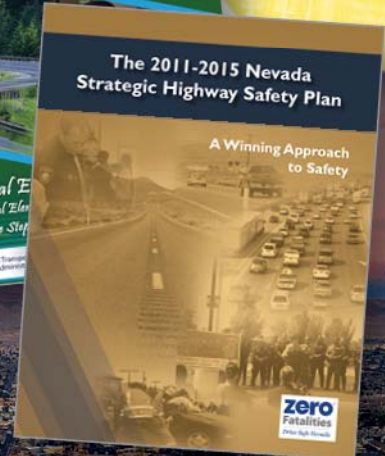
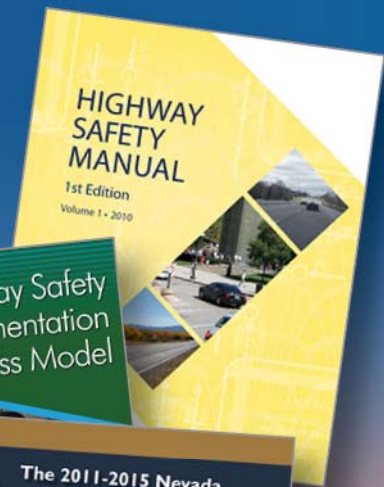




SOUTHERN NEVADA Transportation Safety Plan



August 2015

Kimley»Horn

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SOUTHERN NEVADA TRANSPORTATION SAFETY PLAN

FINAL REPORT

Prepared for:



600 S. Grand Central Parkway
Suite 350
Las Vegas, Nevada 89106-4512

Prepared by:

Kimley»»Horn

6671 Las Vegas Boulevard South
Suite 320
Las Vegas, Nevada 89119
702-862-3600
www.kimley-horn.com

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KHA Project Number: 092369027

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RTC Southern Nevada

Mohammad Farhan (Project Manager)
 Ron Floth
 Raymond Hess
 Martyn James
 Glen Leavitt
 Shital Patel
 Carl Scarborough
 Rush Wickes
 Beth Xie

Partners

Herbert Arnold, Clark County Public Works
 Quinn Averett, Mesquite Police Dept.
 Juan Balbuena, Federal Highway Administration
 Anthony Branchini, Henderson Police Dept.
 Erin Breen, UNLV/Safe Community Partnership
 Lt. Brandon Brooks, Henderson Police Dept.
 Capt. Anne Carpenter, Nevada Highway Patrol
 Daniel Fazekas, City of Henderson
 Nadia Fulkerson, University of Nevada School of Medicine
 Stephanie Garcia-Vause, City of Henderson
 Christina Leach, Federal Highway Administration
 Lt. Novelt Mack, Nevada Highway Patrol
 Lt. Leonard Marshall, Las Vegas Metropolitan Police Dept.
 Ed McGuire, City of Henderson
 Lt. Andy McAfee, Nevada Highway Patrol
 Greg McDermott, City of Las Vegas
 Sherie Moore, Clark County School District
 Lt. Adam Page, Nevada Highway Patrol
 Traci Pearl, DPS-Office of Traffic Safety
 John Penuelas, City of Henderson
 Sgt. Todd Raybuck, Las Vegas Metropolitan Police Dept.
 Alyssa Reynolds Rodriguez, City of North Las Vegas
 Sgt. Robert Stauffer, Las Vegas Metropolitan Police Dept.
 Pete Vander Aa, DPS-Office of Traffic Safety
 Shirley Visger, Las Vegas Metropolitan Police Dept.
 Joanna Wadsworth, City of Las Vegas
 Lt. Joseph Wingard, Nevada Highway Patrol

Nevada Department of Transportation

Michelle Castro
 Albert Jacquez
 Ken Mammen
 Tim Rowe
 Bill Story
 Jaime Tuddao
 Michael Yates
 Karim Yousef

Consultant Team

Mike Colety (Project Manager), Kimley-Horn
 Jacob Farnsworth, Kimley-Horn
 Devin Moore, Kimley-Horn
 Molly O'Brien, Kimley-Horn
 Lindsay Sundberg, Kimley-Horn



EXECUTIVE SUMMARY

E.1. Project Need and Purpose

In the five year period of 2008 to 2012, Southern Nevada has had an annual average of 41,738 total crashes. Of those crashes, there has been an annual average of 975 fatal and serious injury crashes, which resulted in 157 fatalities and 1,418 serious injuries. There is a need to eliminate fatalities and serious injuries within Southern Nevada in support of Nevada’s Strategic Highway Safety Plan goal to achieve zero fatalities. Based on this goal, there is a need for this project to identify and establish those areas that are critical to emphasize when striving to reach zero fatalities and the strategies that should be applied within Southern Nevada to eliminate the number of fatalities and serious injuries within each critical emphasis area (CEA).

The purpose of the Southern Nevada Transportation Safety Plan (TSP) is to evaluate the causes of crashes from a regional transportation planning perspective and identify strategies to eliminate death and serious injury of all road users in Southern Nevada. This purpose can be accomplished by identifying what measures can be taken to improve transportation safety. The TSP establishes a vision, goal, targets, focus areas, and strategies to improve overall safety for every road user. Recommendations from the TSP will also be incorporated into the prioritization of projects within the upcoming update to the Region Transportation Commission of Southern Nevada’s (RTC) long range Regional Transportation Plan.

E.2. Plan Overview

The project included five primary tasks with the creation of the TSP. The following is a brief description and overview of each of the tasks associated with this project. A more detailed description of each task can be found in the main body of this document.

E.2.1. Data Collection and Crash Analysis

Existing crash data sets for the years of 2008 to 2012 were provided by the Nevada Department of Transportation (NDOT). Annual crash data sets were combined into a single complete data set for the five year time period and crash severity was verified for each year. The data sets were analyzed to aid in understanding the existing crash conditions in Southern Nevada and to determine what additional crash analyses were required. **Figure E.1** shows the fatalities and serious injuries from 2008 to 2012.

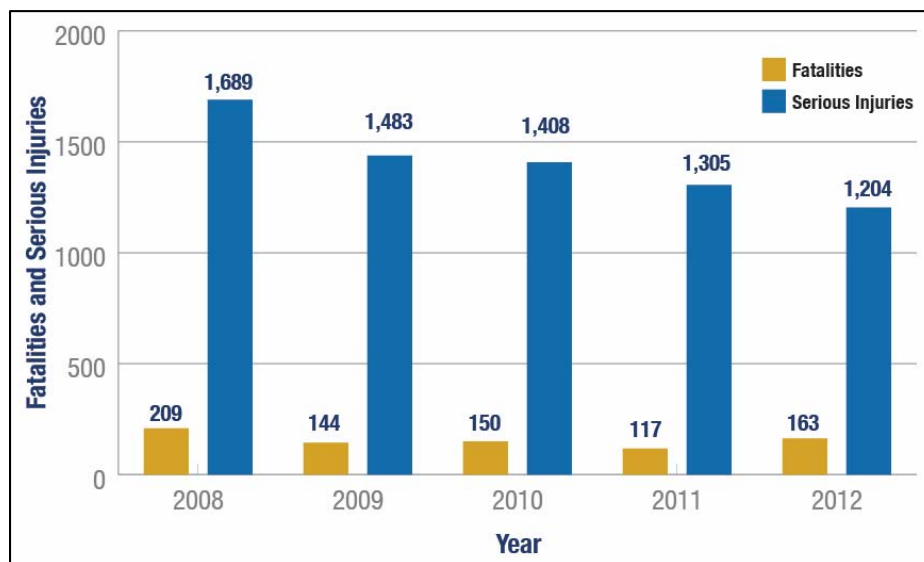


Figure E.1 – Fatalities and Serious Injuries by Year



E.2.2. Selection and Categorization of CEAs

Several specific crash characteristics were analyzed to evaluate the total number of crashes, total number of fatal crashes, and total number of combined fatal and serious injury crashes as an annual average over the five year period. The purpose of these analyses was to help the Technical Advisory Committee (TAC) gain a broad overview of the crash characteristics in Southern Nevada. The different analyses are listed as follows:

- General Analysis
 - Month
 - Day of Week
 - Hour of Day
 - Weather Factors
 - Lighting
 - Crash Type
- Driver Analysis
 - Driver Age
 - Gender
- Driver Behavior Analysis
 - Aggressive Driving
 - Distracted Driving
 - Impaired Driving
 - Lane Departure
- Person Analysis
 - Road User
- Person Behavior Analysis
 - Vehicle Occupant Restraint Use
 - Motorcycle Helmet Use
 - Child Safety Seat Use
- Roadway Characteristics Analysis
 - Number of Lanes
 - Posted Speed Limit
 - Roadway Factors
 - Work Zone
- Vehicle Analysis
 - Vehicle 1 Type

Results of the crash characteristics analyses were presented to the TAC in a workshop on August 19, 2014, and included a general overview of crash characteristics. The purpose of the workshop was to have stakeholders provide input and select and prioritize the CEAs based on the crash characteristics. During the workshop, the TAC defined twelve CEAs for the TSP. The TAC also categorized the different CEAs as Primary or Secondary CEAs. The TSP's initial CEAs were as follows:

- Primary CEAs
 - Pedestrians
 - Motorcyclists
 - Impaired Driving
 - Distracted Driving
 - Crash Type
 - Young Drivers (<25)
- Secondary CEAs
 - Roadway Characteristics
 - Bicyclists
 - Older Road Users (65+)
 - Time of Day
 - Occupant Protection
 - Aggressive Driving and Speeding

With the RTC's primary focus being on the engineering aspects of safety improvements, the TSP revisited the Primary and Secondary CEAs after the workshop with a focus on the 4E's of Safety (education, emergency services, enforcement, and engineering) and grouped CEAs together that have significant engineering components. The RTC recognizes the importance of a coordinated 4E approach to improving traffic safety, however this categorization helps the RTC to focus on those CEAs that are within their sphere of responsibility. CEAs with significant engineering components are listed as Category 1 CEAs while all other CEAs are listed as Category 2 CEAs. As determined by the TAC, the TSP will focus on the following eleven CEAs:



- Category 1 CEAs
 - Crash Type
 - Pedestrians
 - Bicyclists
 - Road Characteristics
- Category 2 CEAs
 - Aggressive Driving and Speeding
 - Distracted Driving
 - Impaired Driving
 - Motorcyclists
 - Occupant Protection
 - Young Road Users
 - Older Road Users

E.2.3. Development of Plan Vision, Goal, and Targets

Once the CEAs were selected, the TAC met to develop the plan’s vision, goal, and targets. The plan’s overall vision, goal, and targets were developed to help in the guidance, development, and implementation of the TSP. Plan targets were established as intermediate steps in the effort of reaching the plan’s goal of zero fatalities. The following is the TSP vision, goal, and targets:

Vision

The vision of the Southern Nevada Transportation Safety Plan is for a safe, convenient transportation environment for all residents and visitors.

Goal

The Southern Nevada Transportation Safety Plan’s goal is zero fatalities. This goal is consistent with the national strategy of Toward Zero Deaths and supports Nevada’s Strategic Highway Safety Plan goal of zero fatalities.

Targets

To achieve the TSP goal of zero fatalities, the following overall plan targets were selected by the TAC to measure progress:

- Reduce the five year rolling average of traffic related fatalities and serious injuries to one half of the 2008 to 2012 levels by 2035
- Reduce the five year rolling average of traffic related fatalities by 3% annually
- Reduce the five year rolling average of traffic related serious injuries by 3% annually

E.2.4. Identification of CEA Contributing Factors and Focus Areas

After selection of the CEAs and development of the plan’s overall vision, goal, and targets, the next step was to identify individual focus areas for each CEA. A crash analysis within each CEA was used to determine the top contributing factors and focus areas. **Table E.1** provides a summary of the Category 1 CEAs with their associated contributing factors and focus areas. **Table E.2** provides of summary of the Category 2 CEAs with their associated contributing factors and focus areas.



Table E.1 – Summary of Category 1 CEAs

Category 1 CEA (% of Total KA Crashes)	Contributing Factors (% of Total KA Crashes)	Focus Areas
Crash Type (93%) -Angle (53.8%) -Non-Collision (24.8%) -Rear-End (14.8%)	<ul style="list-style-type: none"> ▪ Intersection Crashes (47%) ▪ Lane Departure Crashes (28%) ▪ Nighttime Crashes (35%) ▪ Failure to Yield (11%) ▪ Aggressive Driving and Speeding (18%) 	<ul style="list-style-type: none"> ▪ Reduce intersection crashes ▪ Decrease lane departures ▪ Reduce nighttime crashes through improved lighting ▪ Increase compliance to right-of-way ▪ Reduce aggressive driving and speeding
Pedestrians (14%)	<ul style="list-style-type: none"> ▪ Improper Crossings (6%) ▪ Nighttime Crashes (7%) ▪ Young Pedestrians (4%) 	<ul style="list-style-type: none"> ▪ Enhance and increase pedestrian crossings ▪ Reduce the number of nighttime pedestrian crashes ▪ Improve safety for young pedestrians ▪ Evaluate the need for pedestrian crossing improvements in all roadway projects ▪ Geographical area from MLK Blvd to Nellis Blvd and from Lake Mead Blvd to Tropicana Ave
Bicyclists (4%)	<ul style="list-style-type: none"> ▪ Young Bicyclists (2%) ▪ Male Bicyclists (3.5%) ▪ Improper Crossings (2%) ▪ No Bikeway (3.5%) ▪ Motor Vehicle Turning Right (1%) 	<ul style="list-style-type: none"> ▪ Improve bicycle safety for all young bicyclists ▪ Focus on male bicyclists ▪ Enhance and increase bicycle crossings ▪ Enhance and increase bicycle facilities ▪ Decrease the number of bicycle crashes due to vehicles turning right
Road Characteristics*	<ul style="list-style-type: none"> ▪ Aggressive Driving and Speeding ▪ Wide, High Speed Roads with Local Access and Non-Motorized Users ▪ Lack of Connectivity on Low Speed Roads, Increasing the Number of Motor Vehicles, Bicyclists, and Pedestrians that Must Use Wide High Speed Roads to Reach Destinations 	<ul style="list-style-type: none"> ▪ Reduce aggressive driving and speeding through geometric improvements ▪ Define and develop safer street principles for different street types, including access management ▪ Improve roadway connectivity ▪ Evaluate and improve safety in work zones ▪ Geographical area from MLK Blvd to Nellis Blvd and from Lake Mead Blvd to Tropicana Ave

*Not possible to accurately estimate the number of K (fatal injury) and A (incapacitation injury) crashes that are due to road characteristics



Table E.2 – Summary of Category 2 CEAs

Category 2 CEA (% of Total KA Crashes)	Contributing Factors (% of Total KA Crashes)	Focus Areas
Aggressive Driving and Speeding (17%)	<ul style="list-style-type: none"> ▪ Nighttime Crashes (7%) ▪ Male Drivers (13%) 	<ul style="list-style-type: none"> ▪ Reduce nighttime crashes ▪ Focus on male drivers ▪ Increase enforcement and education by experts
Distracted Driving (4%)	<ul style="list-style-type: none"> ▪ Lane Departures (1%) ▪ Rear-End Crashes (2%) 	<ul style="list-style-type: none"> ▪ Decrease lane departures due to distracted driving ▪ Reduce rear-end crashes due to distracted driving ▪ Increase distracted driving enforcement
Impaired Driving (19%)	<ul style="list-style-type: none"> ▪ Nighttime Crashes (11%) ▪ Male Drivers (14%) ▪ Weekend Crashes (8%) 	<ul style="list-style-type: none"> ▪ Target nighttime and weekend impaired driving and crashes ▪ Focus on impaired driving by males
Motorcyclists (18%)	<ul style="list-style-type: none"> ▪ Aggressive Driving and Speeding (4%) ▪ Male Drivers (16%) ▪ Helmet Used Improperly/Not Used (6%) ▪ Failure to Yield (4%) 	<ul style="list-style-type: none"> ▪ Reduce aggressive driving and speeding of motorcycle drivers ▪ Focus on male motorcyclists ▪ Improve helmet use among motorcyclists ▪ Increase compliance to right-of-way among motorcyclists
Occupant Protection (21%)	<ul style="list-style-type: none"> ▪ Non-Use of Vehicle Restraint (13%) ▪ Young Road Users (8%) 	<ul style="list-style-type: none"> ▪ Increase the proper use of vehicle restraint among all vehicle occupants ▪ Increase vehicle restraint use among young vehicle occupants
Young Road Users (24%)	<ul style="list-style-type: none"> ▪ Aggressive Driving and Speeding (5%) ▪ Nighttime Crashes (10%) ▪ Improper Vehicle Restraint Use (8%) ▪ Lane Departures (9%) ▪ Impaired Driving (5%) 	<ul style="list-style-type: none"> ▪ Reduce aggressive driving and speeding ▪ Reduce nighttime crashes ▪ Increase vehicle restraint use ▪ Decrease lane departures ▪ Decrease impaired driving ▪ Decrease distracted driving
Older Road Users (9%)	<ul style="list-style-type: none"> ▪ Failure to Yield (3%) ▪ Left Turns and Angle Crashes (2% & 6%) ▪ Pedestrian Crashes (2%) 	<ul style="list-style-type: none"> ▪ Increase compliance to right-of-way ▪ Reduce the number of left turn and angle crashes ▪ Decrease the number of pedestrians crashes caused by older drivers

E.2.5. Plan Implementation

The TAC determined to implement the TSP and identified CEA focus areas through two different methods. First, the TSP is to be implemented through CEA Action Plans. The second method of implementing the TSP will be through the application of safety evaluations and assessments in all aspects of the transportation project development process. Also included in the plan implementation is a toolbox of strategies, high priority strategies, and a summary of possible funding sources that can be used towards the implementation of the TSP.

Critical Emphasis Area Action Plans

Action Plans were developed by the TAC for each CEA in an effort to eliminate fatalities and serious injury crashes and are meant to serve as a list of actions for implementation to reach the TSP's vision and goal. Category 1 CEA Action Plans include recommended policies for implementation, new projects and studies



to be conducted, and a toolbox of strategies that can be considered for inclusion on all transportation projects. Category 2 CEA Action Plans contain a toolbox of strategies. Strategies included in this plan should not be considered a complete list of strategies, but as a starting point for possible strategies to consider for implementation. Any proposed project associated with the identified Action Plans policies, projects, and studies should be given priority over those projects not related to a CEA Action Plan. The following is a list of recommended policies, projects and studies for each of the Category 1 CEAs:

- **Crash Type CEA Action Plan**
 - Road Safety Assessments or safety evaluations on all transportation capacity projects
 - Quantification of safety impacts through the Project Safety Process (PSP) to be included on all transportation capacity projects
 - Roundabout First Consideration Policy
 - Southern Nevada Regional Lighting Safety Study
 - Crash Data Combination with Roadway Geometrics Study
- **Pedestrian CEA Action Plan**
 - Crosswalk Policy
 - Enhanced Pedestrian Crossing Project
- **Bicyclists CEA Action Plan**
 - Bicycle Parking Policy
 - Candidate corridors for alternate bikeways study
- **Road Characteristics CEA Action Plan**
 - Implementation of Complete Streets Policy
 - Road Diet Selection Study
 - Review and update to RTC's Uniform Standard Drawings to incorporate safety guidance project
 - Development of a Safe Streets Guidebook
 - Access Management Retrofit Procedures Study
 - Work Zone Safety Study
 - Speed Management Study

High Priority Strategies

A list of proven high priority strategies for implementation were determined based on the toolbox of strategies and the specific crash characteristics. The following are those proven high priority strategies for Southern Nevada:

- **Engineering Strategies**
 - Construct pedestrian refuge islands and raised medians
 - Develop and implement regional roadway, intersection, horizontal curves, and pedestrian lighting standards
 - Implement traffic calming techniques
 - Implement standards in the Clark County Area Access Management Guide
 - Improve signal operations and coordination
 - Increase use of road diets at appropriate locations
 - Install longitudinal shoulder and centerline rumble strips and stripes
 - Install roundabouts at appropriate locations
 - Provide and improve left and right turn lanes and channelization at intersections



- Upgrade traffic signal backplates with retroreflective boarders
 - Widen and/or pave shoulders
- Enforcement Strategies
 - Conduct well publicized DUI patrols and checkpoints
 - Support enactment, publication, and enforcement of a graduated licensing system
 - Support incarceration of DUI offenders
 - Support requirement of ignition interlocks as a condition for license reinstatement
 - Support seizure of vehicles or license plates and suspension of driver's license administratively upon arrest
 - Support targeted enforcement
- Education Strategies
 - Increase seatbelt use by older drivers and passengers
 - Provide enhanced public education to population groups with lower than average restraint use rate

Incorporating Safety into the Transportation Project Development Process

The project development process is the path that each project takes from planning and programming through evaluation and performance assessment. With the goal of zero fatalities in mind, it is vital to define how safety is to be implemented within the project development process. The key element is the impacts of proposed projects on the number and severity of crashes to be quantified to the extent practical. The Highway Safety Manual (HSM), initially published in 2010, is the national reference for quantifying the safety effects of projects. **Figure E.2** is from Federal Highway Administration's HSM Implementation Guide for Managers and displays examples of how quantified safety can be incorporated in all phases of a project, from planning and programming through evaluation and performance assessments. Safety is to be included in all phases of the project development process, including project selection and prioritization process, through the PSP.

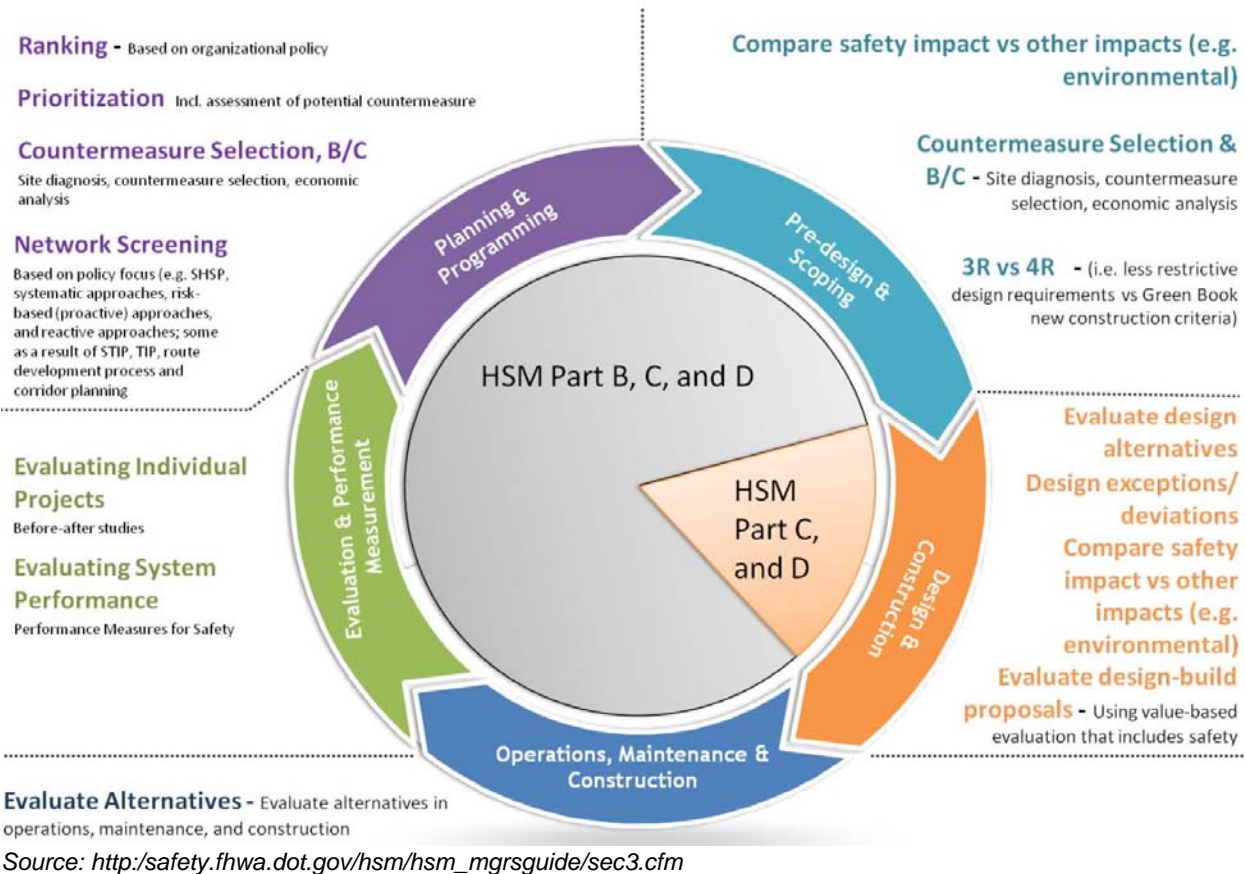


Figure E.2 – Safety in the Project Development Process

The first edition of the HSM provides detailed processes for quantifying safety impacts. The purpose of the PSP is to establish a consistent approach for quantifying the expected safety impacts of proposed transportation improvements, based on the HSM, throughout the project development process. When a project is proposed and improvements are identified, methods included in the PSP help to ensure that safety components are included in all phases of the project development process.

With the HSM being highly dependent on the availability and applicability of data there are different methods that should be approached at different stages of the project development process to determine an annual reduction in crashes. The application of the PSP should evolve as the HSM and relevant data evolves. Engineering judgement is required when applying the PSP to ensure that it is being applied appropriately and to the extent practicable. The following considerations should be remembered throughout the PSP:

- Safety evaluations should be conducted by someone who has completed HSM training
- The PSP is based on applying the principles found within the HSM to the extent feasible
- All project evaluations should include the annual reduction in crashes and a Crash Reduction Factor
- All safety improvement alternatives should include a Benefit-Cost Ratio (BCR)

NDOT is developing a website for guidance on the state PSP that can be used as a guide for the RTC and its member agencies.



The methods for application throughout the project development process as part of the PSP are listed as follows:

- Crash Modification Factor (CMF) Method
- Predictive Method
- BCR for both CMF Method and Predictive Method

Figure E.3 indicates how the different crash analysis methods should be applied according to the different project types.

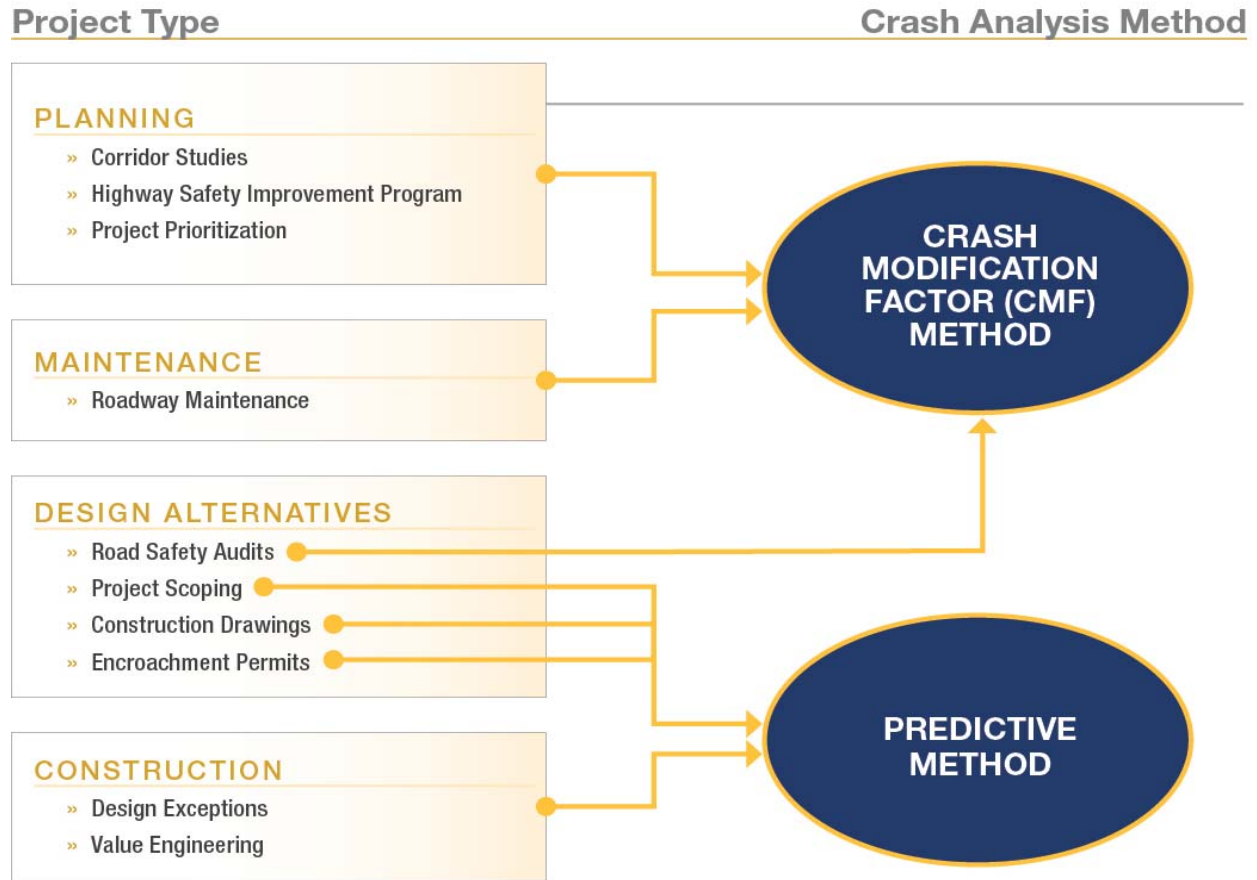


Figure E.3 – Crash Analysis Method by Project Type

During project selection, a safety evaluation should be performed to determine the potential impact of the project on safety. Incorporating safety into project selection and prioritization does not mean that the project or project alternative with the largest reduction in crashes must be selected. The quantification of safety impacts allows for more educated decisions to be made in project selection and prioritization. Once the safety impact of projects is quantified, there are many alternatives for incorporating this information into the project selection and prioritization process.



The RTC will be updating their Regional Transportation Plan in the coming years and will determine the appropriate way to incorporate this information into the project selection and prioritization process. The following are basic methods for incorporating safety that are based on crash history and not the impacts of the project on safety:

- Crash rates
- Crashes per mile
- Crash Severity index

The following are potential alternatives that incorporate the predicted impact of the project on safety:

- Inclusion of focus areas and high priority strategies addressing at least one CEA (Yes/No for particular weight)
- Crash rate reduction
- Crashes reduction per mile
- Reduction in Crash Severity index
- Potential for safety improvement (Observed crashes compared to predicted crashes)

Funding

The primary intent of the TSP is to develop recommended policies and strategies that can be incorporated into all transportation projects in Southern Nevada. The selection and prioritization of projects for all transportation funding should assess a projects incorporation of safety strategies included in the TSP and the predicted safety impacts of a project. Also included in this plan are summaries of information from the Federal Highway Administration's website on transportation funding that can be used towards implementation of this plan.



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A	Incapacitating Injury (KABCO Injury Classification Scale)
AASHTO	American Association of State Highway and Transportation Officials



ADHS	Appalachian Development Highway System
B	Non-Incapacitating Injury (KABCO Injury Classification Scale)
BCR	Benefit-Cost Ratio
C	Calibration Factor
C	Possible Injury (KABCO Injury Classification Scale)
CEA	Critical Emphasis Area
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CMF	Crash Modification Factor
COE	Corps of Engineers
CRF	Crash Reduction Factor
DOT	Department of Transportation
E	Experimental Strategy
FHWA	Federal Highway Administration
HBP	Highway Bridge Program
HFG	Human Factors Guidelines for Road System (NCHRP Report 600)
HSIP	Highway Safety Improvement Program
HSM	Highway Safety Manual
ITS	Intelligent Transportation Systems
K	Fatal Injury (KABCO Injury Classification Scale)
KA	Fatal and Incapacitating Injury Crashes Combined (KABCO Injury Classification Scale)
KABCO	National Safety Council's Injury Classification Scale
MAP-21	Moving Ahead for Progress in the 21 st Century Act
MPO	Metropolitan Planning Organization
NCHRP	National Cooperative Highway Research Program
NDOT	Nevada Department of Transportation
NHS	National Highway System
O	No Injury (KABCO Injury Classification Scale)
P	Proven Strategy
PSP	Project Safety Process
RTC	Regional Transportation Commission of Southern Nevada
SAFETEA-LU	Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users
SHSP	Strategic Highway Safety Plan



SPF	Safety Performance Function
STP	Surface Transportation Program
T	Tried Strategy
TAC	Technical Advisory Committee
TIP	Transportation Improvement Program
TSP	Southern Nevada Transportation Safety Plan
VMT	Vehicle Miles Traveled
4E	Education, Emergency Services, Enforcement, and Engineering



1. INTRODUCTION

The following section provides a summary of the plan background, Technical Advisory Committee (TAC), plan overview, relevant information, and plan organization of the Southern Nevada Transportation Safety Plan (TSP) for the Regional Transportation Commission of Southern Nevada (RTC).

1.1. Plan Background

The Federal Highway Administration (FHWA) specifies on their website that the TSP should be a comprehensive, system wide, multimodal, proactive process that better integrates safety into surface transportation decision making. Federal law requires that state and metropolitan transportation planning processes be consistent with Strategic Highway Safety Plans (SHSP). This plan is in support of the Nevada SHSP, which is discussed in **Section 1.3.2**. The TSP encompasses all of Clark County as seen in **Figure 1**.

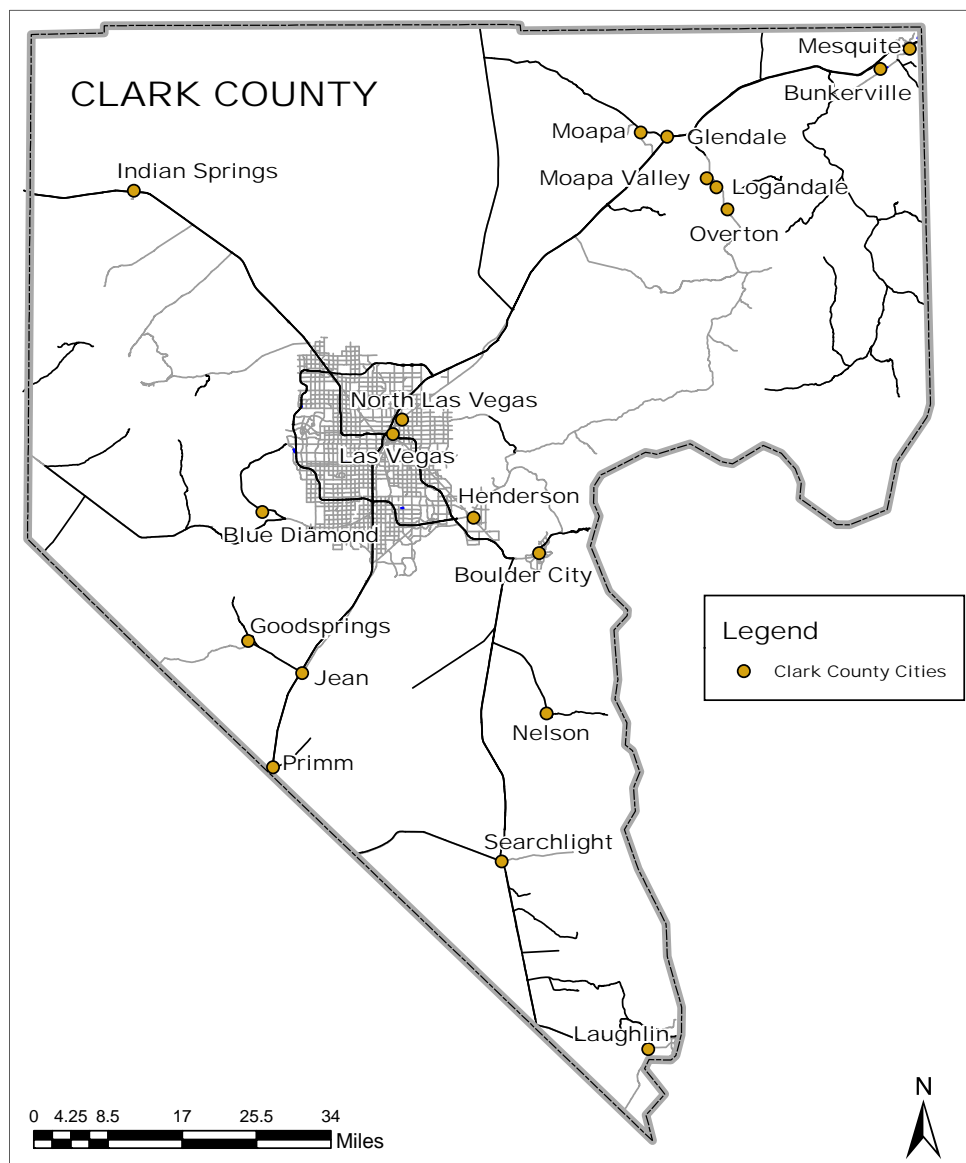


Figure 1 – Clark County



1.1.1. Need

In the five year period of 2008 to 2012, Southern Nevada has had an annual average of 41,738 total crashes. Of those crashes, there has been an annual average of 975 fatal and serious injury crashes, which resulted in 157 fatalities and 1,418 serious injuries. There is a need to eliminate fatalities and serious injuries within Southern Nevada in support of Nevada's Strategic Highway Safety Plan goal to achieve zero fatalities. Based on this goal, there is a need for this project to identify and establish those areas that are critical to emphasize when striving to reach zero fatalities and the strategies that should be applied within Southern Nevada to eliminate the number of fatalities and serious injuries within each critical emphasis area (CEA).

1.1.2. Purpose

The purpose of the TSP is to evaluate the causes of crashes from a regional transportation planning perspective and identify strategies to eliminate death and serious injury of all road users in Southern Nevada. This purpose can be accomplished by identifying what measures can be taken to improve transportation safety. The TSP establishes a vision, goal, targets, focus areas, and strategies to improve overall safety for every road user. Recommendations from the TSP will also be incorporated into the prioritization of projects within the upcoming update to the RTC Regional Transportation Plan.

1.2. Technical Advisory Committee

Stakeholders throughout Southern Nevada have been involved in the creation and development of this plan as part of the TAC. The TAC attended monthly progress meeting from February 2014 to April 2015 and periodic workshops. At the progress meetings and workshops, the TAC was able to provide input, suggestions, and direction for the development of the TSP. The TAC was comprised of stakeholders from the following agencies:

- City of Henderson
- City of Las Vegas
- City of North Las Vegas
- Clark County Public Works
- Clark County School District
- DPS-Office of Traffic Safety
- DPS-Nevada Highway Patrol
- Federal Highway Administration
- Henderson Police Department
- Las Vegas Metropolitan Police Department
- Mesquite Police Department
- Nevada Department of Transportation
- RTC of Southern Nevada
- University of Nevada Las Vegas
- University of Nevada School of Medicine

1.3. Relevant Background Information

The following subsections include relevant background information to aid in understanding the TSP development process.

1.3.1. AASHTO Strategic Highway Safety Plan

The American Association of State Highway and Transportation Officials (AASHTO) published the first version of its SHSP in 1998. It was then revised in 2005 to include more current safety data. The plan focused on 22 specific safety challenges, or key emphasis areas, with the goal of reducing the annual highway crash fatality rate to no more than 1.0 fatalities per 100 million vehicle miles traveled by 2008. A series of reports for implementing the SHSP have been developed by the National Cooperative Highway Research Program (NCHRP). These reports include NCHRP Report 500 and NCHRP Report 501. The NCHRP Report 500 contains multiple volumes, each dealing with a particular crash type including a brief introduction, general description of the problem, strategies, and countermeasures that can be implemented to address the particular crash type. The NCHRP Report 501: Integrated Safety Management Process, provides a comprehensive set of tools for developing and managing a coordinated safety plan. The AASHTO SHSP's 22 key emphasis areas are as follows:



- Drivers
 - Instituting Graduated Licensing for Young Drivers
 - Ensuring Drivers are Fully Licensed and Competent
 - Sustaining Proficiency in Older Drivers
 - Curbing Aggressive Driving
 - Reducing Impaired Drivers
 - Keeping Drivers Alert
 - Increasing Driver Safety Awareness
 - Increasing Seat Belts Usage and Improve Air Bags Effectiveness
- Special Users
 - Pedestrians – Making Walking and Street Crossing Safer
 - Bicyclists – Ensuring Safer Bicycle Travel
- Vehicle
 - Improving Motorcycle Safety and Increasing Motorcycle Awareness
 - Making Truck Travel Safer
 - Increasing Safety Enhancements in Vehicles
- Highways
 - Reducing Vehicle-Train Crashes
 - Keeping Vehicles on the Roadway
 - Minimizing the Consequences of Leaving the Road
 - Improving the Design and Operation of Highway Intersections
 - Reducing Head-On and Cross Median Crashes
 - Designing Safer Work Zones
- Emergency Medical Services
 - Enhancing Emergency Medical Capabilities to Increase Survivability
- Management
 - Improving Information and Decision Support Systems
 - Creating More Effective Processes and Safety Management Systems



1.3.2. Nevada Strategic Highway Safety Plan

The Nevada SHSP is a statewide, comprehensive safety plan that provides a coordinated framework for reducing fatalities and serious injuries on all public roads. It was developed in accordance with AASHTO's SHSP recommendation that states develop their own SHSPs. The Nevada SHSP establishes statewide goals and CEAs developed in consultation with federal, state, local, and private-sector safety stakeholders. Nevada's SHSP is a multi-agency effort led by the Nevada Executive Committee on Traffic Safety, which includes the director (or director's representative) of the following agencies:

- Administrative Office of the Courts
- Department of Education
- Department of Health and Human Services
- Department of Motor Vehicles
- Department of Public Safety
 - Nevada Highway Patrol
 - Office of Traffic Safety
- Federal Motor Carrier Safety Administration
- FHWA
- Henderson Police Department
- Inter-Tribal Council of Nevada
- Las Vegas Metropolitan Police Department
- National Highway Traffic Safety Administration
- Nevada Association of Counties
- Nevada League of Cities
- Nevada Sheriffs and Chiefs Association
- NDOT
- Regional Emergency Medical Services Authority
- RTC Southern Nevada
- RTC Washoe County
- Southern Nevada Health District

The 2011-2015 Nevada SHSP adopted the zero fatalities goal to be consistent with the national "Toward Zero Deaths" strategy. To reach the zero fatalities goal, Nevada established the interim goal of reducing traffic related fatalities and serious injuries by one-half of the 2008 level by the year 2030. Starting with AASHTO's 22 key emphasis areas, a detailed analysis of the statewide crash data was used to determine CEAs where there were a relatively high numbers of fatalities. These five CEAs became the focus of Nevada's SHSP and are as follows:

- Impaired Driving
- Safety Belts
- Intersections
- Lane Departures
- Pedestrians

Within each of the individual CEAs, there are two measurable objectives with an associated performance measure. Using the 4Es of Safety (education, emergency services, enforcement, and engineering), the Nevada SHSP identifies 20 strategies to support the five CEAs. Each of the 20 strategies has several action steps to help accomplish the strategy and eventually meet the objectives. In addition, "Motorcycles" was added as a sixth CEA in 2014.



1.3.3. NCHRP Report 600: Human Factors Guidelines for Road Systems

The purpose of the Human Factors Guidelines for Road Systems (HFG) is to provide highway designers and traffic engineers the best factual information on the characteristics of road users to facilitate safe roadway design and operational decisions. It is intended to allow non-experts in the field of human factors the ability to more effectively bring considerations of the road user's capabilities and limitations into the practices of design, operations, and safety. The HFG is meant to serve as a complement to other design references and standards. Topics covered in the HFG are as follows:

- Sight Distance
- Curves (Horizontal Alignment)
- Grades (Vertical Alignment)
- Cross Sections
- Transitions Zones between Varying Road Designs
- Non-Signalized Intersections
- Signalized Intersections
- Interchanges
- Construction and Work Zones
- Rail-Highway Grade Crossings
- Special Considerations for Urban Environments
- Special Considerations for Rural Environments
- Speed Perception, Speed Choice, and Speed Control
- Signing
- Changeable Message Signs
- Markings
- Lighting

1.3.4. Pedestrian Safety Action Plan

The RTC developed the Pedestrian Safety Action Plan in August of 2009 to help address the growing concern of pedestrian safety on Southern Nevada roadways. The purpose of the Pedestrian Safety Action Plan was to create a unified plan that involved all jurisdictions throughout Southern Nevada and guide them through a systematic approach towards improving pedestrian safety. The plan was not intended to identify every location that warranted countermeasures to improve pedestrian safety, but to demonstrate the necessary framework for identifying problem locations and implementing countermeasures. The recommendations of the Pedestrian Safety Action Plan were presented to the TAC for considerations and application at various stages in the development of the TSP.

1.3.5. KABCO Injury Classification Scale

The KABCO injury classification scale was developed by the National Safety Council as a means to measure the observed injury severity for any person involved in a crash as determined by law enforcement personnel at the scene of the crash. The KABCO acronym stands for: Fatal Injury (K), Incapacitating Injury (A), Non-Incapacitating Injury (B), Possible Injury (C), and No Injury (O). The scale can also be applied to overall severity of the crash with the highest individual injury severity of a person involved in the crash becoming the overall crash severity.

1.3.6. Highway Safety Manual

The AASHTO Highways Safety Manual (HSM) was developed in 2010 as a single resource to provide highway safety knowledge and tools, in a useful form, to help improve decision making processes based on safety performance. The HSM focuses on providing quantitative information for decision making and is meant to be used by a broad array of transportation professionals. Analytical tools and techniques for quantifying the potential effects on crashes as a result of decisions made in planning, design, operations, and maintenance are provided to help reduce the number and severity of crashes. The information found in the HSM reflects the evolution of safety analysis from more traditions or descriptive methods of analyses to quantitative or predictive analyses. The HSM is organized into the following four parts:



- Part A – Introduction, Human Factors, and Fundamentals
- Part B – Roadway Safety Management Process
- Part C – Predictive Method
- Part D – Crash Modification Factors

1.4. Plan Organization

The TSP is organized into the following sections (Appendices are found at the end of this plan):

- **Section 1. Introduction:** presents the plan background and overview information. This includes statements on the plan need and purpose along with addition relevant background information.
- **Section 2. Plan Vision, Goal, and Target:** outlines the overall vision, goal, and targets of the TSP.
- **Section 3. Crash Data Analysis:** overview of how the crash data sets were prepared for analysis and the resulting crash conditions based on an overall crash data analysis for the years 2008 through 2012.
- **Section 4. Critical Emphasis Areas Selection Process:** covers the CEA selection, categorization, and role definition process.
- **Section 5. Category 1 Critical Emphasis Areas:** presents the Category 1 CEAs along with their contributing factors and focus areas.
- **Section 6. Category 2 Critical Emphasis Areas:** presents the Category 2 CEAs along with their contributing factors and focus areas.
- **Section 7. Plan Implementation:** cover the methods by which the TSP will be implemented through the CEA Action Plans and project development process.



2. PLAN VISION, GOAL, AND TARGETS

This section provides the overall plan vision, goal, and targets as developed by the TAC to help in the guidance, development, and implementation of the TSP. The TSP vision, goal, and targets were developed by the TAC in a workshop held on December 2, 2014 and are consistent with the Nevada SHSP.

2.1. Vision

The vision of the Southern Nevada Transportation Safety Plan is for a safe, convenient transportation environment for all residents and visitors.

2.2. Goal

The Southern Nevada Transportation Safety Plan goal is zero fatalities. This goal is consistent with the national strategy of Toward Zero Deaths and supports Nevada's SHSP goal of zero fatalities.

2.3. Targets

To achieve the TSP goal of zero fatalities, the following targets were selected by the TAC to measure progress:

- Reduce the five year rolling average of traffic related fatalities and serious injuries to one half of the 2008 to 2012 levels by 2035
- Reduce the five year rolling average of traffic related fatalities by 3% annually
- Reduce the five year rolling average of traffic related serious injuries by 3% annually

The RTC recognizes it will take a coordinated 4E effort to accomplish the vision, zero fatalities goal, and targets for traffic safety in Southern Nevada. The RTC and its member agencies will take the lead on engineering strategies, with the Office of Traffic Safety leading educational strategies in coordination with enforcement and emergency services agencies in Southern Nevada.

In 2012, the Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law. It was the first long-term highway authorization since the Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was signed into law. The proposed rulemaking specifies that State Departments of Transportation (DOTs) and Metropolitan Planning Organizations (MPOs) will be required to set and attain crash reduction targets. However, the specific guidance for applying the MAP-21 performance measures to DOTs and MPOs is not certain until the final rulemaking, which is anticipated by September 30, 2015. The RTC will evaluate and set its official targets per MAP-21 after the final rulemaking.

The following sections detail the data driven process followed to set the focus areas for the TSP. All focus areas within this plan are consistent with the Nevada's data-driven SHSP.



3. CRASH DATA ANALYSIS

Existing crash conditions were analyzed using crash data received from NDOT. Crash data over the five year period from 2008 to 2012 were analyzed. Analyzed data were used to aid in understanding the existing condition in Southern Nevada and what additional crash analysis needed to be performed. This section provides details on the different crash files received, how the data were prepared for analysis, and the crash analysis performed to determine the existing crash conditions in Southern Nevada.

3.1. Crash Data

The NDOT crash data sets were received in four different Excel files. These files contained different information related to crashes occurring throughout the State, and were used to perform different types of crash analyses. The Excel files were then combined to create a more comprehensive and specific data set. The four different Excel files used are titled:

- Accident File – Statewide Crashes
- Person File – Statewide Crashes
- Vehicle File – Statewide Crashes
- Clark County File – Clark County Crashes

The Accident File has specific information pertaining to the crash, while the Person and Vehicle Files have specific information pertaining to the persons and vehicles involved in specific crashes, respectively. The accident, person, and vehicle files are linked together with a unique accident record number. The Clark County File is a combination of data specific to Clark County from the other three files, and does not contain an accident record number.

3.2. Crash Data Preparation

The first step in the crash analysis was to verify that the crash severities for each crash was entered correctly. These crash files use the KABCO injury classification scale to quantify crash severity. The entered crash severity for each line of data was compared to the columns in the Excel files showing the “Number Injured,” “Number Killed,” and “Property Damage Crashes.” If there were inconsistencies between the before mentioned columns and the listed crash severity, the following assumptions were made:

- If the crash showed a value in the “Number Injured” column but a severity of O (No Injury) then the severity was changed to C (Possible Injury). Severity C was also used if the severity column was left blank or listed as unknown and not reported.
- All crash severity entries without a value in the “Number Injured” or “Number Killed” column were changed to O (No Injury).
- If the crash severity was listed as a K (Fatality) but no value was listed in the “Number Killed” column and a value could be found in the “Number Injured” column, the severity was changed to A (Incapacitating Injury).

To help with the crash analysis, the person and vehicle files were combined to help with the identification of the passenger or vehicle occupant classification.

3.3. Existing Crash Conditions

After preparing the crash files, several overview crash analyses were performed to determine existing conditions. Crash totals and crash rates were calculated for each year (2008-2012) to give a broad overview of the current conditions in Southern Nevada. Analyses were performed for total crashes, number of fatalities (K), number of serious injuries (A), and total number of injuries. The totals and rates of each were presented in graphs to help the TAC gain a better understanding of the crash trends over the study period. The resulting crash totals and crash rates can be seen in **Figure 2** to **Figure 9**. Crash rates are calculated using NDOT’s annual Vehicle Miles Traveled (VMT) reports for Clark County.

