



UNIVERSITY OF NORTH FLORIDA

EVALUATION OF TRUCK SIGNAL PRIORITY: A MICROSCOPIC SIMULATION APPROACH

By
Festo Mjogolo

October, 2018

A solid orange horizontal bar spans the width of the slide at the bottom.

INTRODUCTION

- Trucks h
traffic op
- More no
stream o



resulting to

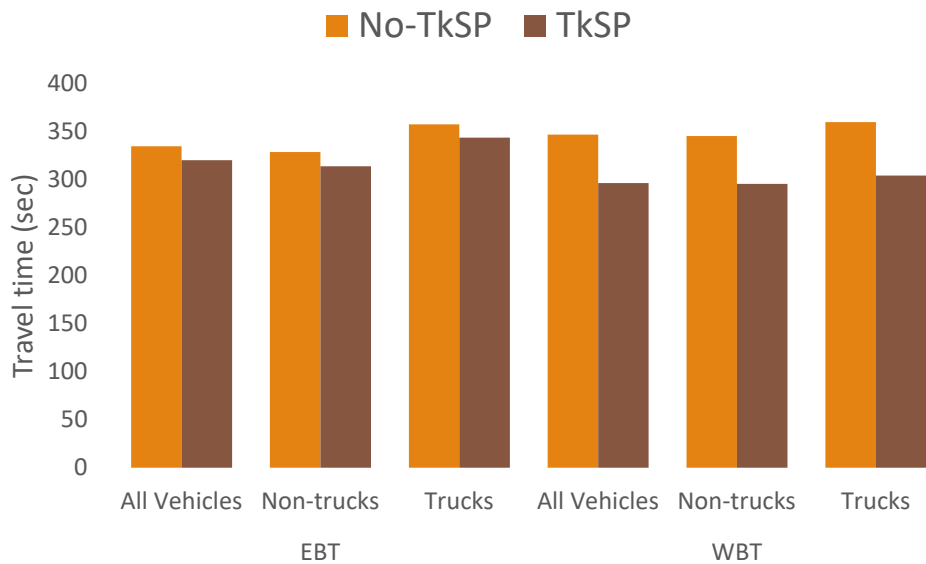
ere traffic

METHODOLOGY

- Traffic Microscopic simulation using VISSIM
- TkSP algorithm developed from the Vehicle Actuated Programming (VAP).



