

MEASUREMENT THE FUEL CONSUMPTION OF BUSES FOR PUBLIC TRANSPORT BY THE METHODOLOGY "SORT" (STANDARDISED ON-ROAD TESTS CYCLES)

Slobodan Mišanović¹, Vladimir Spasojević

UDC:629.1.07

ABSTRACT: The consumption of fuel is important indicator and aspect in operation of buses for public transportation. During the tender procedure for the procurement of new buses, fuel consumption is presenting one of the evaluation criteria in order to optimize the operating costs of the vehicle during its life cycle. Since 2009, in the EU as official methodology for measuring the fuel consumption of buses for urban - suburban transport, is used SORT methodology. The methodology is a simulation of real traffic conditions: acceleration, deceleration, stopping, vehicle load, measuring the amount of fuel consumed and processing results on the specially prepared test site for city, intercity and combined cycle. This paper shows the methodology SORT 1 (urban cycle) and the results of tests on five buses of GSP "Beograd", brand "Solaris Urbino 18", which were conducted in February and March of 2014, on the proving ground "Santa Oliva" (Spain) by certification body "Applus Idiada". Also, will be presented a comparative view of fuel consumption for buses "Solaris Urbino 18" in real operating conditions on the routes are served by GSP "Beograd".

KEY WORDS: fuel consumption, bus, urban cycle, public transport

MERENJE POTROŠNJE AUTOBUSA JAVNOG PREVOZA METODOLOGIJOM „SORT“ (STANDARDIZOVANI TEST CIKLUSI NA PUTU)

REZIME: Potrošnja goriva je važan indikator i aspekt u radu autobusa javnog prevoza. Tokom tendera nabavke novih autobusa, potrošnja goriva predstavlja jedan od kriterijuma u cilju optimizacije operativnih troškova vozila tokom njegovog životnog ciklusa. Od 2009 godine, u Evropskoj Uniji se kao zvanična metodologija za merenje potrošnje goriva u autobusima gradskog-prigradskog prevoza koristi SORT metodologija. Metodologija je simulacija realnih uslova u saobraćaju: ubrzavanje, usporavanje, zaustavljanje, opterećenje vozila, merenje utrošenog goriva i procesiranje rezultata na posebno pripremljenom poligonu za gradsku, prigradsku i kombinovanu vožnju. Ovaj rad pokazuje SORT 1 metodologiju (urbani ciklus) i rezultate testova na pet autobusa GSP "Beograd", proizvođača autobusa "Solaris Urbino 18", koji su izvršeni u februaru i martu 2014. godine, na poligonu "Santa Oliva" (Španija) od strane sertifikacionog tela "Applus Idiada". Takođe, biće predstavljen uporedni prikaz potrošnje goriva za autobuse "Solaris Urbino 18" u realnim uslovima rada na trasama koje opslužuju autobusi GSP "Beograd".

KLJUČNE REČI: potrošnja goriva, autobus, urbani ciklus, javni prevoz

¹ Received September 2014, Accepted October 2014, Available on line April 2015