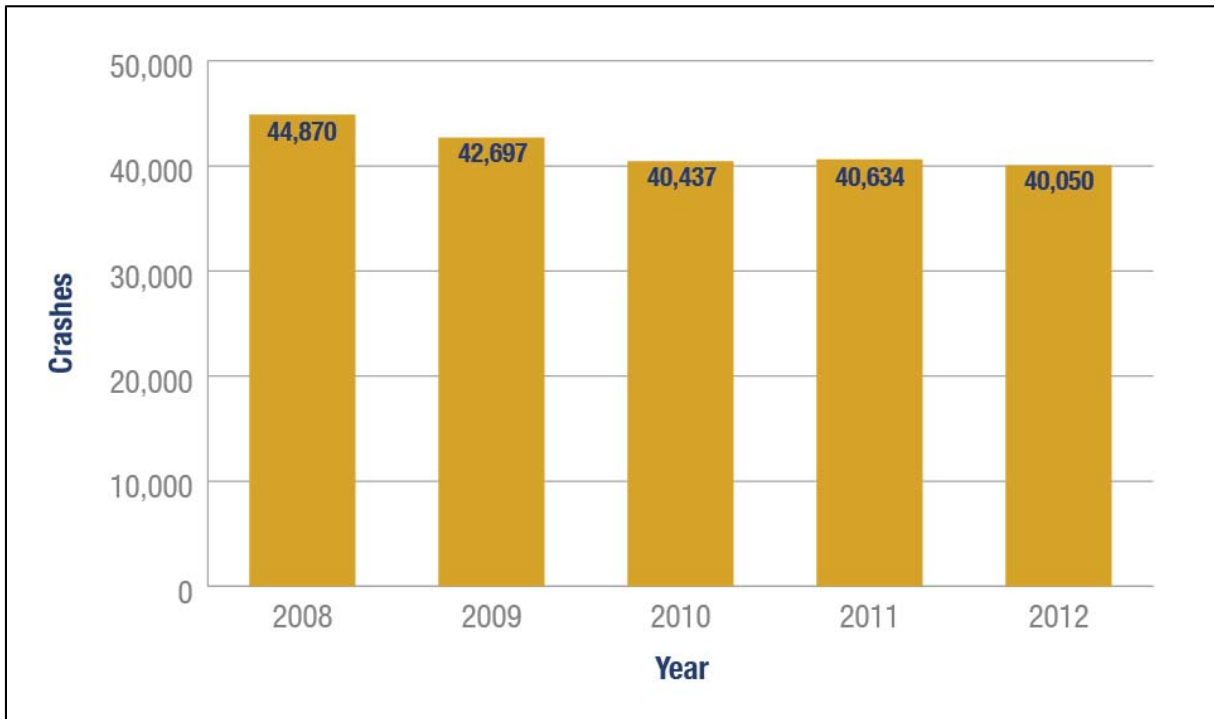


Figure 2 – Crash Totals 2008-2012

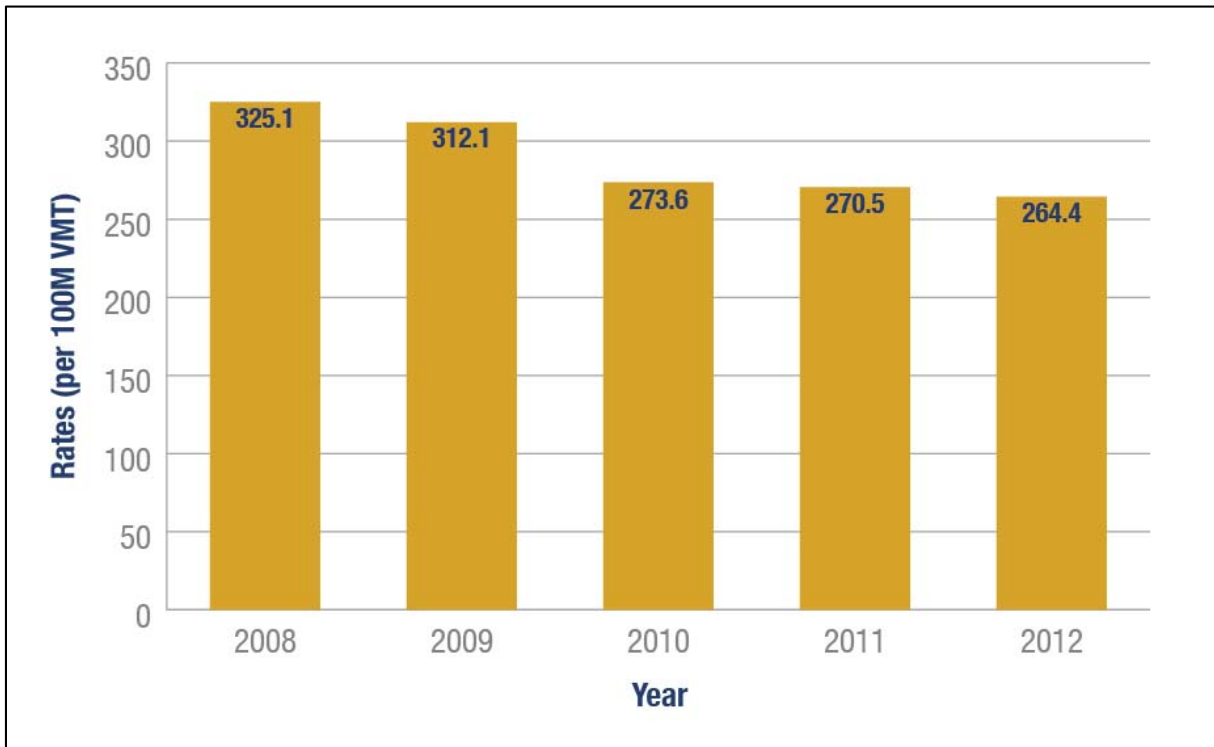


Figure 3 – Crash Rates 2008-2012

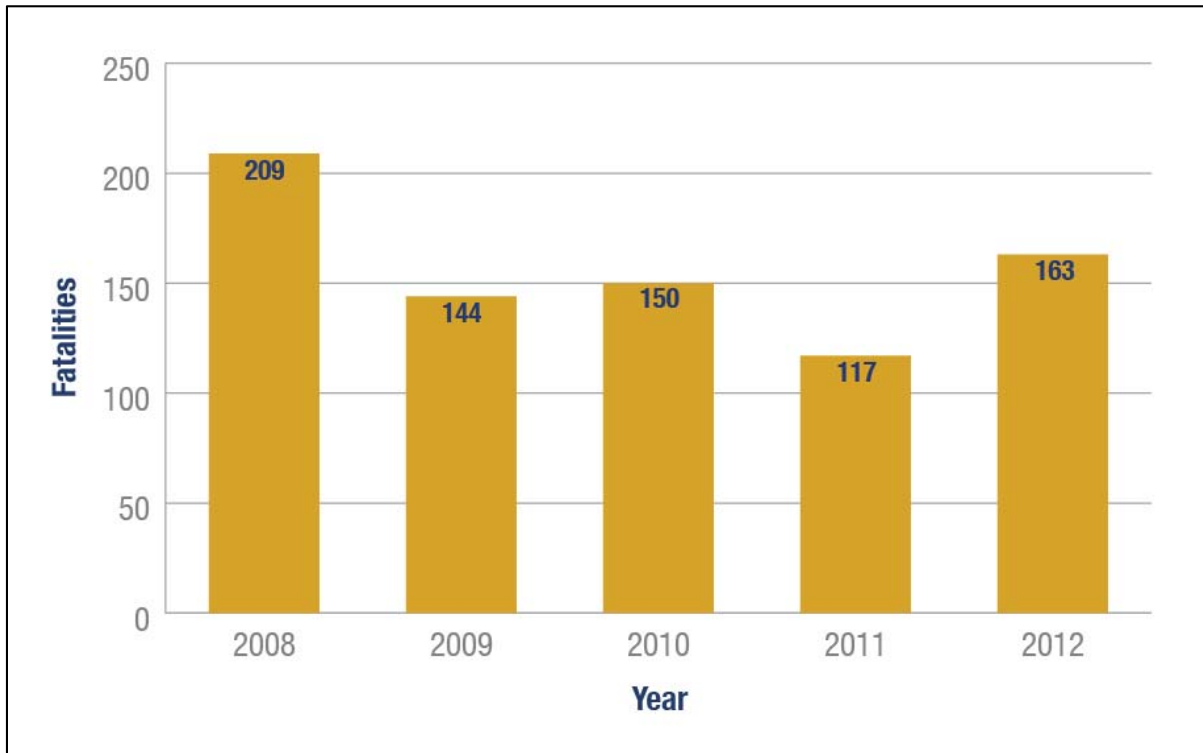


Figure 4 – Total Fatalities 2008-2012

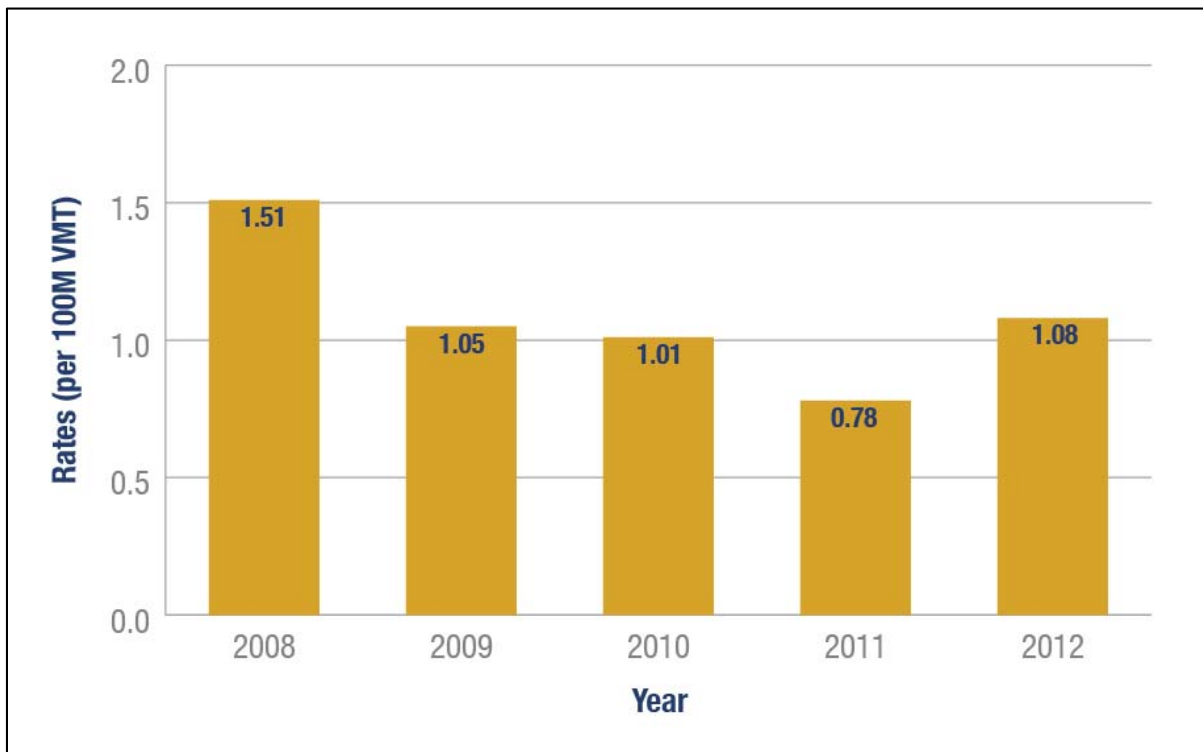


Figure 5 – Fatality Rates 2008-2012

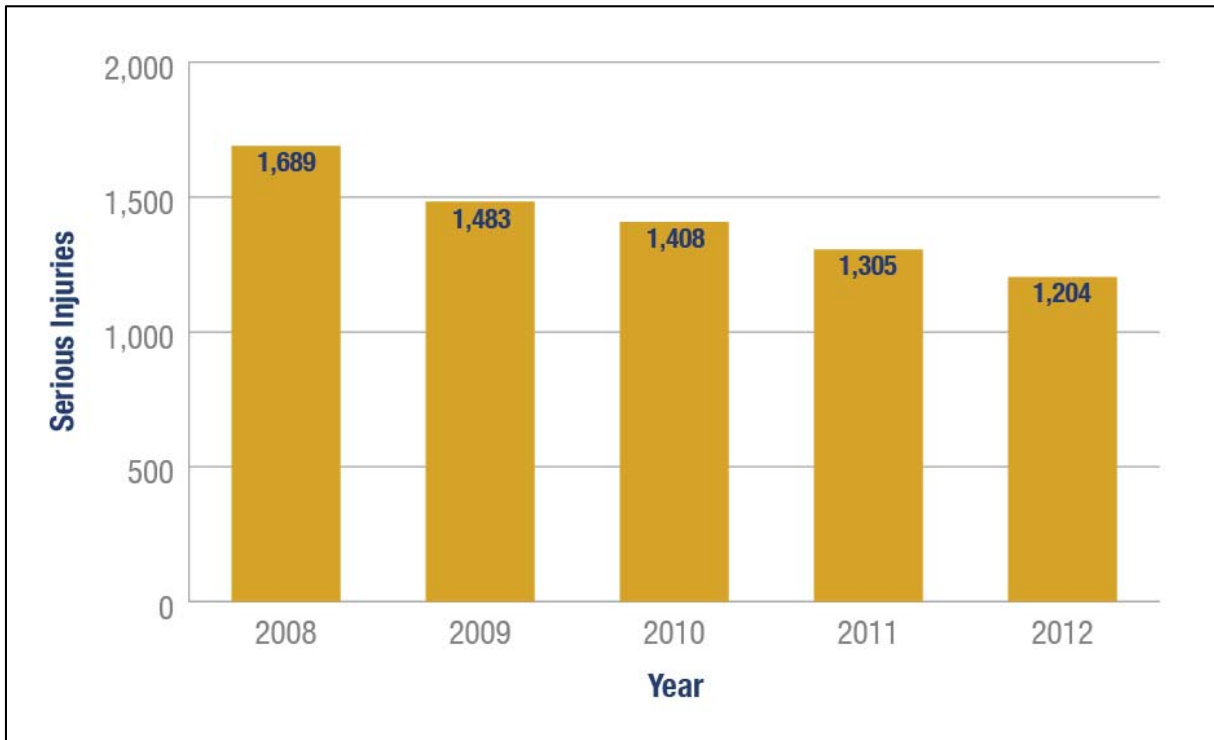


Figure 6 – Total Serious Injuries 2008-2012

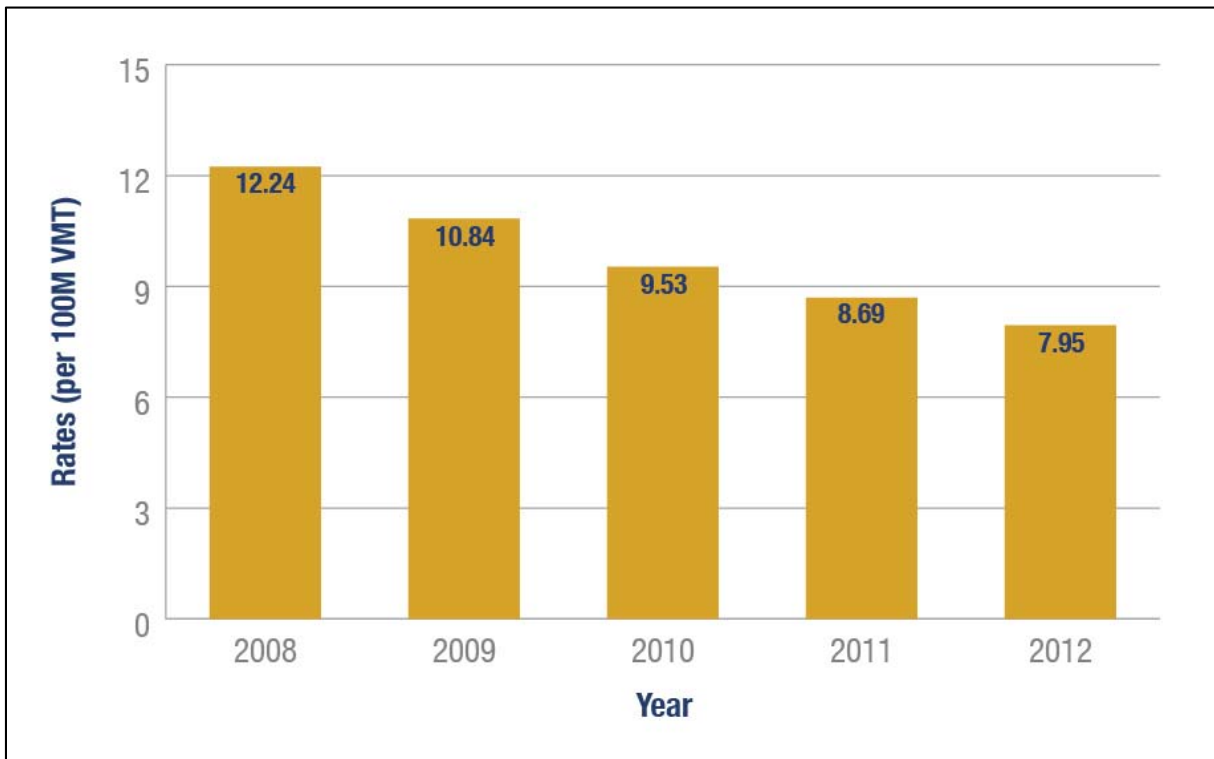


Figure 7 – Serious Injury Rates 2008-2012

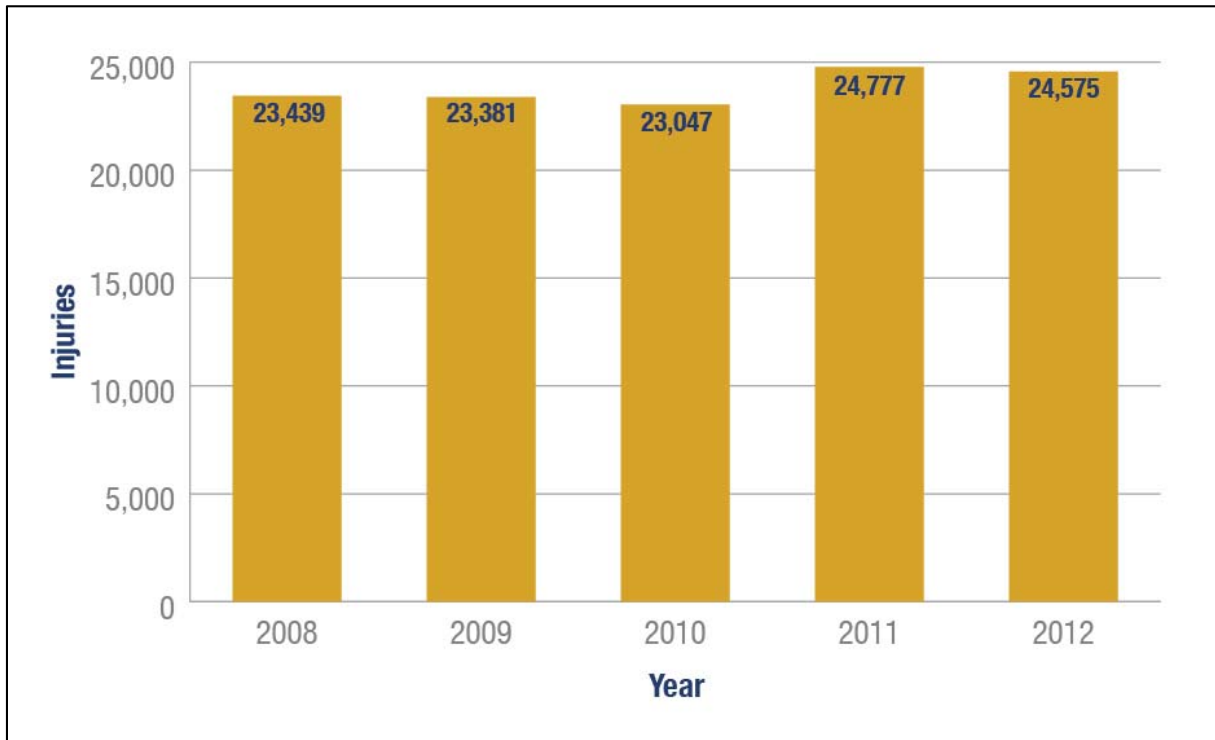


Figure 8 – Total Injuries 2008-2012

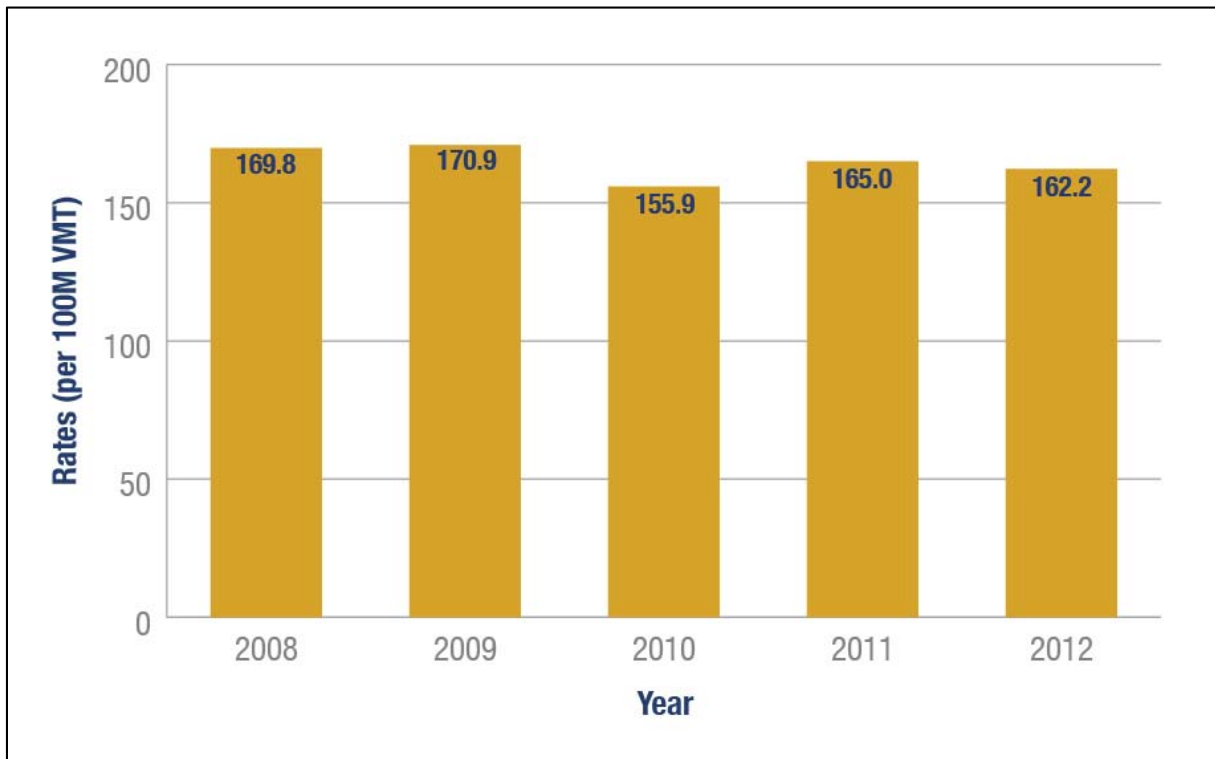


Figure 9 – Injury Rates 2008-2012



4. CRITICAL EMPHASIS AREAS SELECTION PROCESS

This section covers the CEAs selection, categorization, and role definition process. The selection process involved a more detailed crash analysis and a workshop to rank and prioritize the CEAs. The selected CEAs were then categorized with clearly defined roles.

4.1. Crash Characteristics Analysis

Several specific crash characteristics were analyzed to evaluate the total number of crashes, total number of fatal crashes, and total number of combined fatal and serious injury crashes as an annual average over the five year period. The purpose of the analysis was to help the TAC gain a broad overview of the crash characteristics in Southern Nevada. The different analyses are listed as follows:

- General Analysis
 - Month
 - Day of Week
 - Hour of Day
 - Weather Factors
 - Lighting
 - Crash Type
- Driver Analysis
 - Driver Age
 - Gender
- Driver Behavior Analysis
 - Aggressive Driving
 - Distracted Driving
 - Impaired Driving
 - Lane Departure
- Person Analysis
 - Road User
- Person Behavior Analysis
 - Vehicle Occupant Restraint Use
 - Motorcycle Helmet Use
 - Child Safety Seat Use
- Roadway Characteristics Analysis
 - Number of Lanes
 - Posted Speed Limit
 - Roadway Factors
 - Work Zone
- Vehicle Analysis
 - Vehicle 1 Type

The complete crash characteristics analysis can be found in **Appendix A**. This crash analysis was presented to the TAC in a workshop on August 19, 2014 to help with the selection of the TSP's CEAs.

4.2. Workshop

At the first workshop, the TAC was presented with the crash characteristics analysis in both tabular and graphical form. An example of how this analysis was presented to the TAC is shown in **Table 1** and **Figure 10** for the crash type analysis. The complete crash characteristics analysis is found in **Appendix A**.



Table 1 – Crash Type Crash Analysis (2008-2012)

	Total Crashes			Fatal Crashes					KA Crashes		
	#	%	Rank	#	%	Rank	National	%	#	%	Rank
Average Annual Crashes	41,738	100.0%		147	100.0%		30,800	100%	975	100.0%	
Angle	16,237	38.9%	2	64	43.8%	1	5,359	17.4%	525	53.8%	1
Non-Collision	4,211	10.1%	3	60	40.6%	2	13,719	44.5%	205	21.0%	2
Rear-End	17,069	40.9%	1	11	7.3%	3	1,824	5.9%	144	14.8%	3
Head-On	360	0.9%	6	7	4.9%	4	2,895	9.4%	29	3.0%	4
Sideswipe	3,168	7.6%	4	3	2.0%	5	979	3.2%	24	2.5%	5
Unknown	142	0.3%	7	2	1.2%	6	NA	NA	8	0.8%	6
Backing	516	1.2%	5	0	0.1%	7	NA	NA	3	0.3%	7
Rear-To-Rear	35	0.1%	8	0	0.0%	8	NA	NA	0	0.0%	8

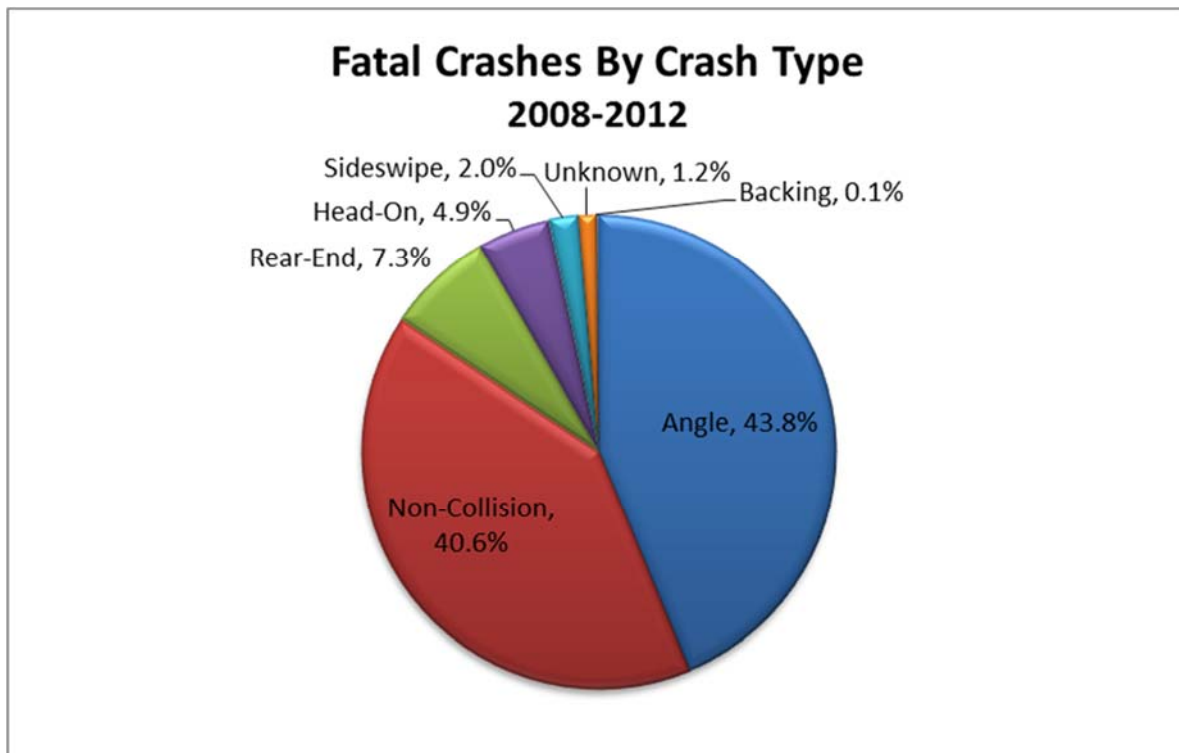


Figure 10 – Fatal Crashes by Crash Type (2008-2012)

After the analysis results were presented for each of the crash characteristics, the TAC ranked the relevance of each crash characteristic using electronic polling technology. Relevance was ranked on a scale from 1 to 9 with one having the lowest relevance and nine having the highest relevance. The TAC



then reviewed the relevance of each crash characteristic and was asked if it should be 1) a non-focus, 2) secondary, or 3) primary. **Table 2** lists the different crash characteristics from highest relevance to lowest relevance, as determined by the TAC. **Table 3** lists the different crash characteristics from primary focus area to non-focus area.

Table 2 – Relevance Scores Results (Scale of 1 to 9)

Category	Characteristic	Relevance Score
Driver Behavior	Impaired Driving	8.3
Road User	Pedestrian	8.1
Driver Behavior	Distracted Driving	7.3
General	Crash Type	7.2
Roadway	Intersection	6.8
Roadway	Posted Speed	6.8
Driver Analysis	21-34 Years Old	6.8
Roadway	Functional Class	6.6
Driver Behavior	Lane Departure	6.6
Road User	Bicyclist	6.5
Driver Analysis	>21 Years Old	6.5
Vehicle	Motorcycle	6.4
Person Behavior	Restraint Use	6.3
Driver Analysis	65+ Years Old	5.8
Driver Analysis	Gender	5.7
General	Hour of Day	5.6
Driver Behavior	Aggressive Driving	5.5
Roadway	Number of Lanes	5.0
Person Behavior	Helmet Use	5.0
Driver Analysis	35-64 Years Old	5.0
General	Day of Week	5.0
Vehicle	Passenger Car	4.7
General	Lighting	4.6
Person Behavior	Child Seat	4.3
Roadway	Work Zone	3.0
Vehicle	Large Truck	2.9
General	Month	2.5
Vehicle	Bus	2.2
Roadway	Roadway Factors	2.0
General	Weather	1.0



Table 3 – Emphasis Area Prioritization

Category	Characteristic	Prioritization
General	Crash Type	3.0 – Primary
Road User	Pedestrian	2.9
Driver Behavior	Impaired Driving	2.8
Driver Behavior	Distracted Driving	2.7
Roadway	Intersection	2.7
Driver Analysis	<21 Years Old	2.5
Vehicle	Motorcycle	2.4
Roadway	Posted Speed	2.3
Driver Analysis	21-34 Years Old	2.3
Road User	Bicyclist	2.3
Person Behavior	Restraint Use	2.3
General	Hour of Day	2.3
Driver Behavior	Lane Departure	2.2
Driver Analysis	65+ Years Old	2.1
Driver Behavior	Aggressive Driving	2.1
Roadway	Functional Class	2.0 – Secondary
General	Day of Week	2.0
Driver Analysis	Gender	1.9
Person Behavior	Helmet Use	1.9
Vehicle	Passenger Car	1.7
General	Lighting	1.7
Person Behavior	Child Seat	1.6
Roadway	Work Zone	1.6
Roadway	Number of Lanes	1.5
Driver Analysis	35-64 Years Old	1.4
General	Month	1.4
Vehicle	Large Truck	1.3
Roadway	Roadway Factors	1.3
Vehicle	Bus	1.2
General	Weather	1.0 – Non-Focus

After the TAC ranked and prioritized the emphasis areas, the results were discussed in small groups. Each group developed their own list of primary and secondary CEAs and presented their results to the entire TAC. Following a discussion on the different aspects and characteristics of the potential CEAs, the following was determined to be the Primary and Secondary CEAs:



- Primary CEAs
 - Pedestrians
 - Motorcyclists
 - Impaired Driving
 - Distracted Driving
 - Crash Type
 - Young Drivers (<25)
- Secondary CEAs
 - Roadway Characteristics
 - Bicyclists
 - Older Road Users (65+)
 - Time of Day
 - Occupant Protection
 - Aggressive Driving and Speeding

The following pictures were taken at the workshop:



Figure 11 – Workshop Photos

4.3. Categorization of Critical Emphasis Areas

The TAC revisited the Primary and Secondary CEAs after the workshop with a focus on the 4E's of Safety (education, emergency services, enforcement, and engineering). It is understood that each of the CEAs have potential focus areas that can be implemented within all of the 4E's of Safety, however some CEAs have a limited number of focus areas that can be implemented related to engineering. For example, it is difficult to identify engineering focus areas that specifically address impaired driving. It was agreed that since the RTC primary focus is on the engineering aspects of safety improvements, that the TSP would group CEAs together that have significant engineering focus areas. This helps the RTC to focus on those CEAs that are within their sphere of responsibility. The TSP will still list and include recommendations for



all of the CEAs identified, not just those with significant engineering components, but the RTC's main focus will be on those CEAs with significant engineering components. CEAs with significant engineering components are listed as Category 1 CEAs while the other CEAs identified by the TAC will be listed as Category 2. As determined by the TAC, the TSP will categorize the CEAs as follows:

- Category 1 CEAs
 - Crash Type
 - Pedestrians
 - Bicyclists
 - Road Characteristics
- Category 2 CEAs
 - Aggressive Driving and Speeding
 - Distracted Driving
 - Impaired Driving
 - Motorcyclists
 - Occupant Protection
 - Young Road Users
 - Older Road Users



5. CATEGORY 1 CRITICAL EMPHASIS AREAS

This section presents the Category 1 CEAs along with their focus areas. Category 1 CEAs are defined as those CEAs whose focus areas have a significant engineering component. A more in-depth crash analysis was performed on each CEA within Category 1 to identify unique crash contributing factors. Using these contributing factors, several focus areas were developed for each Category 1 CEA. The Category 1 CEA crash analysis is included in **Appendix B**. The Category 1 CEAs in this section include Crash Type, Pedestrians, Bicyclists, and Road Characteristics.

A data driven approach was used to develop focus areas for each Category 1 CEA to meet the overall goal of zero fatalities and the annual targets. Maps of the overall and CEA specific fatal and serious injury (KA) crashes were used to better understand the KA crash trends. **Figure 12** is a density map of all KA crashes in Southern Nevada.

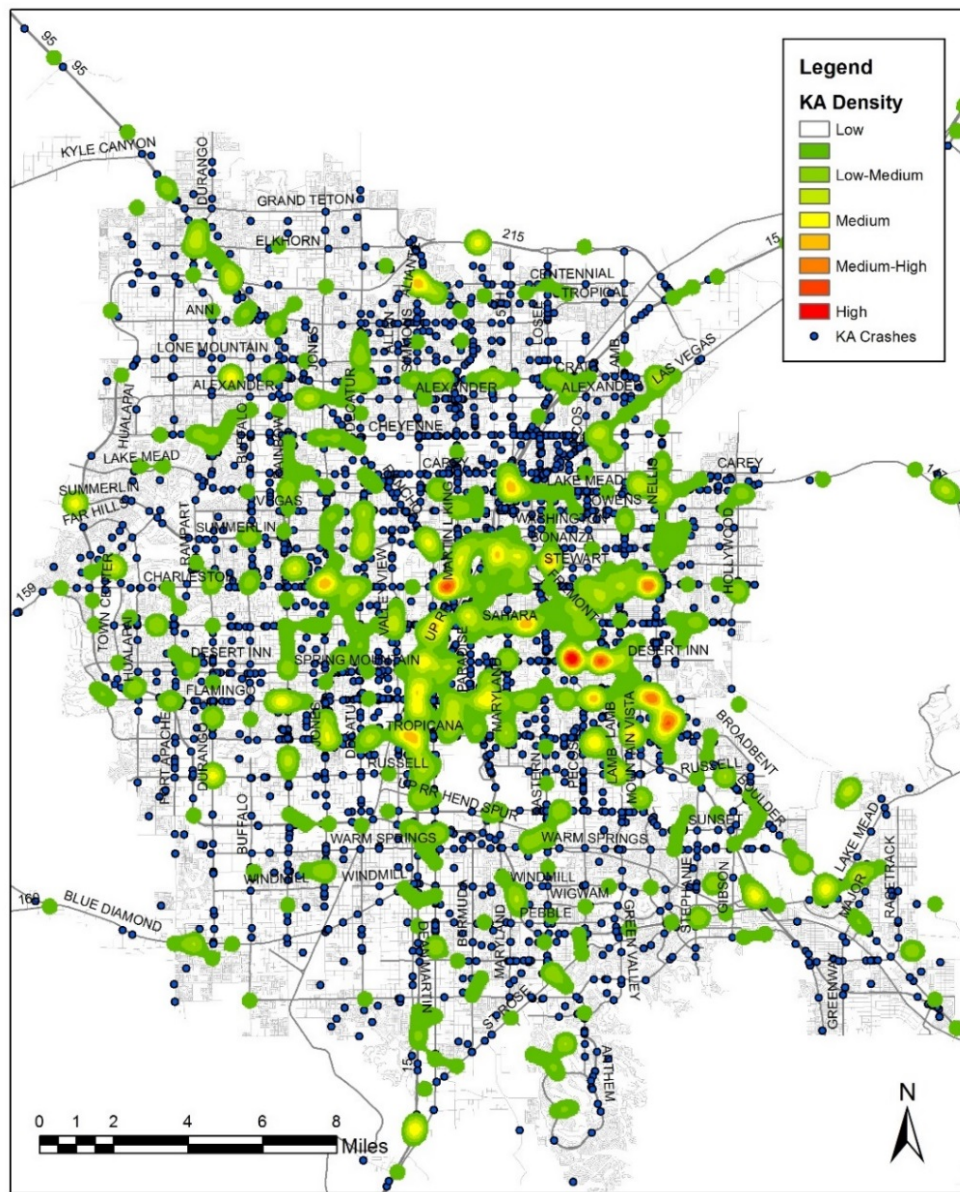


Figure 12 – Total KA Crash Density Map



5.1. Crash Type

The Crash Type CEA includes the crash types of angle, non-collision, and rear-end. This CEA accounts for 93% of all KA crashes in Southern Nevada with angle, non-collision, and rear-end crashes accounting for 53.8%, 24.8%, and 14.8%, respectively. **Figure 13**, **Figure 14**, and **Figure 15** show density maps of all angle, non-collision, and rear-end KA crashes. Non-collision crashes are those that include only a single moving vehicle. Crashes of a motor vehicle with a pedestrian or bicycle are not currently coded by police consistently, approximately half are coded as non-collision and the remaining are coded with another crash type, such as angle or sideswipe. Additional Crash Type analysis can be found in **Appendix B**.

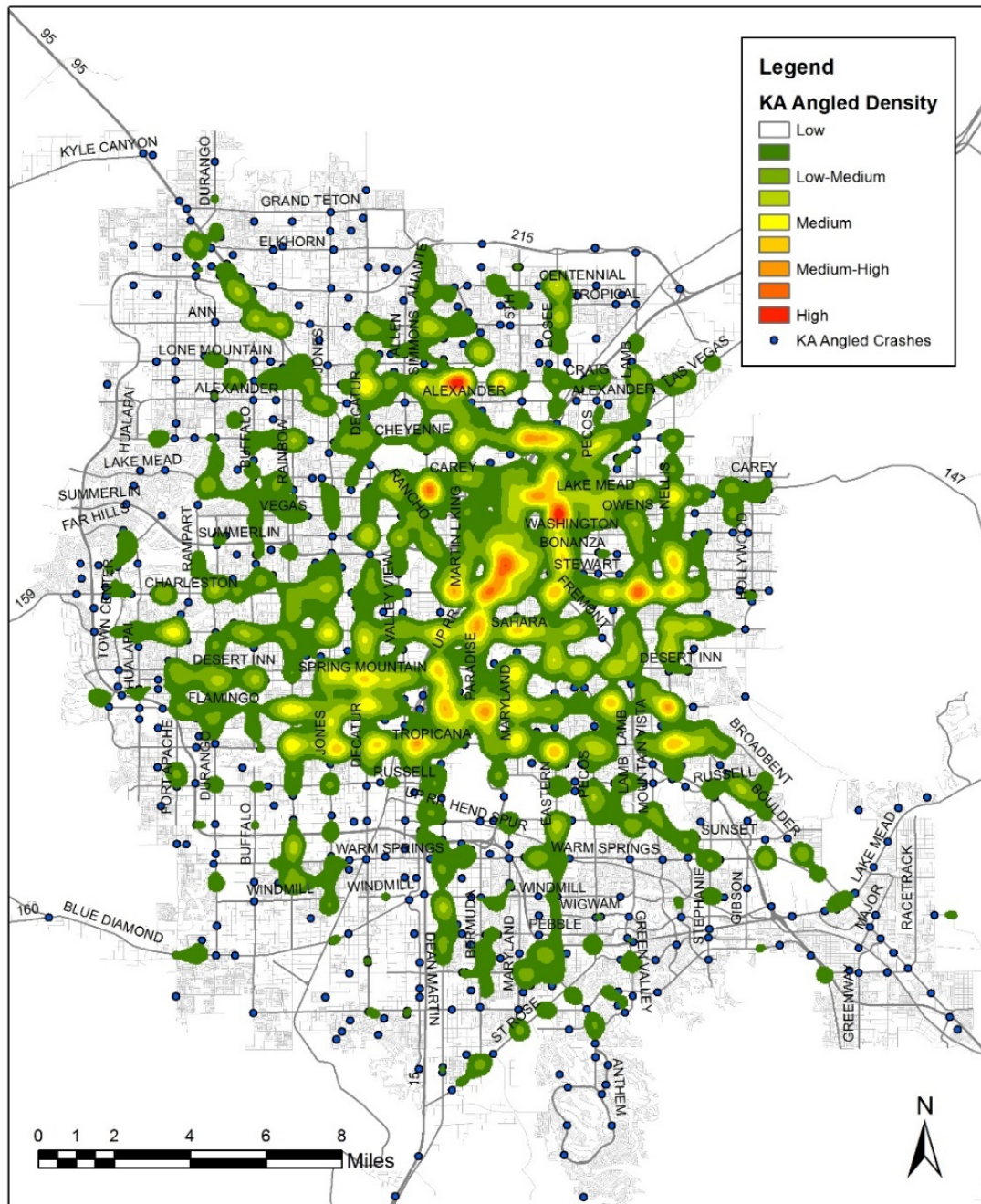


Figure 13 – Angle KA Crash Density Map

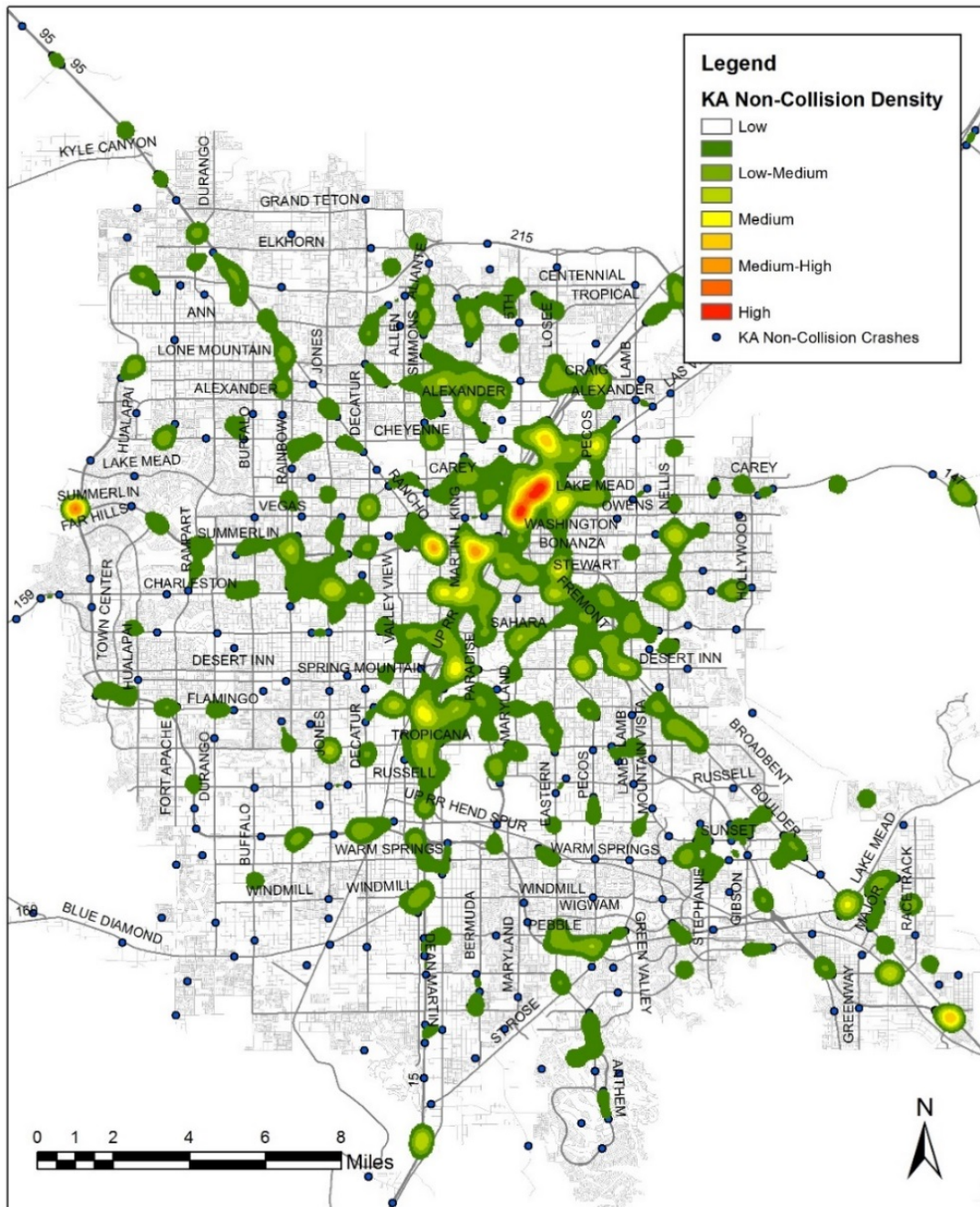


Figure 14 – Non-Collision KA Crash Density Map

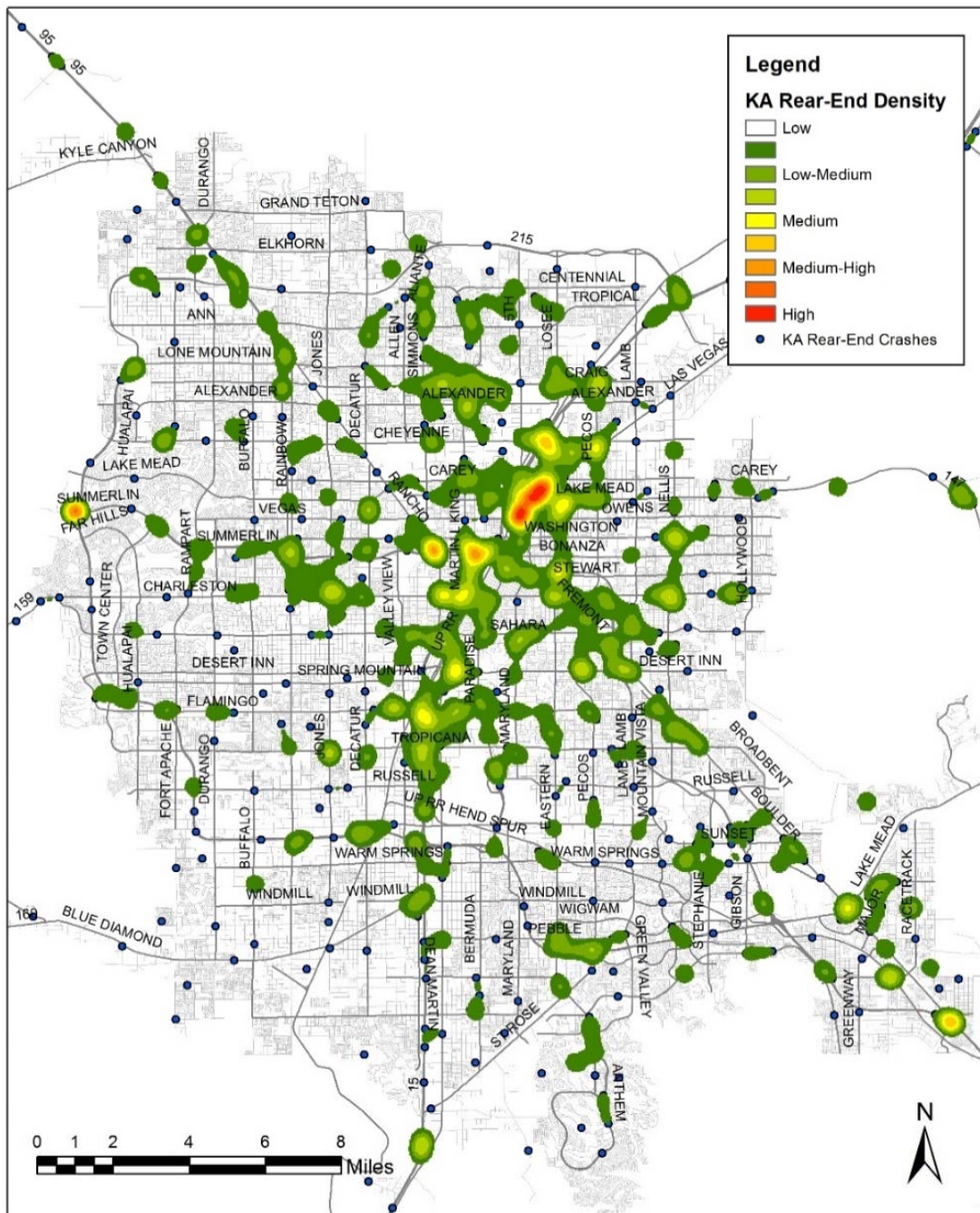


Figure 15 – Rear-End KA Crash Density Map



5.1.1. Contributing Factors

During the course of the Crash Type CEA crash analysis, the following contributing factors were identified. Along with the contributing factors, the percentages of KA crashes compared to all KA crashes in Southern Nevada is reported. For example, it can be seen from the data that 47% of all KA crashes involved an intersection from the angle, non-collision, and rear-end crash types.

- Intersection crashes – 47% (35% angle, 7% non-collision, 5% rear-end)
- Lane departure crashes – 28% (12 angle %, 15% non-collision, 1% rear-end)
- Nighttime crashes – 35% (19% angle, 12% non-collision, 4% rear-end)
- Failure to yield – 11% (9% angle, 2% non-collision, <1% rear-end)
- Aggressive driving and speeding – 18% (7% angle, 5% non-collision, 6% rear-end)

5.1.2. Focus Areas

Based on the identified contributing factors, the following list of focus areas for the Crash Type CEA was developed:

- Reduce intersection crashes
- Decrease lane departures
- Reduce nighttime crashes through improved lighting
- Increase compliance to right-of-way
- Reduce aggressive driving and speeding

5.2. Pedestrians

The Pedestrians CEA includes all pedestrian related crashes. This CEA accounts for 14% of all KA crashes in Southern Nevada. **Figure 16** is a density map of all Pedestrian KA crashes. Additional Pedestrians analysis can be found in **Appendix B**. It should be noted for this CEA that priority should be given to the geographical area from Martin L. King Boulevard to Nellis Boulevard and from Lake Mead Boulevard to Tropicana Avenue. As seen in **Figure 12** and **Figure 16**, this geographical area contains the majority of KA crashes within Southern Nevada.

