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The Effects of Standard Safety Belt Enforcement on Police Harassment: Year 2 Annual Report

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16. Abstract

This report presents first-year results of a multi-year project designed to assess the effects of standard safety belt enforcement on police safety-belt-related harassment. Six sets of questions aimed at gaining a better understanding of the effects of standard enforcement were investigated. Results of the study include: 1) the introduction of standard enforcement did not change the number of safety-belt-related harassment complaints from citizens; 2) the number of safety belt citations increased by about 9 percent after standard enforcement, while child restraint citations decreased slightly; 3) the citation conviction-rate increased after standard enforcement; 4) statewide over-representation of safety belt citations was clearly present for males and those under 30 years of age, but did not change after standard enforcement; 5) statewide citation over-representation by race was found prior to standard enforcement but not after; 6) little difference in the statewide citation over-representation patterns was found when only citations that resulted in convictions were considered; and 7) perceptions of harassment were not common among the population of people receiving safety belt citations, but Black/African Americans in this population were more likely to report safety-belt-related harassment by race even though close to one-half received citations from Black/African American officers. The general conclusion from the study is that the implementation of standard enforcement was not followed by police safety-belt-related harassment. As further data is collected over the next two years, more solid conclusions will be drawn.

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Safety Belt Use, Race, Age, Sex, Harassment, Standard Enforcement

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1. INTRODUCTION

In 1985, Michigan implemented legislation making safety belt use mandatory for front-seat occupants of motor vehicles. Direct observation studies conducted for the State of Michigan by the University of Michigan Transportation Research Institute (UMTRI), showed that prior to implementation, only about 20 percent of drivers and 18 percent of passengers used safety belts. After implementation, UMTRI studies showed that safety belt use for both drivers and front-right passengers was about 61 percent during the month of implementation, followed by an abrupt decline to about 45-50 percent. During the 1980s, safety belt use statewide remained fairly constant at about 45-50 percent. UMTRI studies showed that during the 1990s, safety belt use gradually increased each year up to about 70 percent (see Eby, Molnar, & Olk, 2000, for a review of Michigan safety belt use from 1984 to 1998 and Eby, Vivoda, & Fordyce, 2002 for a review of safety belt use trends in Michigan from 1999 to 2001).

Although the 1985 mandatory safety belt law apparently had succeeded in encouraging drivers and passengers to use safety belts more frequently, the 70 percent use rate in 1999 was still unacceptably low. Many traffic safety professionals attributed this low use to the fact that Michigan's mandatory safety belt use law allowed only secondary enforcement, whereby police officers could only ticket a driver or passenger in violation of the safety belt law if the driver was stopped for a separate offense. Several studies have shown that significantly greater compliance with a mandatory safety belt law can be achieved by changing enforcement of the law from secondary to standard (Campbell, 1987; Eby & Vivoda, 2001; Eby, Vivoda, & Fordyce, 2002; NHTSA, 1997; Ulmer, Preusser, & Preusser, 1994). Under standard enforcement, a vehicle can be pulled over and the driver or adult passenger cited by law enforcement solely for a violation of the safety belt law.

On January 25, 1999, Senate Bill 335 was introduced in the Michigan Senate to give police officers in Michigan the authority to stop and issue citations to drivers or passengers not using their safety belts, even if no other violations have occurred. This bill was passed into law as Public Act 29 of 1999 and was implemented on March 10, 2000. As intended, standard enforcement of Michigan's safety belt use law resulted in a dramatic 13.4 percentage point increase in safety belt use from Michigan's previously highest use rate during the first month of implementation (Eby, Vivoda, & Fordyce, 2002).

During the legislative debate on this law, concerns were raised about the increased potential for law enforcement officers to use standard enforcement of the safety-belt-use law as an opportunity to harass drivers in some way. Indeed, newspapers in Michigan and from around the country have reported on studies that seem to have found evidence of harassment (typically called racial profiling in these studies). However, close analysis of these studies shows that the presence of harassment is either not supported scientifically or is only one of several possible conclusions. One major flaw of many of these studies (see e.g., McGraw, 2000) is that they use the racial distribution of the general population as the standard for assessing harassment of the population of drivers who experience traffic stops. Accordingly, if a particular racial group is over-represented in the traffic-stop population relative to the overall population, it is concluded that harassment has occurred. However, without knowing the racial distribution of people actually traveling on the road, and more importantly, actually violating traffic laws, one cannot make accurate claims about traffic stop harassment, as is done in many of these studies.

Other studies have rightly considered the racial distribution of motorists in their analyses (see e.g., Arellano, 2000; Bullers, 2000). Unfortunately, these studies do not consider traffic-law-violation racial distributions. Again, without knowing the racial distribution of people who are violating traffic laws, one cannot reach valid conclusions about the presence of harassment because a particular racial group may violate certain laws more frequently than other groups, as has been found in some studies.

One study included both the racial distribution of drivers and the racial distribution of speeding (Lambert, 1998). In this study, the distribution of both White and Black/African American drivers on the road traveling more than 5 mph over the speed limit was determined by direct observation. These proportions were compared to the racial distribution of drivers pulled over by the police. Since 98 percent of the drivers in this sample exceeded the speed limit by more than 5 mph, nearly every driver on the road was a candidate for a traffic stop. The study showed that Black/African American drivers were pulled over by law enforcement for any reason, not just speeding, at about four times the rate that would be expected from the presence of Black/African Americans on the road. Lambert (1998) incorrectly suggests that this finding demonstrates harassment. While the study provides good support that harassment may have been present, this conclusion is only one of several possible reasons for the difference between the proportions. If one wants to look at the effects of enforcement of a certain traffic law on police harassment, he or she must compare three racial distributions: presence on the road, rate of law violation, and police action for violation of the law (stops or citations). The Lambert (1998) study did not consider the reasons for the stops (only stops for speeding should have been considered), and, therefore, did not unambiguously demonstrate the presence of harassment.

None of these studies addressed the issue of harassment in relation to standard safety belt law enforcement. The purpose of this research is to investigate, in a three-year study, the effects that standard enforcement of Michigan's safety belt law have on police harassment. For the purposes of this study, the Michigan Department of State (DOS) has defined safety-belt-related harassment as "a driver being singled out for a safety-belt-related traffic citation or treated differently during the stop on the basis of race, sex, age, or other factors unrelated to the actual violation."

The objective of this research project was to provide answers to six sets of questions posed by the DOS:

- *Are more safety belt and child restraint citations issued by law enforcement officers under the new law as compared with the old law?*
- *How many incidents of harassment as a result of the enforcement of the law have been reported? How does this number compare with previous years?*

How does this number compare with other traffic violations?

- *Is there a statistical over/under representation of safety belt stops in a group considering that group's size in the population and the rate of safety belt use of the particular group? How does this over/under representation compare with previous years?*
- *Is there a statistical over/under representation of safety belt citations in a group considering that group's size in the population and the rate of safety belt use of the particular group? How does this over/under representation compare with previous years?*
- *Is there a statistical over/under representation of safety-belt convictions in a group considering that group's size in the population and the rate of safety belt use of the particular group? How does this over/under representation compare with previous years?*
- *Do cited drivers perceive safety belt harassment?*

This report documents the methodology utilized and results of the first year of three project years. The second and third year results are scheduled to be released in June of 2003 and 2004, respectively. A final report on the entire project is scheduled for September, 2004.

2. DATA COLLECTION

The research involved the collection of data from six sources: Safety belt citation data from courts; driver history data (Master Driver Record) from the DOS; electronic driver license images from Polaroid/Digimarc (a DOS vendor); traffic-stop-related complaints from Michigan law enforcement agencies and Michigan civil rights groups; a direct observation survey of safety belt use in Michigan by age, sex, and race; and a telephone survey of Michigan residents who recently received a safety belt citation. Because data from various sources were used to answer multiple questions, this section describes each data collection method separately, while analysis of the data and results are presented in the next section.

2.1. Safety Belt Citation Data

Data collection focused on safety belt and child restraint citations written by law enforcement agencies between March 10, 1999 and March 9, 2001, one full year before and one full year after standard enforcement was implemented. Law enforcement agencies are required to report all traffic citations, including safety belt and child restraint citations, to the District or Municipal Court that has jurisdiction over the area in which the violation occurred. Because of the relatively small number of courts compared to law enforcement agencies, it was deemed more efficient to obtain citation data from the courts rather than from the individual law enforcement agencies responsible for writing the citations. The process of data collection from the courts is described in this section.

Identification of data elements for collection

Safety belt and child restraint violations are recorded by law enforcement agencies on the State of Michigan Uniform Law Citation (UD-8), the form used for all traffic-related moving violations. Completed citation forms are transferred to the appropriate courts to meet law enforcement agencies' reporting requirements. A sample of citations was reviewed to identify which data fields are included on the citation form, which fields are actually coded by police in the field, and how they are typically coded. Based on this review, a list was developed of specific data elements to be collected in the study. The list included elements that would be directly analyzed (e.g., counts of different types of citations), as well as data elements that could be used to obtain driver history records from the DOS (e.g., driver license number). Citation data elements requested for the study included:

- Court name
- Court address
- Offense date
- Offense time
- Birth date
- Telephone number
- Driver license number
- Vehicle type
- Original charge (i.e., driver safety belt, passenger safety belt, child restraint)
- Sex
- Race
- Disposition
- Plea
- Vehicle make
- Vehicle year

Identification of courts

In order to facilitate citation data collection from each of the courts, a master court list was created in an electronic format, containing contact information for each court and court administrator. Several sources were used to compile this list including the State Court Administrative Office (SCAO), the Michigan Court Administration Association, and the Michigan District Judges Association. A total of 163 District and Municipal Courts (with each separate court location considered a distinct court) were identified that handle safety belt and child restraint citation data in Michigan.

Identification of court case management systems and development of protocols for data collection

Before developing specific procedures for each court to retrieve and transfer their citation data to us, it was necessary to identify the type of case management system used by each court and the most efficient process for data transfer. In general, courts: 1) rely on an outside vendor to provide case management system services for them; 2) manage their own data electronically using one of several "in-house" systems that are available; or 3) maintain their data in paper form only. It was determined that the majority of the courts (95) used Judicial Information Systems (JIS); 46 used one of several other outside vendors; 20 courts had their own "in-house" systems; and two maintained only the original paper citations.

To get a general sense of how data entry, storage, and retrieval occurred, we visited two local courts to talk with their court administrators and the staff responsible for managing citation data. We also contacted representatives from each of the vendor companies providing case management services to the courts to discuss the project and identify the most efficient methods for capturing the data of interest. Most of the vendors were able to retrieve their courts' data themselves and transfer it to us electronically, once they had received permission from the courts to do so. In these cases, no direct involvement by the courts was necessary. Instead, data sets containing the citation data were transferred directly from the vendors to UMTRI electronically, typically via e-mail.

For the 95 courts using the JIS system, however, data collection was more complicated. After meeting directly with JIS representatives, it was determined by JIS that we would need to obtain citation data in hard-copy format. This involved contacting each of the courts separately, asking them to generate a report containing the data elements that we needed (using a sample report generator print screen provided by JIS), and then sending the reports to us via the US mail. Depending on the number of citations written in a jurisdiction during the two-year period of interest, these reports ranged from a few to several hundred pages. Once these hard copy reports were received, the appropriate data were entered by project staff into an electronic format for later analysis.

For the 20 courts with their own in-house systems, we were able to work with each court's staff person responsible for the system to have them generate an electronic data set that was sent to us, typically via e-mail. For the two courts with citations only in paper form, we obtained photo copies of the citations and entered the appropriate data from the forms into an electronic format. The process of data entry for both the paper form citations, as well as the JIS hard copy reports, involved more than 4,000 paid staff hours.

Support letters for project

Prior to initiating data collection, support letters were sought from a number of organizations whose endorsement of the project was likely to facilitate participation from the courts. These organizations were identified in consultation with the SCAO, and the appropriate representatives were contacted to discuss the project and solicit letters of support. Letters of support were received from the Michigan Secretary of State, SCAO (State Court Administrative Office), Michigan Association of Chief's of Police, and Michigan Sheriffs' Association. Copies of these letters are contained in Appendix A.

Court participation in study

In April of 2001, a letter was sent to the court administrator of each court providing an overview of the project, seeking permission to proceed with data collection, and requesting contact information for the person at the court who would actually give us the citation data—in most cases, the court's case management system provider, or the person responsible for maintaining the court's paper files if there was not an electronic system in place (see Appendix B for copy of letter). Each letter was accompanied by the set of support letters for the project.

Depending on the type of system used by the court for case management and the initial response to our request for citation data, one or more follow-up contacts occurred, via letter, e-mail, telephone, fax, or some combination, during the subsequent three to four month period. All contacts were recorded on a master contact log.

A total of 161 of the 163 District and Municipal Courts contacted agreed to participate in the study and provided us with citation data. The remaining two courts refused to participate due to time and staffing constraints for one court, and concerns about protecting the confidentiality of violators for the other court.

2.3. Master Driving Record

To ensure that our records contained accurate driver license numbers and demographic information, we requested data from the DOS's master driving record for individuals who received a safety belt or child restraint citation between March 10, 1999 and March 9, 2001. From our review of the Michigan District Court citation data, two data files were sent to the DOS's office containing either the driver license number or, if license number was not available, the name and date of birth of individuals who received a safety belt or child restraint citation during the afore-mentioned time period. The first data file contained records in which we had a driver license number and a name. The second file contained records with a name and date of birth but no driver license number. The DOS's office matched these two files to the master driving record and returned an electronic file containing the full name, driver license number, address, sex, and date of birth for each person with a corresponding record in their master driving record database.

In order to verify the accuracy of our data entry procedures and to ensure that all records contained correct driver license numbers and demographic information, the data received from the DOS's office were matched to our safety belt citation data. When data from the citation data file did not match the information contained in the master driving record, data from the master driving record were used. If the DOS's office was unable to find a match and therefore, did not send data for that record, we used the information contained in the safety belt citation database.

2.2. Images

Because race information for citations is not recorded by the police, courts, or DOS, the race of those receiving safety belt citations was determined visually from the electronic driver license image. The DOS, Central Records Administration was contacted to obtain the images of motorists that had received a violation for safety belt or child restraint device nonuse, from the master driving record. A DOS employee directed us to the vendor (Polaroid/Digimarc) that houses all of the images for the DOS. Polaroid/Digimarc was contacted and informed of our request. UMTRI provided a complete list of driver license numbers to Polaroid/Digimarc of all safety belt and child restraint citations in our database. Polaroid/Digimarc extracted images for each valid driver license number for which there was an image available. These images were provided to UMTRI via CDs for analysis.

Upon receipt of the images, a hyperlink variable was created within the safety belt/child restraint citation database based upon the driver license number of each person in the database, and the physical location of the image file on the computer. Because each image was extracted by Polaroid/Digimarc as a separate *.jpg file, with the driver license number as the file name, each record could be linked to the appropriate image. Records for which there was no image were moved into a separate database (comprising 23 percent of the full database). The remaining records were divided into separate datasets for driver license numbers beginning with each letter of the alphabet. Alphabetic datasets with more than 20,000 records were further divided until no dataset was larger than 20,000 records. A form was created for each dataset that displayed only the driver license number, hyperlink, and choices for race identification. A single click on the hyperlink in the form automatically opened the appropriate image, a judgement of race was made, and the choice of White, Black/African American, or Other-race was entered into the form. The form was linked to the rest of the information in the dataset.

The race for each record with an image in the database was visually judged separately by two different people. After each person had completed his or her first 2,000 records and upon completion of each batch of records, reliability between data entry personnel was measured. Overall agreement was found to be above 95 percent. If there was disagreement on race for a particular image, a third person judged the race, and the race that was agreed upon between two of the three was permanently assigned as the race. If all three people disagreed (.33 percent of cases), two additional people jointly reviewed the image and made a final decision on the appropriate race. Finally, the database was examined to ensure that there was agreement regarding race for individuals who appeared in the database more than once (due to multiple citations). When disagreements were found, the race most frequently assigned to that individual was used as the permanent race assignment. If conflicting races were equally assigned, a final determination was made by a group of two people.

Five temporary employees were hired to complete the task of identifying race. Each person received a short training session to learn how to assign a race code and how the database program worked, and to review administrative policies and procedures. During the data entry period, temporary employees were monitored by project supervisors to ensure quality data entry, and answer any study-related questions. The task of race identification took approximately 1,550 person-hours to complete.

2.4. Complaints

Complaint information consisted of citizen complaints resulting from any type of traffic stop that occurred between March 10, 1999 and March 9, 2001, one year prior and one year following implementation of standard enforcement of the safety belt law. Law enforcement agencies are required to maintain records on all reported incidents of harassment. In addition, a section of Public Act 29 of 1999 (the Standard Enforcement Law), requires that all reported incidents of harassment resulting from the safety belt law be investigated. This section outlines the process of collecting these data from Michigan police and civil rights agencies.

A comprehensive list of all local police departments, Michigan State Police posts, and Sheriff offices was obtained through the Michigan Commission on Law Enforcement

Standards (http://www.mcoles.org/agency.html). This electronic file contained name and contact information for each police agency. In order to determine what type of information was recorded on the complaint forms, a sample of complaints was received from the Michigan State Police. Each police agency handles complaints differently. As a result, the complaint forms and the information collected from these forms differs somewhat.

Prior to beginning data collection, letters of support were received from Terrence Jungel, Executive Director, Michigan Sheriffs' Association, Ervin Portis, Legislative Committee Chair, Michigan Association of Chiefs of Police, and Tim Yungfer, Major, Michigan State Police (see Appendix A). These support letters, along with a letter outlining the study and asking for permission to proceed with data collection, were sent to all Police and Sheriff agencies throughout the state of Michigan. We requested copies of all traffic-stop-related citizen complaints on file with each department for incidents that occurred between March 10, 1999 and March 9, 2001.

Police agencies not responding to the initial letter requesting their participation, were contacted a minimum of three times via a combination of letter, telephone, facsimile, and/or electronic mail. Each attempt to contact an agency was logged on a spreadsheet.

A total of 551 of 593 police departments contacted participated in the study, representing a 93 percent response rate. For various reasons, 15 agencies refused to participate and 27 agencies did not respond. Departments with formal complaints on file provided us with copies for review. Once each complaint was thoroughly reviewed, the copies were destroyed.

We also made formal requests for similar complaint information from the American Civil Liberties Union (ACLU), the Michigan chapter of The National Association for the Advancement of Colored People (NAACP), and the Michigan Department of Civil Rights (MDCR). Only the MDCR provided the complaint data, even after six formal requests for information. In order to prevent double-counting, each complaint received from the MDCR was compared to all police agency complaints with the same incident date. Complaints to both agencies on the same incident were combined.

2.4. Direct Observation Survey

In order to determine whether or not certain groups of people were over or under-represented for receiving safety belt citations, it was necessary to know the violation rate of these groups. Fortunately, violations of Michigan's mandatory safety belt law can be determined visually on the roadways. Therefore, a direct-observation survey of safety belt nonuse in Michigan was designed and conducted so that we could estimate nonuse by sex, age, and race. The survey also allowed us to determine the presence of these groups on the roadways.

Sample Design

The goal of the sample design was to select observation sites that accurately represent front-outboard vehicle occupants in eligible commercial and noncommercial vehicles (i.e., passenger cars, vans/minivans, sport-utility vehicles, and pickup trucks) by race, age, and sex in Michigan. An ideal sample minimizes total survey error while providing sites which can be surveyed efficiently and economically. To achieve this goal, the following sampling procedure was used.

All 83 Michigan counties were rank ordered by population (U.S. Bureau of the Census, 1992) and the low population counties were eliminated from the sample space. This step reduced the sample space to 28 counties. In order to ensure that our sample was representative of the major racial groups in Michigan, these 28 counties were then rank ordered by percent of Black/African Americans within each county. The counties with a percentage smaller than 6 percent were removed, reducing the sample space to 13 counties. Vehicle miles of travel (VMT) were obtained for each county by roadway type (trunkline, city area non-trunkline, and non-city area non-trunkline). Safety belt use rates by county were also calculated using data from the most recent statewide direct observation survey of safety belt use in Michigan (Eby, Fordyce, & Vivoda, 2000). Wayne County was chosen as a separate stratum because of its disproportionately high percentage of Black/African American population and VMT. The remaining counties were rank ordered by percentage of Black/African Americans and divided into three additional strata. The stratum boundaries were high percentage of Black/African American population, medium percentage, and low percentage.

Within the thirteen counties in our sample, observations were conducted at 400 sites. This number was chosen to achieve a statistical precision of less than 5 percent relative error, to ensure adequate representation of safety belt use and nonuse for each day of the week and all daylight hours, and to ensure that a representative number of Black/African American motorists were observed in the sample. Sample counts of the race of motor vehicle occupants at several sites within two of the counties were also taken to help determine the proper number of necessary sites, and to estimate the approximate number of vehicles that would be observed at each site.

Since total VMT within each stratum were not equal, the number of observation sites chosen within each stratum was adjusted to account for this difference. In addition, differing amounts of VMT occur at different roadway types. Consequently, the number of trunkline, city area non-trunkline, and non-city area non-trunkline sites within each stratum was also adjusted. The percent of Black/African American residents in city and non-city areas within each county was also taken into account. This design resulted in the distribution noted in Table 1.

Table 1: Number of Observation Sites by Stratum and Type

Stratum	Counties	Trunkline Sites (N)	Non-Trunkline City Sites (N)	Non-Trunkline Non-City Sites (N)
1	Wayne	120	55	10
2	Berrien, Genesee, Muskegon, Saginaw	55	25	10
3	Kent, Oakland	40	15	10
4	Calhoun, Ingham, Jackson, Kalamazoo, Van Buren, Washtenaw	40	15	10

Within each stratum, observation sites were randomly assigned to a location using different methods for trunkline and non-trunkline sites. Trunkline sites within each stratum were selected so that each trunkline intersection had an equal probability of selection. Equal scale county maps were obtained and all of the exit ramps or intersections that occurred between a trunkline and any other street within a stratum were enumerated. Then a number between 1 and the total number possible in the stratum was randomly selected without replacement.

Once the trunkline site was chosen, the following procedure was used to determine the particular street (if the intersection was between two trunklines) and direction of traffic flow that would be observed. First, all possible combinations of direction of traffic flow on the trunkline(s) at the intersection were enumerated. The possibilities were then randomly sampled with equal probability.

The non-trunkline sites were also selected using a method that ensured each non-trunkline intersection within a stratum an equal probability of selection. First, the equal scale county maps were connected together for each stratum, and the grid pattern was numbered to create grid squares that were uniquely identified by two numbers, a horizontal (*x*) coordinate and a vertical (*y*) coordinate. The sites were chosen by selecting a random *x* and a random *y* coordinate and then identifying the corresponding grid square. Thus, each intersection had an equal probability of selection. If a single intersection was contained within the square, that intersection was chosen as an observation site. If the square did not fall within the stratum or there was no intersection within the square, then a new x, y coordinate was randomly selected. If more than one intersection was located within the grid square, all of the possible intersections were enumerated and a random number between 1 and the number of possible intersections was generated. The corresponding intersection then became the observation site. Once a site was chosen, it was noted whether or not it fell within the limits of a city. This random selection procedure was continued until the proper number of non-trunkline city and non-trunkline non-city sites had been chosen. The particular street and direction of traffic flow to be observed was determined in the same way as described for the trunkline sites.

The day of week and time of day for site observations were quasirandomly assigned to sites in such a way that all days of the week and all daylight hours (7:00 am - 7:00 pm) had essentially equal probability of selection. The sites were observed using a clustering procedure. That is, sites that were located spatially adjacent to each other were considered to be a cluster. Within each cluster, a shortest route between all of the sites was decided (essentially a loop) and each site was numbered. An observer watched traffic at all sites in the cluster during a single day. The day in which the cluster was to be observed was randomly determined. After taking into consideration the time required to finish all sites before darkness, a random starting time for the day was selected. In addition, a random number between one and the number of sites in the cluster was selected. This number determined the site within the cluster where the first observation would take place. The observer visited sites following the loop in either a clockwise or counterclockwise direction (whichever direction left them closest to UMTRI at the end of the day). This direction was determined by the project manager prior to sending the observer into the field. Because of various scheduling limitations (e.g., observer availability, number of hours worked per week) certain days and/or times were selected that could not be observed. When this occurred, a new day and/or time was randomly selected until a usable one was found.

