately 2,500,000 child seats recalled over the five-year period 1995 through 1999. This is an average of 500,000 recalled seats per year. Smaller manufacturers are not included in these calculations, and thus the actual total would be somewhat higher. In addition, note that only verifiable recalls were included, such as those involving structural defects. Seats recalled for label errors are not included in the calculations.

Therefore, if the entire increase of 7.7 percentage points of 500,000 recalled seats were repaired because of the required registration card, the result is 38,500 additional seats repaired annually. There has been an increased awareness in child seat safety over the years, and thus the repair rate might have increased somewhat even without the registration card requirement, as discussed in Section 2.3.2. Even if only half of the increase is due to the registration card alone, 19,250 seats are repaired each year because of the registration card attached to each child seat. Thus, an additional 20 to 40 thousand child seats involved in recalls are repaired each year because of the registration card

requirement. This study does not attempt to estimate the number of deaths or injuries prevented because non-compliant seats are repaired.

As determined in Section 7.2, the total consumer cost of the registration card is $2.6 million annually. When the cost of registration is distributed over the six million child seats sold each year, it amounts to 43 cents per seat, which is less than one percent of the cost of a typical new safety seat.

Chapter 7 Footnotes

1. *Final Regulatory Evaluation: Registration of Child Restraints FMVSS 213*. NHTSA, Plans and Policy, Office of Regulatory Analysis, May, 1992.

2. *Cost Estimates of Manual & Automatic Crash Protection Systems (CP's) in Selected 1988-1992 Model Year Passenger Cars Brake Systems Volume 1*. DOT HS 807 949, September, 1992, p. 16.

Appendix A: General Consumer Survey

1. How did you get [this safety seat/these safety seats]? Did you . . **(READ CHOICES)**

   1 ☐ Buy the seat(s)?

   2 ☐ Receive it as a gift? ..... **SKIP TO QUESTION 15**

   3 ☐ Borrow it from a friend or relative? ..... **SKIP TO QUESTION 14**

   4 ☐ Or, borrow it from a loaner program? ..... **SKIP TO QUESTION 13**

   5 ☐ Other

   1a. Specify: _____

   6 ☐ Don't know or refused ..... **SKIP TO QUESTION 13**

2. Did you purchase the safety seat(s) new or used?

   1 ☐ New

   2 ☐ Used

   3 ☐ Don't know or refused

3. Did you buy the seat(s) at a store, on the internet, from a mail order catalog, or someplace else?

   1 ☐ At a store

   2 ☐ On the internet ..... **SKIP TO QUESTION 5**

   3 ☐ From a mail order catalog..... **SKIP TO QUESTION 6**

   4 ☐ Someplace else

   3a. Specify: ..... **SKIP TO QUESTION 7**

   5 ☐ Don't know or refused..... **SKIP TO QUESTION 7**

4. At what type of store did you buy this child safety seat(s)? Was it . . .

   1 ☐ A discount department store, such as Walmart, Target, or K-mart,

   2 ☐ A regular department store,

   3 ☐ A chain child or baby specialty store, such as Toys 'r Us,

   4 ☐ A local independent child or baby specialty store, or

   5 ☐ A second-hand or resale shop

   6 ☐ Other

   7 ☐ Don't know or refused

   SKIP TO QUESTION 7

5. At what type of internet site did you buy this child safety seat(s)? Was it . . .

1 ☐ A direct-sale site that specializes in child or baby products,
2 ☐ A direct-sale site that also sells other types of merchandise, or
3 ☐ An auction site?
4 ☐ Other
5a. Specify: _____
5 ☐ Don't know or refused

SKIP TO QUESTION 7

6. From what type of mail-order catalog did you buy this child safety seat(s)? Was it one that . . .

1 ☐ Specializes in child or baby products, or
2 ☐ Also sells other types of merchandise?
3 ☐ Other
6a. Specify: _____
5 ☐ Don't know or refused

7. How wide a selection of child safety seats was available where you purchased your seat(s)? Would you say there were. . . **(READ CHOICES)**

1 ☐ Not many at all,
2 ☐ A lot to choose from, or
3 ☐ Somewhere in between?
4 ☐ Don't know or refused

8. What was your MAIN reason for choosing the seat(s) you bought?

1 ☐ Recommended by friend/relative ..... **SKIP TO QUESTION 15**
2 ☐ Recommended by government agency
3 ☐ Recommended by non-government agency ..... **SKIP TO QUESTION 10**
4 ☐ Recommended by child/parenting media or publication ..... **SKIP TO QUESTION 11**
5 ☐ Recommended by general/consumer media or publication ... **SKIP TO QUESTION 12**
6 ☐ Brand name reputation/loyalty ..... **SKIP TO QUESTION 15**
7 ☐ Price ..... **SKIP TO QUESTION 15**
8 ☐ Other ..... **SKIP TO QUESTION 15**
8a. Specify: _____
9 ☐ Don't know or refused ..... **SKIPTO QUESTION 15**

9. Record the specific Government agency:

1 ☐ U.S. Department of Transportation/National Highway Traffic Safety Administration (DOT/NHTSA)
2 ☐ U.S. Department of Health and Human Services (HHS)
3 ☐ U.S. Consumer Product Safety Commission
4 ☐ Federal Consumer Information Center (e.g., Pueblo, Colorado)
5 ☐ Other Federal Government Agency
9a. Specify: _____
6 ☐ State Government Agency
9b. Specify: _____
7 ☐ Local Government Agency
9c. Specify: _____
9 ☐ Don't know or refuse

SKIP TO QUESTION 15

10. Record the specific non-government organization:

1 ☐ American Automobile Association (AAA)
2 ☐ American Pediatrics Association (APA)
3 ☐ Insurance Institute for Highway Safety
0 ☐ Other
10a. Specify: _____
9 ☐ Don't know or refused

SKIP TO QUESTION 15

11. Record the specific child/parenting media or publication:

1 ☐ "Child" Magazine
2 ☐ "Mother and Baby" Magazine
3 ☐ "Mothering" magazine
4 ☐ "Parenting" Magazine
5 ☐ "Parents" Magazine
6 ☐ Other child/parenting Magazine
11a. Specify: _____
7 ☐ Child/parenting newspaper column/article or newsletter
11b. Specify: _____
8 ☐ Child/parenting book
11c. Specify: _____
9 ☐ Child/parenting television program
11d. Specify: _____
10 ☐ Child/parenting Internet site
11e. Specify: _____
11 ☐ Other
12 ☐ Don't know or refused

SKIP TO QUESTION 15

12. Record the specific general/consumer media or publication

1 ☐ Consumer Reports Magazine
2 ☐ Good Housekeeping Magazine
3 ☐ Other General/consumer magazine
12a. Specify: _____
4 ☐ General/consumer newspaper article/column or newsletter
12b. Specify: _____
5 ☐ General/consumer book
12c. Specify: _____
6 ☐ General/consumer television program
12d. Specify: _____
7 ☐ Consumer Internet site
12e. Specify: _____
8 ☐ Other
9 ☐ Don't know or refused

SKIP TO QUESTION 15

13. What type of organization lent you the seat(s)?

1 ☐ A hospital
2 ☐ A public health department
3 ☐ A school
4 ☐ A day care program
5 ☐ Other

13a. Specify: _____

6 ☐ Don't know or refused

14. How long did you borrow the seat(s) for?

1 ☐ 1 month or less
2 ☐ 2 - 6 months
3 ☐ 7 - 12 months
4 ☐ 13 - 24 months
5 ☐ More than 24 months
6 ☐ Don't know or refused

15. We know from NHTSA records that you registered the seat(s) with the manufacturer. When you got your seat(s), did anyone provide you information about the registration process?