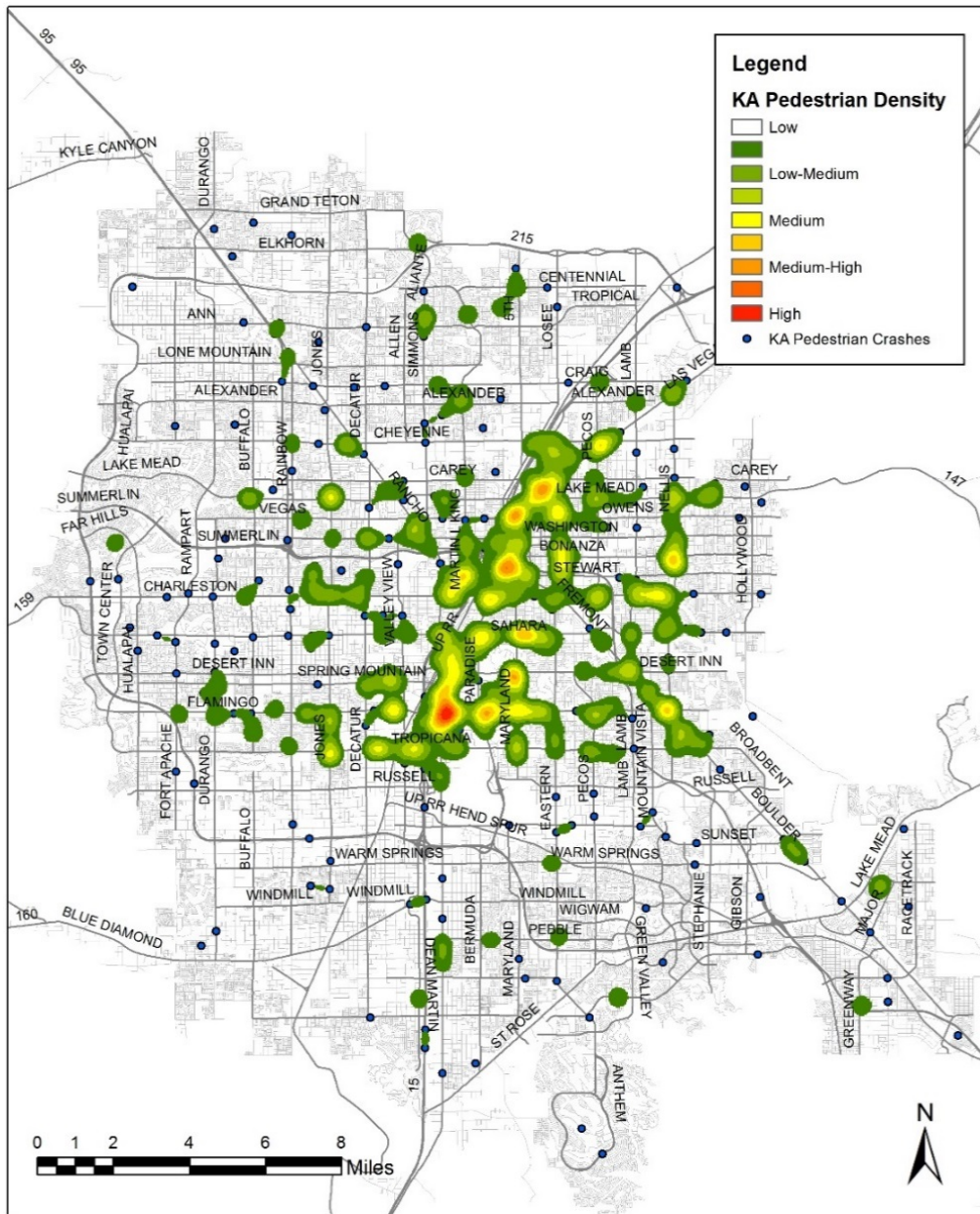


Figure 16 – Pedestrians KA Crash Density Map

5.2.1. Contributing Factors

During the course of the Pedestrians CEA crash analysis, the following contributing factors were identified. Along with the contributing factor, the percentage of pedestrians within each contributing factor involved in KA crashes compared to all road users in KA crashes for Southern Nevada is reported. For example, it can be seen from the data that 6% of all KA crashes involved a pedestrian performing an improper roadway crossing.

- Improper crossings – 6%
- Nighttime crashes – 7%
- Young pedestrians – 4%



5.2.2. Focus Areas

Based on the identified contributing factors, the following list of focus areas for the Pedestrian CEA was developed:

- Enhance and increase pedestrian crossings
- Reduce the number of nighttime pedestrian crashes
- Improve safety for young pedestrians
- Evaluate the need for pedestrian crossing improvements in all roadway projects
- Geographical area from Martin L. King Boulevard to Nellis Boulevard and from Lake Mead Boulevard to Tropicana Avenue

5.3. Bicyclists

The Bicyclists CEA includes all bicyclist related crashes. This CEA accounts for 4% of all KA crashes in Southern Nevada. **Figure 17** is a density map of all Bicyclists KA crashes. Additional Bicyclists analysis can be found in **Appendix B**.

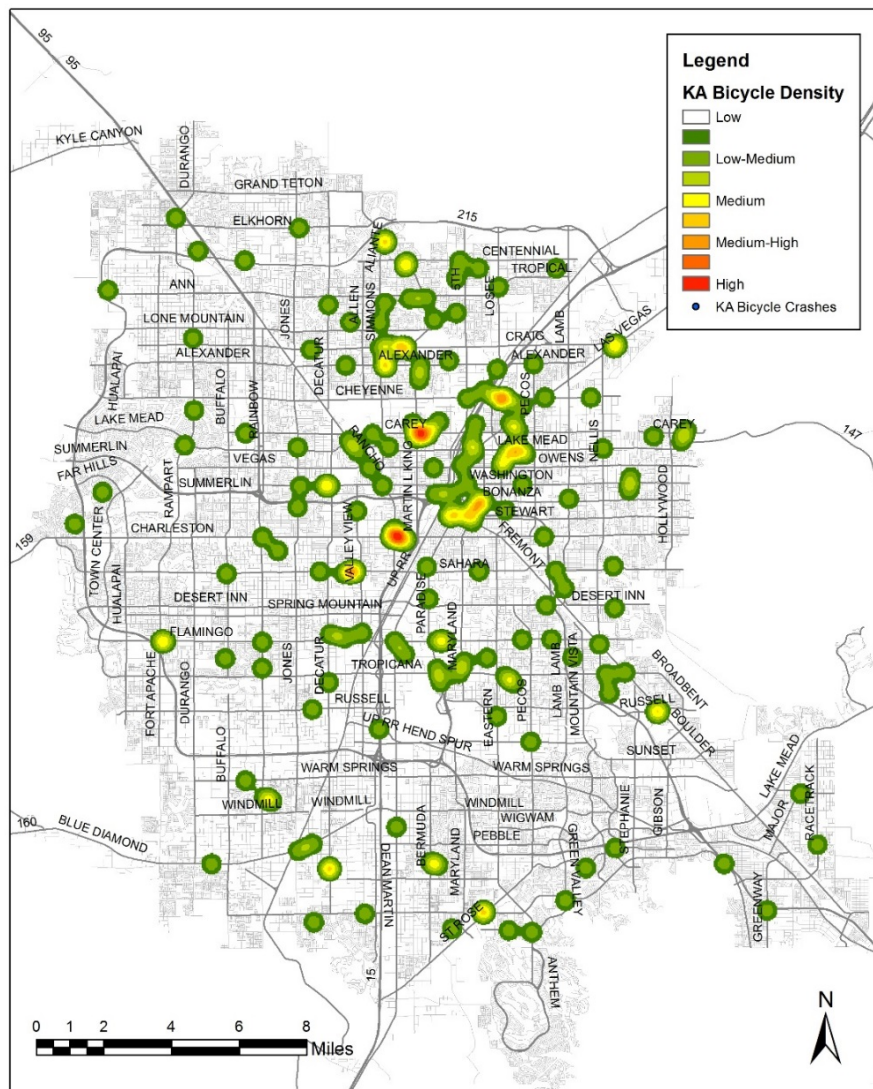


Figure 17 – Bicyclists KA Crash Density Map



5.3.1. Contributing Factors

During the course of the Bicyclists CEA crash analysis, the following contributing factors were identified. Along with the contributing factor, the percentage of bicyclists within each contributing factor involved in KA crashes compared to all road users in KA crashes for Southern Nevada is reported. For example, it can be seen from the data that 2% of all KA crashes involved young bicyclists.

- Young bicyclists – 2%
- Male bicyclists – 3.5%
- Improper crossings – 2%
- No bikeway – 3.5%
- Motor vehicles turning right – 1%

5.3.2. Focus Areas

Based on the identified contributing factors, the following list of focus areas for the Bicyclists CEA was developed:

- Improve bicycle safety for all young bicyclists
- Focus on male bicyclists
- Enhance and increase bicycle crossings
- Enhance and increase bicycle facilities
- Decrease the number of bicycle crashes due to vehicles turning right

5.4. Road Characteristics

The Road Characteristics CEA was created due to a recognition that the roadway geometry, land use, access management and other related items impact traffic safety. It is not possible to accurately estimate the number of crashes that are due to the road characteristics, but it is believed that the road characteristics significantly impact the number and severity of crashes. It should be noted for this CEA that priority should be given to the geographical area from Martin L. King Boulevard to Nellis Boulevard and from Lake Mead Boulevard to Tropicana Avenue. As seen in **Figure 12**, this geographical area contains the majority of KA crashes within Southern Nevada.

5.4.1. Contributing Factors

For the Road Characteristics CEA, the following contributing factors were discussed:

- Aggressive driving and speeding
- Wide, high speed roads with local access and non-motorized users
- Lack of connectivity on low speed roads, increasing the number of motor vehicles, bicyclists, and pedestrians that must use wide high speed roads to reach destinations

5.4.2. Focus Areas

Based on the identified contributing factors, the following list of focus areas for the Road Characteristics CEA was developed:

- Reduce aggressive driving and speeding through geometric improvements
- Define and develop safer street principles for different street types, including access management
- Improve roadway connectivity
- Evaluate and improve safety in work zones
- Geographical area from Martin L. King Boulevard to Nellis Boulevard and from Lake Mead Boulevard to Tropicana Avenue



5.5. Category 1 Summary

Category 1 CEAs are defined as those CEAs whose focus areas have a significant engineering component. **Table 4** provides a summary of the Category 1 CEAs with their associated contributing factors and focus areas.

Table 4 – Summary of Category 1 CEAs

Category 1 CEA (% of Total KA Crashes)	Contributing Factors (% of Total KA Crashes)	Focus Areas
Crash Type (93%) - Angle (53.8%) -Non-Collision (24.8%) -Rear-End (14.8%)	<ul style="list-style-type: none"> ▪ Intersection Crashes (47%) ▪ Lane Departure Crashes (28%) ▪ Nighttime Crashes (35%) ▪ Failure to Yield (11%) ▪ Aggressive Driving and Speeding (18%) 	<ul style="list-style-type: none"> ▪ Reduce intersection crashes ▪ Decrease lane departures ▪ Reduce nighttime crashes through improved lighting ▪ Increase compliance to right-of-way ▪ Reduce aggressive driving and speeding
Pedestrians (14%)	<ul style="list-style-type: none"> ▪ Improper Crossings (6%) ▪ Nighttime Crashes (7%) ▪ Young Pedestrians (4%) 	<ul style="list-style-type: none"> ▪ Enhance and increase pedestrian crossings ▪ Reduce the number of nighttime pedestrian crashes ▪ Improve safety for young pedestrians ▪ Evaluate the need for pedestrian crossing improvements in all roadway projects ▪ Geographical area from MLK Blvd to Nellis Blvd and from Lake Mead Blvd to Tropicana Ave
Bicyclists (4%)	<ul style="list-style-type: none"> ▪ Young Bicyclists (2%) ▪ Male Bicyclists (3.5%) ▪ Improper Crossings (2%) ▪ No Bikeway (3.5%) ▪ Motor Vehicle Turning Right (1%) 	<ul style="list-style-type: none"> ▪ Improve bicycle safety for all young bicyclists ▪ Focus on male bicyclists ▪ Enhance and increase bicycle crossings ▪ Enhance and increase bicycle facilities ▪ Decrease the number of bicycle crashes due to vehicles turning right
Road Characteristics*	<ul style="list-style-type: none"> ▪ Aggressive Driving and Speeding ▪ Wide, High Speed Roads with Local Access and Non-Motorized Users ▪ Lack of Connectivity on Low Speed Roads, Increasing the Number of Motor Vehicles, Bicyclists, and Pedestrians that Must Use Wide High Speed Roads to Reach Destinations 	<ul style="list-style-type: none"> ▪ Reduce aggressive driving and speeding through geometric improvements ▪ Define and develop safer street principles for different street types, including access management ▪ Improve roadway connectivity ▪ Evaluate and improve safety in work zones ▪ Geographical area from MLK Blvd to Nellis Blvd and from Lake Mead Blvd to Tropicana Ave

*Not possible to accurately estimate the number of KA crashes that are due to road characteristics



6. CATEGORY 2 CRITICAL EMPHASIS AREAS

This section presents the Category 2 CEAs along with their focus areas. A more in-depth crash analysis was performed on each CEA within Category 2 to identify unique crash contributing factors. Using these contributing factors, several focus areas were developed for each Category 2 CEA. The Category 2 CEA crash analysis is included in **Appendix C**. The Category 2 CEAs in this section include Aggressive Driving and Speeding, Distracted Driving, Impaired Driving, Motorcyclists, Occupant Protection, Young Road Users, and Older Road Users. The focus areas for each Category 2 CEA were developed using a data driven approach to meet the overall goal of zero fatalities and the annual targets. Maps of the CEA specific KA crashes were used to better understand the KA crash trends.

6.1. Aggressive Driving and Speeding

The Aggressive Driving and Speeding CEA includes all those crashes with the following vehicle factors: Driving Too Fast For Conditions, Following Too Closely, Exceeded Authorized Speed Limit, and/or Unsafe Lane Change. This CEA accounts for 17% of all KA crashes in Southern Nevada. Based on the available GIS data an Aggressive Driving and Speeding crash density map was not possible. Additional Aggressive Driving and Speeding analysis can be found in **Appendix C**.

6.1.1. Contributing Factors

During the course of the Aggressive Driving and Speeding CEA crash analysis, the following contributing factors were identified. Along with the contributing factors, the percentages of KA crashes compared to all KA crashes in Southern Nevada is reported. For example, it can be seen from the data that 7% of all KA crashes involved aggressive driving and speeding at nighttime.

- Nighttime crashes – 7%
- Male drivers – 13%

6.1.2. Focus Areas

Based on the identified contributing factors, the following list of focus areas for the Aggressive Driving and Speeding CEA was developed:

- Reduce nighttime crashes
- Focus on male drivers
- Increase enforcement and education

6.2. Distracted Driving

The Distracted Driving CEA includes all those crashes with the driver factor of inattention/distracted. This CEA accounts for 4% of all KA crashes in Southern Nevada in recorded crashes, however it is believed that distracted driving crashes impacts significantly more crashes than are recorded but is difficult for an officer to determine. **Figure 18** is a density map of all Distracted Driving KA crashes. Additional Distracted Driving analysis can be found in **Appendix C**.

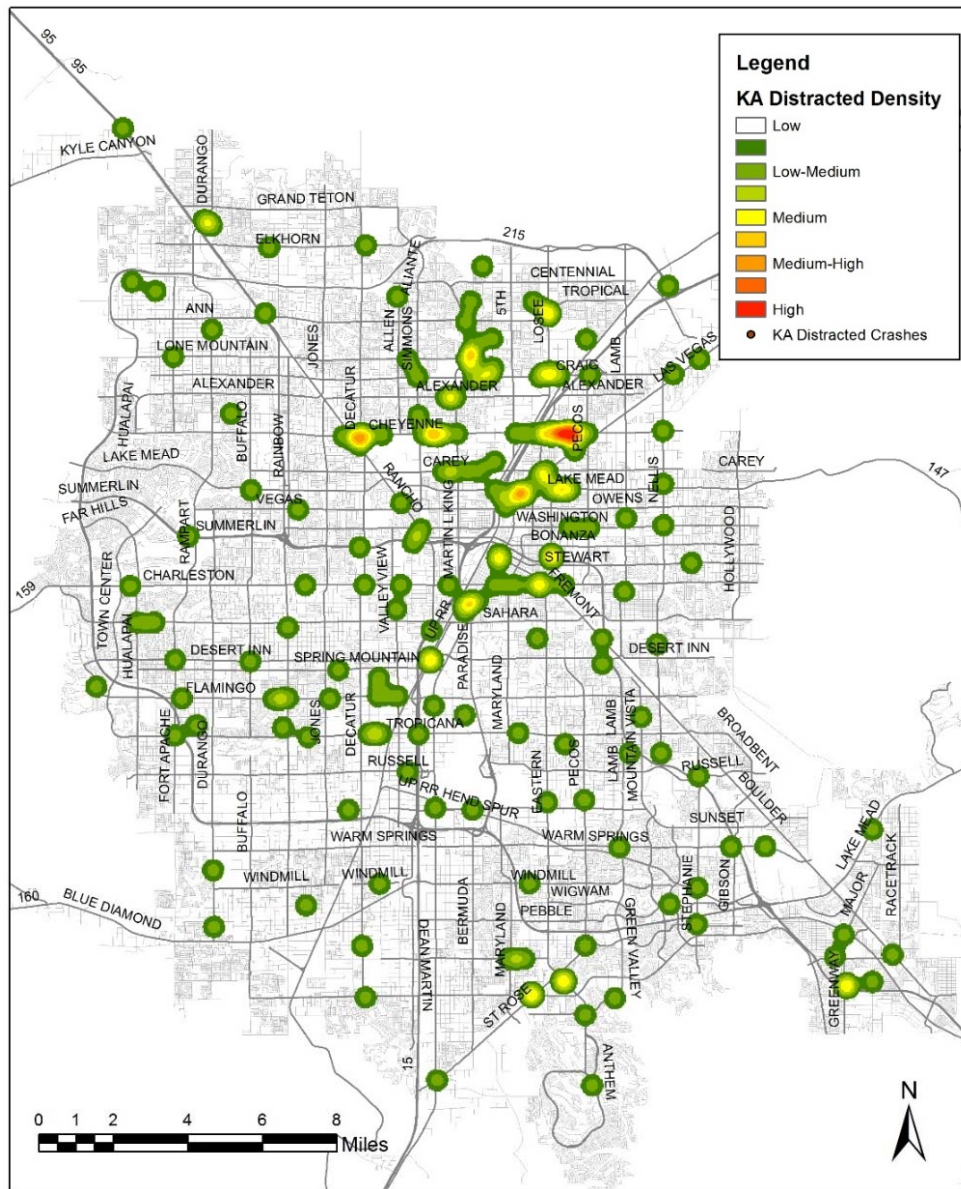


Figure 18 – Distracted Driving KA Crash Density Map

6.2.1. Contributing Factors

During the course of the Distracted Driving CEA crash analysis, the following contributing factors were identified. Along with the contributing factors, the percentages of KA crashes compared to all KA crashes in Southern Nevada is reported. For example, it can be seen from the data that 1% of all KA crashes involved lane departures by distracted drivers.

- Lane departures – 1%
- Rear-end crashes – 2%



6.2.2. Focus Areas

Based on the identified contributing factors, the following list of focus areas for the Distracted Driving CEA was developed:

- Decrease lane departures due to distracted driving
- Reduce rear-end crashes due to distracted driving
- Increase distracted driving enforcement

6.3. Impaired Driving

The Impaired Driving CEA includes all those crashes where drugs and/or alcohol were suspected. This CEA accounts for 19% of all KA crashes in Southern Nevada. **Figure 19** is a density map of all Impaired Driving KA crashes. Additional Impaired Driving analysis can be found in **Appendix C**.

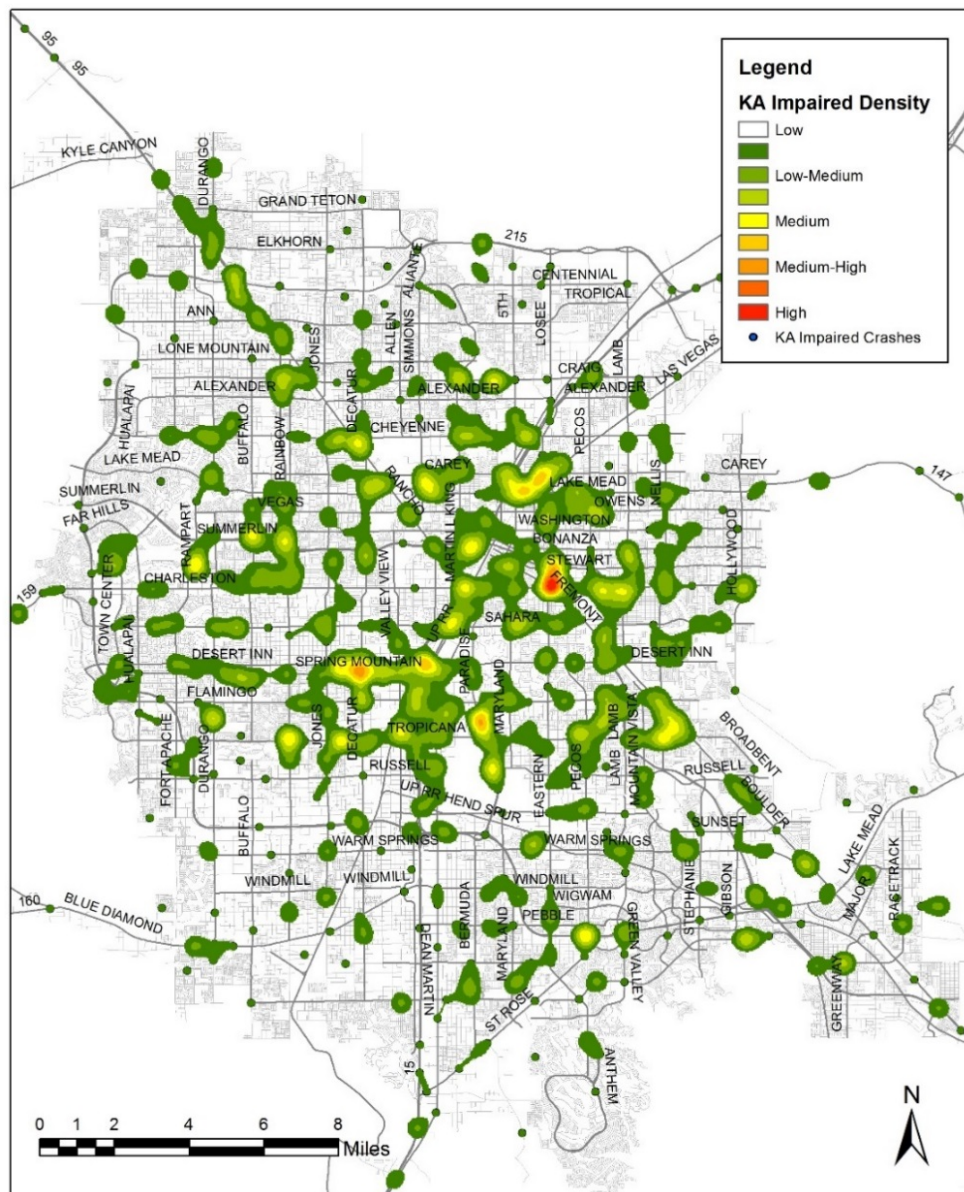


Figure 19 – Impaired Driving KA Crash Density Map



6.3.1. Contributing Factors

During the course of the Impaired Driving CEA crash analysis, the following contributing factors were identified. Along with the contributing factors, the percentages of KA crashes compared to all KA crashes in Southern Nevada is reported. For example, it can be seen from the data that 11% of all KA crashes involved impaired driving at nighttime.

- Nighttime crashes – 11%
- Male drivers – 14%
- Weekend crashes – 8%

6.3.2. Focus Areas

Based on the identified contributing factors, the following list of focus areas for the Impaired Driving CEA was developed:

- Target nighttime and weekend impaired driving and crashes
- Focus on impaired driving by males

6.4. Motorcyclists

The Motorcyclists CEA includes all motorcycle, motor scooter, and moped related crashes. This CEA accounts for 18% of all KA crashes in Southern Nevada. **Figure 20** is a density map of all Motorcyclists KA crashes. Additional Motorcyclists analysis can be found in **Appendix C**.

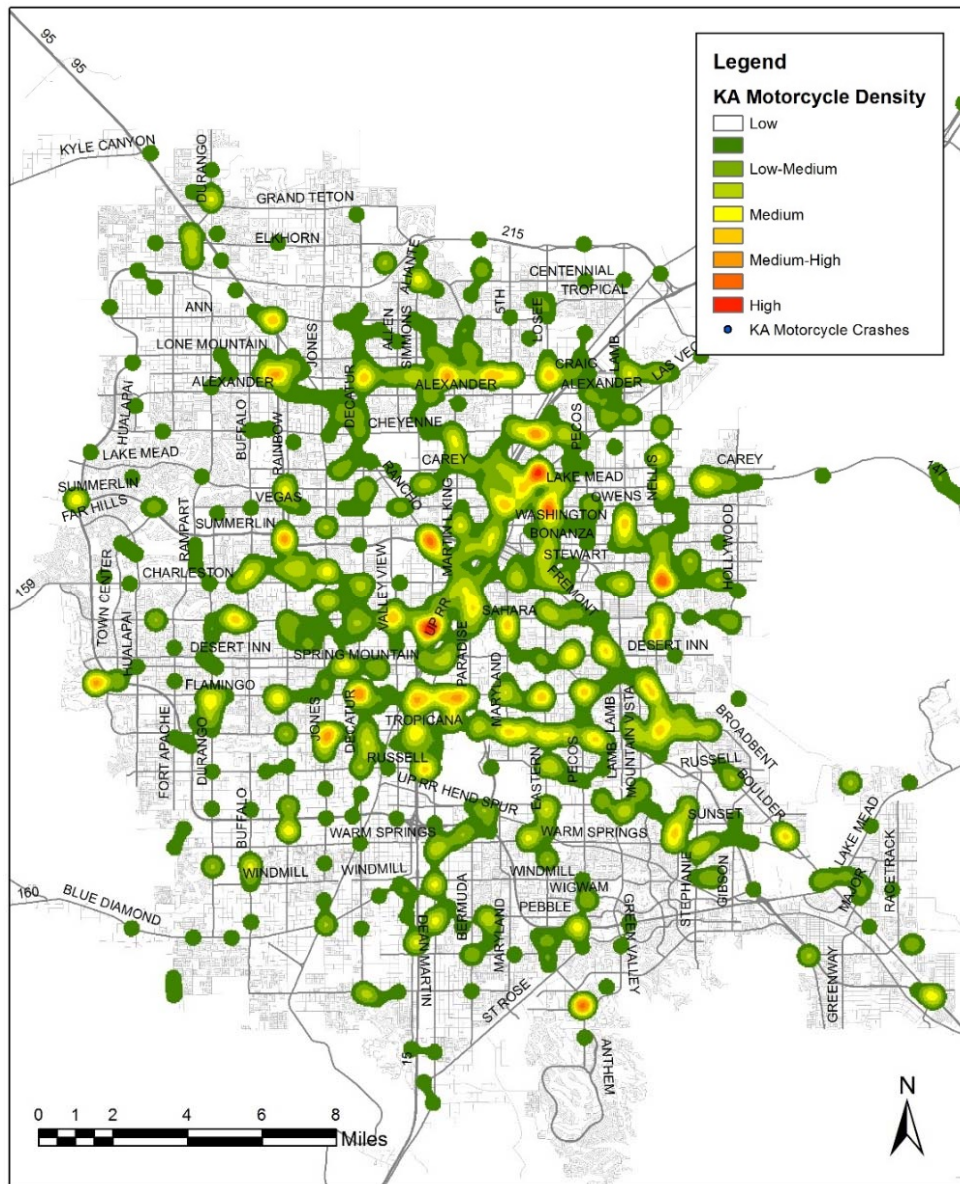


Figure 20 – Motorcyclists KA Crash Density Map

6.4.1. Contributing Factors

During the course of the Motorcyclists CEA crash analysis, the following contributing factors were identified. Along with the contributing factors, the percentages of KA crashes compared to all KA crashes in Southern Nevada is reported. For example, it can be seen from the data that 16% of all KA crashes involved a motorcyclists who was male.

- Aggressive driving and speeding – 4%
- Male drivers – 16%
- Helmet used improperly/not used – 6%
- Failure to yield – 4%



6.4.2. Focus Areas

Based on the identified contributing factors, the following list of focus areas for the Motorcyclists CEA was developed:

- Reduce aggressive driving and speeding of motorcycle drivers
- Focus on male motorcyclists
- Improve helmet use among motorcyclists
- Increase compliance to right-of-way among motorcyclists

6.5. Occupant Protection

The Occupant Protection CEA includes all vehicle occupants involved in a crashes not using proper vehicle restraints. This CEA accounts for 21% of all vehicle occupants involved in a KA crashes in Southern Nevada. Based on the available GIS data an Occupant Protection crash density map was not possible. Additional Occupant Protection analysis can be found in **Appendix C**.

6.5.1. Contributing Factors

During the course of the Occupant Protection CEA crash analysis, the following contributing factors were identified. Along with the contributing factor, the percentage of improper restraint use by vehicle occupants within each contributing factor in KA crashes compared to all vehicle occupants in KA crashes for Southern Nevada is reported. For example, it can be seen from the data that 8% of all vehicle occupants in a KA crashes involved improper restraint use by young vehicle occupants.

- Non-use of vehicle restraint – 13%
- Young road users – 8%

6.5.2. Focus Areas

Based on the identified contributing factors, the following list of focus areas for the Occupant Protection CEA was developed:

- Increase the proper use of vehicle restraints among all vehicle occupants
- Increase vehicle restraint use among young vehicle occupants

6.6. Young Road Users

The Young Road Users CEA includes all crashes with a driver under the age of 25 years old. This CEA accounts for 24% of all KA crashes in Southern Nevada. **Figure 21** is a density map of all Young Road Users KA crashes. Additional Young Road Users analysis can be found in **Appendix C**.

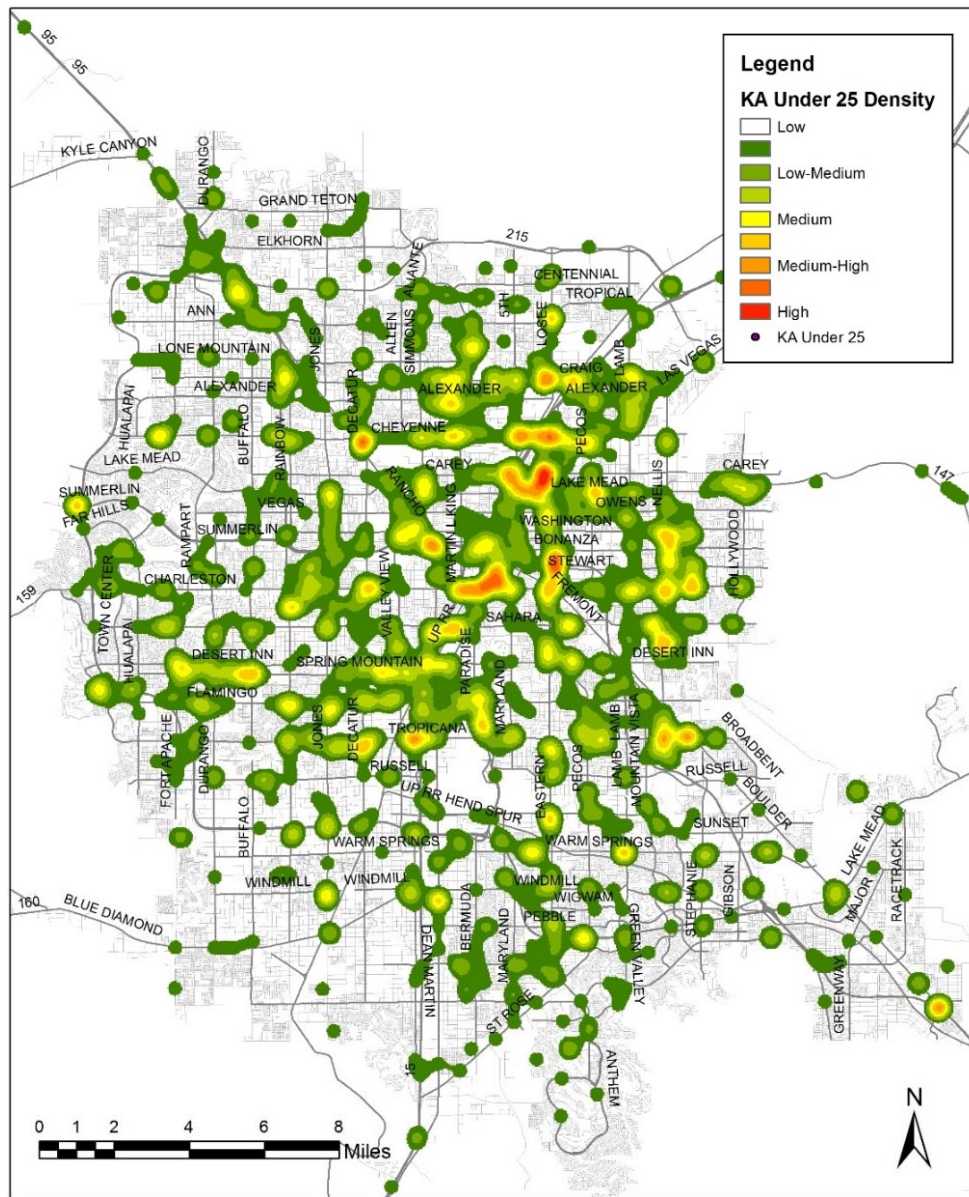


Figure 21 – Young Road Users KA Crash Density Map

6.6.1. Contributing Factors

During the course of the Young Road Users CEA crash analysis, the following contributing factors were identified. Along with the contributing factors, the percentages of KA crashes compared to all KA crashes in Southern Nevada is reported. For example, it can be seen from the data that 10% of all KA crashes involved young drivers at nighttime.

- Aggressive driving and speeding – 5%
- Nighttime crashes – 10%
- Improper vehicle restraint use – 8%
- Lane departures – 9%
- Impaired driving – 5%



6.6.2. Focus Areas

Based on the identified contributing factors, the following list of focus areas for the Young Road Users CEA was developed:

- Reduce aggressive driving and speeding
- Reduce nighttime crashes
- Increase vehicle restraint use
- Decrease lane departures
- Decrease impaired driving
- Decrease distracted driving

6.7. Older Road Users

The Older Road Users CEA includes all crashes with a driver 65 years of age or older. This CEA accounts for 9% of all KA crashes in Southern Nevada. **Figure 22** is a density map of all Older Road Users KA crashes. Additional Older Road Users analysis can be found in **Appendix C**.

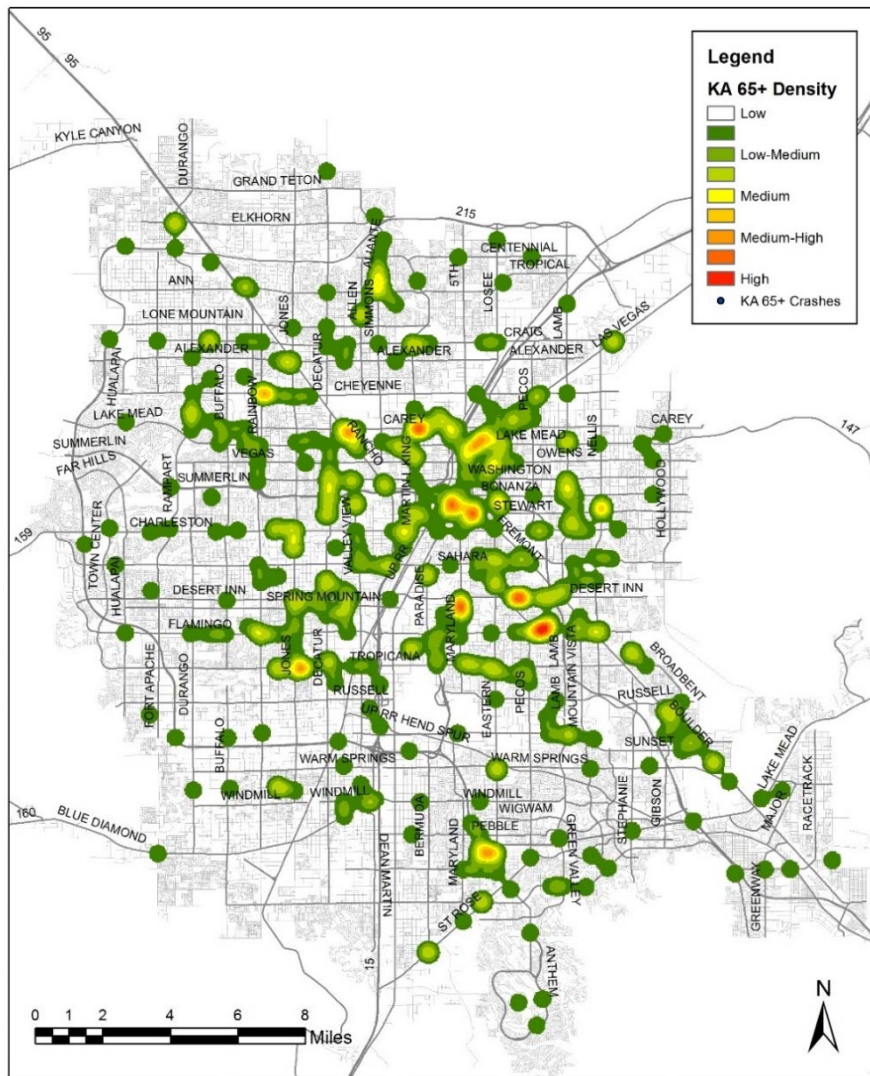


Figure 22 – Older Road Users KA Crash Density Map



6.7.1. Contributing Factors

During the course of the Older Road Users CEA crash analysis, the following contributing factors were identified. Along with the contributing factors, the percentages of KA crashes compared to all KA crashes in Southern Nevada is reported. For example, it can be seen from the data that 3% of all KA crashes involved older drivers who failed to yield.

- Failure to yield – 3%
- Left turn and angle crashes – 2% & 6%
- Pedestrian crashes – 2%

6.7.2. Focus Areas

Based on the identified contributing factors, the following list of focus areas for the Older Road Users CEA was developed:

- Increase compliance to right-of-way
- Reduce the number of left turn and angle crashes
- Decrease the number of pedestrians crashes caused by older drivers



6.8. Category 2 Summary

A summary of the Category 2 CEAs with their associated contributing factors and focus areas is shown in **Table 5**.

Table 5 – Summary of Category 2 CEAs

Category 2 CEA (% of Total KA Crashes)	Contributing Factors (% of Total KA Crashes)	Focus Areas
Aggressive Driving and Speeding (17%)	<ul style="list-style-type: none"> ▪ Nighttime Crashes (7%) ▪ Male Drivers (13%) 	<ul style="list-style-type: none"> ▪ Reduce nighttime crashes ▪ Focus on male drivers ▪ Increase enforcement and education by experts
Distracted Driving (4%)	<ul style="list-style-type: none"> ▪ Lane Departures (1%) ▪ Rear-End Crashes (2%) 	<ul style="list-style-type: none"> ▪ Decrease lane departures due to distracted driving ▪ Reduce rear-end crashes due to distracted driving ▪ Increase distracted driving enforcement
Impaired Driving (19%)	<ul style="list-style-type: none"> ▪ Nighttime Crashes (11%) ▪ Male Drivers (14%) ▪ Weekend Crashes (8%) 	<ul style="list-style-type: none"> ▪ Target nighttime and weekend impaired driving and crashes ▪ Focus on impaired driving by males
Motorcyclists (18%)	<ul style="list-style-type: none"> ▪ Aggressive Driving and Speeding (4%) ▪ Male Drivers (16%) ▪ Helmet Used Improperly/Not Used (6%) ▪ Failure to Yield (4%) 	<ul style="list-style-type: none"> ▪ Reduce aggressive driving and speeding of motorcycle drivers ▪ Focus on male motorcyclists ▪ Improve helmet use among motorcyclists ▪ Increase compliance to right-of-way among motorcyclists
Occupant Protection (21%)	<ul style="list-style-type: none"> ▪ Non-Use of Vehicle Restraint (13%) ▪ Young Road Users (8%) 	<ul style="list-style-type: none"> ▪ Increase the proper use of vehicle restraint among all vehicle occupants ▪ Increase vehicle restraint use among young vehicle occupants
Young Road Users (24%)	<ul style="list-style-type: none"> ▪ Aggressive Driving and Speeding (5%) ▪ Nighttime Crashes (10%) ▪ Improper Vehicle Restraint Use (8%) ▪ Lane Departures (9%) ▪ Impaired Driving (5%) 	<ul style="list-style-type: none"> ▪ Reduce aggressive driving and speeding ▪ Reduce nighttime crashes ▪ Increase vehicle restraint use ▪ Decrease lane departures ▪ Decrease impaired driving ▪ Decrease distracted driving
Older Road Users (9%)	<ul style="list-style-type: none"> ▪ Failure to Yield (3%) ▪ Left Turns and Angle Crashes (2% & 6%) ▪ Pedestrian Crashes (2%) 	<ul style="list-style-type: none"> ▪ Increase compliance to right-of-way ▪ Reduce the number of left turn and angle crashes ▪ Decrease the number of pedestrians crashes caused by older drivers



7. PLAN IMPLEMENTATION

The TSP will be implemented through the use of two distinct methods. These methods are the implementation of CEA specific Action Plans and the application of safety evaluations and assessments in the project development process. Both of these methods are described in the following sections. Also included in the plan implementation is a toolbox of strategies, high priority strategies, and a summary of possible funding sources that can be used towards the implementation of the TSP.

7.1. Action Plans by Critical Emphasis Area

Action Plans were developed by the TAC for each CEA in an effort to eliminate fatalities and serious injury crashes and are meant to serve as a list of actions for implementation to reach the TSP's vision and goal. Category 1 CEA Action Plans include recommended policies for implementation, new projects and studies to be conducted, and a toolbox of strategies that can be considered for inclusion on all transportation projects. Category 2 CEA Action Plans contain a toolbox of strategies. The toolbox of strategies is found in **Section 7.2**. Strategies included in this plan should not be considered a complete list of strategies, but as a starting point for possible strategies to consider for implementation. Any proposed project associated with the identified Action Plans policies, projects, and studies should be given priority over those projects not related to a CEA Action Plan.

7.1.1. Crash Type CEA

The Crash Type CEA Action Plan includes a recommendation to implement the following policies:

- Road Safety Assessments or safety evaluations on all transportation capacity projects
- Quantification of safety impacts through the Project Safety Process to be included on all transportation capacity projects
- Roundabout First Consideration Policy

The Action Plan includes recommendations for the following projects and studies:

- Southern Nevada Regional Lighting Safety Study
 - Study assessing current lighting and looking at ways to increase safety with lighting
- Crash Data Combination with Roadway Geometrics Study

7.1.2. Pedestrians CEA

The Pedestrians CEA Action Plan includes a recommendation to implement the following policy:

- Crosswalk Policy
 - Consistency in application per NDOT's Uncontrolled Crosswalk Treatment Process as found in **Appendix D**

The Action Plan includes a recommendations for the following project:

- Enhanced Pedestrian Crossing Project
 - Infrastructure project to provide pedestrian crossing improvements at pedestrian high crash locations

7.1.3. Bicyclists CEA

The Bicyclists CEA Action Plan suggests the following policy for implementation:

- Bicycle Parking Policy
 - Including bicycle parking with development



The Action Plan includes recommendations for the following projects and studies:

- Candidate corridors for alternate bikeways study
 - Identify and construct bike boulevards, buffered bike lanes, and cycle tracks
 - Develop design guidelines for these facilities types

7.1.4. Road Characteristics CEA

The Road Characteristics CEA Action Plan includes recommendations for the following projects and studies:

- Implementation of Complete Streets Policy
- Road Diet Selection Study
- Review and update to RTC's Uniform Standard Drawings to incorporate safety guidance project
- Development of a Safe Streets Guidebook
- Access Management Retrofit Procedures Study
- Work Zone Safety Study
- Speed Management Study

7.2. Toolbox of Strategies

The RTC recognizes it will take a coordinated 4E effort to accomplish the vision, zero fatalities goal, and targets for traffic safety in Southern Nevada. The RTC and its member agencies will take the lead on engineering strategies, with the Office of Traffic Safety leading educational strategies in coordination with enforcement and emergency services agencies in Southern Nevada. Strategies included in the toolbox should be considered for implementation on ongoing and future projects. **Table 6** are those strategies that are engineering related while **Table 7** and **Table 8** are enforcement and education related strategies, respectively. The specific agencies involved in implementation are listed in the far right column of each table.



Table 6 – Engineering Strategies Toolbox

Strategies (References)	Effectiveness (CMF)	Crash Type	Pedestrians	Bicyclists	Road Characteristics	Aggressive Driving and Speeding	Distracted Driving	Impaired Driving	Motorcyclists	Occupant Protection	Young Road Users	Older Road Users	4Es of Safety	Agencies
Construct pedestrian refuge islands and raised medians (1,10)	P (.56-.88)		✓		✓									
Develop and implement regional roadway, intersection, horizontal curves, and pedestrian lighting standards (3,6,7,9,10,18)	P (.41-.84)	✓	✓	✓	✓	✓							✓	
Implement traffic calming techniques (3,6,10,11)	P,T (.64-.89)	✓	✓	✓	✓	✓						✓		
Implement standards in the Clark County Area Access Management guide (1,7)	P (.69-.75)	✓			✓									
Improve signal operations and coordination (2,8)	P,T (.86-.96)	✓												
Increase use of road diets at appropriate locations (1)	P	✓			✓									
Install longitudinal shoulder and centerline rumble strips and stripes (1,7,8,13)	P (.6-.91)	✓			✓		✓					✓		
Install roundabouts at appropriate locations (1,3,7,8)	P (.12-.96)	✓			✓	✓						✓		
Provide and improve left and right turn lanes and channelization at intersections (2,3)	P (.52-.83)	✓			✓									
Upgrade traffic signal backplates with retroreflective boarders (1)	P (.85)	✓										✓	✓	
Widen and/or pave shoulders (4)	P (.71-.95)	✓												
Improve horizontal curves through enhanced delineation, signing, friction treatments, and reconstruction (1,4,7,8)	P (.53-.96)	✓			✓							✓		
Restrict or eliminate parking on intersection approaches (2)	P (.52-.8)	✓												
Improve geometry of pedestrian and bicycle facilities (2,3,7,8,11)	P,T	✓	✓	✓	✓									
Improve roadway geometry on horizontal curves (4)	P	✓			✓									
Install or upgrade traffic and pedestrian signals (10)	P,T,E		✓											
Install pedestrian and bicycle facilities at signalized intersections (2)	P,T		✓	✓										
Install pedestrian hybrid beacons (1)	P		✓											
Installation of "Safety Edge" for roadways without curb and gutter (1)	P	✓			✓							✓		
Provide adequate sight distance for target speeds (6)	P	✓			✓									
Provide and optimize adequate change plus clearance intervals at signalized intersections (2,6,8)	P	✓			✓									
Provide crosswalk enhancements (9,10)	P,T		✓		✓									
Provide sidewalks/walkways and curb ramps (10)	P		✓		✓									
Redesign difficult and confusing intersection approaches (2)	P	✓			✓									
Redesign ditches to prevent rollovers (4)	P	✓												
Reduce or eliminate intersection skew (3,8,18)	P	✓			✓									✓
Remove and relocate objects in locations with high lane departure potential (4)	P	✓										✓		
Remove unwarranted signals and other traffic control devices (2)	P	✓												
Replace painted channelization with raised channelization (18)	P				✓									✓

Definition: P-Proven, T-Tried, and E-Experimental

Engineering

RTC, Clark County, City of Las Vegas, City of North Las Vegas, City of Henderson, City of Mesquite, NDOT



Table 6 – Engineering Strategies Toolbox (Continued)

Strategies (References)	Effectiveness (CMF)	Crash Type	Pedestrians	Bicyclists	Road Characteristics	Aggressive Driving and Speeding	Distracted Driving	Impaired Driving	Motorcyclists	Occupant Protection	Young Road Users	Older Road Users	4Es of Safety	Agencies
Conduct sight distance evaluation studies (2,3,7)	T	✓			✓									
Implement active speed warning (feedback) signs (6)	T (.54)					✓					✓			
Implement enforcement campaigns (7,8,10,11,12,15,16)	T		✓	✓		✓	✓	✓	✓	✓	✓			
Implement offset left turn lanes (7, 18)	T (.62-.68)	✓			✓								✓	
Improve roadway delineations (18)	T (.55-.76)	✓			✓								✓	
Improve speed limit signage (6)	T					✓					✓			
Increase size and letter height of roadway signs (18)	T												✓	
Provide advance guide signs, intersection ahead signs, and street name signs particularly at all major intersections (7,18)	T (.9)	✓											✓	
Provide advance warning signs (18)	T (.56-.99)	✓			✓						✓	✓		
Provide more protected left turn signal phases at high volume intersections (18)	T	✓											✓	
Set appropriate speed limits based on roadway design, geometry, classification, traffic, and environment (6,9)	T	✓			✓	✓								
Implement standard use of right turn lanes (7)	(.74-.92)	✓			✓									
Improve signing, markings, and lighting to increase driver awareness of intersections (8)	(.41-.62)	✓			✓									
Improve the visibility of roadway and lane markings (9)	(.62-.96)	✓			✓									
Increase compliance at uncontrolled crosswalks through the use of Hawk signals, midblock signals, pedestrian crossing flags, overhead flashing beacons, median refuges, and high visibility signs and markings (9)	(.71)		✓		✓									
Install appropriate nighttime lighting (9)	(.41-.91)	✓			✓									
Install median barrier systems, crash cushions, and guardrail end treatments to minimize the risk of lane departure crashes (8)	(.56-.88)	✓			✓									
Install medians within the influence of all intersection approaches at major intersections (7)	(.56-.88)	✓			✓									
Conduct pedestrian and bicycle related Road Safety Assessments (7)			✓	✓	✓									
Conduct Road Safety Assessments		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Develop and implement regional crosswalk design standards (7)		✓	✓	✓	✓									
Implement analysis tools that support data driven decision making (8)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Implement infrastructure and roadway improvements to support speed management and reduction (8)		✓	✓		✓	✓					✓			
Improve pedestrian and bicycle facilities with signing (7)			✓	✓										
Improve sight distance and gap distance at intersections (9)		✓			✓									
Improve the visibility of pedestrian and bicycle markings and signs (9,11)			✓	✓										
Incorporate motorcycle safety considerations into routine roadway inspections (15)									✓					
Install bulbouts where appropriate (9)			✓		✓									
Restrict right turn on red to improve pedestrian and bicycle safety where appropriate (9,11)	E		✓	✓										
Use appropriate countermeasures and enforcement to reduce red light running (9)		✓												
When appropriate restrict right turn on red at intersections (9)		✓	✓	✓										

Definition: P-Proven, T-Tried, and E-Experimental

Engineering
RTC, Clark County, City of Las Vegas, City of North Las Vegas, City of Henderson, City of Mesquite, NDOT



Table 7 – Enforcement Strategies Toolbox

Strategies (References)	Effectiveness (CMF)	Crash Type	Pedestrians	Bicyclists	Road Characteristics	Aggressive Driving and Speeding	Distracted Driving	Impaired Driving	Motorcyclists	Occupant Protection	Young Road Users	Older Road Users	4Es of Safety	Agencies
Conduct well publicized DUI patrols and checkpoints (7,8,12,14)	P							✓						
Support enactment, publication, and enforcement of a graduated licensing system (8,12,17)	P, T						✓				✓			
Support Incarceration of offenders (14)	P							✓						
Support requirement of ignition interlocks as a condition for license reinstatement (7,8,12,14)	P							✓						
Support seizure of vehicles or vehicle license plates and suspension of driver's license administratively upon arrest (14)	P							✓						
Support targeted enforcement (5,6,7,8,12,13,14)	P,T	✓				✓	✓	✓	✓	✓	✓	✓		
Improve crash data collections (8)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Support a nighttime driving restriction (12, 17)	P											✓		
Support enactment and enforcement compliant motorcycle helmet (FMVSS 218) legislation for all ages and riders (8,12,15)	P								✓					
Support publication and enforcement of zero tolerance laws pertaining to underage impaired driving (12,14,17)	P											✓		
Support enactment and enforcement of stronger penalties for BAC test refusal than for test failure (8,12,14)	T							✓						
Support implementation a passenger restriction allowing no young passengers (12,17)	T											✓		
Support increased fines in specials areas (6)	T					✓								
Support increased penalties for repeat and excessive speeding offenders (6)	T					✓								
Support statewide activities pertaining to a primary seat belt law (7,12,16)	T									✓				
Educate and support sanctions against repeat offenders (5)	E					✓	✓	✓						
High visibility cell phone enforcement (12, 13)	E						✓							
Educate Nevada law enforcement on occupant protection laws (7)										✓				
Encourage law enforcement agencies to set up impaired driving reporting programs (7)								✓						
Encourage other law enforcement agencies to conduct refresher training programs on sobriety testing (7)								✓						
Improve restraint use data collections (7,8)										✓				
Support appropriate license restrictions for older drivers (12)												✓		
Support appropriate penalties and DUI courts (7,8,12,14)								✓						
Support enactment and enforcement bicycle helmet laws (8,12)				✓										
Support enactment and enforcement primary seat belt laws (8,12)										✓				
Support increased penalties non-restraint use(12)										✓				
Support lower BAC limits for repeat offenders (12)								✓						
Support mandatory evaluation of all offenders including first time offenders (7,12,14)								✓						
Support older driver licensing and screening policies (8,12)												✓		
Support publication and enforcement of occupant restraint laws (12,17)											✓			
Support strengthening of child and youth occupant restraint laws (12)										✓	✓			

Definition: P-Proven, T-Tried, and E-Experimental

Enforcement
NHP and Local Law Enforcement Agencies (LVMPD, NLVPD, Henderson PD, Mesquite PD, Clark County Sheriffs Dept.)