The sample design was constructed so that each observation site was weighted by the traffic volume at the site. This was accomplished by selecting sites with equal probability and by setting the observation interval to a constant duration (50 minutes) for each site.[1] However, since all vehicles passing an observer could not be surveyed, a vehicle count of all eligible vehicles (i.e., passenger cars, vans/minivans, sport-utility vehicles, and pickup trucks) on the traffic leg under observation was conducted for a set duration (5 minutes) immediately prior to and immediately following the observation period (10 minutes total). The vehicle count was used to estimate the traffic volume at each site.

Table 2 shows descriptive statistics for the 400 observation sites. As shown in this table, the observations were fairly well distributed over day of week and time of day. Note that an observation session was included in the time slot that represented the majority of the observation period. If the observation period was evenly distributed between two time slots, then it was included in the later time slot. This table also shows that the majority of observations were conducted during either sunny or cloudy weather conditions.

Table 2: Descriptive Statistics for the 400 Observation Sites.

Day of Week		Observation Period		Weather	
Monday	16.0%	7-9 a.m.	7.5%	Sunny	53.0%
Tuesday	12.8%	9-11 a.m.	17.5%	Cloudy	36.5%
Wednesday	17.0%	11-1 p.m.	22.7%	Rain	9.0%
Thursday	9.0%	1-3 p.m.	28.0%	Snow	1.5%
Friday	16.2%	3-5 p.m.	20.3%		
Saturday	14.8%	5-7 p.m.	4.0%		
Sunday	14.2%				
TOTALS	100%		100%		100%

Data Collection

Data collection for the study involved direct observation of shoulder belt use, sex, race, estimated age, vehicle type, and vehicle purpose (commercial or noncommercial). Trained field staff observed shoulder belt use of drivers and front-right passengers traveling

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[1] Because of safety considerations, sites in the city of Detroit were observed for a different duration. See data collection section for more information.

in passenger cars, sport-utility vehicles, vans/minivans, and pickup trucks during daylight hours from April 8, 2001 through May 1, 2001. Observations were conducted when a vehicle came to a stop at a traffic light or a stop sign.

Two forms were used for data collection: a site description form and an observation form. The site description form (see Appendix C) provided descriptive information about the site including the site number, location, site type (freeway exit ramp or intersection), observer number, date, day of week, time of day, weather, and a count of eligible vehicles traveling on the proper traffic leg. A place on the form was also furnished for observers to sketch the intersection and to identify observation locations and traffic flow patterns. Finally, a comments section was available for observers to identify landmarks that might be helpful in characterizing the site (e.g., school, shopping mall) and to discuss problems or issues relevant to the site or study.

The second form, the observation form, was used to record safety belt use, driver and passenger information, and vehicle information (see Appendix C). Each observation form was divided into four boxes, with each box having room for the survey of a single vehicle. For each vehicle surveyed, shoulder belt use, sex, race, and estimated age for the driver as well as vehicle type were recorded on the upper half of the box, while the same information for the front-outboard passenger could be recorded in the lower half of the box if there was a front-outboard passenger present. Children riding in child safety seats (CSSs) were recorded but not included in any part of the analysis. Occupants observed with their shoulder belt worn under the arm or behind the back were noted but considered as belted in the analysis. Observers also recorded whether the vehicle was commercial or noncommercial. A commercial vehicle is defined as a vehicle that is used for business purposes and may or may not contain company logos. This classification includes vehicles marked with commercial lettering or logos, or vehicles with ladders or other tools on them. At each site, the observer carried several data collection forms and completed as many as were necessary during the observation period.

All sites in the sample were visited by one observer for a period of 1 hour, with the exception of sites in the city of Detroit. To address potential security concerns, these sites were visited by two-person teams of observers for a period of 30 minutes. Observations at other sites scheduled to be observed on the same day as Detroit sites were also completed by two observers. Because each team member at these sites recorded data for different lanes of traffic, the total amount of data collection time was equivalent to that at one-observer sites.

Upon arrival at a site, observers determined whether observations were possible at the site. If observations were not possible (e.g., due to construction or no traffic control device), observers called the field supervisor for instructions. Otherwise, observers completed the site description form and then moved to their observation position near the traffic control device.

Observers were instructed to observe vehicles in only the lane immediately adjacent to the curb, regardless of the number of lanes present. At sites visited by two-person teams, team members observed different lanes of the same traffic leg with one observer on the curb and one observer on the median (if there was more than one traffic lane and a median). If no median was present, observers were instructed to stand on diagonally opposite corners of the intersection.

At each site, observers conducted a 5-minute count of all eligible vehicles on the designated traffic leg before beginning safety belt observations. Observations began immediately after completion of the count and continued for 50 minutes at sites with one observer and 25 minutes at sites with two observers. During the observation period, observers recorded data for as many eligible vehicles as they could observe. If traffic flow was heavy, observers were instructed to record data for the first eligible vehicle they saw, and then look up and record data for the next eligible vehicle they saw, continuing this process for the remainder of the observation period. At the end of the observation period, a second 5-minute vehicle count was conducted at one-observer sites.

Observer Training

Prior to data collection, field observers participated in 5 days of intensive training including both classroom review of data collection procedures and practice field observations. Each observer received a training manual containing detailed information on field procedures for observations, data collection forms, and administrative policies and procedures. Included in the manual was a site schedule identifying the location, date, time, and traffic leg to be observed for each site (see Appendix D for a listing of the sites).

After intensive review of the manual, observers conducted practice observations at several sites chosen to represent the types of sites and situations that would actually be encountered in the field. None of the locations of the practice sites were the same as sites observed during the study. Training at each practice site focused on completing the site description form, determining where to stand and which lanes to observe, conducting the vehicle count, recording safety belt use, and determining sex, race, and age. Observers worked in teams of two, observing the same vehicles, but recording data independently on separate data collection forms. The forms were then compared for accuracy. Teams were rotated throughout the training to ensure that each observer was paired with every other observer. Each observer pair practiced recording safety belt use, sex, race, and age until there was a consistent interobserver reliability of at least 85 percent for all measures on drivers and front-right passengers for each pair of observers.

Each observer was provided with an atlas of Michigan county maps and all necessary field supplies. Observers were given time to locate their assigned sites on the appropriate maps and plan travel routes to the sites. After marking the sites on their maps, the marked locations were compared to a master map of locations to ensure that the correct sites had been pinpointed. Field procedures were reviewed for the final time and observers were informed that unannounced site visits would be made by the field supervisor during data collection to ensure adherence to study protocols.

Observer Supervision and Monitoring

During data collection, each observer was spot checked in the field on at least two occasions by the field supervisor. Contact between the field supervisor and field staff was also maintained on a regular basis through staff visits to the UMTRI office to drop off completed forms and through telephone calls from staff to report progress and discuss problems encountered in the field. Field staff were instructed to call the field supervisor's home or cellular phone if problems arose during evening hours or on weekends.

Incoming data forms were examined by the field supervisor and problems (e.g., missing data, discrepancies between the site description form and site listing or schedule) were noted and discussed with field staff. Attention was also given to comments on the site description form about site-specific characteristics that might affect future survey waves (e.g., traffic flow patterns, traffic control devices, site access).

Data Processing and Estimation Procedures

The site description form and observation form data were entered into an electronic format. The accuracy of the data entry was verified in two ways. First, all data were entered twice and the data sets were compared for consistency. Second, the data from randomly selected sites were reviewed for accuracy by a second party and all site data were checked for inconsistent codes (e.g., the observation end time occurring before the start time). Errors were corrected after consultation with the original data forms.

For each site, computer analysis programs determined the number of observed vehicles, belted and unbelted drivers, and belted and unbelted passengers. Separate counts were made for each independent variable in the survey (i.e., site type, time of day, day of week, weather, sex, race, age, seating position, and vehicle type). This information was combined with the site information to create a file used for generating study results.

Results

The current direct observation survey reports safety belt nonuse, which corresponds directly to the violation rate of Michigan's mandatory safety belt use law. However, our harassment analyses (Sections 3.3 and 3.4) used these violation rates to determine the proportions of groups in the non-safety-belt-use populations. For example, of all the safety belt nonusers, what proportion were men and what proportion were women? Table 3 shows the violation rates and proportions by seating position, sex, race, and age. The "unweighted Total Ns" after the violation rates are the total number of people observed in that category. The "unweighted Ns" after the proportions are the number of people in the nonuse population in that proportion. The "±" value following the rates and proportions indicates a 95 percent confidence band around the number. This value should be interpreted to mean that we are 95 percent sure that the actual rate falls somewhere within the band. The equations used for calculating the rates, proportions, and confidence intervals can be found in Appendix E.

Because the direct observation survey defines Wayne County as its own stratum, we can analyze harassment for this county separately. Table 4 shows the violation rates and proportions by seating position, sex, race, and age for Wayne County.

Table 3: Safety Belt Violation Rates and Proportions of Demographic Group in the Nonuser Population by Seating Position, Sex, Race, and Age Group

Seating Position and Demographic	Violation Rate, % (Unweigted Total N)	Proportion (Unweighted N)
All Occupants		
Overall	21.9 ± 1.1 (52,365)	N/A
Sex		
Male	27.2 ± 1.4 (28,570)	66.3 ± 1.9 (7,810)
Female	15.9 ± 1.2 (23,790)	33.7 ± 1.9 (3,823)
Race		
White	21.0 ± 0.9 (40,632)	80.1 ± 3.1 (8,598)
Black	26.0 ± 3.0 (10,137)	17.1 ± 3.1 (2,700)
Other	23.8 ± 3.7 (1,568)	2.6 ± .6 (338)
Age		
16-22	27.2 ± 2.6 (5,329)	13.9 ± 1.6 (1,575)
23-29	29.2 ± 2.8 (7,562)	18.9 ± 1.8 (2,207)
30-64	20.9 ± 1.2 (35,522)	59.4 ± 2.4 (6,718)
65+	16.1 ± 1.4 (5,360)	7.9 ± 1.6 (849)
Driver		
Overall	21.7 ± 1.1 (41,389)	N/A
Sex		
Male	26.3 ± 1.4 (24,419)	70.8 ± 1.8 (6,431)
Female	15.3 ± 1.2 (16,968)	29.2 ± 1.8 (2,584)
Race		
White	21.1 ± 1.0 (32,341)	81.2 ± 3.0 (6,787)
Black	25.3 ± 3.5 (7,915)	16.7 ± 3.1 (2,012)
Other	21.2 ± 3.2 (1,117)	2.1 ± .5 (217)
Age		
16-22	26.9 ± 2.6 (3,859)	11.3 ± 1.4 (1,086)
23-29	27.7 ± 2.7 (6,269)	18.9 ± 1.8 (1,732)
30-64	20.7 ± 1.2 (27,422)	62.6 ± 2.2 (5,590)
65+	16.1 ± 1.6 (3,793)	7.1 ± 1.3 (599)
Passenger		
Overall	22.4 ± 1.9 (10,976)	N/A
Sex		
Male	31.1 ± 3.0 (4,151)	47.6 ± 5.4 (1,379)
Female	17.4 ± 1.7 (6,822)	52.4 ± 5.4 (1239)
Race		
White	20.9 ± 1.8 (8,291)	76.3 ± 4.0 (1,811)
Black	29.0 ± 4.2 (2,222)	19.3 ± 3.8 (688)
Other	30.3 ± 7.1 (451)	4.5 ± 1.6 (121)
Age		
16-22	28.9 ± 3.4 (1,470)	22.4 ± 5.1 (489)
23-29	36.3 ± 5.2 (1,293)	20.9 ± 4.9 (475)
30-64	22.2 ± 2.7 (5,100)	47.0 ± 3.1 (1,128)
65+	14.3 ± 2.0 (1,567)	9.6 ± 2.5 (250)

Table 4. Safety Belt Violation Rates and Proportions of Demographic Group in the Nonuser Population of Wayne County by Seating Position, Sex, Race, and Age Group

Seating Position and Demographic	Violation Rate, % (Unweigted Total N)	Proportion (Unweighted N)
Occupant		
Overall	22.8 ± 1.5 (26,714)	N/A
Sex		
Male	28.3 ± 1.6 (14,864)	66.5 ± 2.8 (4,181)
Female	16.3 ± 1.4 (11,846)	33.5 ± 2.8 (1,971)
Race		
White	21.6 ± 1.2 (17,697)	65.3 ± 5.4 (3,776)
Black	23.1 ± 3.2 (8,049)	31.9 ± 5.5 (2,175)
Other	22.0 ± 7.3 (950)	2.9 ± .9 (203)
Age		
16-22	30.1 ± 4.0 (2,617)	15.6 ± 2.4 (863)
23-29	30.5 ± 2.1 (4,340)	21.1 ± 2.5 (1,279)
30-64	21.1 ± 1.7 (16,656)	56.3 ± 4.8 (3,513)
65+	15.6 ± 1.8 (2,348)	7.1 ± 2.5 (368)
Driver		
Overall	22.4 ± 1.4 (21,463)	N/A
Sex		
Male	27.5 ± 1.6 (12,784)	71.9 ± 2.2 (3,450)
Female	15.2 ± 1.3 (8,678)	28.1 ± 2.2 (1,339)
Race		
White	21.5 ± 1.1 (14,461)	66.9 ± 5.2 (3,026)
Black	22.3 ± 2.6 (6,288)	30.6 ± 6.0 (1,625)
Other	21.4 ± 6.8 (704)	2.6 ± .9 (138)
Age		
16-22	30.8 ± 3.3 (1,909)	10.7 ± 1.3 (594)
23-29	29.0 ± 2.3 (3,614)	21.4 ± 2.2 (1,001)
30-64	20.5 ± 1.7 (14,219)	61.1 ± 3.1 (2,923)
65+	16.7 ± 2.1 (1,693)	6.8 ± 1.4 (268)
Passenger		
Overall	24.4 ± 2.3 (5,251)	N/A
Sex		
Male	32.9 ± 2.5 (2,080)	45.0 ± 6.5 (731)
Female	19.2 ± 2.3 (3,168)	55.0 ± 6.5 (632)
Race		
White	22.3 ± 1.8 (3,236)	59.9 ± 6.4 (750)
Black	25.9 ± 4.9 (2,222)	36.2 ± 6.5 (550)
Other	25.4 ± 9.4 (246)	4.0 ± 3.6 (65)
Age		
16-22	32.1 ± 4.9 (708)	21.5 ± 6.4 (269)
23-29	37.7 ± 6.3 (726)	22.2 ± 3.2 (278)
30-64	24.3 ± 2.7 (2,437)	48.9 ± 5.5 (590)
65+	12.5 ± 3.2 (655)	7.4 ± 2.9 (100)

2.5. Questionnaire

A telephone questionnaire of people who had received a safety belt citation during the year following standard enforcement was conducted during October and early November, 2001. The survey consisted of questions on the following topics:

- General perceptions of safety belt use and importance of safety-belt use;
- Stated reasons for the stop;
- Police actions during the stop;
- Other citations issued;
- Police attitude during the stop;
- Number of previous stops;
- Perceptions of reason for the stop and citation;
- Respondent demographics, including race, age, and sex.

A complete copy of the questionnaire can be found in Appendix F. The interviews were carried out by MORPACE, International, a professional survey research company. The average interview time was approximately 10 minutes.

Sample Design

The objective of this sampling design was to set up procedures that would result in a sample of respondents that was representative of the population from which they were selected. Because the survey responses were to be analyzed by race of respondents, it was important that the number of Black/African American respondents be sufficient for such an analysis. Furthermore, because the proportion of Black/African Americans among those receiving safety belt citations was not known at the start of the project, obtaining a proportion of Black/African Americans in the sample similar to that in the population of Michigan became a priority in the sample design.

The population sampled consisted of Michigan residents who received safety belt citations in Michigan in the year following standard enforcement. A list of safety belt citations was obtained from District and Municipal Courts as described in Section 2.1. Because the population of Black/African Americans is not uniform throughout Michigan, a simple random sample from the overall list would not result in the required number or proportion of Black/African American respondents. Thus, a multi-stage clustering sample design was utilized.

The courts were divided into five strata based on geographic location and the percentage of Black/African Americans residing in the jurisdictions of the courts. A quota for each stratum was then set, based on the total population in that stratum and the chances that Black/African Americans would be driving within the area.

Table 5 shows the location of strata used for sampling, the percentage of Black/African Americans in the population, the number of District/Municipal courts, and target number of completed interviews.

Table 5: Descriptive Characteristics of the Five Strata Used for Telephone Survey Sampling

Stratum	Location	% Population African American	No. of Courts	Target Number of Respondents
1	Urban Detroit area	79.4%	5	200
2	SE Michigan (Balance of Wayne, Oakland, Macomb Counties)	8.6%	50	300
3	Urban lower, lower peninsula	25.1%	15	100
4	Rural lower, lower peninsula	4.3%	51	100
5	Upper lower/upper peninsula	1.4%	40	100
Total	--	--	161	800

Within each stratum, a fixed number of courts was selected randomly, proportional to the number of records in each court. Within each selected court, the same number of records was sampled across all selected courts within a stratum. A simple random sample was then used to sample the selected records within a stratum.

Telephone numbers for the sample were obtained through Telematch, a service that matches names and addresses with telephone numbers. A pretest of 30 interviews was conducted between September 19 and September 23, 2001. Between October 1 and November 4, 2001, 803 interviews were completed at MORPACE's telephone center, located in Sterling Heights.

Sample Disposition

Each telephone number was called up to six times. The final sample disposition for the questionnaire was as follows:

Sample Category	Frequency	Percent
Eligible	**2,717**	**38**
Completed Interview (I)	803	11
Partial Interview (P)	0	0
Refused/Respondent Terminated Mid-Survey (R)	783	11
No Contact/Scheduled for Callback (NC)	1,069	15
Language Barrier/Deaf (O)	62	1
Ineligible	**1,735**	**24**
Question Terminated	65	1
Disconnected/Changed/New Number	848	12
Wrong Number/Business Number	822	11
Unknown (U)	**2,765**	**38**
No Answer	1,002	14
Busy	214	3
Answering Machine	1,549	21
	7,217	100%

Two response rate calculations are presented, based on the American Association for Public Opinion Research (1998) recommendations. The minimum response rate (RR1) for this survey was 14.6 percent and maximum response rate (RR5) was 29.6 percent. These rates were calculated as follows:

RR1 = I/((I + P) + R + NC + O) + (U)) = 803/((803+0)+(783+1069+62)+(1216+1549)) = 14.6%
RR5 = I/((I + P) + R + NC + O)) = 803/((803+0)+(783+1069+62)) = 29.6%

3. RESEARCH QUESTIONS

3.1. Are more safety belt and child restraint citations issued by law enforcement officers under the new law as compared with the old law?

This question was addressed through analysis of the safety belt and child restraint citation information obtained from Michigan District and Municipal Courts, as described in Section 2.1. Data were analyzed using the Statistical Analysis Software (SAS) package for the year prior to standard enforcement (Pre; March 10, 1999 - March 9, 2000) and the year following (Post; March 10, 2000 - March 9, 2001). During the two-year period there were a total of 423,562 safety belt violations: 277,215 issued to drivers; 33,162 issued to passengers; and 113,185 with the seating position not indicated in the record. This large number of citation records with an unknown seating position (one-fourth of the citations), resulted from the fact that several jurisdictions in Michigan do not record seating position separately. Any analysis by seating position separately may be problematic since entire areas in Michigan would not be represented. On the other hand, analyses conducted on all occupants, regardless of seating position, do not have this problem. Therefore, all analyses in this report were conducted on data for all occupants.

Table 6 shows the number of safety belt violations for the Pre and Post years of the study, and the percentage change (% Δ) in safety belt citations between years by state of residence, case disposition, vehicle type, sex, race, and age. State of residence refers to whether the violator lived in Michigan or another state. The case disposition described how the violation was disposed in the court: A person can admit responsibility and be found guilty; (the outcome if the person simply pays their fine); a person can deny responsibility but be found guilty; the court may enter a default judgment (usually the person fails to pay their fine and does not come to court); a case can be dismissed (usually the person denies responsibility and is found not guilty); or some other case-outcome occurs.

When compared with the year before standard enforcement (Pre), there was about a 9 percent increase in overall citations written for safety belt violations the year following standard enforcement (Post). One possibility for this increase in citations is that there were more drivers in the Post-year than in the Pre-year and therefore more people eligible for a citation. Examination of the number of licensed drivers during the two years of the study shows that there was less than a 1 percent increase in drivers for the Post-year. Thus, changes in rates of citations per licensed driver differed little from the percentage changes in raw numbers presented in the table. The introduction of standard enforcement in Michigan appears to have led to an increase in the number of citations issued by law enforcement, as would be expected since the law makes it easier to pull over and cite safety-belt-law violators.

Table 6: Number of Safety Belt Citations by Year, and the Percentage Change Between Years, as a Function of Several Variables (All Occupants)

	Pre	Post	% Δ
Total	202,859	220,703	8.8
State			
Michigan	198,813	215,466	8.4
All Others	3,696	4,871	31.8
Disposition			
Admit-Resp.	110,844	134,178	21.1
Deny-Resp.	2,345	2,821	20.3
Default	52,096	52,743	1.2
Dismissed	15,371	10,609	-31.0
Other	2,627	1,526	-41.9
Vehicle Type			
Passenger	128,209	131,386	2.5
Pickup	30,359	38,366	26.4
Van	4,427	3,812	-13.9
Sex			
Male	144,081	162,073	12.5
Female	53,378	54,277	1.7
Race			
White	117,811	134,479	14.2
Black/Af Am	31,586	31,544	-0.1
Other	5,393	7,015	30.1
Age			
16-22	59,359	61,942	4.4
23-29	50,270	53,804	7.0
30-64	88,811	99,918	12.5
65-up	3,836	4,693	22.3

The study found that when compared with the Pre-year, the number of citations increased by about 8 percent for Michigan residents overall. Interestingly, there was more than a 30 percent increase for residents of other states overall. While low numbers of citations for this group make it difficult to interpret this finding with certainty, this result could indicate that non-Michigan residents may have not been aware of Michigan's standard enforcement law.

Analysis of citation data by case disposition showed several interesting trends. When compared to the Pre-year, there was about a 20 percent increase in the number of citations in which the person admitted responsibility or in which the person denied responsibility but was found guilty anyway. Conversely, there was about a 30 percent *decrease* in the number of citations that were dismissed. There was little change in the number of citations in which a default judgement was rendered. It appears that coincident with the implementation of standard enforcement there was a significant increase in the number of "convictions"[2] for violations of the safety belt law and a significant decrease in the number of citations that were dismissed. Standard enforcement does not seem to affect the number of citations in which the person fails to pay their fine leading to a default judgement.

The citation results by vehicle type showed that there was little increase for passenger vehicles. There was, however, a large increase in the number of citations written for pickup truck occupants. This is a logical finding since pickup truck occupants consistently have had the lowest safety belt use rates when compared to other vehicle types (see Eby, Fordyce, Vivoda, 2000; Eby, Vivoda, & Fordyce, 2002).

Analysis of citations received by males showed that citations increased by about 12 percent. Citations issued to females changed little. Safety-belt citations written to White

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[2] The word "conviction" is used here for convenience. Citations issued for violating Michigan's safety belt law are infractions, where people are either found responsible or not responsible. Technically, people are not convicted.

vehicle occupants increased overall by about 14 percent. Little change in the number of safety belt violations for Black/African American vehicle occupants was found. About a 30 percent increase was found for vehicle occupants of Other-races. Note that small numbers for Other-races make interpretation of these numbers tenuous. Finally, we found that the percentage change in the number of citations issued by age group increased with age. Again, because of low numbers of citations for the oldest age group, these results should be interpreted with caution.

The study also found that there were 19,969 child restraint violations issued during the Pre and Post years of the study. By law, child restraint law citations are issued to drivers. Table 7 shows the number of child restraint citations for each year, and the percentage change (% Δ) between years by state of residence, case disposition, vehicle type, sex, race, and age group. When compared to the year prior to standard enforcement (Pre), slightly fewer child restraint citations were issued by law enforcement during the year following standard enforcement. Thus, it appears that the implementation of standard safety belt enforcement had little effect on the number of child restraint citations issued. This result was expected since a violation of Michigan's child restraint law has been enforced in a standard fashion since the law was implemented in April, 1982.

Analysis of child restraint citations by state of residence, showed a slight decrease in citations for Michigan residents. We also found a slight increase for out-of-state residents. Again, the numbers for this group are small and this difference may not be meaningful.

The study found a slight increase in the number of child restraint citations in which the person admitted guilt and was found responsible (e.g., the fine is paid). The number of cases in which the person denied responsibility, the court rendered a default judgement, or the case was dismissed, all decreased. Analysis by vehicle type showed decreases for passenger vehicles and pickup trucks, but a nearly 8 percent increase for drivers of vans/minivans.