1 ☐ Yes
2 ☐ No..... **SKIP TO QUESTION 17**
3 ☐ Don't know or refused ..... **SKIP TO QUESTION 17**

16. Who provided you information? **(CHECK ALL THAT APPLY)**

1 ☐ A friend or relative
2 ☐ A store salesperson or manager
3 ☐ A representative from the manufacturer
4 ☐ A loaner program representative
5 ☐ Other:

16a. Specify: _____

7 ☐ Don't know or refused

17. What were your **MAIN** reasons for registering the child safety seat(s)? **(SELECT ALL THAT APPLY)**

1 ☐ To allow notification in case of recall/safety concerns
2 ☐ To provide warranty protection
3 ☐ Was told to
4 ☐ Other #1
17a. Specify: _____
5 ☐ Other #2
17b. Specify: _____
7 ☐ Don't know or refused

18. Now I would like to ask you some questions about the recall. How did you first find out about the recall? **(CHECK ONE)**

1 ☐ Received written notification
2 ☐ Saw an announcement on television ..... **SKIP TO QUESTION 20**
3 ☐ Heard an announcement on radio ..... **SKIP TO QUESTION 20**
4 ☐ Read an announcement in a newspaper or magazine
18a. Specify: _____ **SKIP TO QUESTION 20**
5 ☐ Read an announcement on the Internet ..... **SKIP TO QUESTION 20**
6 ☐ Saw an announcement on a store bulletin board ..... **SKIP TO QUESTION 20**
7 ☐ Heard about it by word of mouth (from a friend or relative) .. **SKIP TO QUESTION 20**
8 ☐ Other
18b. Specify: _____ . **SKIP TO QUESTION 20**
9 ☐ Don't know or refused ..... **SKIP TO QUESTION 20**

19. Who did the notification come from?

1 ☐ From the manufacturer ..... **SKIP TO QUESTION 21**
2 ☐ From the retailer
0 ☐ Other
19a. Specify: _____
9 ☐ Don't know or refused

20. Did you ever receive written notification about the recall from the manufacturer?

1 ☐ Yes
2 ☐ No
9 ☐ Don't know or refused

21. Did the manufacturer ever provide you with instructions telling you what to do until the safety seat(s) was repaired or replaced?

1 ☐ Yes
2 ☐ No.....**SKIP TO QUESTION 23**
9 ☐ Don't know or refused .....**SKIP TO QUESTION 23**

22. How clear were the company's instructions about what to do with the defective child safety seat(s) until it was fixed or replaced? Would you say the instructions were... **(READ CHOICES)**

1 ☐ Not at all clear,
2 ☐ Fairly clear, or
3 ☐ Extremely clear?
4 ☐ Don't know or refused

23. Was the seat(s) fixed or replaced?

1 ☐ Yes .....**SKIP TO QUESTION 25**
2 ☐ No
3 ☐ Don't know or refused .....**SKIP TO QUESTION 28**

24. What were the main reasons it wasn't fixed or replaced?
(SELECT ALL THAT APPLY)

1 ☐ Too busy; never got around to it
2 ☐ Lost/misplaced recall information/replacement parts
3 ☐ No longer owned/used the seat at time of recall
4 ☐ Didn't fell that defect would cause injury
5 ☐ Didn't understand what to do
6 ☐ Didn't meet criteria for recall
7 ☐ Unable to reach manufacturer [specify]
24a. Specify: _____
8 ☐ Manufacturer failed to provide parts/refund/new seat
9 ☐ Other
24b. Specify: _____
11 ☐ Don't know or refused

SKIP TO QUESTION 28

25. How did you get the seat(s) fixed or replaced? Did the manufacturer…

1 ☐ Provide replacement parts,
2 ☐ Replace the seat,..... **SKIP TO QUESTION 28**
3 ☐ Provide a refund,..... **SKIP TO QUESTION 28**
4 ☐ Have you return the seat for repairs, or..... **SKIP TO QUESTION 28**
0 ☐ Did you do something else?
25a. Specify: _____ **SKIP TO QUESTION 28**
9 ☐ Don't know or refused ..... **SKIP TO QUESTION 28**

26. How easy was it to understand the manufacturer's instructions to fix the seat(s)? Would you say it was . . . **(READ CHOICES)**

1 ☐ Not at all easy,
2 ☐ Fairly easy, or
3 ☐ Extremely easy?
4 ☐ Don't know or refused

27. How easy was it to actually fix the child safety seat(s)?
(REPEAT CODES AS NECESSARY)

1 ☐ Not at all easy,
2 ☐ Fairly easy, or
3 ☐ Extremely easy?
4 ☐ Don't know or refused

28. O.K., so far we've talked about child safety seat(s) that you have used. Next I have some general questions about child safety seat registrations and recalls. Generally speaking, how important do you think it is to **register** child safety seats? Would you say it is: (**READ CHOICES**)

1 ☐ Not at all important,
2 ☐ Somewhat important,
3 ☐ Fairly important,
4 ☐ Very important, or
5 ☐ Extremely important?
6 ☐ Don't know or refused

29. How important do you think it is to **recall** unsafe child safety seats? **(REPEAT CODES AS NECESSARY)**

1 ☐ Not at all important,
2 ☐ Somewhat important,
3 ☐ Fairly important.
4 ☐ Very important, or
5 ☐ Extremely important?
6 ☐ Don't know or refused

30. Manufacturers can use a number of different methods to inform people of safety seat recalls. I'm going to read a list of methods, and I'd like you to tell me which method you think would be **most** effective in letting consumers know about recalls. **(READ LIST AND CHECK ONE)**

1 ☐ A letter from the manufacturer to safety seat owners who sent in the registration card,
2 ☐ A television announcement to the general public,
3 ☐ A newspaper or magazine announcement to the general public,
4 ☐ An announcement on the Internet, or
5 ☐ A notice posted in retail stores?
6 ☐ Other

30a. Specify: _____

7 ☐ Don't know or refused

31. Now I'd like to ask just a few questions about you and your family. This information is for statistical purposes only and will be kept confidential. **RECORD GENDER**:

1 ☐ Female
2 ☐ Male

32. What year were you born?

1 ☐ Will provide #
2 ☐ Refuses

32.a **ENTER NUMBER:** |___|___|___|___|

33. How many children under the age of 13 live with you either full- or part-time?

1 ☐ Will provide #

2 ☐ Refuses ..... **SKIP TO QUESTION 45**

33a. **ENTER NUMBER:** |___|___|

34. What [*is his or her age/are their ages*]?

1 ☐ Will provide

2 ☐ Refuses to provide ..... **SKIP TO QUESTION 45**

		(1) Years	(2) Months
35.	Child 1	|___|___|	|___|___|
36.	Child 2	|___|___|	|___|___|
37.	Child 3	|___|___|	|___|___|
38.	Child 4	|___|___|	|___|___|
39.	Child 5	|___|___|	|___|___|
40.	Child 6	|___|___|	|___|___|
41.	Child 7	|___|___|	|___|___|
42.	Child 8	|___|___|	|___|___|
43.	Child 9	|___|___|	|___|___|
44.	Child 10	|___|___|	|___|___|

45. By which of the following racial or ethnic groups do you typically identify yourself . . .

1 ☐ African-American or Black, but not Hispanic
2 ☐ Asian-American or Pacific Islander
3 ☐ Caucasian or White, but not Hispanic
4 ☐ Hispanic or Latino
5 ☐ Native American or Alaska Native
6 ☐ Or some other way

45a. Specify: _____

9 ☐ Don't know or refused

46. Would you say you live in a primarily urban, suburban, or rural area?

1 ☐ Urban
2 ☐ Suburban
3 ☐ Rural
9 ☐ Don't know or refused

47. What is your home zip code?

1 ☐ Will provide #

47a. **ENTER NUMBER:** |___|___|___|___|___|

2 ☐ Refuses

48. What is the highest grade or year of schooling you've completed?

1 ☐ Less than high school graduate
2 ☐ High school graduate/GED
3 ☐ Some college
4 ☐ Associate degree
5 ☐ Bachelors degree
6 ☐ Masters degree
7 ☐ Doctorate/professional degree
9 ☐ Don't know or refused

49. What is your marital status?

1 ☐ Single **SKIP TO QUESTION 51**

2 ☐ Married

3 ☐ Divorced/separated **SKIP TO QUESTION 51**

4 ☐ Widowed **SKIP TO QUESTION 51**

9 ☐ Don't know or refused **SKIP TO QUESTION 51**

50. What is the highest grade or year of schooling that your spouse has completed?

1 ☐ Less than high school graduate

2 ☐ High school graduate/GED

3 ☐ Some college

4 ☐ Associate degree

5 ☐ Bachelors degree

6 ☐ Masters degree

7 ☐ Doctorate/professional degree

9 ☐ Don't know or refused

51. Approximately what is your total annual household income before taxes? Is it above or below $50,000?

1 ☐ Above

2 ☐ Below **SKIP TO QUESTION 53**

9 ☐ Don't know or refused

52. Is it:

1 ☐ At least $50,000, but less than $60,000

2 ☐ At least $60,000, but less then $70,000

3 ☐ More than $70,000?

