



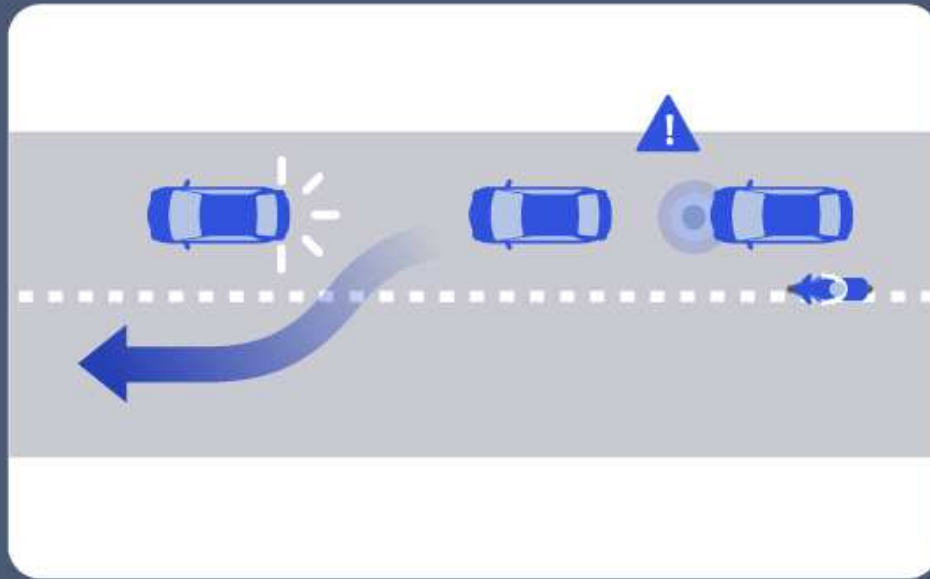
# C-V2X Direct Communications Multi-Vehicle Interoperability



UTAC CERAM Proving Grounds  
Paris, France  
10 July 2018

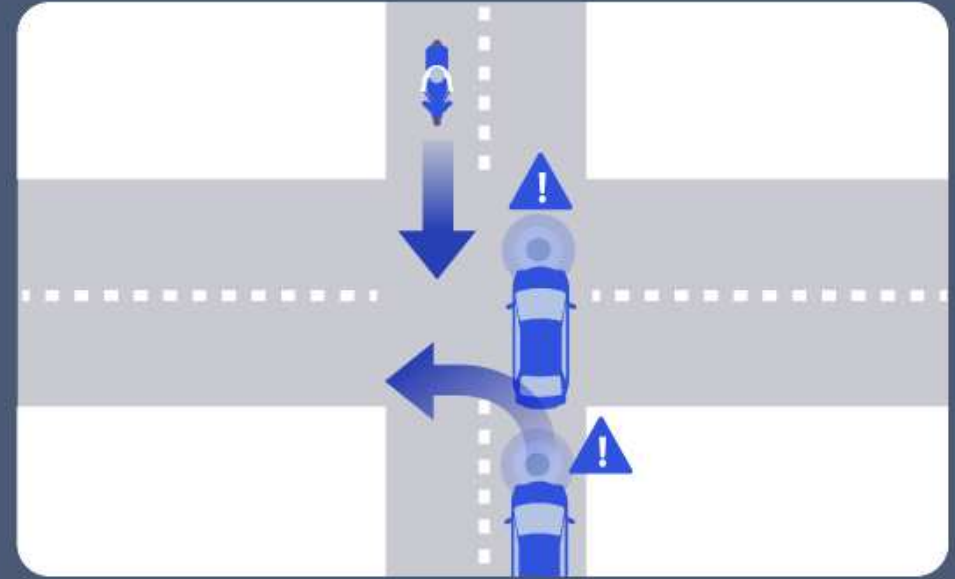
## Emergency Electronic Brake Lights

Designed to prevent rear-end crashes



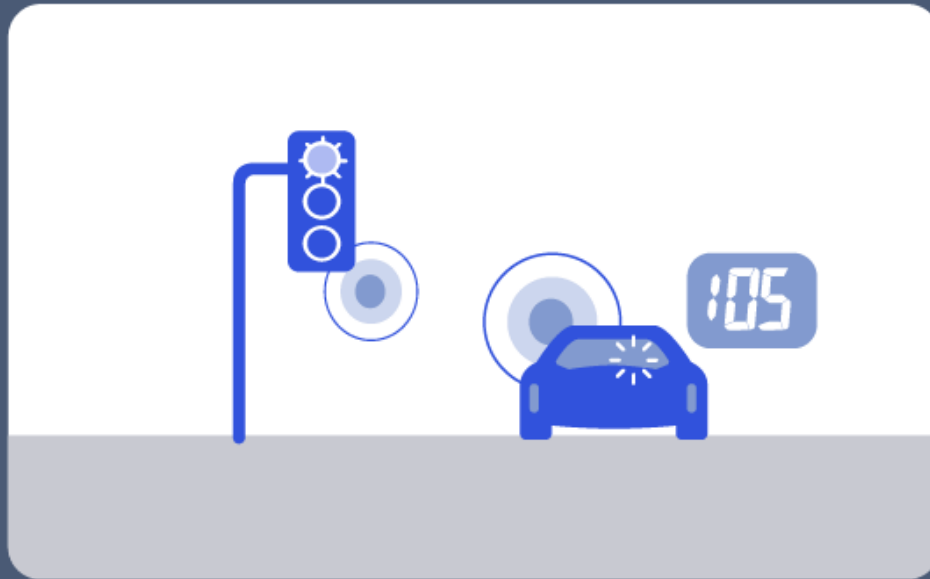
## Across Traffic Turn Collision Risk Warning

Designed to improve traffic safety



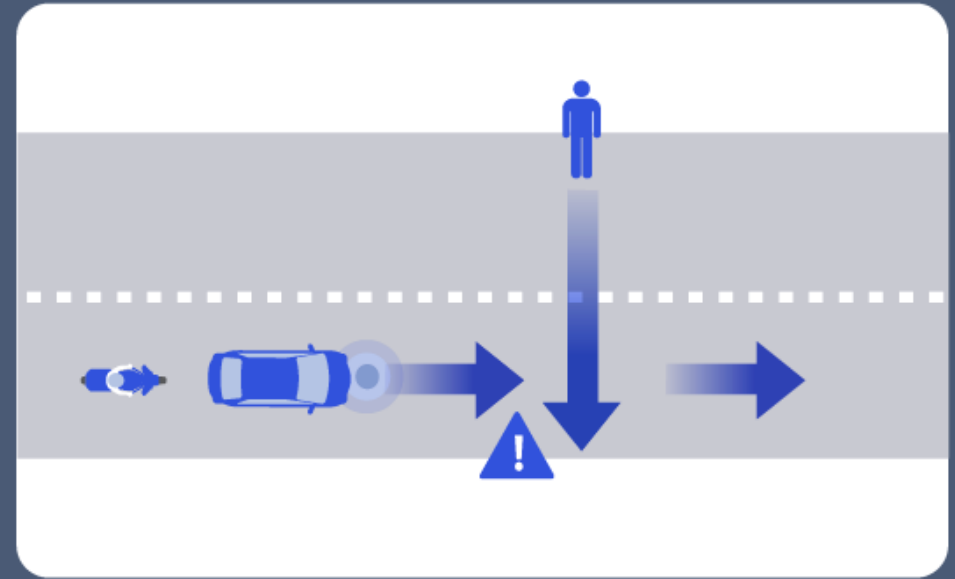
## Signal Phase and Timing

Communicated to the driver



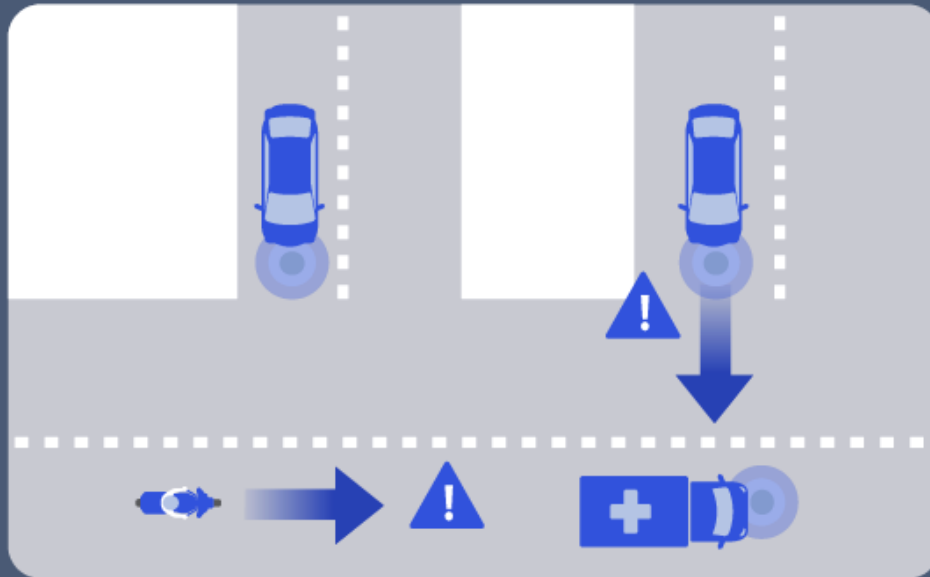
## Vulnerable Road User Protection

When pedestrians & cyclists are present



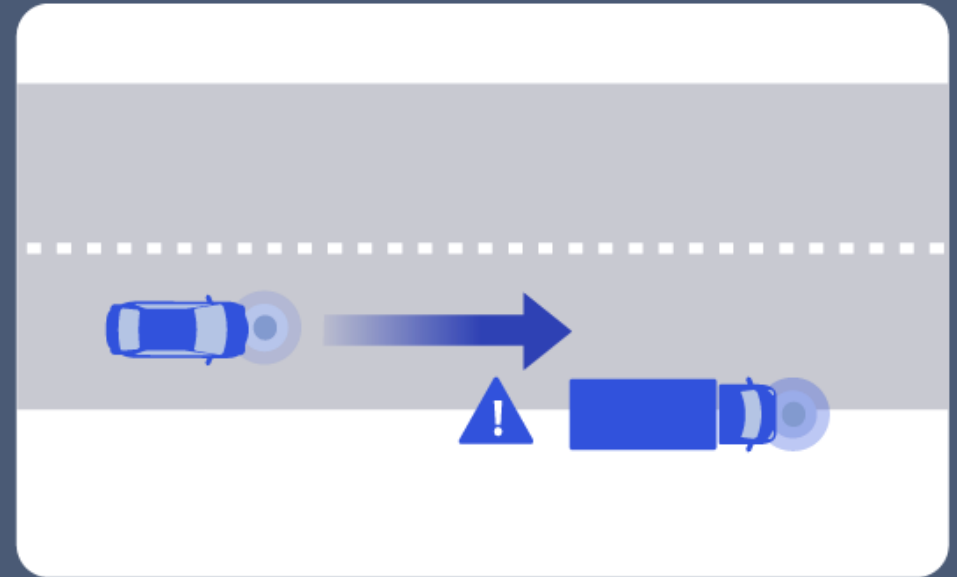
## Intersection Collision Warning

Designed to improve traffic safety



## Stationary Vehicle Warning

Designed to prevent rear-end crashes



# C-V2X Demonstration

- PSA car loop *with Ford car and BMW motorcycle*
  1. Emergency Electronic Brake Lights (EEBL)
  2. Across Traffic Turn Collision Risk Warning
  3. Stationary Vehicle Warning
- Ford car loop *with PSA car, BMW motorcycle, pedestrian and infrastructure*
  4. Emergency Electronic Brake Lights (EEBL)
  5. Intersection Collision Warning
  6. Signal Phase and Timing (SPaT)
  7. Vulnerable Road User Protection
- BMW car loop *with Ford car and PSA car*
  8. Emergency Electronic Brake Lights (EEBL)
  9. Intersection Collision Warning