Table 7: Number of Child Restraint Citations by Year, and the Percentage Change Between Years, as a Function of Several Variables

	Pre	Post	% Δ
Total	10,085	9,884	-2.0
State			
Michigan	9,905	9,684	-2.2
All Others	173	180	4.1
Disposition			
Admit-Resp.	4,688	4,830	3.0
Deny-Resp.	159	146	-8.2
Default	3,253	3,111	-4.4
Dismissed	909	776	-14.6
Other	211	132	-37.4
Vehicle Type			
Passenger	6,758	5,997	-11.3
Pickup	768	692	-9.9
Van	246	265	7.7
Sex			
Male	4,164	4,094	-1.1
Female	5,722	5,658	3.0
Race			
White	4,231	4,117	-2.7
Black/Af Am	2,701	2,955	9.4
Other	559	660	18.1
Age			
16-22	1,647	1,682	2.1
23-29	3,371	3,240	-3.9
30-64	4,925	4,813	-2.3
65-up	80	87	8.8

Comparisons between Pre and Post years by sex showed a very slight decrease in the number of child restraint citations issued to males and a slight increase in the number of citations issued to females. Analysis by race showed a slight decrease in child restraint citations for White drivers, an increase (over 9 percent) for Black/African American drivers, and a larger increase for drivers of other races (about 18 percent). Finally, the study found that the number of child restraint citations for both the youngest and oldest driver age groups increased somewhat, while decreases were found in the other age groups.

In conclusion, when all occupant protection citations are considered by year, standard enforcement appears to have led to an increase in the number of safety belt citations issued and to have had little effect on child restraint citations.

3.2. How many incidents of harassment as a result of the enforcement of the law have been reported? How does this number compare with previous years? How does this number compare with other traffic violations?

As discussed in section 2.4, we requested all written complaints *resulting from a traffic stop* from each law enforcement agency in Michigan. As requested by the Michigan American Civil Liberties Union (ACLU), we also made formal requests for similar complaint information from the ACLU, the Michigan chapter of The National Association for the Advancement of Colored People (NAACP), and the Michigan Department of Civil Rights (MDCR). Of these, only the MDCR provided the complaint data, even after six formal requests for information. In order to prevent double-counting, each complaint received from the MDCR was compared to all police agency complaints with the same incident date. Complaints to both agencies on the same incident were combined.

Each complaint contained all, or a subset, of the following: the statement from the complainant; a copy of the citation if one was written; complaint investigation information; and a disposition. Each complaint was analyzed for the following variables:

- Date and time of incident;
- Age, race, sex, and state of residence of the complainant;
- Seating position and type of vehicle complainant was occupying;
- Age race and sex of the victim, if different from the complainant;
- Relationship of complainant and victim;
- Age, race and sex of the officer(s);
- Stated reason for the traffic stop;
- Whether an arrest warrant of narcotics was involved;
- Type of formal warning given, if any;
- Types of citation(s) given, if any;
- Whether the complainant/victim was handcuffed, searched, arrested, given a sobriety test, and/or asked to sit in a patrol car;
- Whether the complaint's/victim's vehicle was searched or impounded;
- The number of people in the complainant/victim's vehicle and the number of

officers responding to the incident;

- The action(s) leading to the complaint;
- The basis of the complaint (i.e., harassment, or something else);
- The agency's disposition of the complaint.

These data were entered into a spreadsheet and then converted into the proper form for analysis with the Statistical Analysis Software (SAS) package.

All complaints that did not arise from a traffic-stop, such as a crash or a pedestrian incident, were eliminated from the analysis. In addition, all complaints that were not harassment-related were eliminated from the analysis. For the purposes of this project, a harassment-related complaint was one in which the complainant mentioned being singled out or treated differentially for any reason during the traffic stop. Nonharassment-related complaints were either for people complaining about an error on the officer's part (e.g., "I was not speeding and I got a speeding ticket') or for complaints of general officer behavior (e.g., "This officer treats everyone with a lack of respect"), without any mention or implication by the complainant of being singled out or subjected to differential treatment.

A total of 259 traffic-stop harassment-related complaints were received for the two-year period between March 10, 1999 and March 9, 2001. Of these, 43.6 percent (113) were from traffic stops in the year prior to standard enforcement of the safety belt law and 56.4 percent (146) were from the year following implementation of standard enforcement.

Because this project was concerned with determining changes in the number of incidents of harassment resulting from the enforcement of the safety belt law, each complaint was analyzed for the presence of traffic-law enforcement activity and categorized based upon this activity. A safety-belt-related-harassment complaint was defined as a complaint that included a vehicle occupant being pulled over, warned, or cited for a lack of safety belt use. Similar definitions were used for enforcement of other traffic laws. For example, a speeding-related-harassment complaint was one in which a vehicle occupant was pulled over, warned, or cited for speeding. A complaint was included in multiple categories if multiple traffic law enforcement activity was present, such as lack of safety belt use and speeding.

During the two-year study period, 43 safety-belt-related-harassment complaints were found. Of these, 19 of the incidents occurred in the year before standard enforcement (Pre) and 24 occurred in the year following standard enforcement (Post). While the absolute number of safety-belt-related-harassment complaints has increased for Post-year, it is possible that factors unrelated to police behavior toward citizens account for this increase, such as the increase in the number of licensed drivers, increased number of safety belt citations written, or the increased number of traffic-stop-related-harassment complaints in general have increased. Table 8 shows the rates of safety-belt-related-harassment complaints for Pre and Post as a function of several measures.

Table 8: Safety-Belt-Related-Harassment Complaints Rates for Pre and Post Years.

Year	Per 10,000 safety belt/child safety seat citations	Per 1 million licensed drivers	Percent of total traffic-stop-related complaints
Pre	0.89	2.7	16.8
Post	1.03	3.4	16.4

As shown in Table 8, there was: 1) About one safety-belt-related-harassment complaint for every 10,000 safety belt and child safety seat citations issued by law enforcement in Michigan in both years; 2) About 3 safety-belt-related-harassment complaints for every 1 million licensed drivers in Michigan each year; and 3) About 16.5 percent of all traffic-stop-related-harassment complaints each year were safety-belt-related.

We were also interested in determining how safety-belt-related-harassment complaints compared to complaints related to other traffic-law enforcement activity. For this analysis we chose to compare safety-belt-related-harassment complaints to speeding, traffic control, vehicle registration, and equipment violation related harassment complaints. Since we do not know statewide citation rates for the non-safety-belt violations, we cannot compare complaints based on number of citations issued. Figure 1, however, shows harassment complaints per 1 million licensed drivers. As can be seen, speeding-related-harassment complaints were by far the most common for both years, while safety-belt-related-harassment complaints were about as frequent as the other types of complaints each year. Figure 2 shows each violation's harassment complaints as a percentage of the total traffic-stop-harassment complaints for each year. Again, speeding-related-harassment complaints are found in about one-quarter of all traffic-stop-harassment complaints each year and the proportion of safety-belt-related-harassment complaints is roughly the same as the proportions for other categories of complaints each year.

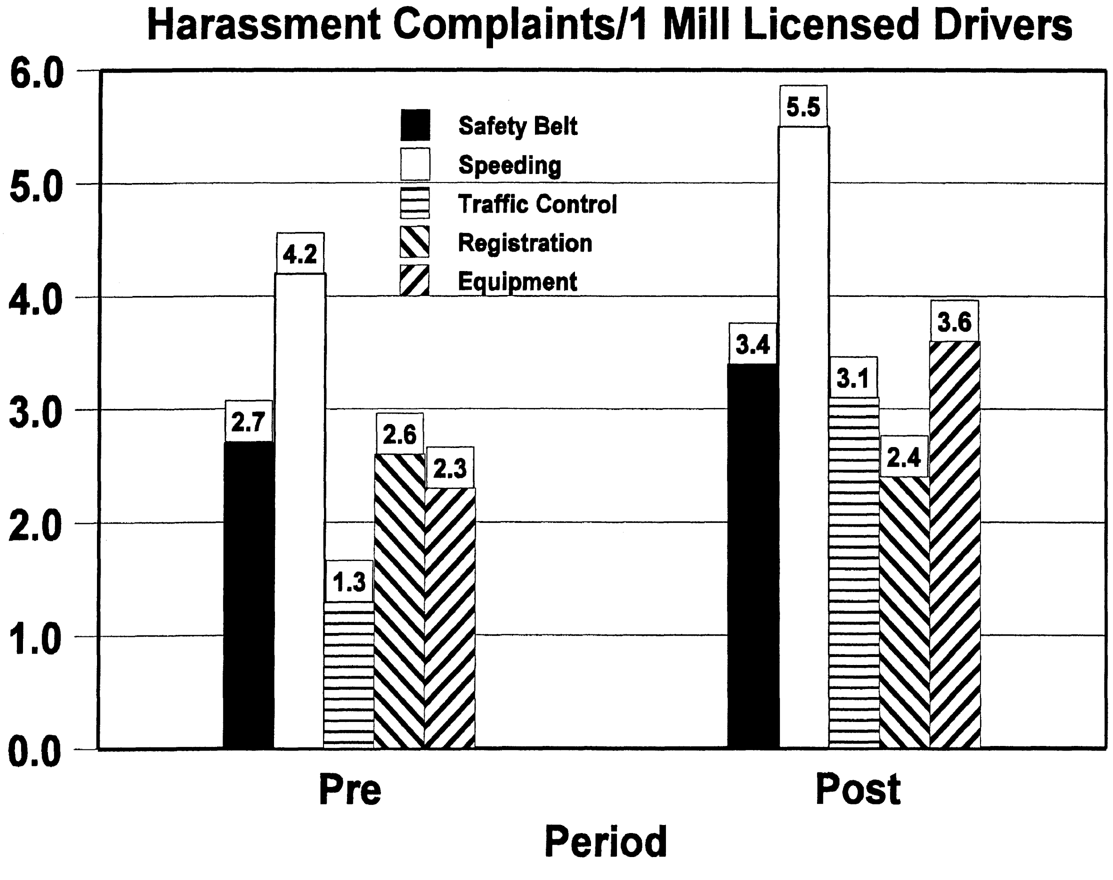

Figure 1: Harassment complaints related to various traffic violations per 1 million licensed drivers in Michigan.

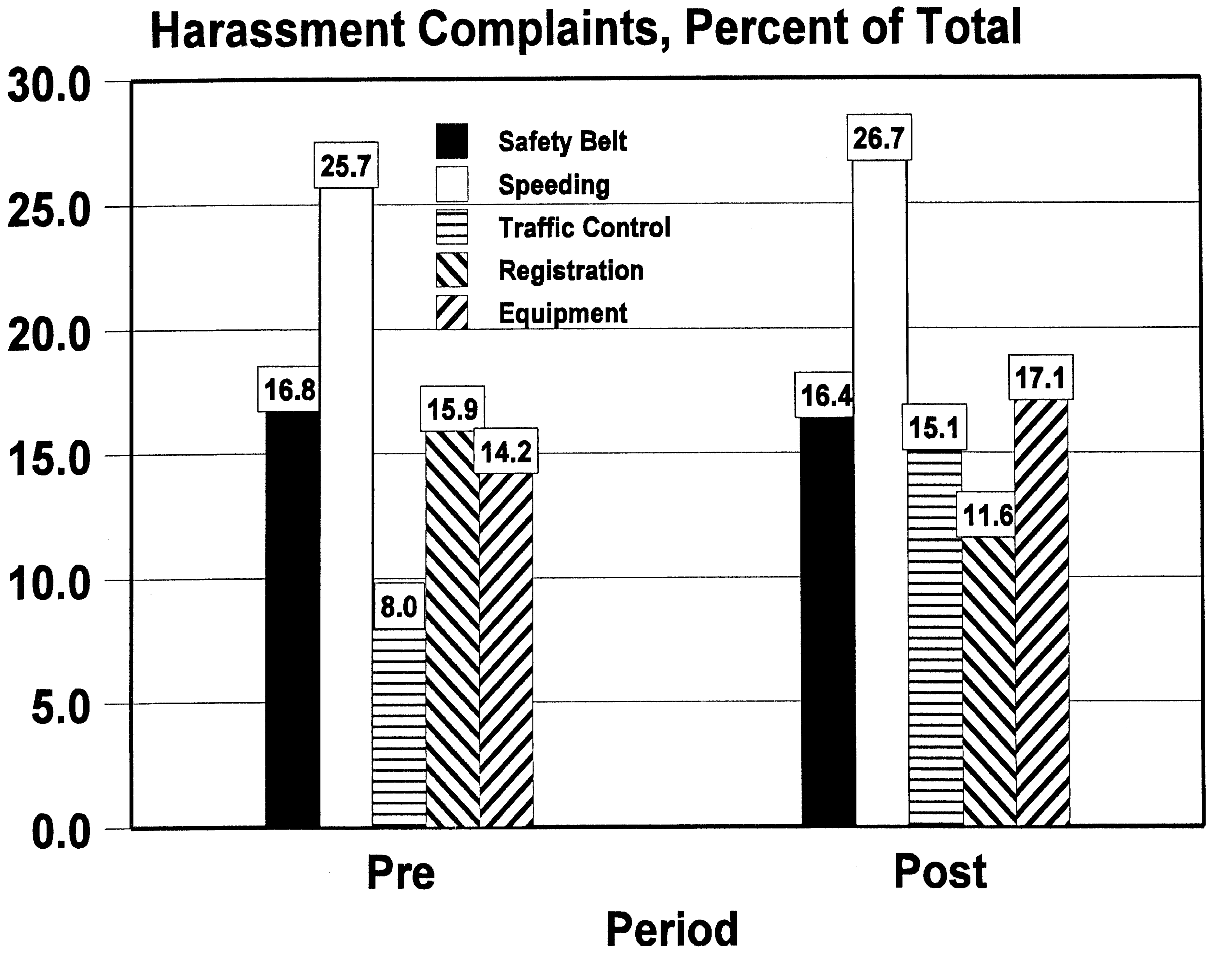

Figure 2: Harassment complaints related to various traffic violations as percentages of all harassment-related complaints.

Thus, based upon the lack of difference for safety-belt-related-harassment complaints between years and the similarity of these complaints to other categories of traffic-stop-harassment complaints, we conclude that there was no difference in the incidence of safety-belt-related-harassment complaints in the year following standard enforcement when compared to the year prior to standard enforcement.

3.3. Is there a statistical over/under representation of safety belt stops in a group considering that group's size in the population and the rate of safety belt use of the particular group? How does this over/under representation compare with previous years?

This set of questions is very important for understanding the effects of standard enforcement on police harassment. Unfortunately, most law enforcement agencies in Michigan do not currently collect driver information for traffic stops and none collected this information prior to implementation of standard enforcement. Therefore, comparison with previous years is impossible. The only way to collect current information would be to convince law enforcement agencies around the state to begin collecting driver information during stops in which no citation is issued (stops in which citations are issued are addressed in the next set of questions). This method was deemed untenable for the following reasons. First, because law enforcement is not required to collect this information, its collection would require significantly more work and many agencies would either be unable or unwilling to collect data on driver characteristic information during stops. Thus, the data collected on safety belt stops by those agencies willing and able to do so would not be generalizable to Michigan law enforcement and could be criticized on this basis. Second, the validity of data would be questionable. Collection of data by the agencies under assessment could lead to bias in the data collection process. Third, in previous UMTRI projects in which research data were collected by agencies not involved in the research, the data quality has been poor, with considerable missing, incomplete, and inaccurate data. For these reasons collectively, addressing safety belt harassment by looking at safety belt stops is not possible in Michigan. This set of questions was not addressed in the study and will be dropped from future reports.

3.4. Is there a statistical over/under representation of safety belt citations in a group considering that group's size in the population and the rate of safety belt use of the particular group? How does this over/under representation compare with previous years?

This set of questions was addressed with respect to race (White, Black/African American, all other races), sex (male, female), and age group (16-to-22, 23-to-29, 30-to-64, 65-up). In addition to statewide analyses, we also analyzed data for Wayne County separately. In order to answer these questions, three types of information were analyzed: safety belt nonuse rates (violation rates) for each group to be considered as described in Section 2.4 ; the proportion of each group in the driving population (Section 2.4); and the number of citations written for each group (Section 2.1).

The statistical over/under representation of safety belt citations for each group was analyzed by comparing the proportions of each group in the population of safety belt law violators to the proportions of these same groups in the population of people actually receiving safety belt citations. If the comparison found no statistical difference between the proportions for a group, then we concluded that no safety-belt-citation over-representation had occurred for that group. On the other hand, if a safety-belt-violation proportion was statistically *lower* than the citation proportion, then we concluded that the group under consideration was receiving more citations than would be expected, and that they are over-represented in the citation group.

As described in Appendix G, z-tests were used to compare proportions for each group. In order to reduce the chance of concluding erroneously that over-representation was present for a group, prior to analysis we set the significance level of our statistical test at: $p<.0001$. Note that the direct observation survey of safety belt use is conducted only during daylight hours. As such, the violation rates used in this analysis can only be applied to daylight hours. Therefore, all analyses use the number of citations written during daylight hours only (see Appendix G).

Table 9 shows proportions of each group in the safety-belt-law-violator group ($Prop_V$), proportions of each group in the daylight-safety-belt-citation group ($Prop_C$), the standard error of the difference between the proportions (SE_D), and whether or not over-representation was present for the Post-Year of the study. As can be seen in this table, we found some significant differences between the proportions. The study revealed that males received citations at a rate significantly higher than would be expected based upon their violation rate (over-representation), while women received citations at a rate significantly lower. The analysis by race showed that there was no significant difference between proportions for Whites and Black/African Americans. There was, however, over-representation for the Other-race category, with people from other races receiving citations at a rate that was higher than would be expected based upon this group's violation rate. Because of the small number of people in the direct observation survey for the other-race group, this result should be interpreted with caution. The analysis by age showed significant differences for all age groups. Vehicle occupants under 30 years of age received citations at a rate that was higher than would be expected (over-representation), while those over 29 years of age received citations at a rate that was lower than would be expected relative to violation rates.

Table 9: Statewide Proportions of Safety Belt Law Violators and Citations by Group – Post Year, All Occupants

	$Prop_V$ %	$Prop_C$ %	SE_D	Over-Representation?
Sex				
Male	66.3	74.0	.010¶	Yes
Female	33.7	26.0	.010¶	No
Race				
White	80.1	74.5	.016	No
Black/Af Am	17.1	21.3	.016	No
Other	2.6	4.2	.003¶	Yes?
Age				
16-22	13.9	25.6	.008¶	Yes
23-29	18.9	24.4	.009¶	Yes
30-64	59.4	47.5	.013¶	No
65+	7.9	2.5	.008¶	No

¶ Significant at $p<.0001$.

Table 10 shows $Prop_V$, $Prop_C$, SE_D, and whether or not citation over-representation was present for the Pre-Year of the study. Data from a previous direct observation study were used for determining violation proportions by sex and age. Since we did not know the violation proportions for the race groups in the year prior to standard enforcement, we used the same proportions as found in the year following standard enforcement for these analyses. These are conservative estimates of the violation rates, since research in Michigan (Eby, Vivoda, & Fordyce, 2002a) has suggested that the implementation of standard enforcement may have led to a larger increase in safety belt use for Black/African Americans than for Whites. The age groups in the Pre-year are slightly different than those used in the Post-Year, because the only data available in the Pre-year utilized different age groups. As can be seen in this table, the main difference in results between years is that both Black/African Americans and Whites had significant differences between their violation proportions and their respective citation proportions, with Whites receiving fewer citations and Black/African Americans receiving more citations than would be expected based upon violation rates. In other words, prior to standard enforcement, Black/African Americans were over-represented in the citation proportion. However, as shown in Table 9, this was no longer the case after the implementation of standard enforcement.

Table 10: Statewide Proportions of Safety Belt Law Violators and Citations by Group – Pre-Year, All Occupants

	$Prop_V$ %	$Prop_C$ %	SE_D	Over-Representation?
Sex				
Male	64.2	71.4	.017¶	Yes
Female	35.8	28.6	.017¶	No
Race				
White	80.1	73.7	.016¶	No
Black/Af Am	17.1	22.9	.016¶	Yes
Other	2.6	3.4	.003	No
Age				
16-29	33.6	51.5	.022¶	Yes
30-60	57.2	44.6	.019¶	No
60+	9.2	3.9	.011¶	No

¶ Significant at p<.0001.

Table 11 shows $Prop_V$, $Prop_C$, SE_D, and the presence of citation over-representation for the Post-Year of the study for Wayne County separately. The analyses revealed that males in Wayne County received citations at a rate significantly higher than would be expected based upon their violation rate, while women received citations at a rate significantly lower. The analysis by race in Wayne County showed that for all occupants Black/African Americans received citations at a rate higher than would be expected based upon their violation rate, while Whites received citations at a lower rate. There was no difference for the Other-race category. The analysis by age group showed a significant difference between proportions for only the youngest age group who received citations at a rate that is higher than would be expected based on their violation rate.

Table 11: Wayne County Proportions of Safety Belt Law Violators and Citations by Group – Post Year, All Occupants

	$Prop_V$ %	$Prop_C$ %	SE_D	Over-Representation?
Sex				
Male	66.5	74.9	.014¶	Yes
Female	33.5	25.1	.014¶	No
Race				
White	65.3	52.9	.028¶	No
Black/Af Am	31.9	42.8	.028¶	Yes
Other	2.9	4.2	.005	No
Age				
16-22	15.6	20.7	.012¶	Yes
23-29	21.1	25.1	.013	No
30-64	56.3	51.3	.025	No
65+	7.1	2.9	.013	No

¶ Significant at $p<.0001$.

Table 12 shows $Prop_V$, $Prop_C$, SE_D, and the presence of citation over-representation for the Pre-Year of the study for Wayne County. The analyses revealed that unlike in the Post-Year, there were no significant differences between proportions for males or females. The analysis by race in Wayne County prior to standard enforcement showed that Black/African Americans received citations at a rate higher than would be expected based upon their violation rate, while Whites received citations at a lower rate, similar to findings for the Post-year period. There were no differences for the Other-race category as in the Post-Year. As in the Post Year, the Pre-Year analyses by age showed that young occupants received citations at rates higher than would be expected, while occupants over 60 received citations at rates that are lower than would be expected. In summary, there does not appear to be much difference in the over-representation of citations after the implementation of standard enforcement compared to before its implementation.

Table 12: Wayne County Proportions of Safety Belt Law Violators and Citations by Group – Pre-Year, All Occupants

	$Prop_V$ %	$Prop_C$ %	SE_D	Over-Representation?
Sex				
Male	62.9	72.9	.031	No
Female	37.1	27.1	.031	No
Race				
White	65.3	49.0	.028¶	No
Black/Af Am	31.9	47.7	.028¶	Yes
Other	2.9	3.4	.005	No
Age				
16-29	32.2	49.0	.028¶	Yes
30-60	58.8	47.2	.032	No
60+	8.7	3.8	.012¶	No

¶ Significant at $p<.0001$.

3.5. Is there a statistical over/under representation of safety-belt convictions in a group considering that group's size in the population and the rate of safety belt use of the particular group? How does this over/under representation compare with previous years?

This set of questions was investigated in the same way as the questions in Section 3.4., except that safety belt citations that resulted in convictions, rather than simply all citations, were analyzed. For these analyses, "convictions" were defined as citations in which the person pays the fine, a default judgment is rendered, or the judge pronounces the person guilty of violating the safety belt law. As shown in Table 6, of the 220,703 citations issued in the Post Year and the 202,859 citations in the Pre-Year, 189,742 (Post; 86 percent) and 165,285 (Pre; 81 percent) resulted in a conviction and 12,135 (Post; 5.5 percent) and 18,826 (Pre; 8.5 percent) had an unknown disposition.

Table 13 shows proportions of each group in the safety-belt-law-violator group (Prop_V), proportions of each group in the daylight-safety-belt-citation-conviction group (Prop_C), the standard error of the difference between the proportions (SE_D), and the presence of citation over-representation for the year following standard enforcement (Post-Year). The study revealed that males received citations resulting in convictions at a rate significantly higher than would be expected based upon their violation rate (over-representation), while women received citations that resulted in convictions at a rate significantly lower relative to their violation rate. No difference in proportions was found for Whites or Black/African Americans. There was, however, a significant difference for the Other-race category. People from Other-races received citations resulting in convictions at a rate higher than would be expected based upon this group's violation rate. Again, because of small numbers of people in the direct observation survey for the other-race group, this result should be interpreted with caution. The analysis by age showed significant differences for all age groups. Vehicle occupants under 30 years of age received citations resulting in convictions at rates higher than would be expected (over-representation), while those over 29 years of age received citations at rates lower than would be expected. These results were nearly identical to the analyses of all citations (Section 3.4), as would be expected based upon the high conviction rates.

