ROGERS PLACE ARENA & ICE DISTRICT

Special Event Management Plan

Presentation by Mark Huberman, P. Eng., June 5, 2018

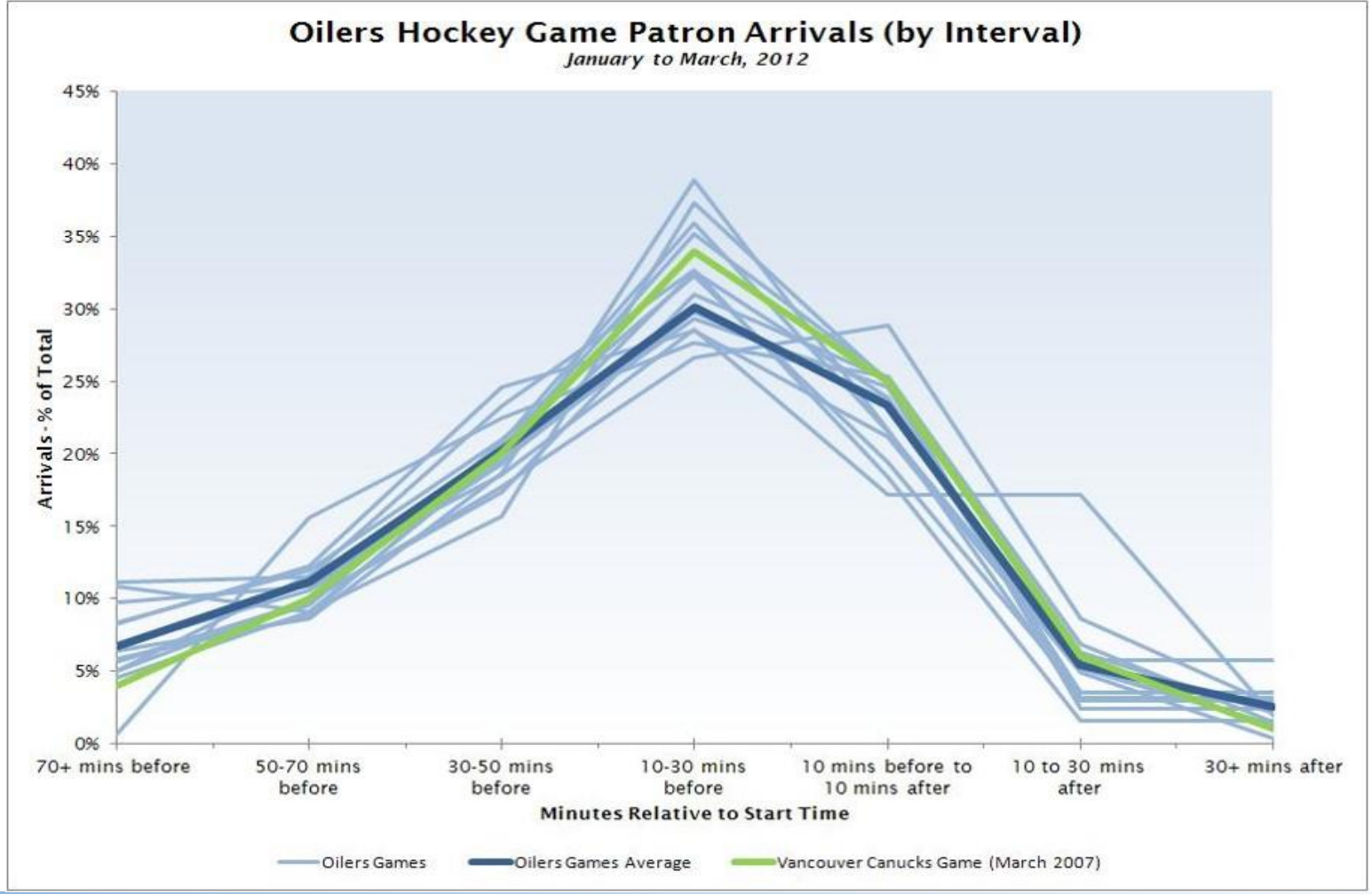
Objectives

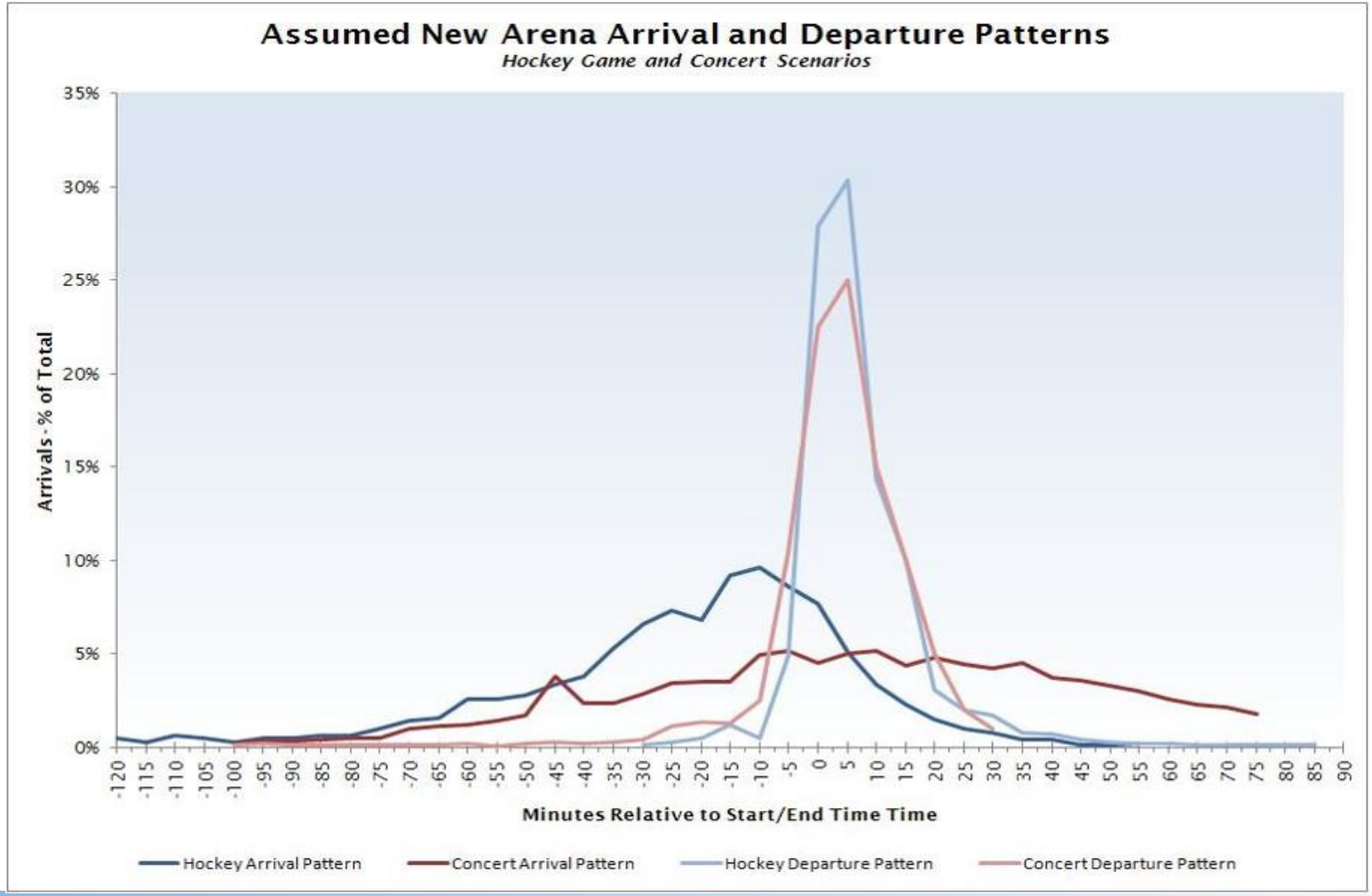
- To estimate peak entering and exiting demand at major entry/exit points and at critical internal congestion points
- To provide design input at critical locations in relation to the size/space requirements
- To support sensitivity analysis on key assumptions to ensure robustness of design
- To develop and implement a Special Event Traffic and parking management Program

