THE STATE OF AUTONOMOUS DRIVING
PROGRESSION AND FUTURE ADOPTABILITY

LEVELS OF DRIVING AUTOMATION
(Jack O'Brien, 20245777)

0 NO AUTOMATION
Manual control. The driver has full control and performs all drving functions at all times.

1 DRIVER ASSISTANCE
The driver has full control, but the vehicle provides assistance for one or more driving functions, e.g., electronic stability control or assisted braking and monitoring the car's speed through cruise control.

2 PARTIAL AUTOMATION
The driver has primary control over the vehicle, but the vehicle can take full control of more than one driving mode e.g. steering and acceleration/braking in combination.

3 CONDITIONAL AUTOMATION
The automated driving system has primary control and performs all driving functions under certain conditions. Human driver intervention is requested.

4 HIGH AUTOMATION
The automated driving system has almost full control over the vehicle. Human driver intervention is needed only in some driving modes. Human override is still an option.

5 FULL AUTOMATION
The automated driving system has full control over the vehicle. No human driver intervention is needed.

GOOGLE'S WAYMO TEAM BUILDS "THREE-DIMENSIONAL MAPS THAT HIGHLIGHT INFORMATION" USING LIDAR TECHNOLOGY, SENDING OUT LASER PULSES TO MEASURE RANGES. THEY HAVE ALREADY RELEASED THEIR ROBOTAXI SERVICE IN THE PHOENIX METROPOLITAN AREA, ARIZONA, UNITED STATES OF AMERICA WAYMO (2021).

(Edison Cai, 20241135)

SOME OF THESE RESULTS SHOWED THAT WITH AN AUTOMATED VEHICLE PENETRATION RATIO HIGHER THAN 40% AND WITH THE ABILITY TO FORM THE PLATOON DISCUSSED ABOVE, CERTAIN TRAVEL TIMES COULD BE 50% SHORTER THAN WHAT IT COULD CURRENTLY TAKE TO ACHIEVE IN THIS STUDY IN DUISBURG CITY.

(Sergiu Mereacre, 20238029)

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