Table 13: Statewide Proportions of Safety Belt Law Violators and Citations Resulting in Convictions by Group – Post Year, All Occupants

	$Prop_V$ %	$Prop_C$ %	SE_D	Over-Representation?
Sex				
Male	66.3	74.0	.010¶	Yes
Female	33.7	26.0	.010¶	No
Race				
White	80.1	75.5	.016	No
Black/Af Am	17.1	20.3	.016	No
Other	2.6	4.2	.003¶	Yes?
Age				
16-22	13.9	25.6	.008¶	Yes
23-29	18.9	24.4	.009¶	Yes
30-64	59.4	47.4	.013¶	No
65+	7.9	2.5	.008¶	No

¶ Significant at p<.0001.

Table 14 shows $Prop_V$, $Prop_C$, SE_D, and the presence of citation over-representation for the Pre-Year. Citation over-representation was found for males and occupants 16-29 years of age. These results were nearly identical to those found in the Post-year and to those found when all citations were analyzed (Section 3.4).

Table 14: Statewide Proportions of Safety Belt Law Violators and Citations Resulting in Convictions by Group – Pre-Year, All Occupants

	Prop_V %	Prop_C %	SE_D	Over-Representation?
Sex				
Male	64.2	71.4	.017¶	Yes
Female	35.8	28.6	.017¶	No
Race				
White	80.1	75.5	.016	No
Black/Af Am	17.1	21.1	.016	No
Other	2.6	3.3	.003	No
Age				
16-29	33.6	51.6	.022¶	Yes
30-60	57.2	44.5	.019¶	No
60+	9.2	3.9	.011¶	No

¶ Significant at $p<.0001$.

Table 15 shows Prop_V, Prop_C, SE_D, and the presence of citation over-representation for the Post-Year in Wayne County. The study showed that in Wayne County, males received citations that resulted in convictions at a rate higher than would be expected based upon their violation rate (over-representation) and women received significantly fewer citations. Analysis by race in Wayne County revealed that Whites received significantly fewer citations resulting in convictions than would be expected based on their violation rates, while there were no significant differences for Black/African Americans or Others. We found occupants under 23 years of age received citations resulting in convictions at rates higher than would be expected. Again, these results are quite similar to the results in Section 3.4., where all citations, regardless of disposition, were analyzed.

Table 15: Wayne County Proportions of Safety Belt Law Violators and Citations Resulting in Convictions by Group – Post Year, All Occupants

	Prop_V %	Prop_C %	SE_D	Over-Representation?
Sex				
Male	66.5	74.9	.014¶	Yes
Female	33.5	25.1	.014¶	No
Race				
White	65.3	54.1	.028¶	No
Black/Af Am	31.9	41.6	.028	No
Other	2.9	4.3	.005	No
Age				
16-22	15.6	20.8	.012¶	Yes
23-29	21.1	25.3	.013	No
30-64	56.3	51.0	.025	No
65+	7.1	2.9	.013	No

¶ Significant at $p<.0001$.

Table 16 shows Prop_V, Prop_C, SE_D, and the presence of citation over-representation for the Pre-Year in Wayne County. Prior to standard enforcement, there were no differences between violation and conviction proportions for males or females. Analysis by race revealed that Whites received significantly fewer citations resulting in convictions than would be expected, while Black/African Americans received significantly more (over-representation). We found that those under 30 years of age received citations that resulted in convictions at rates higher than would be expected, while those older 29 years of age received citations at rates lower than would be expected. Thus, when compared with the Post-year results (Table 15), there were no changes in citation over-representation after the implementation of standard enforcement in Wayne County, except for Other-races which may have increased. Findings for Other-race, as we have previously discussed, may not be meaningful because of the low number of people observed in this category during the field data collection to determine violation rates. Thus, we conclude that the implementation of standard enforcement in Wayne County did not lead to over-representation of citations resulting in convictions. Finally, when these results are compared to the findings in Section 3.4, where all citations, regardless of the disposition, were analyzed, we find little difference in the results. This result suggests that analyses of citations resulting in convictions may not be worthwhile to conduct in the future.

Table 16: Wayne County Proportions of Safety Belt Law Violators and Citations Resulting in Convictions by Group – Pre-Year, All Occupants

	$Prop_V$ %	$Prop_C$ %	SE_D	Over-Representation?
Sex				
Male	62.9	72.9	.031	No
Female	37.1	27.1	.031	No
Race				
White	65.3	51.4	.028¶	No
Black/Af Am	31.9	45.2	.028¶	Yes
Other	2.9	3.4	.005	No
Age				
16-29	32.2	49.4	.028¶	Yes
30-60	58.8	46.8	.032¶	No
60+	8.7	3.7	.012¶	No

¶ Significant at $p<.0001$.

3.6. Do cited drivers perceive safety belt harassment?

Another way to assess harassment resulting from safety-belt-law enforcement is to examine the perceptions of people who have received citations for nonuse of a safety belt. As described in Section 2.5, we assessed perceptions of safety-belt harassment by conducting a telephone questionnaire survey of a randomly-selected sample of drivers cited for a violation of Michigan's safety belt law. Results were weighted by the demographics of those cited for a safety belt violation in Michigan. Results are presented for each question by all respondents, and by sex, race, and age. Note that because of University of Michigan Institutional Review Board requirements, only respondents 18 years of age or older were selected to participate in the study.

Table 17: Respondent Demographics

Category	% (Unwgt. N)
Sex	
Male	73.2 (577)
Female	26.8 (226)
Race	
White	76.4 (606)
Black/Af Amer	19.4 (153)
Other	3.7 (37)
Age	
18-22	25.9 (150)
23-29	25.5 (117)
30-64	45.6 (486)
65+	2.5 (45)
Education	
Less than HS	10.5 (86)
HS grad	41.7 (319)
Some college	29.2 (233)
College grad	12.6 (103)
Grad school or more	4.8 (46)
Other	1.3 (9)
Household income	
Less than $25,000	16.6 (121)
$25,000-$49,999	37.6 (256)
$50,000-$74,999	25.8 (173)
$75,000-$99,999	12.9 (90)
$100,000-$124,999	4.0 (27)
$125,000 or more	3.1 (24)

Table 17 shows the demographics of the survey respondents. The percentages by age, race, and sex matched with the population percentages of those receiving safety belt citations in Michigan, as was intended in the statistical weighting. The majority of those receiving safety belt citations had a high school degree or less. About 80 percent had a household income of less than $75,000.

Table 18 shows the number of self-reported accidents in which respondent's were involved in the last 5 years. Overall, about one-half of respondents reported no accidents, 27 percent had been involved in one accident, and about 19 percent had been involved in two or more accidents. There was little difference by sex or race. Analyses by age group showed that the percent of subjects reporting accidents decreased with age until 64, and then increased.

Table 18: How many motor vehicle accidents have you been involved in as a driver or passenger in the last five years?

Demographic	0 % (Unwgt. N)	1 % (Unwgt. N)	2 % (Unwgt. N)	3 % (Unwgt. N)	4+ % (Unwgt. N)
Overall	54.3 (470)	27.0 (213)	9.4 (62)	5.3 (33)	4.0 (24)
Sex					
Male	56.2 (339)	28.5 (157)	8.2 (39)	4.8 (20)	2.3 (10)
Female	52.9 (131)	24.5 (56)	13.5 (23)	7.0(13)	2.1 (3)
Race					
White	56.0 (353)	28.0 (164)	9.8 (50)	4.4 (20)	1.8 (8)
Black/Af Amer	51.1 (87)	25.1 (39)	10.1 (11)	9.2 (11)	4.5 (5)
Other	59.7 (26)	28.8 (9)	3.8 (1)	7.7 (2)	-- (0)
Age					
18-22	37.8 (53)	29.2 (42)	16.5 (23)	11.4 (15)	5.1 (7)
23-29	48.5 (57)	30.0 (35)	12.2 (14)	6.6 (8)	2.7 (3)
30-64	67.8 (329)	25.0 (120)	4.9 (23)	1.8 (9)	0.7 (3)
65+	64.9 (28)	30.7 (15)	1.4 (1)	3.0 (1)	-- (0)

The study found that the majority of those surveyed reported themselves to be frequent safety belt users (Table 19), with about 75 percent reporting their belt use as "most of the time" or "always." Females reported more frequent use than males. Black/African Americans reported more frequent safety belt use than Whites. Self-reported safety belt use increased with age. People receiving safety belt citations in Michigan, in general, thought that safety belts were effective in preventing serious injury in motor vehicle crashes (Table 20), with perceived effectiveness following the same demographic trends as self-reported safety belt use.

Table 19: In general, how often would you say you wear your seatbelt when you are traveling in a motor vehicle?

	Always % (Unwgt. N)	Most of the time % (Unwgt. N)	Some of the time % (Unwgt. N)	Never % (Unwgt. N)
Overall	38.7 (330)	35.6 (280)	19.7(144)	6.0 (48)
Sex				
Male	33.7 (210)	37.9 (212)	21.5 (113)	7.0 (41)
Female	52.6 (120)	29.3 (68)	14.8 (31)	3.3 (7)
Race				
White	37.5 (239)	33.1 (202)	22.0 (120)	7.3 (44)
Black/Af Am	43.4 (72)	44.1 (60)	10.6 (17)	1.9 (4)
Other	43.8 (19)	39.2 (15)	17.0 (5)	-- (0)
Age				
18-22	32.5 (49)	38.9 (57)	20.2 (31)	8.4 (13)
23-29	33.8 (41)	37.0 (43)	25.8 (29)	3.4 (4)
30-64	44.9 (219)	32.2 (157)	16.6 (79)	6.4 (30)
65+	41.4 (19)	45.0 (20)	12.2 (5)	1.4 (1)

Table 20: How effective do you think seatbelts are in preventing serious injury in motor vehicle accidents?

	Very effective % (Unwgt. N)	Somewhat effective % (Unwgt. N)	Not very effective % (Unwgt. N)	Don't know % (Unwgt. N)
Overall	48.2 (390)	43.0 (327)	5.3 (40)	3.5 (34)
Sex				
Male	46.9 (271)	42.5 (233)	6.5 (34)	4.1 (29)
Female	51.7 (119)	44.4 (94)	2.2 (6)	1.7 (5)
Race				
White	45.9 (280)	45.2 (259)	5.4 (32)	3.5 (26)
Black/Af Amer	56.9 (88)	35.2 (52)	5.3 (6)	2.7 (4)
Other	50.5 (20)	38.5 (14)	3.8 (1)	7.2 (4)
Age				
18-22	43.8 (66)	48.7 (74)	6.6 (9)	1.0 (1)
23-29	46.5 (55)	45.9 (52)	5.0 (5)	2.6 (3)
30 -64	51.5 (246)	39.0 (186)	4.7 (22)	4.8 (24)
65+	57.3 (22)	26.6 (13)	7.6 (4)	8.5 (4)

Just over one-half of respondents favored Michigan's mandatory safety belt law (Table 21), with 43 percent indicating that they opposed it. Both men and Whites were about equally split on whether they favored or opposed the law, while two-thirds of women and Black/African Americans favored the law. The percentage of those in favor of the law increased with age group, from about one-half for the youngest respondents to about two-thirds for the oldest respondents. When asked about the standard-enforcement provision of Michigan's safety belt law, respondents overall tended to be opposed, with the highest levels of opposition found among males, Whites, and those under 65 years of age (Table 22).

Table 21: Do you favor or oppose Michigan's law that requires adults in the front seat of a motor vehicle to wear a seatbelt?

	Favor % (Unwgt. N)	Oppose % (Unwgt. N)	Undecided % (Unwgt. N)
Overall	52.8 (429)	43.0 (338)	4.3 (32)
Sex			
Male	47.8 (283)	48.2 (270)	4.0 (21)
Female	66.1 (146)	28.9 (68)	5.0 (11)
Race			
White	48.6 (298)	47.7 (285)	3.7 (20)
Black/Af Amer	69.3 (106)	24.9 (37)	5.9 (10)
Other	55.0 (24)	37.2 (12)	7.8 (2)
Age			
18-22	49.2 (73)	46.2 (70)	4.6 (7)
23-29	53.1 (63)	41.7 (47)	5.2 (6)
30-64	54.0 (263)	42.5 (203)	3.5 (17)
65+	64.9 (28)	28.3 (15)	6.8 (2)

Table 22: Do you favor or oppose the part of Michigan's seatbelt law that allows police to pull someone over for not wearing his or her seatbelt even if there is no other traffic violation?

	Favor % (Unwgt. N)	Oppose % (Unwgt. N)	Undecided % (Unwgt. N)
Overall	28.1 (223)	69.4 (556)	2.5 (20)
Sex			
Male	23.8 (137)	74.5 (427)	1.7 (11)
Female	40.1 (86)	55.2 (129)	4.7 (9)
Race			
White	24.2 (149)	73.2 (440)	2.5 (16)
Black/Af Amer	44.2 (62)	53.7 (87)	2.1 (3)
Other	28.6 (12)	68.1 (24)	3.3 (1)
Age			
18-22	28.5 (42)	68.0 (103)	3.5 (5)
23-29	31.8 (38)	66.7 (75)	1.5 (2)
30-64	25.6 (126)	72.1 (347)	2.3 (11)
65+	38.5 (17)	56.3 (26)	5.2 (2)

When asked how often they see police patrolling the roads, respondents reported relatively frequent police presence on freeways (Table 23), with nearly 60 percent reporting that they see police on one-half or more of their freeway trips. Perceived police presence on freeways differed little by sex, race, or age. The study showed that people perceived an even greater police presence on nonfreeway roads than freeways (Table 24) with nearly three-quarters of respondents reporting seeing police about one-half the time or more. Again, little difference was found by sex, race, or age.

Table 23: How often do you see police patrolling the FREEWAYS in Michigan, such as I-94, I-96, and I-75?

	All the time % (Unwgt. N)	Most of the time % (Unwgt. N)	About half the time % (Unwgt. N)	Some of the time % (Unwgt. N)	Never % (Unwgt.N)	Don't know % (Unwgt.N)
Overall	11.0 (96)	23.8 (190)	22.3 (167)	36.6 (292)	3.4 (24)	2.9 (27)
Sex						
Male	11.9 (76)	23.8 (135)	22.1 (121)	36.7 (210)	3.6 (18)	1.9 (13)
Female	8.6 (20)	23.5 (55)	22.8 (46)	36.4 (82)	3.0 (6)	5.7 (14)
Race						
White	9.8 (66)	23.3 (138)	22.9 (132)	37.5 (224)	3.4 (18)	3.1 (21)
Black	14.5 (22)	22.4 (37)	22.3 (31)	34.4 (52)	4.3 (6)	2.2 (5)
Other	17.4 (7)	39.8 (14)	11.0 (4)	27.9 (13)	-- (0)	3.8 (1)
Age						
18-22	8.3 (12)	25.9 (39)	21.3 (32)	38.6 (57)	4.8 (7)	1.2 (2)
23-29	8.2 (10)	20.7 (24)	26.9 (31)	37.0 (44)	4.8 (5)	2.4 (3)
30-64	13.8 (66)	24.0 (116)	20.5 (97)	36.3 (176)	1.6 (8)	3.8 (18)
65+	12.7 (6)	25.0 (9)	16.7 (6)	25.8 (15)	8.5 (4)	11.3 (4)

Table 24: How often do you see police patrolling NON-FREEWAY ROADS in Michigan?

	All the time % (Unwgt. N)	Most of the time % (Unwgt. N)	About half the time % (Unwgt. N)	Some of the time % (Unwgt. N)	Never % (Unwgt. N)	Don't know % (Unwgt. N)
Overall	21.2 (159)	32.7 (255)	18.6 (149)	25.8 (223)	1.5 (13)	0.2 (3)
Sex						
Male	19.6 (103)	32.5 (182)	18.8 (106)	27.4 (174)	1.3 (8)	0.3 (3)
Female	25.6 (56)	33.0 (73)	18.1 (43)	21.2 (49)	2.1 (5)	-- (0)
Race						
White	16.6 (98)	34.9 (204)	19.9 (116)	27.0 (175)	1.4(9)	0.3 (3)
Black	37.1 (48)	25.8 (41)	13.9 (26)	20.8 (34)	2.5 (4)	-- (0)
Other	33.6 (12)	26.6 (10)	18.0 (6)	21.9 (11)	-- (0)	-- (0)
Age						
18-22	26.9 (38)	35.4 (55)	16.8 (26)	19.3 (29)	1.6 (2)	-- (0)
23-29	22.5 (28)	34.9 (41)	20.0 (23)	21.7 (24)	1.0 (1)	-- (0)
30-64	17.5 (85)	30.3 (147)	19.0 (92)	31.1 (151)	1.7 (8)	0.4 (2)
65+	15.7 (7)	23.5 (10)	17.4 (7)	37.6 (18)	4.4 (2)	1.4 (1)

The study found that respondents generally thought that the likelihood of a safety-belt violator being pulled over was relatively small. The perceived likelihood of being pulled over was consistently greater for travel on a freeway (Table 25) than for travel on nonfreeway roads (Table 26), with little difference by sex, race, or age. Regardless of roadway type, however, nearly all respondents thought that once a person was pulled over for a safety belt violation, they would be very or somewhat likely to receive a safety belt citation (Tables 27 and 28). Again, little difference was found by sex, race, or age.

Table 25: If someone is driving on a FREEWAY in Michigan without a seatbelt on, how likely is it that they will get PULLED OVER by police?

	Very likely % (Unwgt. N)	Somewhat likely % (Unwgt. N)	Somewhat unlikely % (Unwgt. N)	Very unlikely % (Unwgt. N)	Never % (Unwgt. N)	Don't know % (Unwgt. N)
Overall	13.6 (119)	29.5 (233)	23.3 (179)	29.7 (228)	1.4 (12)	2.6 (24)
Sex						
Male	13.1 (83)	27.5 (154)	24.7 (136)	30.1 (168)	1.9 (11)	2.8 (18)
Female	14.9 (36)	34.8 (79)	19.4 (43)	28.6 (60)	0.3 (1)	2.0 (6)
Race						
White	12.5 (82)	30.2 (177)	23.6 (136)	29.6 (174)	1.3 (8)	2.9 (21)
Black	15.7 (27)	27.2 (43)	22.2 (32)	31.4 (45)	1.4 (3)	2.2 (3)
Other	26.1 (10)	22.9 (10)	23.9(10)	23.3 (8)	3.8 (1)	-- (0)
Age						
18-22	8.7 (14)	32.3 (48)	25.6 (38)	29.9 (44)	2.6 (4)	1.0 (1)
23-29	11.9 (14)	28.9 (33)	23.9 (27)	32.7 (39)	0.6 (1)	2.0 (2)
30-64	16.8 (81)	28.3 (138)	21.4 (103)	28.9 (136)	1.3 (6)	3.4 (16)
65+	19.7 (9)	25.0 (12)	26.9 (10)	18.6 (9)	1.4 (1)	8.4 (4)

Table 26: If someone is driving on a NON-FREEWAY ROAD in Michigan without a seatbelt on, how likely is it that they will get PULLED OVER by police?

	Very likely % (Unwgt. N)	Somewhat likely % (Unwgt. N)	Somewhat unlikely % (Unwgt. N)	Very unlikely % (Unwgt. N)	Never % (Unwgt. N)	Don't know % (Unwgt. N)
Overall	35.3 (283)	37.4 (281)	11.0 (94)	12.9 (114)	1.3 (8)	2.1 (19)
Sex						
Male	33.3 (190)	36.9 (196)	12.5 (80)	13.1 (84)	1.8 (8)	2.4 (15)
Female	40.8 (93)	38.7 (85)	6.7(14)	12.5 (30)	-- (0)	1.3 (4)
Race						
White	35.2 (212)	38.3 (217)	11.2 (71)	12.3 (83)	0.7 (3)	2.5 (16)
Black	36.5 (56)	34.1 (49)	10.1 (17)	15.0 (25)	4.1 (5)	0.4 (1)
Other	30.9(13)	35.9 (13)	13.6 (6)	18.0 (6)	-- (0)	1.7 (1)
Age						
18-22	39.4 (58)	44.2 (68)	6.9 (11)	6.3 (9)	2.5 (3)	0.7 (1)
23-29	31.7 (38)	42.9 (49)	10.9 (12)	11.6 (14)	1.0 (1)	2.0 (2)
30-64	34.2 (165)	31.3 (153)	13.0 (62)	17.6 (84)	0.9 (4)	3.1 (15)
65+	45.5 (19)	20.5 (9)	19.4 (9)	13.1 (7)	-- (0)	1.4 (1)

Table 27: If that person driving on a FREEWAY IS pulled over by the police, how likely is it that they would get a SEATBELT TICKET?

	Very likely % (Unwgt. N)	Somewhat likely % (Unwgt. N)	Somewhat unlikely % (Unwgt. N)	Very unlikely % (Unwgt. N)	Never % (Unwgt. N)	Don't know % (Unwgt. N)
Overall	65.2 (531)	21.0 (156)	2.7 (23)	7.6 (56)	0.1 (2)	3.3 (31)
Sex						
Male	62.5 (364)	22.5 (121)	2.7 (18)	8.4 (44)	0.2 (2)	3.7 (24)
Female	72.4 (167)	17.0 (35)	2.7(5)	5.6 (12)	-- (0)	2.3 (7)
Race						
White	66.3 (406)	21.3 (119)	2.4 (16)	6.3 (36)	0.1 (1)	3.6 (24)
Black	64.4 (102)	16.9 (24)	3.9 (5)	12.1 (16)	0.5 (1)	2.3 (5)
Other	46.7 (20)	35.9 (12)	3.3 (2)	12.5 (4)	-- (0)	1.7 (1)
Age						
18-22	59.9 (90)	27.1 (42)	3.8 (5)	8.6 (12)	-- (0)	0.7 (1)
23-29	65.4 (77)	22.4 (26)	1.0 (1)	8.2 (10)	-- (0)	2.9 (3)
30-64	66.8 (323)	17.3 (83)	3.2 (16)	7.2 (34)	0.2 (1)	5.2 (25)
65+	87.3 (38)	6.9 (3)	1.4 (1)	-- (0)	1.4 (1)	2.9 (2)

Table 28. If that person driving on a NON-FREEWAY ROAD IS pulled over by the police, how likely is it that they would get a SEATBELT TICKET?

	Very likely % (Unwgt. N)	Somewhat likely % (Unwgt. N)	Somewhat unlikely % (Unwgt. N)	Very unlikely % (Unwgt. N)	Never % (Unwgt. N)	Don't know % (Unwgt. N)
Overall	61.5 (494)	25.5 (196)	4.3 (34)	5.9 (50)	0.3 (2)	2.4 (22)
Sex						
Male	60.8 (350)	25.8 (139)	5.1 (30)	5.5 (35)	-- (0)	2.8 (18)
Female	63.6 (144)	24.7 (57)	2.2 (4)	6.9 (15)	1.2 (2)	1.3 (4)
Race						
White	62.2 (379)	24.7 (139)	4.7 (27)	5.6 (37)	0.1 (1)	2.7 (18)
Black	60.0 (91)	27.3 (43)	3.3 (5)	7.2 (11)	1.2 (1)	0.9 (2)
Other	55.5 (21)	34.0 (13)	3.3 (2)	5.5 (2)	-- (0)	1.7 (1)
Age						
18-22	61.5 (92)	26.1 (40)	5.4 (8)	6.0 (9)	0.9 (1)	-- (0)
23-29	59.8 (72)	29.6 (32)	3.7 (4)	4.0 (5)	-- (0)	3.0 (3)
30-64	62.6 (301)	23.2 (113)	4.2 (20)	6.8 (32)	0.2 (1)	3.1 (15)
65+	60.0 (26)	21.7 (10)	2.9 (2)	8.8 (4)	-- (0)	6.7 (3)

Many of the survey respondents who had received multiple citations for safety belt nonuse in Michigan are safety-belt-law repeat offenders. About 40 percent of respondents had received two or more safety belt citations in Michigan (Table 29). Males, Whites, and young people were more commonly repeat offenders than females, Black/African Americans, or people 65 years of age or older.

Table 29: How many times have you received a ticket for not wearing a seatbelt in Michigan?