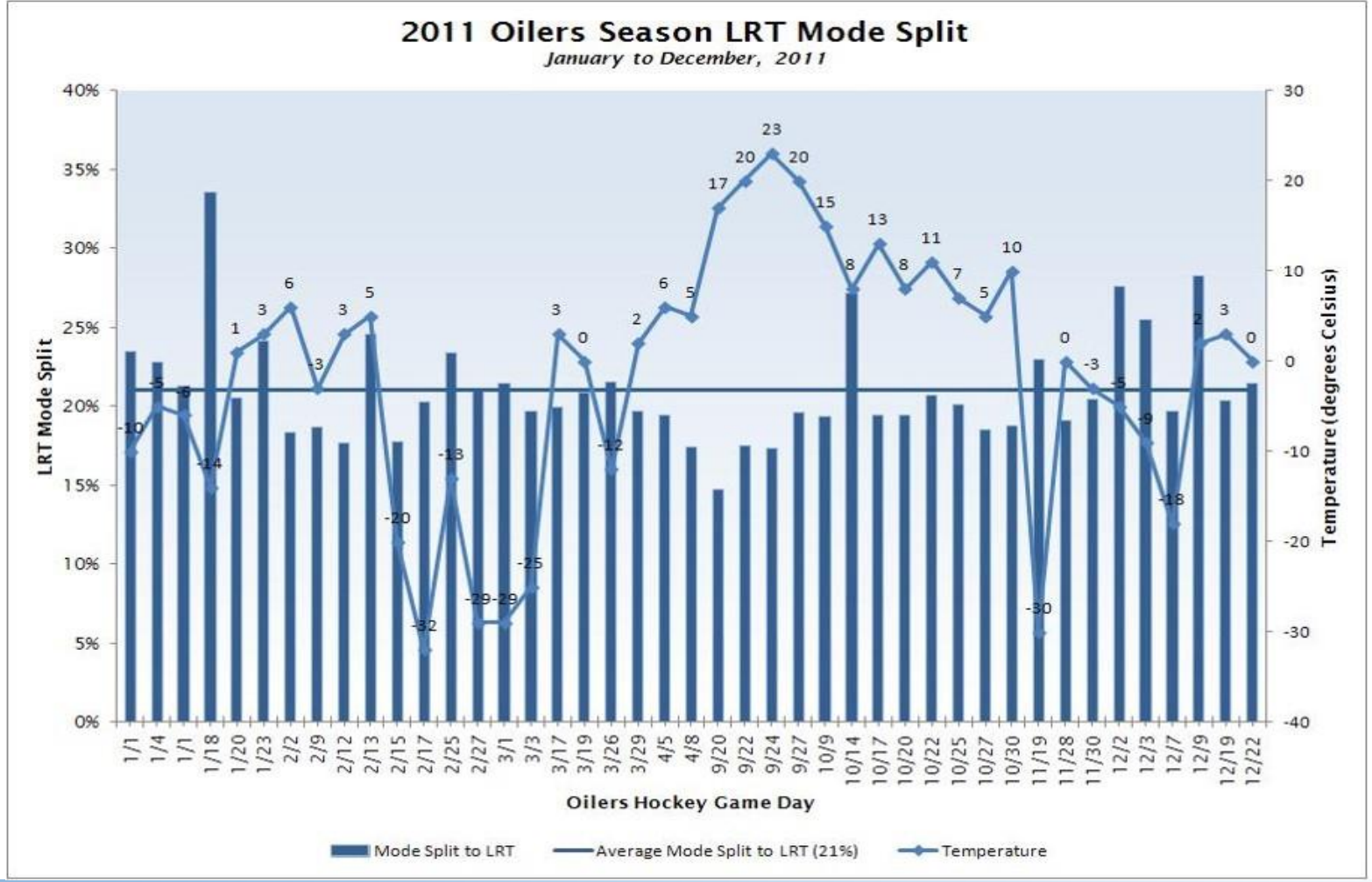
To provide relatively quick feedback to the design team

Number of Patrons

Patron Type	Hockey	Concert
Regular	12,177	14,577
VIP Club	3,178	3,178
VIP Suite	828	828
VIP Loge	1,417	1,417
All Patrons	**18,200**	**20,000**