9 ☐ Don't know or refused

This concludes our survey. Thank you again for your time.

53. Is it:

1 ☐ Under $20,000

2 ☐ At least $20,000, but less then $30,000

3 ☐ At least $30,000, but less than $40,000

4 ☐ At least $40,000, but less than $50,000?

9 ☐ Don't know or refused

This concludes our survey. Thank you again for your time.

Appendix B: Recall Survey

1. How did you get this/these safety seat(s)? Did you . . . **(READ CHOICES)**

- 1 ☐ Buy the seat(s)?
- 2 ☐ Receive it/them as a gift? ..... **SKIP TO QUESTION 15**
- 3 ☐ Borrow it/them from a friend or relative? ..... **SKIP TO QUESTION 14**
- 4 ☐ Or, borrow it/them from a loaner program? ..... **SKIP TO QUESTION 13**
- 5 ☐ Other

  1a. Specify: _____ **SKIP TO QUESTION 15**
- 6 ☐ Don't know or refused ..... **SKIP TO QUESTION 15**

2. Did you purchase the safety seat(s) new or used?

- 1 ☐ New
- 2 ☐ Used
- 3 ☐ Don't know or refused

3. Did you buy the seat(s) at a store, on the Internet, from a mail order catalog, or someplace else?

- 1 ☐ At a store
- 2 ☐ On the Internet ……. **SKIP TO QUESTION 5**
- 3 ☐ From a mail order catalog……..**SKIP TO QUESTION 6**
- 4 ☐ Someplace else

  3a. Specify: _____**SKIP TO QUESTION 7**
- 5 ☐ Don't know or refused……..….**SKIP TO QUESTION 7**

4. At what type of store did you buy this/these child safety seat(s)? Was it . . .

- 1 ☐ A discount department store, such as Walmart, Target, or K-mart,
- 2 ☐ A regular department store,
- 3 ☐ A chain child or baby specialty store, such as Toys 'r Us,
- 4 ☐ A local independent child or baby specialty store, or
- 5 ☐ A second-hand or resale shop.
- 6 ☐ Other
- 7 ☐ Don't know or refused

SKIP TO QUESTION 7

5. At what type of internet site did you buy this/these child safety seat(s)? Was it ...

1 ☐ A direct-sale site that specializes in child or baby products,

2 ☐ A direct-sale site that also sells other types of merchandise, or

3 ☐ An auction site?

4 ☐ Other

5a. Specify: _____

5 ☐ Don't know or refused

SKIP TO QUESTION 7

6. From what type of mail-order catalog did you buy this/these child safety seat(s)? Was it one that . . .

1 ☐ Specializes in child or baby products, or

2 ☐ Also sells other types of merchandise?

3 ☐ Other

6a. Specify: _____

4 ☐ Don't know or refused

7. How wide a selection of child safety seats was available where you purchased your seat(s)? Would you say there were. . . **(READ CHOICES)**

1 ☐ Not many at all,

2 ☐ A lot to choose from

3 ☐ Somewhere in between, or

4 ☐ Was the seat you purchased the only one available?

5 ☐ Don't know or refused

8. What was your MAIN reason for choosing the seat(s) you bought?

1 ☐ Recommended by friend/relative ..... **SKIP TO QUESTION 15**

2 ☐ Recommended by government agency

3 ☐ Recommended by non-government agency ..... **SKIP TO QUESTION 10**

4 ☐ Recommended by child/parenting media or publication ..... **SKIP TO QUESTION 11**

5 ☐ Recommended by general/consumer media or publication ... **SKIP TO QUESTION 12**

6 ☐ Liked feature (s) or appearance of seat ..... **SKIP TO QUESTION 15**

7 ☐ Brand name reputation/loyalty ..... **SKIP TO QUESTION 15**

8 ☐ Price ..... **SKIP TO QUESTION 15**

9 ☐ Other ..... **SKIP TO QUESTION 15**

8a. Specify: _____

10 ☐ Don't know or refused ..... **SKIPTO QUESTION 15**

9. Record the specific Government agency:

1 ☐ U.S. Department of Transportation/National Highway Traffic Safety Administration (DOT/NHTSA)
2 ☐ U.S. Department of Health and Human Services (HHS)
3 ☐ U.S. Consumer Product Safety Commission
4 ☐ Federal Consumer Information Center (e.g., Pueblo, Colorado)
5 ☐ Other Federal Government Agency
9a. Specify: _____
6 ☐ State Government Agency
9b. Specify: _____
7 ☐ Local Government Agency
9c. Specify: _____
8 ☐ Don't know or refused

SKIP TO QUESTION 15

10. Record the specific non-government organization:

1 ☐ American Automobile Association (AAA)
2 ☐ American Academy of Pediatrics (AAP)
3 ☐ Insurance Institute for Highway Safety
4 ☐ Other
10a. Specify: _____
5 ☐ Don't know or refused

SKIP TO QUESTION 15

11. Record the specific child/parenting media or publication:

1 ☐ "Child" Magazine
2 ☐ "Mother and Baby" Magazine
3 ☐ "Mothering" magazine
4 ☐ "Parenting" Magazine
5 ☐ "Parents" Magazine
6 ☐ Other child/parenting Magazine [specify]
7 ☐ Child/parenting newspaper column/article or newsletter [specify]
8 ☐ Child/parenting book [specify]
9 ☐ Child/parenting television program [specify]
10 ☐ Child/parenting Internet site [specify]
11 ☐ Other

11a. Specify: _____

12 ☐ Don't know or refused

SKIP TO QUESTION 15

12. Record the specific general/consumer media or publication

1 ☐ "Consumer Reports" Magazine
2 ☐ "Good Housekeeping" Magazine
3 ☐ Other General/consumer magazine

12a. Specify: _____

4 ☐ General/consumer newspaper article/column or newsletter

12b. Specify: _____

5 ☐ General/consumer book

12c. Specify: _____

6 ☐ General/consumer television program

12d. Specify: _____

7 ☐ Consumer Internet site

12e. Specify: _____

8 ☐ Other

12f. Specify: _____

9 ☐ Don't know or refused

SKIP TO QUESTION 15

13. What type of organization lent you the seat(s)?

1 ☐ A hospital
2 ☐ A public health department
3 ☐ A school
4 ☐ A day care program
5 ☐ Other

13a. Specify: _____

6 ☐ Don't know or refused

14. How long did you borrow the seat(s) for?

1 ☐ 1 month or less
2 ☐ 2 - 6 months
3 ☐ 7 - 12 months
4 ☐ 13 - 24 months
5 ☐ More than 24 months
6 ☐ Don't know or refused

15. We know from NHTSA records that you registered the seat(s) with the manufacturer. When you got your seat(s), did anyone provide you information about the registration process?

