Surveillance Use Policy

Collision Mitigation Avoidance System
San Diego Fire-Rescue Department

PURPOSE

Roadway emergency scenes are inherently hazardous environments, with the continual risk of first responders being hit by oncoming vehicles. Such incidents can have catastrophic consequences for emergency personnel and others operating on scene. To mitigate this danger, the San Diego Fire-Rescue Department (SDFD) strategically positions fire apparatus to serve as physical barriers, enhancing scene safety during roadway operations.

The Collision Avoidance & Mitigation System (CAMS) prototype, developed by Pratt Miller Engineering and Pierce Manufacturing, Inc. (Pierce), both subsidiaries of Oshkosh Corporation, is designed as a research and data collection tool to support the engineering and design of a future commercial safety product to warn first responders of an impending collision. The system's primary function is to detect and identify potential collisions involving fire apparatus or emergency scenes posed by approaching vehicles.

The CAMS prototype integrates radar and video technologies to monitor oncoming traffic behind stationary emergency vehicles. By comparing and correlating data from both radar and video sources, the system aims to improve detection accuracy and reduce false positives. This data fusion approach enhances the reliability of the system's threat assessment capabilities.

USE

As part of an initiative to further improve responder safety, the CAMS prototype has been mounted on the rear of Engine 18 (Apparatus #2177). Engine 18 was selected due to its proximity to major highways and its frequent deployment to roadway incidents, which will allow for the collection of a substantial volume of data to evaluate and refine the system's performance. The video function of the prototype is currently disabled pending approval of its use.

At this stage, the CAMS device is used solely for data collection purposes. The information gathered will support analysis and development, with the goal of enhancing the system's accuracy and reliability. The intended future use of CAMS is to provide advanced warning of imminent impacts to the apparatus or work zone by placing a CAMS device on fire apparatus, which would rely solely on radar or incorporate both radar and video. This technology has the potential to significantly improve situational awareness and increase the safety of all personnel operating on or near roadways.

DATA COLLECTION

The CAMS will collect data during the course of normal vehicle operations. The CAMS will be configured to record data only when two conditions occur simultaneously: the vehicle park brake is set and the emergency lights are illuminated. This will restrict data collection only to situations where the vehicle is actively on scene of an emergency.

The system collects radar point cloud data to detect and track vehicle position, along with low-resolution video data. This video is used *only* as a visual reference to verify the radar's outputs when they don't match observed objects. The video resolution is limited to 320×240 pixels to ensure basic vehicle discernment for radar verification without requiring excessive processing or storage.

DATA ACCESS

Neither the City nor SDFD employees have direct access to the collected data. Data access is restricted to the members of the Pratt Miller Autonomy Engineering team only, which consists of approximately three people. Locally stored data is password protected and stored on a single physical computer which requires physical access to log into. Data is transferred to this local computer via a token secured Microsoft Azure cloud storage server, access to which is restricted to the same Pratt Miller personnel.

DATA PROTECTION

Collected data is transferred via a token secured Microsoft Azure cloud storage server, and then downloaded to the local, physical computer for processing and analysis. This computer is physically housed in an access restricted facility, available only to Pratt Miller employees and registered guests who must be accompanied by a Pratt Miller employee. The local computer is password secured and requires physical presence at the computer to allow for log-in, fully remote access is not possible. Data that is transferred via the Azure Cloud server is protected via a security token.

DATA RETENTION

Data will be retained during the duration of the product development effort. Once product development is complete, data will be stored for 10 years per Oshkosh Corporation Retention Schedule Code OPS040.

PUBLIC ACCESS

This data is classified "Highly Restricted" per Oshkosh Corporation Global Procedure GBL-PROC-RM001 and is confidential to Oshkosh Corporation and its subsidiaries Pierce Manufacturing and Pratt Miller. It will not be released to the public except where legally mandated.

THIRD-PARTY DATA SHARING

The data collected by CAMS is classified "Highly Restricted" per Oshkosh Corporation Global Procedure GBL-PROC-RM001. It will not be shared with any third parties and is confidential to Oshkosh Corporation and its subsidiaries Pierce Manufacturing and Pratt Miller. With a business need and authorization, the data may be shared with a small subset of Company personnel and business partners, per the aforementioned policy.

CAMS data shall never be voluntarily shared with Immigration and Customs Enforcement or, Border Patrol, or any other law enforcement agency, for the purpose of enforcing immigration laws, in accordance with California Government Code 7284.6 – The California Values Act.

CAMS data shall never be shared with any federal task forces which involve in any manner the investigation or prosecution of federal crimes for conduct that is permitted under California law.

TRAINING

No additional tasks or responsibilities are required of personnel in relation to the CAMS device beyond the standard operation of the fire apparatus. The CAMS system is designed with automated functionality, engaging only under predefined operational parameters without the need for manual activation or intervention.

All personnel assigned to operate apparatus equipped with the CAMS prototype have been notified of its presence and operational purpose. The system functions passively and autonomously, ensuring it does not interfere with the primary duties of emergency responders or alter existing operational procedures.

Pratt Miller and its parent company, Oshkosh Corporation, have agreed to comply with SDFD's Use Policy once approved.

AUDITING AND OVERSIGHT

Department heads are responsible for ensuring compliance with the Company's Records and Retention policies. For Pierce Manufacturing that is Seth Newlin, Director of Engineering. For Pratt Miller Engineering that is Jon Honig, Vice President of Mobility.

MAINTENANCE

Pratt Miller shall maintain robust security procedures and practices, as noted in the Data Protection section above. The vendor shall include operational, administrative, digital information technology security features and physical safeguards to protect CAMS images and data from unauthorized access, destruction, use, modification, or disclosure.