

A blue-tinted photograph of the Edmonton skyline, featuring several high-rise buildings and a mix of modern and older architecture.

Transportation Committee

Report CR_3340

Valley Line LRT Phase 1 - Intersection Performance Estimates

Background

- Importance of an integrated transportation system
- LRT combined with redevelopment and land use intensification allows for a more compact urban form and more effective use of the City infrastructure.
- As the City grows, it is important to strike a balance between encouraging LRT/Transit use and traffic

Background

- Valley Line Concept Planning considered effects on traffic operations:
 - Traffic mitigation through localized intersection geometry changes
 - Network capacity
 - Possible benefits of grade separation, roadway widening and other mitigation measures
- Consideration for cost-effectiveness to expand the LRT network and meet the City's vision

P3 Contract Performance Requirements

- Overall travel time of 29 to 33 minutes between the Churchill and Mill Woods stops, with a target of 31 minutes
- Criteria at each intersection
 - Level of Service
 - Average vehicle delay
 - Average queue length
 - Maximum queue length
- P3 contractor must design the line to meet performance measures
- City retains the flexibility to optimize LRT and traffic operations as needed

Intersection Priority

Full Priority

- Traffic signals and crossing controls stop vehicle traffic so the LRT can proceed unimpeded
- Applied where train delays were of concern and traffic congestion could be accommodated effectively

Partial Priority

- Operates traffic signal and LRT controls differently to minimize the impact on traffic operations
- LRT held at upstream stops to meet the windows where the traffic signal is green in the direction the train is moving

Intersection Operations

- Current operations are approaching or at capacity during some parts of the peak hours
- With LRT, continued expectation of near or at capacity intersection operation
- Based on best available information during preliminary design

Model Update

- Clearer picture of:
 - Network wide traffic impacts
 - Traffic movement to other routes
- Help with the design of signal timings
- Identify potential for improvements to mitigate traffic impacts
- Available by end of 2016

Mitigation Options for Exploration

Valley Line Corridor:

- Add partial priority intersections
- Intersection geometry changes; possible land needs as a result
- Grade separation at critical crossings

Off-corridor:

- 50 Street grade separation (south of 90 Avenue)
- 75 Street grade separation (south of Argyll Road)
- Widen 50 Street to 6 lanes from Whitemud Drive to 101 Avenue

Questions