Table 8 – Education Strategies Toolbox

Strategies (References)	Effectiveness (CMF)	Crash Type	Pedestrians	Bicyclists	Road Characteristics	Aggressive Driving and Speeding	Distracted Driving	Impaired Driving	Motorcyclists	Occupant Protection	Young Road Users	Older Road Users	4Es of Safety	Agencies
Increase seatbelt use by older drivers and passengers (17)	P												✓	
Provide enhanced public education to population groups with lower than average restraint use rates (12,16)	P									✓	✓			
Conduct high profile “child restraint inspection” events at local community locations (16)	P									✓				
Increase the use of bicycle helmets (11,12)	P			✓										
Identify and remove barriers to obtaining a motorcycle endorsement (15)	T								✓					
Provide education, information, outreach, and training to the public (7,8,11,12,15,17)	T	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Improve the content and delivery of driver education and training (8,12,17)	E								✓		✓			
Create school programs related to restraint use (12)										✓	✓			
Educate the public, private industry, and elected officials on the traffic safety dangers at intersections (7)		✓			✓									
Enhance impaired driving education (7,8)								✓					✓	
Increase earned media coverage of law enforcement activities (7)						✓	✓	✓	✓		✓			
Mass media campaigns (7,8,12,14)			✓	✓		✓	✓	✓	✓	✓	✓			
Provide appropriate motorcycle rider training and licensing (12,15)									✓					
Provide education on motorcycle conspicuity and protective clothing (12, 15)									✓					

Definition: P-Proven, T-Tried, and E-Experimental

7.2.1. High Priority Strategies

A list of proven high priority strategies for implementation were determined based on the toolbox of strategies and the specific crash characteristics. The following are those proven high priority strategies for Southern Nevada:

- **Engineering Strategies**
 - Construct pedestrian refuge islands and raised medians
 - Develop and implement regional roadway, intersection, horizontal curves, and pedestrian lighting standards
 - Implement traffic calming techniques
 - Implement standards in the Clark County Area Access Management Guide
 - Improve signal operations and coordination
 - Increase use of road diets at appropriate locations
 - Install longitudinal shoulder and centerline rumble strips and stripes
 - Install roundabouts at appropriate locations
 - Provide and improve left and right turn lanes and channelization at intersections
 - Upgrade traffic signal backplates with retroreflective boards
 - Widen and/or pave shoulders
- **Enforcement Strategies**
 - Conduct well publicized DUI patrols and checkpoints



- Support enactment, publication, and enforcement of a graduated licensing system
- Support incarceration of DUI offenders
- Support requirement of ignition interlocks as a condition for license reinstatement
- Support seizure of vehicles or license plates and suspension of driver's license administratively upon arrest
- Support targeted enforcement
- Education Strategies
 - Increase seatbelt use by older drivers and passengers
 - Provide enhanced public education to population groups with lower than average restraint use rate

7.2.2. Toolbox of Strategies References

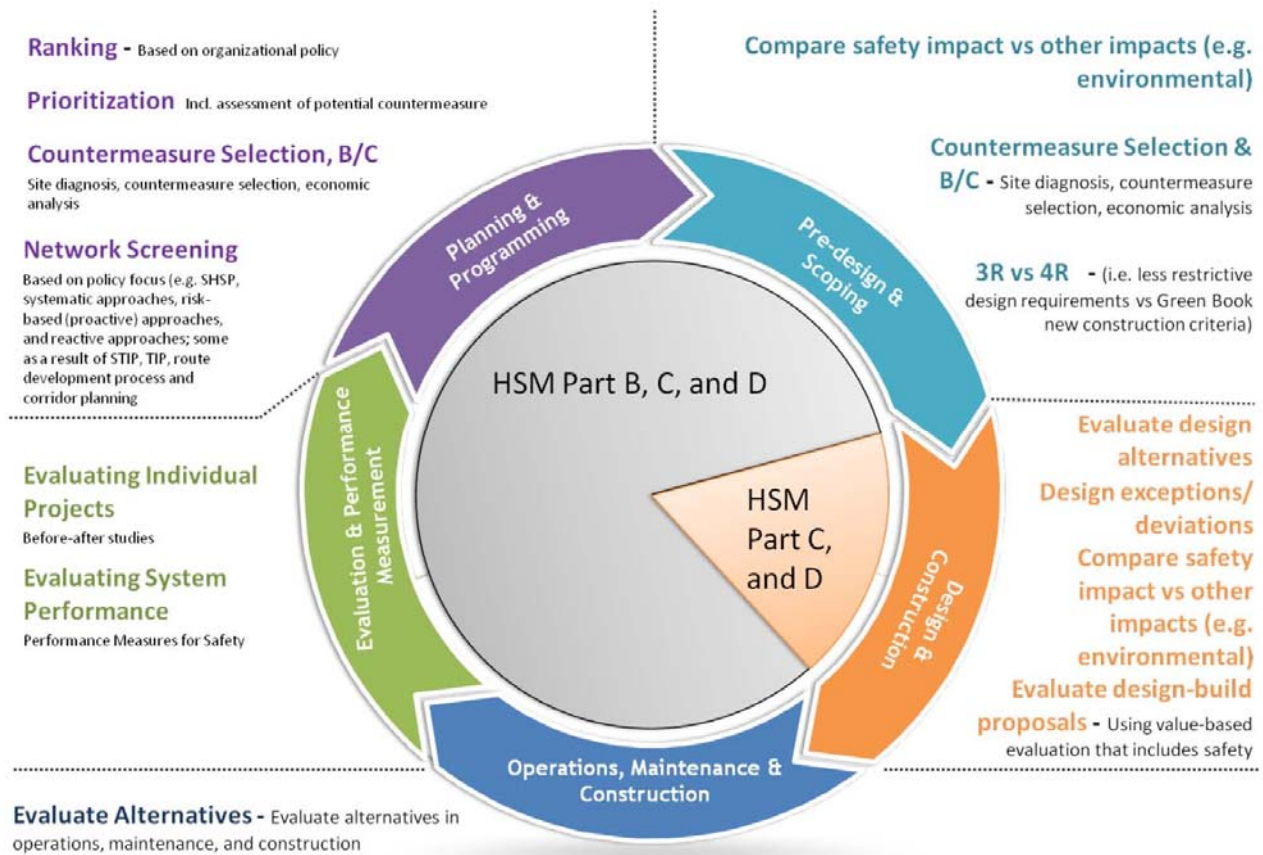
Strategies included in the toolbox were obtained from the following references:

1. FHWA issued memorandum titled "Guidance Memorandum on promoting the implementation of Proven Safety Countermeasures", January 2012, <<http://safety.fhwa.dot.gov/provencountermeasures/>>
2. NCHRP Report 500 – Guidance for Implementation of the AASHTO Strategic Highway Safety Plan, Volume 12: A Guide for Reducing Collisions at Signalized Intersections
3. NCHRP Report 500 – Guidance for Implementation of the AASHTO Strategic Highway Safety Plan, Volume 5: A Guide for Addressing Unsignalized Intersections Collisions
4. NCHRP Report 500 – Guidance for Implementation of the AASHTO Strategic Highway Safety Plan, Volume 6: A Guide for Addressing Run-Off-Road Collisions
5. NCHRP Report 500 – Guidance for Implementation of the AASHTO Strategic Highway Safety Plan, Volume 1: A Guide for Addressing Aggressive-Driving Collisions
6. NCHRP Report 500 – Guidance for Implementation of the AASHTO Strategic Highway Safety Plan, Volume 23: A Guide for Reducing Speeding-Related Crashes
7. 2011-2015 Nevada Strategic Highway Safety Plan
8. Toward Zero Deaths – National strategy on Highway Safety, June 2014
9. NCHRP Report 600 – Human Factors Guidelines for Road Systems, 2nd edition
10. NCHRP Report 500 – Guidance for Implementation of the AASHTO Strategic Highway Safety Plan, Volume 10: A Guide for Reducing Collisions Involving Pedestrians
11. NCHRP Report 500 – Guidance for Implementation of the AASHTO Strategic Highway Safety Plan, Volume 18: A Guide for Reducing Collisions Involving Bicycles
12. NHTSA, Countermeasures That Work: a Highway Safety Countermeasure Guide for State Highway Safety Offices, 7th Edition, 2013
13. NCHRP Report 500 – Guidance for Implementation of the AASHTO Strategic Highway Safety Plan, Volume 14: A Guide for Reducing Crashes involving Drowsy and Distracted Drivers
14. NCHRP Report 500 – Guidance for Implementation of the AASHTO Strategic Highway Safety Plan, Volume 16: A Guide for Reducing Alcohol-Related Collisions
15. NCHRP Report 500 – Guidance for Implementation of the AASHTO Strategic Highway Safety Plan, Volume 22: A Guide for Addressing Collisions Involving Motorcycles
16. NCHRP Report 500 – Guidance for Implementation of the AASHTO Strategic Highway Safety Plan, Volume 11: A Guide for Increasing Seatbelt Use
17. NCHRP Report 500 – Guidance for Implementation of the AASHTO Strategic Highway Safety Plan, Volume 19: A Guide for Reducing Collisions Involving Young Drivers
18. NCHRP Report 500 – Guidance for Implementation of the AASHTO Strategic Highway Safety Plan, Volume 9: A Guide for Reducing Collisions Involving Older Drivers



7.3. Project Development Process

The project development process is the path that each project takes from planning and programming through evaluation and performance assessment. With the goal of zero fatalities in mind, it is vital to define how safety is to be implemented within the project development process. The key element is the impacts of proposed projects on the number and severity of crashes to be quantified to the extent practical. The HSM, initially published by AASHTO in 2010, is the national reference for quantifying the safety effects of projects. **Figure 23** is from FHWA’s HSM Implementation Guide for Managers and displays examples of how quantified safety can be incorporated in all phases of a project, from planning and programming through evaluation and performance assessments. This section describes how safety is to be included in all phases of the project development process through the Project Safety Process (PSP) and the project selection and prioritization process.



Source: http://safety.fhwa.dot.gov/hsm/hsm_mgrsguide/sec3.cfm

Figure 23 – Safety in the Project Development Process

7.3.1. Project Safety Process

The first edition of the HSM provides detailed processes for quantifying safety impacts. The purpose of the PSP is to establish a consistent approach for quantifying the expected safety impacts of proposed transportation improvements, based on the HSM, throughout the project development process. When a project is proposed and improvements are identified, methods included in the PSP help to ensure that safety components are included in all phases of the project development process.

With the HSM being highly dependent on the availability and applicability of data there are different methods that should be approached at different stages of the project development process to determine an annual reduction in crashes. The application of the PSP should evolve as the HSM and relevant data evolves.



Engineering judgement is required when apply the PSP to ensure that it is being applied appropriately and to the extent practicable. The following considerations should be remembered throughout the PSP:

- Safety evaluations should be conducted by someone who was completed HSM training
- The PSP is based on applying the principles found within the HSM to the extent feasible
- All project evaluations should include the annual reduction in crashes and a Crash Reduction Factor (CRF)
- All safety improvement alternatives should include a Benefit-Cost Ratio (BCR)

NDOT is developing a website for guidance on the state PSP that can be used as guidance for RTC and its member agencies.

The methods for application throughout the project development process as part of the PSP are described in the following subsection and are listed as follows:

- Crash Modification Factor (CMF) Method
- Predictive Method
- BCR for both CMF Method and Predictive Method

Figure 24 indicates how the different crash analysis methods should be applied according to the different project types.

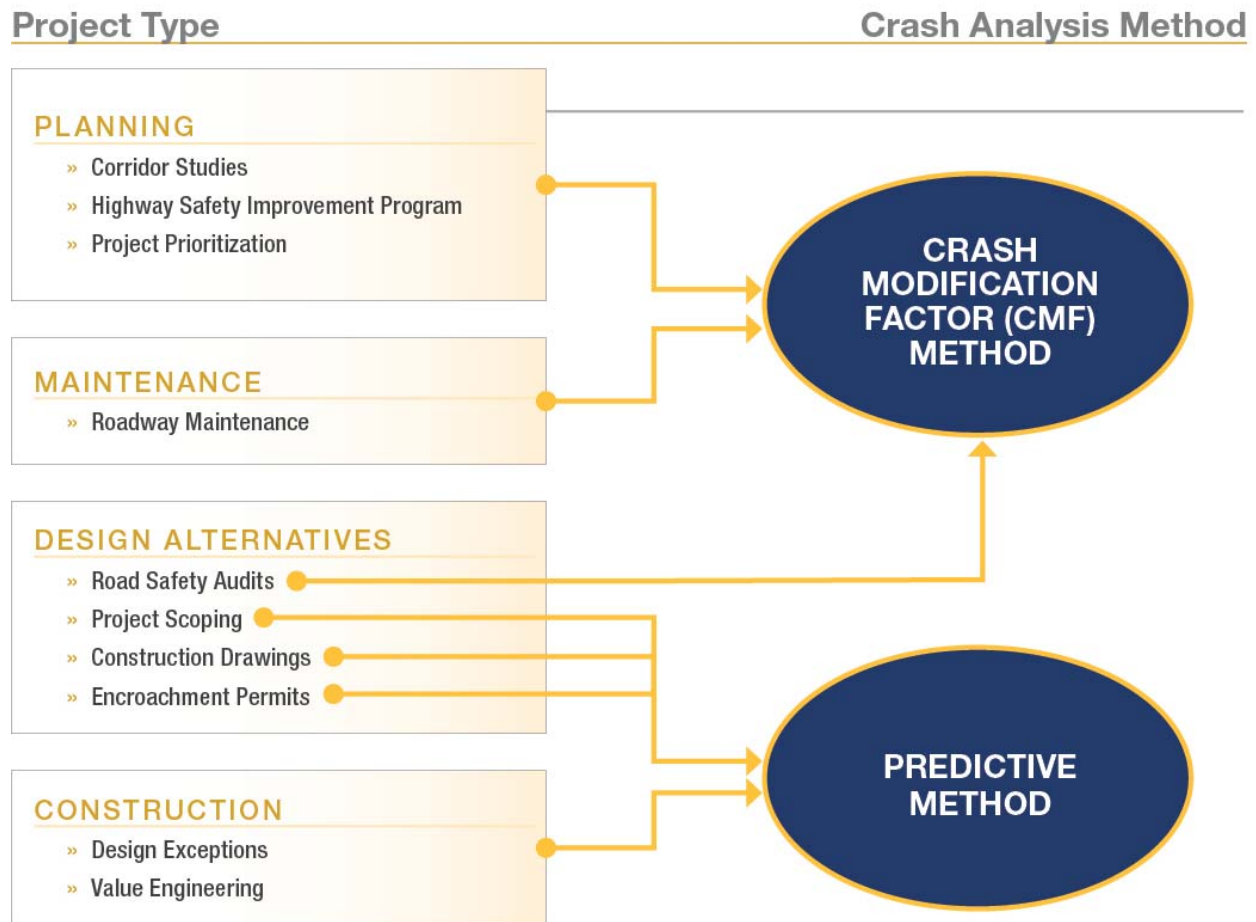


Figure 24 – Crash Analysis Method by Project Type



7.3.1.1. Crash Modification Factor Method

The CMF Method is found in Part D of the HSM. CMFs are defined as the ratio of effectiveness of one condition in comparison to another condition and represents the relative change in crash frequency due to a change in one specific condition. In simple terms, a CMF is a multiplicative factor used to compute the expected number of crashes after implementing a given countermeasure at a specific site. Countermeasures with CMFs less than one are expected to reduce crashes if applied, while those countermeasures with CMFs greater than one are expected to increase crashes. **Figure 25** defines CMFs.

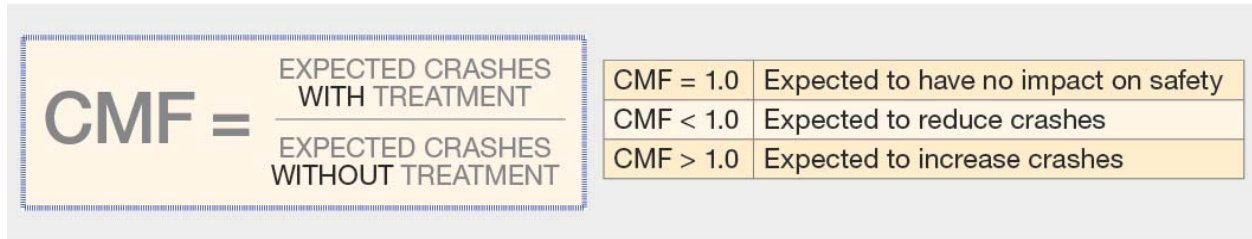


Figure 25 – Crash Modification Factor

The CMF Method is used to calculate the expected number of crashes by taking the observed number of crashes and multiplying those crashes by the applicable CMF at the proposed countermeasure. It is recommended that CMFs be applied to a minimum of three years of crash data for urban and suburban sites and five years of crash data for a rural site. **Figure 26** is a sample calculation of the CMF method with two CMFs being applied to a particular site. Also seen in **Figure 26** is a CRF. A CRF is similar to a CMF but stated in different terms. A CRF is defined as a percentage of crash reduction that might be expected after the implementation of a given countermeasures at a specific site. **Figure 27** shows how a CRF is calculated in relationship to a CMF.

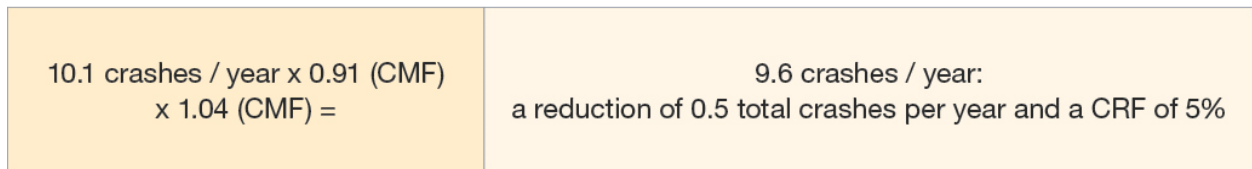


Figure 26 – CMF Method Sample Calculation

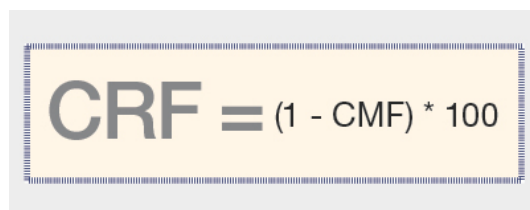


Figure 27 – CRF Calculation

Caution should be used in the selection of appropriate CMFs. The following guidance should be used in CMF selection:

- CMFs should be selected from the HSM Part D or from FHWA’s CMF Clearinghouse website (<http://www.cmfclearinghouse.org>).
- Read the countermeasure abstract to determine if the CMF is applicable to the proposed improvement.
- Only those Clearinghouse CMF’s with a four star rating or higher should be used in analysis.



- Be sure the selected CMF is applicable to the set of crash data being used for analysis. Some CMFs may only be applicable to a subset of the crash data.
- The application of multiple CMFs can overestimate the expected crash reduction. Unless each CMF addresses independent crash types, multiple CMFs should not be used. It is suggested that no more than three independent CMFs may be applied to a particular site.

7.3.1.2. Predictive Method

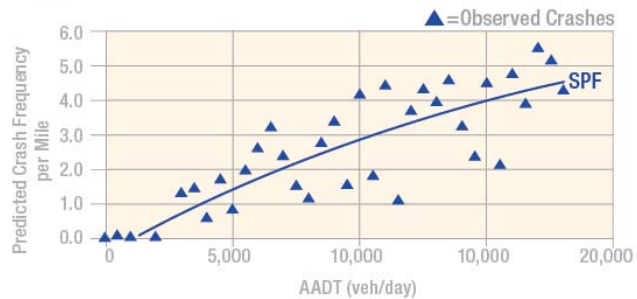
The Predictive Method is found in Part C of the HSM and is used to estimate the expected average crash frequency at a given site under specific geometric features and traffic volumes for both existing and future conditions. This is accomplished by dividing the roadway into individual “sites” of either homogenous roadway segments or intersections and estimating the expected average crash frequency at each site. The cumulative sum of expected average crash frequency at all sites becomes the expected average crash frequency of the entire facility or network. The Predictive Method can be used to evaluate and compare expected average crash frequencies in the following situations:

- Existing facilities under past and future traffic volumes
- Alternative design comparisons of an existing facility under past and future traffic volumes
- Design comparisons of a new facility with forecasted traffic volumes
- Estimating effectiveness of countermeasures after implementation
- Estimating effectiveness of proposed countermeasures prior to implementation on an existing facility

Crash estimates are done by estimating an average crash frequency using a Safety Performance Function (SPF), CMFs, and Calibration Factors (C). SPFs are statistically based models used to estimate the average crash frequency for a specific facility type with specific base conditions. When applying CMFs, only those CMFs that are specific to a particular SPF can be applied. A summary of the Predictive Method is provided in **Figure 28**. More detail on the Predictive Method can be found in Part C of the HSM.



SAFETY PERFORMANCE FUNCTION (SPF)



SPF CRASH MODIFICATION FACTOR

The crash predictions are calculated based on the particular roadway conditions for a homogenous site/segments specified by a SPF. These SPFs have particular CMFs associated with their development and are included in the HSM for that particular roadway type. All of the CMFs associated with a SPF in the HSM may be applied to the crash reduction calculations, unlike the CMF method, which is limited to three.

- » $CMF = \frac{\text{Expected crashes with treatment}}{\text{Expected crashes without treatment}}$
- » $CMF = 1.0$ = Expected to have no impact on safety
- » $CMF < 1.0$ = Expected to reduce crashes
- » $CMF > 1.0$ = Expected to increase crashes

CALIBRATION FACTOR

A **calibration factor (C)** is applied to adjust the estimated crashes from national data to local conditions by comparing observed crashes for 30 to 50 local sites and the crashes predicted from the national data. If a calibration factor is not available for specific SPF, a calibration factor of 1 should be used.

$$C = \frac{\sum \text{Observed Crashes (all sites)}}{\sum \text{Predicted Crashes (all sites)}}$$

EMPIRICAL BAYES WEIGHTING

The estimated crashes are further refined through a weighting process using the Empirical Bayes (EB) method.

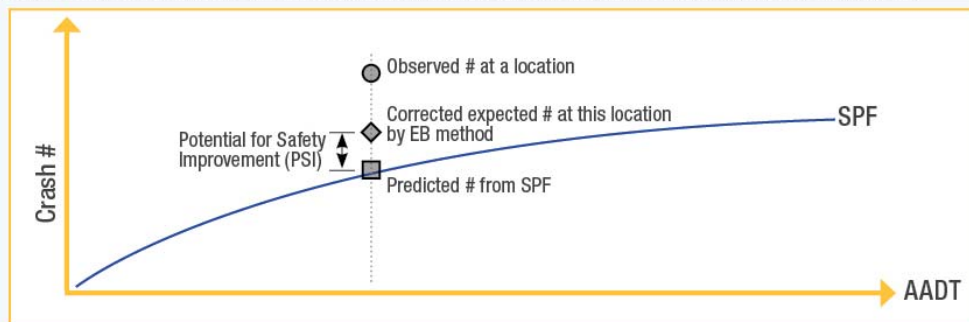


Figure 28 – Predictive Method Overview



7.3.1.3. Benefit-Cost Ratio (BCR)

A BCR analysis should be done as part of an alternative comparison. BCR is defined as the ratio of the present-value benefits of a project to the cost of implementing the project. The BCR is calculated differently from the CMF Method and the Predictive Method. The CMF Method includes benefits based on the reduction of observed crashes by a CRF while the Predictive Method assigns benefit based on the reduction of estimated future crashes. The benefit is calculated by multiplying the number of estimated crashes reduced in each crash severity type by the societal cost associated with each crash severity. **Figure 29** shows the BCR calculation.

$$BCR = \frac{PV \text{ BENEFITS}}{PV \text{ COSTS}}$$

PV BENEFITS = Present value of project benefits
 PV COSTS = Present value of project costs

Figure 29 – BCR Calculation

7.3.2. Project Selection and Prioritization Process

During project selection, a safety evaluation should be performed to determine the potential impact of the project on safety. Incorporating safety into project selection and prioritization does not mean that the project or project alternative with the largest reduction in crashes must be selected. The quantification of safety impacts allows for more educated decisions to be made in project selection and prioritization. Once the safety impact of projects is quantified, there are many alternatives for incorporating this information into project selection and prioritization process.

The RTC will be updating their Regional Transportation Plan in the coming years and will determine the appropriate way to incorporate this information into the project selection and prioritization process. The following are basic methods for incorporating safety that are based on crash history and not the impacts of the project on safety:

- Crash rates
- Crashes per mile
- Crash Severity index

All of the methods above are based on crash history and do not take the project’s impact on safety into consideration. The following are potential alternatives that incorporate the predicted impact of the project on safety:

- Inclusion of focus areas and high priority strategies addressing at least one CEA (Yes/No for particular weight)
- Crash rate reduction
- Crashes reduction per mile
- Reduction in Crash Severity index
 - Has benefit of more emphasis on fatal and serious injury crashes. Can also be done based on vehicle miles traveled or per mile.
- Potential for safety improvement (Observed crashes compared to predicted crashes)

7.4. Funding

The primary intent of the TSP is to develop recommended policies and strategies that can be incorporated into all transportation projects in Southern Nevada. As stated in **Section 7.1.2**, the selection and



prioritization of projects for all transportation funding should assess a project's incorporation of safety strategies included in the TSP and the predicted safety impacts of a project. The following subsections are summaries of information from the FHWA website on transportation funding that can be used towards the implementation of this plan.

7.4.1. MAP-21 Metropolitan Planning Organization Funding:

The metropolitan planning process establishes a cooperative, continuous, and comprehensive framework for making transportation investment decisions in metropolitan areas. Program oversight is a joint FHWA/Federal Transit Administration responsibility.

As discussed previously, the RTC will fund this plan through incorporating the recommendations into the following:

7.4.1.1. Performance-based planning

- MPOs will be required to establish and use a performance-based approach to transportation decision making and development of transportation plans
- Each MPO will establish performance targets that address the MAP-21 surface transportation performance measures
- The performance targets selected by an MPO will be coordinated with the relevant State to ensure consistency to the maximum extent practicable
- Performance targets selected by an MPO will be coordinated with public transportation providers, to the maximum extent practicable, to ensure consistency with sections 5326(c) and 5329(d) of title 49
- MPOs are required to integrate other performance-based transportation plans or processes into the metropolitan transportation planning process

7.4.1.2. Long Range Transportation Plan (Plan)

- The Plan will include a description of the performance measures and performance targets used in assessing the performance of the transportation system
- The Plan will also include a system performance report and subsequent updates evaluating the condition and performance of the transportation system with respect to the established performance targets
- MPOs have the option of developing multiple scenarios for consideration during the development of the Plan

7.4.1.3. Transportation Improvement Program (TIP)

- The TIP will include, to the maximum extent practicable, a description of the anticipated effect of the TIP toward achieving the performance targets established in the Plan, linking investment priorities to those performance targets.

7.4.2. MAP-21 Highway Safety Improvement Program (HSIP)

These funds are administered by NDOT for safety infrastructure improvements and can be flexed to address behavioral safety. NDOT is currently flexing HSIP funds to the Office of Traffic Safety for behavioral safety campaigns in support of the behavioral safety strategies identified in Nevada's SHSP.

A highway safety improvement project is any strategy, activity, or project on a public road that is consistent with the data-driven State SHSP and corrects or improves a hazardous road location or feature or addresses a highway safety problem. MAP-21 provides an example list of eligible activities, but HSIP projects are not limited to those on the list.

Workforce development, training, and education activities are also an eligible use of HSIP funds.



7.4.3. MAP-21 Surface Transportation Program (STP)

The STP provides flexible funding that may be used by States and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.

From the State's STP apportionment, the following sums are to be set aside:

- A proportionate share of funds for the State's Transportation Alternatives program (See "Apportionment" fact sheet for a description of this calculation)
- 2% for State Planning and Research
- For off-system bridges, an amount not less than 15% of the State's FY 2009 Highway Bridge Program apportionment (may not be taken from amounts suballocated based on population)

STP eligibilities are described as follows:

- Construction, reconstruction, rehabilitation, resurfacing, restoration, preservation, or operational improvements for highways, including designated routes of the Appalachian Development Highway System (ADHS) and local access roads under 40 USC 14501
- Replacement, rehabilitation, preservation, protection, and anti-icing/deicing for bridges and tunnels on any public road, including construction or reconstruction necessary to accommodate other modes
- Construction of new bridges and tunnels on a Federal-aid highway. Inspection and evaluation of bridges, tunnels and other highway assets as well as training for bridge and tunnel inspectors
- Capital costs for transit projects eligible for assistance under chapter 53 of title 49, including vehicles and facilities used to provide intercity passenger bus service
- Carpool projects, fringe and corridor parking facilities and programs, including electric and natural gas vehicle charging infrastructure, bicycle transportation and pedestrian walkways, and ADA sidewalk modification
- Highway and transit safety infrastructure improvements and programs, installation of safety barriers and nets on bridges, hazard eliminations, mitigation of hazards caused by wildlife, railway-highway grade crossings
- Highway and transit research, development, technology transfer
- Capital and operating costs for traffic monitoring, management and control facilities and programs, including advanced truck stop electrification
- Surface transportation planning
- Transportation alternatives --newly defined, includes most transportation enhancement eligibilities (See separate "Transportation Alternatives" fact sheet)
- Transportation control measures
- Development and establishment of management systems
- Intersections with high crash rates or levels of congestion
- Infrastructure-based Intelligent Transportation Systems (ITS) capital improvements
- Congestion pricing projects and strategies, including electric toll collection and travel demand management strategies and programs
- Recreational trails projects
- Truck parking facilities
- Development and implementation of State asset management plan for the National Highway System (NHS), and similar activities related to the development and implementation of a performance based management program for other public roads



- Construction and operational improvements for a minor collector in the same corridor and in proximity to an NHS route if the improvement is more cost-effective (as determined by a benefit-cost analysis) than an NHS improvement and will enhance NHS level of service and regional traffic flow

Workforce development, training, and education activities are also an eligible use of STP funds.

In general, STP projects may not be on local or rural minor collectors. However, there are a number of exceptions to this requirement. A State may use up to 15% of its rural suballocation on minor collectors. Other exceptions include: ADHS local access roads, bridge and tunnel replacement and rehabilitation (not new construction), bridge and tunnel inspection, carpool projects, fringe/corridor parking facilities, bike/pedestrian walkways, safety infrastructure, transportation alternatives, recreational trails, port terminal modifications, minor collectors in NHS corridors, and the two new bridge eligibilities brought over from the HBP.

7.4.4. MAP-21 Congestion Mitigation and Air Quality Improvement Program (CMAQ)

The CMAQ program is continued in MAP-21 to provide a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas).

Funds may be used for transportation projects likely to contribute to the attainment or maintenance of a national ambient air quality standard, with a high level of effectiveness in reducing air pollution, and be included in the MPO's current transportation plan and TIP or the current state TIP in areas without an MPO.

Some specific eligible activities are described as follows:

- Establishment or operation of a traffic monitoring, management, and control facility, including advanced truck stop electrification systems, if it contributes to attainment of an air quality standard
- Projects that improve traffic flow, including projects to improve signalization, construct High Occupancy Vehicle lanes, improve intersections, add turning lanes, improve transportation systems management and operations that mitigate congestion and improve air quality, and implement ITS and other CMAQ-eligible projects, including projects to improve incident and emergency response or improve mobility, such as real-time traffic, transit, and multimodal traveler information
- Purchase of integrated, interoperable emergency communications equipment
- Projects that shift traffic demand to nonpeak hours or other transportation modes, increase vehicle occupancy rates, or otherwise reduce demand

Workforce development, training, and education activities are also an eligible use of CMAQ funds.

7.4.5. MAP-21 Railway-Highway Crossings Program

This program funds safety improvements to reduce the number of fatalities, injuries, and crashes at public grade crossings.

Many of the requirements of the program remain unchanged, including:

- Each State is required to conduct and systematically maintain a survey of all highways to identify those railroad crossings that may require separation, relocation, or protective devices, and establish and implement a schedule of projects for this purpose. At a minimum this schedule is to provide signs for all railway-highway crossings
- A railroad participating in a hazard elimination project is responsible for compensating the State transportation department for the net benefit to the railroad of the project. The net benefit is determined by the Secretary of Transportation, but may not exceed 10 percent of the project cost



- A State may use its railway-highway crossings funds to make an incentive payment to local government for a public at-grade crossing closure, as long as the railroad owning the track also makes an incentive payment
- *National Crossing Inventory* – Each State is required to annually update information in the DOT crossing inventory database, including information about warning devices and signage, for each public crossing located within its borders

7.4.6. MAP-21 Section 402 State and Community Highway Safety Grant Program

The program is jointly administered by the National Highway Traffic Safety Administration (NHTSA) and the FHWA at the federal level and by the State Highway Safety Offices at the state level. The Department of Public Safety Office of Traffic Safety administers the program in Nevada.

The Section 402 program provides grants to states to improve driver behavior and reduce deaths and injuries from motor vehicle-related crashes. Under MAP-21, states are required to have a highway safety program that is approved by the Secretary. Funds can be spent in accordance with national guidelines for programs to:

- Reduce impaired driving
- Reduce speeding
- Encourage the use of occupant protection
- Improve motorcycle safety
- Improve pedestrian and bicycle safety
- Reduce school bus deaths and injuries
- Reduce crashes from unsafe driving behavior
- Improve enforcement of traffic safety laws
- Improve driver performance
- Improve traffic records
- Enhance emergency services



APPENDIX A

CRASH CHARACTERISTICS ANALYSIS



CRASH CHARACTERISTICS

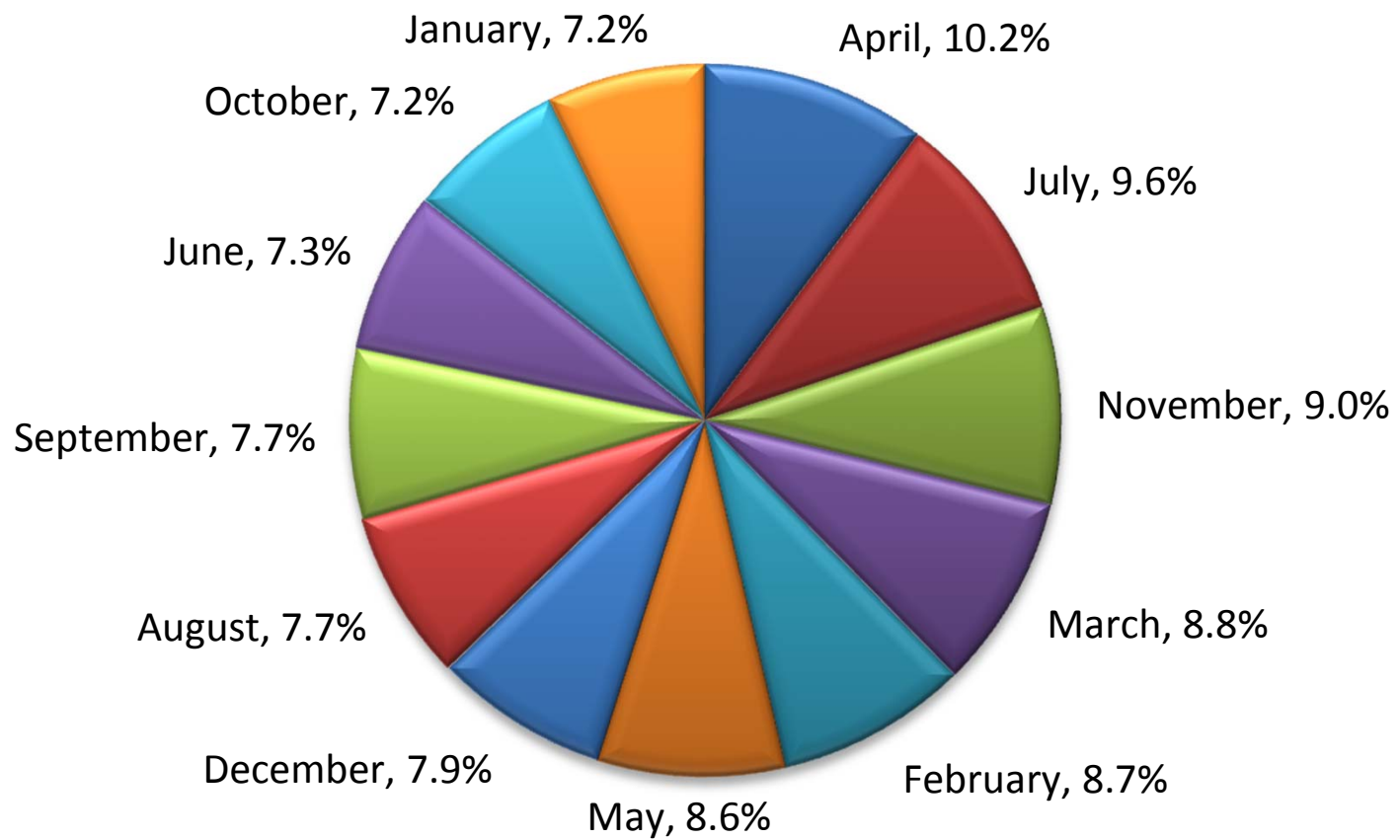
GENERAL ANALYSIS

General Analysis
Month
2008-2012

	Total Crashes			Fatal Crashes					KA Crashes		
	#	%	Rank	#	%	Rank	National	%	#	%	Rank
Average Annual Crashes	41,737	100.0%		147	100.0%		30,800	100%	975	100.0%	
April	3,560	8.5%	5	15	10.2%	1	2,429	7.9%	92	9.4%	1
July	3,336	8.0%	11	14	9.6%	2	2,821	9.2%	75	7.7%	10
November	3,462	8.3%	6	13	9.0%	3	2,575	8.4%	80	8.2%	8
March	3,653	8.8%	1	13	8.8%	4	2,484	8.1%	87	8.9%	3
February	3,320	8.0%	12	13	8.7%	5	2,122	6.9%	77	7.9%	9
May	3,583	8.6%	4	13	8.6%	6	2,663	8.6%	87	8.9%	2
December	3,635	8.7%	2	12	7.9%	7	2,480	8.1%	73	7.5%	12
August	3,421	8.2%	7	11	7.7%	8	2,838	9.2%	84	8.7%	4
September	3,382	8.1%	9	11	7.7%	8	2,709	8.8%	83	8.5%	6
June	3,400	8.1%	8	11	7.3%	10	2,776	9.0%	80	8.2%	7
October	3,608	8.6%	3	11	7.2%	11	2,628	8.5%	83	8.6%	5
January	3,378	8.1%	10	11	7.2%	11	2,275	7.4%	74	7.6%	11

**Analysis done with the Clark County File*

Fatal Crashes By Month 2008-2012

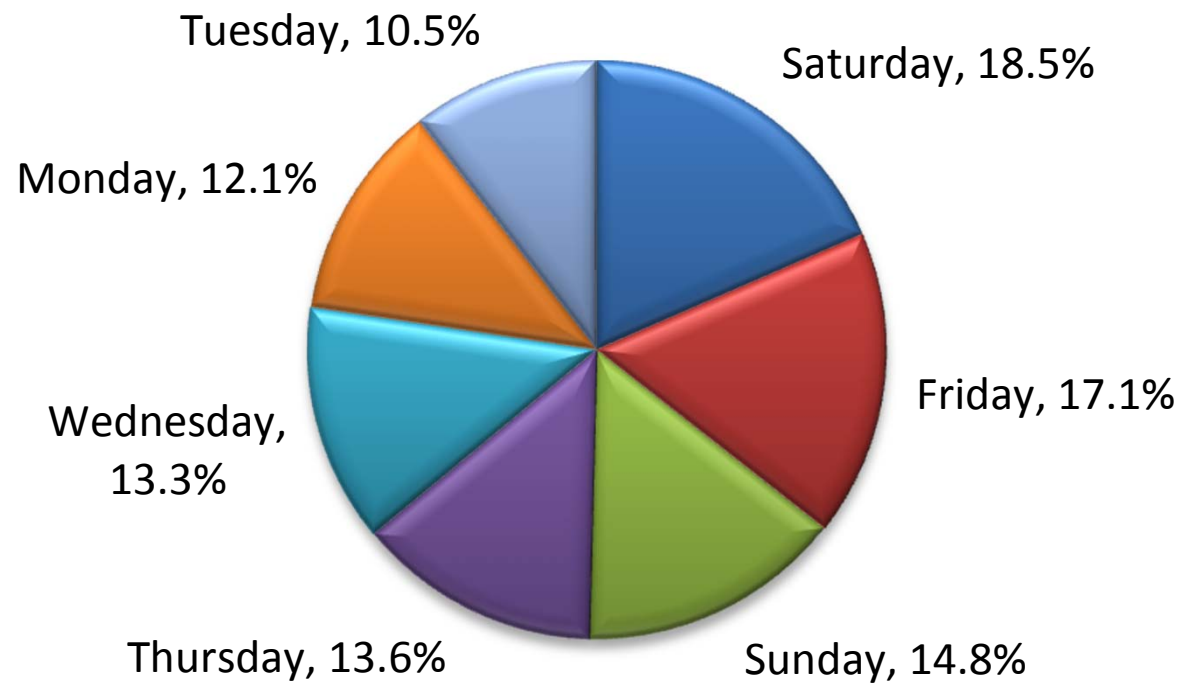


General Analysis
Day of Week
2008-2012

	Total Crashes			Fatal Crashes					KA Crashes		
	#	%	Rank	#	%	Rank	National	%	#	%	Rank
Average Annual Crashes	41,737	100.0%		148	100.0%		30,800	100.0%	975	100.0%	
Saturday	5,517	13.2%	6	27	18.5%	1	5,632	18.3%	158	16.2%	2
Friday	6,883	16.5%	1	25	17.1%	2	4,660	15.1%	172	17.7%	1
Sunday	4,394	10.5%	7	22	14.8%	3	5,017	16.3%	118	12.1%	7
Thursday	6,269	15.0%	3	20	13.6%	4	3,990	13.0%	142	14.6%	4
Wednesday	6,385	15.3%	2	20	13.3%	5	3,899	12.7%	145	14.8%	3
Monday	6,078	14.6%	5	18	12.1%	6	3,889	12.6%	119	12.2%	6
Tuesday	6,212	14.9%	4	16	10.5%	7	3,713	12.1%	121	12.4%	5

**Analysis done with the Accident File*

Fatal Crashes By Day Of Week 2008-2012

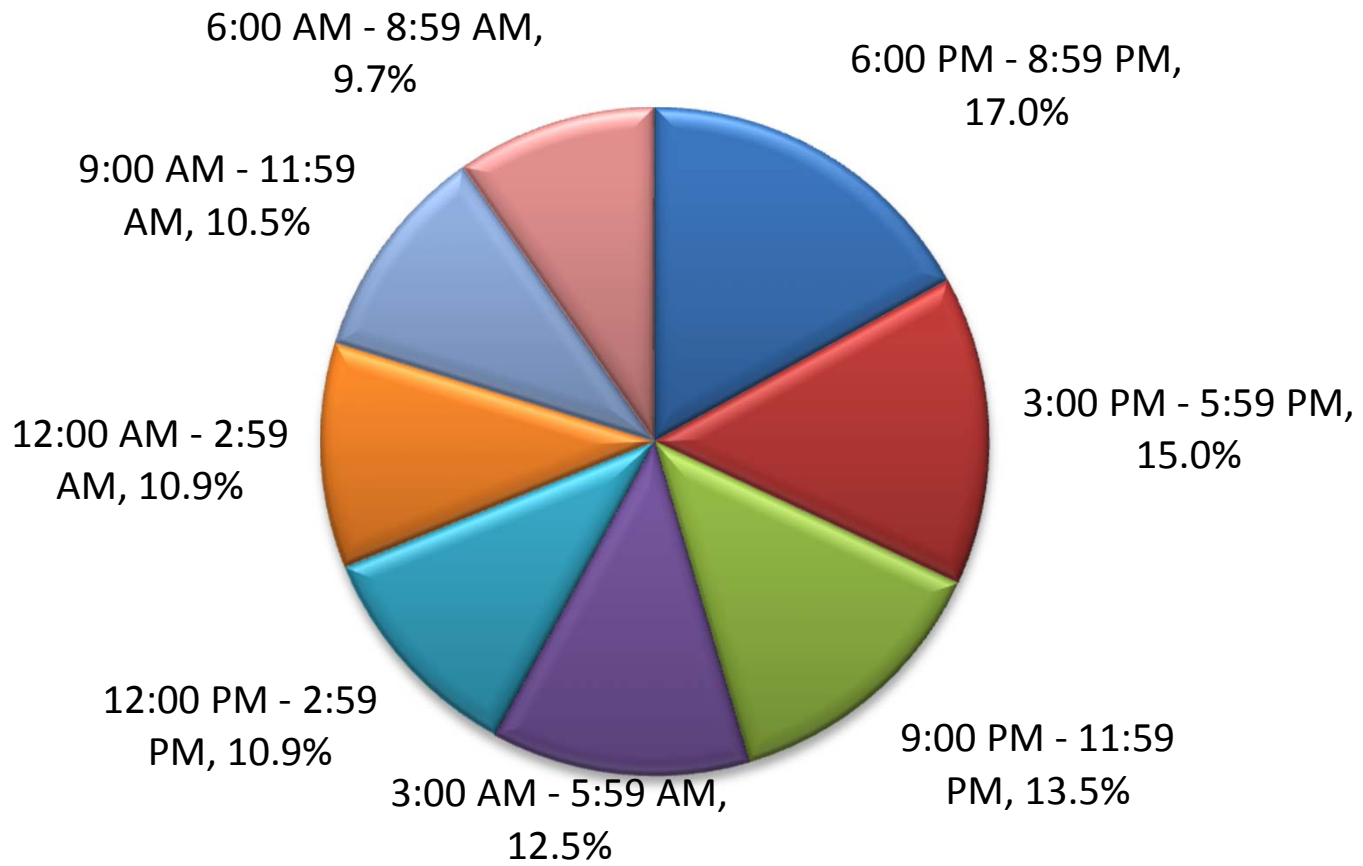


General Analysis
Hour of Day
2008-2012

	Total Crashes			Fatal Crashes					KA Crashes		
	#	%	Rank	#	%	Rank	National	%	#	%	Rank
Average Annual Crashes	41,737	100.0%		148	100.0%		30,800		975	100.0%	
6:00 PM - 8:59 PM	5,379	12.9%	4	25	17.0%	1	5,003	16.2%	168	17.2%	2
3:00 PM - 5:59 PM	10,575	25.3%	1	22	15.0%	2	4,964	16.1%	216	22.1%	1
9:00 PM - 11:59 PM	3,219	7.7%	6	20	13.5%	3	4,310	14.0%	96	9.8%	4
3:00 AM - 5:59 AM	1,769	4.2%	8	19	12.5%	4	2,560	8.3%	74	7.6%	7
12:00 PM - 2:59 PM	8,381	20.1%	2	16	10.9%	5	3,973	12.9%	167	17.2%	3
12:00 AM - 2:59 AM	2,040	4.9%	7	16	10.9%	5	3,817	12.4%	69	7.1%	8
9:00 AM - 11:59 AM	5,468	13.1%	3	16	10.5%	7	2,982	9.7%	95	9.7%	5
6:00 AM - 8:59 AM	4,906	11.8%	5	14	9.7%	8	2,950	9.6%	90	9.2%	6

**Analysis done with the Accident File*

Fatal Crashes By Hour Of Day 2008-2012

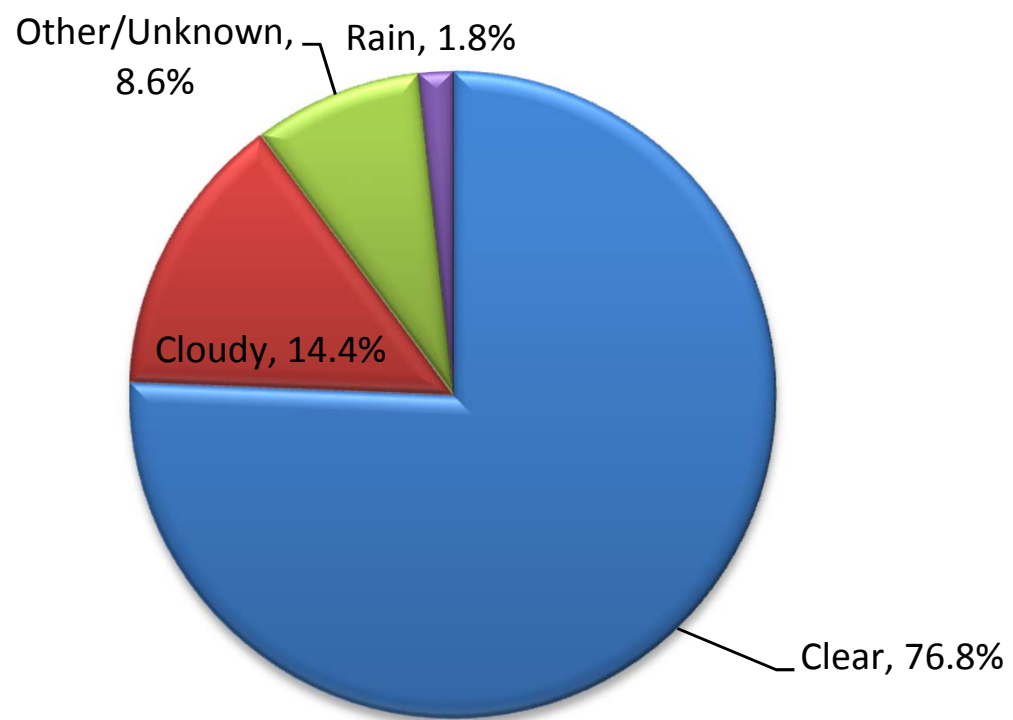


**General Analysis
Weather Factors
2008-2012**

	Total Crashes			Fatal Crashes					KA Crashes		
	#	%	Rank	#	%	Rank	National	%	#	%	Rank
Average Annual Crashes	41,738	100.0%		147	100.0%		30,800	100.0%	975	100.0%	
Clear	35,436	84.9%	1	113	76.8%	1	27,598	89.6%	818	83.9%	1
Cloudy	4,884	11.7%	2	21	14.4%	2	NA	NA	123	12.6%	2
Other/Unknown	326	0.8%	4	12	8.3%	3	NA	NA	19	1.9%	4
Rain	1,637	3.9%	3	3	1.8%	4	2,036	6.6%	26	2.6%	3
Snow, Hail, or Sleet	132	0.3%	5	0	0.1%	5	428	1.4%	4	0.4%	5
Severe Crosswinds	113	0.3%	6	0	0.1%	5	NA	NA	2	0.2%	6

