

Forecasting HOV Demand for HOV Lanes on Ontario Expressways using Micro-simulation



Presented by:

Rob Pringle P.Eng.

(McCormick Rankin Corporation)

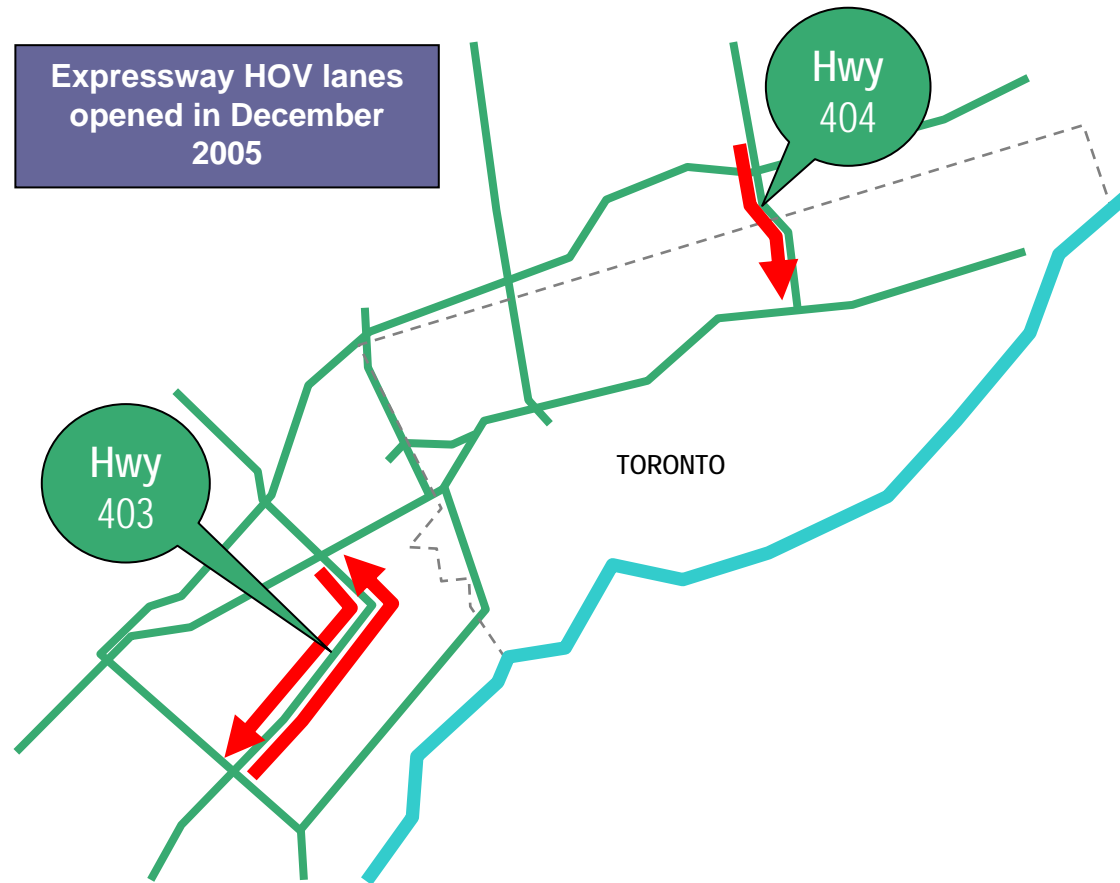


Goran Nikolic P.Eng.

