

ADA Turing Test for Autonomous Driving

A Global Performance Standard for AI on our Roads

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AI can play a significant role to reduce the **1.3 million annual road deaths and 20-25 million road injuries.**



AI can encourage **safe, affordable, accessible and sustainable transport systems.**



Safe and acceptable deployment of AI on our roads depends **technology achieving public trust.**

What is needed to establish a minimal acceptable performance level to ensure that AI systems continually perform at the level of a competent and careful human driver?

Roundtable discussion 1



AI never engages in **careless, dangerous or reckless driving behavior**



AI remains **aware, willing** and **able to avoid collisions** at all times



AI **meets, or exceeds**, the performance of a **competent and careful** human driver



AI never engages in **careless, dangerous or reckless driving behavior**

- In accordance to Article 7 of the Geneva Convention on Road Traffic “***not to endanger***”
- **Endanger:** *put someone or something at risk or in danger*



AI never engages in **careless, dangerous or reckless driving behavior**

- **Careless Driving:** *a person is to be regarded as driving **without due care and attention** if (and only if) the way he drives **falls below** what would be **expected** of a **competent and careful driver***
- **Dangerous Driving:** *...the way he drives **falls far below** what would be **expected** of a **competent and careful driver**... and it would be **obvious** to a **competent and careful driver** that driving in that way **would be dangerous**.*
- *UK Road Traffic Act 1988 c. 52 Part I Driving offences Section 3ZA*



AI never engages in **careless, dangerous or reckless driving behavior**

- **Reckless driving:** *any person who drives any vehicle in **wilful** or **wanton disregard for the safety of persons or property** is guilty of reckless driving*
- *USA Florida Statutes, Section 316.192*



AI remains **aware**, **willing** and **able** to **avoid collisions** at all times

- In accordance to Article 7 of the Geneva Convention on Road Traffic “***shall avoid all behaviour that might cause damage to persons, or public or private property.***”



AI remains **aware**, **willing** and **able** to **avoid collisions** at all times

- **Aware:** *having knowledge or perception of a situation or fact; concerned and well informed about a particular situation or development*
- **Willing:** *being ready, eager, or prepared to do something; given or done readily; prompt obedience*
- **Able:** *having the power, skill, means, or opportunity to do something; having considerable skill, proficiency, or intelligence*



AI **meets, or exceeds**, the performance of a **competent** and **careful** human driver

- In accordance with Article 10 of the Geneva Convention on Road Traffic (“**reasonable and prudent**” driving)
- **Reasonable:** having **sound judgement; fair and sensible;** based on **good sense; able to reason logically**
- **Prudent:** **acting with or showing care and thought for the future**



AI **meets, or exceeds**, the performance of a **competent** and **careful** human driver

- **Competent:** *having the necessary **ability, knowledge, or skill** to **do something successfully**; (of a person) **efficient** and **capable***
- **Careful:** *making sure of **avoiding** potential **danger, mishap, or harm**; **cautious**; done with or showing **thought** and **attention**.*



AI never engages in **careless, dangerous or reckless driving behavior**



AI remains **aware**, **willing** and **able** to **avoid collisions** at all times



AI meets, or exceeds, the performance of a competent and careful human driver

How do we create a roadmap to ensure trusted, widespread and socially acceptable deployment of AI systems on our roads?

Roundtable discussion 2

Road traffic crashes now represent the eighth leading cause of death globally. They claim more than 1.35 million lives each year and cause up to 50 million injuries. And the fact is...

Michael Bloomberg

*Founder Bloomberg L.P. and Bloomberg Philanthropies
WHO Global Ambassador for Noncommunicable Diseases and Injuries*



**Bloomberg
Philanthropies**

...every one of those deaths and injuries is preventable.

Michael Bloomberg

*Founder Bloomberg L.P. and Bloomberg Philanthropies
WHO Global Ambassador for Noncommunicable Diseases and Injuries*



**Bloomberg
Philanthropies**

Road traffic injuries are now the leading cause of death for children and young adults aged 5–29 years.

Global Status Report on Road Safety 2018



More than half of all road traffic deaths are among vulnerable road users: pedestrians, cyclists and motorcyclists

Global Status Report on Road Safety 2018



RDW (Netherlands Vehicle Authority), the next phase of AI enhanced mobility requires a shift of focus;



Hardware to behavior



Compliance to performance



Admission to continual monitoring



International Harmonization



How do we create a roadmap to ensure **trusted**, **widespread** and **socially acceptable** deployment of AI systems on our roads?



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