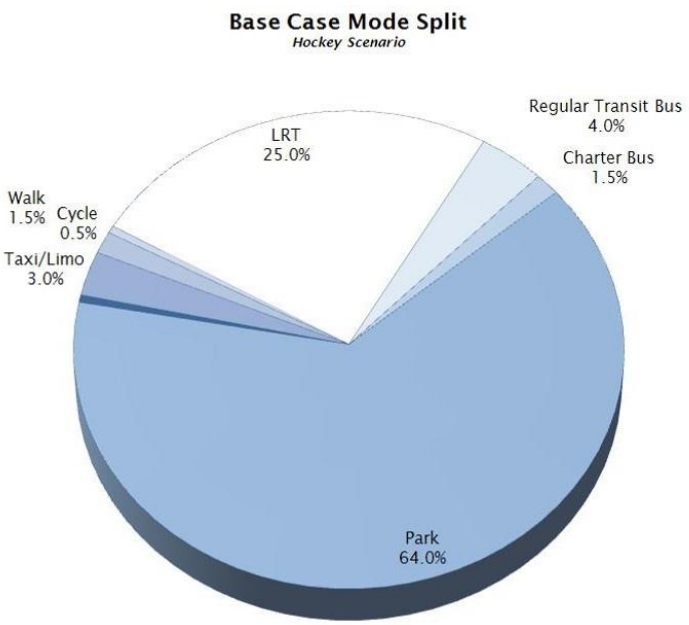

Oilers Hockey Game Patron Arrivals (by Interval)
January to March, 2012
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Arrivals - % of Total
70+ mins before
50-70 mins before
30-50 mins before
10-30 mins before
10 mins before to 10 mins after
10 to 30 mins after
30+ mins after
Minutes Relative to Start Time
Oilers Games
Oilers Games Average
Vancouver Canucks Game (March 2007)


Assumed New Arena Arrival and Departure Patterns
Hockey Game and Concert Scenarios
Arrivals - % of Total
35%
30%
25%
20%
15%
10%
5%
0%
-120 -115 -110 -105 -100 -95 -90 -85 -80 -75 -70 -65 -60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90
Minutes Relative to Start/End Time Time
Hockey Arrival Pattern
Concert Arrival Pattern
Hockey Departure Pattern
Concert Departure Pattern

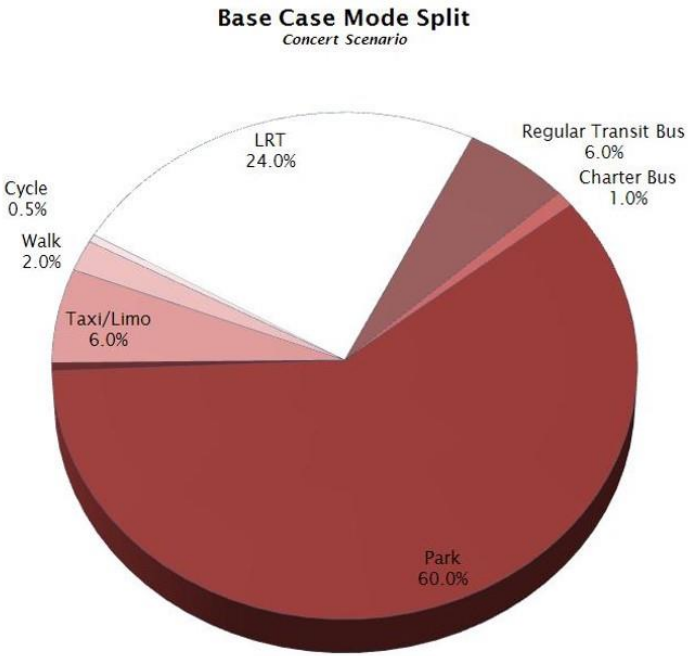

2011 Oilers Season LRT Mode Split
January to December, 2011
LRT Mode Split
Temperature (degrees Celsius)
Oilers Hockey Game Day
Mode Split to LRT
Average Mode Split to LRT (21%)
Temperature