	One % (Unwgt. N)	Two % (Unwgt. N)	More than two % (Unwgt. N)
Overall	60.2 (496)	25.7 (202)	14.1 (103)
Sex			
Male	57.4 (335)	25.8(150)	16.8 (90)
Female	67.8 (161)	25.6 (52)	6.7 (13)
Race			
White	58.7 (369)	26.3 (150)	15.1 (85)
Black	67.9 (104)	21.8 (36)	10.3 (13)
Other	46.0 (18)	39.2 (16)	14.8 (5)
Age			
18-22	59.1 (87)	20.1 (31)	20.8 (31)
23-29	51.6 (58)	34.9 (42)	13.5 (16)
30-64	64.9 (316)	24.0 (117)	11.1 (53)
65+	72.0 (32)	25.2 (11)	2.9 (2)

A series of questions was asked about the most recent time the respondent had received a citation for violating the safety belt law (all respondents had to have received at least one citation within the past year). Overall, about 92 percent were drivers, with little difference by sex, race, or age (Table 30). Surprisingly, nearly 25 percent indicated that they were wearing a safety belt at the time they were pulled over and cited for safety belt nonuse (Table 31). There were few differences in self-reported safety belt use by sex or race. There was, however, a much greater tendency for people 65 years of age of older to report that they were not wearing a safety belt at the time they were pulled over than for other age groups.

Table 30: Thinking back to that most recent time, were you the driver of the car or a passenger riding in the car?

		Driver % (Unwgt. N)	Passenger % (Unwgt. N)
Overall		91.8 (744)	8.2 (58)
Sex			
	Male	92.3 (537)	7.7 (39)
	Female	90.7 (207)	9.4 (19)
Race			
	White	91.2 (559)	8.8 (47)
	Black	95.8 (147)	4.2 (5)
	Other	86.6 (34)	13.4 (5)
Age			
	18-22	87.8 (131)	12.2 (19)
	23-29	90.7 (106)	9.3 (11)
	30-64	94.2 (457)	5.8 (28)
	65+	100.0 (45)	-- (0)

Table 31: Were you wearing your seatbelt at the time the car was pulled over?

		Yes % (Unwgt. N)	No % (Unwgt. N)
Overall		22.5 (180)	77.5 (618)
Sex			
	Male	22.5 (129)	77.6 (444)
	Female	22.6 (51)	77.4 (174)
Race			
	White	21.1 (130)	78.9 (474)
	Black	26.8 (39)	73.2 (112)
	Other	31.2 (11)	68.8 (27)
Age			
	18-22	24.7 (36)	75.3 (113)
	23-29	18.8 (22)	81.2 (94)
	30-64	23.8 (114)	76.2 (369)
	65+	7.2 (5)	92.8 (40)

Close to 40 percent were riding in a vehicle with other passengers (Table 32). Women and respondents under 30 years of age were more likely to have had other passengers present. Of those respondents who were riding in a vehicle with others presents, about one-half indicated that someone else in the vehicle was also not using a safety belt (Table 33). Women, Black/African Americans, and respondents over age 29 were less likely to report that others in the vehicle were in violation of the safety belt law than were males, Whites, or respondents under 30 years of age.

Table 32: How many others were in the car with you, not including yourself?

	None % (Unwgt. N)	One % (Unwgt. N)	Two % (Unwgt. N)	Three or more % (Unwgt. N)
Overall	60.8 (501)	24.9 (196)	8.0 (56)	6.4 (46)
Sex				
Male	63.8 (376)	24.0 (136)	7.7 (39)	4.5 (23)
Female	52.3 (125)	27.2 (60)	8.7 (17)	11.8 (23)
Race				
White	62.1 (388)	25.8 (153)	7.1 (36)	5.0 (28)
Black	58.4 (93)	21.6 (31)	8.6 (12)	11.4 (15)
Other	47.2 (18)	20.4 (10)	21.5 (7)	11.0 (3)
Age				
18-22	53.1 (79)	30.2 (45)	11.9 (18)	4.8 (7)
23-29	54.8 (63)	24.6 (29)	9.8 (12)	10.7 (13)
30-64	68.0 (326)	22.4 (110)	4.8 (24)	4.8 (23)
65+	69.3 (30)	22.2 (12)	5.5 (2)	3.0 (1)

Table 33: Was everyone else wearing their seatbelts?

	Yes % (Unwgt. N)	No % (Unwgt. N)	Don't know % (Unwgt. N)
Overall	49.0 (154)	49.3 (139)	1.6 (6)
Sex			
Male	40.9 (87)	58.1 (108)	1.0 (3)
Female	65.6 (67)	31.5 (31)	2.9 (3)
Race			
White	45.6 (105)	53.4 (109)	1.0 (2)
Black	57.8 (34)	40.1 (23)	2.1 (2)
Other	60.3 (13)	30.7 (6)	8.9 (2)
Age			
18-22	44.3 (31)	54.7 (39)	1.0 (1)
23-29	45.7 (24)	52.7 (28)	1.6 (1)
30-64	55.7 (89)	42.1 (65)	2.3 (4)
65+	59.5 (10)	40.5 (5)	-- (0)

Respondents were asked about the circumstances of the stop that led to their safety belt citation. More than one-half of the stops occurred in the afternoon, with another 20 percent each occurring in the morning and the evening (Table 34). Few stops occurred at night. There were few differences by sex, race, or age. Close to 90 percent of stops were on nonfreeway roads (Table 35). Again, there was little difference by demographic category. Overall, slightly more than one-half of the stops occurred in a neighborhood other than the respondent's (Table 36), with few differences by sex, race, or age.

Table 34: What time of day was it when the car was stopped?

	6:00 - 11:59am % (Unwgt. N)	12 - 5:59pm % (Unwgt. N)	6:00 - 11:59pm % (Unwgt. N)	12 - 5:59am % (Unwgt. N)
Overall	20.3 (181)	55.2 (440)	19.6 (138)	4.9 (33)
Sex				
Male	20.5 (132)	53.7 (308)	20.9 (105)	4.9 (23)
Female	19.8 (49)	59.4 (132)	15.9 (33)	4.9 (10)
Race				
White	19.5 (132)	56.6 (340)	18.8 (100)	5.1 (25)
Black	24.5 (41)	48.8 (76)	22.8 (30)	4.0 (5)
Other	17.2 (8)	63.6 (22)	12.0 (5)	7.3 (3)
Age				
18-22	14.9 (21)	53.0 (80)	26.3 (38)	5.8 (9)
23-29	15.4 (18)	55.0 (64)	21.3 (24)	8.3 (10)
30-64	24.8 (119)	56.5 (269)	16.0 (76)	2.8 (14)
65+	49.9 (23)	50.1 (22)	-- (0)	-- (0)

Table 35: Did the stop occur on a freeway or on a non-freeway road?

	Freeway % (Unwgt. N)	Non-freeway % (Unwgt. N)
Overall	12.1 (97)	87.9 (702)
Sex		
Male	12.7 (74)	87.3 (500)
Female	10.6 (23)	89.4 (202)
Race		
White	12.7 (74)	87.4 (528)
Black	11.0 (19)	89.0 (134)
Other	6.5 (3)	93.6 (36)
Age		
18-22	6.8 (10)	93.2 (139)
23-29	14.7 (16)	85.3 (101)
30-64	13.5 (65)	86.5 (419)
65+	7.0 (3)	93.0 (41)

Table 36: Were you in your own neighborhood or in a different neighborhood?

		Own % (Unwgt. N)	Different % (Unwgt. N)
Overall		47.4 (379)	52.6 (422)
Sex			
	Male	46.0 (263)	54.0 (312)
	Female	51.2 (116)	48.8 (110)
Race			
	White	46.4 (278)	53.6 (326)
	Black	47.4 (74)	52.6 (79)
	Other	68.0 (25)	32.0 (14)
Age			
	18-22	55.3 (83)	44.7 (67)
	23-29	44.1 (54)	55.9 (63)
	30-64	44.5 (217)	55.5 (267)
	65+	52.4 (23)	47.7 (22)

The ages of the vehicles in which the respondents were traveling were about equally split between new (1997-2002), middle-aged (1991-1996), and old (1976-1990; Table 37), irrespective of demographic category. Overall, about three-fourths of respondents owned the vehicle that was pulled over (Table 38). Ownership was more common among females, Black/African Americans, and those over 29 years of age than for males, Whites, or those under 30 years of age. Nearly 85 percent of respondents indicated that the condition of the vehicle in which they were riding was either "good" or "very good" (Table 39), Black/African Americans were slightly more likely to report poorer vehicle conditions than Whites, and there was a tendency for respondents 65 years of age or older to report better vehicle conditions than younger respondents.

Table 37: What was the year of the car you were pulled over in?			
	1976-1990 % (Unwgt. N)	1991-1996 % (Unwgt. N)	1997-2002 % (Unwgt. N)
Overall	34.7 (251)	35.4 (270)	29.9 (223)
Sex			
Male	33.4(177)	36.2 (199)	30.4 (164)
Female	38.3 (74)	33.1 (71)	28.6 (59)
Race			
White	32.0 (178)	35.9 (207)	32.1 (180)
Black	45.8 (63)	32.0 (49)	22.2 (34)
Other	30.2 (10)	42.7 (14)	27.1 (9)
Age			
18-22	43.8 (60)	34.4 (49)	21.8 (31)
23-29	28.6 (31)	33.8 (36)	37.6 (39)
30-64	33.4 (151)	36.2 (163)	30.5 (138)
65+	25.9 (9)	43.7 (21)	30.4 (15)

Table 38: Did you own the car?		
	Yes % (Unwgt. N)	No % (Unwgt. N)
Overall	76.9 (629)	23.1 (168)
Sex		
Male	75.0 (443)	25.1 (131)
Female	82.2 (186)	17.8 (37)
Race		
White	75.5 (470)	24.5 (132)
Black	83.1(126)	16.9 (26)
Other	73.7 (29)	26.3 (9)
Age		
18-22	66.9 (99)	33.2 (51)
23-29	77.2 (92)	22.8 (25)
30-64	81.4 (392)	18.6 (89)
65+	93.1 (42)	6.9 (3)

Table 39: What was the condition of the car you were in when it was stopped by the police?

	Very good % (Unwgt. N)	Good % (Unwgt. N)	Fair % (Unwgt. N)	Poor % (Unwgt. N)	Very poor % (Unwgt. N)
Overall	54.0 (448)	29.8 (230)	13.3 (100)	2.3 (17)	0.6 (4)
Sex					
Male	55.0 (327)	29.3 (161)	13.4 (74)	1.8 (11)	0.5 (3)
Female	51.4 (121)	31.0 (69)	13.1 (26)	3.6 (6)	0.9 (1)
Race					
White	55.6 (347)	30.5 (177)	11.5 (66)	2.0 (11)	0.4 (2)
Black	47.0 (76)	28.0 (44)	20.8 (28)	3.0 (3)	1.2 (1)
Other	55.0 (21)	28.1 (9)	10.3 (5)	5.0 (3)	1.7 (1)
Age					
18-22	39.5 (59)	40.4 (61)	14.7 (22)	3.2 (4)	2.2 (3)
23-29	58.1 (67)	24.8 (29)	14.7 (18)	2.4 (3)	-- (0)
30-64	59.0 (285)	26.8 (129)	12.1 (58)	1.9 (10)	0.1 (1)
65+	70.1 (34)	21.8 (9)	8.1 (2)	-- (0)	-- (0)

We asked respondents a series of questions about the police officer(s) who made the stop resulting in the safety belt citation. Overall, about 84 percent reported that only one officer was involved, with another 14 percent reporting two officers (Table 40). Black/African Americans reported fewer single-officer stops and more double-officer stops than Whites. Older respondents nearly always reported being stopped by one officer. Overall, about two-thirds of stops were made by local police, with another 21 percent made by State Police (Table 41). Stops by local police were more common for Black/African Americans and those over 65 years of age.

Table 40: How many police officers stopped you?

	One % (Unwgt. N)	Two % (Unwgt. N)	More than two % (Unwgt. N)
Overall	83.9 (680)	14.2 (111)	1.9 (10)
Sex			
Male	81.8 (478)	15.9 (90)	2.3 (9)
Female	89.8 (202)	9.4 (21)	0.9 (1)
Race			
White	87.6 (533)	11.6 (68)	0.8 (3)
Black	70.0 (111)	23.2 (35)	6.8 (7)
Other	81.9 (32)	18.1 (7)	-- (0)
Age			
18-22	79.4 (121)	18.7 (27)	1.9 (2)
23-29	84.5 (98)	11.1 (14)	4.4 (5)
30-64	85.4 (413)	13.9 (68)	0.7(3)
65+	94.5 (43)	5.5 (2)	-- (0)

Table 41: Were the police officer(s) from the state police, sheriff's department, or local police?

	State Police % (Unwgt. N)	Sheriff Department % (Unwgt. N)	Local Police % (Unwgt. N)	Don't know % (Unwgt. N)
Overall	21.4 (172)	10.9 (90)	64.4 (513)	3.2 (26)
Sex				
Male	22.8 (134)	11.6 (68)	63.9 (366)	1.7 (8)
Female	17.7 (38)	8.9 (22)	65.9 (147)	7.5 (18)
Race				
White	22.7 (137)	12.5 (77)	61.5 (373)	3.2 (18)
Black	15.6 (24)	3.4 (6)	77.6 (115)	3.5 (7)
Other	25.4 (10)	18.0 (7)	56.7 (22)	-- (0)
Age				
18-22	15.8 (24)	11.6 (18)	68.5 (101)	4.1(6)
23-29	23.1 (26)	9.7 (13)	64.6 (75)	2.7 (3)
30-64	24.2 (116)	11.3 (54)	61.4 (299)	3.1(16)
65+	12.4 (5)	4.3 (3)	80.3 (36)	3.0 (1)

Respondents were asked a set of questions about the demographic characteristics of the officer who actually gave them the safety belt citation. The vast majority (more than 90 percent) indicated that the officer was male, with little difference by sex, race, or age (Table 42). Officers were most commonly judged to be between 30 and 64 years of age, with few differences by category (Table 43). Overall, slightly more than 80 percent of officers were reported to be White and 15 percent were Black/African American (Table 44). There were no differences by sex for this question. Black/African American respondents were much more likely to report being cited by a Black/African American police officer (42 percent) than were White respondents (9 percent) and vice versa. Respondents 65 years of age or older were also more likely to report being cited by a Black/African American officer than other respondents.

Table 42: Thinking about the police officer who actually gave you the ticket for not wearing your seatbelt- was the officer male or female?			
		Male % (Unwgt. N)	Female % (Unwgt. N)
Overall		93.5 (751)	6.5 (52)
Sex			
	Male	93.9 (543)	6.1 (34)
	Female	92.5 (208)	7.5 (18)
Race			
	White	95.0 (576)	5.0 (30)
	Black	87.8 (134)	12.2 (19)
	Other	91.4 (36)	8.6 (3)
Age			
	18-22	93.3 (140)	6.7 (10)
	23-29	93.7 (110)	6.3 (7)
	30-64	93.7 (455)	6.3 (31)
	65+	88.6 (41)	11.4 (4)

Table 43: How old would you say this officer was?						
		<=22 % (Unwgt. N)	23-29 % (Unwgt. N)	30-64 % (Unwgt. N)	65+ % (Unwgt. N)	Don't know % (Unwgt. N)
Overall		1.0 (11)	20.7 (156)	74.9 (606)	0.3 (2)	3.2 (26)
Sex						
	Male	1.3 (10)	23.1 (125)	72.9 (424)	0.2 (1)	2.5 (15)
	Female	0.4 (1)	14.1 (31)	80.1 (182)	0.4 (1)	5.1 (11)
Race						
	White	1.2 (9)	21.9 (126)	73.7 (449)	0.3 (2)	2.9 (18)
	Black	0.5 (1)	15.1 (22)	79.9 (123)	-- (0)	4.5 (7)
	Other	1.7 (1)	27.8 (8)	68.9 (29)	-- (0)	1.7 (1)
Age						
	18-22	-- (0)	21.9 (34)	73.6 (109)	0.7 (1)	3.8 (6)
	23-29	-- (0)	22.9 (26)	74.6 (87)	-- (0)	2.5 (3)
	30-64	2.3 (11)	19.5 (93)	75.0 (366)	0.2 (1)	3.0 (15)
	65+	-- (0)	4.4 (2)	91.6 (42)	-- (0)	4.1 (1)

Table 44: What would you say was the race of this officer?				
	White % (Unwgt. N)	Black/Afr. Amer. % (Unwgt. N)	All other races % (Unwgt. N)	Don't know % (Unwgt. N)
Overall	81.6 (640)	15.2 (128)	1.6 (16)	1.6 (14)
Sex				
Male	81.9 (461)	14.7 (88)	1.7 (13)	1.7 (11)
Female	80.9 (179)	16.6 (40)	1.1 (3)	1.4 (3)
Race				
White	88.9 (529)	8.6 (55)	1.4 (11)	1.0 (7)
Black	55.0 (80)	41.6 (68)	1.6 (3)	1.8 (2)
Other	77.8 (30)	12.0 (5)	4.8 (2)	5.5 (2)
Age				
18-22	88.4 (134)	9.4 (12)	-- (0)	2.2 (3)
23-29	83.1 (96)	15.2 (18)	1.0 (1)	0.7 (1)
30-64	77.6 (374)	17.8 (89)	2.8 (13)	1.9 (9)
65+	71.4 (33)	24.2 (8)	2.9 (2)	1.5 (1)

Overall, nearly 80 percent of respondents indicated that the officer acted in a "very professional" or "somewhat professional" manner during the stop (Table 45). Black/African Americans and people under 30 years of age were more likely than Whites and people over 29 years of age to report unprofessional behavior.

Table 45: Would you describe the police officer as . . .?				
	Very Professional % (Unwgt. N)	Somewhat Professional % (Unwgt. N)	Somewhat Unprofessional % (Unwgt. N)	Very Unprofessional % (Unwgt. N)
Overall	47.0 (394)	32.1 (242)	12.2 (96)	8.7 (62)
Sex				
Male	44.6 (272)	32.5 (175)	14.1 (79)	8.8 (45)
Female	53.3 (122)	31.1 (67)	7.1 (17)	8.5 (17)
Race				
White	47.1 (299)	34.8 (195)	11.2 (67)	6.9 (40)
Black	47.7 (76)	23.7 (38)	13.5 (20)	15.1 (17)
Other	41.1 (17)	21.6 (8)	22.9 (7)	14.4 (5)
Age				
18-22	43.7 (66)	35.2 (54)	10.7 (16)	10.4 (14)
23-29	38.0 (43)	36.3 (40)	14.6 (17)	11.1 (13)
30-64	52.6 (254)	28.8 (138)	11.7 (56)	6.8 (33)
65+	64.7 (28)	19.7 (9)	12.8 (6)	2.9 (2)

Table 46 shows the perceived length of time people were detained during the stop that led to their safety belt citation. Overall, stops were perceived to be fairly short in duration, with about three-quarters of the stops judged to be 15 minutes in duration or less. Little difference in self-reported duration was found by sex, race, or age.

Table 46: How long (in minutes) would you say that the car was detained for the stop?

Demographic	1-5 % (Unwgt. N)	6-10 % (Unwgt. N)	11-15 % (Unwgt. N)	16-20 % (Unwgt. N)	21-40 % (Unwgt. N)	41+ % (Unwgt. N)
Overall	15.1 (129)	30.4 (249)	28.8 (226)	11.2 (91)	9.6 (68)	4.9 (37)
Sex						
Male	13.2 (82)	29.2 (175)	29.5 (164)	12.3 (73)	10.4 (53)	5.5 (29)
Female	20.5 (47)	33.9 (74)	27.0 (62)	8.1 (18)	7.5 (15)	3.1 (8)
Race						
White	16.0 (101)	31.2 (197)	28.6 (166)	12.2 (75)	8.1 (44)	3.9 (22)
Black	9.8 (17)	31.3 (46)	29.6 (47)	7.3 (12)	14.8 (20)	7.3 (10)
Other	23.9 (9)	10.9 (5)	26.1 (11)	10.7 (4)	15.2 (4)	13.2 (5)
Age						
18-22	15.4 (24)	29.9 (44)	26.8 (40)	11.3 (18)	9.7 (14)	7.0 (10)
23-29	12.1 (14)	26.7 (31)	31.4 (36)	11.2 (13)	14.1 (16)	4.6 (6)
30-64	15.8 (77)	32.5 (157)	29.0 (140)	11.2 (54)	7.5 (36)	3.9 (20)
65+	30.1 (13)	30.5 (14)	22.3 (9)	11.2 (6)	2.9 (2)	3.0 (1)

Overall, about 58 percent of people reported that the officer told them that they were stopped for violating Michigan's safety belt law and 40 percent were told they were stopped for some other reason (Table 47). About 3 percent of respondents indicated that the officer gave no reason for the stop. There was little difference by sex. White respondents were more likely than Black/African American respondents to have been told they were stopped for a safety belt violation, and Black/African Americans were more likely to report that the officer gave them no reason for the stop. People over 64 years of age were more likely to report that they were pulled over for a safety belt violation than those in other age groups.

Table 47. What reason did the police officer give you for the stop?

	Not wearing seat belt % (Unwgt. N)	Other traffic violation % (Unwgt. N)	No reason given % (Unwgt. N)
Overall	57.7 (459)	38.9 (297)	3.3 (30)
Sex			
Male	57.5 (326)	38.9 (216)	3.5 (22)
Female	58.3 (133)	38.9 (81)	2.8 (8)
Race			
White	61.0 (361)	36.8 (216)	2.2 (16)
Black	48.6 (79)	43.2 (58)	8.2 (13)
Other	38.7 (16)	59.7 (21)	1.7 (1)
Age			
18-22	55.8 (82)	41.6 (60)	2.6 (3)
23-29	56.0 (64)	42.5 (49)	1.5 (2)
30-64	58.9 (280)	36.2 (173)	4.9 (24)
65+	68.9 (29)	29.7 (14)	1.5 (1)

Respondents were asked a series of questions about whether or not other actions were performed by the police officer(s) during the stop that led to the safety belt citation. Table 48 shows that in about 25 percent of these stops, a citation for some other violation was issued and/or another vehicle occupant was issued a safety belt citation. In about 16 percent of these stops, a warning for something was issued. Other police actions were found to be relatively uncommon.

Table 48: What else happened during the traffic stop?

Demographic	Ticket for other viol. % (Unwgt. N)	Warning % (Unwgt. N)	Passenger rec'd safety belt viol. % (Unwgt. N)	Passenger rec'd other viol. % (Unwgt. N)	Car searched % (Unwgt. N)	Person searched % (Unwgt. N)	Sobriety Test % (Unwgt. N)	Someone arrested % (Unwgt. N)	Someone handcuffed % (Unwgt. N)	Car impounded % (Unwgt. N)
Overall	23.1 (181)	16.2 (124)	27.1 (77)	4.4 (11)	7.7 (53)	6.2 (40)	2.3 (17)	2.0 (15)	2.6 (19)	1.2 (9)
Sex										
Male	22.9 (131)	17.0 (93)	27.6 (51)	4.3 (7)	8.8 (44)	7.1 (34)	2.6 (14)	2.1 (11)	2.8 (15)	1.5 (8)
Female	23.6 (50)	14.2 (31)	26.2 (26)	4.7 (4)	4.7 (9)	3.6 (6)	1.3 (3)	1.7 (4)	2.0 (4)	0.4 (1)
Race										
White	19.4 (114)	16.8 (99)	31.7 (65)	4.1 (7)	6.0 (33)	4.1 (21)	2.6 (15)	1.5 (9)	2.0 (12)	1.1 (6)
Black	37.2 (55)	13.3 (17)	13.9 (9)	6.7 (4)	12.8 (15)	11.9 (13)	0.5 (1)	3.6 (5)	4.8 (6)	2.1 (3)
Other	28.4 (12)	19.6 (7)	19.5 (3)	-- (0)	16.3 (5)	19.4 (6)	3.8 (1)	3.1 (1)	3.1 (1)	-- (0)
Age										
18-22	19.9 (28)	20.7 (31)	25.2 (19)	7.5 (5)	13.6 (20)	10.4 (15)	3.9 (6)	1.7 (3)	1.1 (2)	0.7 (1)
23-29	27.3 (33)	15.4 (17)	33.7 (18)	3.8 (2)	7.2 (8)	7.2 (8)	1.5 (2)	2.5 (3)	4.4 (5)	1.8 (2)
30-64	22.7 (110)	14.7 (71)	24.2 (37)	2.7 (4)	5.0 (24)	3.6 (17)	1.9 (9)	1.9 (9)	2.6 (12)	1.3 (6)
65+	20.8 (9)	9.6 (5)	22.6 (3)	-- (0)	1.4 (1)	-- (0)	-- (0)	-- (0)	-- (0)	-- (0)

We asked a series of questions regarding whether respondents felt that they were singled out for the stop and safety belt citation on the basis of several different factors. Table 49 shows results for perceptions of being singled out on the basis of age, sex, or race. Note that each factor was asked about independently and that the respondent may have felt that he or she was singled out for more than one reason. Overall, the study found that about 16 percent of respondents thought they had been singled out on the basis of age. This perception was slightly greater for men than for women, and Other-races than for Black/African American or Whites. Nearly 40 percent of the youngest age group reported being singled out for the traffic stop and citation because of their age. About 9 percent of respondents reported that they thought they were singled out because of their sex. This perception was slightly more common for Black/African Americans and Other-Races. Nearly 10 percent of respondents reported being singled out on the basis of their race. This judgment was more common for men, Black/African Americans, and Other races.

