

Autonomous Emergency Braking

What is Autonomous Emergency Braking

What:

A system that can stop the vehicle without driver interaction to prevent or reduce collision severity.

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

Pathway to autonomous vehicles

Increased traffic flow

How:

Utilization of cameras and electronically controlled systems can interpret and react to changing conditions faster than a human driver in many situations reacts. System can be “Passive” (Provide audio, visual or haptic feedback) to notify driver of a pending situation or can be “Active” (Intervention with brakes) as the situation dictates.

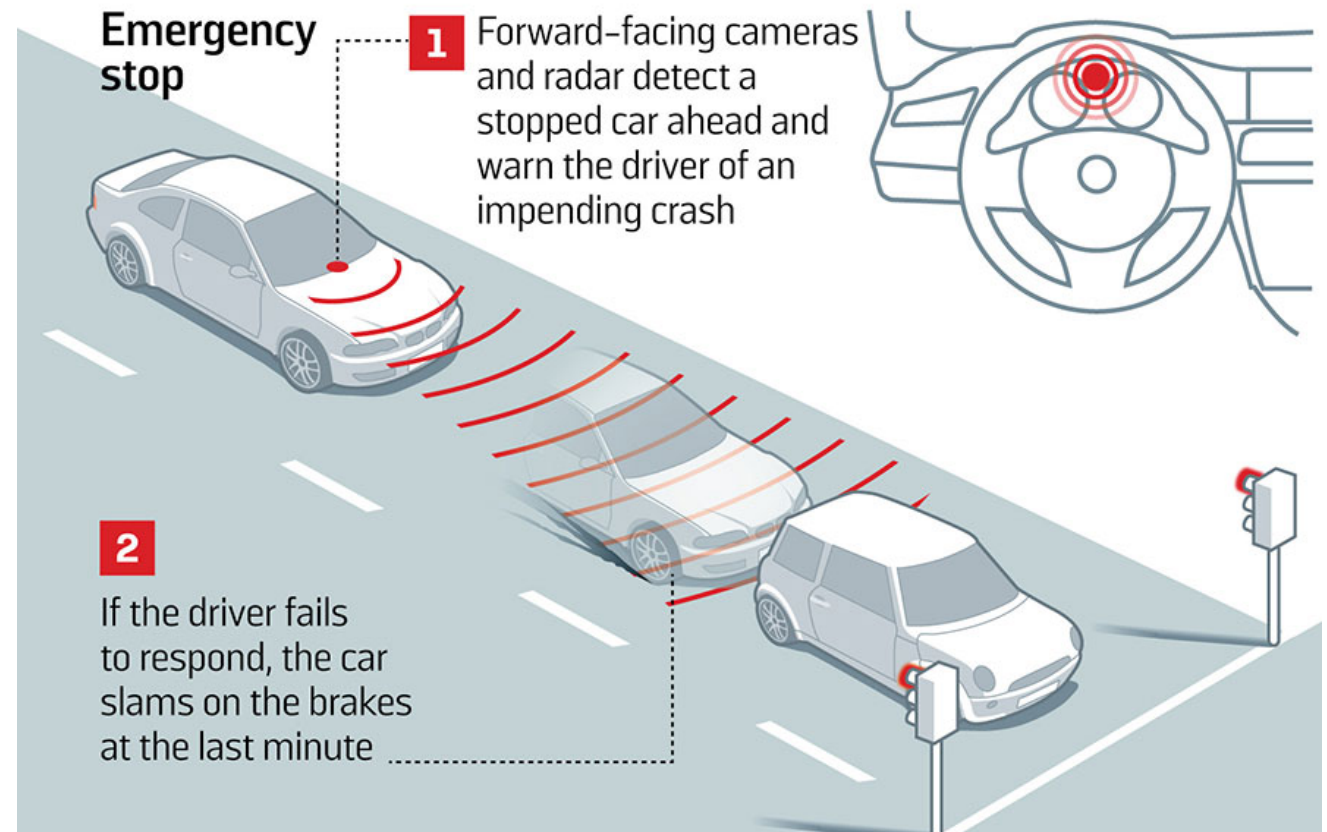
Autonomous Emergency Braking Operation

Sensors detect obstructions (vehicles or pedestrians)

Modules recognize no driver action

Calculate when intervention is required

Brake systems applied



Autonomous Emergency Braking Components

Radar Sensor(s)

Ultra-sonic sensors

Module(s)

Control Switch

Steering

Engine Management

Throttle

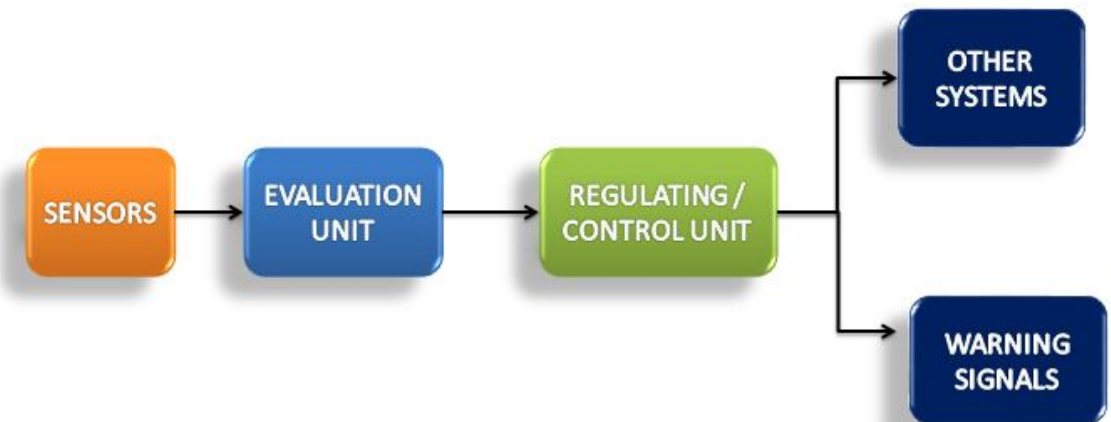
Transmission

Brake System

ABS

Visual Indicators

Audio



Autonomous Emergency Braking Diagnosis

Visual inspection

- Damage to bumper

- Damage to sensor

Fault codes

- OEM

- SAE

Electrical testing

- Power

- Ground

- Signals

- BUS Communications

Autonomous Emergency Braking Service / Calibration

Mechanical

Targets

Some sensors hard mounted, some may be adjustable

Non-related repairs and services can require calibration

Alignment

Collision

Self / Auto

Driving