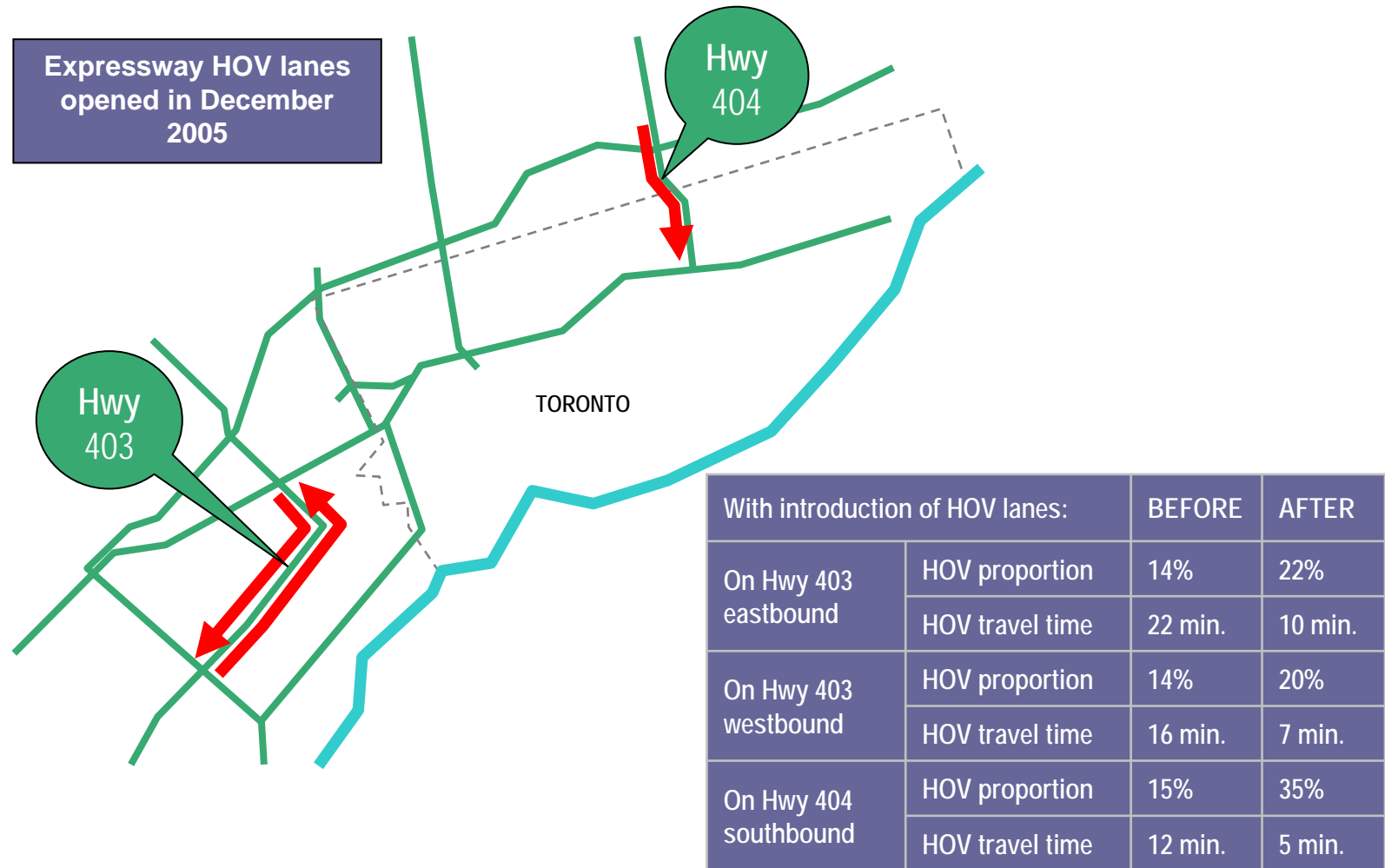
(Ministry of Transportation of Ontario)