Table 49: At the time of the stop, did you feel you were singled out because of your... (age, sex, or race)?

	AGE % (Unwgt. N)		SEX % (Unwgt. N)		RACE % (Unwgt. N)	
	Yes	**No**	**Yes**	**No**	**Yes**	**No**
Overall	15.7 (99)	84.3 (691)	9.4 (67)	90.6 (719)	9.6 (69)	90.4 (715)
Sex						
Male	17.7 (79)	82.3 (491)	9.4 (49)	90.6 (519)	11.7 (61)	88.3 (506)
Female	10.1(20)	89.9 (200)	9.4 (18)	90.6 (200)	3.7 (8)	96.3 (214)
Race						
White	14.7 (69)	85.3 (531)	6.6 (37)	93.4 (560)	3.3 (20)	96.7 (577)
Black	17.0 (20)	83.0 (128)	17.4 (21)	82.6 (126)	29.6 (36)	70.4 (112)
Other	30.6 (10)	69.4 (27)	27.3 (9)	72.7 (28)	36.1 (13)	63.9 (26)
Age						
18-22	37.8 (56)	62.2 (92)	14.1 (20)	85.9 (128)	12.3 (16)	87.7 (134)
23-29	12.8 (14)	87.2 (101)	10.3 (12)	89.7 (103)	10.5 (13)	89.5 (103)
30-64	5.0 (25)	95.0 (453)	6.3 (31)	93.7 (444)	7.6 (37)	92.4 (437)
65+	12.7 (4)	87.3 (40)	10.1 (4)	89.9 (39)	8.6 (3)	91.4 (41)

We also asked respondents about several other factors that they believed might have led to their being singled out and cited for a safety belt violation. Table 50 shows the results. Again, each reason was asked about independently and respondents may have felt they were singled out on the basis of more than one factor. Overall, about 9 percent of respondents felt that they were singled out because of the condition of their vehicle or its type. This perception was most common for males and Whites, and Other-races. Very few respondents reported being singled out for personal reasons, because of their membership in a group (e.g., a student), because they committed another violation, or because of their sexual orientation.

Table 50: For what other reason do you feel you were singled out?

Demographic	Vehicle % (Unwgt. N)	Personal % (Unwgt. N)	Member of group % (Unwgt. N)	Other viol. % (Unwgt. N)	Sex. orient. % (Unwgt. N)	Other % (Unwgt. N)
Overall	9.3 (64)	1.2 (10)	0.3 (2)	1.5 (15)	0.1 (1)	12.3 (101)
Sex						
Male	10.5 (54)	1.5 (9)	.01 (1)	2.1 (15)	-- (0)	12.6 (73)
Female	5.9 (10)	0.4 (1)	.06 (1)	-- (0)	0.3 (1)	11.6 (28)
Race						
White	9.5 (50)	1.3 (8)	0.3 (2)	1.6 (12)	-- (0)	10.9 (68)
Black	7.2 (7)	0.5 (1)	-- (0)	0.5 (1)	-- (0)	17.4 (27)
Other	11.0 (4)	1.7 (1)	-- (0)	1.7 (1)	-- (0)	14.1 (5)
Age						
18-22	8.6 (13)	1.3 (2)	0.6 (1)	1.3 (2)	-- (0)	7.7 (10)
23-29	14.7 (17)	1.0 (1)	-- (0)	-- (0)	-- (0)	9.9 (17)
30-64	6.8 (34)	1.2 (6)	0.2 (1)	2.5 (12)	-- (0)	13.9 (68)
65+	-- (0)	1.4 (1)	-- (0)	1.4 (1)	-- (0)	8.7 (5)

4. DISCUSSION

This report presents the first-year results of a study designed to assess the effects of standard safety belt enforcement on police safety-belt-related harassment. For the purposes of this study, safety-belt-related harassment has been defined as "a driver being singled out for a safety-belt-related traffic citation or treated differently during the stop on the basis of race, sex, age, or other factors unrelated to the actual violation." We investigated six sets of questions geared toward gaining an understanding of the effects of standard enforcement on harassment. Note that these results encompass the year prior to standard enforcement (Pre-Year) and the year following standard enforcement (Post-Year). The project is scheduled to analyze two more years of data after standard enforcement. As such, conclusions drawn in this report may be strengthened or weakened as additional data are analyzed in the study.

The study analyzed all written complaints arising from a traffic stop to determine if the number of written safety-belt-related-harassment complaints changed with the introduction of standard enforcement. Our analyses showed that safety-belt-related-harassment complaints were very uncommon both before and after standard enforcement, with about 1 per year resulting from every 10,000 citations written or 3 per year for every 1 million licensed drivers. In addition, when safety-belt-related complaints were compared to other-traffic-violation-related-harassment complaints each year, there appeared to be no difference in safety-belt-related-harassment complaints after standard enforcement. Thus, the introduction of standard enforcement did not change the number of safety-belt-related-harassment complaints from citizens.

The study found that 202,859 safety belt citations were written in the Pre-Year and 220,703 were written in the Post-Year. This difference represented about a 9 percent increase in citations issued after standard enforcement. One would expect citations to increase with standard enforcement since this change in the law allows officers to more easily cite vehicle occupants in violation of the law. The greatest increases in citations after standard enforcement were for out-of-state vehicle occupants, pickup truck occupants,

occupants who were neither White nor Black/African American, and occupants 65 years of age or older. After standard enforcement, large increases were found for citations in which the person was found responsible, and large decreases were found in dismissed citations. It appears that one effect of standard enforcement was to increase the "conviction rate" for safety belt citations. The study also examined the number of child restraint citations for the Pre and Post years. We found that about 2 percent fewer child restraint citations were written in the year following standard enforcement. Child restraint violations in Michigan have been a standard enforcement offense since the early 1980s. Thus, one would not expect the number of child restraint citations to have increased.

While analysis of the numbers of safety belt citations issued is useful for determining how the number of citations issued changes with standard enforcement, these data alone cannot tell us if a group is receiving more citations than would be expected (citation over-representation). In order to draw conclusions about citation over-representation within a group, one needs to know that group's violation rates (derived from safety belt nonuse rates), their presence on the roadways, and the citations received by that group. We assessed citation over-representation by comparing the proportions of people in various groups of nonusers of safety belts to the proportions of these same groups in the safety-belt-citation population both before and after standard enforcement. If the citation-proportion for a group was significantly *greater* than the violation-proportion, then we concluded that members of that group were experiencing citation over-representation. According to the study's definition of safety-belt-related harassment, an over-representation of safety belt citations for a group relative to their violation rate constituted "differential treatment" regarding the issuance of safety belt citations during traffic stops for this group. Note that this definition of harassment differs from the general use of the word in that it: 1) is specific to the enforcement of the mandatory safety belt use law only; 2) does not imply any mechanism by which safety-belt-citation over-representation might occur; and 3) does not imply any intent, malicious or otherwise, on the part of the officers issuing the citations.

Study results showed that males received more citations than would be expected based on their violation rates, both before and after standard enforcement. Thus, according to the study's definition, males were experiencing safety-belt-related harassment and the implementation of standard enforcement did not alter this result. Statewide analysis by race showed that Black/African Americans were receiving more citations than expected based on their violation rate prior to standard enforcement, but not after standard enforcement. These results showed that while safety-belt-related harassment of Black/African Americans was present, this outcome was lessened after the implementation of standard enforcement. Citation over-representation was found for those of Other-races after standard enforcement only. While this outcome suggests that standard enforcement may have resulted in safety-belt-related harassment, we are not confident that the violation rates for those of Other-races are reflective of this since we found so few members of this group in our field data collection. Therefore, we cannot draw definitive conclusions based upon the results for Other-races.

Analysis by age showed that vehicle occupants under 30 years of age received more citations than expected both before and after implementation of standard enforcement. Thus, vehicle occupants under 30 years of age were experiencing safety-belt-related harassment and the implementation of standard enforcement did not alter this experience. From these data collectively, we conclude that the implementation of standard enforcement did not lead to a change in citation over-representation and, therefore, safety-belt-related harassment. Indeed, for Black/African Americans the incidence of safety-belt-related harassment may have been reduced after standard enforcement. It is important to keep in mind, however, that these conclusions may change as the next two years of data are collected and analyzed.

We also conducted the same analyses utilizing only those citations that resulted in a conviction. Since a large percentage of citations written have this disposition, we found few differences between these analyses and the ones that involved analyses of all citations written. We therefore conclude that the introduction of standard enforcement did not differentially affect how safety belt citations are disposed.

The study included a telephone questionnaire of people who had received a safety belt citation during the year following standard enforcement. These data were weighted to be representative of all people in Michigan who received a safety belt citation. In addition to asking about perceived harassment, we were also interested in finding out more about the population of people who received safety belt citations. We found that this population reported using safety belts at least most of the time and believed that safety belts were at least somewhat effective in preventing serious injury. Only about one-half were in favor of a mandatory safety belt law and a large majority opposed the standard enforcement provision of the law.

Respondents reported a moderate perceived presence of police on freeways and nonfreeway roads and generally thought that it was unlikely that someone violating the safety belt law would be pulled over. However, once a person was pulled over for this violation, respondents thought they were very likely to be given a safety belt citation, regardless of the roadway type.

A surprising 40 percent of respondents had received more than one safety belt citation in Michigan, showing that simply being cited once for a lack of safety belt use is not enough to change the behaviors of many of Michigan's nonusers of safety belts.

As a criterion for inclusion in the survey, all respondents had received at least one safety belt citation during the year following implementation of standard enforcement. We asked people about the most recent time they were cited for violating the safety belt law. Nearly all respondents had been drivers and about one-quarter of respondents denied the violation. About 40 percent were traveling in a vehicle with one or more other occupants, about one-half of which were reported to be unbelted. Seventy-five percent of stops occurred in the morning or afternoon. Nearly 90 percent of stops occurred on roads other than freeways and about one-half occurred in the respondent's own neighborhood. About 75 percent of respondents owned the vehicle that was stopped and this same proportion reported that the vehicle in which they were riding was in "good" or "very good" condition.

Nearly all stops were by a solo police officer and in two-thirds of the stops, the officer was from a local police department. Almost 90 percent of the time, the officer was male, between the ages of 23 and 64. About 80 percent of the officers were judged to be White and about 15 percent of the officers were Black/African American. Interestingly, Black/African Americans judged the officer to also be Black/African American in more than 40 percent of stops. Thus, enforcement of the safety belt law for Black/African Americans is nearly equally split between White and Black/African American officers.

In general, respondents thought that officers acted professionally, with about 80 percent reporting the officer's behavior as somewhat or very professional. However, about 9 percent overall thought the officer's behavior was very unprofessional and about 15 percent of Black/African American respondents thought that the officer's behavior was very unprofessional.

The traffic stops were judged to be quite short in duration, with 45 percent of respondents reporting that the stop was 10 minutes or less. Another 30 percent reported stops ranging in duration from 11-15 minutes. About 60 percent of respondents reported that they were stopped for violating the safety belt law. Three percent of respondents, however, reported that they were given no reason for the stop. About 25 percent of respondents reported that they received a ticket for some other violation in addition to the safety belt citation; 27 percent reported that another occupant received a safety belt citation; and about 17 percent reported receiving a warning for another violation. Other police actions during the stop, such as searches and sobriety tests, were not frequently reported.

In order to assess perceived safety-belt-related harassment, we asked respondents whether they felt they were singled out for the traffic stop because of their age, sex, race, or several other factors. About 16 percent of respondents indicated that they thought they were singled out because of their age. Those under 23 years of age quite frequently felt that they were singled out because of their age. About 9 percent of respondents thought they were singled out because of their sex, however, men and women did not differ in this perception. About 9 percent thought they were singled out because of their race. About 30 percent of Black/African Americans reported this perception, whereas only about 3 percent of Whites felt that way. These results show that among the population of people receiving safety belt citations in Michigan, there is a somewhat common perception of harassment among Black/African Americans. The study also showed that about 9 percent of respondents thought they were singled out for the traffic stop because of the appearance of their vehicle (condition, make, etc). Thus, perceived harassment on the basis of the vehicle appearance was mentioned as frequently as race or sex by respondents. Several other reasons were mentioned by a few respondents.

In closing, the study did reveal that certain groups were receiving more citations than expected based on their rates of violating the safety belt law (over-representation). The study has defined this as safety-belt-related harassment. While the study documents the occurrence of safety-belt-related harassment in some cases, it does not allow us to determine the mechanism by which certain groups are being given more citations than would be expected. Further analyses of these data are planned to help us understand why certain groups are receiving more citations than would be expected based upon their safety-belt-law-violation rates. The main question to be answered in this study is whether the implementation of standard enforcement resulted in police safety-belt-related harassment. The rate of safety-belt-related harassment complaints did not seem to change after standard enforcement, nor did the over-representation of safety belt citations or the over-representation of safety belt citations that resulted in convictions. Therefore, we conclude that the implementation of standard enforcement was not followed by police safety-belt-related harassment during the year after standard enforcement in Michigan. Again, as further data are collected over the next two years, more solid conclusions will be drawn.

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6. APPENDICES

6.1. Appendix A: Project Support Letters

UMTRI
University of Michigan
Transportation Research Institute
2901 Baxter Road, Ann Arbor, MI 48109-2150

April 2001

As part of a study by the University of Michigan Transportation Research Institute (UMTRI), we are seeking your assistance in collecting information on complaints of harassment reported to your department. The purpose of the study is to investigate the effect of primary enforcement of Michigan's seat belt use law on incidents of police harassment; that is, drivers being singled out or treated differently on the basis of race, sex, age, or other factors unrelated to the actual traffic violation. The study has been authorized by the Michigan legislature and is being carried out under the direction of the Michigan Department of State. Your participation in this effort is essential to ensure that our findings are valid, reliable, and credible. Attached are several letters of support for the study, including letters from Candice Miller, Secretary of State; Terrence Jungel, Executive Director, Michigan Sheriff's Association; and Tom Hendrickson, Executive Director, Michigan Association of Chiefs of Police.

We are requesting copies of all traffic-stop related harassment complaints filed with your department for incidents that occurred between March 1, 1999 and March 31, 2001 (roughly one year before and one year after the introduction of primary enforcement of Michigan's seat belt law). This includes not only complaints related to seat belt or child restraint stops, but also complaints related to other types of traffic stops such as speeding and faulty vehicle equipment. It is important that we get copies of the actual complaints and not just summary information. We do not need the names of the actual complainants or police officers—you may remove them from the record. However, we do need to be able to read all other information written on the complaint, including identifying information such as age, sex, and race.

We understand the sensitive nature of the information we are asking you to provide. As required by the University of Michigan's Institutional Review Board (UM-IRB), we will not retain or report any department-specific information for this study. Our study procedures have been approved by the UM-IRB, which ensures that privacy rights are understood and anonymity procedures for handling sensitive records are adequate. We have also requested protection of confidentiality of participants in the study under the provisions of MCLA 2257.624 (otherwise known as Public Act No. 26 of 1980), which protects name-linked data collection in scientific research studies from being disclosed. Coverage of past studies under the act has allowed the University to deny subpoenas and Freedom of Information requests for study data.

To help make our data collection process as efficient as possible, we are asking you to contact Lisa Molnar at UMTRI as soon as possible, preferably by e-mail (ljmolnar@umich.edu) or telephone if e-mail is not available (734-763-2466), with the following information:

- Confirmation that you have received this letter.
- Confirmation that you are sending the requested complaint information or:
- Contact information for the person we will need to work with to obtain the information if it is not readily available.

The copies of complaints should be mailed to:

Lisa Molnar
University of Michigan Transportation Research Institute
2901 Baxter Road
Ann Arbor, MI 48109-2150

We very much appreciate your cooperation in this important effort and look forward to working with you. If you have general questions about this study, please contact Elaine Charney at the Department of State (517-241-4807) or David Eby at UMTRI (734-763-2466).

Sincerely,

David W. Eby, Ph.D.
Associate Research Scientist and Project Director

STATE OF MICHIGAN

CANDICE S. MILLER, Secretary of State
MICHIGAN DEPARTMENT OF STATE
LANSING, MICHIGAN 48918

March 9, 2001

Dear Safety Belt Study Participants:

Re: Participation in Safety Belt Study

On January 25, 1999, Senate Bill 335 was introduced in the Michigan Senate to allow police officers in Michigan to have the authority to stop and issue citations to motorists who are not wearing a safety belt, or whose passengers are not buckled up, even if no other violation has been committed. The bill was subsequently passed into law as Public Act 29 of 1999 and went into effect on March 10, 2000.

During the legislative debate, concerns were raised about the potential for law enforcement officers using standard enforcement of the safety belt law as an opportunity to single out or treat drivers differently on the basis of race, gender, age or other factors unrelated to the actual traffic violation. The act required the Secretary of State to engage an independent organization to conduct a three-year study to determine the effect that the primary enforcement of the safety belt requirements has on the number of incidents of police harassment of drivers.

On January 3, 2001, a contract was finalized by the State of Michigan with the University of Michigan Transportation Research Institute (UMTRI) to conduct this study. The Department of State's Bureau of Driver Safety will serve as the contract administrator. **The prime consideration in the design of this study is to produce findings for the public, law enforcement, and policy makers that are valid, reliable, and credible.**

A Technical Review Committee (TRC) has been established to advise the DOS on the study's design and activities. The following organizations have agreed to serve as on the TRC:

- Michigan State Police
- Office of Highway Safety Planning
- Michigan's Court Administrator's Office
- Traffic Improvement Association of Oakland County
- AAA Michigan
- Michigan Sheriff's Association
- Michigan Association of Chief's of Police
- American Civil Liberties Union of Michigan
- Michigan Department of Civil Rights
- National Association for the Advancement of Colored People (Michigan Chapter)
- National Conference for Community and Justice

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As part of the study, UMTRI will be collecting information on safety belt citations and convictions reported to and adjudicated by the district courts in Michigan, as well as information on incidents of harassment reported to police agencies and other groups. UMTRI will be contacting you directly to obtain data for the study. Your cooperation in this effort is vital to the complete and accurate reporting of the effects of standard enforcement to the legislature and the public. I know I can count on your assistance in making the necessary data available to them in a timely and efficient manner. Questions about the study may be directed to Elaine Charney of the Department of State at (517) 241-4807 or David Eby of the UMTRI at (734) 763-2466.

Thank you for your support of this important effort.

Sincerely,

Candice S. Miller

Candice S. Miller
Secretary of State

Michigan Supreme Court
State Court Administrative Office
P.O. Box 30048
Lansing, Michigan 48909
Phone (517) 373-0130
John D. Ferry, Jr., State Court Administrator

TO: **District and Municipal Court Judges**
cc: Court Administrators and Magistrates

FROM: **John D. Ferry, Jr.**

DATE: **February 28, 2001**

RE: **Safety Belt Enforcement Study**

In 1999 the Legislature enacted Public Act 29, authorizing standard enforcement of safety belt use in Michigan. The act was implemented on March 10, 2000 and has led to an increase in belt use of over 13 percentage points above the 1990s average of 70 percent.

The act requires that a three-year study on the effects of standard enforcement on police harassment be conducted by an independent organization under the direction of the Secretary of State, to address concerns raised during the legislative debate that standard enforcement could be used as an opportunity to single out drivers on the basis of race, gender, age, or other factors, unrelated to the actual traffic violation. The Michigan Department of State has funded the University of Michigan Transportation Research Institute (UMTRI) to carry out this study.

As part of the study, UMTRI will be collecting information on incidents of harassment reported to all law enforcement agencies in Michigan, as well as information on safety belt citations and convictions reported to and adjudicated by the district and municipal courts. Complete and accurate data regarding safety belt enforcement is critical to public safety policy development. Therefore, the district and municipal courts should cooperate in providing assistance for this project.

UMTRI will be contacting you directly to obtain data for the study. Questions about the study may be directed to Elaine Charney of the Department of State (517-241-4807) or David Eby of the University of Michigan (734-763-2466).

E:\DISTRICT\TRAFFIC\Seat Belt SCAO Letter.wpd

MICHIGAN ASSOCIATION
of
CHIEFS OF POLICE

TO: Municipal and Township Chiefs of Police

FROM: Thomas A. Hendrickson, Executive Director

DATE: March 14, 2001

RE: **Safety Belt Enforcement Study**

In 1999 the Legislature enacted Public Act 29, authorizing standard enforcement of safety belt use in Michigan. The act was implemented on March 10, 2000 and has led to an increase in belt use of over 13 percentage points above the 1990s average of 70 percent.

The act requires that a three-year study on the effects of standard enforcement on police harassment be conducted by an independent organization under the direction of the Secretary of State, to address concerns raised during the legislative debate that standard enforcement could be used as an opportunity to single out drivers on the basis of race, gender, age, or other factors, unrelated to the actual traffic violation. The Michigan Department of State has funded the University of Michigan Transportation Research Institute (UMTRI) to carry out this study.

As part of the study, UMTRI will be collecting information on incidents of harassment reported to all enforcement agencies in Michigan, as well as information on safety belt citations and convictions reported to and adjudicated by the districts and municipal courts. Complete and accurate data regarding safety belt enforcement is critical to public safety policy development. Therefore, municipal and township police departments should cooperate in providing assistance for this project.

UMTRI will be contacting you directly to obtain data for the study. Questions about the study may be directed to Bill Kennedy of the Department of State (517-241-2137) or David Eby of the University of Michigan (734-763-2466).

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MICHIGAN SHERIFFS' ASSOCIATION

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Terrence L. Jungel
Executive Director

March 19, 2001

TO: ALL MICHIGAN SHERIFFS

REFERENCE: SAFETY BELT ENFORCEMENT STUDY

Public Act 29 of 1999, implemented on March 10, 2000, requires standard enforcement of safety belt use in Michigan; the implementation of that act has led to an increase in belt use of over 13 percentage points above the 1990's average of 70 percent.

To address the concern that standard enforcement could open an avenue to single out drivers on the basis of race, gender, age or other factors unrelated to the actual traffic violation, the legislature also required that a three year study be conducted by an independent organization under the direction of the Secretary of State. The Michigan Department of State has subsequently awarded a grant to the University of Michigan Transportation Research Institute (UMTRI) to carry out this study.

UMTRI will be collecting information on all incidents of alleged harassment reported to law enforcement agencies in Michigan, as well as information on safety belt citations and convictions reported to and adjudicated by the district and municipal courts. Because complete and accurate data regarding safety belt enforcement is critical to public safety policy development, we are requesting that all municipal and township police departments provide assistance for this project.

UMTRI will be making direct contact to obtain data for the study. Questions about the study may be directed to Bill Kennedy of the Department of State (517-241-2137) or David Eby of the University of Michigan (734-763-2466).

We thank you in advance for your valuable assistance in the success of this project.

Sincerely,

Terrence L. Jungel
Executive Director

TLJ/slp

6.2. Appendix B: Court Data Request Letter

UMTRI
University of Michigan
Transportation Research Institute
2901 Baxter Road, Ann Arbor, MI 48109-2150

April 2001

As part of a study by the University of Michigan Transportation Research Institute (UMTRI), we are seeking your assistance in collecting information on seat belt/child restraint citations and convictions reported to and adjudicated by your court. The purpose of the study is to investigate the effect of primary enforcement of Michigan's seat belt use law on incidents of police harassment; that is, drivers being singled out or treated differently on the basis of race, sex, age, or other factors unrelated to the actual traffic violation. The study has been authorized by the Michigan legislature and is being carried out under the direction of the Michigan Department of State. Your participation in this effort is essential to ensure that our findings are valid, reliable, and credible. Attached are several letters of support for the study, including letters from: Candice Miller, Secretary of State; John Ferry, State Court Administrator; Terrence Jungel, Executive Director, Michigan Sheriff's Association; and Tom Hendrickson, Executive Director, Michigan Association of Chiefs of Police.

