Title: Simulation of fuel economy for Malaysian urban driving

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Abstract: By understanding the implications of real-world driving conditions, improved fuel economy via a strategy of key technologies can be implemented to assist fuel economy validation during development programs. Vehicles in real-world driving conditions regularly travel at idle, low and medium speeds, particularly for urban driving, and this has a crucial weight in overall vehicle fuel economy, given the residencies at the lower engine speed and load region. This paper presents the validation of the derived engine conditions representing Malaysian actual urban driving in an attempt to formulate representative fuel economy data. The measurements were conducted through on-road urban driving within Kuala Lumpur to establish representative driving conditions. The effectiveness of the proposed conditions was then validated in terms of fuel economy using a simulation. The discrepancy between the fuel economy in the proposed conditions and the real-world measurements has improved, falling to 11.9% compared to 43.1% reported by the NEDC.