1 ☐ Yes
2 ☐ No..... **SKIP TO QUESTION 17**
3 ☐ Don't know or refused ..... **SKIP TO QUESTION 17**

16. Who provided you information? **(CHECK ALL THAT APPLY)**

1 ☐ A friend or relative
2 ☐ A store salesperson or manager
3 ☐ A representative from the manufacturer
4 ☐ A loaner program representative
5 ☐ Other:

16a. Specify: _____

6 ☐ No more apply
7 ☐ Don't know or refused

17. What were your MAIN reasons for registering the child safety seat(s)? **(SELECT ALL THAT APPLY)**

1 ☐ To allow notification in case of recall/safety concerns
2 ☐ To provide warranty protection
3 ☐ Was told to
4 ☐ Other #1
17a. Specify: _____
5 ☐ Other #2
17b. Specify: _____
6 ☐ No more apply
7 ☐ Don't know or refused

18. Now I would like to ask you some questions about the recall. How did you <u>first</u> find out about the recall? **(CHECK ONE)**

1 ☐ Received written notification
2 ☐ Saw an announcement on television ..... **SKIP TO QUESTION 22**
3 ☐ Heard an announcement on radio ..... **SKIP TO QUESTION 22**
4 ☐ Read an announcement in a newspaper or magazine ..... **SKIP TO QUESTION 20**
5 ☐ Read an announcement on the internet ..... **SKIP TO QUESTION 21**
6 ☐ Saw an announcement on a store bulletin board..... **SKIP TO QUESTION 22**
7 ☐ Heard about it by word of mouth (from a friend or relative).. **SKIP TO QUESTION 22**
8 ☐ Other
18a. Specify: _____ **SKIP TO QUESTION 22**
9 ☐ Don't know or refused ..... **SKIP TO QUESTION 22**

19. Who did the notification come from?

1 ☐ From the manufacturer..... **SKIP TO QUESTION 23**
2 ☐ From the retailer ..... **SKIP TO QUESTION 22**
3 ☐ Other
19a. Specify: _____…..…. **SKIP TO QUESTION 22**
4 ☐ Don't know or refused ..... **SKIP TO QUESTION 22**

20. Record the type of publication

1 ☐ General/Consumer Magazine (Time, Consumer Reports)
2 ☐ Child/Parenting Magazine (Child, Parenting, Parents)
3 ☐ Other type of magazine
20a. Specify: _____
4 ☐ Local Newspaper
5 ☐ National Newspaper (E.G., USA Today)
6 ☐ Other type of Newspaper
20b. Specify: _____
7 ☐ Other type of publication
20c. Specify: _____
8 ☐ Doesn't know/remember or refuses to answer

SKIP TO QUESTION 22

21. What type of website was it?

1 ☐ DOT/NHTSA
2 ☐ Other Government
3 ☐ Child/Parenting/Family information
4 ☐ Consumer information
5 ☐ Store
6 ☐ Television/Newspaper/Magazine
7 ☐ Other
21a. Specify: _____
8 ☐ Doesn't know/remember or refuses to answer

22. Did you ever receive written notification about the recall from the manufacturer?

1 ☐ Yes
2 ☐ No
3 ☐ Don't know or refused

23. Did the manufacturer ever provide you with instructions –either written or verbal- telling you what to do until the safety seat(s) was repaired or replaced?

1 ☐ Yes
2 ☐ No.....**SKIP TO QUESTION 25**
3 ☐ Don't know or refused .....**SKIP TO QUESTION 25**

24. How clear were the company's instructions about what to do with the defective child safety seat(s) until it was fixed or replaced? Would you say the instructions were... **(READ CHOICES)**

1 ☐ Not at all clear,
2 ☐ Fairly clear, or
3 ☐ Extremely clear?
4 ☐ Don't know or refused

25. Was the seat(s) fixed or replaced, either by the manufacturer, by you, or by someone else?

1 ☐ Yes .....**SKIP TO QUESTION 28**
2 ☐ No
3 ☐ Don't know or refused .....**SKIP TO QUESTION 34**

26. To help us understand better people's concerns and problems with the recall process, could you please tell me why not? **(SELECT ALL THAT APPLY)**

1 ☐ Too busy; never got around to it
2 ☐ Lost/misplaced recall information/replacement parts
3 ☐ No longer owned the seat at time of recall
4 ☐ No longer using the seat at time of recall
5 ☐ Didn't feel that defect would cause injury
6 ☐ Didn't understand what to do
7 ☐ Didn't meet criteria for recall
8 ☐ Unable to reach manufacturer
9 ☐ Manufacturer failed to provide parts/refund/new seat
10 ☐ Other
26a. Specify: _____
11 ☐ No more apply
12 ☐ Don't know or refused

If answers do not include "8" or "9", Skip to Question 34

27. Would you please tell me specifically what happened? **(RECORD DETAILS ABOUT RESPONDENT'S CONTACTS WITH OR ATTEMPT TO REACH MANUFACTURER AND/OR MANUFACTURER'S FAILURE TO PROVIDE PARTS/REFUND/NEW SEAT)**

_____

_____

SKIP TO QUESTION 34

28. How did you get the seat(s) fixed or replaced? Did the manufacturer…

1 ☐ Provide replacement parts, ... **SKIP TO QUESTION 30**

2 ☐ Replace the seat,..... **SKIP TO QUESTION 34**

3 ☐ Provide a refund,..... **SKIP TO QUESTION 34**

4 ☐ Have you return the seat for repairs, or..... **SKIP TO QUESTION 34**

5 ☐ Did you or someone you know take action on your own?

28a. Specify: _____

6 ☐ Don't know or refused ..... **SKIP TO QUESTION 34**

29. What did you or this person do about the defective seat? Did you . . .

1 ☐ Fix it on your own, or

2 ☐ Just buy another seat?

3 ☐ Other

29a. Specify: _____

SKIP TO QUESTION 34

30. For my next few questions, I need you to think separately about the **instructions** the manufacturer sent you with the replacement parts, versus the **effort** it took to actually replace the parts. How easy was it to understand the manufacturer's instructions for fixing the seat(s)? Would you say it was . . . **(READ CHOICES)**

1 ☐ Difficult

2 ☐ Fairly easy, or..... **SKIP TO QUESTION 32**

3 ☐ Extremely easy? ..... **SKIP TO QUESTION 32**

4 ☐ Don't know or refused ..... **SKIP TO QUESTION 32**

31. Would you please explain to me why you found the **instructions** difficult to understand? **(SELECT ALL THAT APPLY)**

1 ☐ Figures (pictures) unclear/hard to follow

2 ☐ Written descriptions unclear/hard to follow

3 ☐ Figures and written description didn't seem to go together

4 ☐ Had trouble understanding/following any instructions

5 ☐ Has trouble understanding/following any instructions

6 ☐ Received wrong instructions/replacement part(s)

7 ☐ Other

31a. Specify: _____

8 ☐ No more apply

9 ☐ Doesn't know or refused

32. How easy was it to actually fix the child safety seat(s)? Would you say it was… **(REPEAT CODES AS NECESSARY)**

1 ☐ Difficult,
2 ☐ Fairly easy, or…….……**SKIP TO QUESTION 34**
3 ☐ Extremely easy? ……...**SKIP TO QUESTION 34**
4 ☐ Don't know or refused……...……...…**SKIP TO QUESTION 34**

33. Would you please tell me why you found it difficult to FIX the safety seat?

(SELECT ALL THAT APPLY)

1 ☐ Instructions were difficult to understand/follow
2 ☐ Didn't have tools required
3 ☐ Difficult to reach part(s) requiring replacement
4 ☐ Had trouble removing defective part(s)
5 ☐ Had trouble installing replacement part(s)
6 ☐ Has trouble making any mechanical repairs
7 ☐ Received wrong instructions/replacement part(s)
8 ☐ Other