Mode Split

01



02



01 Hockey scenario

02 Concert Scenario

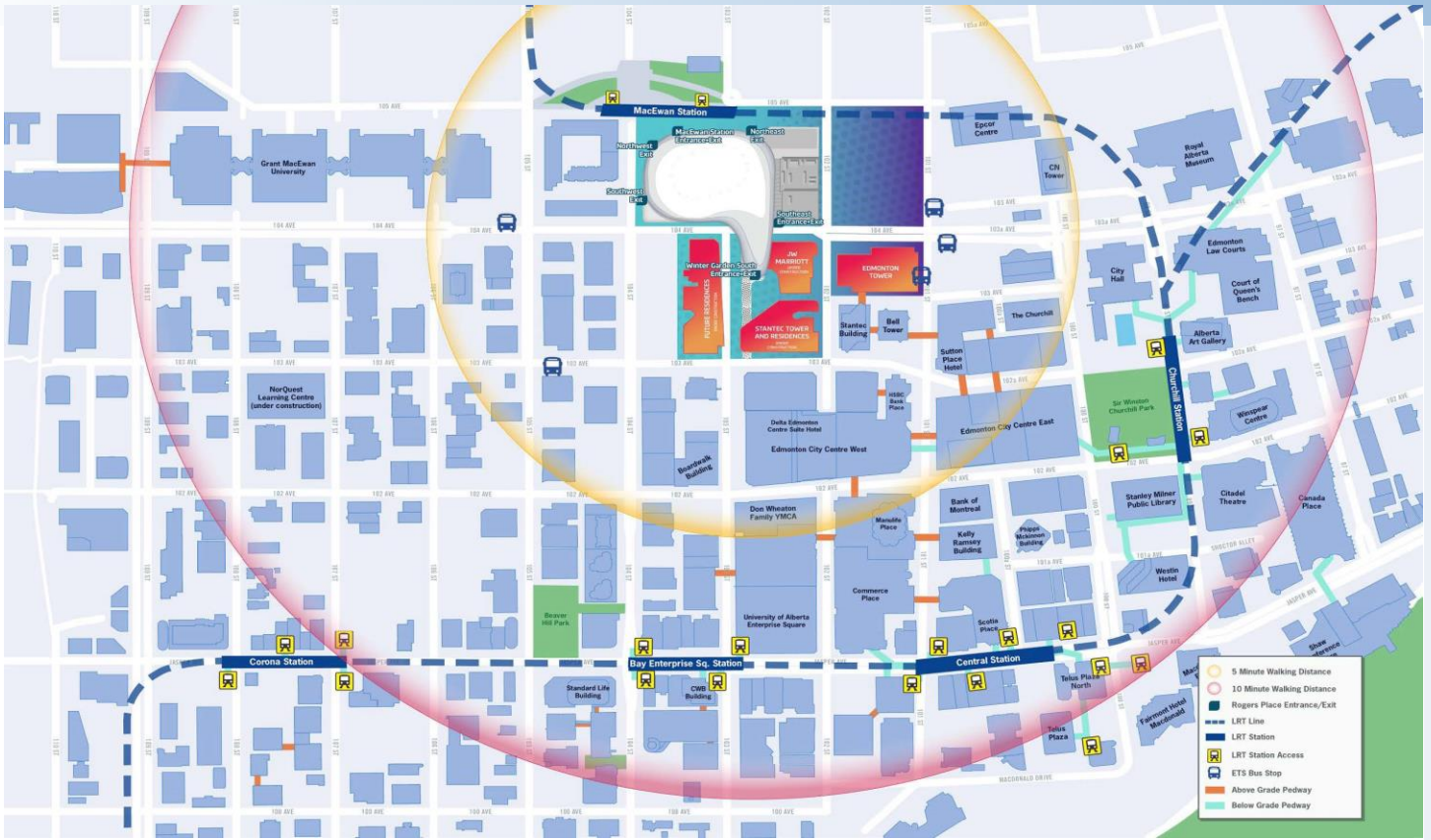
Modes of Transport

1. Edmonton Transit System
    a. Transit: Bus
    b. Transit: Light Rail

2. Vehicular Access
    a. Parking
    b. Taxi
    c. Vehicle for Hire

3. DATS Access
