



Safer Roads Key Area Meeting Summary



Date/Time:	Thursday, May 4, 2023 10:00am – 11:30am
Chair:	Lacey Tisler, NDOT Traffic Safety Engineering
Vice Chair Safe Speed:	Todd Hartline, DPS Office of Traffic Safety
Vice Chair Lane Departures:	Shawn Paterson, NDOT Design
Vice Chair Intersections:	Rod Schilling, NDOT Traffic Operations

Attendees

- See attached for the meeting attendees.

Topics

- Summary from Last Quarterly Meeting – There were no comments on the summary from the last quarterly meeting.
- Monthly Fatality Data Update – The March state fatal report is attached.
- TRCC – An overview of the last meeting was provided. Next meeting is on June 13 at 1:30 PM.
 - AI speech recognition will benefit law enforcement in the field which will aid with voice recognition.
 - Race and ethnicity updates in the state of Nevada have been updated for the Stop Project.
 - An update was provided on the adjudication of citations, which was delayed due to the fiscal year and the student's school year.
- NDOT Updates
 - May is Bike Month!
 - There has been a reduction in pedestrian and bicycle fatalities in 2023 but please continue to increase caution on the road as the weather is changing.
 - Active transportation and vulnerable road user updates from the FHWA recommendations
 - No action required on rural roads and older drivers
 - Vulnerable road user special rule has been triggered
 - A minimum of 15% reduction has been required for the next fiscal year.
 - This data to help advocate for this group and prioritize projects

- OTS Updates
 - May is motorcycle safety month! The governor provided a proclamation for this.
 - They are currently assembling the bi-annual safety plan
 - They are working on reviewing/scoring Requests for Proposals and Request for Grants
 - Requests have gone out for public health personnel for project recommendations
 - Starting older driver programs, which is a new program area.
 - Working with NDOT to analyze crash and citation data to help inform with projects and safety planning
- NVACTS Updates
 - An overview of the last meeting was provided. Next meeting is on June 8 at 2:00 PM.
 - Andrew was not on the call, so the update was provided by Mike Colety.
 - Presentation on cannabis toxicology in relation to impaired driving and the legal establishments in Nevada.
 - Amy Davey (OTS) led a discussion on Equity in Traffic Safety and is working to determine what data should be used.
 - DMV has staff dedicated to autonomous vehicles which has raised questions on how this impacts crash reports.
 - Citation Process Working Group – the fact that citations for high-risk citations are not process and adjudicated to the level we would like to see
 - *Next meeting May 10.*
 - Policy Priority Working Group is focused on supporting and educating for the local legislative session and progress on how to education others with traffic safety related items.
 - *Next meeting May 11.*
- Safe Speeds Updates
 - 2.1 Support HVE efforts with multiple-channel messaging and outreach
 - *Law enforcement is not able to provide numbers from the events so there's only accurate data from four of about 20 of the partners.*
 - *The third event will be mid-September 2023.*
 - *OTS has some trouble with enforcement within rural counties*
 - *However, Nye County who had an alarming number of crashes in the more rural (northern) part of the county and there is an active initiative to act.*
 - *NDOT SMAP – Please mind through this document to review where the issues are occurring throughout the state.*
 - <https://www.dot.nv.gov/safety/traffic-safety-engineering/highways-safety-improvement-program-hsip/speed-management-action-plan-smap>
 - *6% of Nevada's population lives in the rural areas but 30% of fatalities happens in those locations.*

- 2.2 Legislative opportunities to curb speed, such as safety cameras
 - *There has been little traction in this legislative session for AB 93, the automated safety cameras bill, and others relating to speed management.*
 - *Through the learning process, preparation has begun for 2025 session. Team members are working to manage these items through the next session. Thanks to Sean Sever, Amy Davey, Lacey Tisler, and Andrew Bennett and their efforts on this so far.*
 - *SMAP shows that most of the speed related serious injuries and fatalities could be greatly impacted by automated enforcement. See below for images from the SMAP relating to speed-related crashes.*

Speeding-related crashes are
MORE SEVERE on Principal Arterial: Other and Minor Arterial roadways



32% of all crashes
47% of fatal and serious injury crashes

Speeding-related crashes are
MORE SEVERE on lower speed roadways



51% of speeding-related crashes
27% of speeding-related fatal and serious injury crashes

32% of speeding-related crashes
44% of speeding-related fatal and serious injury crashes



- Intersections Updates
 - 2.1 Determine locations with high nighttime crashes and make recommendations to increase lighting.
 - *Presentation on Washoe County Street Light Illumination Research which illustrates the impact of low-lit roadways with photos and videos and how this relates to the roadway classification.*
 - 2.2 Determine a high-crash corridor where crashes could be mitigated through corridor access management and identify a project to install islands to limit access. Utilize results from Safety Management Plans (SMP).

- *Two SMPs previously discussed on South Virginia Street (northern NV) and Flamingo Road (southern NV) which have been reviewed for vulnerable road users.*
 - *South Virginia Street SMP was completed on April 20.*
- *LPA process is underway for W 4th Street (northern NV).*
 - *Consideration for continuous pedestrian facilities and roundabouts at Stoker Ave and Summit Ridge Road.*
- *Road owners and Bonanza Road and Carey Avenue (both in southern NV) to have these SMPs funded.*
- Lane Departures Updates
 - 1.2 Statewide climbing and passing lane
 - *The team received a data hiccup but are hoping to provide more information within the next quarter.*
 - *The climbing and passing lane study, which was planned to publish earlier this year for unsafe passing leading to crashes, has been delayed due to the data hiccup.*
 - 2.2 Apply traffic incident management (TIM) strategies to minimize disruption after incidents to improve emergency response times to crashes, improve first responders safety while on scene, reduce secondary crashes through training.
 - *Nevada is 8th in the nation for total first responders trained throughout the state 73.8% responders within the state have been trained (a total of 6,212) which only includes trainings through March which have been in Las Vegas, Reno, Elko, and Tonopah.*
 - *New trainings including the Reno Fire Department (50 personnel trained) Lake Mead Forestry (50 personnel trained) and approximately 200 other personnel.*
 - *The new contract will go to the transportation board next week which will include call-out procedures, more frequent meetings for rural areas (approximately 3 per year), rural crash demonstrations every other year, FHWA for TIM maintenance category, Carson Tahoe Douglas Las Vegas training, bolstering initiatives.*
 - *The group is working to establish a process to analyze clearance times and a deep-dive coordination meeting for after-action reports. A consultant will facilitate a TIM-track (decent sized piece of land for a training facility for permanent applications) feasibility study starting in June 2023 which will conclude late 2024.*
- Work Zone Updates
 - This group is identifying what data is available.
 - Other states are developing smart work zone which they are getting additional data to aid in work zone safety.
 - Speed feedback signs are best utilized in conjunction with smart work zones.