33a. Specify: _____

9 ☐ No more apply
10 ☐ Doesn't know or refused

34. O.K., so far we've talked about child safety seat(s) that you have used. Next I have some general questions about child safety seat registrations and recalls. Generally speaking, how important do you think it is to **register** child safety seats? Would you say it is: **(READ CHOICES)**

1 ☐ Not at all important,
2 ☐ Somewhat important,
3 ☐ Fairly important,
4 ☐ Very important, or
5 ☐ Extremely important?
6 ☐ No opinion or refused

35. How important do you think it is to **recall** unsafe child safety seats? **(REPEAT CODES AS NECESSARY)**

1 ☐ Not at all important,
2 ☐ Somewhat important,
3 ☐ Fairly important.
4 ☐ Very important, or
5 ☐ Extremely important?
6 ☐ Don't know or refused

36. Manufacturers can use a number of different methods to inform people of safety seat recalls. I'm going to read a list of methods, and I'd like you to tell me which would be **most** effective if **you** needed to be informed about a recall. **(READ LIST AND CHECK ONE)**

1 ☐ A letter from the manufacturer to safety seat owners who sent in the registration card,
2 ☐ A television announcement
3 ☐ A newspaper or magazine announcement
4 ☐ An announcement on the internet, or
5 ☐ A notice posted in retail stores?
6 ☐ Other

36a. Specify: _____

7 ☐ No opinion or refused

Organizations…Skip to 60

* * * *

37. Now I'd like to ask just a few questions about you and your family. This information is for statistical purposes only and will be kept confidential. **RECORD GENDER**:

1 ☐ Female
2 ☐ Male
3 ☐ Unable to determine

38. What year were you born?

1 ☐ Will provide #
2 ☐ Refuses

38a **ENTER NUMBER:** |___|___|___|___|

39. How many children under the age of 13 live with you either full- or part-time?

1 ☐ Will provide #
2 ☐ Refuses ..... **SKIP TO QUESTION 51**

39a. **ENTER NUMBER:** |___|___|

40. What [*is his or her age/are their ages*]?

1 ☐ Will provide
2 ☐ Refuses to provide ..... **SKIP TO QUESTION 51**

		(1) Years	(2) Months
41.	Child 1	|___|___|	|___|___|
42.	Child 2	|___|___|	|___|___|
43.	Child 3	|___|___|	|___|___|
44.	Child 4	|___|___|	|___|___|
45.	Child 5	|___|___|	|___|___|
46.	Child 6	|___|___|	|___|___|
47.	Child 7	|___|___|	|___|___|
48.	Child 8	|___|___|	|___|___|
49.	Child 9	|___|___|	|___|___|
50.	Child 10	|___|___|	|___|___|

51. By which of the following racial or ethnic groups do you typically identify yourself . . .

1 ☐ African-American or Black, but not Hispanic
2 ☐ Asian-American or Pacific Islander
3 ☐ Caucasian or White, but not Hispanic
4 ☐ Hispanic or Latino
5 ☐ Native American or Alaska Native
6 ☐ Other

51a. Specify: _____

7 ☐ Don't know or refused

52. Would you say you live in a primarily urban, suburban, or rural area?

1 ☐ Urban
2 ☐ Suburban
3 ☐ Rural
4 ☐ Don't know or refused

53. What is your home zip code?

1 ☐ Will provide #

53a. **ENTER NUMBER:** |___|___|___|___|___|

2 ☐ Refuses

54. What is the highest grade or year of schooling you've completed?

1 ☐ Less than high school graduate
2 ☐ High school graduate/GED
3 ☐ Some college
4 ☐ Associate degree
5 ☐ Bachelors degree
6 ☐ Masters degree
7 ☐ Doctorate/professional degree
9 ☐ Refuses to answer

55. What is your marital status?

1 ☐ Married or living as married,

2 ☐ Divorced or separated..... **SKIP TO QUESTION 57**

3 ☐ Widowed, or ..... **SKIP TO QUESTION 57**

4 ☐ Single, never been married? ..... **SKIP TO QUESTION 57**

5 ☐ Refuses to answer..... **SKIP TO QUESTION 57**

56. What is the highest grade or year of schooling that your spouse or partner has completed?

1 ☐ Less than high school graduate

2 ☐ High school graduate/GED

3 ☐ Some college

4 ☐ Associate degree

5 ☐ Bachelors degree

6 ☐ Masters degree

7 ☐ Doctorate/professional degree

9 ☐ Refuses to answer

57. Approximately what is your total annual household income before taxes? Is it above or below $50,000?

1 ☐ Above

2 ☐ Below ..... **SKIP TO QUESTION 59**

3 ☐ Don't know or refused

58. Is it:

1 ☐ At least $50,000, but less than $60,000

2 ☐ At least $60,000, but less then $70,000

3 ☐ More than $70,000?

4 ☐ Don't know or refused

This concludes our survey. Thank you again for your time.

59. Is it:

1 ☐ Under $20,000

2 ☐ At least $20,000, but less then $30,000

3 ☐ At least $30,000, but less than $40,000

4 ☐ At least $40,000, but less than $50,000?

5 ☐ Don't know or refused

This concludes our survey. Thank you again for your time.

Now I'd like to ask just a few questions about your organization.

60. What type of organization is this? Is it a…

1 ☐ Private non-profit
2 ☐ Private for-profit
3 ☐ State government agency
4 ☐ Local government agency
5 ☐ or, Some other type of organization
60a. Specify: _____
6 ☐ Don't know or refused

61. Is the organization affiliated with or a part of a hospital?

1 ☐ Yes
2 ☐ No
3 ☐ Don't know or refused

62. Is the organization affiliated with or a part of a public health program?

1 ☐ Yes
2 ☐ No
3 ☐ Don't know or refused

63. Would you say the organization serves a primarily urban, suburban, or rural area?

1 ☐ Urban
2 ☐ Suburban
3 ☐ Rural
4 ☐ Don't know or refused

64. What is the organization's zip code?

1 ☐ Will provide #
64a. **ENTER NUMBER:** |___|___|___|___|___|
2 ☐ Refuses

65. Does your organization currently, or has it ever, operated a child safety seat loaner program? By a loaner program I mean a program that loans seats to families for a period of time, then the seats are returned back to the program.

1 ☐ Yes
2 ☐ No ..... **SKIP TO QUESTION 71**
3 ☐ Don't know or refused ..... **SKIP TO QUESTION 71**

66. Does the organization still operate a loaner program?

1 ☐ Yes
2 ☐ No..... **SKIP TO QUESTION 71**

3 ☐ Don't know or refused ..... **SKIP TO QUESTION 71**

67. How many years has the organization been providing this service?

1 ☐ Will provide #

67a. **ENTER NUMBER:** |___|___|

2 ☐ Refuses

68. Approximately how many seats are owned by your program?

1 ☐ Will provide #

68a. **ENTER NUMBER:** |___|___|___|___|___|

2 ☐ Refuses

69. Approximately how many families participate in the program annually?

1 ☐ Will provide #

69a. **ENTER NUMBER:** |___|___|___|___|___|

2 ☐ Refuses

70. What requirements must families fulfill to participate in the program? For example, must they meet income requirements, have a special needs child, be a resident of your city/county, or is there another requirement?

1 ☐ Low-income family
2 ☐ Special needs child
3 ☐ Resident of city/county
4 ☐ No requirements
5 ☐ Other:

70a. Specify:

_____

6 ☐ Don't know or refused

71. Does your organization currently, or has it ever, operated a child safety seat giveaway program? By a giveaway program I mean you acquire child safety seats and provide them to families either at a reduced price or for free.

1 ☐ Yes
2 ☐ No..... **SKIP TO QUESTION 76**
3 ☐ Don't know or refused ..... **SKIP TO QUESTION 76**

72. Does the organization still operate a giveaway program?

1 ☐ Yes ..... **SKIP TO QUESTION 73**
2 ☐ No
3 ☐ Don't know or refused

This concludes our survey. Thank you again for your time.

