**CONCLUSION**

This paper proposes a new process of ODTS by combining deep learning-based object detection network and object tracking algorithm, and it shows dynamic information of an object for a specific object class can be obtained and utilized. On the other hand, the object detection performance is important because SORT used in ODTS object tracking uses only information of BBox without using an image. Therefore, continuous object detection performance may be less needed unless the object tracking algorithm is relatively dependent on object recognition performance. And Tunnel CCTV Accident Detection System based on ODTS was developed. The experiments on training and evaluation of deep learning object detection network and detection of an accident of the whole system were conducted. This system adds CADA that discriminates every cycle based on dynamic information of the car objects. As a result of experimenting with the image containing each accident, it was possible to detect the accidents within 10 seconds. On the other hand, training of deep learning secured the object detection performance of a reliable Car object, and Person showed relatively low object detection performance. However, in the case of Fire, there is a high probability of false detection in the untrained videos due to the insufficient number of Fire objects. Nonetheless, it is possible to reduce the occurrence of false detections by simultaneously training objects that are No Fire.