- Open Discussion
 - Policy Priorities
 - *Nevada reports on the numbers of serious injuries and fatalities and the FHWA does an analysis and dictates the 'largest areas of improvement'.*
 - *Nevada is a 'pedestrian-focused state' due to 23% of serious injuries and fatalities involving pedestrians in 2022*
 - *Nevada is a 'intersection-focused state' due to the alarming amount of serious injuries and fatalities involving pedestrians in 2022*
 - *There are concerns with crashes that are intentional and violent as there's been an increase in these crashes and behaviors.*
 - *The group is very interested in data points that could be collected, specifically in relation to intentionality.*
 - *Consideration is being taken to make connections across the task force's priorities, which would be helpful to linking to the Highway Safety Plans. This is a key foundation to the policy work as the subject matter experts.*
 - *Safe Speeds Task Force Priority: Support for flexibility and policy guidance beyond the 85% percentile for design speeds (non-legislative priority).*
 - *Intersections Task Force Priority: Inconsistencies of flashing yellow arrow and signal timing throughout the state. Is there something that can be looked at to 'make complete intersections' for the vulnerable road users (i.e. bike lane ends at intersections).*
 - *Lane Departures Task Force Priority: vehicle-related technology.*
 - *There are NDOT Traffic Ops personnel dedicated to technology and how this can be implemented with traffic safety.*

Attachments:

- A. May 4, 2023, Meeting Attendees
- B. Summary (without attachments) from February 2, 2023, Safer Roads Key Area Meeting
- C. Monthly Fatality Reports for January 2023 through March 2023
- D. Actions and Strategies Update
- E. Washoe County Street Light Illumination Research

Next Meetings:

- Nevada Advisory Committee on Traffic Safety (NVACTS) – Thursday, June 8, 2:00 PM – 4:00 PM
- NVACTS Policy Priority Working Group (occurring weekly) – Wednesday, May 11, 8:00 AM – 9:00 AM
- TRCC Meeting – June 13 at 1:30 PM – 3:00 PM.
- Work Zones Action Update Meeting – Tuesday, June 13, 11:00 AM – 12:00 PM
- Intersections Action Update Meeting – Thursday, June 29, 9:00 AM – 10:00 AM
- Safe Speeds Action Update Meeting – Thursday, June 15, 9:00 AM – 10:00 AM
- Lane Departures Action Update Meeting – Thursday, June 29, 2:00 PM – 3:00 PM
- Next Safer Roads Meeting – Thursday, August 3, 10:00 AM - 11:30 AM

Distribution: All attendees and Safer Roads Roster (May 4, 2023)

Date issued: Tuesday, May 17, 2023

NOTE TO RECIPIENTS: These meeting minutes record Kimley-Horn’s understanding of the meeting and intended actions arising therefrom. Your agreement that the notes form a true record of the discussion will be assumed unless adverse comments are received in writing within five days of receipt.

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Safer Roads Key Area Meeting Summary



Date/Time:	Thursday, February 2, 2023 10:00am – 11:30am
Chair:	Lacey Tisler, NDOT Traffic Safety Engineering
Vice Chair Safe Speed:	Todd Hartline, DPS Office of Traffic Safety
Vice Chair Lane Departures:	Shawn Paterson, NDOT Design
Vice Chair Intersections:	Rod Schilling, NDOT Traffic Operations

Attendees

- See attached sign-in sheet.

Topics

- Summary from Last Quarterly Meeting – There were no comments on the summary from the last quarterly meeting.
- Monthly Fatality Data Update – The January state fatal report is attached.
- Preliminary Substance Involved Fatalities by County – The Q1 - Q3 report is attached.
- TRCC – An overview of the last meeting was provided. There was a presentation on UNLV’s smart technology implementation for data quality improvement. Next meeting is on March 7 at 1:30 PM.
- Safe Speeds Updates
 - 1.1 Develop a statewide Speed Management Action Plan for Nevada
 - *The SMAP is published, and the link has been added to the website. See above for link.*
 - 2.1 Support HVE efforts with multiple-channel messaging and outreach
 - *Statistics have been compiled for last year, FY22. Joining Forces sponsored 16 events (3 focused on speed).*
 - 2.2 Legislative opportunities to curb speed, such as safety cameras
 - *Informational webinar regarding Automated Traffic Safety was held on February 1 with subject matter experts. Recording here:
<https://us06web.zoom.us/rec/share/VcCkUq1xwRHF9oSSs-37YHeKqmZBzSsTRGzLjZhjeJUPEXoo4AmVqVre5HfFZyTM.6rXqSsOHwhnl3Bx6>
Passcode: vQT6\$Yr**
- Intersections Updates
 - 1.1 Screen the roadway network for high-risk signalized intersections
 - *Presentation was shared showing the analysis conducted for the top locations.*

- 1.2 Screen the roadway network for high-risk unsignalized intersections
 - *Presentation was shared showing the analysis conducted for the top locations.*
- Lane Departures Updates
 - 1.2 Statewide climbing and passing lane
 - *Study is being finalized now. This study includes a statewide multi-lane prioritization study to identify high-risk areas and help with identify future projects.*
 - 1.3 Update rumble strip standards and guidance on installations
 - *Interdisciplinary coordination between NDOT Safety and NDOT Roadway Design to update the guidance on mumble strips, delineating freeway and non-freeway, as well as bicycle friendly options.*
- Work Zone Updates
 - Team has been identified to determine the available data and how to prioritize this and move forward, which includes safety and mobility guide updates.
- Roadway and Active Transportation Facility Inventory Presentation from Gena Kendall
 - This is a GIS dataset and interactive map of pedestrian facilities which allows for the identification of ADA and safety issues in an effort to balance efforts for improvements.
 - See the attached presentation for more information.
- NDOT Update –The Speed Management Action Plan has been published and can be found here: <https://www.dot.nv.gov/safety/traffic-safety-engineering/highways-safety-improvement-program-hsip/speed-management-action-plan-smap>. Two Safety Management Plans (SMPs) are just getting started, one in the north and one in the south. They are starting the NLV Local Road Safety Plan (LRSP) program and more information can be found here: <https://www.dot.nv.gov/safety/traffic-safety-engineering/highways-safety-improvement-program-hsip/local-road-safety-plan>.
- OTS Update – Projects are underway for the year, which are focused on speed and behavioral issues. The 2024 grant opportunities are available on the website. FHWA Released the Safe Streets and Roads for All Grants. Congratulations to the City of Las Vegas and the RTC of Southern Nevada on being recipients!
- NVACTS Update
 - AB93 previously identified as BDR 36-41 revises provisions relating to states of emergency or declarations of disaster proclaimed by the Governor. (<https://www.leg.state.nv.us/App/NELIS/REL/81st2021/Bill/7384/Text>)
- Open Discussion
 - NDOT Traffic Operations is going before the legislature on February 14 to discuss BDR 43-257 (currently assigned as AB56).
 - Railroad Discussion (Rich Chancey)
 - *There were two fatalities and one non-fatal so far this year at or near intersections and railroad crossings.*
 - *Informative presentation in northern Nevada upcoming and gauging interest in southern Nevada for March 29-30 for a short presentation.*
 - *Working to be added back to the agenda for the TIMs meetings.*
 - Technology for Safety
 - *Connect with Rod Schilling for more details.*

