

Scenario 1

- An ego car drives with an initial speed of 47km/h
- A leading car drives with a speed of 55km/h
- A person is crossing with a speed of 5km/h
- There is a Stop sign

➤ **Safety requirement violation: collision between an ego car and a pedestrian**

Combined features	Individual feature
<ol style="list-style-type: none">1. ACC takes the priority over PP and orders to brake then AEB takes the priority and orders to brake (the pedestrian is considered as a car and the braking force of AEB < the braking force of PP)2. PP takes the takes the priority and orders to brake3. TSR Stop takes the priority over PP (braking force of TSR < braking force issued by PP) <p>➔ Collision between the ego car and the pedestrian (car's speed at collision = 20km/h)</p>	<p>PP is working alone</p> <p>PP orders to brake when a pedestrian is detected and TTC is small</p> <p>➔ Avoid the collision with the pedestrian</p>

Videos: 1.ScenarioALL.mkv & 1.ScenarioPPalone.mkv

Scenario 2

- An ego car drives with an initial speed of 48km/h
 - A leading car drives with a speed of 38km/h
 - There is a speed limit sign (80km/h)
- **Safety requirement violation: collision between an ego car and a leading car**

Combined features	Individual feature
<ol style="list-style-type: none">1. ACC takes the priority and orders to brake2. A speed limit sign is detected and TSR takes the priority and orders to accelerate3. AEB takes the priority and orders to brake too late (few seconds before the accident) <p>➔ Collision between the car and the leading car (car's speed at collision = 40km/h)</p>	<p>AEB is working alone</p> <p>AEB orders to brake when a leading car is too close then accelerates when the leading car is far</p> <p>➔ Avoid the collision with the leading car</p>

Videos: 2.ScenarioALL.mkv & 2.ScenarioAEBalone.mkv

Scenario 3

- An ego car drives with an initial speed of 53km/h
 - A leading car drives with a speed of 60km/h
 - A person is crossing with a speed of 5km/h
 - There is a Stop sign
- **Safety requirement violation: an ego car does not stop at a stop sign**

Combined features	Individual feature
<ol style="list-style-type: none">1. ACC takes the priority and orders to accelerate2. A stop sign is detected but TSR (Stop) does not take the priority. ACC takes the priority over TSR and orders to accelerate	<p>TSR is working alone</p> <p>TSR detects a stop sign and orders to brake</p>
➔ The ego car does not stop at the stop sign	➔ Stop at a the stop sign

Videos: 3.ScenarioALL.mkv & 3.ScenarioTSRalone.mkv

Scenario 4

- An ego car drives with an initial speed of 40km/h
 - A leading car drives with a speed of 35km/h
 - A person is crossing with a speed of 5km/h
 - There is a Stop sign
- **Safety requirement violation: collision between an ego car and a pedestrian**

Combined features	Individual feature
<ol style="list-style-type: none">1. ACC takes the priority and orders to brake2. A stop sign is detected and TSR takes the priority over PP and orders to brake (braking force of TSR < braking force issued by PP) <p>➔ Collision between the ego car and the pedestrian (car's speed at collision = 10km/h)</p>	<p>PP is working alone</p> <p>PP orders to brake when a pedestrian is detected and TTC is small</p> <p>➔ Avoid the collision with the pedestrian</p>

Videos: 4.ScenarioALL.mkv & 4.ScenarioPPalone.mkv