**Analysis done with the Clark County File*

Fatal Crashes By Weather 2008-2012

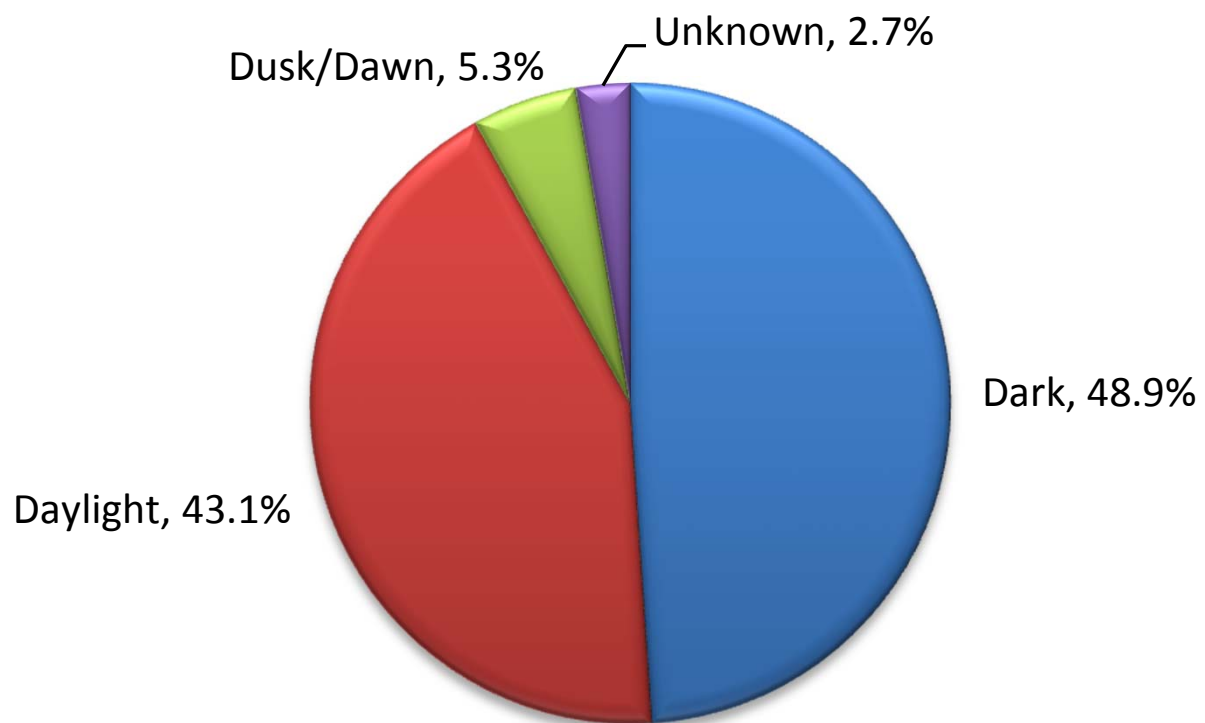


General Analysis
Lighting
2008-2012

	Total Crashes			Fatal Crashes					KA Crashes		
	#	%	Rank	#	%	Rank	National	%	#	%	Rank
Average Annual Crashes	41,738	100.0%		147	100.0%		30,800	100.0%	975	100.0%	
Dark	11,318	27.1%	2	72	48.9%	1	14,510	47.1%	365	37.4%	2
Daylight	27,726	66.4%	1	63	43.1%	2	14,875	48.3%	553	56.7%	1
Dusk/Dawn	1,329	3.2%	4	8	5.3%	3	1,254	4.1%	49	5.1%	3
Unknown	1,365	3.3%	3	4	2.7%	4	161	0.5%	8	0.8%	4

**Analysis done with the Clark County File*

Fatal Crashes By Lighting 2008-2012

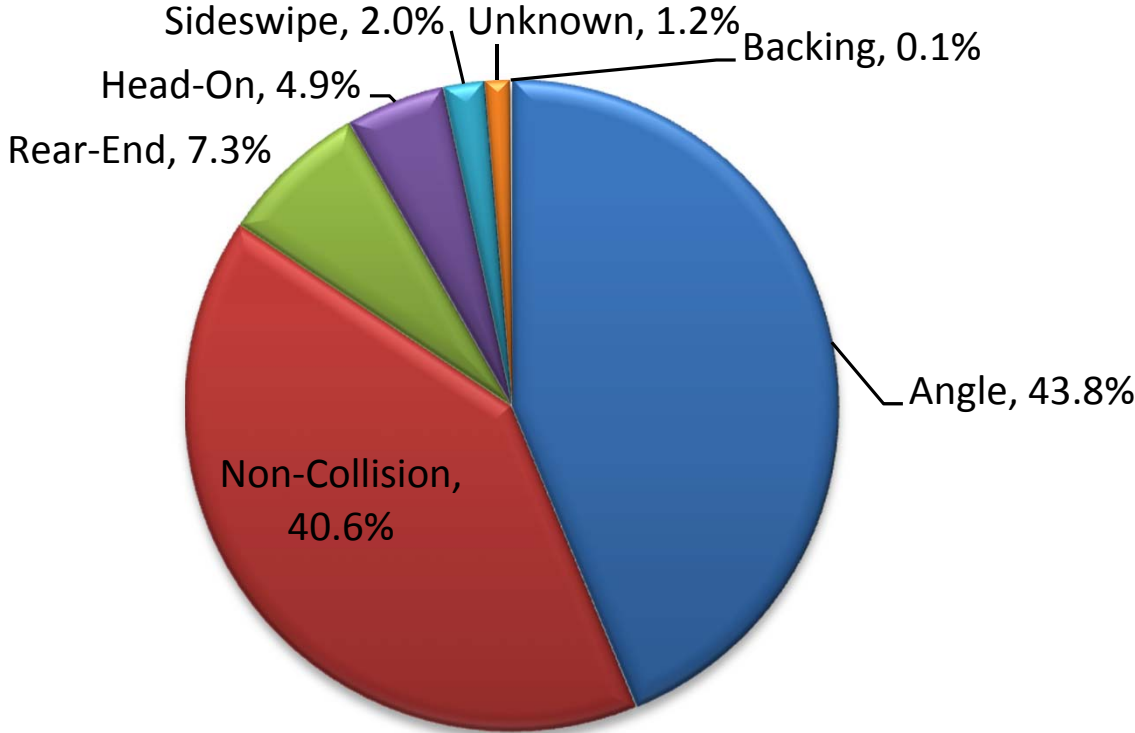


General Analysis
Crash Type
2008-2012

	Total Crashes			Fatal Crashes					KA Crashes		
	#	%	Rank	#	%	Rank	National	%	#	%	Rank
Average Annual Crashes	41,738	100.0%		147	100.0%		30,800	100%	975	100.0%	
Angle	16,237	38.9%	2	64	43.8%	1	5,359	17.4%	525	53.8%	1
Non-Collision	4,211	10.1%	3	60	40.6%	2	13,719	44.5%	205	21.0%	2
Rear-End	17,069	40.9%	1	11	7.3%	3	1,824	5.9%	144	14.8%	3
Head-On	360	0.9%	6	7	4.9%	4	2,895	9.4%	29	3.0%	4
Sideswipe	3,168	7.6%	4	3	2.0%	5	979	3.2%	24	2.5%	5
Unknown	142	0.3%	7	2	1.2%	6	NA	NA	8	0.8%	6
Backing	516	1.2%	5	0	0.1%	7	NA	NA	3	0.3%	7
Rear-To-Rear	35	0.1%	8	0	0.0%	8	NA	NA	0	0.0%	8

**Analysis done with the Clark County File*

Fatal Crashes By Crash Type 2008-2012





CRASH CHARACTERISTICS

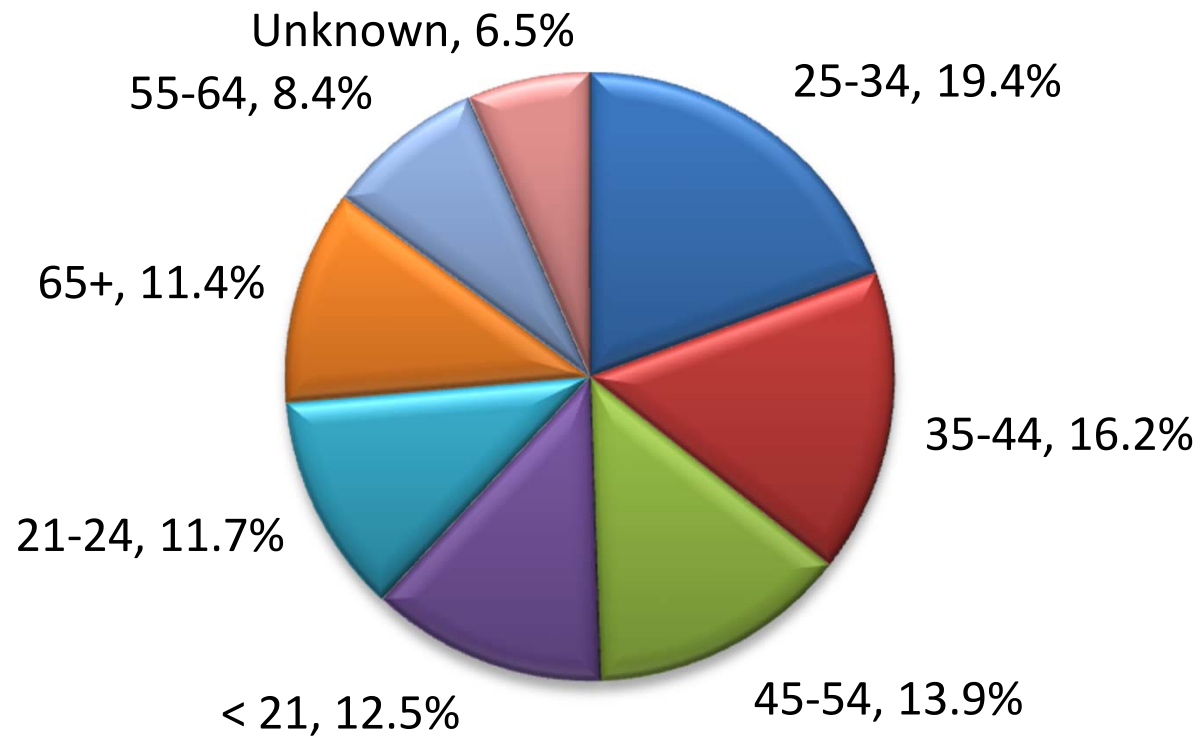
DRIVER ANALYSIS

Driver Analysis
Driver #1 Age
2008-2012

	Total Crashes			Fatal Crashes					KA Crashes		
	#	%	Rank	#	%	Rank	National	%	#	%	Rank
<i>Average Annual Crashes</i>	41,738	100.0%		147	100.0%		33,561	100.0%	975	100.0%	
25-34	9,385	22.5%	1	29	19.4%	1	5,902	17.6%	220	22.6%	1
35-44	6,781	16.2%	2	24	16.2%	2	4,534	13.5%	152	15.6%	2
45-54	5,324	12.8%	3	20	13.9%	3	5,184	15.4%	137	14.1%	3
< 21	5,034	12.1%	4	18	12.5%	4	4,687	14.0%	117	12.0%	4
21-24	4,879	11.7%	5	17	11.7%	5	3,436	10.2%	115	11.8%	5
65+	2,943	7.1%	8	17	11.4%	6	5,560	16.6%	88	9.0%	6
55-64	3,452	8.3%	7	12	8.4%	7	4,297	12.8%	88	9.0%	6
Unknown	3,938	9.4%	6	10	6.5%	8	61	0.2%	56	5.8%	8

**Analysis done with the Clark County File*

Fatal Crashes By Age 2008-2012

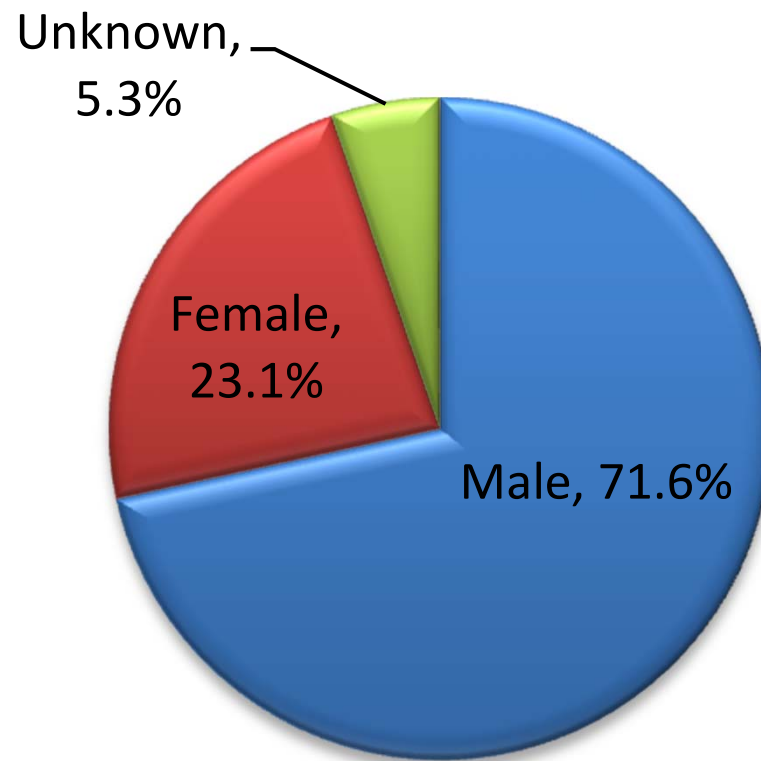


Driver Analysis
Gender
2008-2012

	Total Crashes			Fatal Crashes					KA Crashes		
	#	%	Rank	#	%	Rank	National	%	#	%	Rank
<i>Average Annual Crashes</i>	41,738	100.0%		147	100.0%		33,561	100.0%	975	100.0%	
Male	23,515	56.3%	1	105	71.6%	1	23,808	70.9%	620	63.6%	1
<i>Female</i>	15,128	36.2%	2	34	23.1%	2	9,733	29.0%	308	31.6%	2
Unknown	3,095	7.4%	3	8	5.3%	3	20	0.1%	47	4.8%	3

**Analysis done with the Clark County File*

Fatal Crashes By Gender 2008-2012





CRASH CHARACTERISTICS

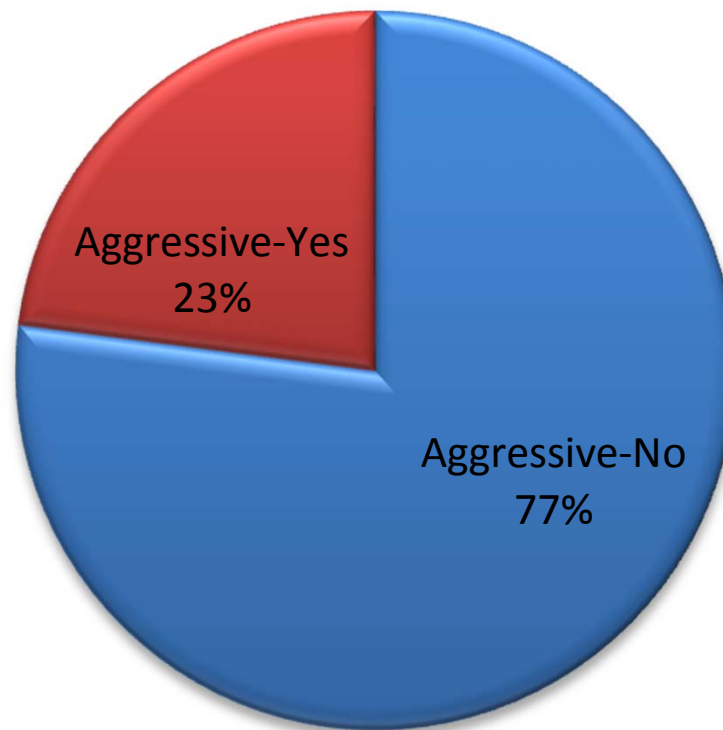
DRIVER BEHAVIOR ANALYSIS

Driver Behavior Analysis
Aggressive Driving
2008-2012

	Total Crashes			Fatal Crashes			KA Crashes		
	#	%	Rank	#	%	Rank	#	%	Rank
<i>Average Annual Crashes</i>	41,738	100.0%		147	100.0%		975	100.0%	
Aggressive-No	31,610	75.7%	1	113	77.0%	1	834	85.6%	1
Aggressive-Yes	10,128	24.3%	2	34	23.0%	2	141	14.4%	2

**Analysis done with the Clark County File*

Fatal Crashes By Aggressive Driver 2008-2012

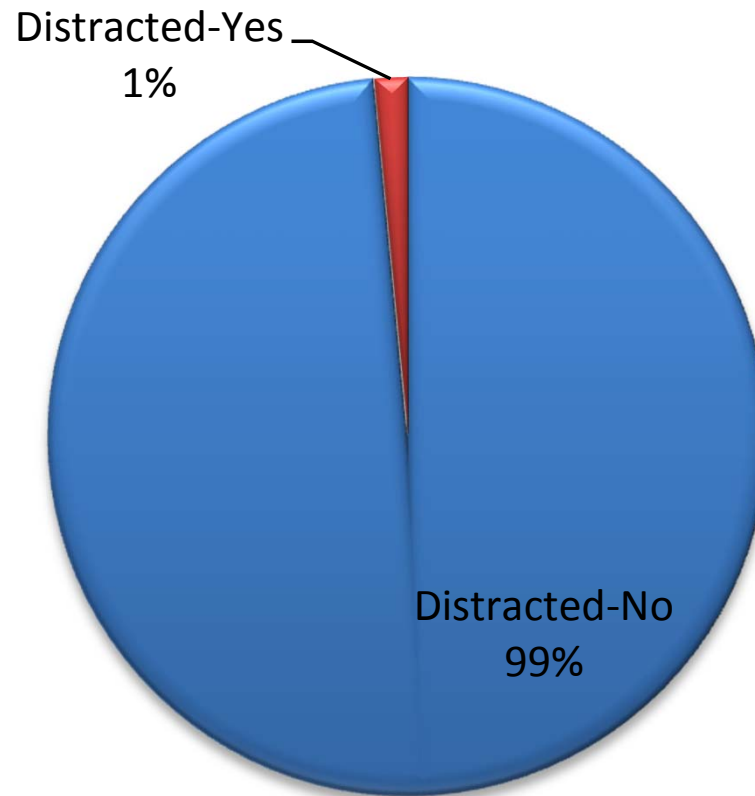


Driver Behavior Analysis
Distracted Driving
 2008-2012

	Total Crashes			Fatal Crashes			KA Crashes		
	#	%	Rank	#	%	Rank	#	%	Rank
<i>Average Annual Crashes</i>	41,738	100.0%		147	100.0%		975	100.0%	
Distracted-No	39,329	94.2%	1	145	98.5%	1	933	95.7%	1
Distracted-Yes	2,409	5.8%	2	2	1.5%	2	42	4.3%	2

**Analysis done with the Clark County File*

Fatal Crashes By Distracted Driver 2008-2012

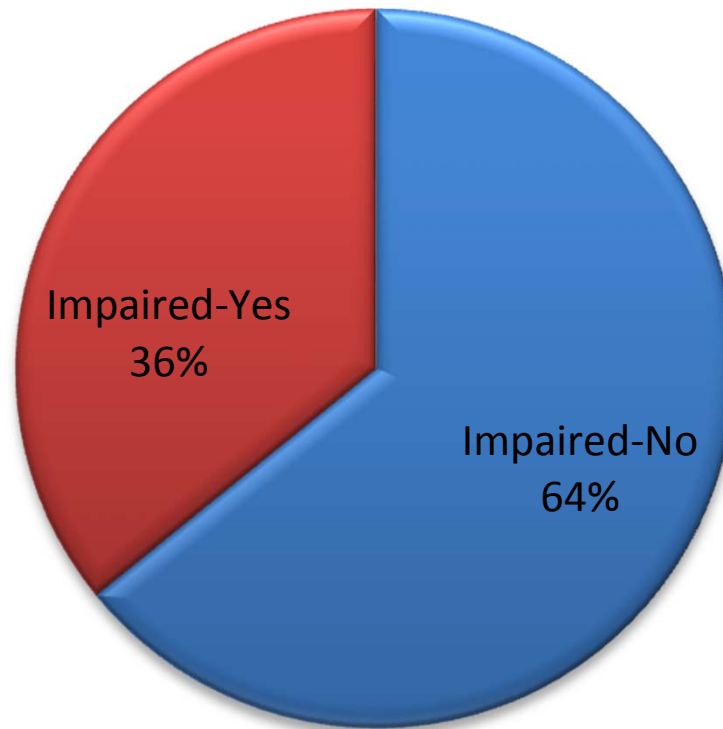


Driver Behavior Analysis
Impaired Driving
2008-2012

	Total Crashes			Fatal Crashes			KA Crashes		
	#	%	Rank	#	%	Rank	#	%	Rank
<i>Average Annual Crashes</i>	41,738	100.0%		147	100.0%		975	100.0%	
Impaired-No	38,158	91.4%	1	94	64.1%	1	758	77.8%	1
Impaired-Yes	3,580	8.6%	2	53	35.9%	2	216	22.2%	2

**Analysis done with the Clark County File*

Fatal Crashes By Impaired Driver 2008-2012



Driver Behavior Analysis

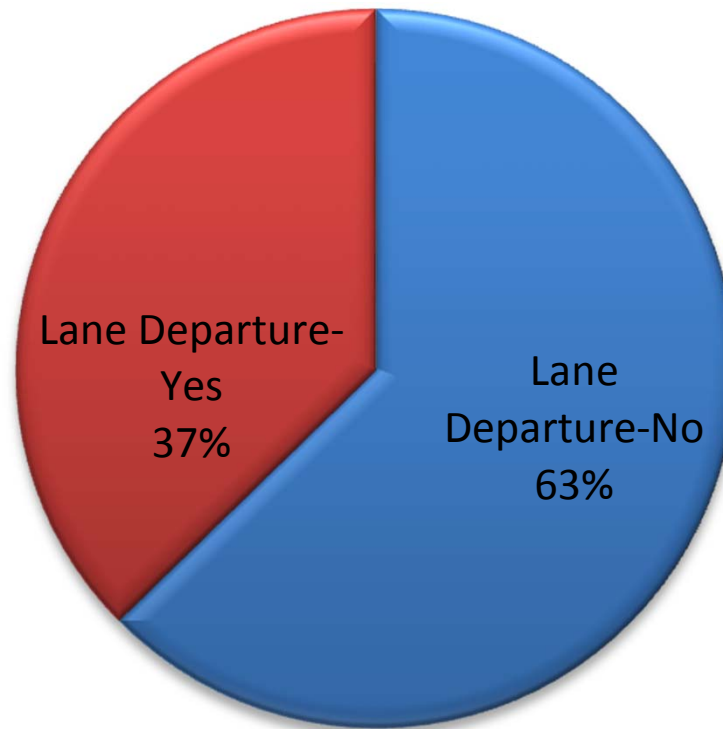
Lane Departure

2008-2012

	Total Crashes			Fatal Crashes			KA Crashes		
	#	%	Rank	#	%	Rank	#	%	Rank
<i>Average Annual Crashes</i>	41,738	100.0%		147	100.0%		975	100.0%	
Lane Departure-No	35,794	85.8%	1	92	62.6%	1	733	75.2%	1
Lane Departure-Yes	5,944	14.2%	2	55	37.4%	2	242	24.8%	2

**Analysis done with the Clark County File*

Fatal Crashes By Lane Departure 2008-2012





CRASH CHARACTERISTICS

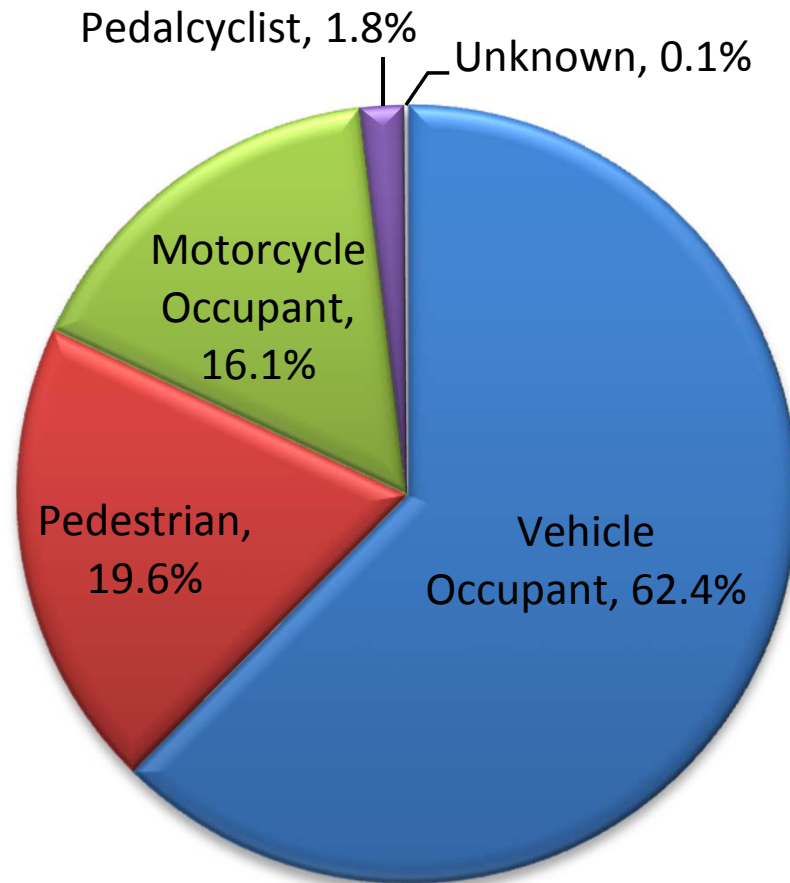
PERSON ANALYSIS

Person Analysis
Road User
2008-2012

	Total Crashes			Fatal Crashes					KA Crashes		
	#	%	Rank	#	%	Rank	National	%	#	%	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980	100.0%		187	100.0%		33,561	100.0%	1,210	100.0%	
Vehicle Occupant	115,684	98.1%	1	117	62.4%	1	22,912	68.3%	820	67.8%	1
Pedestrian	673	0.6%	3	37	19.6%	2	4,743	14.1%	152	12.6%	3
Motorcycle Occupant	1,075	0.9%	2	30	16.1%	3	4,957	14.8%	179	14.8%	2
Pedalcyclist	416	0.4%	4	3	1.8%	4	726	2.2%	48	4.0%	4
Unknown	131	0.1%	5	0	0.1%	5	223	0.7%	10	0.8%	5

**Analysis done with the Person File*

Fatal Crashes by Road User 2008-2012





CRASH CHARACTERISTICS

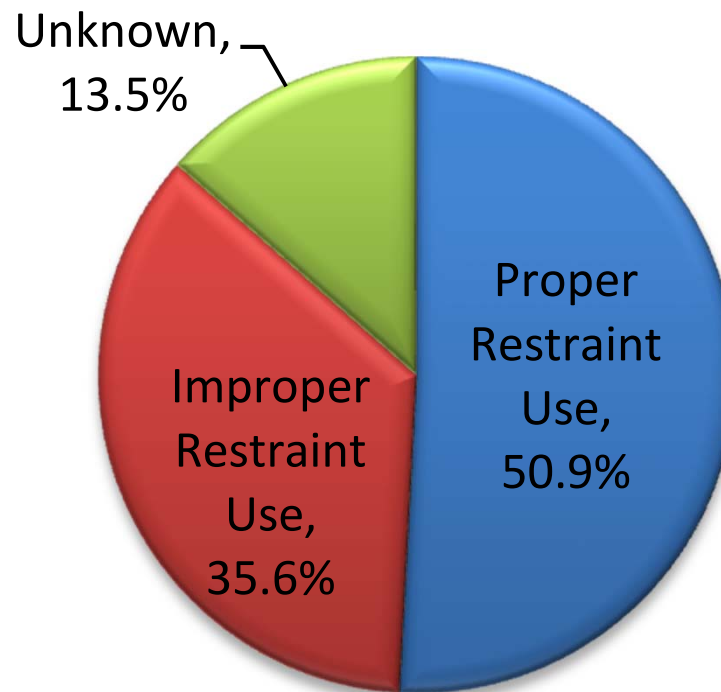
PERSON BEHAVIOR ANALYSIS

Person Behavior Analysis
Vehicle Occupant Restraint Use
2008-2012

	Total Crashes			Fatal Crashes						KA Crashes		
	#	%	Rank	#	%	% of Total	Rank	National	%	#	%	Rank
Average Annual Persons Involved in a Crash	117,980			187		100.0%				1,210	(100%)	
Average Annual Vehicle Occupants Involved in a Crash	115,684	100.0%		117	100.0%	62.5%		56,790	100.0%	820	100.0%	
Proper Restraint Use	105,797	91.5%	1	59	50.9%	31.8%	1	32,662	57.5%	568	69.3%	1
Improper Restraint Use	2,816	2.4%	3	42	35.6%	22.2%	2	19,730	34.7%	173	21.0%	2
Unknown	7,071	6.1%	2	16	13.5%	8.4%	3	4,398	7.7%	79	9.7%	3

**Analysis done with the Person File*

Fatal Crashes By Restraint Use 2008-2012

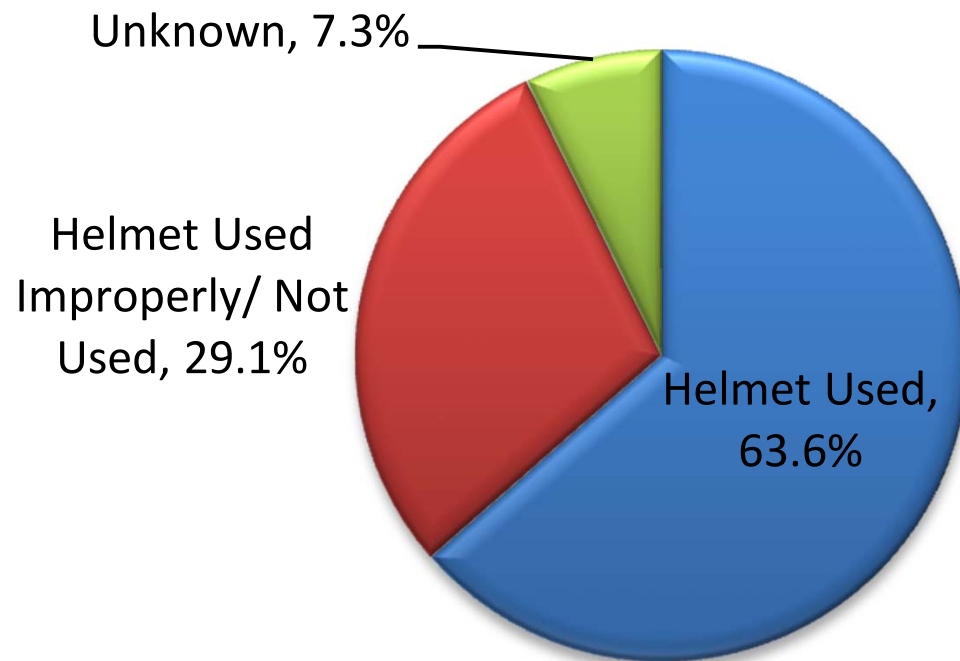


**Person Behavior Analysis
Motorcycle Helmet Use
2008-2012**

	Total Crashes			Fatal Crashes				KA Crashes		
	#	%	Rank	#	%	% of Total	Rank	#	%	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			187		100.0%		1,210		
<i>Average Annual Motorcycle Occupants</i>	1,075	100.0%		30	100.0%	16.1%		179	100.0%	
Helmet Used	575	53.5%	1	19	63.6%	10.3%	1	98	54.6%	1
<i>Helmet Used Improperly/Not Used</i>	412	38.3%	2	9	29.1%	4.7%	2	73	40.5%	2
<i>Unknown</i>	88	8.2%	3	2	7.3%	1.2%	3	9	4.9%	3

**Analysis done with the Person File*

Fatal Crashes By Helmet Use 2008-2012

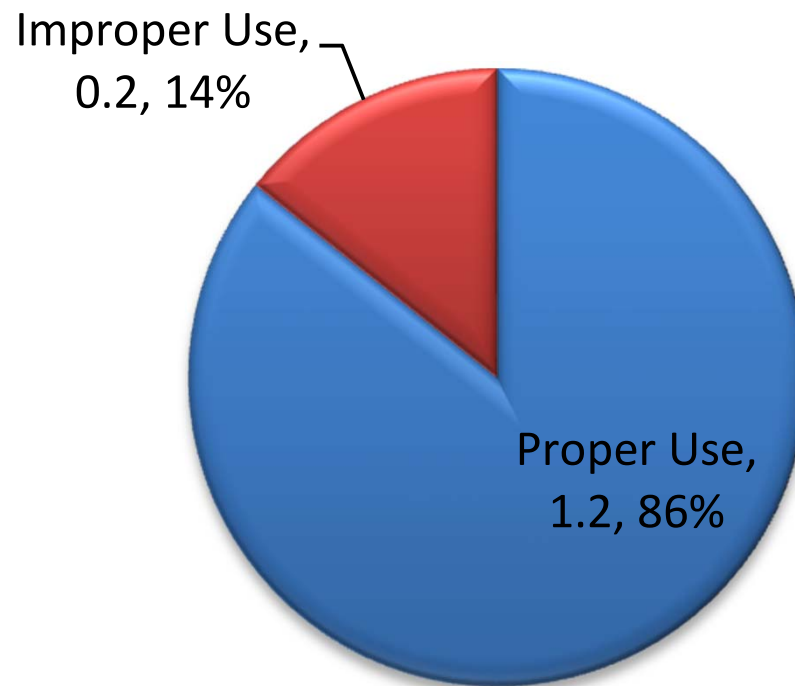


**Person Behavior Analysis
Child Safety Seat Use
2008-2012**

	Total Crashes			Fatal Crashes						KA Crashes		
	#	%	Rank	#	%	% of Total	Rank	National	%	#	%	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			187		100.0%				1,210		
<i>Average Annual Childs Involved in a Crash</i>	4,091	100.0%		1.4	100.0%	0.7%		199	100.0%	11	100.0%	
Proper Use	4,010	98.0%	1	1.2	85.7%	0.6%	1	168	84.4%	8	75.5%	1
Improper Use	81	2.0%	2	0.2	14.3%	0.1%	2	31	15.6%	3	24.5%	2

**Analysis done with the Person File*

Fatal Crashes By Child Safety Seat 2008-2012





CRASH CHARACTERISTICS

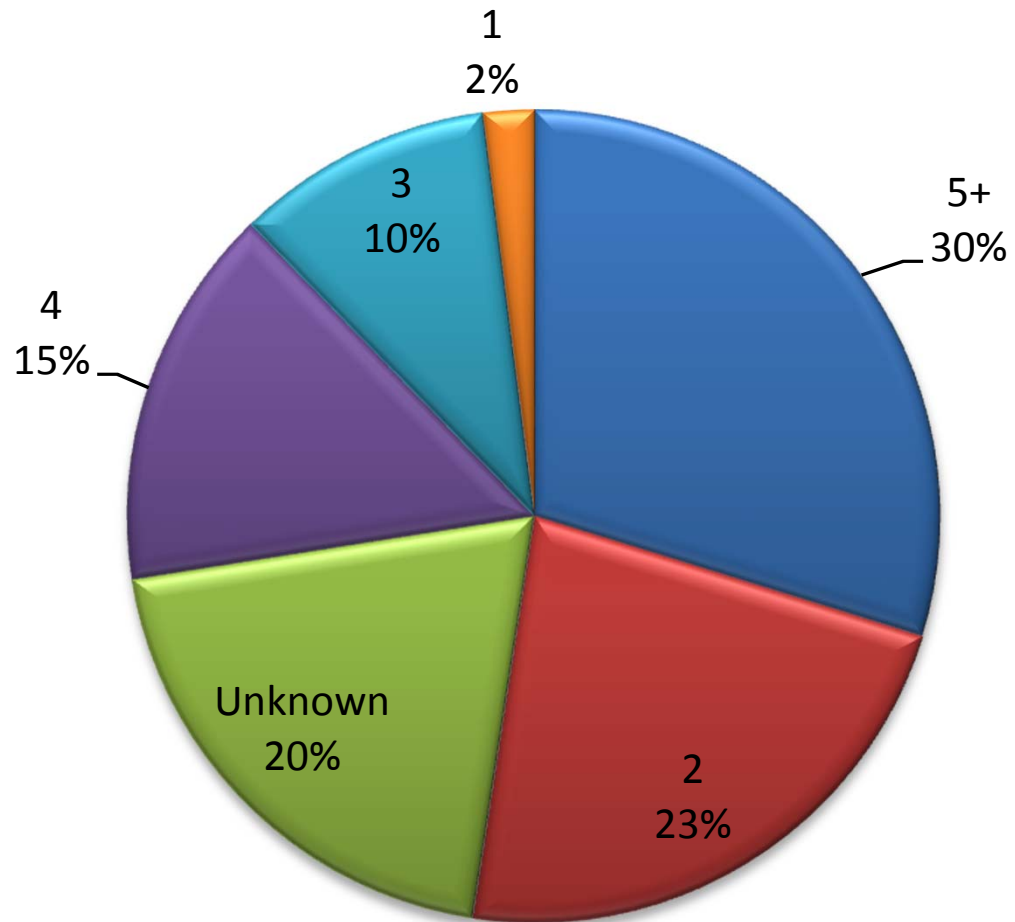
ROADWAY CHARACTERISTICS ANALYSIS

Roadway Characteristic Analysis
Number of Lanes (Both Directions)
 2008-2012

	Total Crashes			Fatal Crashes					KA Crashes		
	#	%	Rank	#	%	Rank	National	%	#	%	Rank
Average Annual Crashes	41,737	100.0%		148	100.0%		45,637	100.0%	975	100.0%	
5+	14,239	34.1%	1	44	29.8%	1	1,390	3.0%	319	32.7%	1
2	6,516	15.6%	3	34	22.6%	2	32,795	71.9%	180	18.5%	2
Unknown	5,921	14.2%	5	30	20.1%	3	196	0.4%	180	18.5%	3
4	7,074	16.9%	2	23	15.2%	4	6,495	14.2%	178	18.2%	4
3	6,046	14.5%	4	15	10.2%	5	3,863	8.5%	90	9.2%	5
1	1,941	4.7%	6	3	2.0%	6	679	1.5%	28	2.9%	6

**Analysis done with the Accident File*

Fatal Crashes By Number Of Lanes 2008-2012

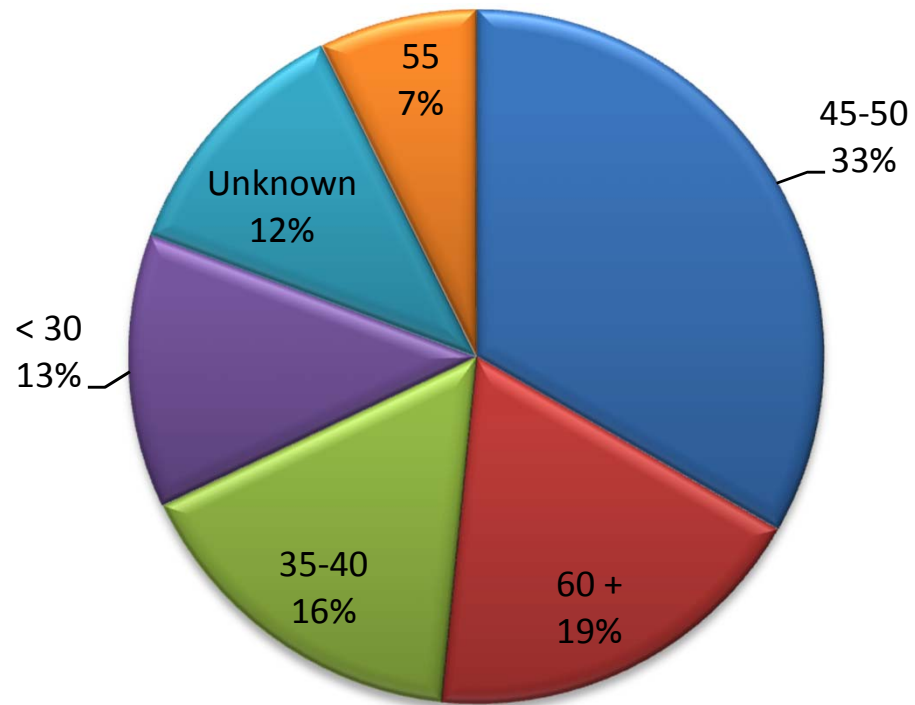


Roadway Characteristic Analysis
Posted Speed Limit
2008-2012

	Total Crashes			Fatal Crashes					KA Crashes		
	#	%	Rank	#	%	Rank	National	%	#	%	Rank
<i>Average Annual Crashes</i>	41,738	100.0%		147	100.0%		45,637	100.0%	975	100.0%	
45-50	15,093	36.2%	1	49	33.3%	1	9,257	20.3%	374	38.4%	1
60 +	7,035	16.9%	3	27	18.3%	2	9,339	20.5%	98	10.1%	4
35-40	8,982	21.5%	2	24	16.3%	3	7,819	17.1%	256	26.3%	2
< 30	5,811	13.9%	4	19	12.8%	4	4,414	9.7%	163	16.8%	3
Unknown	2,589	6.2%	5	18	12.0%	5	1,935	4.2%	49	5.0%	5
55	2,228	5.3%	6	11	7.3%	6	12,873	28.2%	34	3.5%	6

**Analysis done with the Clark County File*

Fatal Crashes By Speed Limit 2008-2012

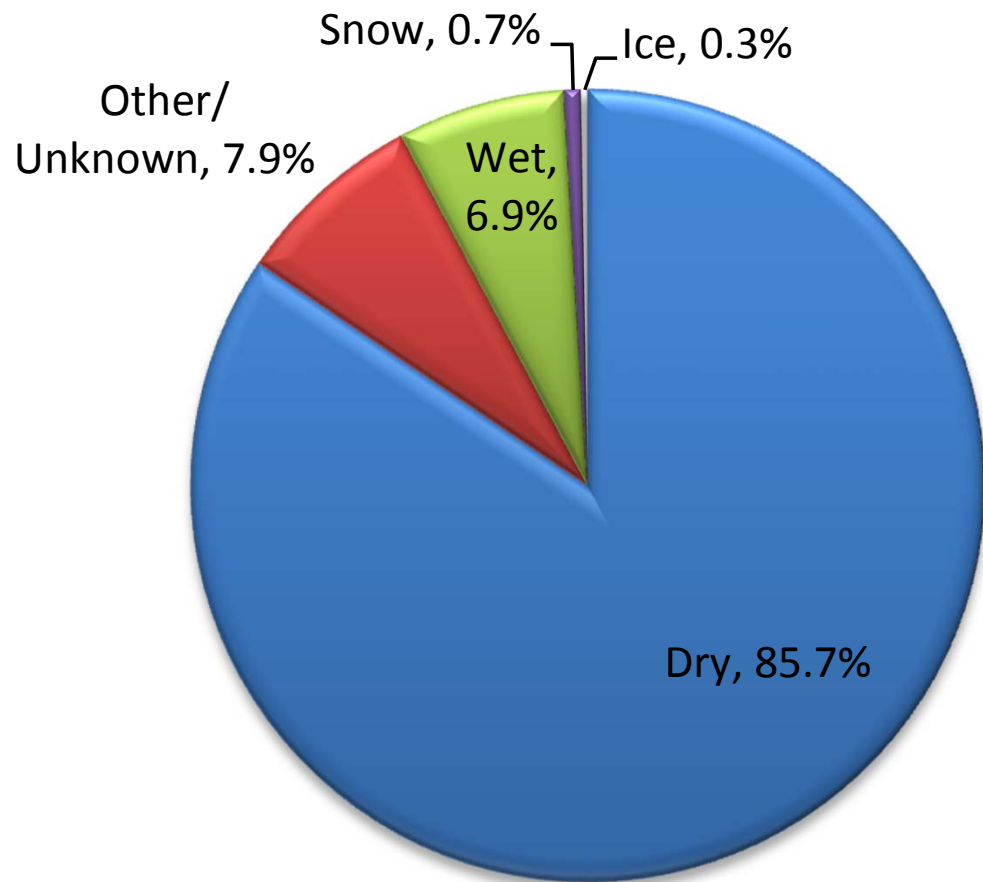


Roadway Characteristics Analysis
Roadway Factors
2008-2012

	Total Crashes			Fatal Crashes			KA Crashes		
	#	%	Rank	#	%	Rank	#	%	Rank
<i>Average Annual Crashes</i>	41,738	100.0%		147	100.0%		975	100.0%	
Dry	36,469	87.4%	1	126	85.7%	1	913	93.6%	1
<i>Other/Unknown</i>	1,358	3.3%	3	12	7.9%	2	16	1.6%	3
Wet	3,966	9.5%	2	10	6.9%	3	48	4.9%	2
Snow	107	0.3%	4	1	0.7%	4	3	0.3%	5
Ice	81	0.2%	5	0	0.3%	5	5	0.5%	4

**Analysis done with the Clark County File*

Fatal Crashes By Roadway Factors 2008-2012



Roadway Characteristics Analysis

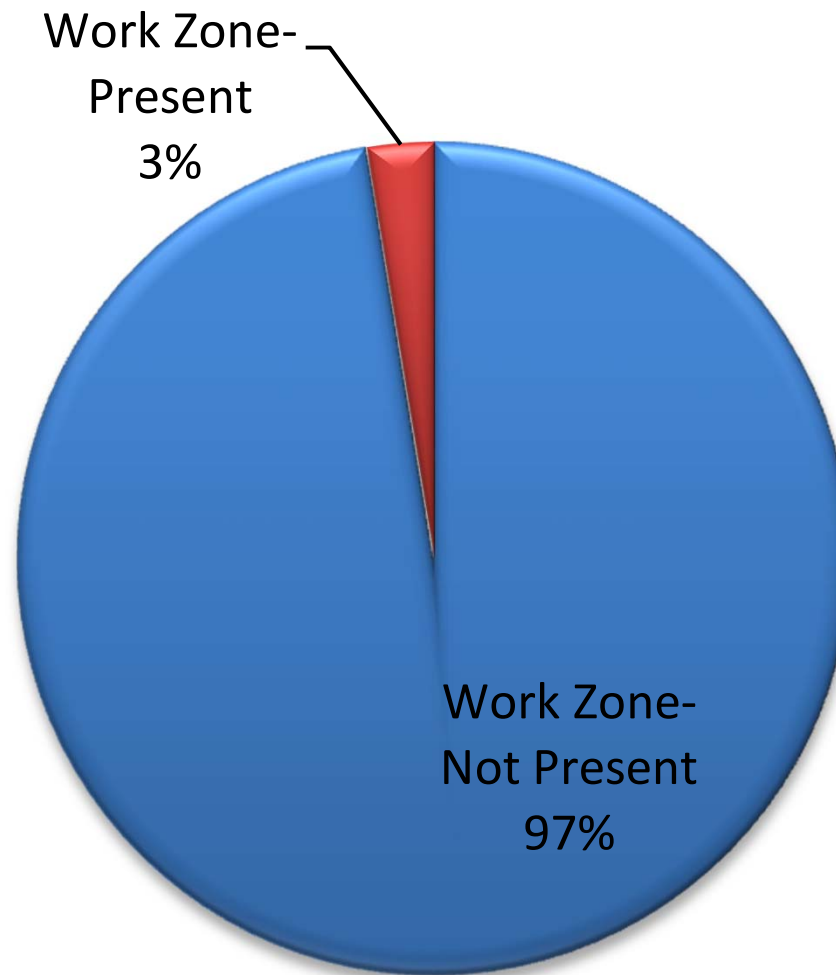
Work Zone

2008-2012

	Total Crashes			Fatal Crashes			KA Crashes		
	#	%	Rank	#	%	Rank	#	%	Rank
Average Annual Crashes	41,738	100.0%		147	100.0%		975	100.0%	
Work Zone-Not Present	40,786	97.7%	1	143	97.4%	1	960	98.5%	1
Work Zone-Present	952	2.3%	2	4	2.6%	2	15	1.5%	2

**Analysis done with the Clark County File*

Fatal Crashes By Work Zone 2008-2012





CRASH CHARACTERISTICS

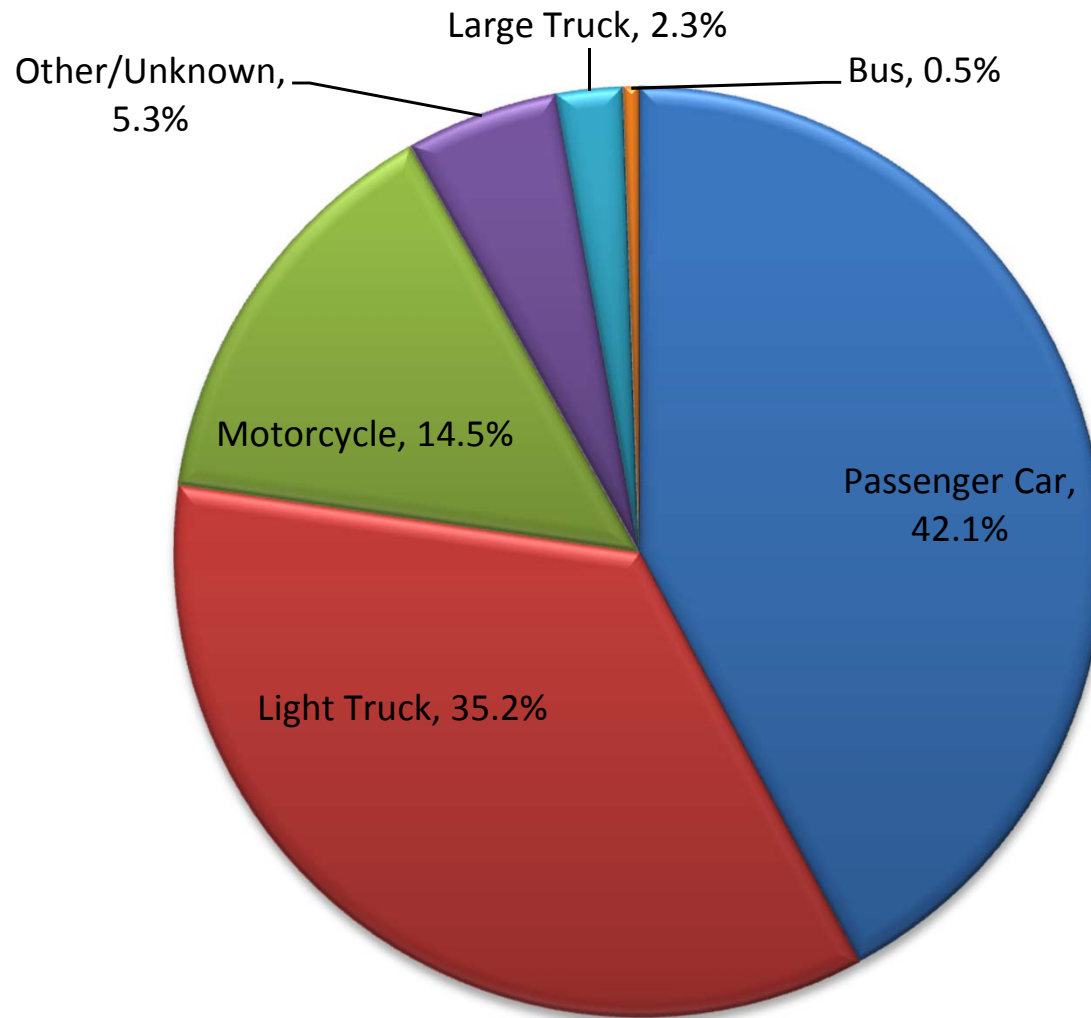
VEHICLE 1 ANALYSIS

Vehicle Analysis
Vehicle 1 Type
2008-2012

	Total Crashes			Fatal Crashes					KA Crashes		
	#	%	Rank	#	%	Rank	National	%	#	%	Rank
Average Annual Crashes	41,738	100.0%		147	100.0%		45,637	100.0%	975	100.0%	
Passenger Car	22,649	54.3%	1	62	42.1%	1	18,092	39.6%	460	47.2%	1
Light Truck	14,968	35.9%	2	52	35.2%	2	17,254	37.8%	325	33.3%	2
Motorcycle	579	1.4%	5	21	14.5%	3	5,080	11.1%	105	10.8%	3
Other/Unknown	2,425	5.8%	3	8	5.3%	4	1,158	2.5%	65	6.7%	4
Large Truck	940	2.3%	4	3	2.3%	5	3,802	8.3%	14	1.4%	5
Bus	177	0.4%	6	1	0.5%	6	251	0.5%	6	0.6%	6

**Analysis done with the Clark County File*

Fatal Crashes by Vehicle 1 Type 2008-2012





APPENDIX B

CATEGORY 1 CRITICAL EMPHASIS AREAS – CRASH ANALYSIS



CATEGORY 1 CEA

CRASH TYPE ANALYSIS – ANGLED

Crash Analysis
Crash Type
Average Annual (2008-2012)

	Total Crashes			KA Crashes		
	#	%	Rank	#	%	Rank
<i>Average Annual Crashes</i>	41,738	100.0%		975	100.0%	
Angle	16,237	38.9%	2	525	53.8%	1
<i>Non-Collision</i>	4,211	10.1%	3	242	24.8%	2
Rear-End	17,069	40.9%	1	144	14.8%	3
<i>Head-On</i>	360	0.9%	6	29	3.0%	4
Sideswipe	3,168	7.6%	4	24	2.5%	5
<i>Unknown</i>	142	0.3%	7	8	0.8%	6
Backing	516	1.2%	5	3	0.3%	7
<i>Rear-To-Rear</i>	35	0.1%	8	0	0.0%	8