    a. Persons with Disabilities
    4. Pedestrian Access
    5. Bicycle

Options for traveling by ETS Bus or LRT

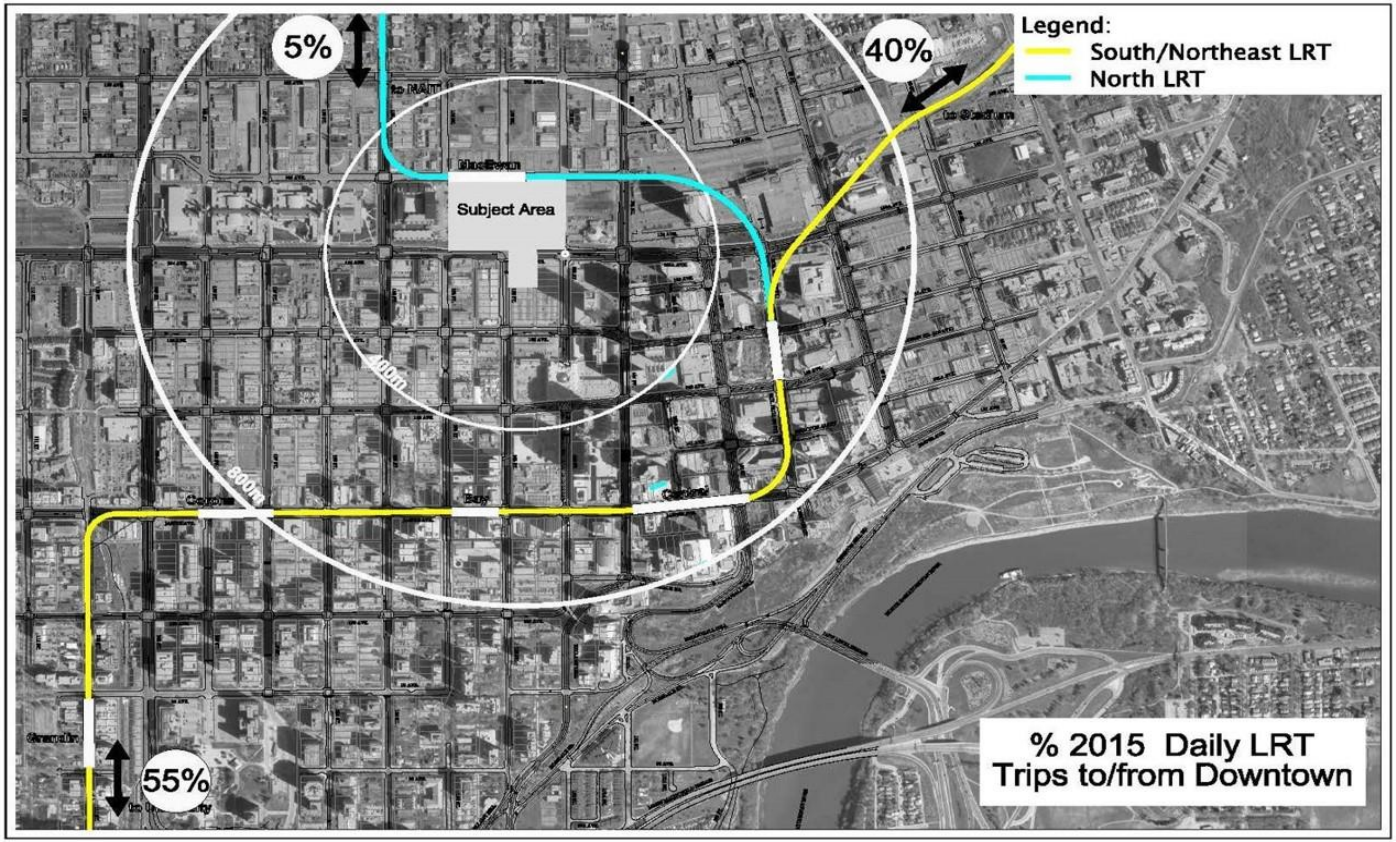


Edmonton Transit System

a. **Transit: Bus**

b. **Transit: Light Rail**

2015 Daily LRT Trips to/from Downtown

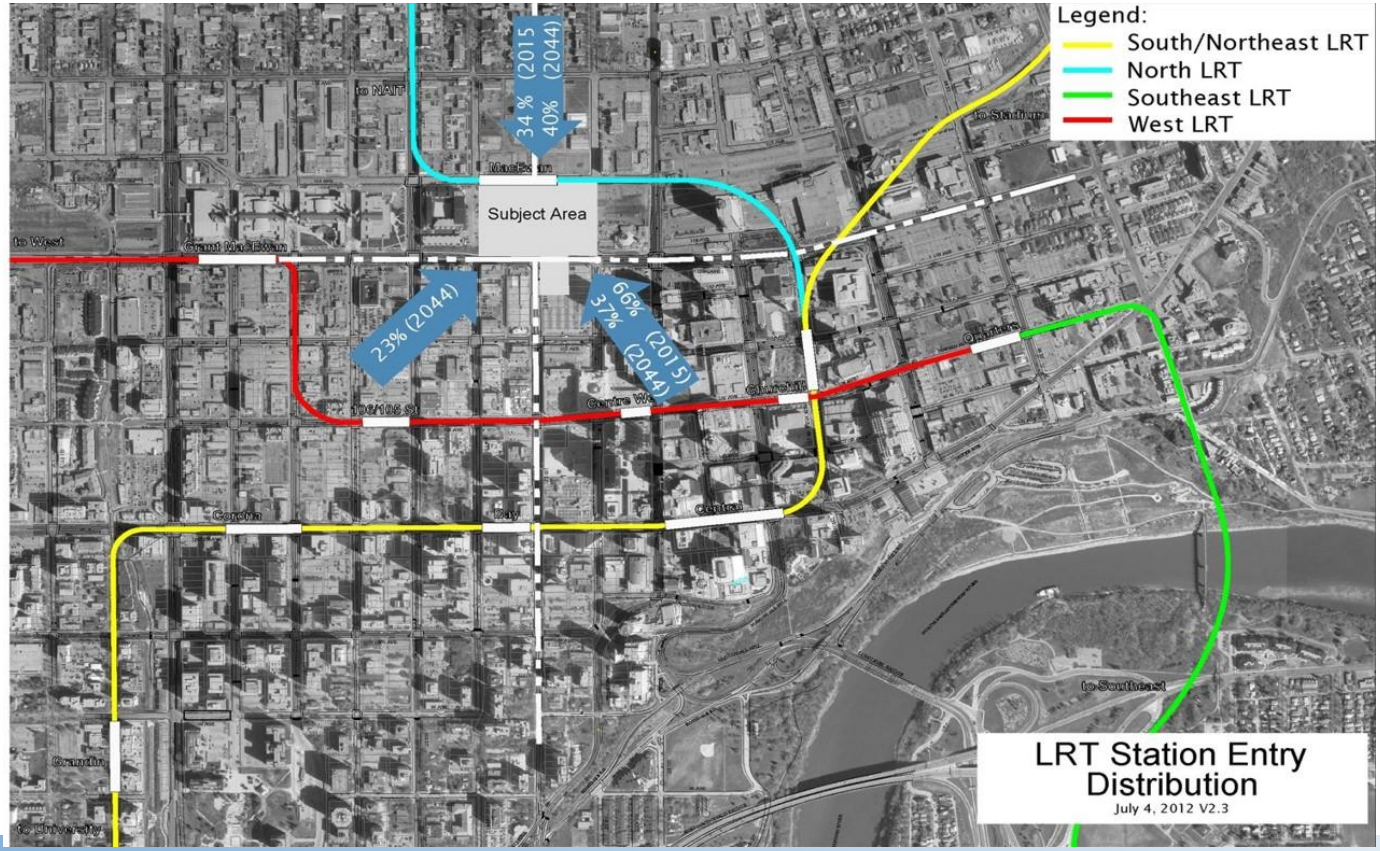


