

6.0 Conclusion and Recommendations

The purpose of this traffic impact study (TIS) was to identify impacts of the proposed soccer stadium on the transportation system within the study area. The TIS reviewed existing and future traffic operations and access needs for the proposed Prairieland Park soccer stadium in 2025 full build-out condition.

The study area to the project site includes five intersections: Lorne Avenue & Exhibition Grounds Rd, Lorne Avenue & Ruth Street West, Herman Avenue & Ruth Street West, St. Henry Avenue & North Parking Access Road, and St. Henry Avenue & South Parking Access Road. Before-game and after-game one-hour periods during three possible scenarios were considered: Saturday games (2:00 PM – 5:00 PM), Sunday Games (2:00 PM – 5:00 PM), and weekday evening games (5:00 PM – 8:00 PM).

The existing condition (year 2022) analysis shows that all study intersections currently operate within acceptable conditions. All overall intersections operate at LOS A before and after all three game scenarios except for Lorne Avenue & Ruth Street West which operates at LOS D before and after all three game scenarios. All individual movements are operating at LOS C or better except for northbound and southbound movements at the intersection of Lorne Avenue & Ruth Street during all considered before-game and after-game periods which operate at LOS D.

For future background conditions (year 2025 without project trips), all study intersections and are expected to continue to operate within the acceptable conditions. All overall intersections and all individual movements are anticipated to operate at the same LOS, except for all westbound movements before the Saturday game scenario (LOS C to LOS D), all eastbound movements after the Saturday game scenario (LOS B to LOS C), and all southbound movements after the weekday evening game scenario (LOS C to LOS D) at the Lorne Avenue & Ruth Street intersection.

The anticipated development is a 5,800-capacity soccer stadium. Using a person-based focused model for trip generation estimates, the proposed soccer stadium is expected to generate 1,510 two way private vehicle trips during the hour before and after games. This model assumes the following:

- 79% of the people attending the games are using private vehicles for trips to and from the stadium;
- 80% of the personal vehicle trips taken to and from Prairieland Park occur within the hour prior to the game and the hour proceeding the game;
- 15 buses will enter and exit the parking lot that has allotted bus parking;
- 2.5 people will travel per each private vehicle; and
- 75% of the private vehicle trips will park and the remaining 25% of the private vehicle trips will be drop off and pick up trips.

From these assumptions, a total of 1,510 incoming private vehicle trips are expected to occur before the game, 378 outgoing private vehicle trips are anticipated to occur before the game, 378 incoming private vehicle trips are foreseen to occur after the game, and 1,510 outgoing private vehicle trips are expected to occur after the game. The three separate game day scenarios used the same trip generation model

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and assumptions. From Prairieland Park's experience in hosting large events, the generated trips to/from the arena were distributed at 50% to/from the east, 30% to/from the north, and 20% to/from the west.

The analysis for total future traffic (year 2025 background conditions with added project trips) shows that except for two intersections in Lorne Avenue & Exhibition Grounds Road and Lorne Avenue & Ruth Street, all overall intersections are expected to operate at acceptable levels of service. Individual movements in the eastbound movements of the Lorne Avenue & Exhibition Grounds Road have consistent failing LOS before and after all three game scenarios. All individual movements in all directions of the Lorne Avenue & Ruth Street West have consistent failing LOS before and after all three game scenarios. All westbound movements of the Herman Avenue & Ruth Street West intersection are expected to have failing LOS levels before the Saturday game scenario, but have acceptable conditions in all other scenarios. All other individual movements for all other intersections, time periods and game scenarios have acceptable conditions.

Based on the LOS analysis, it is expected that three intersections; Lorne Avenue & Exhibition Grounds Road, Lorne Avenue & Ruth Street West, and Herman Avenue & Ruth Street West will be impacted with the addition of the project trips to and from the proposed soccer stadium. To mitigate the deficient LOS at the intersection of Lorne Avenue & Exhibition Grounds Road, it is recommended to convert the intersection to a signalized intersection with an additional lane provided in the eastbound direction. It is expected that two separate signal plans will be required at this new signalled intersection; one primary signal plan that will continue to prioritize free flow in the southbound and northbound movements, and one signal plan that will balance traffic movements in all directions during events and soccer games. An actuator or sensor is anticipated to be needed on the eastbound direction.

To improve the intersection of Herman Avenue and Ruth Street West it is recommended that a separate westbound left turn lane be temporary added to enter the park during the before game periods. There is enough road width to delineate one separate westbound left turn lane and allocating right and through traffic to the other westbound lane. In a previous submission, the recommendation to provide a permanent separate WBLT lane on Ruth Street at the Herman Ave. entrance was met with opposition from the City. Reason being that the existing on-street parking would need to be eliminated not only a certain distance to the intersection on the northeast side but also on the northwest side along the park space. In addition, dedicating a WBLT implies a lane drop assignment which typically has low compliance. The City does not believe that this permanent change is justified but is open to Prairieland Park submitting a request through our Roadway Coordination group for this temporary lane setup during the pre-game events as required.

At the intersection of Lorne Avenue & Ruth Street, a feasible mitigation was not determinable. There is not sufficient ROW at the intersection to add additional lanes in any direction with the Idylwyld Freeway spanning over top of the study intersection. Currently, it is believed that the intersection operating at LOS E during the before-game and after-game scenarios is the only option based on the constraints of the existing intersection geometry. It's crucial to note that these occurrences of LOS E service at the intersection of Lorne Avenue & Ruth Street would be expected to occur for 2 hours during game times

at a maximum of once every two weeks during home games of the Canadian Premier League (CPL) season.

Upon modelling the mitigation recommendations of the two intersections for the three game scenarios the overall intersection of Lorne Avenue & Exhibition Grounds Road's LOS was improved to LOS D during before-game and after-game periods for both Saturday and Sunday game scenarios and to LOS C during before-game and after-game periods for the weekday evening game scenario. Northbound and southbound movements that are currently free flow are foreseen to deteriorate in LOS with the addition of signals, however, eastbound movements were improved from LOS F to LOS D or higher for before-game and after-game periods for all three different game scenarios.

With the intersection of Herman Avenue & Ruth Street West having an allocated separate westbound left turn lane to enter the park, the westbound movement is expected to improve from LOS E to LOS D before the Saturday game and from LOS B to LOS A after the Saturday game. All other movements before and after games for the three game scenarios continue to operate at acceptable conditions.

A high-level review of the existing and future alternative modes connections to the site was completed as part of this TIS. Currently, a paved sidewalk is provided on west side of the Lorne Avenue and bicycle lanes are provided on both sides of the Lorne Avenue in the vicinity of to the project site. However, the City's Active Transportation Plan identifies sidewalks on both sides of Lorne Avenue. The current and future active transportation infrastructure will improve pedestrian connectivity and allow other active mode users such as cyclists, skateboarders, and rollerbladers an easy access to the project site. In addition, the Active Transportation Plan identifies an All Ages and Abilities (AAA) Bicycle route along Lorne Avenue in the vicinity of the project site.

Saskatoon Transit provides local services and all busses in Saskatoon are equipped with bike racks to allow users to combine transit and active mode trips. Two bus stops are in proximity; Stop No. 5490 is located east side of Lorne Avenue north side of Exhibition Grounds Road and Stop No. 4357 is located west side of Lorne Avenue south of Exhibition Grounds Road.