**Analysis done with the Clark County File*

Crash Type
Angle Crashes
Average Annual (2008-2012)

	Lighting Conditions						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
Light	10,764	66.3%	1	315	60.1%	32.3%	1
Dark	4,455	27.4%	2	180	34.3%	18.5%	2
Dusk/Dawn	547	3.4%	3	27	5.2%	2.8%	3
Other/Unknown	470	2.9%	4	2	0.3%	0.2%	4

**Analysis done with the Clark County File*

	Driver Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
Apparently Normal	12,425	76.5%	1	329	62.7%	33.7%	1
Had Been Drinking	1,160	7.1%	3	85	16.3%	8.8%	2
Unknown	1,471	9.1%	2	63	12.0%	6.4%	3
Drug Involvement	238	1.5%	6	19	3.6%	1.9%	4
Inattention/Distracted	466	2.9%	4	14	2.7%	1.5%	5
Other Improper Driving	381	2.3%	5	11	2.1%	1.1%	6
Illness	55	0.3%	9	5	1.0%	0.6%	7
Obstructed View	81	0.5%	8	5	1.0%	0.5%	8
Fell Asleep, Fainted, Fatigued	99	0.6%	7	3	0.6%	0.3%	9
Physical Impairment	32	0.2%	10	3	0.6%	0.3%	9

**Analysis done with the Clark County File*

Crash Type
Angle Crashes
Average Annual (2008-2012)

	Vehicle Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
Failed to Yield Right of Way	5,527	34.0%	1	198	37.7%	20.3%	1
Failure to Maintain Lane or Run off Road	2,274	14.0%	3	82	15.7%	8.5%	2
Disregarded Traffic Signs, Signals, and Markings	1,885	11.6%	4	80	15.3%	8.2%	3
No Improper Driving	1,240	7.6%	8	58	11.0%	5.9%	4
Other/Unknown	1,823	11.2%	5	42	7.9%	4.3%	5
Hit and Run	1,493	9.2%	6	31	5.9%	3.2%	6
Driving Too Fast for Conditions	485	3.0%	9	28	5.3%	2.9%	7
Made Improper Turn	1,478	9.1%	7	27	5.1%	2.8%	8
Ran off Road	408	2.5%	10	25	4.8%	2.6%	9
Exceeded Speed Limit	123	0.8%	14	24	4.6%	2.5%	10
Reckless Driving	191	1.2%	12	18	3.4%	1.8%	11
Unsafe Lane Change/Backing	2,316	14.3%	2	14	2.7%	1.4%	12
Drove Left of Center	158	1.0%	13	12	2.2%	1.2%	13
Over-Correcting/Over-Steering	106	0.7%	15	8	1.5%	0.8%	14
Wrong Way	72	0.4%	18	5	0.9%	0.5%	15
Object Avoidance	93	0.6%	16	3	0.5%	0.3%	16
Visibility Obstructed	66	0.4%	19	3	0.5%	0.3%	17
Mechanical Defects	77	0.5%	17	2	0.3%	0.2%	18
Followed Too Closely	229	1.4%	11	1	0.3%	0.1%	19
Driverless Vehicle	20	0.1%	20	0	0.0%	0.0%	20

**Analysis done with the Clark County File*

Crash Type
Angle Crashes
Average Annual (2008-2012)

	Vehicle Action						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
Going Straight	5,603	34.5%	1	266	50.7%	27.3%	1
Turning Left	4,527	27.9%	2	155	29.6%	15.9%	2
Other/Unknown	1,600	9.9%	4	38	7.2%	3.9%	3
Turning Right	1,576	9.7%	5	28	5.3%	2.9%	4
Changing Lanes	1,965	12.1%	3	15	2.9%	1.5%	5
Making U-Turn	535	3.3%	6	9	1.8%	0.9%	6
Traveling Wrong Way	34	0.2%	12	3	0.6%	0.3%	7
Passing Other Vehicle	91	0.6%	8	3	0.6%	0.3%	8
Other Turning Movement	64	0.4%	10	2	0.4%	0.2%	9
Stopped	66	0.4%	9	1	0.3%	0.1%	10
Racing	9	0.1%	14	1	0.3%	0.1%	10
Backing Up	92	0.6%	7	1	0.2%	0.1%	12
Entering/Leaving Park Position	49	0.3%	11	0	0.1%	0.0%	13
Parked	11	0.1%	13	0	0.1%	0.0%	13
Driverless-Moving Vehicle	6	0.0%	15	0	0.0%	0.0%	15

**Analysis done with the Clark County File*

	Driver Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
25 to 64 years old	9,440	58.1%	1	309	58.8%	31.7%	1
Less than 25 years old	3,823	23.5%	2	133	25.4%	13.7%	2
More than 64 years old	1,549	9.5%	3	56	10.6%	5.7%	3
Unknown	1,425	8.8%	4	27	5.2%	2.8%	4

**Analysis done with the Clark County File*

Crash Type
Angle Crashes
Average Annual (2008-2012)

	Driver Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
<25	3,823	23.5%	1	133	25.4%	13.7%	1
25-34	3,415	21.0%	2	111	21.2%	11.4%	2
35-44	2,487	15.3%	3	78	14.8%	8.0%	3
45-54	2,063	12.7%	4	73	13.9%	7.5%	4
65+	1,549	9.5%	5	56	10.6%	5.7%	5
55-64	1,475	9.1%	6	47	9.0%	4.8%	6
Unknown	1,425	8.8%	7	27	5.2%	2.8%	7

**Analysis done with the Clark County File*

Crash Type
Angle Crashes
Average Annual (2008-2012)

	Bike						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
No Bicycle Involved	14,629	90.1%	1	433	82.6%	44.5%	1
Unknown	1,356	8.4%	2	66	12.6%	6.8%	2
Bicycle Involved	251	1.5%	3	25	4.8%	2.6%	3

**Analysis done with the Clark County File*

	Impaired						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
Alcohol and Drug Suspected - No	13,135	80.9%	1	362	69.0%	37.2%	1
Alcohol and Drug Suspected - Yes	1,128	6.9%	3	87	16.6%	8.9%	2
Unknown	1,973	12.2%	2	75	14.3%	7.7%	3

**Analysis done with the Clark County File*

	Day of Week						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
Friday	2,659	16.4%	1	98	18.6%	10.0%	1
Thursday	2,456	15.1%	3	80	15.2%	8.2%	2
Saturday	2,186	13.5%	6	79	15.1%	8.1%	3
Wednesday	2,470	15.2%	2	79	15.0%	8.1%	4
Tuesday	2,377	14.6%	4	64	12.2%	6.6%	5
Monday	2,282	14.1%	5	64	12.1%	6.5%	6
Sunday	1,807	11.1%	7	62	11.7%	6.3%	7

**Analysis done with the Clark County File*

Crash Type
Angle Crashes
Average Annual (2008-2012)

	Hour of Day						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
3:00 PM - 5:59 PM	3,949	24.3%	1	128	24.3%	13.1%	1
12:00 PM - 2:59 PM	3,290	20.3%	2	94	18.0%	9.7%	2
6:00 PM - 8:59 PM	2,133	13.1%	4	88	16.8%	9.0%	3
9:00 AM - 11:59 AM	2,192	13.5%	3	54	10.4%	5.6%	4
6:00 AM - 8:59 AM	1,847	11.4%	5	48	9.2%	4.9%	5
9:00 PM - 11:59 PM	1,314	8.1%	6	46	8.7%	4.7%	6
12:00 AM - 2:59 AM	821	5.1%	7	33	6.4%	3.4%	7
3:00 AM - 5:59 AM	692	4.3%	8	33	6.3%	3.4%	8

**Analysis done with the Clark County File*

	Month						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
April	1,401	8.6%	3	50	9.5%	5.1%	1
May	1409	8.7%	2	50	9.5%	5.1%	1
March	1,423	8.8%	1	48	9.1%	4.9%	3
October	1391	8.6%	5	45	8.6%	4.6%	4
September	1,320	8.1%	8	44	8.5%	4.6%	5
August	1311	8.1%	10	44	8.3%	4.5%	6
February	1,311	8.1%	11	43	8.2%	4.4%	7
November	1331	8.2%	6	43	8.2%	4.4%	7
June	1,299	8.0%	12	42	8.0%	4.3%	9
July	1322	8.1%	7	41	7.9%	4.2%	10
January	1,318	8.1%	9	37	7.1%	3.8%	11
December	1400	8.6%	4	37	7.0%	3.8%	12

**Analysis done with the Clark County File*

Crash Type
Angle Crashes
Average Annual (2008-2012)

	Distracted Driving						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
No	14,299	88.1%	1	447	85.3%	45.9%	1
Unknown	1,471	9.1%	2	63	12.0%	6.4%	2
Yes	466	2.9%	3	14	2.7%	1.5%	3

**Analysis done with the Clark County File*

	Pedestrian						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
No	14,286	88.0%	1	370	70.6%	38.0%	1
Unknown	1,614	9.9%	2	86	16.3%	8.8%	2
Yes	336	2.1%	3	69	13.1%	7.1%	3

**Analysis done with the Clark County File*

	Aggressive/Speeding						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
No	11,269	69.4%	1	372	71.0%	38.2%	1
Unknown	1,823	11.2%	3	85	16.2%	8.7%	2
Yes	3,145	19.4%	2	67	12.8%	6.9%	3

**Analysis done with the Clark County File*

	Gender						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
Male	8,898	54.8%	1	322	61.3%	33.0%	1
Female	6,217	38.3%	2	181	34.5%	18.6%	2
Unknown	1,122	6.9%	3	22	4.1%	2.2%	3

**Analysis done with the Clark County File*

Crash Type
Angle Crashes
Average Annual (2008-2012)

	Posted Speed Limit						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
45-50	5,907	36.4%	1	225	42.9%	23.1%	1
35-40	4,448	27.4%	2	155	29.5%	15.9%	2
<35	3,618	22.3%	3	106	20.2%	10.9%	3
Unknown	1,083	6.7%	4	20	3.8%	2.1%	4
60+	877	5.4%	5	13	2.4%	1.3%	5
55	304	1.9%	6	6	1.2%	0.7%	6

**Analysis done with the Clark County File*

	Intersection						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
Intersection Crash - Yes	8,625	53.1%	1	339	64.7%	34.8%	1
Intersection Crash - No	5,962	36.7%	2	145	27.6%	14.9%	2
Unknown	1,649	10.2%	3	40	7.7%	4.1%	3

**Analysis done with the Clark County File*

	Number of Lanes - One Direction						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Angle Crashes	16,237	100.0%		525	100.0%	53.8%	
5+	6,273	38.6%	1	199	37.9%	20.4%	1
Unknown	2,838	17.5%	3	113	21.6%	11.6%	2
4	2,875	17.7%	2	97	18.5%	10.0%	3
2	2,498	15.4%	4	74	14.0%	7.6%	4
3	1,485	9.1%	5	34	6.5%	3.5%	5
1	268	1.7%	6	8	1.5%	0.8%	6

**Analysis done with the Accident File*



CATEGORY 1 CEA

CRASH TYPE ANALYSIS – NON-COLLISION

Crash Analysis
Crash Type
Average Annual (2008-2012)

	Total Crashes			KA Crashes		
	#	%	Rank	#	%	Rank
<i>Average Annual Crashes</i>	41,738	100.0%		975	100.0%	
Angle	16,237	38.9%	2	525	53.8%	1
<i>Non-Collision</i>	4,211	10.1%	3	242	24.8%	2
Rear-End	17,069	40.9%	1	144	14.8%	3
<i>Head-On</i>	360	0.9%	6	29	3.0%	4
Sideswipe	3,168	7.6%	4	24	2.5%	5
<i>Unknown</i>	142	0.3%	7	8	0.8%	6
Backing	516	1.2%	5	3	0.3%	7
<i>Rear-To-Rear</i>	35	0.1%	8	0	0.0%	8

**Analysis done with the Clark County File*

Crash Type
Non-Collisions
Average Annual (2008-2012)

	Lighting Conditions						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Non-Collision Crashes	4,211	100.0%		242	100.0%	24.8%	
Dark	1,756	41.7%	2	113	46.9%	11.6%	1
Light	2,215	52.6%	1	113	46.6%	11.6%	2
Dusk/Dawn	171	4.1%	3	12	5.0%	1.3%	3
Other/Unknown	69	1.6%	4	3	1.4%	0.3%	4

**Analysis done with the Clark County File*

	Driver Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Non-Collision Crashes	4,211	100.0%		242	100.0%	24.8%	
Apparently Normal	2,644	62.8%	1	111	45.9%	11.4%	1
Had Been Drinking	642	15.2%	2	49	20.1%	5.0%	2
Unknown	611	14.5%	3	47	19.5%	4.8%	3
Other Improper Driving	182	4.3%	4	14	5.8%	1.4%	4
Drug Involvement	118	2.8%	5	14	5.7%	1.4%	5
Inattention/Distracted	108	2.6%	7	7	3.1%	0.8%	6
Fell Asleep, Fainted, Fatuiged	115	2.7%	6	6	2.3%	0.6%	7
Illness	42	1.0%	8	4	1.6%	0.4%	8
Physical Impairment	19	0.5%	9	2	0.7%	0.2%	9
Obstructed View	5	0.1%	10	1	0.5%	0.1%	10

**Analysis done with the Clark County File*

Crash Type
Non-Collisions
Average Annual (2008-2012)

	Vehicle Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Non-Collision Crashes</i>	4,211	100.0%		242	100.0%	24.8%	
Failure to Maintain Lane or Run off Road	2,089	49.6%	1	103	42.5%	10.5%	1
Other/Unknown	941	22.4%	2	72	30.0%	7.4%	2
No Improper Driving	457	10.8%	3	42	17.2%	4.3%	3
Ran off Road	452	10.7%	4	39	16.3%	4.0%	4
Driving Too Fast for Conditions	411	9.8%	5	23	9.7%	2.4%	5
Exceeded Speed Limit	74	1.7%	14	23	9.6%	2.4%	6
Over-Correcting/Over-Steering	167	4.0%	8	21	8.5%	2.1%	7
Failed to Yield Right of Way	108	2.6%	11	15	6.2%	1.5%	8
Reckless Driving	83	2.0%	12	12	5.0%	1.3%	9
Hit and Run	316	7.5%	6	9	3.6%	0.9%	10
Mechanical Defects	286	6.8%	7	7	3.1%	0.8%	11
Drove Left of Center	60	1.4%	15	7	3.1%	0.8%	11
Disregarded Traffic Signs, Signals, and Markings	59	1.4%	16	6	2.6%	0.6%	13
Unsafe Lane Change/Backing	154	3.7%	9	5	2.2%	0.6%	14
Made Improper Turn	76	1.8%	13	5	2.1%	0.5%	15
Object Avoidance	127	3.0%	10	5	1.9%	0.5%	16
Wrong Way	18	0.4%	17	2	0.7%	0.2%	17
Visibility Obstructed	4	0.1%	20	1	0.4%	0.1%	18
Driverless Vehicle	8	0.2%	19	1	0.2%	0.1%	19
Followed Too Closely	10	0.2%	18	0	0.0%	0.0%	20

**Analysis done with the Clark County File*

Crash Type
Non-Collisions
Average Annual (2008-2012)

	Vehicle Action						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Non-Collision Crashes	4,211	100.0%		242	100.0%	24.8%	
Going Straight	2,868	68.1%	1	179	73.9%	18.3%	1
Other/Unknown	564	13.4%	2	25	10.4%	2.6%	2
Turning Right	214	5.1%	5	12	5.1%	1.3%	3
Turning Left	217	5.2%	4	11	4.5%	1.1%	4
Changing Lanes	233	5.5%	3	7	2.9%	0.7%	5
Other Turning Movement	30	0.7%	6	2	1.0%	0.2%	6
Making U-Turn	21	0.5%	7	2	0.7%	0.2%	7
Passing Other Vehicle	9	0.2%	10	1	0.3%	0.1%	8
Racing	3	0.1%	14	1	0.3%	0.1%	8
Entering/Leaving Park Position	7	0.2%	12	1	0.2%	0.1%	10
Backing Up	12	0.3%	9	0	0.2%	0.0%	11
Traveling Wrong Way	8	0.2%	11	0	0.2%	0.0%	11
Stopped	18	0.4%	8	0	0.1%	0.0%	13
Parked	5	0.1%	13	0	0.1%	0.0%	13
Driverless-Moving Vehicle	2	0.1%	15	0	0.0%	0.0%	15

**Analysis done with the Clark County File*

	Driver Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Non-Collision Crashes	4,211	100.0%		242	100.0%	24.8%	
25 to 64 years old	2,541	60.4%	1	152	63.0%	15.6%	1
Less than 25 years old	1,131	26.9%	2	57	23.6%	5.8%	2
More than 64 years old	193	4.6%	4	18	7.4%	1.8%	3
Unknown	345	8.2%	3	15	6.0%	1.5%	4

**Analysis done with the Clark County File*

Crash Type
Non-Collisions
Average Annual (2008-2012)

	Driver Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Non-Collision Crashes	4,211	100.0%		242	100.0%	24.8%	
<25	1,131	26.9%	1	57	23.6%	5.8%	1
25-34	1,044	24.8%	2	57	23.6%	5.8%	1
35-44	681	16.2%	3	39	16.1%	4.0%	3
45-54	515	12.2%	4	34	14.2%	3.5%	4
55-64	302	7.2%	6	22	9.1%	2.3%	5
65+	193	4.6%	7	18	7.4%	1.8%	6
Unknown	345	8.2%	5	15	6.0%	1.5%	7

**Analysis done with the Clark County File*

Crash Type
Non-Collisions
Average Annual (2008-2012)

	Bike						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Non-Collision Crashes	4,211	100.0%		242	100.0%	24.8%	
No Bicycle Involved	4,026	95.6%	1	222	91.8%	22.8%	1
Bicycle Involved	43	1.0%	3	11	4.4%	1.1%	2
Unknown	142	3.4%	2	9	3.8%	0.9%	3

**Analysis done with the Clark County File*

	Impaired						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Non-Collision Crashes	4,211	100.0%		242	100.0%	24.8%	
Alcohol and Drug Suspected - No	3,006	71.4%	1	144	59.7%	14.8%	1
Unknown	568	13.5%	3	49	20.2%	5.0%	2
Alcohol and Drug Suspected - Yes	637	15.1%	2	49	20.1%	5.0%	3

**Analysis done with the Clark County File*

	Day of Week						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Non-Collision Crashes	4,211	100.0%		242	100.0%	24.8%	
Friday	615	14.6%	3	41	17.0%	4.2%	1
Saturday	712	16.9%	1	41	17.0%	4.2%	1
Sunday	667	15.8%	2	37	15.4%	3.8%	3
Wednesday	565	13.4%	5	35	14.5%	3.6%	4
Monday	590	14.0%	4	30	12.4%	3.1%	5
Thursday	556	13.2%	6	29	12.2%	3.0%	6
Tuesday	506	12.0%	7	28	11.6%	2.9%	7

**Analysis done with the Clark County File*

Crash Type
Non-Collisions
Average Annual (2008-2012)

	Hour of Day						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Non-Collision Crashes	4,211	100.0%		242	100.0%	24.8%	
6:00 PM - 8:59 PM	528	12.5%	3	48	19.8%	4.9%	1
3:00 PM - 5:59 PM	635	15.1%	1	40	16.5%	4.1%	2
12:00 PM - 2:59 PM	612	14.5%	2	33	13.8%	3.4%	3
9:00 PM - 11:59 PM	487	11.6%	6	28	11.7%	2.9%	4
3:00 AM - 5:59 AM	470	11.2%	8	27	11.2%	2.8%	5
12:00 AM - 2:59 AM	475	11.3%	7	25	10.3%	2.6%	6
6:00 AM - 8:59 AM	502	11.9%	4	22	9.2%	2.3%	7
9:00 AM - 11:59 AM	502	11.9%	4	18	7.5%	1.9%	8

**Analysis done with the Clark County File*

	Month						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Non-Collision Crashes	4,211	100.0%		242	100.0%	24.8%	
August	357	8.5%	6	23	9.5%	2.4%	1
July	362	8.6%	2	22	9.1%	2.3%	2
April	334	7.9%	11	22	8.9%	2.2%	3
June	357	8.5%	5	21	8.9%	2.2%	4
November	335	8.0%	10	21	8.9%	2.2%	4
October	345	8.2%	8	21	8.5%	2.1%	6
September	320	7.6%	12	20	8.2%	2.0%	7
December	392	9.3%	1	20	8.1%	2.0%	8
March	359	8.5%	4	19	8.0%	2.0%	9
May	343	8.2%	9	18	7.6%	1.9%	10
January	359	8.5%	3	18	7.5%	1.8%	11
February	347	8.2%	7	16	6.8%	1.7%	12

**Analysis done with the Clark County File*

Crash Type
Non-Collisions
Average Annual (2008-2012)

	Distracted Driving						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Non-Collision Crashes	4,211	100.0%		242	100.0%	24.8%	
No	3,647	86.6%	1	188	77.7%	19.3%	1
Unknown	455	10.8%	2	46	19.2%	4.8%	2
Yes	108	2.6%	3	7	3.1%	0.8%	3

**Analysis done with the Clark County File*

	Pedestrian						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Non-Collision Crashes	4,211	100.0%		242	100.0%	24.8%	
No	3,497	83.0%	1	124	51.5%	12.8%	1
Yes	176	4.2%	3	59	24.4%	6.1%	2
Unknown	538	12.8%	2	58	24.1%	6.0%	3

**Analysis done with the Clark County File*

	Aggressive/Speeding						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Non-Collision Crashes	4,211	100.0%		242	100.0%	24.8%	
No	2,835	67.3%	1	130	54.0%	13.4%	1
Unknown	719	17.1%	2	59	24.3%	6.0%	2
Yes	657	15.6%	3	52	21.7%	5.4%	3

**Analysis done with the Clark County File*

	Gender						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Non-Collision Crashes	4,211	100.0%		242	100.0%	24.8%	
Male	2,545	60.4%	1	162	67.1%	16.6%	1
Female	1,387	32.9%	2	67	27.6%	6.8%	2
Unknown	279	6.6%	3	13	5.4%	1.3%	3

**Analysis done with the Clark County File*

Crash Type
Non-Collisions
Average Annual (2008-2012)

	Posted Speed Limit						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Non-Collision Crashes	4,211	100.0%		242	100.0%	24.8%	
60+	2,031	48.2%	1	58	24.1%	6.0%	1
45-50	631	15.0%	2	56	23.3%	5.8%	2
35-40	502	11.9%	3	53	21.8%	5.4%	3
<35	401	9.5%	5	36	14.9%	3.7%	4
Unknown	184	4.4%	6	21	8.5%	2.1%	5
55	462	11.0%	4	18	7.5%	1.8%	6

**Analysis done with the Clark County File*

	Intersection						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Non-Collision Crashes	4,211	100.0%		242	100.0%	24.8%	
Intersection Crash-No	2,818	66.9%	1	142	58.9%	14.6%	1
Intersection Crash-Yes	630	15.0%	3	66	27.2%	6.7%	2
Unknown	763	18.1%	2	34	13.9%	3.4%	3

**Analysis done with the Clark County File*

	Number of Lanes - One Direction						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Non-Collision Crashes	4,211	100.0%		242	100.0%	24.8%	
2	1,134	26.9%	1	70	28.9%	7.2%	1
5+	589	14.0%	4	47	19.5%	4.8%	2
Unknown	483	11.5%	5	41	16.9%	4.2%	3
4	624	14.8%	3	40	16.6%	4.1%	4
3	917	21.8%	2	29	12.0%	3.0%	5
1	463	11.0%	6	15	6.2%	1.5%	6

**Analysis done with the Accident File*



CATEGORY 1 CEA

CRASH TYPE ANALYSIS – REAR-END

Crash Analysis
Crash Type
Average Annual (2008-2012)

	Total Crashes			KA Crashes		
	#	%	Rank	#	%	Rank
<i>Average Annual Crashes</i>	41,738	100.0%		975	100.0%	
Angle	16,237	38.9%	2	525	53.8%	1
<i>Non-Collision</i>	4,211	10.1%	3	242	24.8%	2
Rear-End	17,069	40.9%	1	144	14.8%	3
<i>Head-On</i>	360	0.9%	6	29	3.0%	4
Sideswipe	3,168	7.6%	4	24	2.5%	5
<i>Unknown</i>	142	0.3%	7	8	0.8%	6
Backing	516	1.2%	5	3	0.3%	7
<i>Rear-To-Rear</i>	35	0.1%	8	0	0.0%	8

**Analysis done with the Clark County File*

Crash Type
Rear-End Crashes
Average Annual (2008-2012)

	Lighting Conditions						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Rear-End Crashes	17,069	100.0%		144	100.0%	14.8%	
Light	12,194	71.4%	1	93	64.3%	9.5%	1
Dark	3,905	22.9%	2	43	29.9%	4.4%	2
Dusk/Dawn	488	2.9%	3	7	4.9%	0.7%	3
Other/Unknown	483	2.8%	4	1	1.0%	0.1%	4

**Analysis done with the Clark County File*

	Driver Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Rear-End Crashes	17,069	100.0%		144	100.0%	14.8%	
Apparently Normal	12,393	72.6%	1	70	48.3%	7.1%	1
Had Been Drinking	896	5.2%	4	29	20.3%	3.0%	2
Inattention/Distracted	1,674	9.8%	2	16	11.3%	1.7%	3
Unknown	1,352	7.9%	3	15	10.7%	1.6%	4
Drug Involvement	241	1.4%	6	8	5.8%	0.9%	5
Other Improper Driving	562	3.3%	5	5	3.6%	0.5%	6
Illness	39	0.2%	8	3	1.8%	0.3%	7
Fell Asleep, Fainted, Fatuiged	105	0.6%	7	2	1.5%	0.2%	8
Physical Impairment	30	0.2%	9	2	1.4%	0.2%	9
Obstructed View	12	0.1%	10	0	0.1%	0.0%	10

**Analysis done with the Clark County File*

Crash Type
Rear-End Crashes
Average Annual (2008-2012)

	Vehicle Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Rear-End Crashes	17,069	100.0%		144	100.0%	14.8%	
Other/Unknown	7,903	46.3%	1	63	43.5%	6.4%	1
Followed Too Closely	5,335	31.3%	2	32	22.1%	3.3%	2
No Improper Driving	1,733	10.2%	3	19	13.2%	1.9%	3
Driving Too Fast for Conditions	1,707	10.0%	4	17	12.1%	1.8%	4
Failure to Maintain Lane or Run off Road	298	1.7%	7	13	9.0%	1.3%	5
Reckless Driving	199	1.2%	9	10	6.7%	1.0%	6
Hit and Run	1,265	7.4%	5	9	6.1%	0.9%	7
Exceeded Speed Limit	50	0.3%	14	8	5.6%	0.8%	8
Unsafe Lane Change/Backing	355	2.1%	6	5	3.6%	0.5%	9
Object Avoidance	282	1.6%	8	4	2.5%	0.4%	10
Failed to Yield Right of Way	131	0.8%	10	3	2.2%	0.3%	11
Disregarded Traffic Signs, Signals, and Markings	78	0.5%	11	3	2.1%	0.3%	12
Mechanical Defects	67	0.4%	12	1	1.0%	0.1%	13
Made Improper Turn	53	0.3%	13	1	0.8%	0.1%	14
Over-Correcting/Over-Steering	22	0.1%	15	1	0.8%	0.1%	14
Ran off Road	20	0.1%	16	1	0.7%	0.1%	16
Driverless Vehicle	8	0.0%	18	1	0.4%	0.1%	17
Visibility Obstructed	10	0.1%	17	0	0.1%	0.0%	18
Drove Left of Center	5	0.0%	19	0	0.1%	0.0%	18
Wrong Way	4	0.0%	20	0	0.0%	0.0%	20

**Analysis done with the Clark County File*

Crash Type
Rear-End Crashes
Average Annual (2008-2012)

	Vehicle Action						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Rear-End Crashes</i>	17,069	100.0%		144	100.0%	14.8%	
Going Straight	14,801	86.7%	1	128	89.0%	13.2%	1
Other/Unknown	374	2.2%	3	5	3.3%	0.5%	2
Changing Lanes	356	2.1%	4	4	2.5%	0.4%	3
Stopped	256	1.5%	5	2	1.4%	0.2%	4
Turning Right	947	5.5%	2	1	1.0%	0.1%	5
Turning Left	215	1.3%	6	1	0.8%	0.1%	6
Parked	7	0.0%	11	1	0.6%	0.1%	7
Making U-Turn	24	0.1%	8	1	0.4%	0.1%	8
Other Turning Movement	9	0.1%	10	1	0.4%	0.1%	8
Passing Other Vehicle	9	0.1%	9	0	0.3%	0.0%	10
Entering/Leaving Park Position	5	0.0%	12	0	0.1%	0.0%	11
Racing	2	0.0%	14	0	0.1%	0.0%	11
Backing Up	59	0.3%	7	0	0.0%	0.0%	13
Driverless-Moving Vehicle	3	0.0%	13	0	0.0%	0.0%	13
Traveling Wrong Way	1	0.0%	15	0	0.0%	0.0%	13

**Analysis done with the Clark County File*

	Driver Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Rear-End Crashes</i>	17,069	100.0%		144	100.0%	14.8%	
25 to 64 years old	10,602	62.1%	1	99	68.9%	10.2%	1
Less than 25 years old	4,248	24.9%	2	29	20.1%	3.0%	2
More than 64 years old	853	5.0%	4	9	6.4%	0.9%	3
Unknown	1,367	8.0%	3	7	4.6%	0.7%	4

**Analysis done with the Clark County File*

Crash Type
Rear-End Crashes
Average Annual (2008-2012)

	Driver Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Rear-End Crashes	17,069	100.0%		144	100.0%	14.8%	
25-34	4,154	24.3%	2	37	25.4%	3.8%	1
<25	4,248	24.9%	1	29	20.1%	3.0%	2
35-44	2,975	17.4%	3	27	18.5%	2.7%	3
45-54	2,183	12.8%	4	22	15.3%	2.3%	4
55-64	1,291	7.6%	6	14	9.7%	1.4%	5
65+	853	5.0%	7	9	6.4%	0.9%	6
Unknown	1,367	8.0%	5	7	4.6%	0.7%	7

**Analysis done with the Clark County File*

Crash Type
Rear-End Crashes
Average Annual (2008-2012)

	Bike						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Rear-End Crashes	17,069	100.0%		144	100.0%	14.8%	
No Bicycle Involved	16,145	94.6%	1	133	92.2%	13.6%	1
Unknown	912	5.3%	2	9	6.5%	1.0%	2
Bicycle Involved	12	0.1%	3	2	1.3%	0.2%	3

**Analysis done with the Clark County File*

	Impaired						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Rear-End Crashes	17,069	100.0%		144	100.0%	14.8%	
Alcohol and Drug Suspected - No	14,277	83.6%	1	96	66.7%	9.8%	1
Alcohol and Drug Suspected - Yes	952	5.6%	3	31	21.3%	3.1%	2
Unknown	1,841	10.8%	2	17	12.1%	1.8%	3

**Analysis done with the Clark County File*

	Day of Week						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Rear-End Crashes	17,069	100.0%		144	100.0%	14.8%	
Friday	2,911	17.1%	1	24	16.9%	2.5%	1
Thursday	2,637	15.4%	4	24	16.5%	2.4%	2
Saturday	2,013	11.8%	6	24	16.4%	2.4%	3
Wednesday	2,733	16.0%	3	21	14.7%	2.2%	4
Tuesday	2,747	16.1%	2	21	14.4%	2.1%	5
Monday	2,605	15.3%	5	19	13.1%	1.9%	6
Sunday	1,423	8.3%	7	11	7.9%	1.2%	7

**Analysis done with the Clark County File*

Crash Type
Rear-End Crashes
Average Annual (2008-2012)

	Hour of Day						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Rear-End Crashes	17,069	100.0%		144	100.0%	14.8%	
3:00 PM - 5:59 PM	5,031	29.5%	1	36	24.7%	3.7%	1
12:00 PM - 2:59 PM	3,641	21.3%	2	29	20.0%	3.0%	2
6:00 PM - 8:59 PM	2,143	12.6%	4	21	14.7%	2.2%	3
9:00 AM - 11:59 AM	2,197	12.9%	3	16	11.1%	1.6%	4
6:00 AM - 8:59 AM	2,102	12.3%	5	15	10.4%	1.5%	5
9:00 PM - 11:59 PM	1,012	5.9%	6	10	7.1%	1.0%	6
12:00 AM - 2:59 AM	529	3.1%	7	9	6.0%	0.9%	7
3:00 AM - 5:59 AM	415	2.4%	8	9	6.0%	0.9%	7

**Analysis done with the Clark County File*

	Month						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Rear-End Crashes	17,069	100.0%		144	100.0%	14.8%	
March	1,493	8.7%	2	14	9.7%	1.4%	1
April	1,465	8.6%	5	13	9.3%	1.4%	2
October	1,500	8.8%	1	13	8.9%	1.3%	3
June	1,392	8.2%	9	13	8.8%	1.3%	4
January	1,379	8.1%	10	12	8.6%	1.3%	5
August	1,409	8.3%	7	12	8.6%	1.3%	5
September	1,395	8.2%	8	12	8.6%	1.3%	5
May	1,472	8.6%	4	12	8.5%	1.3%	8
December	1,486	8.7%	3	12	8.3%	1.2%	9
February	1,318	7.7%	11	12	8.1%	1.2%	10
November	1,456	8.5%	6	10	6.9%	1.0%	11
July	1,304	7.6%	12	8	5.7%	0.8%	12

**Analysis done with the Clark County File*

Crash Type
Rear-End Crashes
Average Annual (2008-2012)

	Distracted Driving						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Rear-End Crashes	17,069	100.0%		144	100.0%	14.8%	
No	14,068	82.4%	1	114	78.9%	11.7%	1
Yes	1,674	9.8%	2	16	11.3%	1.7%	2
Unknown	1,327	7.8%	3	14	9.9%	1.5%	3

**Analysis done with the Clark County File*

	Pedestrian						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Rear-End Crashes	17,069	100.0%		144	100.0%	14.8%	
No	15,349	89.9%	1	115	80.1%	11.8%	1
Unknown	1,707	10.0%	2	28	19.2%	2.8%	2
Yes	13	0.1%	3	1	0.7%	0.1%	3

**Analysis done with the Clark County File*

	Aggressive/Speeding						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Rear-End Crashes	17,069	100.0%		144	100.0%	14.8%	
No	7,637	44.7%	1	68	47.2%	7.0%	1
Yes	7,313	42.8%	2	60	41.9%	6.2%	2
Unknown	2,119	12.4%	3	16	10.8%	1.6%	3

**Analysis done with the Clark County File*

	Gender						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Rear-End Crashes	17,069	100.0%		144	100.0%	14.8%	
Male	9,812	57.5%	1	96	66.5%	9.8%	1
Female	6,241	36.6%	2	43	30.0%	4.4%	2
Unknown	1,017	6.0%	3	5	3.5%	0.5%	3

**Analysis done with the Clark County File*

Crash Type
Rear-End Crashes
Average Annual (2008-2012)

	Posted Speed Limit						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Rear-End Crashes	17,069	100.0%		144	100.0%	14.8%	
45-50	7,283	42.7%	1	70	48.5%	7.2%	1
35-40	3,189	18.7%	3	33	23.2%	3.4%	2
60+	3,516	20.6%	2	20	13.9%	2.1%	3
<35	1,055	6.2%	5	12	8.3%	1.2%	4
55	1,235	7.2%	4	6	3.9%	0.6%	5
Unknown	792	4.6%	6	3	2.2%	0.3%	6

**Analysis done with the Clark County File*

	Intersection						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Rear-End Crashes	17,069	100.0%		144	100.0%	14.8%	
Intersection Crash-No	10,783	63.2%	1	78	54.4%	8.0%	1
Intersection Crash-Yes	3,579	21.0%	2	44	30.6%	4.5%	2
Unknown	2,708	15.9%	3	22	15.0%	2.2%	3

**Analysis done with the Clark County File*

	Number of Lanes - One Direction						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Rear-End Crashes	17,069	100.0%		144	100.0%	14.8%	
5+	6,214	36.4%	1	56	39.0%	5.8%	1
4	2,939	17.2%	3	29	19.8%	2.9%	2
2	2,026	11.9%	4	23	15.8%	2.3%	3
3	2,979	17.4%	2	21	14.7%	2.2%	4
Unknown	1,856	10.9%	5	12	8.6%	1.3%	5
1	1,056	6.2%	6	3	2.1%	0.3%	6

**Analysis done with the Accident File*



CATEGORY 1 CEA

PEDESTRIANS ANALYSIS

Crash Analysis
Road User
Average Annual (2008-2012)

	Total Crashes			KA Crashes		
	#	%	Rank	#	%	Rank
Average Annual Persons Involved in a Crash	117,980	100.0%		1,210	100.0%	
Vehicle Occupant	115,684	98.1%	1	820	67.8%	1
Motorcycle Occupant	1,075	0.9%	2	179	14.8%	2
Pedestrian	673	0.6%	3	152	12.6%	3
Pedalcyclist	416	0.4%	4	48	4.0%	4
Unknown	131	0.1%	5	10	0.8%	5

**Analysis done with the Person File*

Pedestrian Analysis
Average Annual (2008-2012)

	Pedestrian Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		100.0%	
<i>Average Annual Pedestrians Involved in a Crash</i>	673	100.0%		152	100.0%	12.6%	
<25	241	35.8%	1	45	29.6%	3.7%	1
45-54	106	15.8%	2	28	18.1%	2.3%	2
55-64	84	12.4%	4	22	14.7%	1.9%	3
25-34	88	13.1%	3	19	12.4%	1.6%	4
65+	65	9.7%	6	18	12.1%	1.5%	5
35-44	76	11.3%	5	17	10.9%	1.4%	6
Unknown	13	1.9%	7	3	2.2%	0.3%	7

**Analysis done with the Person File*

Pedestrian Analysis
Average Annual (2008-2012)

	Pedestrian Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Persons Involved in a Crash	117,980			1,210		100.0%	
Average Annual Pedestrians Involved in a Crash	673	100.0%		152	100.0%	12.6%	
25-64	354	52.6%	1	85	56.1%	7.1%	1
<25	241	35.8%	2	45	29.6%	3.7%	2
65+	65	9.7%	3	18	12.1%	1.5%	3
Unknown	13	1.9%	4	3	2.2%	0.3%	4

**Analysis done with the Person File*

	Pedestrian Factors						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Persons Involved in a Crash	117,980			1,210		100.0%	
Average Annual Pedestrians Involved in a Crash	673	100.0%		152	100.0%	12.6%	
Improper Crossing	201	29.9%	2	72	47.2%	5.9%	1
Unknown	389	57.9%	1	59	38.5%	4.8%	2
Darting	72	10.8%	3	24	15.6%	2.0%	3
Failure to Yield to Right of Way	34	5.0%	4	14	9.2%	1.2%	4
Failure to Obey Traffic Signs, Signals, or Officer	30	4.5%	5	11	7.1%	0.9%	5
Not Visible	30	4.4%	6	10	6.6%	0.8%	6
Inattentive	29	4.2%	7	9	6.2%	0.8%	7
Lying/Illegally in Roadway	15	2.3%	8	5	3.2%	0.4%	8
Wrong Side of Road	5	0.7%	9	1	0.9%	0.1%	9

**Analysis done with the Person File*

Pedestrian Analysis
Average Annual (2008-2012)

	Pedestrian Action						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		100.0%	
<i>Average Annual Pedestrians Involved in a Crash</i>	673	100.0%		152	100.0%	12.6%	
Entering or Crossing Specified Location	469	69.7%	1	108	71.1%	8.9%	1
Other/Unknown	70	10.4%	3	21	13.8%	1.7%	2
Walking, Running, Jogging, or Playing	86	12.7%	2	15	9.7%	1.2%	3
Standing	31	4.7%	4	6	3.7%	0.5%	4
Approaching of Leaving Vehicle	8	1.1%	5	1	0.9%	0.1%	5
Working in Roadway	5	0.7%	6	1	0.7%	0.1%	6
Playing or Working of Vehicle	3	0.5%	7	0	0.1%	0.0%	7
Pushing Vehicle	1	0.2%	8	0	0.0%	0.0%	8

**Analysis done with the Person File*

	Location Prior to Impact						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		100.0%	
<i>Average Annual Pedestrians Involved in a Crash</i>	673	100.0%		152	100.0%	12.6%	
In Roadway	208	30.9%	1	69	45.3%	5.7%	1
Marked Crosswalk at Intersection	203	30.2%	2	32	20.8%	2.6%	2
Sidewalk	106	15.7%	3	18	12.0%	1.5%	3
Other/Unknown	62	9.3%	4	17	11.2%	1.4%	4
At Intersection But No Crosswalk	40	5.9%	5	5	3.5%	0.4%	5
Median	12	1.8%	7	5	3.5%	0.4%	5
Shoulder	12	1.8%	8	3	2.0%	0.2%	7
Non-Intersection Crosswalk	7	1.1%	9	2	1.2%	0.1%	8
Driveway Access Crosswalk	23	3.4%	6	1	0.5%	0.1%	9

**Analysis done with the Person File*

Pedestrian Analysis
Average Annual (2008-2012)

	Gender						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		100.0%	
<i>Average Annual Pedestrians Involved in a Crash</i>	673	100.0%		152	100.0%	12.6%	
Male	404	60.0%	1	100	66.0%	8.3%	1
Female	267	39.6%	2	51	33.6%	4.2%	2
Unknown	2	0.3%	3	1	0.4%	0.0%	3

**Analysis done with the Person File*

	Impaired						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		100.0%	
<i>Average Annual Pedestrians Involved in a Crash</i>	673	100.0%		152	100.0%	12.6%	
Alcohol and Drug Suspected - No	542	80.5%	1	108	71.2%	9.0%	1
Unknown	95	14.1%	2	30	19.7%	2.5%	2
Alcohol and Drug Suspected - Yes	36	5.4%	3	14	9.1%	1.1%	3

**Analysis done with the Person File*

	Day of Week						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		100.0%	
<i>Average Annual Pedestrians Involved in a Crash</i>	673	100.0%		152	100.0%	12.6%	
Friday	118	17.6%	1	32	20.9%	2.6%	1
Saturday	101	14.9%	3	26	16.8%	2.1%	2
Thursday	101	15.0%	2	21	13.9%	1.8%	3
Wednesday	94	14.0%	5	20	13.4%	1.7%	4
Tuesday	98	14.6%	4	18	12.0%	1.5%	5
Monday	92	13.7%	6	18	11.6%	1.5%	6
Sunday	69	10.2%	7	17	11.4%	1.4%	7

**Analysis done with the Person File*

Pedestrian Analysis
Average Annual (2008-2012)

	Hour of Day						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		100.0%	
<i>Average Annual Pedestrians Involved in a Crash</i>	673	100.0%		152	100.0%	12.6%	
6:00 PM - 8:59 PM	137	20.4%	2	39	25.4%	3.2%	1
3:00 PM - 5:59 PM	146	21.8%	1	27	17.5%	2.2%	2
9:00 PM - 11:59 PM	71	10.5%	5	23	15.0%	1.9%	3
12:00 PM - 2:59 PM	106	15.7%	3	18	12.1%	1.5%	4
3:00 AM - 5:59 AM	33	5.0%	8	14	8.9%	1.1%	5
6:00 AM - 8:59 AM	68	10.1%	6	11	7.5%	0.9%	6
12:00 AM - 2:59 AM	37	5.5%	7	11	7.4%	0.9%	7
9:00 AM - 11:59 AM	74	11.0%	4	10	6.3%	0.8%	8

**Analysis done with the Person File*

	Month						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		100.0%	
<i>Average Annual Pedestrians Involved in a Crash</i>	673	100.0%		152	100.0%	12.6%	
November	67	10.0%	2	17	11.4%	1.4%	1
August	48	7.2%	11	14	9.5%	1.2%	2
October	69	10.3%	1	13	8.7%	1.1%	3
December	59	8.8%	5	13	8.5%	1.1%	4
January	54	8.1%	7	13	8.3%	1.0%	5
April	59	8.7%	6	12	8.1%	1.0%	6
February	60	8.9%	3	12	7.9%	1.0%	7
September	53	7.9%	8	12	7.8%	1.0%	8
March	60	8.9%	4	12	7.6%	1.0%	9
May	49	7.3%	10	12	7.6%	1.0%	9
June	50	7.5%	9	12	7.6%	1.0%	9
July	44	6.5%	12	11	7.0%	0.9%	12

**Analysis done with the Person File*

Pedestrian Analysis
Average Annual (2008-2012)

	Lighting Conditions						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Pedestrians Crashes	567	100.0%		137	100.0%	14.1%	
Dark	220	38.8%	2	72	52.3%	7.3%	1
Light	324	57.1%	1	57	41.5%	5.8%	2
Dusk/Dawn	19	3.3%	3	6	4.4%	0.6%	3
Unknown	5	0.8%	4	3	1.9%	0.3%	4

**Analysis done with the Clark County File*

	Crash Type						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Pedestrians Crashes	567	100.0%		137	100.0%	14.1%	
Angle	336	59.3%	1	69	50.2%	7.1%	1
Non-Collision	176	31.1%	2	59	43.1%	6.1%	2
Unknown	12	2.1%	5	4	2.6%	0.4%	3
Sideswipe, Overtaking or Meeting	19	3.4%	3	2	1.6%	0.2%	4
Backing	8	1.5%	6	2	1.2%	0.2%	5
Rear-End	13	2.3%	4	1	0.7%	0.1%	6
Head-On	1	0.2%	7	1	0.6%	0.1%	7
Rear-To-Rear	0	0.0%	8	0	0.0%	0.0%	8

**Analysis done with the Clark County File*

	Vehicle 1 - Distracted						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Pedestrians Crashes	567	100.0%		137	100.0%	14.1%	
Distracted Driving - No	444	78.2%	1	112	81.5%	11.4%	1
Unknown	103	18.2%	2	22	15.9%	2.2%	2
Distracted Driving - Yes	20	3.5%	3	4	2.6%	0.4%	3

**Analysis done with the Clark County File*

Pedestrian Analysis
Average Annual (2008-2012)

	Vehicle 1 - Aggressive/Speeding						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Pedestrians Crashes</i>	567	100.0%		137	100.0%	14.1%	
Aggressive/Speeding - No	332	58.5%	1	71	51.5%	7.2%	1
Unknown	221	38.9%	2	60	44.1%	6.2%	2
Aggressive/Speeding - Yes	15	2.6%	3	6	4.4%	0.6%	3

**Analysis done with the Clark County File*

	Posted Speed Limit						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Pedestrians Crashes</i>	567	100.0%		137	100.0%	14.1%	
45-50	174	30.7%	1	53	38.8%	5.5%	1
35-40	160	28.1%	3	37	27.2%	3.8%	2
<35	174	30.6%	2	31	22.3%	3.1%	3
Unknown	47	8.3%	4	10	7.0%	1.0%	4
60+	10	1.7%	5	4	3.2%	0.5%	5
55	3	0.6%	6	2	1.5%	0.2%	6

**Analysis done with the Clark County File*

	Intersection						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Pedestrians Crashes</i>	567	100.0%		137	100.0%	14.1%	
Intersection Crash - No	241	42.6%	2	63	45.7%	6.4%	1
Intersection Crash - Yes	269	47.4%	1	56	40.9%	5.7%	2
Unknown	57	10.0%	3	18	13.4%	1.9%	3

**Analysis done with the Clark County File*

Pedestrian Analysis
Average Annual (2008-2012)

	Driver Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Pedestrians Crashes	567	100.0%		137	100.0%	14.1%	
Apparently Normal	409	72.2%	1	95	69.6%	9.8%	1
Unknown	103	18.1%	2	22	15.9%	2.2%	2
Had Been Drinking	19	3.4%	4	10	7.3%	1.0%	3
Drug Involvement	7	1.3%	6	4	2.8%	0.4%	4
Inattention/Distracted	21	3.6%	3	4	2.6%	0.4%	5
Other Improper Driving	9	1.7%	5	3	2.0%	0.3%	6
Obstructed View	3	0.6%	7	1	1.0%	0.1%	7
Illness	1	0.2%	8	1	0.6%	0.1%	8
Physical Impairment	1	0.1%	9	0	0.3%	0.0%	9
Fell Asleep, Fainted, Fatigued	1	0.1%	10	0	0.1%	0.0%	10

**Analysis done with the Clark County File*

Pedestrian Analysis
Average Annual (2008-2012)

	Vehicle Action						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Pedestrians Crashes	567	100.0%		137	100.0%	14.1%	
Going Straight	299	52.8%	1	102	74.2%	10.4%	1
Turning Right	126	22.2%	2	12	8.6%	1.2%	2
Turning Left	81	14.2%	3	10	7.3%	1.0%	3
Other/Unknown	32	5.6%	4	8	6.0%	0.8%	4
Backing Up	12	2.1%	5	2	1.5%	0.2%	5
Changing Lanes	5	1.0%	6	1	1.0%	0.1%	6
Stopped	5	0.9%	7	1	0.4%	0.1%	7
Passing Other Vehicle	2	0.3%	8	1	0.4%	0.1%	7
Other Turning Movement	1	0.2%	11	0	0.3%	0.0%	9
Making U-Turn	2	0.3%	8	0	0.1%	0.0%	10
Entering/Leaving Park Position	2	0.3%	8	0	0.1%	0.0%	10
Traveling Wrong Way	0	0.0%	13	0	0.0%	0.0%	12
Racing	0	0.0%	14	0	0.0%	0.0%	12
Driverless-Moving Vehicle	0	0.1%	12	0	0.0%	0.0%	12
Parked	0	0.0%	14	0	0.0%	0.0%	12

**Analysis done with the Clark County File*

Pedestrian Analysis
Average Annual (2008-2012)

	Vehicle Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Pedestrians Crashes</i>	567	100.0%		137	100.0%	14.1%	
Other/Unknown	249	43.9%	1	68	49.6%	7.0%	1
No Improper Driving	104	18.3%	3	29	21.3%	3.0%	2
Failed to Yield Right of Way	177	31.2%	2	25	18.2%	2.6%	3
Hit and Run	102	18.0%	4	19	14.0%	2.0%	4
Failure to Maintain Lane or Run off Road	20	3.6%	5	8	5.8%	0.8%	5
Ran off Road	8	1.4%	9	4	3.1%	0.4%	6
Disregarded Traffic Signs, Signals, and Markings	10	1.8%	6	4	2.6%	0.4%	7
Object Avoidance	9	1.7%	8	3	2.3%	0.3%	8
Exceeded Speed Limit	4	0.7%	13	3	2.2%	0.3%	9
Driving Too Fast for Conditions	6	1.1%	10	2	1.8%	0.2%	10
Unsafe Lane Change/Backing	10	1.8%	6	2	1.2%	0.2%	11
Reckless Driving	4	0.8%	12	1	0.7%	0.1%	12
Made Improper Turn	6	1.1%	10	1	0.7%	0.1%	12
Visibility Obstructed	3	0.5%	15	1	0.7%	0.1%	12
Over-Correcting/Over-Steering	1	0.2%	17	1	0.6%	0.1%	15
Drove Left of Center	2	0.4%	16	1	0.4%	0.1%	16
Wrong Way	1	0.1%	18	0	0.1%	0.0%	17
Mechanical Defects	1	0.1%	18	0	0.1%	0.0%	17
Driverless Vehicle	1	0.1%	18	0	0.1%	0.0%	17
Followed Too Closely	3	0.5%	14	0	0.0%	0.0%	20

**Analysis done with the Clark County File*



CATEGORY 1 CEA

BICYCLISTS ANALYSIS

Crash Analysis
Road User
Average Annual (2008-2012)

	Total Crashes			KA Crashes		
	#	%	Rank	#	%	Rank
Average Annual Persons Involved in a Crash	117,980	100.0%		1,210	100.0%	
Vehicle Occupant	115,684	98.1%	1	820	67.8%	1
Motorcycle Occupant	1,075	0.9%	2	179	14.8%	2
Pedestrian	673	0.6%	3	152	12.6%	3
Pedalcyclist	416	0.4%	4	48	4.0%	4
Unknown	131	0.1%	5	10	0.8%	5

**Analysis done with the Person File*

Bicycle Analysis
Average Annual (2008-2012)