Edmonton Transit System

a. Transit: Bus

b. **Transit: Light Rail**

LRT Station Entry Distribution

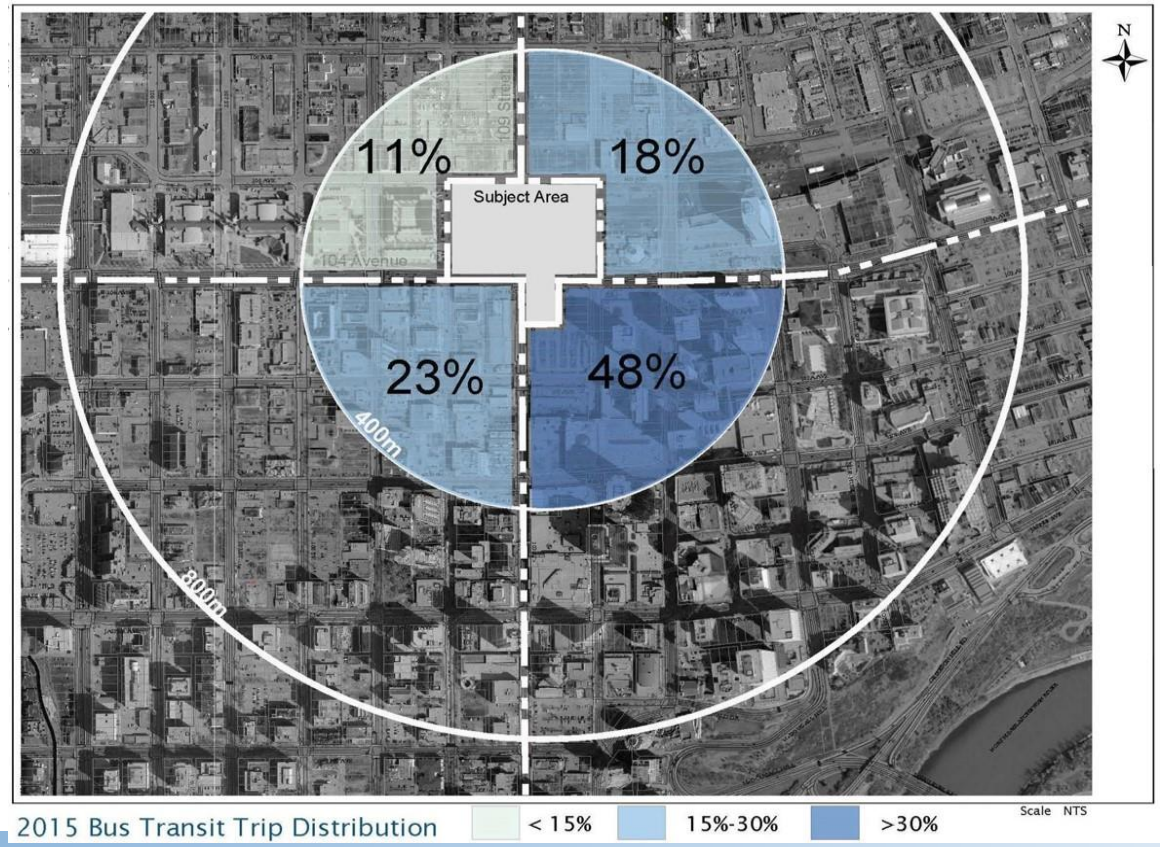


Edmonton Transit System

a. Transit: Bus

b. **Transit: Light Rail**

2015 Bus Transit Trip Distribution

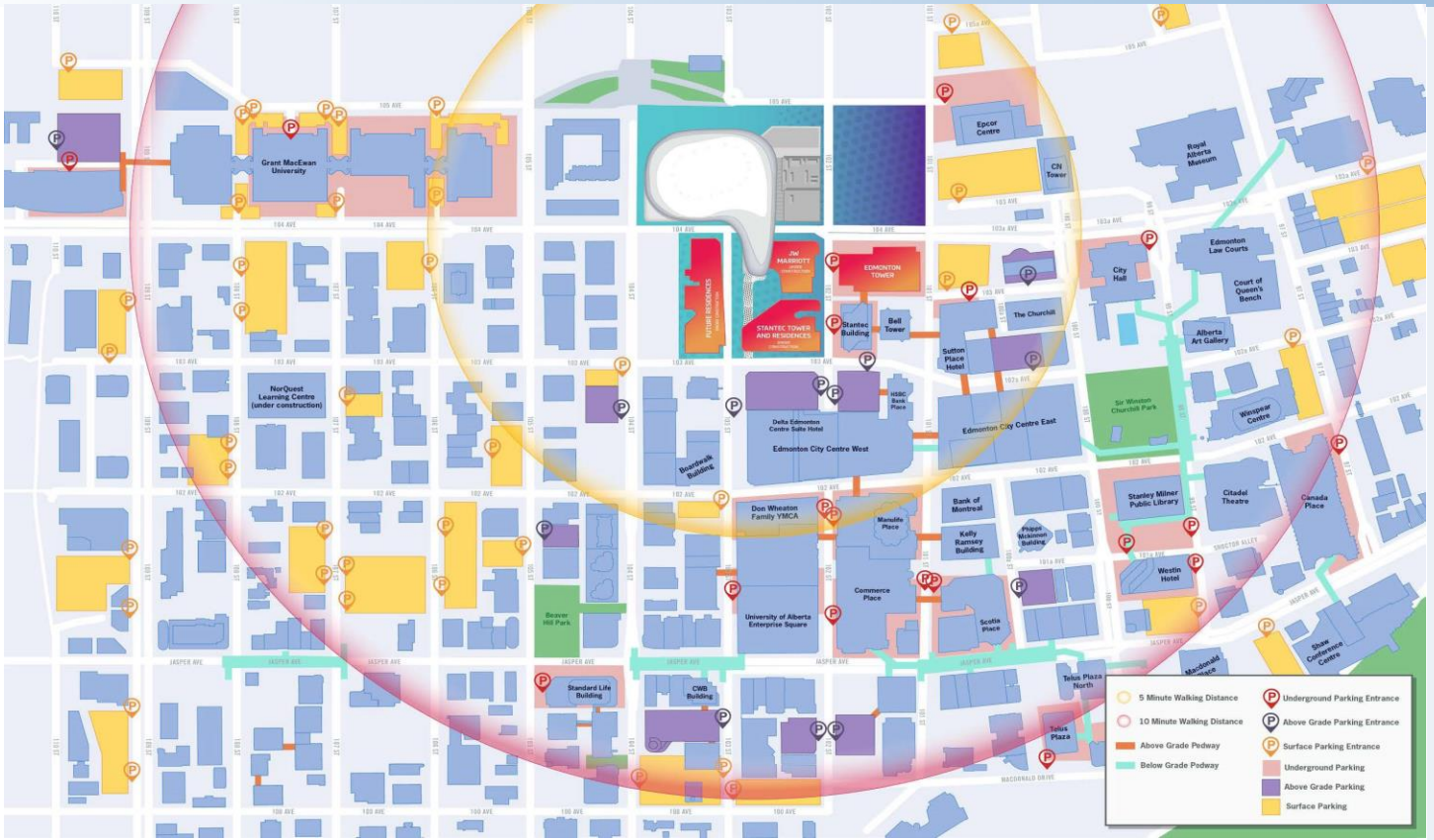