Attachments:

- A. February 2, 2023, Meeting Attendees
- B. Summary (without attachments) from December 1, 2022, Safer Roads Key Area Meeting
- C. Monthly Fatality Reports for December 2022 and January 2023
- D. Preliminary Substance Involved Fatalities by County
- E. Actions and Strategies Update
- F. RTC Southern NV Roadway and Active Transportation Facility Inventory Presentation

Next Meetings:

- Nevada Advisory Committee on Traffic Safety (NVACTS) – Thursday, March 9, 2:00 PM – 4:00 PM
- NVACTS Policy Priority Working Group – Wednesday, February 15, 8:00 AM – 9:00 AM
- TRCC Meeting – March 7 at 1:30 PM – 3:00 PM.
- Work Zones Action Update Meeting – Tuesday, March 21, 10:00 AM – 11:00 AM
- Intersections Action Update Meeting – Thursday, March 23, 9:00 AM – 10:00 AM
- Safe Speeds Action Update Meeting – Thursday, March 30, 10:00 AM – 11:00 AM
- Lane Departures Action Update Meeting – Thursday, April 6, 10:00 AM – 11:00 AM
- Next Safer Roads Meeting – Thursday, May 4, 10:00 AM - 11:30 AM

Distribution: All attendees and Safer Roads Roster (February 14, 2023)

Date issued: Tuesday, February 14, 2023

NOTE TO RECIPIENTS: These meeting minutes record Kimley-Horn's understanding of the meeting and intended actions arising therefrom. Your agreement that the notes form a true record of the discussion will be assumed unless adverse comments are received in writing within five days of receipt.

DATE OF REPORT: 4/4/2023
 DATA AS OF: 4/4/2023

TO: PUBLIC SAFETY, DIRECTOR NDOT, HIGHWAY SAFETY COORDINATOR, NDOT TRAFFIC ENGINEERING, FHWA, LAW ENFORCEMENT AGENCIES
 FROM: THE OFFICE OF TRAFFIC SAFETY, STATE FATAL DATA
 PREPARED BY: ADAM ANDERSON, FARS ANALYST
 SUBJECT: FATALITIES BY COUNTY, PERSON TYPE, DAY, MONTH, YEAR AND PERCENT CHANGE.

Month	2022 Crashes	2023 Crashes	% Change	Month	2022 Fataals	2023 Fataals	% Change
JAN	17	27	58.82%	JAN	28	27	-3.57%
FEB	22	15	-31.82%	FEB	23	17	-26.09%
MAR	32	25	-21.88%	MAR	34	25	-26.47%
APR			0.00%	APR			0.00%
MAY			0.00%	MAY			0.00%
JUN			0.00%	JUN			0.00%
JUL			0.00%	JUL			0.00%
AUG			0.00%	AUG			0.00%
SEP			0.00%	SEP			0.00%
OCT			0.00%	OCT			0.00%
NOV			0.00%	NOV			0.00%
DEC			0.00%	DEC			0.00%
Reporting Period Total	71	67	-5.63%	Reporting Period Total	85	69	-18.82%
Total				Total			

KNOWN FATAL COMPARISON BETWEEN 2022 AND 2023.

COUNTY	2022 Crashes	2023 Crashes	% Change	2022 Fatalities	2023 Fatalities	% Change	2022 Occupants	2023 Occupants	% Change	2022 Unrestrained	2023 Unrestrained	% Change
CARSON	0	2	200.00%	0	2	200.00%	0	1	100.00%	0	0	0.00%
CHURCHILL	2	2	0.00%	2	2	100.00%	1	2	100.00%	1	0	-100.00%
CLARK	57	47	-17.54%	70	49	-30.00%	29	26	-10.34%	10	10	0.00%
DOUGLAS	0	1	100.00%	0	1	100.00%	0	1	100.00%	0	0	0.00%
ELKO	2	0	-100.00%	3	0	-100.00%	3	0	-100.00%	2	0	-100.00%
ESMERALDA	0	2	200.00%	0	2	200.00%	0	2	200.00%	0	0	0.00%
EUREKA	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
HUMBOLDT	0	1	100.00%	0	1	100.00%	0	1	100.00%	0	1	100.00%
LANDER	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
LINCOLN	0	2	200.00%	0	2	200.00%	0	2	200.00%	0	1	100.00%
LYON	0	1	100.00%	0	1	100.00%	0	1	100.00%	0	1	100.00%
MINERAL	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
NYE	2	0	-100.00%	2	0	-100.00%	1	0	-100.00%	1	0	-100.00%
PERSHING	1	0	-100.00%	1	0	-100.00%	1	0	-100.00%	0	0	0.00%
STOREY	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
WASHOE	7	8	14.29%	7	8	14.29%	5	2	-60.00%	1	1	0.00%
WHITE PINE	0	1	100.00%	0	1	100.00%	0	1	100.00%	0	0	0.00%
Reporting Period Total	71	67	-5.63%	85	69	-18.82%	40	39	-2.50%	15	14	-6.67%
Total												

KNOWN COMPARISON OF FATALITIES BY PERSON TYPE BETWEEN 2022 AND 2023.

COUNTY	2022 Pedestrian	2023 Pedestrian	% Change	2022 Motorcyclist	2023 Motorcyclist	% Change	2022 Bicyclist	2023 Bicyclist	% Change	2022 Other Scooter, Moped, ATV	2023 Other Scooter, Moped, ATV	% Change
CARSON	0	1	100.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
CHURCHILL	1	0	-100.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
CLARK	21	16	-23.81%	15	6	-60.00%	4	1	-75.00%	1	0	-100.00%
DOUGLAS	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
ELKO	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
ESMERALDA	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
EUREKA	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
HUMBOLDT	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
LANDER	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
LINCOLN	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
LYON	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
MINERAL	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
NYE	0	0	0.00%	1	0	-100.00%	0	0	0.00%	0	0	0.00%
PERSHING	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
STOREY	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
WASHOE	2	5	150.00%	0	0	0.00%	0	1	100.00%	0	0	0.00%
WHITE PINE	0	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%
Reporting Period Total	24	22	-8.33%	16	6	-62.50%	4	2	-50.00%	1	0	-100.00%
Total												