	Bicyclist Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	117,980			1,210		100.0%	
<i>Average Annual Bicycle Crashes</i>	416	100.0%		48	100.0%	4.0%	
<25	213	51.1%	1	23	47.9%	1.9%	1
45-54	53	12.8%	2	8	16.9%	0.7%	2
25-34	52	12.6%	3	6	12.8%	0.5%	3
35-44	51	12.2%	4	5	9.5%	0.4%	4
55-64	28	6.8%	5	4	8.7%	0.3%	5
65+	14	3.3%	6	2	3.7%	0.1%	6
Unknown	4.8	1.2%	7	0	0.4%	0.0%	7

**Analysis done with the Person File*

Bicycle Analysis
Average Annual (2008-2012)

	Bicyclist Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Persons Involved in a Crash	117,980			1,210		100.0%	
Average Annual Bicycles Involved in a Crash	416	100.0%		48	100.0%	4.0%	
<25	213	51.1%	1	23	47.9%	1.9%	1
25-64	185	44.4%	2	23	47.9%	1.9%	1
65+	14	3.3%	3	2	3.7%	0.1%	3
Unknown	5	1.2%	4	0	0.4%	0.0%	4

**Analysis done with the Person File*

	Bicyclist Factors						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Persons Involved in a Crash	117,980			1,210		100.0%	
Average Annual Bicycles Involved in a Crash	416	100.0%		48	100.0%	4.0%	
Improper Crossing	124	29.7%	2	20	40.5%	1.6%	1
Unknown	135	32.5%	1	14	28.9%	1.2%	2
Wrong Side of Road	124	29.7%	2	9	19.0%	0.8%	3
Failure to Yield to Right of Way	54	13.0%	4	9	18.6%	0.7%	4
Darting	51	12.2%	5	8	17.4%	0.7%	5
Failure to Obey Traffic Signs, Signals, or Officer	39	9.5%	6	8	15.7%	0.6%	6
Inattentive	22	5.4%	8	6	12.0%	0.5%	7
Not Visible	25	5.9%	7	3.6	7.4%	0.3%	8
Lying/Illegally in Roadway	2	0.5%	9	0	0.8%	0.0%	9

**Analysis done with the Person File*

Bicycle Analysis
Average Annual (2008-2012)

	Bicyclist Action						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		100.0%	
<i>Average Annual Bicycles Involved in a Crash</i>	416	100.0%		48	100.0%	4.0%	
Entering or Crossing Specified Location	250	60.0%	1	26	54.5%	2.2%	1
Walking, Running, Jogging, or Playing	125	30.0%	2	15	31.0%	1.2%	2
Other/Unknown	31	7.3%	3	5	10.7%	0.4%	3
Standing	3	0.8%	5	1	2.1%	0.1%	4
Approaching of Leaving Vehicle	6	1.5%	4	1	1.2%	0.0%	5
Playing or Working of Vehicle	1	0.3%	6	0	0.4%	0.0%	6
Working in Roadway	0	0.1%	7	0	0.0%	0.0%	7
Pushing Vehicle	0	0.0%	8	0	0.0%	0.0%	7

**Analysis done with the Person File*

	Location Prior to Impact						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		100.0%	
<i>Average Annual Bicycles Involved in a Crash</i>	416	100.0%		48	100.0%	4.0%	
In Roadway	153	36.6%	1	25	52.1%	2.1%	1
Sidewalk	99	23.8%	2	7	14.5%	0.6%	2
Marked Crosswalk at Intersection	64	15.3%	3	5	10.3%	0.4%	3
Other/Unknown	40	9.7%	4	5	9.5%	0.4%	4
At Intersection But No Crosswalk	30	7.3%	5	3	6.6%	0.3%	5
Shoulder	12	3.0%	7	2	4.5%	0.2%	6
Driveway Access Crosswalk	14	3.4%	6	1	2.1%	0.1%	7
Median	1	0.2%	9	0	0.4%	0.0%	8
Non-Intersection Crosswalk	3	0.6%	8	0	0.0%	0.0%	9

**Analysis done with the Person File*

Bicycle Analysis
Average Annual (2008-2012)

	Bikeway Description						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		100.0%	
<i>Average Annual Bicycles Involved in a Crash</i>	416	100.0%		48	100.0%	4.0%	
No Bikeway	356	85.5%	1	42	86.8%	3.5%	1
Bicycle Lane (Striped)	30	7.3%	2	3	7.0%	0.3%	2
Other/Unknown	23	5.6%	3	2	4.5%	0.2%	3
Bicycle Route (Signed)	4	1.0%	4	1	1.2%	0.0%	4
Separate Bicycle Path/Trail	2	0.6%	5	0	0.4%	0.0%	5

**Analysis done with the Person File*

	Gender						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		100.0%	
<i>Average Annual Bicycles Involved in a Crash</i>	416	100.0%		48	100.0%	4.0%	
Male	354	85.1%	1	43	88.0%	3.5%	1
Female	62	14.8%	2	6	12.0%	0.5%	2
Unknown	0	0.1%	3	0	0.0%	0.0%	3

**Analysis done with the Person File*

	Impaired Bicyclists						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		100.0%	
<i>Average Annual Bicycles Involved in a Crash</i>	416	100.0%		48	100.0%	4.0%	
Alcohol and Drug Suspected - No	389	93.3%	1	43	89.3%	3.6%	1
Unknown	21	5.0%	2	4	7.9%	0.3%	2
Alcohol and Drug Suspected - Yes	7	1.7%	3	1	2.9%	0.1%	3

**Analysis done with the Person File*

Bicycle Analysis
Average Annual (2008-2012)

	Day of Week						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		100.0%	
<i>Average Annual Bicycles Involved in a Crash</i>	416	100.0%		48	100.0%	4.0%	
Friday	65	15.6%	3	9	17.8%	0.7%	1
Saturday	51	12.2%	6	8	16.5%	0.7%	2
Tuesday	67	16.1%	2	8	16.1%	0.6%	3
Wednesday	70	16.8%	1	8	15.7%	0.6%	4
Thursday	62	14.9%	4	7	13.6%	0.5%	5
Monday	61	14.7%	5	5	11.2%	0.4%	6
Sunday	40	9.7%	7	4	9.1%	0.4%	7

**Analysis done with the Person File*

	Hour of Day						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		100.0%	
<i>Average Annual Bicycles Involved in a Crash</i>	416	100.0%		48	100.0%	4.0%	
3:00 PM - 5:59 PM	117	28.0%	1	14	28.9%	1.2%	1
12:00 PM - 2:59 PM	87	21.0%	2	11	22.3%	0.9%	2
6:00 PM - 8:59 PM	57	13.7%	4	9	17.8%	0.7%	3
9:00 AM - 11:59 AM	53	12.7%	5	6	11.6%	0.5%	4
6:00 AM - 8:59 AM	67	16.0%	3	5	10.3%	0.4%	5
9:00 PM - 11:59 PM	21	5.1%	6	2	4.1%	0.2%	6
12:00 AM - 2:59 AM	8	1.9%	7	2	3.3%	0.1%	7
3:00 AM - 5:59 AM	6	1.5%	8	1	1.7%	0.1%	8

**Analysis done with the Person File*

Bicycle Analysis
Average Annual (2008-2012)

	Month						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		100.0%	
<i>Average Annual Bicycles Involved in a Crash</i>	416	100.0%		48	100.0%	4.0%	
October	49	11.7%	1	6	12.0%	0.5%	1
November	32	7.7%	8	5	9.9%	0.4%	2
May	43	10.3%	2	5	9.5%	0.4%	3
March	41	9.8%	4	5	9.5%	0.4%	3
February	33	8.0%	7	4	8.7%	0.3%	5
August	29	6.9%	10	4	8.7%	0.3%	5
June	35	8.5%	6	4	8.3%	0.3%	7
September	42	10.2%	3	4	7.9%	0.3%	8
April	35	8.5%	5	4	7.9%	0.3%	8
January	26	6.1%	11	4	7.9%	0.3%	8
July	30	7.3%	9	2	5.0%	0.2%	11
December	21	5.0%	12	2	5.0%	0.2%	11

**Analysis done with the Person File*

	Lighting Conditions						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Bicycle Crashes</i>	325	100.0%		39	100.0%	4.0%	
Light	250	76.7%	1	28	70.1%	2.8%	1
Dark	61	18.8%	2	9	23.4%	0.9%	2
Dusk/Dawn	13	4.1%	3	2	5.1%	0.2%	3
Unknown	1	0.4%	4	1	1.5%	0.1%	4

**Analysis done with the Clark County File*

Bicycle Analysis
Average Annual (2008-2012)

	Crash Type						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Bicycle Crashes	325	100.0%		39	100.0%	4.0%	
Angle	251	77.3%	1	25	64.0%	2.6%	1
Non-Collision	43	13.2%	2	11	26.9%	1.1%	2
Rear-End	12	3.8%	4	2	4.6%	0.2%	3
Sideswipe, Overtaking or Meeting	15	4.7%	3	2	4.1%	0.2%	4
Unknown	2	0.7%	5	0	0.5%	0.0%	5
Backing	1	0.3%	6	0	0.0%	0.0%	6
Head-On	0	0.1%	7	0	0.0%	0.0%	6
Rear-To-Rear	0	0.1%	7	0	0.0%	0.0%	6

**Analysis done with the Clark County File*

	Vehicle 1 - Distracted						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Bicycle Crashes	325	100.0%		39	100.0%	4.0%	
Distracted Driving - No	274	84.3%	1	34	87.3%	3.5%	1
Unknown	43	13.3%	2	4	9.6%	0.4%	2
Distracted Driving - Yes	8	2.4%	3	1	3.0%	0.1%	3

**Analysis done with the Clark County File*

	Vehicle 1 - Aggressive/Speeding						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Bicycle Crashes	325	100.0%		39	100.0%	4.0%	
Unknown	194	59.6%	1	26	66.0%	2.7%	1
Aggressive/Speeding - No	126	38.8%	2	13	32.0%	1.3%	2
Aggressive/Speeding - Yes	5	1.5%	3	1	2.0%	0.1%	3

**Analysis done with the Clark County File*

Bicycle Analysis
Average Annual (2008-2012)

	Posted Speed Limit						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Bicycle Crashes</i>	325	100.0%		39	100.0%	4.0%	
35-40	98	30.1%	2	15	37.6%	1.5%	1
<35	115	35.4%	1	12	31.0%	1.3%	2
45-50	76	23.4%	3	10	24.4%	1.0%	3
Unknown	30	9.2%	4	2	5.1%	0.2%	4
55	2	0.7%	6	1	1.5%	0.1%	5
60+	4	1.2%	5	0	0.5%	0.0%	6

**Analysis done with the Clark County File*

	Intersection						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Bicycle Crashes</i>	325	100.0%		39	100.0%	4.0%	
Intersection Crash - Yes	181	55.6%	1	22	54.8%	2.2%	1
Intersection Crash - No	131	40.3%	2	16	41.1%	1.7%	2
Unknown	14	4.2%	3	2	4.1%	0.2%	3

**Analysis done with the Clark County File*

Bicycle Analysis
Average Annual (2008-2012)

	Driver Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Bicycle Crashes</i>	325	100.0%		39	100.0%	4.0%	
Apparently Normal	263	80.8%	1	32	81.2%	3.3%	1
Unknown	43	13.3%	2	4	9.6%	0.4%	2
Had Been Drinking	5	1.4%	5	2	4.6%	0.2%	3
Inattention/Distracted	8	2.4%	3	1	3.0%	0.1%	4
Other Improper Driving	6	1.8%	4	1	1.5%	0.1%	5
Drug Involvement	1	0.2%	7	0	1.0%	0.0%	6
Obstructed View	3	1.0%	6	0	0.5%	0.0%	7
Fell Asleep, Fainted, Fatigued	1	0.2%	7	0	0.0%	0.0%	8

**Analysis done with the Clark County File*

	Vehicle Action						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Bicycle Crashes</i>	325	100.0%		39	100.0%	4.0%	
Going Straight	117	35.9%	2	24	59.9%	2.4%	1
Turning Right	130	39.8%	1	9	21.8%	0.9%	2
Turning Left	35	10.9%	3	3	7.6%	0.3%	3
Other/Unknown	21	6.5%	4	2	6.1%	0.2%	4
Stopped	11	3.3%	5	1	1.5%	0.1%	5
Parked	2	0.7%	7	1	1.5%	0.1%	5
Making U-Turn	2	0.5%	9	0	1.0%	0.0%	7
Traveling Wrong Way	1	0.2%	11	0	0.5%	0.0%	8
Changing Lanes	3	1.0%	6	0	0.0%	0.0%	9
Passing Other Vehicle	2	0.6%	8	0	0.0%	0.0%	9
Backing Up	2	0.5%	9	0	0.0%	0.0%	9
Entering/Leaving Park Position	1	0.2%	11	0	0.0%	0.0%	9
Other Turning Movement	0	0.1%	13	0	0.0%	0.0%	9

**Analysis done with the Clark County File*

Bicycle Analysis
Average Annual (2008-2012)

	Vehicle Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Bicycle Crashes	325	100.0%		39	100.0%	4.0%	
Other/Unknown	205	63.1%	1	27	68.5%	2.8%	1
No Improper Driving	49	15.0%	3	5	13.2%	0.5%	2
Failed to Yield Right of Way	56	17.2%	2	4	10.2%	0.4%	3
Hit and Run	40	12.3%	4	4	9.6%	0.4%	4
Failure to Maintain Lane or Run off Road	5	1.5%	7	1	3.0%	0.1%	5
Disregarded Traffic Signs, Signals, and Markings	7	2.2%	5	1	2.0%	0.1%	6
Object Avoidance	2	0.7%	10	1	1.5%	0.1%	7
Made Improper Turn	6	1.7%	6	0	1.0%	0.0%	8
Visibility Obstructed	3	1.0%	9	0	1.0%	0.0%	8
Ran off Road	1	0.4%	11	0	1.0%	0.0%	8
Exceeded Speed Limit	1	0.4%	11	0	1.0%	0.0%	8
Unsafe Lane Change/Backing	4	1.1%	8	0	0.5%	0.0%	12
Wrong Way	1	0.3%	13	0	0.5%	0.0%	12
Followed Too Closely	1	0.3%	13	0	0.5%	0.0%	12
Over-Correcting/Over-Steering	1	0.2%	15	0	0.5%	0.0%	12
Drove Left of Center	1	0.2%	15	0	0.5%	0.0%	12
Driving Too Fast for Conditions	1	0.2%	15	0	0.0%	0.0%	17
Reckless Driving	1	0.2%	15	0	0.0%	0.0%	17
Driverless Vehicle	1	0.2%	15	0	0.0%	0.0%	17
Mechanical Defects	0	0.0%	20	0	0.0%	0.0%	17

**Analysis done with the Clark County File*



APPENDIX C

CATEGORY 2 CRITICAL EMPHASIS AREAS – CRASH ANALYSIS



CATEGORY 2 CEA

AGGRESSIVE DRIVING AND SPEEDING ANALYSIS

Crash Analysis
Vehicle 1 Aggressive/Speeding
Average Annual (2008-2012)

	Total Crashes			KA Crashes		
	#	%	Rank	#	%	Rank
<i>Average Annual Crashes</i>	41,738	100.0%		975	100.0%	
Aggressive/Speeding - No	24,605	59.0%	1	649	66.6%	1
Aggressive/Speeding - Yes	12197	29.2%	2	169	17.3%	200.0%
Unknown	4,936	11.8%	3	157	16.1%	3

**Analysis done with the Clark County File*

**Aggressive/Speeding
Vehicle 1
Average Annual (2008-2012)**

	Lighting Conditions						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Aggressive/Speeding Crashes	12,197	100.0%		169	100.0%	17.3%	
Light	8,415	69.0%	1	89	52.5%	9.1%	1
Dark	3,012	24.7%	2	71	41.8%	7.2%	2
Dusk/Dawn	350	2.9%	4	9	5.2%	0.9%	3
Other/Unknown	419	3.4%	3	1	0.5%	0.1%	4

**Analysis done with the Clark County File*

	Driver Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Aggressive/Speeding Crashes	12,197	100.0%		169	100.0%	17.3%	
Apparently Normal	9,497	77.9%	1	70	41.4%	7.2%	1
Had Been Drinking	710	5.8%	2	47	27.6%	4.8%	2
Drug Involvement	155	1.3%	5	13	7.6%	1.3%	3
Other Improper Driving	501	4.1%	4	11	6.8%	1.2%	4
Inattention/Distracted	517	4.2%	3	7	4.1%	0.7%	5
Illness	20	0.2%	7	2	1.1%	0.2%	6
Fell Asleep, Fainted, Fatigued	51	0.4%	6	1	0.7%	0.1%	7
Physical Impairment	15	0.1%	8	0	0.1%	0.0%	8
Obstructed View	13	0.1%	9	0	0.1%	0.0%	8
Unknown	0	0.0%	10	0	0.0%	0.0%	10

**Analysis done with the Clark County File*

	Vehicle Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Aggressive/Speeding Crashes	12,197	100.0%		169	100.0%	17.3%	
Driving Too Fast for Conditions	2,695	22.1%	3	72	42.7%	7.4%	1
Exceeded Speed Limit	270	2.2%	4	57	33.9%	5.9%	2
Followed Too Closely	5,616	46.0%	1	34	19.9%	3.4%	3
Unsafe Lane Change/Backing	3,991	32.7%	2	28	16.5%	2.9%	4

**Analysis done with the Clark County File*

**Aggressive/Speeding
Vehicle 1
Average Annual (2008-2012)**

	Vehicle Action						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Aggressive/Speeding Crashes</i>	12,197	100.0%		169	100.0%	17.3%	
Going Straight	7,461	61.2%	1	124	73.6%	12.7%	1
Changing Lanes	2,729	22.4%	2	14	8.5%	1.5%	2
Other/Unknown	887	7.3%	3	12	7.1%	1.2%	3
Turning Right	548	4.5%	4	5	3.2%	0.6%	4
Turning Left	372	3.1%	5	4	2.6%	0.5%	5
Other Turning Movement	29	0.2%	9	3	1.5%	0.3%	6
Racing	8	0.1%	11	2	1.3%	0.2%	7
Passing Other Vehicle	40	0.3%	7	1	0.8%	0.1%	8
Traveling Wrong Way	5	0.0%	12	1	0.7%	0.1%	9
Stopped	64	0.5%	6	1	0.4%	0.1%	10
Making U-Turn	40	0.3%	8	0	0.1%	0.0%	11
Backing Up	2	0.0%	13	0	0.1%	0.0%	11
Entering/Leaving Park Position	11	0.1%	10	0	0.0%	0.0%	13
Parked	1	0.0%	14	0	0.0%	0.0%	13
Driverless-Moving Vehicle	0	0.0%	15	0	0.0%	0.0%	13

**Analysis done with the Clark County File*

	Driver Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Aggressive/Speeding Crashes</i>	12,197	99.0%		169	99.4%	17.3%	
25-64	7,369	60.4%	1	102	60.7%	10.5%	1
< 25	3,094	25.4%	2	53	31.3%	5.4%	2
65 +	747	6.1%	4	7	3.9%	0.7%	3
Unknown	860	7.1%	3	6	3.6%	0.6%	4

**Analysis done with the Clark County File*

**Aggressive/Speeding
Vehicle 1
Average Annual (2008-2012)**

	Crash Type						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Aggressive/Speeding Crashes</i>	12,197	100.0%		169	100.0%	17.3%	
Angle	2,989	24.5%	2	59	34.8%	6.0%	1
Rear-End	7,207	59.1%	1	57	33.6%	5.8%	2
Non-Collision	618	5.1%	4	45	26.5%	4.6%	3
Sideswipe, Overtaking or Meeting	1,314	10.8%	3	5	3.1%	0.5%	4
Head-On	42	0.3%	5	2	1.4%	0.2%	5
Unknown	11	0.1%	7	1	0.4%	0.1%	6
Backing	3	0.0%	8	0	0.1%	0.0%	7
Rear-To-Rear	12	0.1%	6	0	0.0%	0.0%	8

**Analysis done with the Clark County File*

	Bicycle						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Aggressive/Speeding Crashes</i>	12,197	100.0%		169	100.0%	17.3%	
No Bicycle Involved	11,342	93.0%	1	159	94.0%	16.3%	1
Unknown	850	7.0%	2	9	5.6%	1.0%	2
Bicycle Involved	5	0.0%	3	1	0.5%	0.1%	3

**Analysis done with the Clark County File*

	Impaired						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Aggressive/Speeding Crashes</i>	12,197	100.0%		169	100.0%	17.3%	
Alcohol and Drug Suspected - No	10,145	83.2%	1	88	52.1%	9.0%	1
Alcohol and Drug Suspected - Yes	713	5.8%	3	49	28.9%	5.0%	2
Unknown	1,338	11.0%	2	32	19.0%	3.3%	3

**Analysis done with the Clark County File*

**Aggressive/Speeding
Vehicle 1
Average Annual (2008-2012)**

	Day of Week						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Aggressive/Speeding Crashes</i>	12,197	100.0%		169	100.0%	17.3%	
Friday	2,045	16.8%	1	28	16.4%	2.8%	1
Saturday	1,494	12.3%	6	27	16.2%	2.8%	2
Sunday	1,094	9.0%	7	26	15.6%	2.7%	3
Thursday	1,943	15.9%	3	24	14.2%	2.5%	4
Wednesday	1,967	16.1%	2	22	13.2%	2.3%	5
Monday	1,739	14.3%	5	21	12.3%	2.1%	6
Tuesday	1,913	15.7%	4	20	12.1%	2.1%	7

**Analysis done with the Clark County File*

	Hour of Day						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Aggressive/Speeding Crashes</i>	12,197	100.0%		169	100.0%	17.3%	
3:00 PM - 5:59 PM	3,440	28.2%	1	36	21.1%	3.7%	1
6:00 PM - 8:59 PM	1,481	12.1%	4	28	16.7%	2.9%	2
12:00 PM - 2:59 PM	2,588	21.2%	2	25	14.9%	2.6%	3
12:00 AM - 2:59 AM	496	4.1%	7	19	11.0%	1.9%	4
9:00 PM - 11:59 PM	825	6.8%	6	18	10.4%	1.8%	5
6:00 AM - 8:59 AM	1,390	11.4%	5	15	8.9%	1.5%	6
9:00 AM - 11:59 AM	1,588	13.0%	3	15	8.6%	1.5%	7
3:00 AM - 5:59 AM	388	3.2%	8	14	8.3%	1.4%	8

**Analysis done with the Clark County File*

**Aggressive/Speeding
Vehicle 1
Average Annual (2008-2012)**

	Month						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Aggressive/Speeding Crashes	12,197	100.0%		169	100.0%	17.3%	
March	1,060	8.7%	3	17	9.8%	1.7%	1
April	1,019	8.4%	5	15	9.0%	1.6%	2
September	958	7.9%	11	15	8.9%	1.5%	3
October	1,072	8.8%	2	15	8.6%	1.5%	4
January	1,000	8.2%	7	14	8.5%	1.5%	5
November	1,031	8.5%	4	14	8.4%	1.5%	6
December	1,146	9.4%	1	14	8.3%	1.4%	7
May	1,018	8.3%	6	14	8.2%	1.4%	8
August	990	8.1%	8	14	8.1%	1.4%	9
February	979	8.0%	9	13	7.8%	1.4%	10
June	968	7.9%	10	12	7.3%	1.3%	11
July	956	7.8%	12	12	7.0%	1.2%	12

**Analysis done with the Clark County File*

	Distracted Driving						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Aggressive/Speeding Crashes	12,197	100.0%		169	100.0%	17.3%	
No	10,814	88.7%	1	134	79.5%	13.8%	1
Unknown	866	7.1%	2	28	16.4%	2.8%	2
Yes	517	4.2%	3	7	4.1%	0.7%	3

**Analysis done with the Clark County File*

	Pedestrian						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Aggressive/Speeding Crashes	12,197	100.0%		169	100.0%	17.3%	
No	11,332	92.9%	1	154	91.0%	15.8%	1
Unknown	850	7.0%	2	9	5.6%	1.0%	2
Yes	15	0.1%	3	6	3.4%	0.6%	3

**Analysis done with the Clark County File*

**Aggressive/Speeding
Vehicle 1
Average Annual (2008-2012)**

	Gender						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Aggressive/Speeding Crashes</i>	12,197	100.0%		169	100.0%	17.3%	
Male	7,083	58.1%	1	122	72.4%	12.5%	1
Female	4,344	35.6%	2	42	24.9%	4.3%	2
Unknown	770	6.3%	3	5	2.7%	0.5%	3

**Analysis done with the Clark County File*

	Posted Speed Limit						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Aggressive/Speeding Crashes</i>	12,197	100.0%		169	100.0%	17.3%	
45-50	5,238	42.9%	1	66	39.1%	6.8%	1
35-40	2,695	22.1%	2	46	27.0%	4.7%	2
<35	964	7.9%	4	22	13.3%	2.3%	3
60+	1,936	15.9%	3	20	11.6%	2.0%	4
55	735	6.0%	5	9	5.6%	1.0%	5
Unknown	628	5.2%	6	6	3.4%	0.6%	6

**Analysis done with the Clark County File*

	Intersection						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Aggressive/Speeding Crashes</i>	12,197	100.0%		169	100.0%	17.3%	
Intersection Crash-No	7,181	58.9%	1	86	51.2%	8.9%	1
Intersection Crash-Yes	3,124	25.6%	2	59	35.1%	6.1%	2
Unknown	1,892	15.5%	3	23	13.7%	2.4%	3

**Analysis done with the Clark County File*

**Aggressive/Speeding
Vehicle 1
Average Annual (2008-2012)**

	Additional Age Breakdown						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual Aggressive/Speeding Crashes</i>	12,197	100.0%		169	100.0%	17.3%	
25-34	2,817	23.1%	1	46	27.5%	4.8%	1
21-24	1,499	12.3%	5	27	15.9%	2.7%	2
< 21	1,595	13.1%	3	26	15.4%	2.7%	3
35-44	2,021	16.6%	2	25	14.6%	2.5%	4
45-54	1,567	12.8%	4	19	11.3%	1.9%	5
55-64	964	7.9%	7	12	7.3%	1.3%	6
Unknown	987	8.1%	6	7	4.1%	0.7%	7
65+	747	6.1%	8	7	3.9%	0.7%	8

**Analysis done with the Clark County File*



CATEGORY 2 CEA

DISTRACTED DRIVING ANALYSIS

Crash Analysis
Distracted Driving-Vehicle 1
Average Annual (2008-2012)

	Total Crashes			KA Crashes		
	#	%	Rank	#	%	Rank
Average Annual Crashes	41,738	100.0%		975	100.0%	
Distracted Driving - No	35,352	84.7%	1	796	81.7%	1
Unknown	4,002	9.6%	2	138	14.2%	2
Distracted Driving - Yes	2,384	5.7%	3	40	4.1%	3

**Analysis done with the Clark County File*

Distracted Driving Analysis
Vehicle 1
Average Annual (2008-2012)

	Lighting Conditions						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Distracted Driving Crashes	2,384	100.0%		40	100.0%	4.1%	
Light	1,659	69.6%	1	25	62.9%	2.6%	1
Dark	520	21.8%	2	12	30.2%	1.3%	2
Dusk/Dawn	80	3.3%	4	3	6.4%	0.3%	3
Other/Unknown	125	5.3%	3	0	0.5%	0.0%	4

**Analysis done with the Clark County File*

	Driver Distraction						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Distracted Driving Crashes	2,384	100.0%		40	100.0%	4.1%	
Other/Unknown	1,833	76.9%	1	32	80.2%	3.3%	1
Cell Phone	232	9.7%	2	4	9.4%	0.4%	2
Children	86	3.6%	3	2	4.0%	0.2%	3
Eating	35	1.5%	6	1	2.5%	0.1%	4
Radio/CD Player	79	3.3%	4	1	2.0%	0.1%	5
Electronic Equipment	47	2.0%	5	0	1.0%	0.0%	6
Animals	20	0.8%	8	0	0.5%	0.0%	7
Smoking	16	0.7%	9	0	0.5%	0.0%	7
Personal Hygiene	12	0.5%	10	0	0.0%	0.0%	9
Reading	24	1.0%	7	0	0.0%	0.0%	9

**Analysis done with the Clark County File*

Distracted Driving Analysis
Vehicle 1
Average Annual (2008-2012)

	Vehicle Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Distracted Driving Crashes	2,384	100.0%		40	100.0%	4.1%	
Other/Unknown	1,151	48.3%	1	17	41.6%	1.7%	1
Failed to Yield Right of Way	172	7.2%	5	8	20.3%	0.8%	2
Failure to Maintain Lane or Run off Road	215	9.0%	3	7	17.3%	0.7%	3
Disregarded Traffic Signs, Signals, and Markings	113	4.7%	6	5	12.9%	0.5%	4
Driving Too Fast for Conditions	77	3.2%	8	3	8.4%	0.3%	5
Ran off Road	47	2.0%	13	3	8.4%	0.3%	5
Followed Too Closely	385	16.1%	2	3	7.4%	0.3%	7
Reckless Driving	53	2.2%	12	2	5.9%	0.2%	8
Over-Correcting/Over-Steering	21	0.9%	14	2	5.9%	0.2%	8
No Improper Driving	180	7.6%	4	2	4.5%	0.2%	10
Unsafe Lane Change/Backing	87	3.6%	7	1	3.0%	0.1%	11
Drove Left of Center	17	0.7%	16	1	2.5%	0.1%	12
Made Improper Turn	60	2.5%	10	1	2.0%	0.1%	13
Exceeded Speed Limit	10	0.4%	17	1	1.5%	0.1%	14
Hit and Run	66	2.8%	9	0	1.0%	0.0%	15
Wrong Way	6	0.2%	18	0	1.0%	0.0%	15
Object Avoidance	60	2.5%	11	0	1.0%	0.0%	15
Visibility Obstructed	19	0.8%	15	0	1.0%	0.0%	15
Driverless Vehicle	2	0.1%	20	0	0.5%	0.0%	19
Mechanical Defects	4	0.2%	19	0	0.0%	0.0%	20

**Analysis done with the Clark County File*

Distracted Driving Analysis
Vehicle 1
Average Annual (2008-2012)

	Vehicle Action						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Distracted Driving Crashes	2,384	100.0%		40	100.0%	4.1%	
Going Straight	1,866	78.3%	1	32	78.7%	3.3%	1
Turning Left	133	5.6%	3	3	8.4%	0.3%	2
Other/Unknown	65	2.7%	5	2	4.5%	0.2%	3
Turning Right	159	6.7%	2	1	2.5%	0.1%	4
Changing Lanes	76	3.2%	4	1	1.5%	0.1%	5
Backing Up	20	0.8%	7	1	1.5%	0.1%	5
Making U-Turn	15	0.6%	8	1	1.5%	0.1%	5
Entering/Leaving Park Position	6	0.2%	9	0	0.5%	0.0%	8
Traveling Wrong Way	1	0.1%	13	0	0.5%	0.0%	8
Racing	0	0.0%	15	0	0.5%	0.0%	8
Stopped	32	1.3%	6	0	0.0%	0.0%	11
Other Turning Movement	5	0.2%	10	0	0.0%	0.0%	11
Passing Other Vehicle	3	0.1%	11	0	0.0%	0.0%	11
Parked	1	0.1%	12	0	0.0%	0.0%	11
Driverless-Moving Vehicle	1	0.0%	14	0	0.0%	0.0%	11

**Analysis done with the Clark County File*

	Driver Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Distracted Driving Crashes	2,384	100.0%		40	100.0%	4.1%	
25 to 64	1,462	61.3%	1	25	61.9%	2.6%	1
<25	634	26.6%	2	12	28.7%	1.2%	2
65+	140	5.9%	4	4	8.9%	0.4%	3
Unknown	147	6.2%	3	0	0.5%	0.0%	4

**Analysis done with the Clark County File*

Distracted Driving Analysis
Vehicle 1
Average Annual (2008-2012)

	Crash Type						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Distracted Driving Crashes	2,384	100.0%		40	100.0%	4.1%	
Rear-End	1,674	70.2%	1	16	40.1%	1.7%	1
Angle	466	19.6%	2	14	35.6%	1.5%	2
Non-Collision	108	4.5%	3	7	18.3%	0.8%	3
Head-On	14	0.6%	6	1	2.0%	0.1%	4
Sideswipe, Overtaking or Meeting	97	4.1%	4	1	1.5%	0.1%	5
Unknown	4	0.2%	7	1	1.5%	0.1%	5
Backing	18	0.8%	5	0	1.0%	0.0%	7
Rear-To-Rear	3	0.1%	8	0	0.0%	0.0%	8

**Analysis done with the Clark County File*

	Bicycle						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Distracted Driving Crashes	2,384	100.0%		40	100.0%	4.1%	
No Bicycle Involved	2,141	89.8%	1	31	75.7%	3.1%	1
Bicycle Involved	8	0.3%	3	6	14.9%	0.6%	2
Unknown	236	9.9%	2	4	9.4%	0.4%	3

**Analysis done with the Clark County File*

	Gender						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Distracted Driving Crashes	2,384	100.0%		40	100.0%	4.1%	
Male	1,312	55.0%	1	25	62.9%	2.6%	1
Female	936	39.3%	2	15	36.1%	1.5%	2
Unknown	137	5.7%	3	0	1.0%	0.0%	3

**Analysis done with the Clark County File*

Distracted Driving Analysis
Vehicle 1
Average Annual (2008-2012)

	Impaired						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Distracted Driving Crashes	2,384	100.0%		40	100.0%	4.1%	
Alcohol and Drug Suspected - No	2,089	87.6%	1	33	82.7%	3.4%	1
Unknown	206	8.6%	2	4	8.9%	0.4%	2
Alcohol and Drug Suspected - Yes	89	3.7%	3	3	8.4%	0.3%	3

**Analysis done with the Clark County File*

	Pedestrian						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Distracted Driving Crashes	2,384	100.0%		40	100.0%	4.1%	
Pedestrian Involved - No	2,128	89.3%	1	33	81.7%	3.4%	1
Unknown	236	9.9%	2	4	9.4%	0.4%	2
Pedestrian Involved - Yes	20	0.8%	3	4	8.9%	0.4%	3

**Analysis done with the Clark County File*

	Aggressive/Speeding						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Distracted Driving Crashes	2,384	100.0%		40	100.0%	4.1%	
Aggressive/Speeding - No	1,211	50.8%	1	27	66.8%	2.8%	1
Aggressive/Speeding - Yes	540	22.6%	3	8	19.3%	0.8%	2
Unknown	634	26.6%	2	6	13.9%	0.6%	3

**Analysis done with the Clark County File*

Distracted Driving Analysis
Vehicle 1
Average Annual (2008-2012)

	Day of Week						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Distracted Driving Crashes	2,384	100.0%		40	100.0%	4.1%	
Wednesday	430	18.0%	3	10	25.7%	1.1%	1
Friday	443	18.6%	1	7	18.3%	0.8%	2
Thursday	432	18.1%	2	7	17.8%	0.7%	3
Monday	289	12.1%	5	5	11.9%	0.5%	4
Tuesday	409	17.2%	4	4	10.9%	0.5%	5
Saturday	230	9.6%	6	4	10.4%	0.4%	6
Sunday	152	6.4%	7	2	5.0%	0.2%	7

**Analysis done with the Clark County File*

	Hour of Day						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Distracted Driving Crashes	2,384	100.0%		40	100.0%	4.1%	
3:00 PM - 5:59 PM	719	30.2%	1	10	24.8%	1.0%	1
6:00 PM - 8:59 PM	310	13.0%	3	8	20.3%	0.8%	2
12:00 PM - 2:59 PM	514	21.5%	2	7	16.3%	0.7%	3
6:00 AM - 8:59 AM	251	10.5%	5	6	14.9%	0.6%	4
9:00 AM - 11:59 AM	310	13.0%	4	3	8.4%	0.3%	5
9:00 PM - 11:59 PM	136	5.7%	6	3	6.9%	0.3%	6
3:00 AM - 5:59 AM	60	2.5%	8	2	5.0%	0.2%	7
12:00 AM - 2:59 AM	84	3.5%	7	1	3.5%	0.1%	8

**Analysis done with the Clark County File*

Distracted Driving Analysis
Vehicle 1
Average Annual (2008-2012)

	Month						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Distracted Driving Crashes	2,384	100.0%		40	100.0%	4.1%	
April	212	8.9%	3	6	14.9%	0.6%	1
September	188	7.9%	10	4	9.4%	0.4%	2
December	196	8.2%	5	4	8.9%	0.4%	3
August	189	7.9%	8	4	8.9%	0.4%	3
January	196	8.2%	5	3	7.9%	0.3%	5
June	195	8.2%	7	3	7.9%	0.3%	5
July	183	7.7%	11	3	7.9%	0.3%	5
November	182	7.6%	12	3	7.9%	0.3%	5
March	224	9.4%	2	3	7.4%	0.3%	9
May	225	9.5%	1	3	6.9%	0.3%	10
October	205	8.6%	4	3	6.4%	0.3%	11
February	189	7.9%	9	2	5.4%	0.2%	12

**Analysis done with the Clark County File*

	Posted Speed Limit						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Distracted Driving Crashes	2,384	100.0%		40	100.0%	4.1%	
45-50	1,057	44.3%	1	15	37.6%	1.6%	1
35-40	623	26.1%	2	13	31.7%	1.3%	2
<35	333	14.0%	3	6	14.4%	0.6%	3
60+	127	5.3%	5	4	10.4%	0.4%	4
Unknown	191	8.0%	4	2	4.5%	0.2%	5
55	53	2.2%	6	1	1.5%	0.1%	6

**Analysis done with the Clark County File*

Distracted Driving Analysis
Vehicle 1
Average Annual (2008-2012)

	Intersection						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Distracted Driving Crashes	2,384	100.0%		40	100.0%	4.1%	
Intersection Crash - Yes	704	29.5%	2	19	47.0%	1.9%	1
Intersection Crash - No	1,345	56.4%	1	18	43.6%	1.8%	2
Unknown	336	14.1%	3	4	9.4%	0.4%	3

**Analysis done with the Clark County File*

	Driver Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Distracted Driving Crashes	2,384	100.0%		40	100.0%	4.1%	
<25	634	26.6%	1	12	28.7%	1.2%	1
25-34	569	23.9%	2	9	22.8%	0.9%	2
35-44	405	17.0%	3	7	16.8%	0.7%	3
45-54	308	12.9%	4	5	11.4%	0.5%	4
55-64	180	7.5%	5	4	10.9%	0.5%	5
65+	140	5.9%	7	4	8.9%	0.4%	6
Unknown	147	6.2%	6	0	0.5%	0.0%	7

**Analysis done with the Clark County File*



CATEGORY 2 CEA

IMPAIRED DRIVING ANALYSIS

Crash Analysis
Impaired Driving-Vehicle 1
Average Annual (2008-2012)

	Total Crashes			KA Crashes		
	#	%	Rank	#	%	Rank
<i>Average Annual Crashes</i>	41,738	100.0%		975	100.0%	
Impaired Driving - No	33,365	79.9%	1	634	65.0%	1
Impaired Driving - Yes	2,993	7.2%	3	183	18.8%	2
Unknown	5,380	12.9%	2	158	16.2%	3

**Analysis done with the Clark County File*

**Impaired Driving Analysis
Vehicle 1
Average Annual (2008-2012)**

	Lighting Conditions						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Impaired Driving Crashes	2,993	100.0%		183	100.0%	18.8%	
Dark	1,820	60.8%	1	106	58.1%	10.9%	1
Light	1,029	34.4%	2	63	34.4%	6.5%	2
Dusk/Dawn	138	4.6%	3	13	7.0%	1.3%	3
Other/Unknown	5	0.2%	4	1	0.4%	0.1%	4

**Analysis done with the Clark County File*

	Driver Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Impaired Driving Crashes	2,993	100.0%		183	113.7%	18.8%	
Had Been Drinking	2,506	83.7%	1	149	81.3%	15.3%	1
Drug Involvement	568	19.0%	2	42	23.0%	4.3%	2
Unknown	28	0.9%	6	6	3.3%	0.6%	3
Other Improper Driving	62	2.1%	4	5	2.5%	0.5%	4
Inattention/Distracted	93	3.1%	3	3	1.9%	0.3%	5
Apparently Normal	58	1.9%	5	2	1.0%	0.2%	6
Fell Asleep, Fainted, Fatuiged	27	0.9%	7	1	0.3%	0.1%	7
Illness	4	0.1%	9	0	0.2%	0.0%	8
Physical Impairment	5	0.2%	8	0	0.2%	0.0%	8
Obstructed View	1	0.0%	10	0	0.0%	0.0%	10

**Analysis done with the Clark County File*

Impaired Driving Analysis
Vehicle 1
Average Annual (2008-2012)

	Vehicle Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Impaired Driving Crashes	2,993	100.0%		183	100.0%	18.8%	
Failure to Maintain Lane or Run off Road	1,222	40.8%	1	82	44.7%	8.4%	1
Ran off Road	288	9.6%	5	28	15.1%	2.8%	2
Other/Unknown	546	18.2%	2	24	13.0%	2.4%	3
Driving Too Fast for Conditions	305	10.2%	4	23	12.7%	2.4%	4
Exceeded Speed Limit	83	2.8%	13	23	12.6%	2.4%	5
Disregarded Traffic Signs, Signals, and Markings	222	7.4%	7	22	12.0%	2.3%	6
Failed to Yield Right of Way	215	7.2%	8	20	10.7%	2.0%	7
Reckless Driving	136	4.5%	10	20	10.7%	2.0%	7
Drove Left of Center	87	2.9%	12	12	6.4%	1.2%	9
Over-Correcting/Over-Steering	65	2.2%	15	11	6.1%	1.1%	10
Hit and Run	469	15.7%	3	11	5.9%	1.1%	11
No Improper Driving	81	2.7%	14	9	4.8%	0.9%	12
Wrong Way	48	1.6%	17	8	4.4%	0.8%	13
Unsafe Lane Change/Backing	177	5.9%	9	7	3.9%	0.7%	14
Made Improper Turn	115	3.8%	11	6	3.5%	0.7%	15
Followed Too Closely	259	8.6%	6	4	2.4%	0.5%	16
Object Avoidance	54	1.8%	16	3	1.7%	0.3%	17
Mechanical Defects	9	0.3%	18	0	0.2%	0.0%	18
Driverless Vehicle	2	0.1%	19	0	0.1%	0.0%	19
Visibility Obstructed	1	0.0%	20	0	0.0%	0.0%	20

**Analysis done with the Clark County File*

**Impaired Driving Analysis
Vehicle 1
Average Annual (2008-2012)**

	Vehicle Action						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Impaired Driving Crashes	2,993	100.0%		183	100.0%	18.8%	
Going Straight	2,001	66.9%	1	120	65.5%	12.3%	1
Other/Unknown	287	9.6%	2	20	11.1%	2.1%	2
Turning Left	270	9.0%	3	17	9.5%	1.8%	3
Traveling Wrong Way	27	0.9%	7	7	3.7%	0.7%	4
Changing Lanes	154	5.1%	4	6	3.4%	0.6%	5
Turning Right	134	4.5%	5	4	2.3%	0.4%	6
Other Turning Movement	17	0.6%	10	3	1.4%	0.3%	7
Passing Other Vehicle	17	0.6%	9	2	1.2%	0.2%	8
Backing Up	43	1.4%	6	2	0.9%	0.2%	9
Racing	3	0.1%	13	1	0.4%	0.1%	10
Stopped	10	0.3%	11	1	0.3%	0.1%	11
Making U-Turn	25	0.8%	8	0	0.2%	0.0%	12
Entering/Leaving Park Position	4	0.1%	12	0	0.0%	0.0%	13
Parked	1	0.0%	14	0	0.0%	0.0%	13
Driverless-Moving Vehicle	0	0.0%	15	0	0.0%	0.0%	13

**Analysis done with the Clark County File*

	Driver Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Impaired Driving Crashes	2,993	100.0%		183	100.0%	18.8%	
25 to 64	2,147	71.7%	1	134	73.3%	13.8%	1
<25	770	25.7%	2	44	23.9%	4.5%	2
65+	58	1.9%	3	4	2.3%	0.4%	3
Unknown	18	0.6%	4	1	0.4%	0.1%	4

**Analysis done with the Clark County File*

Impaired Driving Analysis
Vehicle 1
Average Annual (2008-2012)

	Crash Type						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Impaired Driving Crashes	2,993	100.0%		183	100.0%	18.8%	
Angle	1,128	37.7%	1	87	47.7%	8.9%	1
Non-Collision	637	21.3%	3	49	26.6%	5.0%	2
Rear-End	952	31.8%	2	31	16.7%	3.1%	3
Head-On	59	2.0%	5	10	5.5%	1.0%	4
Sideswipe, Overtaking or Meeting	180	6.0%	4	5	2.8%	0.5%	5
Backing	29	1.0%	6	1	0.4%	0.1%	6
Unknown	6	0.2%	7	1	0.3%	0.1%	7
Rear-To-Rear	2	0.1%	8	0	0.0%	0.0%	8

**Analysis done with the Clark County File*

	Bicycle						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Impaired Driving Crashes	2,993	100.0%		183	100.0%	18.8%	
Bicycle Involved - No	2,904	97.0%	1	172	93.8%	17.6%	1
Unknown	84	2.8%	2	9	5.1%	1.0%	2
Bicycle Involved - Yes	5	0.2%	3	2	1.1%	0.2%	3

**Analysis done with the Clark County File*

	Gender						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Impaired Driving Crashes	2,993	100.0%		183	100.0%	18.8%	
Male	2,126	71.0%	1	141	76.9%	14.4%	1
Female	862	28.8%	2	42	23.0%	4.3%	2
Unknown	4	0.1%	3	0	0.1%	0.0%	3

**Analysis done with the Clark County File*

Impaired Driving Analysis
Vehicle 1
Average Annual (2008-2012)

	Distracted						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Impaired Driving Crashes	2,993	100.0%		183	100.0%	18.8%	
Distracted Driving - No	2,881	96.3%	1	174	95.1%	17.8%	1
Unknown	22	0.7%	3	6	3.1%	0.6%	2
Distracted Driving - Yes	89	3.0%	2	3	1.9%	0.3%	3

**Analysis done with the Clark County File*

	Pedestrian						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Impaired Driving Crashes	2,993	100.0%		183	100.0%	18.8%	
Pedestrian Involved - No	2,887	96.5%	1	162	88.4%	16.6%	1
Unknown	84	2.8%	2	9	5.1%	1.0%	3
Pedestrian Involved - Yes	22	0.7%	3	12	6.4%	1.2%	2

**Analysis done with the Clark County File*

	Aggressive/Speeding						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Impaired Driving Crashes	2,993	100.0%		183	100.0%	18.8%	
Aggressive/Speeding - No	2,130	71.2%	1	126	69.0%	12.9%	1
Aggressive/Speeding - Yes	712	23.8%	2	49	26.7%	5.0%	2
Unknown	150	5.0%	3	8	4.4%	0.8%	3

**Analysis done with the Clark County File*

**Impaired Driving Analysis
Vehicle 1
Average Annual (2008-2012)**

	Day of Week						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Impaired Driving Crashes	2,993	100.0%		183	100.0%	18.8%	
Saturday	630	21.1%	1	39	21.4%	4.0%	1
Sunday	612	20.5%	2	36	19.5%	3.7%	2
Friday	442	14.8%	3	29	16.0%	3.0%	3
Wednesday	312	10.4%	6	23	12.7%	2.4%	4
Thursday	348	11.6%	4	19	10.5%	2.0%	5
Monday	337	11.3%	5	19	10.3%	1.9%	6
Tuesday	310	10.4%	7	18	9.7%	1.8%	7

**Analysis done with the Clark County File*

	Hour of Day						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Impaired Driving Crashes	2,993	100.0%		183	100.0%	18.8%	
6:00 PM - 8:59 PM	413	13.8%	4	32	17.5%	3.3%	1
3:00 AM - 5:59 AM	511	17.1%	2	31	17.0%	3.2%	2
12:00 AM - 2:59 AM	529	17.7%	1	29	16.1%	3.0%	3
9:00 PM - 11:59 PM	501	16.7%	3	26	14.4%	2.7%	4
3:00 PM - 5:59 PM	354	11.8%	5	22	11.9%	2.2%	5
6:00 AM - 8:59 AM	320	10.7%	6	19	10.2%	1.9%	6
12:00 PM - 2:59 PM	196	6.5%	7	14	7.8%	1.5%	7
9:00 AM - 11:59 AM	170	5.7%	8	9	5.1%	1.0%	8

**Analysis done with the Clark County File*

**Impaired Driving Analysis
Vehicle 1
Average Annual (2008-2012)**

	Month						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Impaired Driving Crashes	2,993	100.0%		183	100.0%	18.8%	
June	248	8.3%	6	19	10.4%	1.9%	1
August	255	8.5%	4	17	9.5%	1.8%	2
April	257	8.6%	3	17	9.4%	1.8%	3
March	265	8.8%	2	17	9.2%	1.7%	4
July	245	8.2%	8	17	9.1%	1.7%	5
October	245	8.2%	8	15	8.4%	1.6%	6
February	238	8.0%	11	15	8.4%	1.6%	6
September	230	7.7%	12	15	8.3%	1.6%	8
January	254	8.5%	5	13	7.2%	1.4%	9
May	270	9.0%	1	13	7.0%	1.3%	10
November	240	8.0%	10	12	6.7%	1.3%	11
December	246	8.2%	7	12	6.4%	1.2%	12

**Analysis done with the Clark County File*

	Posted Speed Limit						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Impaired Driving Crashes	2,993	100.0%		183	100.0%	18.8%	
45-50	1,065	35.6%	1	71	38.8%	7.3%	1
35-40	737	24.6%	2	43	23.4%	4.4%	2
<35	541	18.1%	3	29	15.8%	3.0%	3
60+	419	14.0%	4	23	12.5%	2.3%	4
55	134	4.5%	5	11	5.9%	1.1%	5
Unknown	97	3.2%	6	7	3.6%	0.7%	6

**Analysis done with the Clark County File*

**Impaired Driving Analysis
Vehicle 1
Average Annual (2008-2012)**

	Intersection						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Impaired Driving Crashes	2,993	100.0%		183	100.0%	18.8%	
Intersection Crash - No	1,539	51.4%	1	91	49.6%	9.3%	1
Intersection Crash - Yes	1,013	33.8%	2	70	38.0%	7.1%	2
Unknown	441	14.7%	3	23	12.3%	2.3%	3

**Analysis done with the Clark County File*

	Number of Lanes - One Direction						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,737			975		100.0%	
Average Annual Impaired Driving Crashes	3,083	100.0%		190	100.0%	19.5%	
5+	1,029	33.4%	1	59	31.2%	6.1%	1
2	679	22.0%	2	47	24.5%	4.8%	2
4	540	17.5%	3	35	18.2%	3.5%	3
Unknown	281	9.1%	5	22	11.8%	2.3%	4
3	417	13.5%	4	20	10.6%	2.1%	5
1	137	4.4%	6	7	3.7%	0.7%	6

**Analysis done with the Accident File*

	Driver Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Impaired Driving Crashes	2,993	100.0%		183	100.0%	18.8%	
25-34	1,013	33.8%	1	63	34.2%	6.4%	1
<25	770	25.7%	2	44	23.9%	4.5%	2
35-44	577	19.3%	3	34	18.5%	3.5%	3
45-54	393	13.1%	4	24	13.1%	2.5%	4
55-64	165	5.5%	5	14	7.5%	1.4%	5
65+	58	1.9%	6	4	2.3%	0.4%	6
Unknown	18	0.6%	7	1	0.4%	0.1%	7

**Analysis done with the Clark County File*



CATEGORY 2 CEA

MOTORCYCLISTS ANALYSIS

Crash Analysis
Vehicle Type-Vehicle 1
Average Annual (2008-2012)

	Total Crashes			KA Crashes		
	#	%	Rank	#	%	Rank
<i>Average Annual Crashes</i>	41,738	100.0%		975	100.0%	
<i>Passenger Car</i>	22,649	54.3%	1	460	47.2%	1
<i>Light Truck</i>	14,968	35.9%	2	325	33.3%	2
<i>Motorcycle</i>	579	1.4%	5	105	10.8%	3
<i>Other/Unknown</i>	2,425	5.8%	3	65	6.7%	4
<i>Large Truck</i>	940	2.3%	4	14	1.4%	5
<i>Bus</i>	177	0.4%	6	6	0.6%	6

**Analysis done with the Clark County File*

Motorcycle Analysis
All Crashes involving Motorcycles (Vehicle 1 or Vehicle 2)
Average Annual (2008-2012)

