

# Driver Drowsiness Detection

# What is Driver Drowsiness Detection

## **What:**

A system that recognizes when a driver is becoming less focused or tired by utilizing cameras or algorithms based on driver control inputs (Steering movements).

## **Why:**

To improve passenger safety by providing warnings and / or intervention to potentially tired or distracted drivers.

## **Benefits:**

Decrease in accidents / injuries / deaths caused by tired or distracted drivers

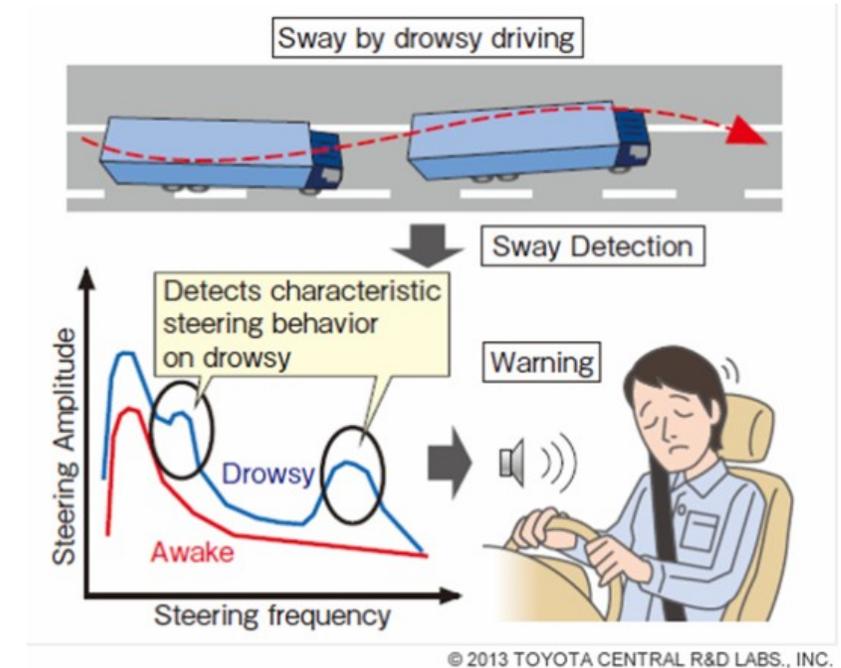
## **How:**

Utilization of sensors, cameras, and electronically controlled systems can interpret and react to changing conditions faster than a human driver in many situations reacts. System is "Passive" (Provide audible, visual, hepatic) to provide the driver with a warning in regards to their driving condition.

# Driver Drowsiness Detection Operation

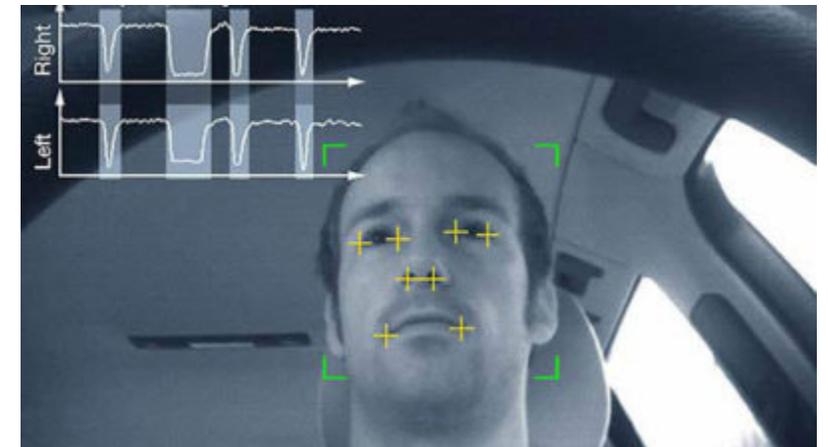
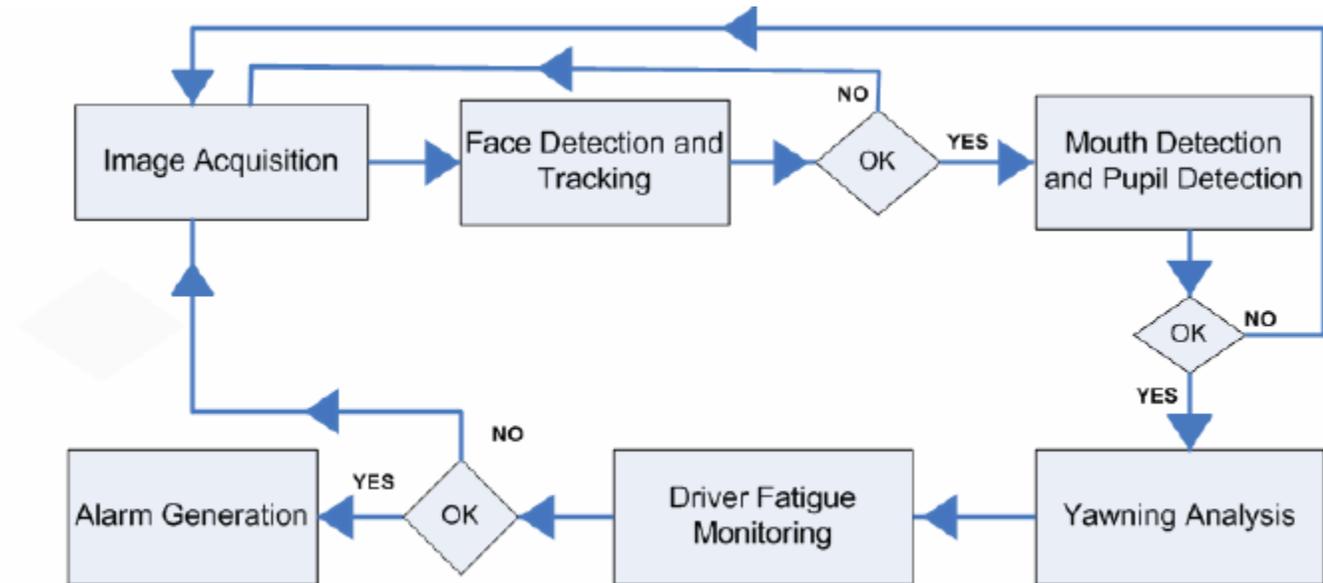
The system utilizes a camera or algorithms based on steering wheel inputs to recognize a potentially tired driver.

The system can provide audible, visual, or hepatic warnings to recommend the driver rest.



# Driver Drowsiness Detection Components

- Camera(s)
- Module
- Control Switch
- Visual Indicators
  - Instrument Cluster
- Audio
- Haptic feedback (Steering wheel shake)



# Driver Drowsiness Detection Diagnosis

## Visual inspection

- Damage to camera(s)

## Fault codes

- OEM

- SAE

## Electrical testing

- Power

- Ground

- Signals

- BUS Communications

# Driver Drowsiness Detection Service / Calibration

Mechanical

Targets

Aiming devices

Self / Auto