73. How many years has the organization been providing this service?

1 ☐ Will provide #

73a. **ENTER NUMBER:** |___|___|___|___|___|

2 ☐ Refuses

74. Approximately how many families participate in the program annually?

1 ☐ Will provide #

74a. **ENTER NUMBER:** |___|___|___|___|___|

2 ☐ Refuses

75. What requirements must families fulfill to participate in the program? For example, must they meet income requirements, have a special needs child, be a residents of your city/county, or is there another requirement?

1 ☐ Low-income family
2 ☐ Special needs child
3 ☐ Resident of city/county
4 ☐ No requirements
5 ☐ Other

75a. Specify:

_____

6 ☐ Don't know or refused

76. **(IF QUESTIONS 65 & 71 ARE "NO")** Why were you the registered owner of the seats?

_____

_____

_____

This concludes our survey. Thank you again for your time.

Appendix C: Additional Tables

Supplementary information obtained from the consumer survey is presented here. These data do not show statistical significance. They do, however, further describe consumer behavior as it relates to child seat registration, and therefore are of some interest. Differences that are not significant, for example, point out program areas and demographic groups that do not need specific focus. Note that registration rates presented in this appendix were calculated based on consumers' self-reports of registering as well as whether or not they received a registration card. This differs from the registration rates in the main portion of the report, which made specific assumptions for those who stated no card came with the seat but, for example, purchased it new after FMVSS 213 was amended to require the card. While this prevents registration rates discussed in this section from being directly comparable to those in the report, the relative size and standing of various demographic groups would not be expected to be influenced by this.

Section 3.2.5 presented the principal findings on ways in which child seats are obtained by consumers. Data reported here offer additional insight by examining registration rates, for various demographic factors, according to whether seats were purchased or received as a gift. Exhibit C-1 shows the registration rates by age group and how the child seat was acquired for those respondents that received a registration card with the seat. Since so few respondents reported borrowing the seat from a friend or loaner program or selecting 'Other,' they will not be included in these tables of demographic data on how seats were acquired.

The lowest registration rates are for those receiving the seat as a gift, particularly for those under age 21. This age group is one of the groups with the worst record for registering, and pinpointing it to those receiving the seat as a gift is useful information for potential programs aimed at increasing registration.

Exhibit C-1: Registration Rates by Acquisition of Child Seat and Age of Respondent (Percent, Weighted)

How Seat Acquired	Under 21	21-30	31-40	41-50
Bought	75.0	77.3	79.8	80.6
Received as gift	50.0	62.3	75.5	87.4

Registration rates by race and Hispanic background are shown in Exhibit C-2. Note that Hispanics have a higher rate when the seat is received as a gift than when it is purchased. Blacks/African Americans have lower than average registration rates in general, but particularly when the seat is received a gift.

Exhibit C-2: Registration Rates by Acquisition of Child Seat and Race/Hispanic Background (Percent, Weighted)

How Seat Acquired	White (non-Hispanic)	Black/African American	Hispanic (any race)	Other Race(s)
Bought	78.5	67.9	77.8	100.0
Received as gift	68.3	53.1	85.2	54.5

Exhibit C-3 shows the registration rates by education level. Those with a high school degree or less tend to have low registration rates, particularly when the seat is received as a gift.

Exhibit C-3: Registration Rates by Acquisition of Child Seat and Education Level (Percent, Weighted)

How Seat Acquired	High School or Less	Some College	Associate/ BA Degree	Advanced Degree
Bought	67.1	80.0	74.7	91.7
Received as gift	58.8	70.5	70.8	72.1

Registration rates by how the seat was acquired and income level are shown in Exhibit C-4. As shown earlier, in Chapter 3, those earning under $40,000 have the lowest registration rates. However, those in both the lowest and highest income groups have substantially lower than average rates when the child restraint is received as a gift.

Exhibit C-4: Registration Rates by Acquisition of Child Seat and Income Level (Percent, Weighted)

How Seat Acquired	Under $40,000	$40 to $70,000	Over $70,000
Bought	72.6	82.0	82.1
Received as gift	63.5	70.6	65.5

When the data are separated by age group of the child, 82.0% of those with children fewer than six months of age that bought their seat reported mailing in the registration card, while 77.5% of purchasers in the older group did. For those receiving the seat as a gift, 73.3% in the younger group reported mailing the card in, compared to 64.9% in the older group. Across groups, those with younger children are more likely to report returning the registration card.

Exhibit 3-24, Section 3.2.5, presented general data on the type of store at which consumers purchased their child safety seats. Data presented here examine registration rates based on the type of store at which the seat was purchased and demographic information. This information on where seats are purchased, and the rates for each group purchasing at each type of store, can assist with programs targeted at specific demographic groups as well as suggest locations at which to contact them.

Exhibit C-5 presents the registration rates by the type of store from which a seat was purchased by the age group of the respondent. There were 236 respondents that purchased their child seat from a store. Because this table has a large number of possible cells, some have very few respondents. To avoid presenting data based on too few observations, cells with fewer than five respondents are not reported, and instead a dash is shown. Since only three respondents purchasing a seat in a store were over the age of 50, they are not included in this table. Recall that the overall registration rate for those purchasing their seat at a store is 79.0%.

Exhibit C-5: Registration Rates by Type of Store Seat Purchased and Age of Respondent (Percent, Weighted)

Store where Purchased	Under 21	21-30	31-40	41-50
Chain child specialty store	-	78.5	76.4	78.9
Discount department store	79.9	75.3	90.1	-
Independent child specialty store	-	72.9	73.4	-
Department store	-	55.7	100.0	-

First to note is that the majority of those under age 21 purchased their seat at a discount department store, while those in the 41-50 age range purchased theirs at a chain child specialty store. Recall that those under 21 that *purchased* their seat had a good registration rate, but those receiving them as gifts lowered the average for the age group. For those that purchased their seat at a department store, those in the 21 to 30 age group had a very low registration rate, while those 31 to 40 purchasing there always returned their cards.

Registration rates by the type of store at which the seat was purchased by race and Hispanic background of the respondent are shown in Exhibit C-6. Again, several cells have fewer than five respondents and are not presented. The only cells with substantially lower than average registration rates for those that purchased their seat are Whites purchasing their seat at either a chain child specialty store or a department store. Whites were the only group to purchase their seats in relatively large numbers at either department stores or independent child specialty stores. Blacks/African Americans purchased their seats primarily at discount department stores.

Exhibit C-6: Registration Rates by Type of Store Seat Purchased and Race/Hispanic Background (Percent, Weighted)

Store where Purchased	White (non-Hispanic)	Black/ African Am	Hispanic (any race)	Other race(s)
Chain child specialty store	75.9	-	78.9	100.0
Discount department store	81.6	92.1	90.8	-
Independent child specialty store	81.9	-	-	-
Department store	73.1	-	-	-

Education level and type of store at which the seat was purchased are presented in Exhibit C-7. Those with a high school degree or less had lower than average registration rates, particularly those that purchased their seat at a chain child specialty store. No other group stands out as having especially low registration rates.

Exhibit C-7: Registration Rates by Type of Store Seat Purchased and Education Level (Percent, Weighted)

Store where Purchased	High School or Less	Some College	Associate/ BA Degree	Advanced Degree
Chain child specialty Store	62.2	77.8	75.3	89.4
Discount department Store	72.3	87.5	79.0	97.2
Independent child specialty store	-	-	-	100.0
Department store	-	-	80.1	-

Income level and type of store at which the seat was purchased are shown in Exhibit C-8. Those making under $40,000 who purchased their seat at a chain child specialty store stand out as having a particularly low rate of registration.

