This paper quantitatively assessed the performances of the manual traffic signal control by comparing its performance with the two optimized traffic signal controls during oversaturated conditions. In order to simulate the manual traffic signal control, the VISSIM-based Hardware-In-the-Loop Simulation (HILS), which provides similar manual controls at a field traffic signal, was implemented. While the normal-day traffic signal timing plan was obtained from the City, the optimized signal timing plans were obtained from Synchro. The results obtained from the VISSIM-based simulation indicated that benefits can be achieved by utilizing the manual traffic signal control and the optimized signal controls over the normal-day traffic signal control under oversaturated conditions. In particular, the manual traffic signal control reduced delays to a greater extent than the two optimized signal timing plans. Although the reduction in delays achieved by the manual signal controls was not statistically significant when compared to the performance of the two optimized signal controls, the results of the third and fourth manual signal control attempts by the same operators reflecting the performance of trained manual controls showed statistically significant improvements in reducing delays.
Manual signal control, oversaturation, signal controller, green extension

Zeitschriftentitel:  Journal of Transportation Engineering

Jahr: 2013

Band: 139

Heft / Issue: 11

Seiten: 1068-1075

Volltext / DOI: http://doi.org/10.1061/(asce)te.1943-5436.0000597

Verlag / Institution: American Society of Civil Engineers (ASCE)

Hinweise: -

Publikationsdatum: 01.11.2013

Occurences:

- Einrichtungen > Fakultäten > Ingenieurfakultät Bau Geo Umwelt > Lehrstühle > Lehrstuhl für Verkehrstechnik (Prof. Busch) > Autoren > So, Jaehyun (Jason)
- Einrichtungen > Fakultäten > Ingenieurfakultät Bau Geo Umwelt > Lehrstühle > Lehrstuhl für Verkehrstechnik (Prof. Busch)
- Einrichtungen > Fakultäten > Ingenieurfakultät Bau Geo Umwelt > Lehrstühle > Lehrstuhl für Verkehrstechnik (Prof. Busch) > Publikationsjahr > 2013

entries: