

## Auditory cues

5-10%

Detection for

- Distance
- Direction
- Time arrival

## Visual cues

90-95%

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# Motorcycle Safety Initiatives in Malaysia

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# Motorcycle advantages

- Economic
- Slim size
- Minimal space



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On the ground,  
42.2% > speed limit  
and 28.6% beyond 85th percentile



Ways to curb speeding

1. Awareness and Education
2. Enforcement
3. Road Design
4. Technology
5. Community Engagement

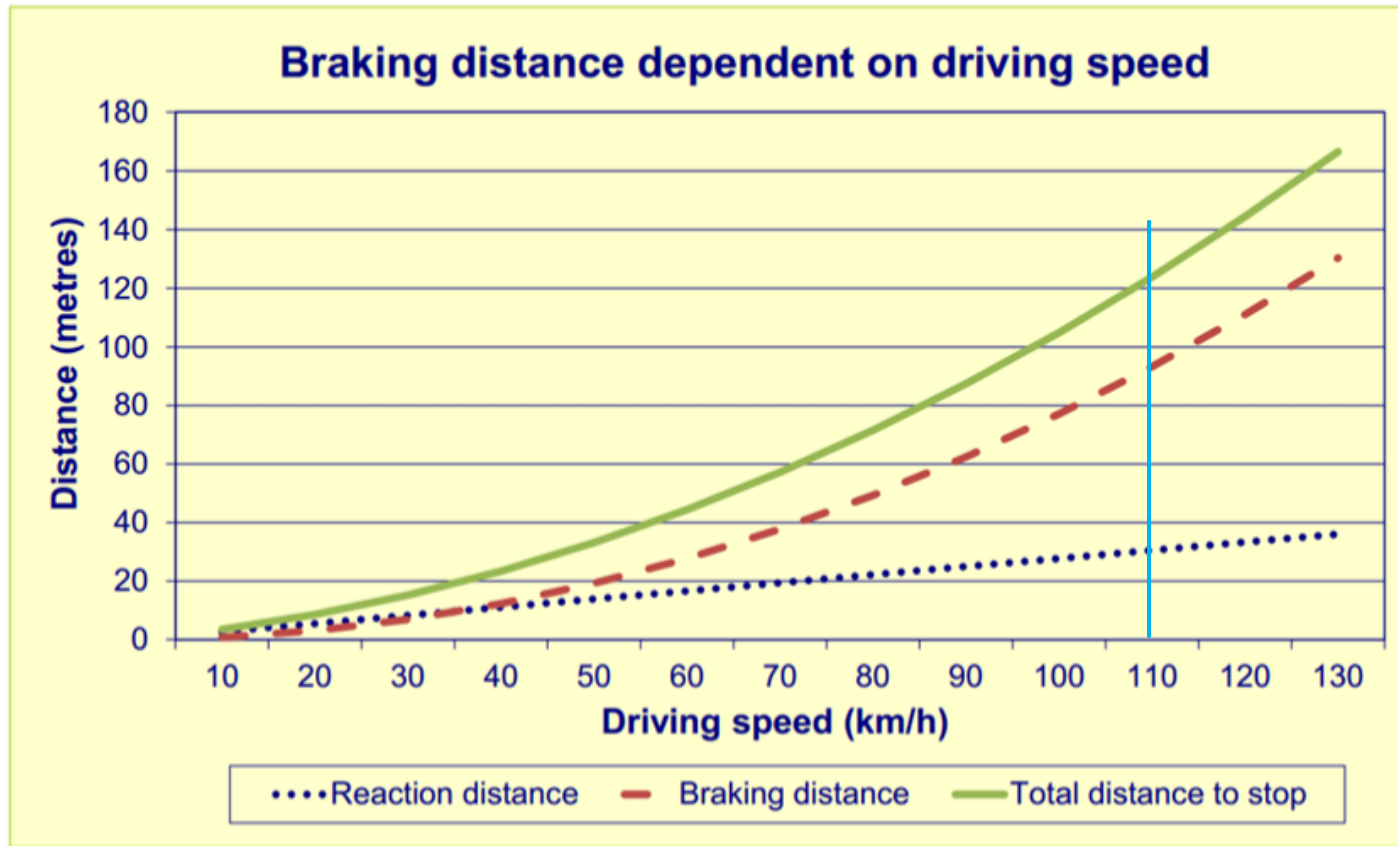
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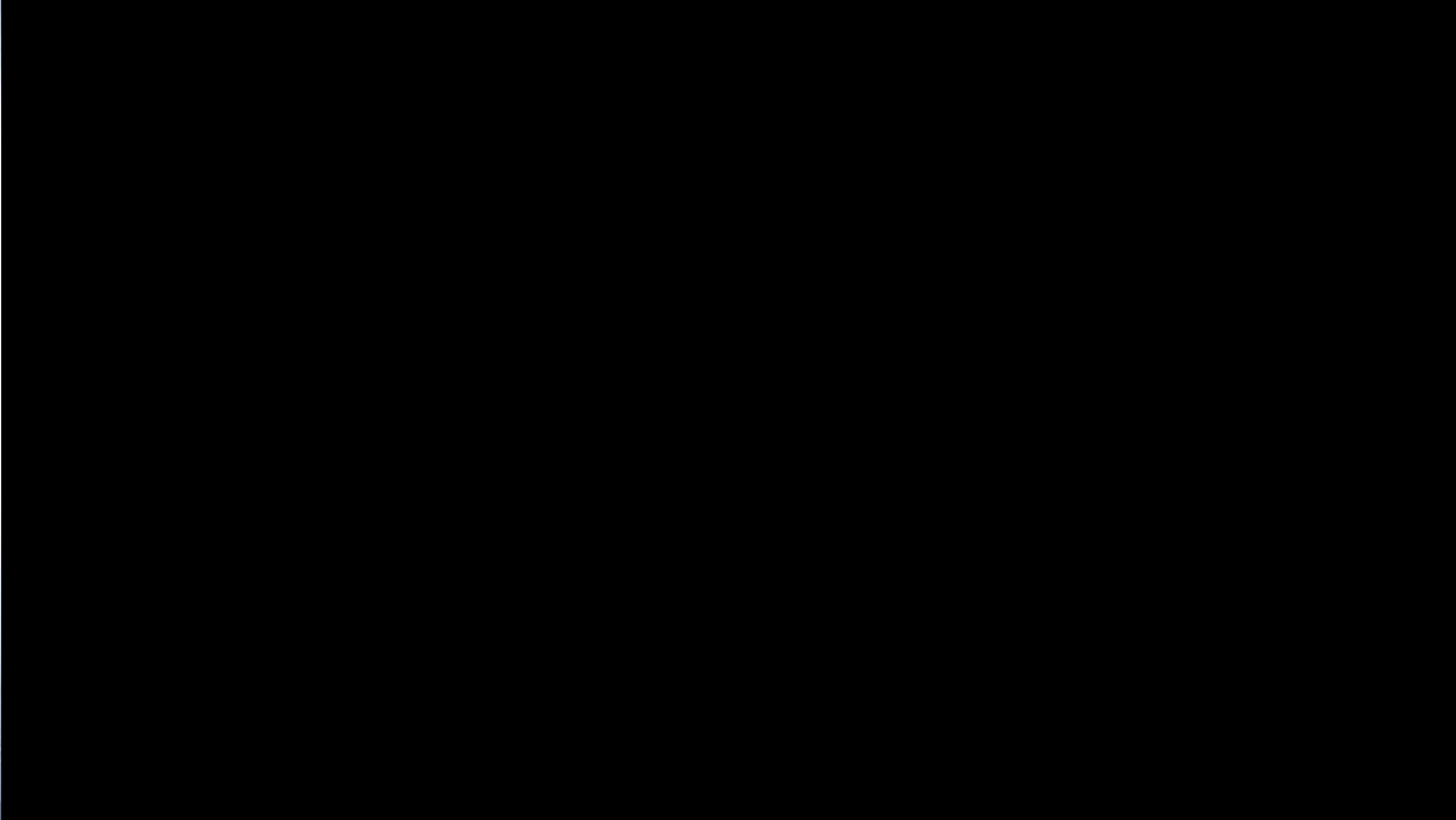
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Figure 2.2. Distance in metres needed for an emergency stop on a wet road surface at various speeds, with a one-second reaction time.



Source: SWOV, 2012







## *Motorcycle ABS benefits*

- Conventional brakes
  - require more skill to use effectively and
  - pose greater risks, for less experienced riders
- ABS helps prevent wheel lock-up
- > improving control and reducing risk of skidding
- ABS can potentially reduce stopping distances in many situations, especially on slippery surfaces

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# Effectiveness in crash reduction

- 22-37% (US)
- 24-42% (Europe)
- Reduction in injury severity

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# Technologies for safer motorcycling

- Motorcycle Collision Alert System
- Combined Braking System (CBS)
- Electronic Stability Control (ESC)
- Traction Control System (TCS)
- Adaptive Headlights
- Smart Helmets
- Emergency Brake Assist

Thank you  
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## References

1. Teoh, 2011
2. Rizzi et al., 2013
3. ITF
4. WHO, 2020; 2022
5. Manan, 2017

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