	Lighting Conditions						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Motorcycle Crashes	975	100.0%		172	100.0%	17.7%	
Light	632	64.9%	1	105	61.0%	10.8%	1
Dark	295	30.3%	2	60	34.8%	6.2%	2
Dusk/Dawn	34	3.5%	3	6	3.7%	0.7%	3
Other/Unknown	13	1.4%	4	1	0.5%	0.1%	4

**Analysis done with the Clark County File*

	At Fault Vehicle (Vehicle 1) - Driver Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Motorcycle Crashes	975	100.0%		172	100.0%	17.7%	
Apparently Normal	694	71.2%	1	104	60.1%	10.6%	1
Unknown	104	10.7%	2	28	16.2%	2.9%	2
Had Been Drinking	93	9.6%	3	24	13.7%	2.4%	3
Other Improper Driving	36	3.7%	5	10	5.9%	1.0%	4
Inattention/Distracted	38	3.9%	4	6	3.7%	0.7%	5
Drug Involvement	17	1.7%	6	5	3.0%	0.5%	6
Illness	3	0.3%	7	1	0.8%	0.1%	7
Obstructed View	2	0.2%	9	1	0.3%	0.1%	8
Fell Asleep, Fainted, Fatigued	3	0.3%	8	0	0.1%	0.0%	9
Physical Impairment	1	0.1%	10	0	0.1%	0.0%	9

**Analysis done with the Clark County File*

Motorcycle Analysis
All Crashes involving Motorcycles (Vehicle 1 or Vehicle 2)
Average Annual (2008-2012)

	At Fault Vehicle (Vehicle 1) - Vehicle Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Motorcycle Crashes	975	100.0%		172	100.0%	17.7%	
Failed to Yield Right of Way	149	15.3%	2	36	20.8%	3.7%	1
Failure to Maintain Lane or Run off Road	131	13.4%	3	29	16.9%	3.0%	2
Other/Unknown	168	17.3%	1	26	15.1%	2.7%	3
No Improper Driving	107	11.0%	4	26	14.8%	2.6%	4
Driving Too Fast for Conditions	69	7.0%	6	15	8.5%	1.5%	5
Exceeded Speed Limit	21	2.1%	13	11	6.6%	1.2%	6
Reckless Driving	32	3.3%	11	9	5.3%	0.9%	7
Hit and Run	67	6.9%	7	8	4.9%	0.9%	8
Unsafe Lane Change/Backing	79	8.1%	5	8	4.8%	0.8%	9
Made Improper Turn	45	4.6%	9	8	4.5%	0.8%	10
Ran off Road	32	3.2%	12	8	4.4%	0.8%	11
Disregarded Traffic Signs, Signals, and Markings	33	3.3%	10	7	3.8%	0.7%	12
Followed Too Closely	57	5.9%	8	4	2.4%	0.4%	13
Drove Left of Center	13	1.3%	15	4	2.4%	0.4%	13
Over-Correcting/Over-Steering	12	1.3%	16	3	1.7%	0.3%	15
Wrong Way	6	0.6%	18	2	1.4%	0.2%	16
Object Avoidance	18	1.9%	14	2	1.2%	0.2%	17
Mechanical Defects	11	1.1%	17	2	0.9%	0.2%	18
Visibility Obstructed	0	0.0%	19	0	0.0%	0.0%	19
Driverless Vehicle	0	0.0%	19	0	0.0%	0.0%	19

**Analysis done with the Clark County File*

Motorcycle Analysis
All Crashes involving Motorcycles (Vehicle 1 or Vehicle 2)
Average Annual (2008-2012)

	Motorcycle Veh 1 or 2 - Vehicle Action						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Motorcycle Crashes	975	100.0%		172	100.0%	17.7%	
Going Straight	711	73.0%	1	137	79.6%	14.1%	1
Other/Unknown	45	4.6%	4	10	5.6%	1.0%	2
Turning Left	54	5.6%	3	9	5.2%	0.9%	3
Changing Lanes	39	4.0%	5	4	2.4%	0.4%	4
Turning Right	31	3.2%	6	4	2.1%	0.4%	5
Stopped	59	6.1%	2	3	1.9%	0.3%	6
Other Turning Movement	7	0.7%	9	2	1.0%	0.2%	7
Passing Other Vehicle	10	1.1%	7	1	0.7%	0.1%	8
Traveling Wrong Way	2	0.2%	11	1	0.6%	0.1%	9
Making U-Turn	4	0.5%	10	1	0.3%	0.1%	10
Racing	2	0.2%	12	0	0.2%	0.0%	11
Driverless-Moving Vehicle	1	0.1%	14	0	0.1%	0.0%	12
Entering/Leaving Park Position	1	0.1%	13	0	0.1%	0.0%	12
Parked	8	0.8%	8	0	0.1%	0.0%	12
Backing Up	0	0.0%	15	0	0.0%	0.0%	15

**Analysis done with the Clark County File*

	Motorcycle Veh 1 or 2 - Driver Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Motorcycle Crashes	975	100.0%		172	100.0%	17.7%	
25 to 64	703	72.1%	1	129	74.6%	13.2%	1
<25	180	18.5%	2	34	20.0%	3.5%	2
65+	31	3.1%	4	5	3.0%	0.5%	3
Unknown	61	6.3%	3	4	2.4%	0.4%	4

**Analysis done with the Clark County File*

Motorcycle Analysis
All Crashes involving Motorcycles (Vehicle 1 or Vehicle 2)
Average Annual (2008-2012)

	Crash Type						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Motorcycle Crashes	975	100.0%		172	100.0%	17.7%	
Angle	388	39.8%	1	86	50.0%	8.8%	1
Non-Collision	273	28.0%	2	50	29.1%	5.1%	2
Rear-End	204	20.9%	3	22	12.9%	2.3%	3
Sideswipe, Overtaking or Meeting	65	6.7%	4	7	3.9%	0.7%	4
Head-On	14	1.4%	5	5	2.9%	0.5%	5
Unknown	8	0.9%	6	2	0.9%	0.2%	6
Backing	7	0.7%	7	0	0.2%	0.0%	7
Rear-To-Rear	0	0.0%	8	0	0.0%	0.0%	8

**Analysis done with the Clark County File*

	Bicycle						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Motorcycle Crashes	975	100.0%		172	100.0%	17.7%	
Bicycle Involved - No	905	92.8%	1	155	90.0%	15.9%	1
Unknown	69	7.1%	2	17	10.0%	1.8%	2
Bicycle Involved - Yes	1	0.1%	3	0	0.0%	0.0%	3

**Analysis done with the Clark County File*

	Motorcycle Helmet Use						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Persons Involved in a Crash	117,980			1,210		100.0%	
Average Annual Motorcycle Occupants	1,075	100.0%		179	100.0%	14.8%	
Helmet Used	575	53.5%	1	98	54.6%	8.1%	1
Helmet Used Improperly/Not Used	412	38.3%	2	73	40.5%	6.0%	2
Unknown	88	8.2%	3	9	4.9%	0.7%	3

**Analysis done with the Person File*

Motorcycle Analysis
All Crashes involving Motorcycles (Vehicle 1 or Vehicle 2)
Average Annual (2008-2012)

	Gender						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Motorcycle Crashes	975	100.0%		172	100.0%	17.7%	
Male	852	87.4%	1	157	91.2%	16.1%	1
Female	72	7.4%	2	12	6.8%	1.2%	2
Unknown	51	5.2%	3	3	2.0%	0.3%	3

**Analysis done with the Clark County File*

	Motorcycle Veh 1 or 2 - Impaired						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Motorcycle Crashes	975	100.0%		172	100.0%	17.7%	
Alcohol and Drug Suspected - No	775	79.5%	1	117	67.7%	12.0%	1
Unknown	126	12.9%	2	33	18.9%	3.3%	2
Alcohol and Drug Suspected - Yes	74	7.6%	3	23	13.3%	2.4%	3

**Analysis done with the Clark County File*

	Pedestrian						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Motorcycle Crashes	975	100.0%		172	100.0%	17.7%	
Pedestrian Involved - No	899	92.3%	1	154	89.1%	15.8%	1
Unknown	69	7.1%	2	17	10.0%	1.8%	2
Pedestrian Involved - Yes	6	0.6%	3	2	0.9%	0.2%	3

**Analysis done with the Clark County File*

	Motorcycle Veh 1 or 2 - Distracted						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Motorcycle Crashes	975	100.0%		172	100.0%	17.7%	
Distracted Driving - No	882	90.5%	1	144	83.6%	14.8%	1
Unknown	75	7.7%	2	27	15.4%	2.7%	2
Distracted Driving - Yes	18	1.9%	3	2	0.9%	0.2%	3

**Analysis done with the Clark County File*

Motorcycle Analysis
All Crashes involving Motorcycles (Vehicle 1 or Vehicle 2)
Average Annual (2008-2012)

	At Fault Vehicle (Vehicle 1) - Aggressive/Speeding						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Motorcycle Crashes	975	100.0%		172	100.0%	17.7%	
Aggressive/Speeding - No	595	61.0%	1	118	68.2%	12.1%	1
Aggressive/Speeding - Yes	252	25.8%	2	39	22.6%	4.0%	2
Unknown	129	13.2%	3	16	9.2%	1.6%	3

**Analysis done with the Clark County File*

	Day of Week						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Motorcycle Crashes	975	100.0%		172	100.0%	17.7%	
Friday	162	16.6%	1	29	16.9%	3.0%	1
Wednesday	138	14.2%	3	28	16.5%	2.9%	2
Saturday	157	16.1%	2	26	15.1%	2.7%	3
Thursday	135	13.8%	4	24	13.9%	2.5%	4
Monday	132	13.6%	5	23	13.1%	2.3%	5
Sunday	122	12.6%	7	21	12.4%	2.2%	6
Tuesday	129	13.2%	6	21	12.1%	2.1%	7

**Analysis done with the Clark County File*

Motorcycle Analysis
All Crashes involving Motorcycles (Vehicle 1 or Vehicle 2)
Average Annual (2008-2012)

	Hour of Day						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Motorcycle Crashes	975	100.0%		172	100.0%	17.7%	
3:00 PM - 5:59 PM	258	26.4%	1	42	24.6%	4.3%	1
12:00 PM - 2:59 PM	188	19.3%	2	32	18.6%	3.3%	2
6:00 PM - 8:59 PM	147	15.1%	3	32	18.3%	3.2%	3
9:00 PM - 11:59 PM	94	9.7%	5	19	10.8%	1.9%	4
9:00 AM - 11:59 AM	111	11.4%	4	18	10.6%	1.9%	5
6:00 AM - 8:59 AM	84	8.6%	6	13	7.5%	1.3%	6
12:00 AM - 2:59 AM	55	5.6%	7	9	5.5%	1.0%	7
3:00 AM - 5:59 AM	38	3.9%	8	7	4.2%	0.7%	8

**Analysis done with the Clark County File*

	Month						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Motorcycle Crashes	975	100.0%		172	100.0%	17.7%	
May	101	10.3%	1	19	11.3%	2.0%	1
September	93	9.6%	4	19	10.9%	1.9%	2
April	94	9.6%	3	18	10.3%	1.8%	3
March	98	10.0%	2	17	10.0%	1.8%	4
October	93	9.5%	5	17	9.6%	1.7%	5
August	83	8.5%	8	13	7.8%	1.4%	6
June	83	8.6%	7	13	7.7%	1.4%	7
November	85	8.7%	6	12	7.0%	1.2%	8
February	62	6.3%	10	12	7.0%	1.2%	8
July	71	7.3%	9	12	7.0%	1.2%	8
January	60	6.1%	11	11	6.1%	1.1%	11
December	52	5.4%	12	9	5.5%	1.0%	12

**Analysis done with the Clark County File*

Motorcycle Analysis
All Crashes involving Motorcycles (Vehicle 1 or Vehicle 2)
Average Annual (2008-2012)

	Posted Speed Limit						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Motorcycle Crashes	975	100.0%		172	100.0%	17.7%	
45-50	354	36.3%	1	63	36.8%	6.5%	1
35-40	237	24.3%	2	45	26.1%	4.6%	2
<35	153	15.7%	3	31	18.2%	3.2%	3
60+	127	13.0%	4	16	9.0%	1.6%	4
Unknown	52	5.4%	5	9	5.2%	0.9%	5
55	51	5.3%	6	8	4.6%	0.8%	6

**Analysis done with the Clark County File*

	Intersection						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual Motorcycle Crashes	975	100.0%		172	100.0%	17.7%	
Intersection Crash - Yes	349	35.8%	2	79	45.9%	8.1%	1
Intersection Crash - No	487	50.0%	1	71	41.4%	7.3%	2
Unknown	138	14.2%	3	22	12.6%	2.2%	3

**Analysis done with the Clark County File*

	Aggressive Age Breakout						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Motorcycle Crashes	975			172		100.0%	
Average Annual Aggressive/Speeding Crashes	252	100.0%		39	100.0%	22.6%	
25-34	54	21.5%	1	9	22.1%	5.0%	1
35-44	47	18.6%	2	8	19.5%	4.4%	2
21-24	32	12.8%	4	7	17.9%	4.1%	3
45-54	39	15.7%	3	5	13.3%	3.0%	4
< 21	28	11.2%	5	5	12.8%	2.9%	5
55-64	22	8.7%	6	3	6.7%	1.5%	6
Unknown	18	7.2%	7	2	4.6%	1.0%	7
65+	11	4.3%	8	1	3.1%	0.7%	8

**Analysis done with the Clark County File*



CATEGORY 2 CEA

OCCUPANT PROTECTION ANALYSIS

Crash Analysis
Vehicle Occupant Restraint Use
Average Annual (2008-2012)

	Total Crashes			KA Crashes		
	#	%	Rank	#	%	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		
<i>Average Annual Vehicle Occupants in a Crash</i>	115,684	100.0%		820	100.0%	
<i>Proper Restraint Use</i>	105,797	91.5%	1	568	69.3%	1
<i>Improper Restraint Use</i>	2,816	2.4%	3	173	21.1%	2
<i>Unknown</i>	7,071	6.1%	2	79	9.6%	3

**Analysis done with the Person File*

Vehicle Occupant Restraint Use
Average Annual (2008-2012)

	Restraint Description						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Persons Involved in a Crash</i>	117,980			1,210		100.0%	
<i>Average Annual Vehicle Occupants in a Crash</i>	115,684	100.0%		820	100.0%	67.8%	
Shoulder and Lap Belt Used	100,981	87.3%	1	549	66.9%	45.3%	1
None Used - Vehicle Occupant	1,525	1.3%	4	151	18.4%	12.5%	2
Unknown	7,071	6.1%	2	79	9.7%	6.6%	3
Not Installed	578	0.5%	6	11	1.3%	0.9%	4
Child Safety Seat Used	4,004	3.5%	3	7	0.9%	0.6%	5
Lap Belt Only Used	627	0.5%	5	5	0.6%	0.4%	6
Helmet Used	54	0.0%	11	5	0.6%	0.4%	7
Shoulder and Lap Belt Used Improperly	316	0.3%	7	4	0.5%	0.3%	8
Shoulder Belt Only Used	131	0.1%	9	3	0.3%	0.2%	9
Child Safety Seat Used Improperly	80	0.1%	10	2	0.3%	0.2%	10
Lap Belt Used Improperly	276	0.2%	8	2	0.3%	0.2%	10
Shoulder Belt Used Improperly	35	0.0%	12	1	0.1%	0.1%	12
Helmet Used Improperly	6	0.0%	13	1	0.1%	0.0%	13

**Analysis done with the Person File*

	Alcohol or Drugs Suspected						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Vehicle Occupants in a Crash</i>	115,684			820		100.0%	
<i>Average Annual Improper Restraint Use Occupants</i>	2,816	100.0%		173	99.8%	21.1%	
Unknown	1,444	51.3%	1	77	44.5%	9.4%	1
Alcohol or Drugs Suspected - No	1,108	39.3%	2	51	29.5%	6.2%	2
Alcohol or Drugs Suspected - Yes	264	9.4%	3	45	25.8%	5.4%	3

**Analysis done with the Person File*

	Gender						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Vehicle Occupants in a Crash</i>	115,684			820		100.0%	
<i>Average Annual Improper Restraint Use Occupants</i>	2,816	100.0%		173	99.8%	21.1%	
Male	1,657	58.8%	1	104	60.0%	12.7%	1
Female	1,123	39.9%	2	68	39.5%	8.3%	2
Unknown	36	1.3%	3	0	0.2%	0.0%	3

**Analysis done with the Person File*

Vehicle Occupant Restraint Use
Average Annual (2008-2012)

	Vehicle Occupant Type						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Vehicle Occupants in a Crash	115,684			820		100.0%	
Average Annual Improper Restraint Use Occupants	2,816	100.0%		173	99.8%	21.1%	
Driver	1,192	42.3%	2	100	57.8%	12.2%	1
Passenger	1,624	57.7%	1	73	42.0%	8.9%	2

**Analysis done with the Person File*

	Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Vehicle Occupants in a Crash	115,684			820		100.0%	
Average Annual Improper Restraint Use Occupants	2,816	100.0%		173	99.8%	21.1%	
25-64	1,385	49.2%	1	93	54.0%	11.4%	1
< 25	1,120	39.8%	2	66	38.2%	8.0%	2
65+	111	4.0%	4	11	6.1%	1.3%	3
Unknown	200	7.1%	3	3	1.5%	0.3%	4

**Analysis done with the Person File*

	Restraint Description						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Persons Involved in a Crash	115,684			820		100.0%	
Average Annual Vehicle Occupants in a Crash	2,816	100.0%		173	100.0%	21.1%	
6:00 PM - 8:59 PM	370	13.1%	3	29	16.9%	3.6%	1
3:00 PM - 5:59 PM	584	20.8%	1	26	15.1%	3.2%	2
12:00 PM - 2:59 PM	473	16.8%	2	25	14.3%	3.0%	3
12:00 AM - 2:59 AM	227	8.0%	7	23	13.1%	2.8%	4
3:00 AM - 5:59 AM	214	7.6%	8	21	12.4%	2.6%	5
9:00 PM - 11:59 PM	301	10.7%	6	20	11.4%	2.4%	6
9:00 AM - 11:59 AM	306	10.9%	5	15	8.8%	1.9%	7
6:00 AM - 8:59 AM	341	12.1%	4	14	8.0%	1.7%	8

**Analysis done with the Person File*

Vehicle Occupant Restraint Use

Average Annual (2008-2012)

	Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Persons Involved in a Crash	115,684			820		100.0%	
Average Annual Improper Restraint Use Occupants	2,816	100.0%		173	100.0%	21.1%	
<25	1,120	39.8%	1	66	38.2%	8.0%	1
25-34	561	19.9%	2	41	23.7%	5.0%	2
35-44	367	13.0%	3	22	12.8%	2.7%	3
45-54	286	10.2%	4	18	10.5%	2.2%	4
55-64	171	6.1%	6	12	6.9%	1.5%	5
65+	111	4.0%	7	11	6.2%	1.3%	6
Unknown	200	7.1%	5	3	1.6%	0.3%	7

**Analysis done with the Person File*



CATEGORY 2 CEA

YOUNG ROAD USER ANALYSIS

Crash Analysis
Vehicle 1 Driver Age
Average Annual (2008-2012)

	Total Crashes			KA Crashes		
	#	%	Rank	#	%	Rank
<i>Average Annual Crashes</i>	41,738	100.0%		975	100.0%	
<25	9,913	23.8%	1	232	23.8%	1
25-34	9,385	22.5%	2	220	22.6%	2
35-44	6,781	16.2%	3	152	15.6%	3
45-54	5,321	12.7%	4	137	14.1%	4
55-64	3,452	8.3%	6	88	9.0%	5
65+	2,943	7.1%	7	88	9.0%	5
Unknown	3,938	9.4%	5	56	5.8%	7

**Analysis done with the Clark County File*

Young Drivers (<25)
Vehicle 1
Average Annual (2008-2012)

	Lighting Conditions						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual < 25 Years Old Crashes	9,913	100.0%		232	100.0%	23.8%	
Light	6,409	64.6%	1	117	50.5%	12.0%	1
Dark	3,138	31.7%	2	96	41.6%	9.9%	2
Dusk/Dawn	343	3.5%	3	17	7.2%	1.7%	3
Other/Unknown	23	0.2%	4	2	0.7%	0.2%	4

**Analysis done with the Clark County File*

	Driver Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual < 25 Years Old Crashes	9,913	100.0%		232	100.0%	23.8%	
Apparently Normal	7,631	77.0%	1	132	56.8%	13.5%	1
Had Been Drinking	777	7.8%	2	47	20.3%	4.8%	2
Unknown	415	4.2%	4	23	10.1%	2.4%	3
Inattention/Distracted	634	6.4%	3	12	5.0%	1.2%	4
Drug Involvement	143	1.4%	6	10	4.4%	1.0%	5
Other Improper Driving	308	3.1%	5	10	4.2%	1.0%	6
Fell Asleep, Fainted, Fatigued	116	1.2%	7	4	1.9%	0.5%	7
Illness	14	0.1%	9	1	0.6%	0.1%	8
Physical Impairment	6	0.1%	10	1	0.3%	0.1%	9
Obstructed View	23	0.2%	8	1	0.3%	0.1%	10

**Analysis done with the Clark County File*

Young Drivers (<25)
Vehicle 1
Average Annual (2008-2012)

	Vehicle Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual < 25 Years Old Crashes	9,913	100.0%		232	100.0%	23.8%	
Failure to Maintain Lane or Run off Road	1,587	16.0%	2	57	24.7%	5.9%	1
Failed to Yield Right of Way	1,483	15.0%	3	56	24.1%	5.7%	2
Other/Unknown	2,720	27.4%	1	49	21.3%	5.1%	3
Disregarded Traffic Signs, Signals, and Markings	513	5.2%	9	25	10.7%	2.5%	4
Driving Too Fast for Conditions	839	8.5%	6	24	10.3%	2.4%	5
Exceeded Speed Limit	111	1.1%	14	24	10.2%	2.4%	6
No Improper Driving	583	5.9%	7	21	8.9%	2.1%	7
Reckless Driving	179	1.8%	12	19	8.0%	1.9%	8
Ran off Road	308	3.1%	11	19	8.0%	1.9%	8
Over-Correcting/Over-Steering	110	1.1%	15	10	4.5%	1.1%	10
Made Improper Turn	402	4.1%	10	9	4.1%	1.0%	11
Drove Left of Center	84	0.8%	17	8	3.6%	0.9%	12
Unsafe Lane Change/Backing	858	8.7%	5	7	3.2%	0.8%	13
Hit and Run	551	5.6%	8	7	3.1%	0.7%	14
Followed Too Closely	1,410	14.2%	4	7	2.8%	0.7%	15
Object Avoidance	125	1.3%	13	4	1.7%	0.4%	16
Wrong Way	33	0.3%	18	4	1.7%	0.4%	16
Mechanical Defects	108	1.1%	16	2	0.7%	0.2%	18
Visibility Obstructed	19	0.2%	19	1	0.3%	0.1%	19
Driverless Vehicle	5	0.0%	20	0	0.0%	0.0%	20

**Analysis done with the Clark County File*

Young Drivers (<25)
Vehicle 1
Average Annual (2008-2012)

	Vehicle Action						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual < 25 Years Old Crashes	9,913	100.0%		232	100.0%	23.8%	
Going Straight	6,080	61.3%	1	142	61.2%	14.6%	1
Turning Left	1,278	12.9%	2	44	18.8%	4.5%	2
Other/Unknown	690	7.0%	4	18	7.6%	1.8%	3
Changing Lanes	806	8.1%	3	8	3.5%	0.8%	4
Turning Right	623	6.3%	5	6	2.8%	0.7%	5
Making U-Turn	149	1.5%	6	3	1.5%	0.3%	6
Traveling Wrong Way	15	0.2%	12	3	1.2%	0.3%	7
Passing Other Vehicle	44	0.4%	9	2	1.0%	0.2%	8
Other Turning Movement	32	0.3%	10	2	0.9%	0.2%	9
Racing	8	0.1%	13	2	0.9%	0.2%	9
Backing Up	99	1.0%	7	1	0.4%	0.1%	11
Stopped	70	0.7%	8	0	0.2%	0.0%	12
Entering/Leaving Park Position	17	0.2%	11	0	0.1%	0.0%	13
Driverless-Moving Vehicle	1	0.0%	15	0	0.0%	0.0%	14
Parked	1	0.0%	14	0	0.0%	0.0%	14

**Analysis done with the Clark County File*

	Driver Age						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual < 25 Years Old Crashes	9,913	100.0%		232	100.0%	23.8%	
19-21	3,865	39.0%	1	86	37.2%	8.8%	1
22-24	3,583	36.1%	2	85	36.5%	8.7%	2
16-18	2,374	23.9%	3	57	24.6%	5.8%	3
<16	91	0.9%	4	4	1.8%	0.4%	4

**Analysis done with the Clark County File*

Young Drivers (<25)
Vehicle 1
Average Annual (2008-2012)

	Crash Type						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual < 25 Years Old Crashes	9,913	100.0%		232	100.0%	23.8%	
Angle	3,823	38.6%	2	133	57.4%	13.7%	1
Non-Collision	1,131	11.4%	3	57	24.6%	5.8%	2
Rear-End	4,248	42.8%	1	29	12.5%	3.0%	3
Head-On	73	0.7%	6	6	2.7%	0.6%	4
Sideswipe, Overtaking or Meeting	539	5.4%	4	5	2.3%	0.6%	5
Unknown	16	0.2%	7	1	0.4%	0.1%	6
Backing	77	0.8%	5	0	0.1%	0.0%	7
Rear-To-Rear	6	0.1%	8	0	0.0%	0.0%	8

**Analysis done with the Clark County File*

	Bicycle						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual < 25 Years Old Crashes	9,913	100.0%		232	100.0%	23.8%	
No Bicycle Involved	9,489	95.7%	1	208	89.8%	21.4%	1
Unknown	381	3.8%	2	17	7.2%	1.7%	2
Bicycle Involved	43	0.4%	3	7	3.0%	0.7%	3

**Analysis done with the Clark County File*

	Impaired						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual < 25 Years Old Crashes	9,913	100.0%		232	100.0%	23.8%	
Alcohol and Drug Suspected - No	8,677	87.5%	1	159	68.6%	16.3%	1
Alcohol and Drug Suspected - Yes	770	7.8%	2	44	18.9%	4.5%	2
Unknown	467	4.7%	3	29	12.5%	3.0%	3

**Analysis done with the Clark County File*

Young Drivers (<25)
Vehicle 1
Average Annual (2008-2012)

	Day of Week						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual < 25 Years Old Crashes	9,913	100.0%		232	100.0%	23.8%	
Friday	1,630	16.4%	1	41	17.8%	4.2%	1
Saturday	1,393	14.1%	6	39	16.9%	4.0%	2
Sunday	1,121	11.3%	7	34	14.7%	3.5%	3
Monday	1,394	14.1%	5	31	13.5%	3.2%	4
Wednesday	1,500	15.1%	2	31	13.5%	3.2%	4
Thursday	1,455	14.7%	3	29	12.7%	3.0%	6
Tuesday	1,421	14.3%	4	25	10.9%	2.6%	7

**Analysis done with the Clark County File*

	Hour of Day						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual < 25 Years Old Crashes	9,913	100.0%		232	100.0%	23.8%	
3:00 PM - 5:59 PM	2,536	25.6%	1	48	20.7%	4.9%	1
6:00 PM - 8:59 PM	1,391	14.0%	3	42	17.9%	4.3%	2
12:00 PM - 2:59 PM	1,858	18.7%	2	36	15.3%	3.7%	3
9:00 PM - 11:59 PM	914	9.2%	6	25	10.9%	2.6%	4
3:00 AM - 5:59 AM	489	4.9%	8	23	10.0%	2.4%	5
12:00 AM - 2:59 AM	573	5.8%	7	20	8.4%	2.0%	6
9:00 AM - 11:59 AM	1,062	10.7%	5	20	8.4%	2.0%	6
6:00 AM - 8:59 AM	1,089	11.0%	4	19	8.2%	1.9%	8

**Analysis done with the Clark County File*

Young Drivers (<25)
Vehicle 1
Average Annual (2008-2012)

	Month						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual < 25 Years Old Crashes</i>	9,913	100.0%		232	100.0%	23.8%	
April	858	8.7%	3	23	9.9%	2.4%	1
May	834	8.4%	6	22	9.3%	2.2%	2
August	814	8.2%	7	21	9.0%	2.1%	3
March	864	8.7%	2	20	8.7%	2.1%	4
October	870	8.8%	1	20	8.7%	2.1%	4
February	789	8.0%	12	19	8.4%	2.0%	6
June	834	8.4%	5	19	8.2%	1.9%	7
November	796	8.0%	11	19	8.2%	1.9%	7
January	798	8.0%	9	18	7.8%	1.8%	9
September	811	8.2%	8	18	7.7%	1.8%	10
July	797	8.0%	10	17	7.5%	1.8%	11
December	848	8.6%	4	16	6.7%	1.6%	12

**Analysis done with the Clark County File*

	Distracted Driving						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual < 25 Years Old Crashes</i>	9,913	100.0%		232	100.0%	23.8%	
No	8,877	89.5%	1	197	85.1%	20.3%	1
Unknown	402	4.1%	3	23	9.9%	2.4%	2
Yes	634	6.4%	2	12	5.0%	1.2%	3

**Analysis done with the Clark County File*

	Pedestrian						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual < 25 Years Old Crashes</i>	9,913	100.0%		232	100.0%	23.8%	
No	9,449	95.3%	1	194	83.5%	19.9%	1
Yes	83	0.8%	3	22	9.3%	2.2%	2
Unknown	381	3.8%	2	17	7.2%	1.7%	3

**Analysis done with the Clark County File*

Young Drivers (<25)
Vehicle 1
Average Annual (2008-2012)

	Aggressive/Speeding						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual < 25 Years Old Crashes	9,913	100.0%		232	100.0%	23.8%	
No	5,910	59.6%	1	150	64.7%	15.4%	1
Yes	3,094	31.2%	2	53	22.8%	5.4%	2
Unknown	910	9.2%	3	29	12.6%	3.0%	3

**Analysis done with the Clark County File*

	Gender						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual < 25 Years Old Crashes	9,913	100.0%		232	100.0%	23.8%	
Male	5,620	56.7%	1	152	65.6%	15.6%	1
Female	4,286	43.2%	2	80	34.4%	8.2%	2
Unknown	8	0.1%	3	0	0.0%	0.0%	3

**Analysis done with the Clark County File*

	Posted Speed Limit						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual < 25 Years Old Crashes	9,913	100.0%		232	100.0%	23.8%	
45-50	3,663	37.0%	1	89	38.5%	9.2%	1
35-40	2,168	21.9%	2	62	26.6%	6.3%	2
<35	1,412	14.2%	4	39	16.7%	4.0%	3
60+	1,845	18.6%	3	23	9.9%	2.4%	4
Unknown	249	2.5%	6	11	4.6%	1.1%	5
55	575	5.8%	5	9	3.7%	0.9%	6

**Analysis done with the Clark County File*

Young Drivers (<25)
Vehicle 1
Average Annual (2008-2012)

	Intersection						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual < 25 Years Old Crashes	9,913	100.0%		232	100.0%	23.8%	
Intersection Crash-Yes	3,321	33.5%	2	116	49.8%	11.9%	1
Intersection Crash-No	5,176	52.2%	1	92	39.8%	9.5%	2
Unknown	1,416	14.3%	3	24	10.3%	2.5%	3

**Analysis done with the Clark County File*

	Seat Belt Use - Vehicle Occupant						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Vehicle Occupants	115,624			815		100.0%	
Average Annual Vehicle Occupant < 25 Years Old	34,708	100.0%		235	100.0%	28.8%	
Proper Restraint Used-Yes	32,468	93.5%	1	149	63.3%	18.3%	1
Proper Restraint Used-No	1,119	3.2%	3	66	28.0%	8.1%	2
Unknown	1,121	3.2%	2	20	8.7%	2.5%	3

**Analysis done with the Person File*



CATEGORY 2 CEA

OLDER ROAD USERS ANALYSIS

Crash Analysis
Vehicle 1 Driver Age
Average Annual (2008-2012)

	Total Crashes			KA Crashes		
	#	%	Rank	#	%	Rank
<i>Average Annual Crashes</i>	41,738	100.0%		975	100.0%	
<25	9,913	23.8%	1	232	23.8%	1
25-34	9,385	22.5%	2	220	22.6%	2
35-44	6,781	16.2%	3	152	15.6%	3
45-54	5,321	12.7%	4	137	14.1%	4
55-64	3,452	8.3%	6	88	9.0%	5
65+	2,943	7.1%	7	88	9.0%	5
Unknown	3,938	9.4%	5	56	5.8%	7

**Analysis done with the Clark County File*

Older Drivers (65+)
Vehicle 1
Average Annual (2008-2012)

	Lighting Conditions						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual 65+ Year Old Crashes	2,943	100.0%		88	100.0%	9.0%	
Light	2,357	80.1%	1	64	72.6%	6.6%	1
Dark	510	17.3%	2	20	22.7%	2.1%	2
Dusk/Dawn	70	2.4%	3	4	4.3%	0.4%	3
Other/Unknown	6	0.2%	4	0	0.5%	0.0%	4

**Analysis done with the Clark County File*

	Driver Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual 65+ Year Old Crashes	2,943	100.0%		88	100.0%	9.0%	
Apparently Normal	2,504	85.1%	1	63	71.2%	6.4%	1
Unknown	100	3.4%	3	10	11.1%	1.0%	2
Had Been Drinking	58	2.0%	5	4	4.3%	0.4%	3
Inattention/Distracted	140	4.8%	2	4	4.1%	0.4%	4
Illness	33	1.1%	6	3	3.9%	0.3%	5
Other Improper Driving	69	2.4%	4	2	2.7%	0.2%	6
Drug Involvement	13	0.4%	10	2	1.8%	0.2%	7
Physical Impairment	23	0.8%	7	1	1.4%	0.1%	8
Fell Asleep, Fainted, Fatigued	17	0.6%	8	1	0.7%	0.1%	9
Obstructed View	13	0.4%	9	1	0.7%	0.1%	9

**Analysis done with the Clark County File*

Older Drivers (65+)
Vehicle 1
Average Annual (2008-2012)

	Vehicle Factor						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual 65+ Year Old Crashes	2,943	100.0%		88	100.0%	9.0%	
Failed to Yield Right of Way	773	26.3%	1	32	36.7%	3.3%	1
Other/Unknown	725	24.6%	2	23	25.6%	2.3%	2
Failure to Maintain Lane or Run off Road	262	8.9%	5	11	12.2%	1.1%	3
No Improper Driving	138	4.7%	8	10	11.8%	1.1%	4
Disregarded Traffic Signs, Signals, and Markings	180	6.1%	7	8	9.1%	0.8%	5
Ran off Road	35	1.2%	11	4	5.0%	0.5%	6
Made Improper Turn	180	6.1%	6	4	4.1%	0.4%	7
Driving Too Fast for Conditions	93	3.1%	9	3	3.4%	0.3%	8
Unsafe Lane Change/Backing	427	14.5%	3	2	2.3%	0.2%	9
Followed Too Closely	290	9.8%	4	2	1.8%	0.2%	10
Over-Correcting/Over-Steering	11	0.4%	16	1	1.6%	0.1%	11
Reckless Driving	17	0.6%	14	1	1.4%	0.1%	12
Wrong Way	11	0.4%	18	1	1.4%	0.1%	12
Drove Left of Center	12	0.4%	15	1	1.1%	0.1%	14
Exceeded Speed Limit	3	0.1%	19	1	1.1%	0.1%	14
Driverless Vehicle	2	0.1%	20	1	0.9%	0.1%	16
Visibility Obstructed	11	0.4%	16	1	0.7%	0.1%	17
Hit and Run	73	2.5%	10	0	0.5%	0.0%	18
Object Avoidance	34	1.1%	12	0	0.5%	0.0%	18
Mechanical Defects	21	0.7%	13	0	0.5%	0.0%	18

**Analysis done with the Clark County File*

Older Drivers (65+)
Vehicle 1
Average Annual (2008-2012)

	Vehicle Action						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual 65+ Year Old Crashes	2,943	100.0%		88	100.0%	9.0%	
Going Straight	1,395	47.4%	1	51	57.8%	5.2%	1
Turning Left	558	19.0%	2	23	25.6%	2.3%	2
Other/Unknown	234	8.0%	5	6	7.3%	0.7%	3
Turning Right	265	9.0%	4	3	2.9%	0.3%	4
Changing Lanes	319	10.9%	3	2	1.8%	0.2%	5
Traveling Wrong Way	6	0.2%	12	1	1.4%	0.1%	6
Making U-Turn	61	2.1%	6	1	1.1%	0.1%	7
Backing Up	54	1.8%	7	1	0.9%	0.1%	8
Other Turning Movement	8	0.3%	10	0	0.5%	0.0%	9
Passing Other Vehicle	10	0.3%	9	0	0.2%	0.0%	10
Stopped	26	0.9%	8	0	0.2%	0.0%	10
Driverless-Moving Vehicle	0	0.0%	14	0	0.2%	0.0%	10
Racing	0	0.0%	15	0	0.0%	0.0%	13
Entering/Leaving Park Position	6	0.2%	11	0	0.0%	0.0%	13
Parked	1	0.0%	13	0	0.0%	0.0%	13

**Analysis done with the Clark County File*

	Crash Type						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual 65+ Year Old Crashes	2,943	100.0%		88	100.0%	9.0%	
Angle	1,549	52.6%	1	56	63.0%	5.7%	1
Non-Collision	193	6.6%	4	18	20.2%	1.8%	2
Rear-End	853	29.0%	2	9	10.4%	0.9%	3
Head-On	21	0.7%	6	3	3.2%	0.3%	4
Sideswipe, Overtaking or Meeting	278	9.4%	3	1	1.6%	0.1%	5
Backing	43	1.4%	5	1	1.1%	0.1%	6
Unknown	6	0.2%	7	0	0.5%	0.0%	7
Rear-To-Rear	1	0.0%	8	0	0.0%	0.0%	8

**Analysis done with the Clark County File*

Older Drivers (65+)
Vehicle 1
Average Annual (2008-2012)

	Bicycle						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual 65+ Year Old Crashes	2,943	100.0%		88	100.0%	9.0%	
No Bicycle Involved	2,778	94.4%	1	77	87.1%	7.9%	1
Unknown	131	4.5%	2	8	9.1%	0.8%	2
Bicycle Involved	33	1.1%	3	3	3.9%	0.3%	3

**Analysis done with the Clark County File*

	Impaired						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual 65+ Year Old Crashes	2,943	100.0%		88	100.0%	9.0%	
Alcohol and Drug Suspected - No	2,797	95.0%	1	74	84.4%	7.6%	1
Unknown	89	3.0%	2	10	10.9%	1.0%	2
Alcohol and Drug Suspected - Yes	58	2.0%	3	4	4.8%	0.4%	3

**Analysis done with the Clark County File*

	Day of Week						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual 65+ Year Old Crashes	2,943	100.0%		88	100.0%	9.0%	
Thursday	449	15.2%	5	16	18.4%	1.7%	1
Friday	477	16.2%	3	14	16.3%	1.5%	2
Saturday	337	11.4%	6	14	15.9%	1.4%	3
Wednesday	487	16.6%	1	13	14.3%	1.3%	4
Monday	459	15.6%	4	12	13.6%	1.2%	5
Tuesday	480	16.3%	2	12	13.2%	1.2%	6
Sunday	256	8.7%	7	7	8.4%	0.8%	7

**Analysis done with the Clark County File*

Older Drivers (65+)
Vehicle 1
Average Annual (2008-2012)

	Hour of Day						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual 65+ Year Old Crashes	2,943	100.0%		88	100.0%	9.0%	
12:00 PM - 2:59 PM	790	26.9%	1	23	25.6%	2.3%	1
3:00 PM - 5:59 PM	740	25.1%	2	20	22.7%	2.1%	2
9:00 AM - 11:59 AM	615	20.9%	3	15	17.5%	1.6%	3
6:00 PM - 8:59 PM	314	10.7%	4	13	14.5%	1.3%	4
6:00 AM - 8:59 AM	282	9.6%	5	8	9.5%	0.9%	5
9:00 PM - 11:59 PM	119	4.0%	6	4	4.5%	0.4%	6
3:00 AM - 5:59 AM	37	1.3%	8	3	3.2%	0.3%	7
12:00 AM - 2:59 AM	46	1.5%	7	2	2.5%	0.2%	8

**Analysis done with the Clark County File*

	Month						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual 65+ Year Old Crashes	2,943	100.0%		88	100.0%	9.0%	
September	249	8.5%	4	9	10.2%	0.9%	1
March	244	8.3%	7	8	9.3%	0.8%	2
April	239	8.1%	8	8	9.3%	0.8%	2
August	227	7.7%	11	8	8.6%	0.8%	4
July	225	7.6%	12	8	8.6%	0.8%	4
November	264	9.0%	2	7	8.4%	0.8%	6
May	245	8.3%	6	7	8.4%	0.8%	6
December	281	9.5%	1	7	8.2%	0.7%	8
February	232	7.9%	10	7	8.2%	0.7%	8
January	245	8.3%	5	7	7.9%	0.7%	10
October	258	8.8%	3	6	6.6%	0.6%	11
June	235	8.0%	9	6	6.3%	0.6%	12

**Analysis done with the Clark County File*

Older Drivers (65+)
Vehicle 1
Average Annual (2008-2012)

	Distracted Driving						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual 65+ Year Old Crashes	2,943	100.0%		88	100.0%	9.0%	
No	2,703	91.9%	1	75	84.8%	7.7%	1
Unknown	100	3.4%	3	10	11.1%	1.0%	2
Yes	140	4.8%	2	4	4.1%	0.4%	3

**Analysis done with the Clark County File*

	Pedestrian						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual 65+ Year Old Crashes	2,943	100.0%		88	100.0%	9.0%	
No	2,737	93.0%	1	63	71.7%	6.5%	1
Yes	75	2.5%	3	17	19.3%	1.7%	2
Unknown	131	4.5%	2	8	9.1%	0.8%	3

**Analysis done with the Clark County File*

	Aggressive/Speeding						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual 65+ Year Old Crashes	2,943	100.0%		88	100.0%	9.0%	
No	1,836	62.4%	1	64	73.0%	6.6%	1
Unknown	371	12.6%	3	17	19.5%	1.8%	2
Yes	736	25.0%	2	7	7.5%	0.7%	3

**Analysis done with the Clark County File*

	Gender						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
Average Annual Crashes	41,738			975		100.0%	
Average Annual 65+ Year Old Crashes	2,943	100.0%		88	100.0%	9.0%	
Male	1,820	61.8%	1	51	57.4%	5.2%	1
Female	1,120	38.1%	2	37	42.4%	3.8%	2
Unknown	3	0.1%	3	0	0.2%	0.0%	3

**Analysis done with the Clark County File*

Older Drivers (65+)
Vehicle 1
Average Annual (2008-2012)

	Posted Speed Limit						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual 65+ Year Old Crashes</i>	2,943	100.0%		88	100.0%	9.0%	
45-50	1,265	43.0%	1	37	42.0%	3.8%	1
35-40	735	25.0%	2	24	26.8%	2.4%	2
<35	458	15.6%	3	15	16.8%	1.5%	3
60+	297	10.1%	4	8	8.8%	0.8%	4
Unknown	89	3.0%	6	3	3.4%	0.3%	5
55	98	3.3%	5	2	2.3%	0.2%	6

**Analysis done with the Clark County File*

	Intersection						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Crashes</i>	41,738			975		100.0%	
<i>Average Annual 65+ Year Old Crashes</i>	2,943	100.0%		88	100.0%	9.0%	
Intersection Crash-Yes	1,283	43.6%	2	53	59.9%	5.4%	1
Intersection Crash-No	1,350	45.9%	1	29	32.9%	3.0%	2
Unknown	310	10.5%	3	6	7.3%	0.7%	3

**Analysis done with the Clark County File*

	Seat Belt Use - Vehicle Occupant						
	Total Crashes			KA Crashes			
	#	%	Rank	#	%	% of Total	Rank
<i>Average Annual Vehicle Occupants</i>	115,624			815		100.0%	
<i>Average Annual Vehicle Occupant 65+ Years Old</i>	7,527	100.0%		82	100.0%	10.1%	
Proper Restraint Used-Yes	7,176	95.3%	1	67	82.0%	8.3%	1
Proper Restraint Used-No	111	1.5%	3	11	12.9%	1.3%	2
Unknown	240	3.2%	2	4	5.1%	0.5%	3

**Analysis done with the Person File*



APPENDIX D

NDOT'S UNCONTROLLED CROSSWALK TREATMENT PROCESS

NEVADA DEPARTMENT OF TRANSPORTATION

PROCESS FOR THE EVALUATION OF UNCONTROLLED CROSSWALK LOCATIONS

Current as of 8/14/14

ASSUMPTION: This process should be used to evaluate existing or proposed uncontrolled crosswalk locations.

1. **Preliminary Field Review** – the field review is needed to become familiar with the existing geometry, traffic control devices and land use at the subject crosswalk site. Location of nearby schools is especially critical to this process, although this process does not apply to school crossings. A nighttime review of the site should also be conducted.
2. **Data Collection** – the following data elements should be considered prior to any decision on treatments for the subject crosswalk.
 - **Crash Data** – review crash data from NDOT Safety Engineering. Consider a crash data request for the subject crosswalk location including appropriate approach distances to the crosswalk as indicated by operational features, i.e. intersections, driveways, pedestrian/bicycle trails, etc.
 - **Vehicular Volume** – use current Average Daily Traffic (ADT) if available or conduct vehicle counts.
 - **Posted Speed Limit** – a speed study may be needed if it is determined that vehicle speeds are not in compliance with the posted speed limit.
 - **Number of Lanes** – record the total number of lanes that a pedestrian must cross including through travel lanes, two-way left turn (TWLTL) lane for mid-block crosswalk locations, paved shoulders, and right turn and left turn lanes at intersection crosswalk locations.
 - **Median** – record existence of any median including raised median, painted median, or unpaved median.
 - **Street Lighting** – record luminaire type and wattage, number of luminaires and layout of street lighting at the subject crosswalk location.
 - **Nearest Traffic Signal Control** – if less than 600 feet, record distance to nearest traffic signal control for mid-block crosswalk locations.
 - **Traffic Control Devices for Subject Crosswalk** – record all existing signing, pavement markings, and other traffic control devices relative to the subject crosswalk.
 - **Sight Distance** – determine if adequate sight distance exists for pedestrians and drivers.

- **Alternative Crosswalk Sites** – record any alternative crosswalk sites considered and the reasoning for not choosing those sites.
- 3. Crosswalk Decision Matrix** – The Uncontrolled Crosswalk Decision Matrix is available to aid in the decision process to determine the need for the subject crosswalk and the potential treatments to be considered. The followings guidelines should be considered when using the Uncontrolled Crosswalk Decision Matrix:
- The Uncontrolled Crosswalk Decision Matrix includes intersection and midblock locations with no traffic signals or stop signs on the approach to the crossing location.
 - A two-way left turn (TWLTL) lane is considered a travel lane and not considered to serve as a median for purposes of this process.
 - Additional safety design features and/or traffic control devices must be included in any plans for proposed crosswalk locations that could present an increased safety risk to pedestrians, such as where there is inadequate sight distance, complex or confusing designs, a substantial volume of heavy trucks, or other high risk elements.
 - Adding crosswalks alone will not make crossings safer, nor will they necessarily result in more vehicles stopping for pedestrians.
 - Based on the evaluation of location traffic data and the matrix guidelines, other pedestrian facility enhancements (e.g. raised median, traffic signal, pedestrian hybrid beacon, flashing beacons, roadway narrowing, enhanced overhead lighting, traffic-calming measures, curb extensions, etc.) , may be needed to improve the safety of the crossing.
 - Where the speed limit exceeds 40 mph, marked crosswalks alone should not be used at unsignalized locations.
 - If utilized at a crosswalk location for pedestrian refuge, a raised median should be 4 ft. wide and 6 ft. long in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) and American Association of State Highway and Transportation Officials (AASHTO) guidelines.
 - All new and modified existing crosswalk locations must be compliant with the requirements of the American Disabilities Act.

These are general guidelines; engineering judgment should be used to evaluate individual cases and to determine the treatment to be used.

- 4. Engineering Judgment** – The information contained in the Uncontrolled Crosswalk Decision Matrix is not a substitute for engineering judgment. Many other factors beyond those mentioned in this process description may need to be considered.

5. Stakeholder Outreach – following the selection of a treatment, outreach to appropriate stakeholders is recommended:

- NDOT District Staff (Traffic Engineer, Maintenance Engineer, District Engineer)
- NDOT Chief Safety Engineer
- NDOT Chief Traffic Operations Engineer
- Local agency
- NHP and local law enforcement agency, as appropriate

If needed, a meeting/conference call with the above mentioned staff can be held to discuss the crosswalk treatment decision.

6. Documentation – it is important to document the process for each crosswalk location that is evaluated. This includes all dates and times for field reviews, collected data and a written record of all decisions made and actions taken or not taken.

7. Implementation – if a decision is made to implement a decision for a crosswalk location, it may be accomplished in a number of ways, i.e. included as part of an upcoming roadway project; done as a District contract; or as a safety project.

UNCONTROLLED CROSSWALK DECISION MATRIX
 (Treatments to be applied only if evaluations of conditions indicates that the treatment will provide a significant safety benefit)

Roadway Type (Number of Travel Lanes and Median Type)	Vehicle ADT ≤ 9,000			Vehicle ADT >9,000 to 12,000			Vehicle ADT >12,000 to 15,000			Vehicle ADT >15,000		
	Posted Speed Limit											
	≤30 mph	35 mph	40 mph	≤30 mph	35 mph	40 mph	≤30 mph	35 mph	40 mph	≤30 mph	35 mph	40 mph
Two lanes	C/1	C/1	P/2	C/1	C/1	P/2	P/2	P/3	P/3	P/2	P/3	P/3
Three lanes	C/1	C/1	P/2	C/1	P/2	P/2	P/2	P/2	P/3	P/2	P/3	P/3
Multilane (four or more lanes with raised median)	C/1	C/2	P/2	C/2	P/2	P/3	P/2	P/2	P/3	P/3	P/3	P/3
Multilane (four or more lanes without raised median)	C/1	P/2	P/3	P/2	P/2	P/3	P/3	P/3	P/3	P/3	P/3	P/3

C - Candidate sites for marked crosswalks*. An engineering study is required to determine whether a marked crosswalk will provide a significant safety benefit. A site review may be sufficient at some locations, while a more indepth study of vehicle speeds, sight distance, vehicle mix, and other factors may be needed at other sites. It is recommended that a minimum utilization of 20 pedestrian crossings per peak hour (or 15 or more elderly and/or child pedestrians) be confirmed at a location before placing a high priority on the installation of a crosswalk treatment. See Crossing Treatment Type Number 1.

P - Possible increase in pedestrian crash risk if crosswalks alone are added without other pedestrian facility enhancements. If the evaluation determines that a crosswalk would provide a significant safety benefit, then crosswalk locations should be enhanced with other pedestrian crossing improvements such as those shown in Crossing Treatment Types Number 2 or 3.

Minimum crosswalk treatments at uncontrolled locations should follow the requirements of the Manual on Uniform Traffic Control Devices (most current version).

Crossing Treatment Types:

- 1** - High visibility Crosswalk Striping is recommended, and consideration of additional treatments such as a Pedestrian Refuge Island and/or Advanced Yield Lines and street lighting.
- 2** - Crossing treatments such as a Pedestrian Refuge Island, Overhead Pedestrian Crossing Signs, Flashing Beacons, Yield Lines, parking removal between crosswalk and Yield Lines and street lighting should be considered. Additional information is available in the NDOT Flashing Beacon policy.
- 3** - Crossing treatments such as a Pedestrian Hybrid Beacon, Pedestrian Signal, or Two-Stage Crossing, Stop or Yield Lines, parking removal between crosswalk and Yield Lines and street lighting should be considered. Installation of traffic signals cannot be considered unless traffic conditions meet warrant criteria specified in the Manual on Uniform Traffic Control Devices.

***NRS 484A.065 "Crosswalk Defined"** Crosswalk means: 1. That part of a highway at an intersection within the connections of the lateral lines of the sidewalks on opposite sides of the highway measured from the curbs or, in the absence of curbs, from the edges of the traveled portions of highways; or 2. Any portion of a highway at an intersection or elsewhere distinctly indicated for pedestrian crossing by lines or other markings on the surface.