We are requesting seat belt/child restraint citation and conviction data for one full year before and one full year after the introduction of primary enforcement of Michigan's seat belt law on March 10, 2000. We know that most district courts maintain these data electronically. If your court has an electronic system, we will work with your case management system provider to identify the most efficient process for transferring the citation and conviction data to us. If your court does not have an electronic system, we will work with you to identify the best way of obtaining hard-copies of your citation and conviction data. Our goal is to obtain as much of the original traffic citation information as possible, as well as information about the disposition of the citation. We would also like information about any other traffic citations written by police in conjunction with a seat belt/child restraint citation.

We understand the sensitive nature of the information we are asking you to provide. As required by the University of Michigan's Institutional Review Board (UM-IRB), we will not retain or report any court-specific information for this study. Our study procedures have been approved by the UM-IRB, which ensures that privacy rights are understood and anonymity procedures for handling sensitive records are adequate. We have also requested protection of confidentiality of participants in the study under the provisions of MCLA 2257.624 (otherwise known as Public Act No. 26 of 1980), which protects name-linked data collection in scientific research studies from being disclosed. Coverage of past studies under the act has allowed the University to deny subpoenas and Freedom of Information requests for study data.

To help make our data collection process as efficient as possible, we are asking you to contact Lisa Molnar at UMTRI as soon as possible, preferably by e-mail (ljmolnar@umich.edu) or telephone if e-mail is not available (734-763-2466), with the following information:

- Confirmation that you have received this letter.
- Permission to proceed with data collection from your court.
- Contact information for the person we will need to work with to obtain the data—in most cases, your case management system provider or the person responsible for maintaining your hard-copy files, if you do not have an electronic system.

We very much appreciate your cooperation in this important effort and look forward to working with you. If you have general questions about this study, please contact Elaine Charney at the Department of State (517-241-4807) or David Eby at UMTRI (734-763-2466).

Sincerely,

David W. Eby, PhD
Associate Research Scientist and Project Director

6.3. Appendix C: Direct Observation Survey Data Forms

SITE DESCRIPTION FORM - HARASSMENT

SITE # ___ ___ ___
1 2 3

SITE LOCATION____

SITE TYPE
1☐ Intersection
2☐ Freeway
4

Exit No. ________

TRAFFIC CONTROL
1☐ Traffic Light
2☐ Stop sign
3☐ None
4☐ Other ________________
5

DATE (month/day): __ __/__ __/2001
6 7 8 9

OBSERVER
1☐ Jim
2☐ Phil
3☐ Julie
4☐ Amin
5☐ Steve
6☐ Jane
7☐ Jonathon
8☐ Linda
9☐ Dave
10

DAY OF WEEK
1☐ Monday
2☐ Tuesday
3☐ Wednesday
4☐ Thursday
5☐ Friday
6☐ Saturday
7☐ Sunday
11

WEATHER
1☐ Mostly Sunny
2☐ Mostly Cloudy
3☐ Rain
4☐ Snow
12

START TIME: __ __:__ __ (24 hour clock)
13 14 15 16

END TIME: __ __:__ __ (24 hour clock)
17 18 19 20

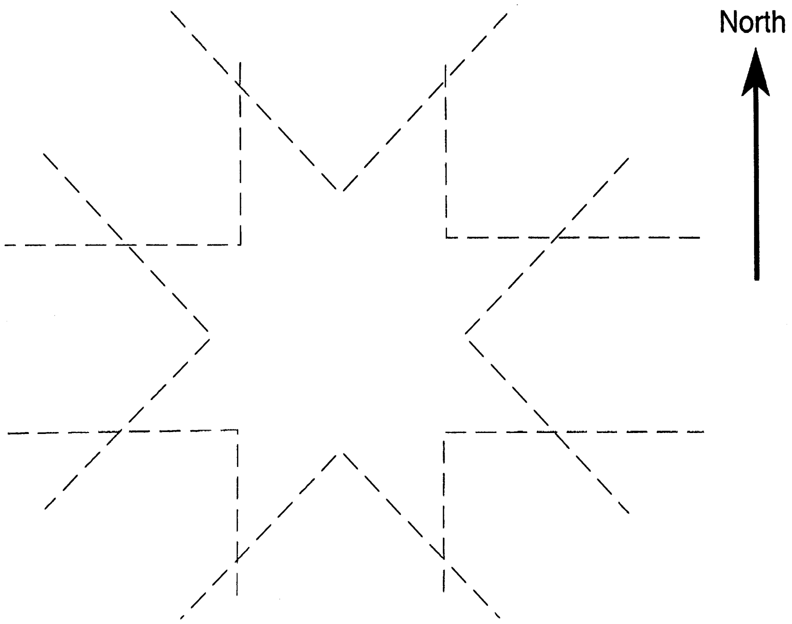
INTERRUPTION (total number of minutes during observation period): __ __
21 22

MEDIAN:
1☐ Yes
2☐ No
23

TRAFFIC COUNT 1: __ __ __
24 25 26

TRAFFIC COUNT 2:__ __ __
27 28 29

COMMENTS:



SITE # ___ ___ ___
1 2 3

PAGE #_______

ATTENTION CODING: DUPLICATE COL 1 - 3 FOR ALL VEHICLES

DRIVER	1☐ Not belted 2☐ Belted 3☐ B Back 4☐ U Arm 4	1☐ Male 2☐ Female 5	1☐ White 2☐ Black 3☐ Other 6	2☐ 4 - 15 3☐ 16 - 22 4☐ 23 - 29 5☐ 30 - 64 6☐ 65+ 7	VEHICLE TYPE 1☐ Passenger car 2☐ Van 3☐ Utility 4☐ Pick-up 8	
FRONT-RIGHT PASSENGER	1☐ Not belted 2☐ Belted 3☐ B Back 4☐ U Arm 5☐ CRD 9	1☐ Male 2☐ Female 10	1☐ White 2☐ Black 3☐ Other 11	1☐ 0 - 3 2☐ 4 - 15 3☐ 16 - 22 4☐ 23 - 29 5☐ 30 - 64 6☐ 65+ 12	Office Use Only: 13 14 15	COMM. VEHICLE 1☐No 2☐Yes 16

DRIVER	1☐ Not belted 2☐ Belted 3☐ B Back 4☐ U Arm 4	1☐ Male 2☐ Female 5	1☐ White 2☐ Black 3☐ Other 6	2☐ 4 - 15 3☐ 16 - 22 4☐ 23 - 29 5☐ 30 - 64 6☐ 65+ 7	VEHICLE TYPE 1☐ Passenger car 2☐ Van 3☐ Utility 4☐ Pick-up 8	
FRONT-RIGHT PASSENGER	1☐ Not belted 2☐ Belted 3☐ B Back 4☐ U Arm 5☐ CRD 9	1☐ Male 2☐ Female 10	1☐ White 2☐ Black 3☐ Other 11	1☐ 0 - 3 2☐ 4 - 15 3☐ 16 - 22 4☐ 23 - 29 5☐ 30 - 64 6☐ 65+ 12	Office Use Only: 13 14 15	COMM. VEHICLE 1☐No 2☐Yes 16

DRIVER	1☐ Not belted 2☐ Belted 3☐ B Back 4☐ U Arm 4	1☐ Male 2☐ Female 5	1☐ White 2☐ Black 3☐ Other 6	2☐ 4 - 15 3☐ 16 - 22 4☐ 23 - 29 5☐ 30 - 64 6☐ 65+ 7	VEHICLE TYPE 1☐ Passenger car 2☐ Van 3☐ Utility 4☐ Pick-up 8	
FRONT-RIGHT PASSENGER	1☐ Not belted 2☐ Belted 3☐ B Back 4☐ U Arm 5☐ CRD 9	1☐ Male 2☐ Female 10	1☐ White 2☐ Black 3☐ Other 11	1☐ 0 - 3 2☐ 4 - 15 3☐ 16 - 22 4☐ 23 - 29 5☐ 30 - 64 6☐ 65+ 12	Office Use Only: 13 14 15	COMM. VEHICLE 1☐No 2☐Yes

DRIVER	1☐ Not belted 2☐ Belted 3☐ B Back 4☐ U Arm 4	1☐ Male 2☐ Female 5	1☐ White 2☐ Black 3☐ Other 6	2☐ 4 - 15 3☐ 16 - 22 4☐ 23 - 29 5☐ 30 - 64 6☐ 65+ 7	VEHICLE TYPE 1☐ Passenger car 2☐ Van 3☐ Utility 4☐ Pick-up 8	
FRONT-RIGHT PASSENGER	1☐ Not belted 2☐ Belted 3☐ B Back 4☐ U Arm 5☐ CRD 9	1☐ Male 2☐ Female 10	1☐ White 2☐ Black 3☐ Other 11	1☐ 0 - 3 2☐ 4 - 15 3☐ 16 - 22 4☐ 23 - 29 5☐ 30 - 64 6☐ 65+ 12	Office Use Only: 13 14 15	COMM. VEHICLE 1☐No 2☐Yes 16

6.4. Appendix D: Direct Observation Survey Site Listing

001 - EB M-102/8 Mile & I-94
002 - EBP I-94 & M-102/8 Mile
003 - EB Ann Arbor Road/BR M-14 & Ann Arbor Trail
004 - WB BR M-14/Plymouth Rd. & Evergreen
005 - NB Telegraph/US-24 & Van Born
006 - EB M-153/Ford & US-24/Telegraph
007 - WB M-102/8 Mile & Ryan
008 - NBD I-75 & Livernois
009 - WBD I-94 & Gratiot
010 - SB US-24/Telegraph & Cherry Hill
011 - SBP I-75 & Gibralter Road (Exit 29B)
012 - SBP I-75 & McNichols
013 - EBD I-94 & Wayne Road
014 - EB US-12/Michigan Avenue & Cogswell Road
015 - WB M-153/Ford & Wayne Road
016 - SB US-10 & Chicago Road
017 - NBD I-275 & Ford Road/M-153
018 - EB M-102/8 Mile & Inkster
019 - WB BR M-14/Ann Arbor Road & Canton Center
020 - SB M-53/Van Dyke & 7 Mile
021 - SB US-24/Telegraph & Ecorse
022 - EBP I-96 & Greenfield
023 - EBD I-96 & Wyoming
024 - EB BR M-14/Plymouth Rd. & Inkster
025 - EB BR M-14/Ann Arbor Road & Main
026 - WB US-12/Michigan Avenue & Oakwood
027 - NWB Southfield/M-39 & Dix/Toledo Road
028 - EB US-12/Michigan Avenue & Hannan Road
029 - WB M-102/8 Mile & John R
030 - SEB M-1/Woodward & Warren
031 - SBP M-39/Southfield & Oakwood
032 - SWB M-3/Gratiot & Vernor
033 - WB M-102/8 Mile & Greenfield
034 - SBP I-275 & Eureka
035 - NB US-24/Telegraph & Vreeland
036 - EB M-153/Ford & Merriman
037 - WB M-153/Ford & I-275
038 - SBP I-275 & Waltz
039 - SBD I-75 & Clay
040 - SBP I-75 & Outer Drive
041 - NBP I-75 & West Road
042 - WB BR M-14/Ann Arbor Road & McClumpha
043 - NB M-53/Van Dyke & Davison
044 - EB BR M-14/Plymouth Rd. & Middlebelt
045 - EB M-153/Ford & Beech Daly
046 - WBP I-94 & Moross
047 - WBP I-94 & Greenfield
048 - NBD I-275 & US-12/Michigan Avenue
049 - WB M-102/8 Mile & Mound
050 - EB US-12/Michigan Avenue & Military
051 - EB US-12/Michigan Avenue & Middlebelt
052 - EB US-12/Michigan Avenue & Inkster
053 - SEB M-1/Woodward & 7 Mile
054 - NEB BR M-14/Plymouth Rd. & Hines Drive
055 - WB M-102/8 Mile & Campbell
056 - NBP US-10 & W. Grand Blvd.
057 - NBD I-75 & Springwells
058 - SB US-24/Telegraph & M-153/Ford

059 - NEB M-3/Gratiot & Moross
060 - SB M-53/Van Dyke & McNichols
061 - SBD I-75 & Springwells
062 - SBP US-10 & 7 Mile
063 - NB US-24/Telegraph & Huron River Drive
064 - EB M-153/Ford & Lotz
065 - WB I-96 & Evergreen
066 - SBD I-275 & West
067 - SB M-97/Hoover & M-3/Gratiot
068 - SB M-53 & I-94
069 - SBP I-75 & Wyoming
070 - EBP I-94 & M-53
071 - EBP I-96 & Livernois
072 - WB M-102/8 Mile & Kelly
073 - SB US-12/Telegraph & M-5/Grand River
074 - NBP M-39/Southfield & Van Born
075 - EB M-102/8 Mile & Pinecrest
076 - SBD I-75 & Northline
077 - NBD I-75 & Clark
078 - WB M-102/8 Mile & M-39/Southfield
079 - WBD I-94 & W. Grand Blvd.
080 - WB US-12/Michigan Avenue & Lilley
081 - EBD I-94 & Wyoming
082 - NBP M-39/Southfield & US-12/Michigan Avenue
083 - NEB M-3/Gratiot & Gunston/Hoover/M-97
084 - EB M-153 & Newburgh
085 - NBD US-10 & Wyoming
086 - NBD I-275 & Ann Arbor Road/BR M-14
087 - EBD I-94 & Morang
088 - EB US-12/Michigan Avenue & Merriman
089 - WBP I-94 & Chalmers
090 - SBP US-10 & M-5/Grand River
091 - EB M-102/8 Mile & M-24/Telegraph
092 - WB US-12/Michigan Avenue & Beck
093 - SBD I-75 & Allen Road/Pelham
094 - NBP I-75 & Dix/Toledo
095 - EBD M-14 & Beck
096 - SBD I-75 & Huron River Drive
097 - WBP I-94 & Allen/Pelham
098 - SBD I-275 & Sibley
099 - EBP I-94 & Merriman
100 - EBD I-96 & M-5/Grand River
101 - EB M-153/Ford & Hines Drive
102 - EB M-153/Ford & Greenfield
103 - NB Telegraph/US-24 & 7 Mile
104 - EB BR M-14/Ann Arbor Road & Sheldon
105 - EBD I-94 & Rotunda
106 - EB US-12 & Belleville Road
107 - WBD I-375 & E. Jefferson
108 - SEBP M-10/Lodge Fwy. & McNichols
109 - NBD M-39/Southfield & M-102/8 Mile
110 - WBP I-94 & Lonyo
111 - NB M-3/Gratiot & M-53/Van Dyke
112 - NWB M-5/Grand River & Evergreen
113 - M-53/Van Dyke & Outer Drive
114 - WB BR M-14/Plymouth Rd. & Beech Daly
115 - NBD I-75 & M-85/Fort
116 - SB US-24/Telegraph & West Chicago
117 - NEB M-3/Gratiot & Mack
118 - NBD I-75 & Holbrook
119 - WB M-102/8 Mile & Hoover

120 - EBP I-94 & Grand River
121 - EBD I-94 & Friday Road
122 - WB M-46 & M-13
123 - EB US-12 & Lubke
124 - EB M-62 & Pucker
125 - NB M-15 & Wilshire/Van Geisen
126 - SB M-13 & Coldwater
127 - NB BR US-23 & US 23
128 - EB M-46 & M-52
129 - SB BL I-94 & Cleveland Avenue
130 - EB M-46 & Block Road
131 - WB M-46 & Miller Road
132 - WB US-12 & Phillips Road
133 - SB M-54 & Perry Road
134 - NBP US-33 & Ontario
135 - NBD US-33 & Bell Road
136 - NBP US-33/US-31 & Long Lake Road
137 - EBD I-94 & US-12
138 - WB M-57 & Briggs
139 - NBP I-675 & Tittabawassee Road
140 - SB M-13 & Mt. Morris
141 - SB M-15 & Hegel Road
142 - SB US-33 & Hilltop Drive
143 - EB M-57 & Stuart Road
144 - SBD US-33 & Coloma Road
145 - SB M-13 & Moore Road
146 - NB M-83 & M-46
147 - SB M-54 & Lewis Road
148 - EBD I-69 & Hammerberg
149 - EB M-121 & Dort Highway/M-54
150 - SBD US-33/US-31 & Snyder
151 - WB M-21 & Morrish
152 - WB M-57 & I-75/US-23
153 - NB M-83 & Townline/Swaffer Road
154 - WB M-46 & Portsmouth
155 - NB M-54 & Hemphill Road
156 - NB BR I-96 & M-46
157 - NB US-33/US-31 & Rockyweed
158 - SB M-54 & Busch Road
159 - SBP US-31 & White Lake Drive
160 - WB M-46 & Orr S.N. Road
161 - SB M-140 & Dansmith Road
162 - EB US-12 & Clapp Road
163 - NB M-15 & Lapeer Road/Genessee Road
164 - SBD US-31 & Holton-Whitehall Road
165 - NB M-52 & Sharon Road
166 - SB M-51 & Lake Street
167 - SB M-84 & M-58/Davenport Avenue
168 - SBP US-33/US-31 & Buchanan
169 - NBD I-475 & Bristol Road
170 - NBP US-33/US-31 & Kephart Road
171 - NB M-37 & 60th Street
172 - SBP US-131 & M-46
173 - EB M-59 & Opdyke
174 - NB M-37 & 15 Mile
175 - SB M-1/Woodward & BR M-10/Square Lake Road
176 - NB M-37 & 32nd Street
177 - EB M-45/Lake Michigan Drive & Oakleigh
178 - WBD I-196 & M-45/Lake Michigan Drive
179 - NB M-15 & I-75
180 - WBD I-96 & Fruit Ridge Avenue

181 - WB M-21 & Segwun Ave/Alden Nash Ave/Lincoln Lake
182 - WB M-11/28th Street & Eastern Avenue
183 - NBP US-10 & Voorheis Road
184 - NB M-15 & Oakwood
185 - SBP US-10 & Highland Road/Huron Road
186 - EB M-45 & US 131
187 - SB M-1/Woodward Avenue & South Blvd.
188 - NB M-1/Woodward Avenue & Huron Road/Highland Road
189 - NB US-10/US-24 & Hickory Grove
190 - NB M-150 & Tienken Road
191 - WBD I-96 & Pontiac Trail
192 - NB M-44 & Airway Road
193 - NB US-10 & Maybee Road
194 - NBD US-10 & Covert
195 - SB M-37 & 68th Street
196 - SBP I-75 & Sashabaw
197 - SB M-44 & Plainfield
198 - SB M-37 & Cascade Road
199 - WB M-57 & Summit
200 - SB M-24/Lapeer & Seymour Lake Road
201 - SBD I-275 & 8 Mile Road
202 - SBP M-39/Southfield Fwy & 8 Mile/M-102
203 - NBD US-10/US-24 & 14 Mile Road
204 - NB US-10 & Andersonville Road
205 - NB M-24 & Miller/Atwater/Orion
206 - SB M-15 & Seymour Lake Road
207 - SB M-15 & M-10/Dixie Hwy
208 - WB M-44 & Myers
209 - SBP US-10 & Sashabaw Road
210 - NBP US-131 & 84th Street
211 - SB M-52 & M-43
212 - WB BL I-94 & River Street
213 - NB M-152 & County Road 687
214 - NB BL I-96 & College
215 - EBD I-96 & M-52
216 - SB M-106 & I-94
217 - NB M-43 & M-89/C Avenue
218 - EBP M-96 & 33rd Street
219 - EB BL I-196 & I-196
220 - WB BL I-94 & US-131
221 - WBP I-94 & Ann Arbor-Saline Road
222 - SBD US-131 & D Avenue
223 - EB M-60/M-99 & 25 ½ Mile Road
224 - EB BL I-94 & Lake Street
225 - NBP US-127 & Berry Road
226 -WB BL I-94 & BR US-127/M-50/West Avenue
227 - EB M-17/Washtenaw Avenue & Golfside
228 - NBD US-131 & U Avenue
229 - EB M-60 & Van Wert
230 - WBD I-94 & Clear Lake Road/Francisco Road
231 - EB M-43 & 52nd Street
232 - EB M-89 & M-43/ 32nd Street
233 - EB M-36 & Fields Road
234 - EB BL I-94 & Robinson Road
235 - SBP US-127 & M-50
236 - WBD I-94 & 26 Mile Road
237 - WBD I-94 & Jackson Road
238 - EB M-60 & Albion/Pulaski Road
239 - EB M-106 & Shepper
240 - NB M-40 & Van Buren Street/County Road 388
241 - EB BL I-94 & Michigan Avenue

242 - NB M-52 & Cavanaugh Lake/Dexter-Chelsea
243 - NBP US-127 & Barnes Road
244 - SB M-52 & North Territorial
245 - SB M-78 & Pine Lake Road
246 - EB M-89 & 46th Street
247 - WB M-43 & Dietz
248 - EBD I-94 & US-12
249 - NB BL I-96 & Jolly Road
250 - SBD US-127 & County Farm Road
251 - WB Cherry Hill & Wayne Road
252 - EB Ann Arbor Road & Hix
253 - WB North Territorial & Sheldon
254 - SB Sheldon & 5 Mile
255 - WB 6 Mile & Inkster
256 - EB West Road & Allen
257 - SB N. Gibraltar/Adams & Gibralter
258 - NB Sumpter & Dunn
259 - WB 7 Mile & Evergreen
260 - SB Hannan & Wabash
261 - WB Pennsylvania & Merriman
262 - EB Sibley & Wahrman
263 - WB W. Chicago & Greenfield
264 - SB Beech Daly & Goddard
265 - SWB Fort Street & Springwells
266 - WB Huron River Drive & Main/Savage
267 - NB Farmington & 5 Mile
268 - EB Warren & Inkster
269 - WB Willow & Sherwood
270 - NB Greenfield & 7 Mile
271 - EB Van Born & Allen/Pelham
272 - NB Dix/Toledo & Emmons
273 - EB Pennsylvania & Wahrman
274 - EB Plymouth & Farmington
275 - EB Van Born & Venoy
276 - SEB Chalmers & Warren
277 - SB Ozga & Tyler
278 - WB Plymouth & Merriman
279 - NB Meridian & Macomb
280 - NEB Dix & Outer Drive
281 - WB McNichols & Evergreen
282 - EB Oakwood & Fort Street
283 - EB Bog Road & Hoeft Road
284 - EB 7 Mile & Mound Road
285 - EB Schoolcraft & Greenfield
286 - EB Ecorse & Denton
287 - WB Moross & Morang
288 - EB McNichols & Mt. Elliott
289 - NB Wayne & Plymouth
290 - EB 7 Mile & Newburgh
291 - NB Wyoming & W. Chicago
292 - NB Wahrman & Wabash
293 - NB Middlebelt & 7 Mile
294 - EB Warren & Livernois
295 - NB Merriman & 5 Mile
296 - EB Gibralter & Cahill
297 - NEB Kercheval & Morang
298 - WB Van Born & Monroe
299 - WB Northline & Inkster
300 - NB Wayne & Maplewood
301 - EB Joy & Newburgh
302 - SB Evergreen & Ann Arbor Trail

303 - SB Merriman & Dorsey
304 - NB Beech Daly & Joy
305 - EB Eureka & Middlebelt
306 - EB Eureka & Trenton
307 - WB Ecorse & Wayne
308 - SEB Dexter & Chicago
309 - SB Meridian & Ferry
310 - EB Van Born & Howe Road
311 - EB Plymouth & Wyoming
312 - WB Eureka & Dix/Toledo
313 - SB Greenfield & Hubbard
314 - NEB Lakeshore Drive & Moross
315 - NB River Road/Jefferson Road & Vreeland
316 - NB Lakeside & Forest Lawn
317 - WB Matthew & Range Line
318 - EB Warren Woods & Flynn
319 - WB Pierson & N. Saginaw
320 - SB Seymour & Carpenter
321 - WB Highland & Crystal Avenue
322 - WB Bard & Russell Road
323 - WB Lake Road & Linden
324 - EB Roedel & Portsmouth
325 - SB Lawndale & Dice Road
326 - WB Lakewood & Durham
327 - WB 4th Street & Terre Coupe
328 - WB Perry Road & Belsay Road
329 - SB Sheridan & Sherman Blvd.
330 - EB Bristol & Belsay
331 - NB Ridge & Hegel
332 - EB Marquette Avenue & Getty Street
333 - SB Sheridan & Treanor
334 - EB Junction & Church Grove Road
335 - SB Fenton & Maple Avenue
336 - NB Linden & Silver Lake Road
337 - EB Sherman & Creek
338 - NWB Flushing Road & Ballenger Hwy
339 - SB Witham/Whitehall & Memorial Drive
340 - SEB LaPorte & Stromer
341 - SB Gast & Shawnee
342 - EB Carpenter & Deland
343 - SB Seymour & Miller
344 - EB Mt. Garfield & Henry Street
345 - NWB Detroit & N. Saginaw/Fenton
346 - SB Center Road & Court Street
347 - SB Red Bud Trail & Front Street/Niles/Buchanan Road
348 - EB Carpenter & Saginaw Road
349 - NB Bennett Lake Road & Owens Road
350 - NEB Strommer & Rose City
351 - SB Algoma & 10 Mile Road
352 - SB Lincoln Lake Avenue & 3 Mile
353 - NB Butterworth & Michigan Street
354 - NB Livernois & Maple
355 - EB 14 Mile & Campbell
356 - EB Pontiac Trail & Wixom Road
357 - WB 9 Mile & Baumhoff Avenue
358 - WB West Maple & Lahser Road
359 - EB Maybee Rd & Sashabaw Road
360 - SB Pratt Lake & 84th Street/Keim Road
361 - SB Williams Lake Road & Elizabeth Lake Road
362 - NB East Paris & 32nd Street
363 - EB West Maple & Orchard Lake Road

364 - WB 6 Mile & Walker
365 - EB Indian Lake Road & Northland Drive
366 - NB John R & 14 Mile
367 - NB Lahser & 11 Mile
368 - SB Taft & 10 Mile
369 - EB Lincoln Street & Kinney Avenue
370 - EB W. Maple & Cranbrook/Covington
371 - EB Walton Blvd. & Baldwin Road
372 - WB 10 Mile & Middlebelt
373 - WB W. Maple & Beck
374 - EB 3 Mile & Bristol
375 - NB Fuller Avenue & Leonard Street
376 - WB County Road 384/12th Avenue & 47th
377 - NB 47th Street & ON Avenue
378 - SB County Road 681 & 42nd Avenue
379 - SB Litle & Erie
380 - WB R Drive S & 28 Mile Road
381 - SB Fletcher & Old US-12
382 - NB Eifert & Wilcox Road
383 - NB 7 ½ Mile & G Drive S.
384 - SB Edgar & Bunker Road
385 - WB Mt. Hope Hwy & Washington Avenue
386 - EB Spaulding Road & 9 Mile Road
387 - SB Drive & Vanderbilt Avenue
388 - SB Hull/Hagadorn & Kipp Road
389 - SB Raymond & Golden Road
390 - EB Van Buren & 32nd Street
391 - SEB Ann Arbor-Saline Road & Willis Road
392 - SB Abbott & Lake Lansing Road
393 - EB Plymouth & Huron Parkway
394 - WB 8th Avenue & Blue Star M
395 - NWB Homer & Hughs Street/Marshall
396 - NB 12th Street & R Avenue
397 - WB Burcham & Hagadorn
398 - NB N. Shore Drive & Baseline Road
399 - EB Fitchburg & State Street/Oak Street
400 - SB 64th S/County Road 687 & Red Arrow Hwy

6.5. Appendix E: Equations for Direct Observation Survey Analysis

6.5.1. Calculation of means, variances, and confidence intervals for safety belt violation rate

The study area was divided in 12 strata, as described Section 2.4. Each stratum s contained N_s intersections, where N_s was unknown. A sample of n_s sites was selected from the N_s intersections and each sampled site was observed. Observation periods at all sites were equal. During the observation period at site i, M_i vehicles passed, of which m_i were sampled and the safety belt use within the vehicle was recorded. At each site i, m_i vehicles with x_i persons, of which y_i were using safety belts were observed.

