



# PROJECT GENERATED TRAFFIC

## Site-Generated Traffic

Site-Generated traffic is the estimated increase in traffic demand on the local roadway network due to the proposed development. The site generated traffic is added to the forecasted background traffic in order to determine future traffic impacts on the adjacent roadways.

### Trip Generation Calculations

Trip generation for Van Lierop Park was estimated using the ITE Trip Generation Manual 9<sup>th</sup> Edition. The trip rates for City Park in the Manual include picnic areas and sports fields. To be conservative, these land uses were added to the park overall, to represent the peak use of the park.

Trips generated by the soccer field and basketball court land uses were made based on a typical number of players for the size of the proposed field. For soccer, the assumptions were based on the number of players, referees, and coaches that would participate in a Puyallup U9/U10 team soccer game. The soccer field is 195' by 330', and can accommodate up to three games for U9/U10 at one time.

Additional analysis on the trip generation rates for weekend use were also considered. As the trip generation calculations considered the peak use of the park, there was no difference in the trip generation between a weekend and weekday use. As weekend traffic on the adjacent streets is expected to be lower than the weekday peak hour traffic, no additional weekend analysis is recommended. It is unlikely that peak park use will coincide with peak hour traffic on the adjacent street on a weekday, therefore it is assumed that the proposed trip generations represent a conservatively high impact scenario.

The trip generation calculations and assumptions are summarized in **Table 1** through **Table 3**.

**Table 1: Soccer Field Trip Generation Calculation**

Number of games (A) =	3
Players/ref/ per game (B) =	30
Spectators (C) =	10
Average Vehicle Occupancy (D) =	2
<b>Total Assumed Trips (AxB+C)/D)=</b>	<b>60</b>

**Table 2: Basketball Court Trip Generation Calculation**

Number of games (A) =	1
Players/ref/ per game (B) =	10
Spectators (C) =	5
Average Vehicle Occupancy (D) =	1.5
<b>Total Assumed Trips (AxB+C)/D)=</b>	<b>10</b>

**Table 3: PM Peak Hour of Weekday Trip Generations<sup>1</sup>**

Park Element	ITE Land Use	Land Use Code	Unit	Quantity	New Trips	In (%)	Out (%)	In (Veh)	Out (Veh)
General Park	City Park by Acre <sup>2</sup>	411	Acre	20	90	50%	50%	45	45
Soccer Field	See Table 1		Field	1	60	67%	33%	40	20
Tennis Court	Tennis Courts <sup>3</sup>	490	Court	2	8	50%	50%	4	4
Picnic Pavilion	City Park by Picnic Sites <sup>4</sup>	411	Pavilion	2	12	61%	39%	7	5
Basketball Court	See Table 2		Court	1	10	50%	50%	5	5
<b>Proposed New Trips</b>					<b>180</b>	<b>56%</b>	<b>44%</b>	<b>101</b>	<b>79</b>

1. Source: ITE Trip Generation (9th Edition). Fehr & Peers, 2014.

2. ITE Trip Generation (9th Edition) land use category 411 - City Park:

PM Peak Hour:  $T = 4.5 \times (X)$  (50% in, 50% out)

3. ITE Trip Generation (9th Edition) land use category 490 - Tennis Courts:

PM Peak Hour:  $T = 3.88 \times (X)$

4. ITE Trip Generation (9th Edition) land use category 411 - City Park:

PM Peak Hour:  $T = 5.87 \times (X)$  (61% in, 39% out)