

Vulnerable Road Users Crash Safety Data Exchange Program Initiative



OFFICER DAVID MOORE – IPSWICH PD

- Ipswich Police Traffic Officer
- ACTAR Accredited Crash Reconstructionist
 - Over 780 hours of training
- Department liaison for EOPSS Traffic Grants since 2015
- Staff Instructor at NECC Police Academy
- Drug Recognition Expert since 2016
- EMT Basic since 2011
- Ipswich Police Department Community Follow Up unit



**BREAKING
NEWS**

16-year-old cyclist hit and killed
by a pickup truck in Ipswich

11:04 64°



WBZ

CBSBoston.com

Vulnerable Road Users Crash Safety Data Exchange Program Initiative

Ipswich Police Department Traffic Grant overall mentality

Multifaceted overlapping approach allowing for best payoff with the less funding with all of our traffic grants

405(c) grant ties in with the past 3 years of MRS Traffic Grants to get Officer trained in Crash Reconstruction and ultimately become ACTAR accredited

Expanding on the Department training a Crash Reconstructionist
- create unique and innovative grant ideas that are first of their kind

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The Ipswich Police Department's goal:

Improve crash data capturing specifically related to crashes involving vulnerable roadway users such as pedestrians and bicyclists
- added bonus of increasing crash data from vehicle crashes

Increase capturing of near-real time crash data

Utilize increased crash data capturing to enhance ability of the Commonwealth to analyze trends in crash occurrences, rates, outcomes and circumstances

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The Ipswich Police Department's goal:

Increase the Department's ability to utilize advanced technologies in modern cars with new emerging technologies

Increase the accessibility, accuracy, completeness, integration, timeliness and uniformity of the following 6 core traffic records systems!

- Crash data system
- Roadway
- Vehicle
- Driver
- Injury Surveillance/EMS
- Citation/Adjudications

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OVERVIEW GOAL #1 – Software or applications to identify, collect, and report data to State and local government agencies, and enter data into State core highway safety databases, including crash, citation or adjudication, driver, emergency medical services or injury surveillance system, roadway, and vehicle data;

Our program initiative aims to utilize a multifaceted approach with the requested software and specialized equipment allowing our Department to greatly increase our ability to provide such vital crash data for future analysis to help the Commonwealth hit several of the Unmet Recommendations

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OVERVIEW GOAL #2 – Purchasing equipment to improve a process by which data are identified, collated, and reported to State and local government agencies, including technology for use by law enforcement for near-real time, electronic reporting of crash data;

In line with Overview Goal #1 the requested equipment and software goes hand in hand with the software being requested to improve our Department's ability to identify and collect vital crash data specifically with crashes involving vulnerable roadway users for crash investigations

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OVERVIEW GOAL #4 – Enhancing the ability of a State and the Secretary to observe and analyze local, State, and national trends in crash occurrences, rates, outcomes, and circumstances;

The requested equipment and software would allow our Department to gather significantly better crash data which allows for far better traffic safety analysis

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OVERVIEW GOAL #8 – Supporting reporting criteria relating to emerging topics, including— (i) Impaired driving as a result of drug, alcohol, or polysubstance consumption; and (ii) **Advanced technologies present on motor vehicles; and**

Our Program Initiative utilized advanced technologies present in motor vehicles and to capitalize on the technology to assist with better crash investigations and crash data collection in order to help the Commonwealth analyze crash data and trends

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OVERVIEW GOAL #9 – Conducting research relating to State traffic safety information systems, including developing programs to improve core highway safety databases and processes by which data are identified, collected, reported to State and local government agencies, and entered into State core safety databases.

The requested equipment and software greatly enhances the process and quality of crash data collection allowing for more overall detailed information that is capable of being uploaded into the Commonwealth's core safety databases

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FFY 2024 Strategic Plan Unmet Recommendations

Strategic Planning Recommendations – in line with NHTSA's plan for adoption and integration of new technologies to ensure timely, accurate and complete traffic safety data for better analysis

Crash Recommendations – Improve the data quality to reflect best practices in NHTSA's Advisory by collecting data electronically

- capture data that is typically not captured in crashes involving vulnerable roadway users without the requested equipment

Roadway Recommendations – Increase the amount and quality of the data collected to greatly increase the geocoding for crash locations with up to centimeter accuracy

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FFY 2024 Strategic Plan Unmet Recommendations

Citation and Adjudication Recommendations – by providing significantly better crash investigations, specifically when vulnerable roadway users are involved, the Department would be able to gather better evidence faster allowing for better court outcomes providing a generalized deterrence for safer roadways

Injury Surveillance/EMS Recommendations – with faster and more real-time crash data capabilities the Department would have the potential to pass along better information to Hospitals providing crash kinematics, seat belt use, speeds, braking/acceleration rates that could allow for better treatment involving internal trauma

Data Use & Integration Recommendations – the increased crash data capable of being captured with the requested equipment and software allows for better integration of data for traffic safety analysis

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Bosch CDR Kit – assists with the “black box” “downloading” from vehicles
- capable of capturing several seconds of pre-crash data

- **Helps clear crash scenes faster!!!**

Less secondary crashes and safer

- MSP CARS team has delay for various reasons
 - Currently rely on MSP CARS agency for Bosch CDR kit
- Having our own kit would significantly reduce the delay
 - If given consent for crashes allows for greater data capture for all crashes
- Requested kit is DLC (Data Link Connector) capable

for all!!!