The estimates of the safety belt use rate R_s within stratum s were calculated using the following equation:

$$R_s = \frac{\sum_{i=1}^{n_s} y_i w_i}{\sum_{i=1}^{n_s} x_i w_i}$$

where $w_i = M_i / m_i$

The variance for belt use estimates within stratum s, was calculated using an equation derived from Cochran's (1977) equation 11.30 from section 11.8. The resulting equation was:

$$V_s = \frac{n_s}{n_s - 1} \sum_{i=1}^{n_s} \left(\frac{w_i x_i}{\sum_{k=1}^{n_s} w_k x_k} \right)^2 (r_i - R_s)^2 + \frac{n_s}{N} \sum_{i=1}^{n_s} \left(\frac{w_i x_i}{\sum_{k=1}^{n_s} w_k x_k} \right)^2 \frac{(r_i(1 - r_i))}{m_i - 1}$$

where r_i is the weighted belt use rate at site *i*. In actual calculations of the variance, the second term of this equation was negligible and the variance of stratum *s* was estimated as:

$$V_s = \frac{n_s}{n_s - 1} \sum_{i=1}^{n_s} \left(\frac{w_i x_i}{\sum_{k=1}^{n_s} w_k x_k} \right)^2 (r_i - R_s)^2$$

The estimates of the overall statewide mean, *R*, and variance, *V*, of safety belt use were obtained from the following relationships:

$$R = \sum_{s=1}^{12} R_s W_s$$

$$V = \sum_{s=1}^{12} V_s (W_s)^2$$

where W_s is a ratio of vehicle miles traveled in stratum *s* relative to the vehicle miles traveled in the state. The 12 strata were developed from 4 geographic areas and the type of road the intersection was on (state trunkline, urban, or non urban). The W_s ($s = 1, 12$) are given below:

Geographic area	Road type	Stratum s	Weight Ws	Number of sites
1	trunkline	1	.152	120
1	urban	2	.081	55
1	non urban	3	.075	10
2	trunkline	4	.086	50
2	urban	5	.033	25
2	non urban	6	.057	10
3	trunkline	7	.145	40
3	urban	8	.064	15
3	non urban	9	.089	10
4	trunkline	10	.116	40
4	urban	11	.043	15
4	non urban	12	.058	10

The estimates of the overall statewide mean and variance of safety belt violation rates are:

Statewide Mean safety belt violation rate = $1 - R$

Statewide Variance of safety belt violation rate = V

Then 95th percent confidence bands were calculated using the following relationship:

95th Confidence Band = $R \pm 1.96\sqrt{V}$ for safety belt use

95th Confidence Band = $(1 - R) \pm 1.96\sqrt{V}$ for safety belt violations.

and the relative error or precision of the estimate was computed using:

$$\text{Relative Error} = \frac{\sqrt{V}}{R} \quad \text{for safety belt use}$$

$$\text{Relative Error} = \frac{\sqrt{V}}{1-R} \quad \text{for safety belt nonuse.}$$

6.5.2 . Calculation of proportions of safety belt violators who belong to a specific group

This section describes the methods used to estimate the proportion of all safety belt violators who belonged to a specific age, sex, and race group. This analysis was carried out separately for drivers, front-outboard passengers, and for all occupants.

As noted before, the study area was divided in 12 strata and each stratum s contained N_s intersections, where N_s was unknown. A sample of n_s sites was selected from the N_s intersections and each sampled site was observed. During the observation period at site i, M_i vehicles passed, of which m_i were sampled and the safety belt use within the vehicle was recorded.

Let z_i be the total number of safety belt violators observed at site i. Of these z_i violators, xa_i are of category a, where $a=1$ to the number of categories appropriate for the analysis. For example, when analyzing the proportion of violators by age, a takes on values from 1 - 4, corresponding to the four age groups, 16-22, 23-29, 30-64, and 65+. In the analysis by sex, a = 1, 2, corresponding to the two categories of violators, men and women. In the analysis by race, a takes on values from 1 - 3, corresponding to the three categories of race, White, Black/African American, and Other-races.

Let r_{sa} be the estimate for the proportion of violators of category xa in stratum s. The proportion r_{sa} is estimated by the following equation:

$$r_{sa} = \frac{\sum_{i=1}^{n_s} (M_i / m_i) xa_i}{\sum_{i=1}^{n_s} (M_i / m_i) z_i}$$

Variances within the stratum are estimated with the following approximation:

$$Var(r_{sa}) \approx \frac{n_s}{n_s - 1} \sum_{i=1}^{ns} w_i{}^2 (xa_i - r_{sa} z_i)^2$$

where $$w_i = \frac{M_i}{m_i} \Big/ \sum_{k=1}^{n} \frac{M_k}{m_k} z_k$$

The stratum rates are combined into an overall rate:

$$r_a = \sum_{s=1}^{12} r_{sa} W_s$$

where W_s is the stratum weight (see table in section 6.5.1).

The overall variances are obtained from the stratum variances:

$$Var(r_a) = \sum_{s=1}^{12} (W_s)^2 Var(r_{sa})$$

6.6. Appendix F: Telephone Questionnaire

THE UNIVERSITY OF MICHIGAN
TRANSPORTATION RESEARCH INSTITUTE
SAFETY BELT SURVEY

INT1. Hello, my name is _________ from MORPACE International, calling on behalf of the University of Michigan Transportation Research Institute.

May I please speak to **<INSERT NAME FROM SAMPLE>**?

We are conducting a brief survey about drivers' experiences with enforcement of Michigan's safety belt law.

(INTERVIEWER NOTE: If necessary, repeat first paragraph to respondent.)

01 Yes **(CONTINUE)**
02 No **(If unavailable, schedule callback.)**

99 Refused **(TERMINATE)**

INT2. You have been selected randomly from court records of drivers who have been cited by police for not wearing a seatbelt in the past year. Researchers at the University of Michigan are interested in your opinions about seatbelt use and your experiences during the police stop.

We would appreciate your input in this voluntary survey. The information collected will be treated confidentially. This is not a sales call and no sales calls will result from the interview. For quality control purposes, this call may be monitored. If we come to a question that makes you uncomfortable, let me know and we'll move on.

Are you at least 18 years of age or older?

(IF ASKED: Interview length is approximately 13 minutes. Michigan's Department of State is sponsoring UMTRI's research. Court records are from March 2000 to March 2001.)

01 Yes
02 No **(TERMINATE)**

99 Refused **(TERMINATE)**

INTA. I'd like to begin with some general questions about your opinions on seatbelt use and traffic safety.

A1. Just to verify, are you a resident of Michigan?
(DO NOT READ LIST)

01	Yes
02	No **(TERMINATE)**
09	Refused **(TERMINATE)**

A2. In general, how often would you say you wear your seatbelt when you are traveling in a motor vehicle?
(READ LIST)

01	Always
02	Most of the time
03	Some of the time
04	Never
98	Don't Know
99	Refused

A3. How effective do you think seatbelts are in preventing serious injury in motor vehicle accidents? Are they . . .?
(READ LIST)

01	Very effective
02	Somewhat effective
03	Not very effective
98	Don't Know
99	Refused

A4. Do you favor or oppose Michigan's law that requires adults in the front seat of a motor vehicle to wear a seatbelt?
(DO NOT READ LIST)

01	Favor
02	Oppose
03	Undecided
98	Don't Know
99	Refused

A5. Do you favor or oppose the part of Michigan's seatbelt law that allows police to pull someone over for not wearing his or her seatbelt even if there is no other traffic violation?
(DO NOT READ LIST)

01	Favor
02	Oppose
03	Undecided
98	Don't Know
99	Refused

A6. How often do you see police patrolling the FREEWAYS in Michigan, such as I-94, I-96, and I-75. (INTERVIEWER NOTE: Freeways are high-speed highways with on and off ramps, such as I-94, I-96, and I-75.)
(READ LIST)

01	All of the time
02	Most of the time
03	About half of the time
04	Some of the time
05	Never
98	Don't Know
99	Refused

A7. How often do you see police patrolling NON-FREEWAY ROADS in Michigan? (INTERVIEWER NOTE: Non-freeway roads include all highways with no on and off ramps, major thoroughfares, and local streets and roads, including neighborhood and subdivision streets.)
(READ LIST)

01	All of the time
02	Most of the time
03	About half of the time
04	Some of the time
05	Never
98	Don't Know
99	Refused

A8. If someone is driving on a FREEWAY in Michigan without a seatbelt on, how likely is it that they will get PULLED OVER by police?
(INTERVIEWER NOTE: Freeways are high-speed highways with on and off ramps, such as I-94, I-96, and I-75.)
(READ LIST)

01	Very likely
02	Somewhat likely
03	Somewhat unlikely
04	Very unlikely, but it could happen
05	It would never happen
98	Don't Know
99	Refused

A9. If that person driving on a FREEWAY IS pulled over by the police, how likely is it that they would get a SEATBELT TICKET?
(INTERVIEWER NOTE: Freeways are high-speed highways with on and off ramps, such as I-94, I-96, and I-75.)
(READ LIST)

01	Very likely
02	Somewhat likely
03	Somewhat unlikely
04	Very unlikely, but it could happen
05	It would never happen
98	Don't Know
99	Refused

A10. If someone is driving on a NON-FREEWAY ROAD in Michigan without a seatbelt on, how likely is it that they will get PULLED OVER by police?
(INTERVIEWER NOTE: Non-freeway roads include all highways with no on and off ramps, major thoroughfares, and local streets and roads, including neighborhood and subdivision streets.)
(READ LIST)

01	Very likely
02	Somewhat likely
03	Somewhat unlikely
04	Very unlikely, but it could happen
05	It would never happen
98	Don't Know
99	Refused

A11. If that person driving on a NON-FREEWAY ROAD IS pulled over by the police, how likely is it that they would get a SEATBELT TICKET?
(INTERVIEWER NOTE: Non-freeway roads include all highways with no on and off ramps, major thoroughfares, and local streets and roads, including neighborhood and subdivision streets.)

(READ LIST)

01	Very likely
02	Somewhat likely
03	Somewhat unlikely
04	Very unlikely, but it could happen
05	It would never happen
98	Don't Know
99	Refused

A12. How many times have you received a ticket for not wearing a seatbelt in Michigan?

(DO NOT READ LIST)

01	One	
02	Two	
03	More than two	
04	Zero	**(TERMINATE)**
98	Don't Know	
99	Refused	

INTB. Now I'd like to ask you some questions about the most recent time you were given a ticket for not wearing your seatbelt.

B1. Thinking back to that most recent time, were you the driver of the car or a passenger riding in the car?

(DO NOT READ LIST)

01	Driver
02	Passenger
98	Don't Know
99	Refused

B2. Were you wearing your seatbelt at the time the car was pulled over?

(DO NOT READ LIST)

01	Yes
02	No
98	Don't Know
99	Refused

B3. How many others were in the car with you, not including yourself?
(DO NOT READ LIST)

01 One
02 Two
03 Three
04 More than three
05 Zero (Alone) **(GO TO B5)** **(PROGRAMMER NOTE: ERROR IF B1=2)**

98 Don't Know
99 Refused

(ASK IF B3<>5)
B4. Was everyone else wearing their seatbelts?
(DO NOT READ LIST)

01 Yes
02 No

98 Don't Know
99 Refused

B5. What time of day was it when the car was stopped?
(DO NOT READ LIST)

01 6:00 am – 11:59 am (morning)
02 12:00 pm – 5:59 pm (afternoon)
03 6:00 pm – 11:59 pm (evening)
04 12:00 am – 5:59 am (night)

98 Don't Know
99 Refused

B6. Did the stop occur on a freeway or on a non-freeway road?
(INTERVIEWER NOTE: Freeways are high-speed highways with on and off ramps, such as I-94, I-96, and I-75. Non-freeway roads include all highways with no on and off ramps, major thoroughfares, and local streets and roads, including neighborhood and subdivision streets.)
(DO NOT READ LIST)

01 Freeway
02 Non-freeway

98 Don't Know
99 Refused

B7. Were you in your own neighborhood or in a different neighborhood?
(DO NOT READ LIST)

01	Own neighborhood
02	Different neighborhood
98	Don't Know
99	Refused

B8A. What was the make and model of the car you were pulled over in?
(SEARCH QUESTION)

____

9998	Don't Know
9999	Refused

B8B. What was the year of the car you were pulled over in?
(RECORD MODEL YEAR OF VEHICLE)

_ _ _ _ (PROGRAMMER NOTE: ALLOW 1975 TO 2002)

9998	Don't Know
9999	Refused

B9. Did you own the car?
(DO NOT READ LIST)

01	Yes
02	No
98	Don't Know
99	Refused

B10. What was the condition of the car you were in when it was stopped by the police?
(READ LIST)

01	Very good
02	Good
03	Fair
04	Poor
05	Very poor
98	Don't Know
99	Refused

B11. How many police officers stopped you?
(DO NOT READ LIST)

01 One
02 Two
03 More than two

98 Don't Know
99 Refused

B12. [PROGRAMMER NOTE: IF B11=1 SHOW: "Was the police officer", ELSE SHOW: "Were the police officers"] from the state police, sheriff's department, or local police?
(DO NOT READ LIST)

01 State police
02 Sheriff department
03 Local police department

98 Don't Know
99 Refused

B13. Thinking about the police officer who actually gave you the ticket for not wearing your seatbelt, was the officer male or female?
(DO NOT READ LIST)

01 Male
02 Female

98 Don't Know
99 Refused

B14. How old would you say this officer was?
(INTERVIEWER NOTE: If necessary: "Thinking about the police officer who actually gave you the ticket for not wearing your seatbelt.")
(DO NOT READ LIST)

01 22 or younger
02 23 - 29
03 30 - 64
04 65 or older

98 Don't Know
99 Refused

B15. What would you say was the race of this officer?
(INTERVIEWER NOTE: If necessary: "Thinking about the police officer who actually gave you the ticket for not wearing your seatbelt.")
(DO NOT READ LIST. PROMPT WITH CATEGORIES, IF NEEDED.)

01	White
02	Black/African-American
03	All other races
98	Don't Know
99	Refused

B16. Would you describe the police officer as . . .?
(INTERVIEWER NOTE: If necessary: "Thinking about the police officer who actually gave you the ticket for not wearing your seatbelt.")
(READ LIST)

01	Very professional
02	Somewhat professional
03	Somewhat unprofessional
04	Very unprofessional
98	Don't Know
99	Refused

B17. What reason did the police officer give you for the stop?
(DO NOT READ LIST)

01	Not wearing a seatbelt
02	Some other traffic violation
03	No reason given
98	Don't Know
99	Refused

B18. At the time of the stop, did you feel you were singled out because of your AGE?
(DO NOT READ LIST)

01	Yes
02	No
98	Don't Know
99	Refused

(ASK IF B18<98)

B19. Have your feelings changed?
(INTERVIEWER NOTE: Question is referring to being singled out because of AGE.)
(DO NOT READ LIST)

01	Yes
02	No
98	Don't Know
99	Refused

B20.Did you feel you were singled out because of your GENDER?
(DO NOT READ LIST)

01	Yes
02	No
98	Don't Know
99	Refused

(ASK IF B20<98)

B21. Have your feelings changed?
(INTERVIEWER NOTE: Question is referring to being singled out because of GENDER.)
(DO NOT READ LIST)

01	Yes
02	No
98	Don't Know
99	Refused

22. Did you feel you were singled out because of your RACE?
(DO NOT READ LIST)

01	Yes
02	No
98	Don't Know
99	Refused

(ASK IF B22<98)

B23. Have your feelings changed?

(INTERVIEWER NOTE: Question is referring to being singled out because of RACE.)

(DO NOT READ LIST)

01	Yes
02	No
98	Don't Know
99	Refused

B24A. Do you feel you were singled out for any other reason?

(DO NOT READ LIST)

01	Yes
02	No
98	Don't Know
99	Refused

(ASK IF B24A=1)

B24B. For what reason do you feel you were singled out?

(DO NOT READ LIST)

(MULTIPLE MENTION. UP TO THREE RESPONSES.)

01	Age
02	Gender/Sex
03	Race
04	Sexual orientation
05	Religion
06	Disability – Physical
07	Disability – Mental
08	Type of Vehicle (color, make, model, etc.)
09	Appearance/Condition of Vehicle
10	Personal (police officer knows me and/or doesn't like me, has a grudge)
11	Group membership (non-racial, non-age, non-gender; i.e., bumper stickers, etc.)
12	Other Traffic Violation (speeding, drunk driving, etc.)
996	Other
998	Don't Know
999	Refused

B25. In addition to the ticket for not wearing your seatbelt, were you given a TICKET for any other traffic violation?

(INTERVIEWER NOTE: Traffic violations only! We are not interested in other violations or outstanding warrants.)
(DO NOT READ LIST)

01 Yes
02 No

98 Don't Know
99 Refused

B26. Were you given a WARNING for any other traffic violation?

(INTERVIEWER NOTE: Traffic violations only! We are not interested in other violations or outstanding warrants. Warnings include both verbal and written warnings.)
(DO NOT READ LIST)

01 Yes
02 No

98 Don't Know
99 Refused

(ASK IF B3<>5)
B27. Was anyone else in the car given a ticket for not wearing a seatbelt?
(DO NOT READ LIST)

01 Yes
02 No

98 Don't Know
99 Refused

(ASK IF B3<>5)
B28. Was anyone else in the car given a ticket for some other traffic violation?
(DO NOT READ LIST)

01 Yes
02 No

98 Don't Know
99 Refused

B29. How long would you say that the car was detained for the stop?
(RECORD NUMBER OF MINUTES. ½ HOUR = 30 MINUTES. ONE HOUR = 60 MINUTES.)

__ __ __ (PROGRAMMER NOTE: ALLOW BETWEEN 1 AND 300 MINUTES)

998 Don't Know
999 Refused

B30. During this traffic stop, did the police . . .?
A. Search the car?
B. Search any person?
C. Administer a sobriety test?
D. Arrest anyone?
E. Handcuff anyone?
F. Impound the vehicle?

01 Yes
02 No

98 Don't Know
99 Refused

B31. How many motor vehicle accidents have you been involved in as a driver or passenger in the last five years?
(RECORD NUMBER OF MOTOR VEHICLE ACCIDENTS)

__ __ (PROGRAMMER NOTE: ALLOW 0 TO 10)

98 Don't Know
99 Refused

INTC. Now I'd like to ask you some questions for classification purposes.

C1. RECORD GENDER (BY OBSERVATION)

01 Male
02 Female

98 Don't Know
99 Refused

C2. How old were you on the day you received your most recent seatbelt ticket?

01	22 or younger
02	23 - 29
03	30 - 64
04	65 or older
98	Don't Know
99	Refused

C3. What is your race?
(DO NOT READ LIST)

01	White
02	Black/African American
03	All other races
04	Bi-racial
98	Don't Know
99	Refused

C4. What is the highest level of school you have completed?
(DO NOT READ LIST)

01	Less than high school graduate
02	High school graduate, including GED
03	Some college
04	College graduate
05	Graduate school or more
06	Technical school/Other
99	Refused

C5. Please stop me when I read the category that best describes your household family income.

01	Less than $25,000
02	$25,000 - $49,999
03	$50,000 - $74,999
04	$75,000 - $99,999
05	$100,000 - $124,999
06	$125,000 - $149,999
07	$150,000 or more
98	Don't Know
99	Refused

C6. May I please have your zip code?
(RECORD HOME ZIP CODE)

_ _ _ _ _ (PROGRAMMER NOTE: ALLOW 48000 TO 49999)

99998	Don't Know
99999	Refused

END. Those are all of the questions I have. Thank you very much for your time.

6.7. Appendix G: Analysis Methods for Z-Tests

6.7.1. Selection of safety belt citations during daylight hours.

The direct observation survey of safety belt use was conducted during daylight hours only. It is unknown if safety belt use at night differs from daytime use. Therefore, the daytime safety belt use rates (which are used to obtain the proportions of violators) and citations written during daylight hours only are used in these analyses. To identify the court records of citations that were written during daylight hours, the daily times of sunrise and sunset for southern Michigan for were obtained for the Pre and Post years of the study from www.TimeandDate.com, The latest time of sunrise and the earliest time of sunset for a month were used to define the daylight time period for that month in this analysis, adjusted for daylight saving time.

6.7.2. Comparison of proportions of safety belt violators and citation received by sex, race, and age.

From the direct observation survey of safety belt use we obtained the following estimates of the proportion of safety belt violators of category *a* and the associated variance:

$P_a =$ proportion of safety belt violators of category a

$\sigma_a^2 = \text{var}(P_a)$

From court data, we have a sample of n citations with m going to people of category *a*. This gives us the following proportion (and variance) of people of category *a* who received citations:

$P = m/n$

$\text{Var}(P) = P(1-P)/n$

The variance of the difference between the two proportions is $\sigma_a^2 + P(1-P)/n$ and the ratio,

$$\frac{P_a - P}{\sqrt{\sigma_a^2 + \frac{P(1-P)}{n}}} = Z$$

If we assume that Z is approximately normally distributed with a mean of 0 and a variance of 1, we can test the null hypothesis that $P_a = P$; that is, that the proportion of people in category *a* not wearing safety belts is equal to the proportion of people being cited for safety belt violations by using a Z-test.

Comparisons of the proportions of persons not wearing safety belts from the direct observation study versus proportions of convictions for not wearing safety belts from court records followed the same procedures.