Context: Initial success with HOV lanes on several Ontario expressways



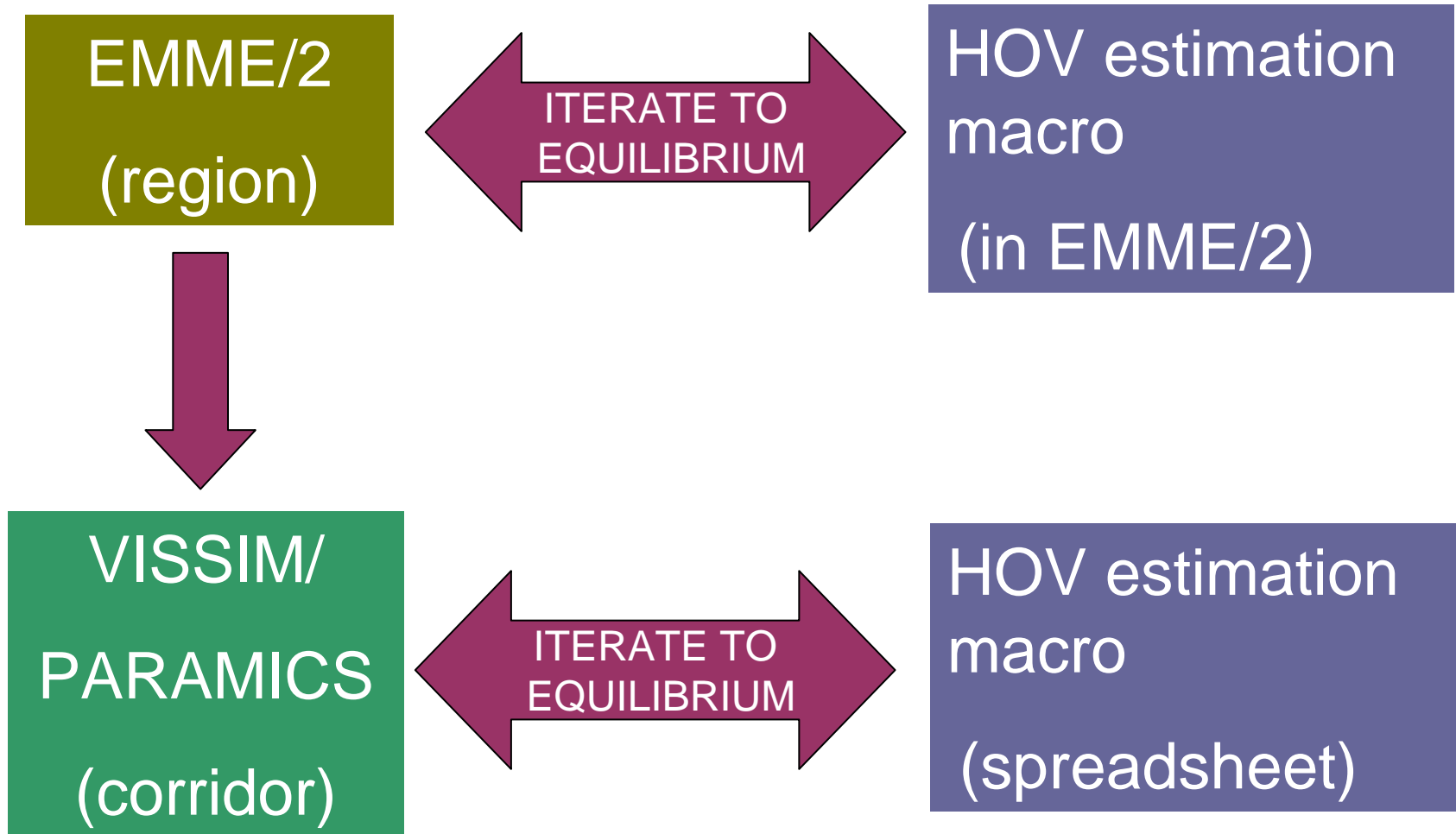
Context: Initial success of HOV lanes on several Ontario expressways



Considerations in designing the HOV forecasting methodology

- ❑ Make use of HOV lane monitoring data (before and after ramp flows and travel times for both HOV and SOV)
- ❑ Unreliability of travel times estimated from macro model (EMME/2)
- ❑ Preserve and build on information on existing HOV use without HOV lanes
- ❑ Obtain operational MOE's to evaluate HOV lane design alternatives

Combine macro model (EMME/2) with micro-simulation (VISSIM/PARAMICS) to get the best of both worlds



Predicting change in HOV use through an incremental model

$$P_{\text{HOV,after}} = P_{\text{HOV,before}} + 0.06 ((tt_{\text{HOV,after}} - tt_{\text{HOV,before}}) - (tt_{\text{SOV,after}} - tt_{\text{SOV,before}}))^{0.5}$$

where: P = proportion of HOV's in total autos

tt = travel time through the study section