Edmonton Transit System

a. **Transit: Bus**

b. Transit: Light Rail

Parking Information



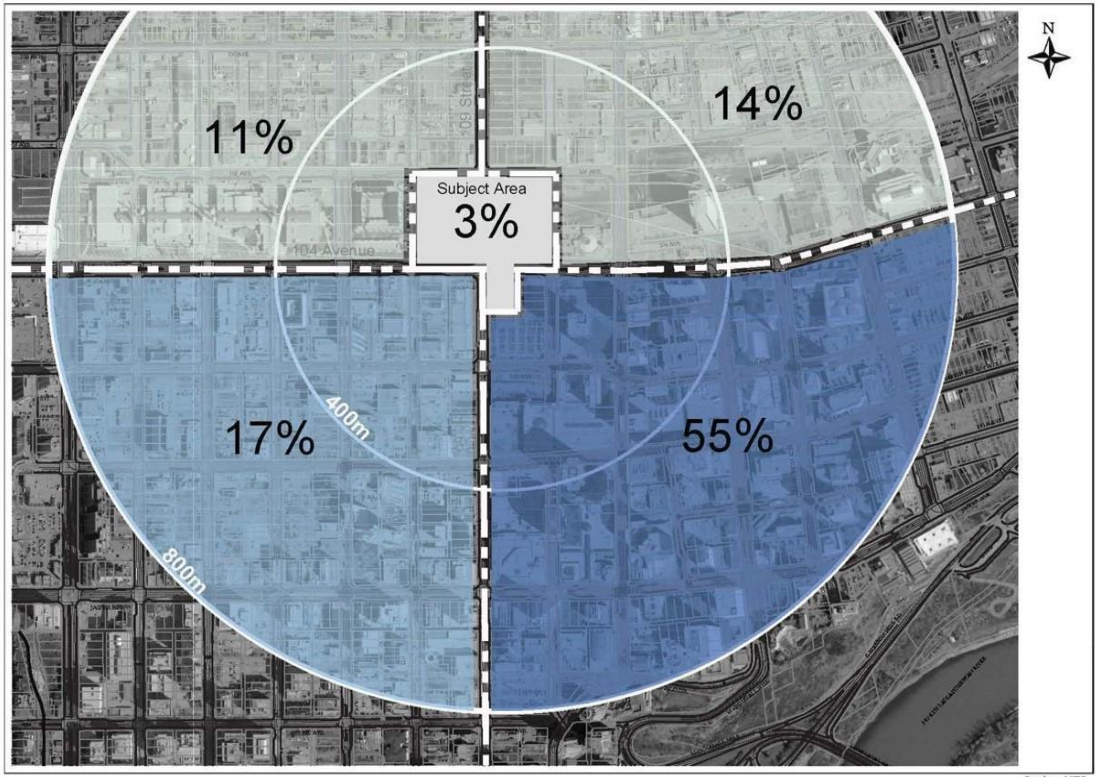
Vehicular Access

a. **Parking**

b. Taxi

c. Vehicle for Hire

Auto Park Trip Distribution



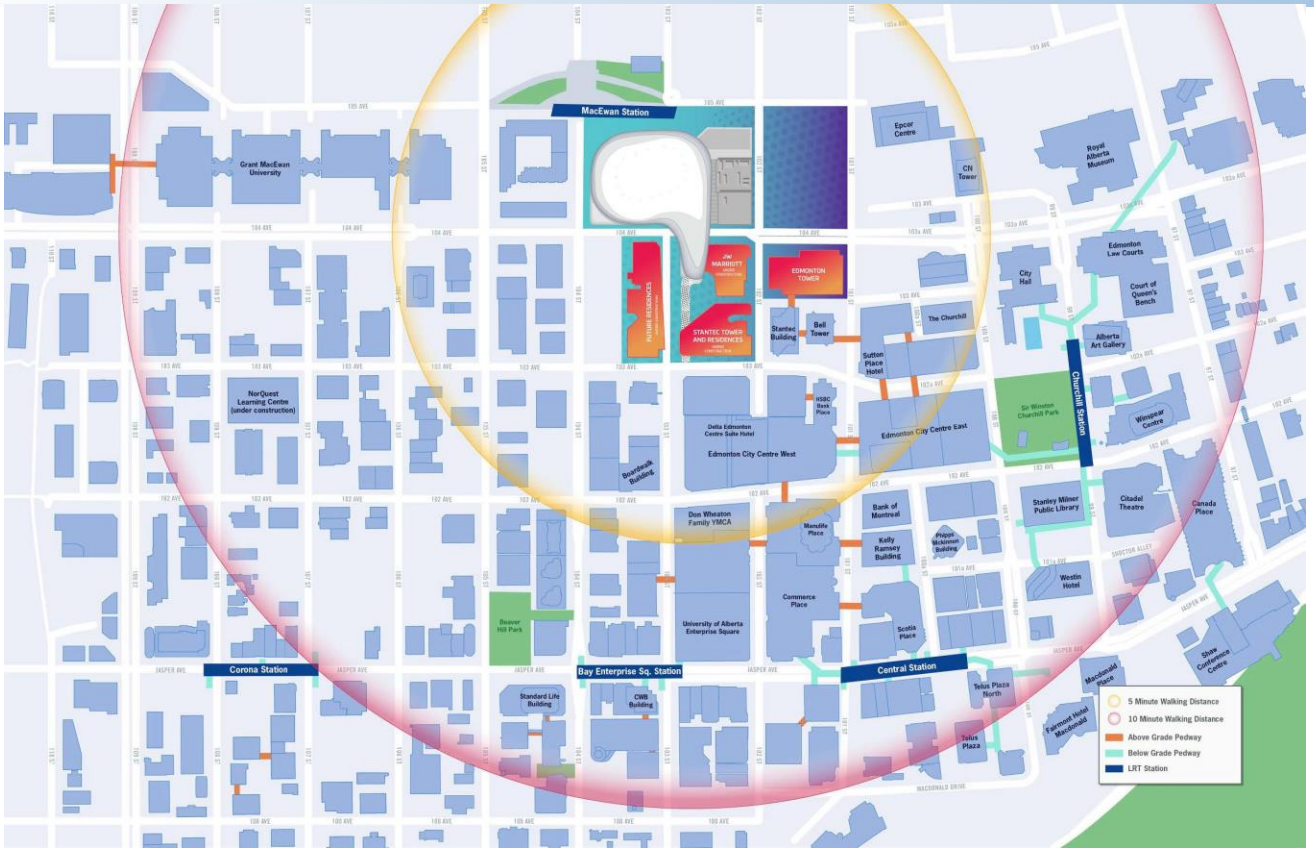
Vehicular Access

a. **Parking**