THIS REPORT IS A POINT IN TIME COMPARISON

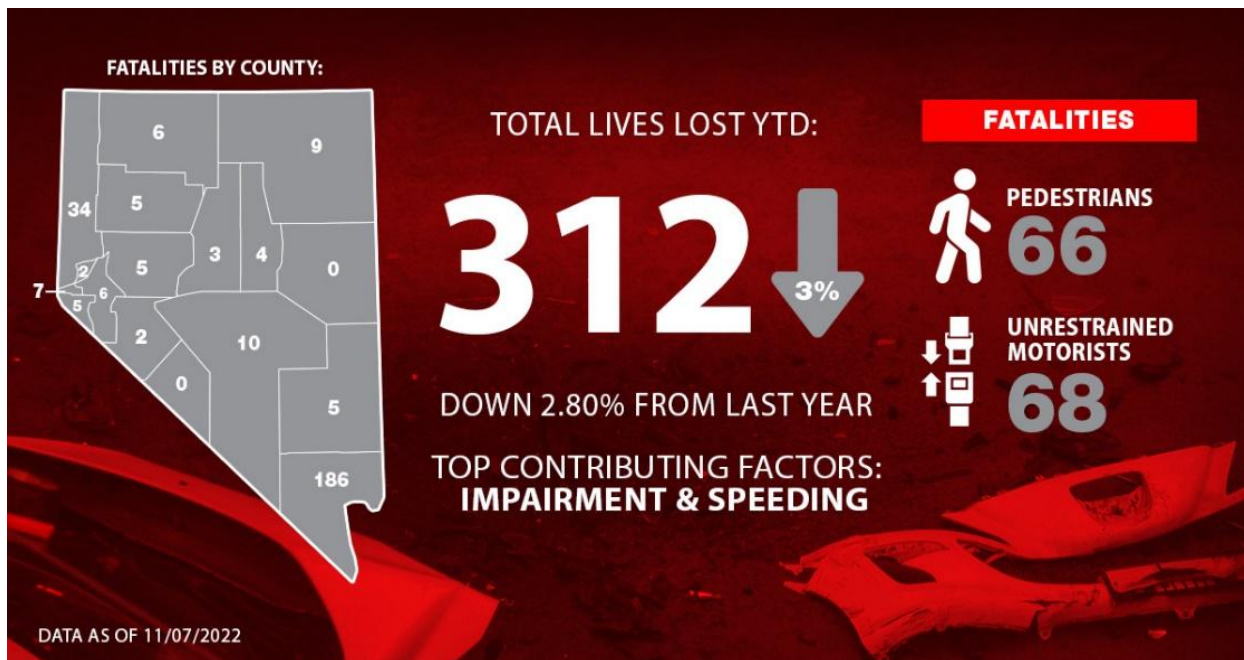
THIS DATA DOES NOT INCLUDE DATA FIELDS MARKED BY THE OFFICER AS UNKNOWN.

2022 DATA IS PRELIMINARY AND DOES NOT NECESSARILY INCLUDE FINAL REPORTS (FORM 5, CORONER, AND/OR TOXICOLOGY).

2023 DATA IS NOT FINAL UNTIL THE END OF DECEMBER 2024.

NOTE: The monthly report will be distributed by the 7th of each month.




- Key:
- Fatalities= Total number of reported fatalities (vehicle occupants, pedestrian, motorcyclist, bicyclist, and other).
 - Vehicle Occupants = Driver and occupant fatalities in a motor vehicle.
 - Vehicle Unrestrained = Driver and occupant fatalities in a motor vehicle unrestrained.
 - Pedestrian = Any person on foot, on a personal conveyance, or in a building.
 - Motorcyclist= A person riding any motor vehicle that has a seat or saddle for the use of its operator and is designed to travel on not more than three wheels in contact with the ground.
 - Bicyclist= A person on an other road vehicle that can be propelled by pedaling (bicycle, tricycle, unicycle, pedalcar, electric bike).
 - Other = A person on a scooter, moped, ATV, or other motorized vehicle not captured above on a roadway.





Key Area: Safer Roads (SR)

Critical Emphasis Area: Safe Speed (SP)



Strategy #1: Advance the use of infrastructure techniques and technology to manage target speeds and set speed limits.

No.	Description	Action Step Leader	Completion (Est.)	Last Update	Status	Output Measure	Comment
1.1	Develop a statewide Speed Management Action Plan for Nevada.	Lacey Tisler (NDOT)	Aug 2022	11/03/2022	 Completed	NDOT Speed Management Action Plan completed by 2022.	The Speed Management Action Plan has been approved by NDOT and will be posted to the website.
1.2	Implement context-sensitive speed setting approach for state-owned roadways.	Lacey Tisler (NDOT)	Jun 2023	01/30/2023	 Moderate Progress	Establish target speeds for stateowned facilities by 2022.	End date was updated from 6-30-2022 to 6-30-2023.
1.3	Install dynamic speed feedback signs within transition zones, preferably with geometric improvements, to reduce speeds where speeds/crashes are an issue.	Lacey Tisler (NDOT)	Dec 2023	01/30/2023	 Not Started	Select three locations to provide guidance from NDOT Speed Management Action Plan.	End date was updated from 12-31-2022 to 12-31-2023.

Strategy #2: Utilize high-visibility speeding enforcement targeted at high-risk locations to reduce crash severity.

No.	Description	Action Step Leader	Completion (Est.)	Last Update	Status	Output Measure	Comment
2.1	Support High Visibility Enforcement (HVE) efforts for aggressive driving and speed with strong multiple-channel messaging and outreach to encourage appropriate speeds.	Todd Hartline (DPS-OTS) Lacey Tisler (NDOT)	Jun 2022	04/13/2022	 Substantial Progress	Report on the statistics from each HVE event.	So far in 2022 we've held two HVE speed campaigns as part of Joining Forces. The first was held from January 24th through February 6th and the second from February 25th through March 12th. Participating agencies issue a media release describing the planned activity in advance of the effort. We track speed citations that have been issued during all our Joining Forces events (not just speed) and the total to date is 4,164.
2.2	Support legislative opportunities to curb speed and aggressive driving, such as automated enforcement in school and work zones.	Todd Hartline (DPS-OTS) Lacey Tisler (NDOT)	Jun 2023	11/03/2022	 Substantial Progress	Automated enforcement legislation in the 2023 session.	Now have a BDR. Looking for support entering the Legislative Session.

Strategy #3: [Improve effectiveness of education and outreach about safe speed and aggressive driving.](#)





No.	Description	Action Step Leader	Completion (Est.)	Last Update	Status	Output Measure	Comment
3.1	Use education and messaging to change culture of normalized speeding.	Todd Hartline (DPS-OTS)	Dec 2022	04/13/2022	 Moderate Progress	One speed campaign and presentation that focuses on culture change per year.	Development of programs to address speeding at a community level. NDOT working to develop an agreement with OTS to develop safety campaigns with HSIP funding.
3.2	Promote peer-to-peer outreach programs to address social norms and shared driving behaviors for all roadway users to reduce speed and aggressive driving.	Nick Nordyke (DPS-OTS)	Dec 2022	11/08/2021	 Substantial Progress	Hold at least one peer-to-peer outreach program per year.	Hosting community conversations - outreach to groups that OTS is not normally talking to (faith-based, non-profits, community centers). Seven events planned for November 2021.

Critical Emphasis Area: Lane Departures (LD)

Strategy #1: Apply proven engineering countermeasures and roadway improvements to keep vehicles in their lanes.

No.	Description	Action Step Leader	Completion (Est.)	Last Update	Status	Output Measure	Comment
1.1	Prioritize high-risk horizontal curves and apply countermeasures.	Jordan Daker (NDOT)	Jun 2022	09/15/2021	 Substantial Progress	Apply countermeasures such as high-friction surface treatment (HFST) and enhanced signage.	identifying high-risk curves for HFST.
1.2	Develop a statewide climbing and passing lane program.	Jordan Daker (NDOT)	Dec 2022	06/28/2022	 Substantial Progress	Prepare Climbing and Passing Lane Study and prioritize locations (multi-jurisdictional).	One more stakeholder workshop is planned. Still anticipate finalizing in December 2022.
1.3	Update rumble strip standards and guidance on new and re-rumble strip installations.	Jordan Daker (NDOT)	Jun 2022	06/15/2022	 Initiated	Standards and guidance for new and re-rumble strip installations.	Working on prioritization of re-rumble strip projects. Working with materials to mill and fill just the areas for centerline and edgeline rumble strips.

Strategy #2: Increase survivability in the event of a lane departure through engineering and emergency response.




No.	Description	Action Step Leader	Completion (Est.)	Last Update	Status	Output Measure	Comment
2.1	Implement projects designed to increase survivability of run-off-the-road crashes (slope flattening, shoulder widening, and roadside object removal projects).		Jun 2022	06/15/2022	 Moderate Progress	Number of projects that address slope flattening, shoulder widening and object removal.	Working on network screening process for run off road crashes to determine improvements (likely striping 4" to 6" for all crash types and physical improvements for locations with more K+A crashes
2.2	Apply traffic incident management (TIM) strategies to minimize disruption after incidents to improve emergency response times to crashes, improve first responders safety while on scene, reduce secondary crashes through training.	Juan Hernandez (NDOT)	Jun 2022	12/07/2021	 Moderate Progress	Increase number of responders trained.	- upcoming trainings in Reno, Safety Summit
2.3	Decrease animal vehicle collisions: prioritize problem areas with crash data (statewide assessment).	Nova Simpson (NDOT)	Jun 2022	03/29/2022	 Moderate Progress	Report on integration of wildlife mitigation into NDOT projects and continued research on problem areas.	Remove electrified concrete from status history. We had complications with the consultant meeting timelines and had to cancel the project. NDOT will pursue this topic again at a later time.
2.4	Identify and support technology that will increase the survivability and decrease the probability of lane departure crashes.	Juan Hernandez (NDOT)	Jun 2022	06/28/2022	 Initiated	Document successes and crash reduction associated with technologies. Increase implementation of current technologies and identify one new technology.	New research project with transverse rumble strips that is just starting.

Critical Emphasis Area: Intersections (I)

Strategy #1: Screen the roadway network for high-risk intersections and apply effective and/or innovative countermeasures.

No.	Description	Action Step Leader	Completion (Est.)	Last Update	Status	Output Measure	Comment
1.1	Screen the network to identify the top high-risk signalized intersections.	Shara Thiesen (NDOT)	Jun 2022	05/09/2022	 Completed	Top high-risk signalized intersections.	Intersection screening has been completed. The list has been forwarded to Jordan and Mo to complete their action steps.
1.2	Screen the network to identify the top high-risk unsignalized intersections (separated by rural and urban).	Shara Thiesen (NDOT)	Jun 2022	05/09/2022	 Completed	Top high-risk unsignalized intersections.	Intersection screening is complete and forwarded list to Jordan and Mo.
1.3	Identify countermeasures to apply to the top high-risk signalized intersections.	Maurilio Olivares (NDOT)	Jun 2022	06/30/2022	 Substantial Progress	Identify projects to improve safety at top high-risk signalized intersections.	White paper is being used to apply specific countermeasures to the list of high-risk signalized intersections.
1.4	Identify countermeasures to apply to the top high-risk unsignalized intersections.	Maurilio Olivares (NDOT)	Jun 2022	06/30/2022	 Substantial Progress	Identify projects to improve safety at top high-risk unsignalized intersections.	White paper is being used to apply specific countermeasures to the list of high-risk unsignalized intersections.
1.5	Conduct safety analysis at unsignalized and signalized intersections throughout the state to determine potential systemic countermeasures to apply at intersections.	Jordan Kaczmarek (NDOT)	Jun 2022	03/16/2022	 Initiated	Systemic safety analysis and identification of proven safety countermeasures.	Updated per interim meeting

Strategy #2: Screen the roadway network for high-risk segments and apply effective and/or innovative countermeasures to improve intersection safety.