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FaroZone 3D scene mapping software— advanced scene mapping software for creating scaled diagrams of crashes allowing for crash

Combined with drones can map scene in
minutes clearing scenes faster for

severe crash

increased safety!!!

sh reports

- Allow for centimeter traffic safety analysis
- Models industry best practices and is similar to the software MSP CARS team utilizes for crash investigations
- Added bonus of allowing department to potentially create scaled 3D models of Town buildings and locations for Emergency Management or Critical Incidents

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Trimble Quick Response Solutions (QRS) GNSS set up – GNSS/RTK set up that provides centimeter level accuracy when tied in with the MASSDOT's network

- In conjunction with the FaroZone 3D software to create ground control points (GCPs) to create centimeter accurate scaled diagrams with software
- Set up also includes back up scene mapping abilities
- Gives Department 3 different scene mapping capabilities allowing for greater flexibility and increasing our ability to provide Commonwealth with crash data for traffic safety analysis
- System is utilized by MSP CARS team and is industry standard

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VBOX Performance Box Touch – Easy to use data logging system connected to GNSS satellite system to determine acceleration and deceleration data

- During vulnerable roadway user crashes data is time sensitive
- Typically less severe damage to vehicle allowing for test skidding
 - VBOX allows for vital data capturing during test skids
- VBOX system utilized by MSP CARS team and other regional Crash Reconstruction units within the Commonwealth

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Program Initiative's Measurable Goals

- 1 – Utilize the Bosch CDR kit in 75% of all crashes where a “download” would be applicable.
- 2 – Conduct test skids with the VBOX in 75% of crashes involving vulnerable roadway users where/when it is safe to do so.
- 3 – Map 90% of crash scenes where a crash reconstruction investigation is warranted with combination of current equipment and 405(c) requested equipment and software for crashes when vulnerable roadway users are involved.

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Conclusion

Increase our ability to gather crash data in line with the Commonwealth's FFY24 Strategic Plan for Traffic Records Improvements and the NHTSA's 2018 Traffic Records Program Assessment Advisory

- covers 6 of the 8 unmet recommendations
- hits on 5 of the 9 overview goals

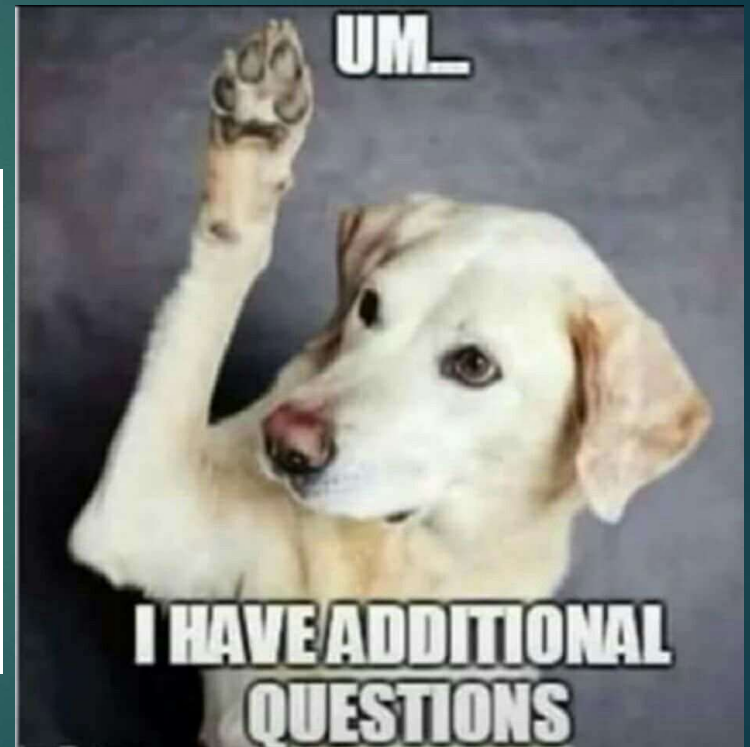
Overall main goal of increasing Department's ability to more quickly and more accurately collect crash data specifically in crashes where vulnerable roadway users are involved through advanced software and equipment allowing for faster clearing of crash scenes faster for better safety!!!

- overlaps and expands upon MRS Traffic Grants

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Questions???

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We reviewed the Commonwealth's 2024 Strategic Plan for Traffic Records Improvements and NHTSA's 2018 Traffic Records Program Assessment Advisory to develop innovative and exciting new ways to increase Department's ability to capture crash data specifically for crashes involving vulnerable roadway users to hit on numerous 405(c) grants main objectives and topics

- #1 – software/applications to identify, collect and report data and enter data into highway safety databases
- #2 – Purchasing equipment to improve process for data identification, collection and reporting to government agencies, including technology for Law Enforcement use to collect near-real time electronic reporting of crash data
- #4 – Enhance Commonwealth's ability to observe and analyze crash trends in crash occurrence, rates, outcomes and circumstances

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- #8 – Supporting reporting criteria relating to emerging topics, including— (i) Impaired driving as a result of drug, alcohol, or polysubstance consumption; and (ii) Advanced technologies present on motor vehicles; and
- #9 - Conducting research relating to State traffic safety information systems, including developing programs to improve core highway safety databases and processes by which data are identified, collected, reported to State and local government agencies, and entered into State core safety databases.