Exhibit C-8: Registration Rates by Type of Store Seat Purchased and Income Level (Percent, Weighted)

Store where Purchased	Under $40,000	$40 to $70,000	Over $70,000
Chain child specialty store	59.3	86.2	77.4
Discount department store	79.0	86.2	86.8
Independent child specialty store	-	76.5	-
Department store	-	78.7	89.9

Overall, regardless of demographics, those purchasing their seat at either a discount department store or an independent child specialty store seemed to have average-to-better registration rates. Chain child specialty store purchasers had some substantially lower rates, particularly for the lowest education and income level respondents. Department store purchasers had the lowest overall rates of registration, with some groups having higher rates (e.g. the middle income groups) and some much lower (the 21 to 30 year olds).

Section 3.2.8 discussed consumers' opinions on the importance of registering child seats. In addition to consumer response overall, data were also examined by the age of the child and whether or not the registration card was returned. Although a sizeable proportion of respondents felt registration was important, there is nevertheless value in looking at how various groups responded. Registration rates by demographic groups by rating of importance are also presented.

The importance of registering child seats according to the age group of the survey respondent is shown in Exhibit C-9. Since only four respondents were over the age of 50, they are not included in this table. Interestingly, less importance was associated with registering child seats as age increased. Only those under age 21 had a majority stating they believe it is extremely important. In addition, as age group increases, the likelihood of believing registering is either somewhat or not at all important (the lowest importance level choices) increases. This result is surprising in light of the fact that the younger consumers register their seats at a much lower rate than do older ones.

Exhibit C-9: Importance of Registering Child Safety Seats by Age Group of Respondent (Percent, Weighted)

	Under 21	21-30	31-40	41-50
Extremely important	53.3	48.6	40.0	34.1
Very important	24.6	33.4	42.2	48.9
Fairly important	15.5	8.8	5.7	0.0
Somewhat important	0.0	6.9	9.0	8.5
Not at all important	6.6	2.3	3.0	8.5

Exhibit C-10 presents the registration rate by how important the respondent felt it was to register child safety seats. When greater importance is placed on registration, a higher percentage does register the seat.

Exhibit C-10: Registration Rate by Importance of Registering Child Safety Seats (Percent, Weighted)

Extremely important	85.4
Very important	61.1
Fairly important	27.5
Somewhat important	30.7
Not at all important	3.2

Exhibit C-11 shows the reported importance of registering child seats by race and Hispanic background. Those reporting 'Other' or multiple races seemed to place less importance on registering, and those of Hispanic descent placed a very high importance on it.

Exhibit C-11: Importance of Registering Child Safety Seats by Race/Hispanic Background (Percent, Weighted)

	White (non-Hispanic)	Black/ African Am	Hispanic (any race)	Other race(s)
Extremely important	42.2	45.1	59.7	34.4
Very important	39.4	42.4	31.6	28.6
Fairly important	7.7	2.6	7.0	11.4
Somewhat important	7.2	7.5	1.8	22.8
Not at all important	3.5	2.6	0.0	2.9

Rates of registration by stated importance of registration and race/Hispanic background are presented in Exhibit C-12. Again, in general, the more importance placed on registration, the more likely the respondent was to have actually registered the child seat.

Exhibit C-12: Registration Rates by Importance of Registering Child Safety Seats and Race/Hispanic Background (Percent, Weighted)

	White (non-Hispanic)	Black/ African Am	Hispanic (any race)	Other race(s)
Extremely important	95.6	88.7	85.3	83.1
Very important	74.9	52.8	100.0	100.0
Fairly important	42.2	0.0	25.5	0.0
Somewhat important	46.8	0.0	100.0	50.0
Not at all important	0.0	0.0	-	100.0

The stated importance of registering child seats by education level is shown in Exhibit C-13. All groups show a similar pattern to the overall pattern.

Exhibit C-13: Importance of Registering Child Safety Seats by Education Level (Percent, Weighted)

	High School or Less	Some College	Associate/ BA Degree	Advanced Degree
Extremely important	44.2	44.7	39.2	47.8
Very important	31.7	40.5	43.2	35.9
Fairly important	12.4	2.7	6.1	9.1
Somewhat important	6.9	7.4	8.3	5.5
Not at all important	4.8	2.7	3.2	1.8

Exhibit C-14 shows the registration rates for each importance rating by education level. Although it looks unusual for one hundred percent of those with some college rating registration 'Fairly Important' to have sent in their card, cells have become rather sparse at this point. That particular cell contains just two respondents. Recall that the vast majority of respondents rated registering child seat to be 'Very' or 'Extremely' Important. Therefore, while the data show an interesting picture, and are worth looking at by various demographic groups, the overall trend is of interest, not any particular cell.

Exhibit C-14: Registration Rates by Importance of Registering Child Safety Seats and Education Level (Percent, Weighted)

	High School or Less	Some College	Associate/ BA Degree	Advanced Degree
Extremely important	84.3	94.2	98.3	96.2
Very important	76.0	66.8	71.1	96.6
Fairly important	22.3	100.0	45.2	40.0
Somewhat important	29.9	45.7	38.4	66.9
Not at all important	0.0	0.0	0.0	0.0

Exhibit C-15 presents the rating of importance of registering by income level. Those in the highest income level had the lowest percent responding that registration is 'Extremely Important." However, this group has the largest proportion of the two highest importance groups combined, as well as the lowest proportion of those stating it is not important at all.

Exhibit C-15: Importance of Registering Child Safety Seats by Income Level (Percent, Weighted)

	Under $40,000	$40 to $70,000	Over $70,000
Extremely important	45.6	46.5	38.1
Very important	37.2	36.2	46.0
Fairly important	8.9	8.1	5.3
Somewhat important	5.0	5.9	8.0
Not at all important	3.4	3.3	2.6

Exhibit C-16 shows registration rates by stated importance of registration and income level. The large majority of those stating that registration is extremely important actually do register, particularly for the middle-income group. As income increases, there is less drop-off in registering the seat as importance decreases. Overall, it appears that, as income increases, there may be slightly less of a feeling that registering is crucial, but the seat is registered anyway. A larger percent of those in the lower income groups feel it is extremely important, but there is less probability that the seat will be registered as that feeling of importance drops.

Exhibit C-16: Registration Rates by Importance of Registering Child Safety Seats and Income Level (Percent, Weighted)

	Under $40,000	$40 to $70,000	Over $70,000
Extremely important	91.4	98.4	91.9
Very important	64.2	71.4	81.7
Fairly important	31.4	50.0	50.0
Somewhat important	11.3	65.6	55.7
Not at all important	0.0	0.0	0.0

Section 3.2.9 detailed information on the importance consumers place on recalling child seats, providing data by age of their child and whether or not they registered their child seat. Further data are presented here, examining rating of importance of recalling child seats by various demographic factors. Importance of recalling child seats by age of respondent is shown in Exhibit C-17. The younger age groups place slightly more importance on child seat recall.

Exhibit C-17: Importance of Recalling Unsafe Child Safety Seats by Age Group of Respondent (Percent, Weighted)

	Under 21	21-30	31-40	41-50
Extremely important	68.8	69.6	65.3	65.9
Very important	31.2	28.1	33.7	34.1
Fairly important	0.0	2.0	0.3	0.0
Somewhat important	0.0	0.3	0.8	0.0
Not at all important	0.0	0.0	0.0	0.0

Exhibit C-18 shows importance of recall by race and Hispanic background. Black/African American consumers place a great deal of importance on the recall of child safety seats, with over 87 percent stating it is 'Extremely Important' and none 'Fairly Important' or lower. Only Whites (although a very small percent) rated recalling seats as low as 'Somewhat Important.'