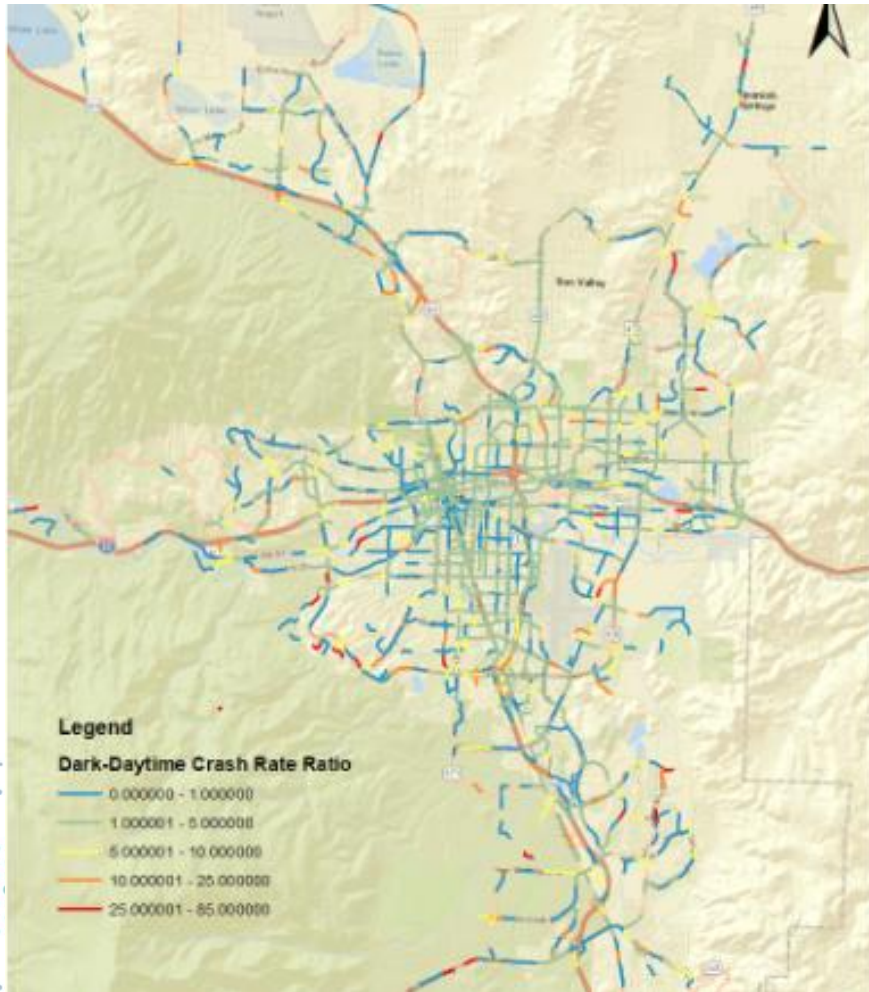
No.	Description	Action Step Leader	Completion (Est.)	Last Update	Status	Output Measure	Comment
2.1	Determine locations with high nighttime crashes and make recommendations to increase lighting.	Maurilio Olivares (NDOT) Xu Hao (UNR)	Jun 2022	12/07/2021	 Substantial Progress	Provide recommendations to add lighting to high nighttime crash locations. Work with agencies to educate them on lighting standards. Education on destination lighting in rural locations.	Finishing up UNR Study, next steps
2.2	Determine a high-crash corridor where crashes could be mitigated through corridor access management, and identify a project to install islands to limit access. Utilize results from Safety Management Plans (SMP).	Jorden Kaczmarek (NDOT)	Jun 2022	12/07/2021	 Substantial Progress	Determine how access management is implemented at the local level. Determine a high-crash corridor and identify a project to install islands to limit access. Access management as recommended in SMPs. Number of access management measures incorporated into NDOT Encroachment Permits.	- Wrapping up 3 SMPs (E Carey, E Bonanza, E 4th Street)
2.3	Support and document roadway lane reconfigurations throughout the state.	Maurilio Olivares (NDOT) Gena Kendall (RTCSNV)	Jun 2022	01/31/2022	 Substantial Progress	White paper on benefits of roadway lane reconfiguration. Determine what local agencies policies are. Reach out to agencies yearly to determine if roadway lane reconfigurations are being implemented.	NDOT created GIS Map of project locations.

Strategy #3: Conduct outreach and education initiatives for target audiences that focus on eliminating high-risk behaviors at intersections.

No.	Description	Action Step Leader	Completion (Est.)	Last Update	Status	Output Measure	Comment
3.1	Support efforts for automated enforcement in the state through the use of safety cameras.	Mike Browett (RPD) Erin Breen (UNLV)	Jun 2023	09/14/2021	○ Initiated	Conduct a study to prove the issue. Review hearing to determine what made the bill fail and look to make changes to address those concerns, Conduct a best practice review on automated enforcement technology, address equity in automated enforcement. (Consider calling these safety cameras).	this action has been started.
3.2	Conduct saturation enforcement of red light running.	Mike Browett (RPD)	Jun 2022	08/11/2021	○ Not Started	Number of red-light running citations reported statewide.	N/A
3.3	Support efforts for roundabout training in driver education and on driving test.	Albert Jacquez (NDOT)	Jun 2022	12/07/2021	○ Moderate Progress	Review driver education materials to see if they incorporate information on roundabouts. Coordinate with the Department of Motor Vehicles (DMV) to have roundabouts included in the driving test when they are located near a DMV.	Drivers ed roundabout training

Washoe County Street Light Illumination Research

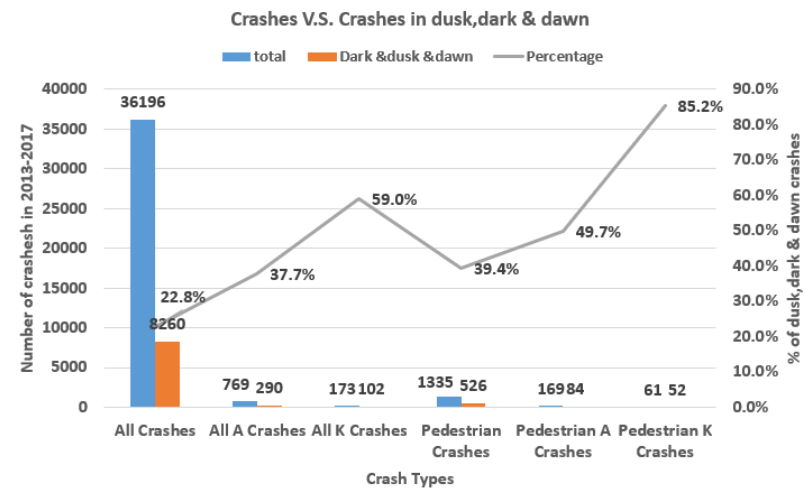
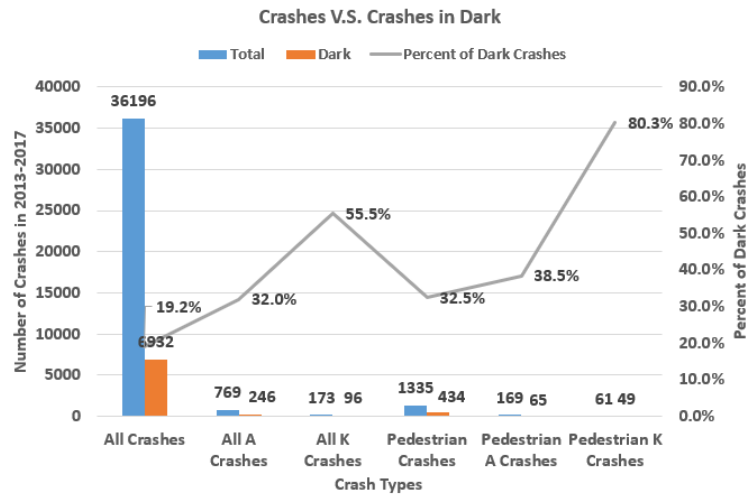




- Our goal of the study was to have data that we can use to recommend improved lighting in areas with a higher Dark to Daytime crash ratio
- There was approximately 500 miles of illuminance data collected within Washoe County
- The years of crash data used were 2013-2017


Summary of 2013-2017 Crashes in Washoe County


Type of crashes	Total	Dark	% of Dark Crashes	Dark, Dusk, & Dawn	% of Dark, Dusk, & Dawn Crashes
All Crashes	36,196	6,932	19.2%	8260	22.8%
All A Crashes	769	246	32.0%	290	37.7%
All K Crashes	173	96	55.5%	102	59.0%
Pedestrian Crashes	1,335	434	32.5%	526	39.4%
Pedestrian A Crashes	169	65	38.5%	84	49.7%
Pedestrian K Crashes	61	49	80.3%	52	85.2%