RESULTS

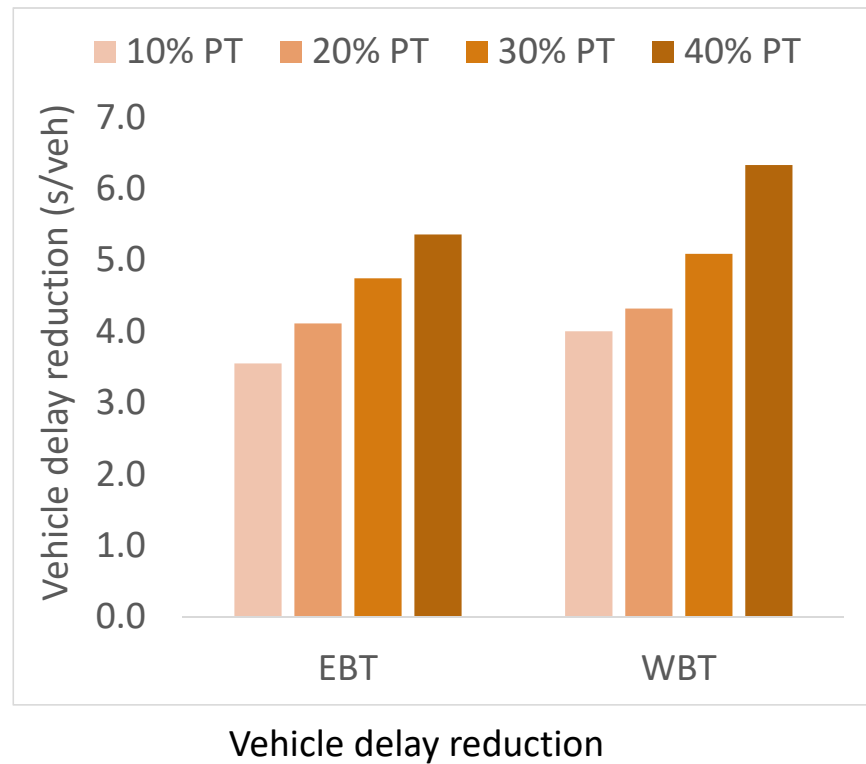
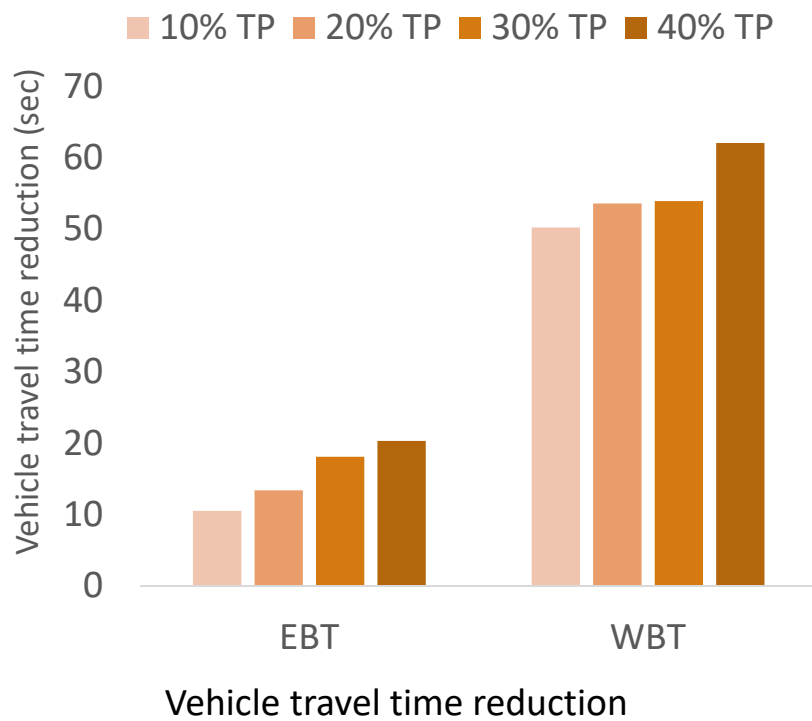


Average Corridor Travel time before and after implementing TkSP

Overall intersection Delay and LoS

Intersection name	Pritchard and Bulls Bay Highway
Control delay (s/veh), No TkSP	14.1
Control delay (s/veh), TkSP	8.8
Level of Service, No TkSP	B
Level of Service, TkSP	A
Intersection name	Pritchard and Imeson Rd
Control delay (s/veh), No TkSP	27.4
Control delay (s/veh), TkSP	19.6
Level of Service, No TkSP	C
Level of Service, TkSP	B
Intersection name	Pritchard and Sportsman Club Rd
Control delay (s/veh), No TkSP	24.0
Control delay (s/veh), TkSP	8.9
Level of Service, No TkSP	C
Level of Service, TkSP	A
Intersection name	Pritchard and Old Kings Rd
Control delay (s/veh), No TkSP	20.7
Control delay (s/veh), TkSP	17.8
Level of Service, No TkSP	C
Level of Service, TkSP	B

FINDINGS



RECOMMENDATIONS FOR FUTURE RESEARCH

- The maximum additional green time provision when two or more trucks follow each other.
- Effects of unnecessary green time extension for left-turn-trucks in the case the truck dilemma zone is longer than the exclusive left-turn lane and the truck communication based on infrastructure element (detectors embedded on the road pavement).

Thank You