Exhibit C-18: Importance of Recalling Unsafe Child Safety Seats by Race/Hispanic Background (Percent, Weighted)

	White (non-Hispanic)	Black/ African Am	Hispanic (any race)	Other race(s)
Extremely important	66.1	87.5	61.6	59.8
Very important	32.6	12.6	38.4	31.7
Fairly important	0.6	0.0	0.0	8.5
Somewhat important	0.6	0.0	0.0	0.0
Not at all important	0.0	0.0	0.0	0.0

As education level increases, so does the percent of respondents feeling that recalling child seats is extremely important. Of those with a high school education or less, only about sixty percent felt it was extremely important. Data are shown in Exhibit C-19.

Exhibit C-19: Importance of Recalling Unsafe Child Safety Seats by Education Level (Percent, Weighted)

	High School or Less	Some College	Associate/ BA Degree	Advanced Degree
Extremely important	59.5	62.5	66.7	76.3
Very important	38.5	34.9	33.0	21.9
Fairly important	2.0	2.0	0.3	0.0
Somewhat important	0.0	0.7	0.0	1.8
Not at all important	0.0	0.0	0.0	0.0

Data on importance of recalling seats by income group are shown in Exhibit C-20. As income increases, the likelihood of believing child seat recalls are extremely important also increases, but not as sharply as for education level. On the other hand, only those making over $70,000 per year felt is was only somewhat important, although a very small percent.

Exhibit C-20: Importance of Recalling Unsafe Child Safety Seats by Income Level (Percent, Weighted)

	Under $40,000	$40 to $70,000	Over $70,000
Extremely important	66.7	68.3	69.5
Very important	33.3	30.6	28.8
Fairly important	0.0	1.1	0.0
Somewhat important	0.0	0.0	1.8
Not at all important	0.0	0.0	0.0

Information on consumers' thoughts on effective methods of informing the public about recalls was presented in Section 3.2.10. It is worthwhile to examine this data in somewhat more detail, looking at the effectiveness that various demographic groups associate with the different methods. Exhibit C-21 shows the preferred method of recall notification by age of the respondent. Note that the youngest and the oldest groups have the highest percent selecting television announcements. While the chosen method across all groups is a letter from the manufacturer, the preference is strongest in the middle age groups, those between 21 and 50. Those age 41 to 50 have a higher percentage selecting notices in newspapers and magazines than do the other groups.

Exhibit C-21: Most Effective Method of Informing Consumers of Recalls of Child Safety Seats by Age of Respondent (Percent, Weighted)

	Under 21	21-30	31-40	41-50	51-55
Letter from the manufacturer	47.2	53.6	59.5	68.9	52.5
Television announcement	36.7	23.6	22.7	25.9	31.8
Notice posted in retail store	0.0	6.0	2.9	0.0	0.0
Newspaper/magazine announcement	1.5	2.2	1.2	5.1	0.0
Announcement on the internet	0.0	1.8	0.8	0.0	0.0
Other	14.6	12.9	12.7	0.0	15.7

The most preferred method of informing about a recall by race and Hispanic background of respondent is presented in Exhibit C-22. Again, the most preferred method by each group is a letter from the manufacturer, although for Blacks/African Americans it is a narrow margin between the letter and a television announcement. This group also selected notices posted in retail stores much more often than did any other group.

Exhibit C-22: Most Effective Method of Informing Consumers of Recalls of Child Safety Seats by Race and Hispanic Background (Percent, Weighted)

	White (non-Hispanic)	Black/ African Am	Hispanic (any race)	Other race(s)
Letter from the manufacturer	57.7	37.7	57.9	60.7
Television announcement	24.5	30.3	22.1	15.8
Notice posted in retail store	3.6	7.5	4.0	2.0
Newspaper/magazine announcement	1.7	0.0	4.0	2.0
Announcement on the internet	1.0	0.0	3.0	2.0
Other	11.6	24.4	9.1	17.6

Data on education level by most preferred method of informing consumers about a recall are shown in Exhibit C-23. Again, the most preferred method overall is the letter from the manufacturer. However, for those with a high school education or less, a television announcement is a close second.

Exhibit C-23: Most Effective Method of Informing Consumers of Recalls of Child Safety Seats by Education Level (Percent, Weighted)

	High School or Less	Some College	Associate/ BA Degree	Advanced Degree
Letter from the manufacturer	47.2	61.2	59.6	57.9
Television announcement	34.5	22.7	23.3	17.6
Notice posted in retail store	5.1	2.4	4.4	2.8
Newspaper/magazine announcement	3.8	0.0	1.5	1.9
Announcement on the internet	1.3	0.0	1.3	0.5
Other	8.1	13.7	9.9	19.4

Exhibit C-24 presents data on the most preferred method of informing by income level. All groups feel rather strongly that a letter from the manufacturer is the best method. As income level increases, the preference for the manufacturer's letter over a television announcement increases.

Exhibit C-24: Most Effective Method of Informing Consumers of Recalls of Child Safety Seats by Income Level (Percent, Weighted)

	Under $40,000	$40 to $70,000	Over $70,000
Letter from the manufacturer	54.6	56.4	58.9
Television announcement	29.3	25.1	21.3
Notice posted in retail store	4.5	4.2	3.2
Newspaper/magazine announcement	1.6	1.1	2.5
Announcement on the internet	0.3	1.3	1.1
Other	9.7	11.9	13.1

General demographic information on those consumers surveyed that were involved in a recall was presented in Section 4.3.1. Supplementary data are now presented. The marital status of respondents is presented in Exhibit C-25.

Exhibit C-25: Marital Status of Respondents (Percent)

Marital Status	Recall Survey	General Survey
Married/living as married	82.0	87.6
Divorced/separated	0.8	1.7
Widowed	0.0	0.2
Single/never married	7.4	9.3
Refused to answer	9.8	1.1

Exhibit C-26 presents the ages of those who experienced a recall. The percents are of those with known age – eighteen additional respondents did not choose to reveal their age.

Exhibit C-26: Age Groups of Adult Respondent (Percent)

Age Group	Recall Survey	General Survey
Under 21	1.9	6.9
21-30	16.3	42.0
31-40	73.1	44.1
41-50	7.7	5.4
51-55	1.0	1.6

A logistic regression was run on the age of the adult, using the actual ages rather than grouping them, to determine whether the age of the respondents in the recall group was different than for those in the group not experiencing a recall. As for the previous significance tests, unweighted data were used. The resulting chi-square of 0.7923, with a probability of 0.3734, shows that there is not a significant difference in the ages of the two groups.

As in the General survey, consumers in the Recall survey were permitted to select multiple responses for the reason(s) the card was returned. Only twenty respondents of the 122 total that had experienced a recall chose two selections, and none chose more. The percent of respondents selecting each option is reported (as was done for the General survey), so totals sum to more than 100%.

Perhaps surprisingly, a smaller percentage of people in the Recall survey said the most important reason they returned the card was for recall notification, 88.7% compared to 95.1% in the General survey (for those who had returned the card). A larger percentage than in the General survey, 26.4% compared to 15.3%, reported that the card had been returned to provide warranty protection. About the same percentage (2.8%) said they had

returned the card because someone told them to. The larger group of respondents in the General survey reporting they had returned the card for recall notification rather than warranty protection may suggest that consumers have become more aware of the purpose of the registration card included with their child safety seat.

None of those in the Recall survey bought their seat at a garage sale or on the internet. The remaining 26.9% that selected 'other' for where they had purchased the seat listed hospital (2), manufacturer, distributor, local company, a medical supply company, and the Easter Seal Society. Exhibit C-27 presents the type of store for those stating they purchased their seat at a store.

Exhibit C-27: Type of Store Where Seat Purchased (Percent)

	Recall Occur	General No Recall
Chain child specialty store	29.1	48.8
Discount department store	38.2	34.3
Independent child specialty store	1.8	6.7
Department store	5.5	5.3
Other	0.0	4.2
No answer	25.5	0.7

As in the General survey, the majority of purchases were made in chain child specialty and discount department stores.

Again, data presented in this section are not statistically significant. The additional information provided in describing the surveyed consumers is valuable nonetheless.