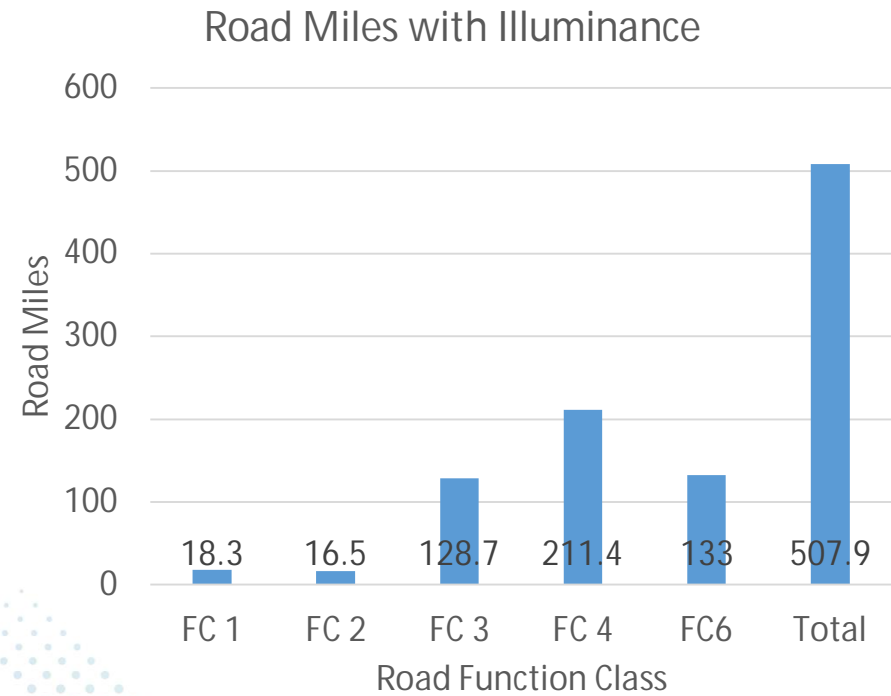
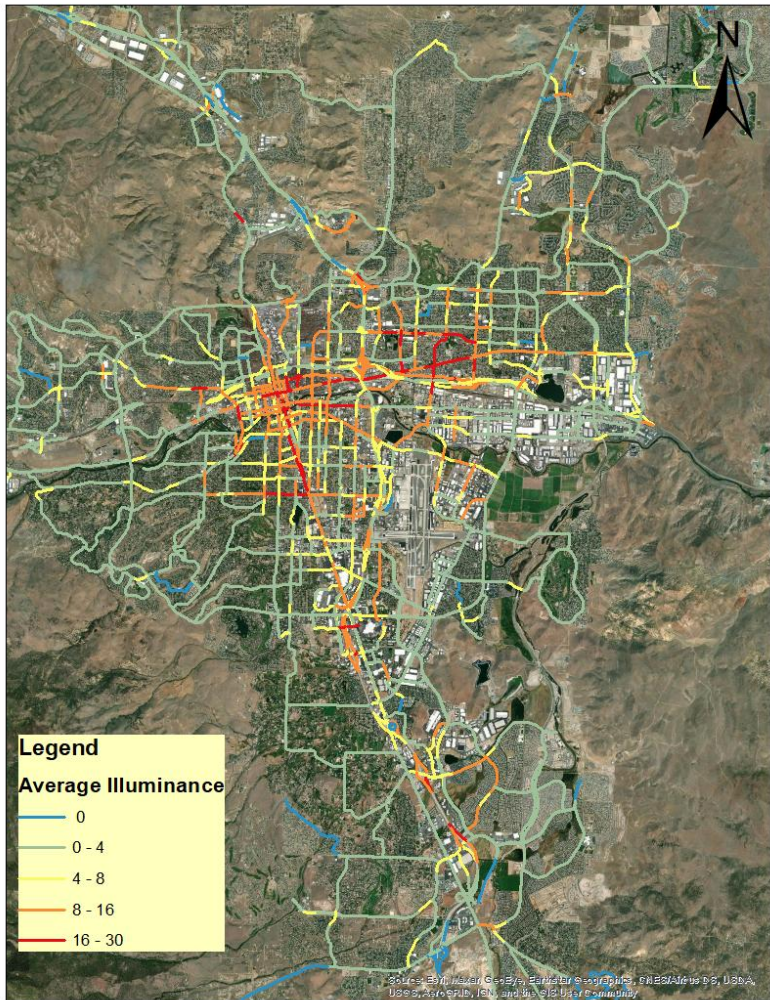
Data Collection

- Avoided impact of natural lights

Evening	
Golden hour start	19:06
Sunset	19:42
Civil twilight end	20:11
Nautical twilight end	20:45
Astronomical twilight end	21:21
Solar midnight	0:58

Moon	
Moonrise	5:33
Moonset	17:36
Moon phase	Waning crescent
Illumination at moonrise	6%

500-Mile Data of Illumination, Video and GPS



Findings from Data – Recommended Indexes

- Dark-daytime crash rate ratio
 - Dark crash rate/daytime crash rate
 - High ratio means worse dark traffic safety
- Dark-daytime crash frequency ratio (if no dark volume data)
 - Dark crash frequency/daytime crash frequency

Road Segment ID	Number of Dark Crashes	Number of Daytime Crashes	Dark-Day Crash Frequency Ratio	Average Illumination
82	2	6	0.33	2.031798
333	0	3	0	1.7075
354	3	6	0.5	3.528909
558	1	12	0.08	1.720246
693	0	2	0	3.457982
793	1	1	1	3.049969
1026	7	50	0.14	7.890597
1149	0	9	0	2.996653
1210	0	4	0	0.067187
1362	0	2	0	0.034524

Justification of Illumination Improvement for Prioritized Sites

- Check the ratio of dark crash rate compared to day crash rate and night crash frequencies
- Compare average illumination with the Figure 4-23 curve to estimate expected ratio reduction, which can be used to justify whether illumination improvement may improve the night traffic safety.

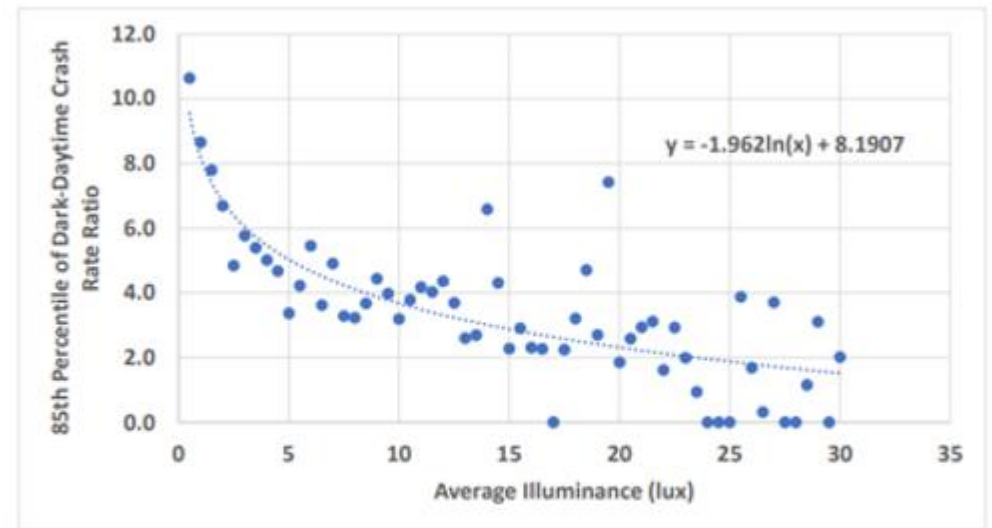
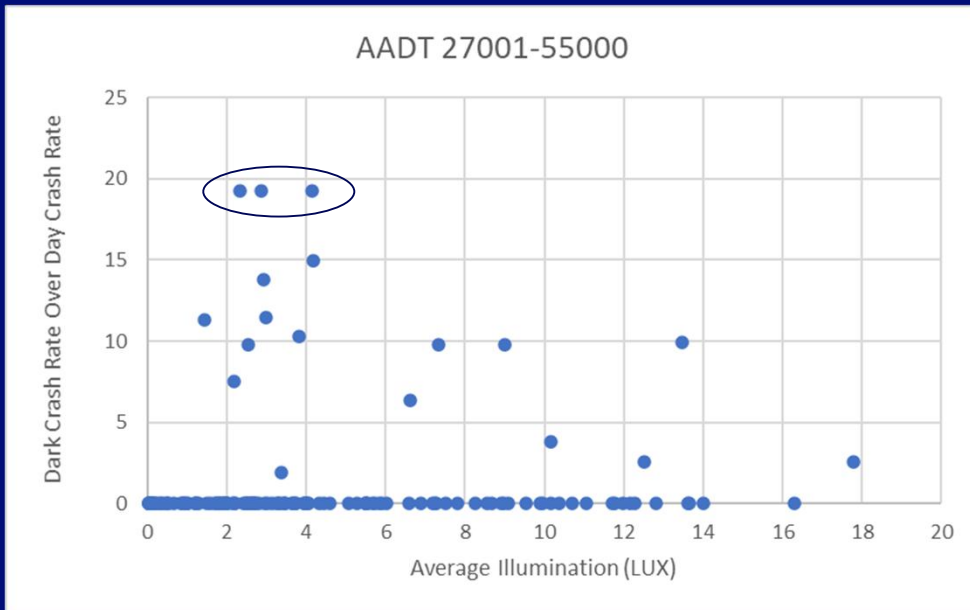
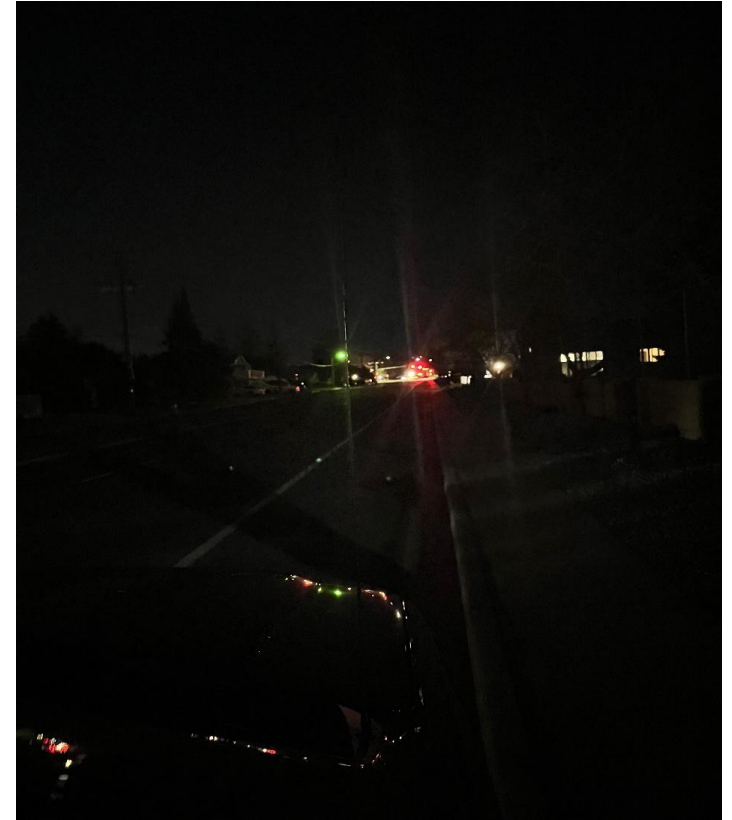


Figure 4-23. 85th percentile of dark-daytime crash rate ratios and regression curve

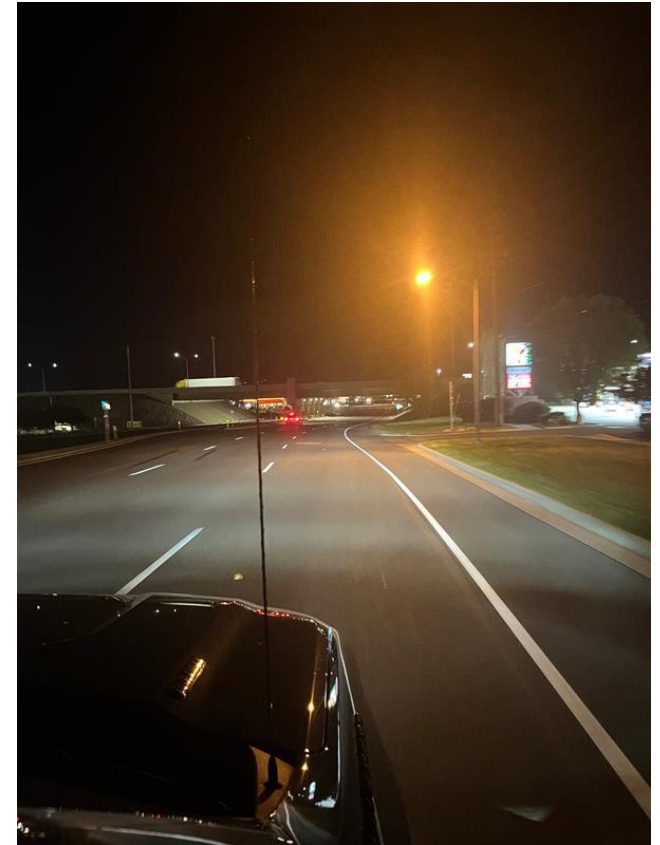


- Lakeside Dr from McCarran Blvd to Branch Ln
- McCarran Blvd from Plumas St to Lakeside Dr
- McCarran Blvd from Kietzke Ln to S Virginia St

Lakeside Dr from McCarran Blvd to Branch Ln



McCarran Blvd from Kietzke Ln to S Virginia St



McCarran Blvd from Plumas St to Lakeside Dr