b. Taxi

c. Vehicle for Hire

Pedway Access



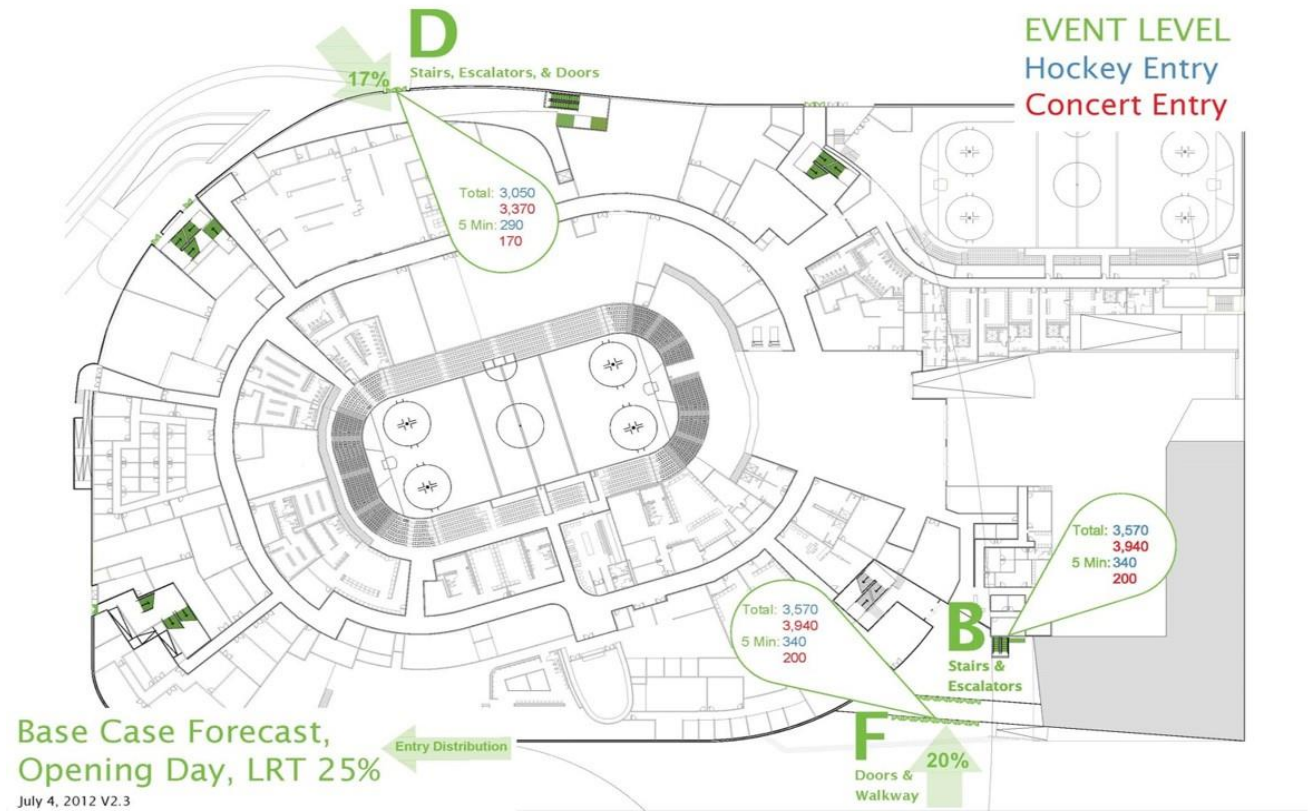
DATS Access

a. Persons with Disabilities

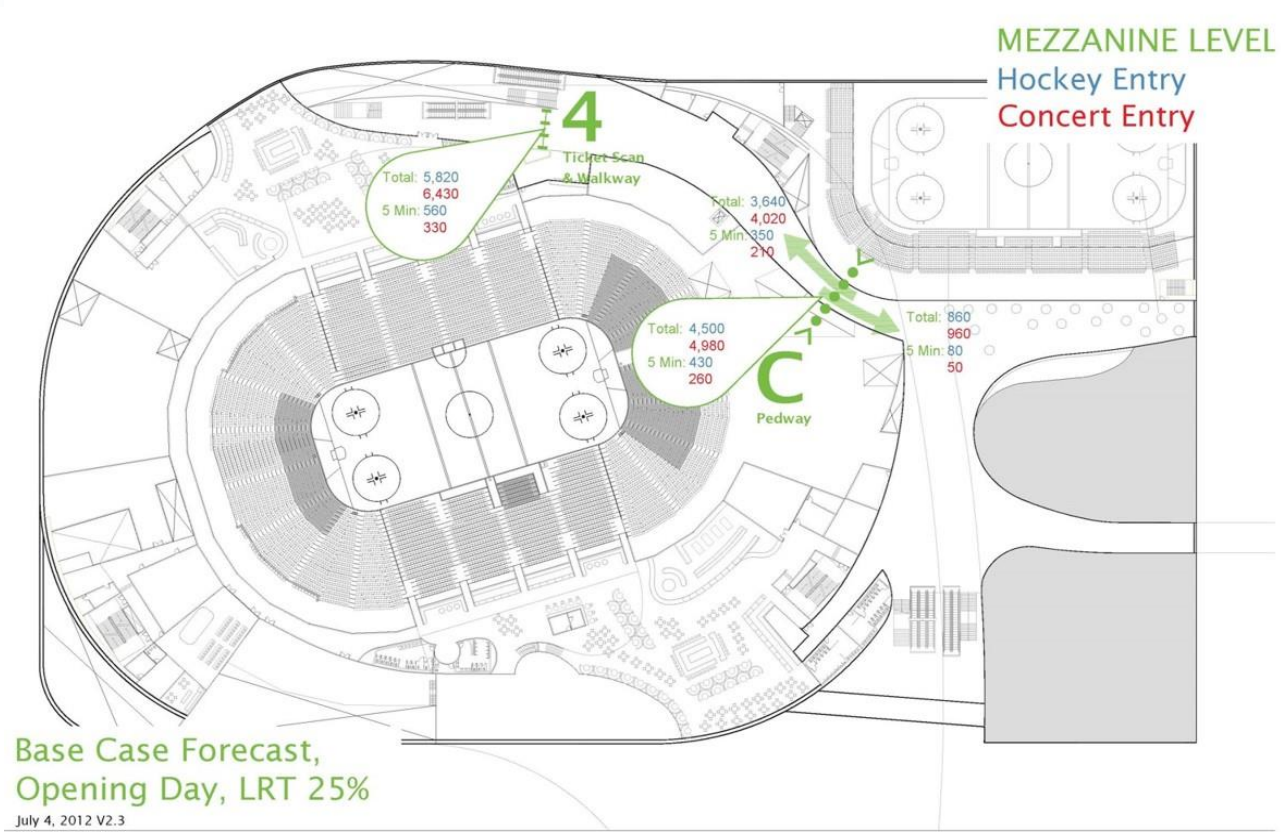
b. **Pedestrian Access**

c. Bicycle

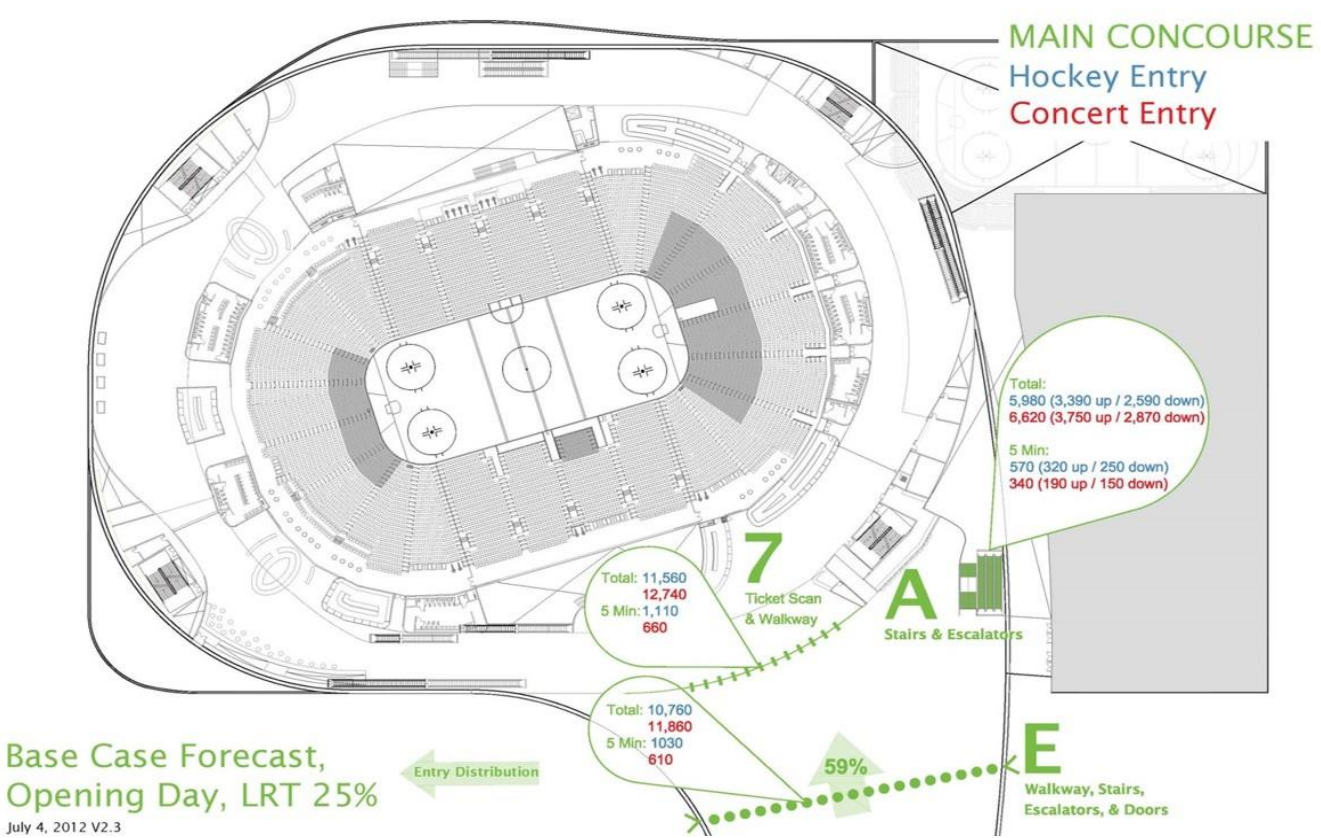
Base Case Forecast, Opening Day, LRT 25%

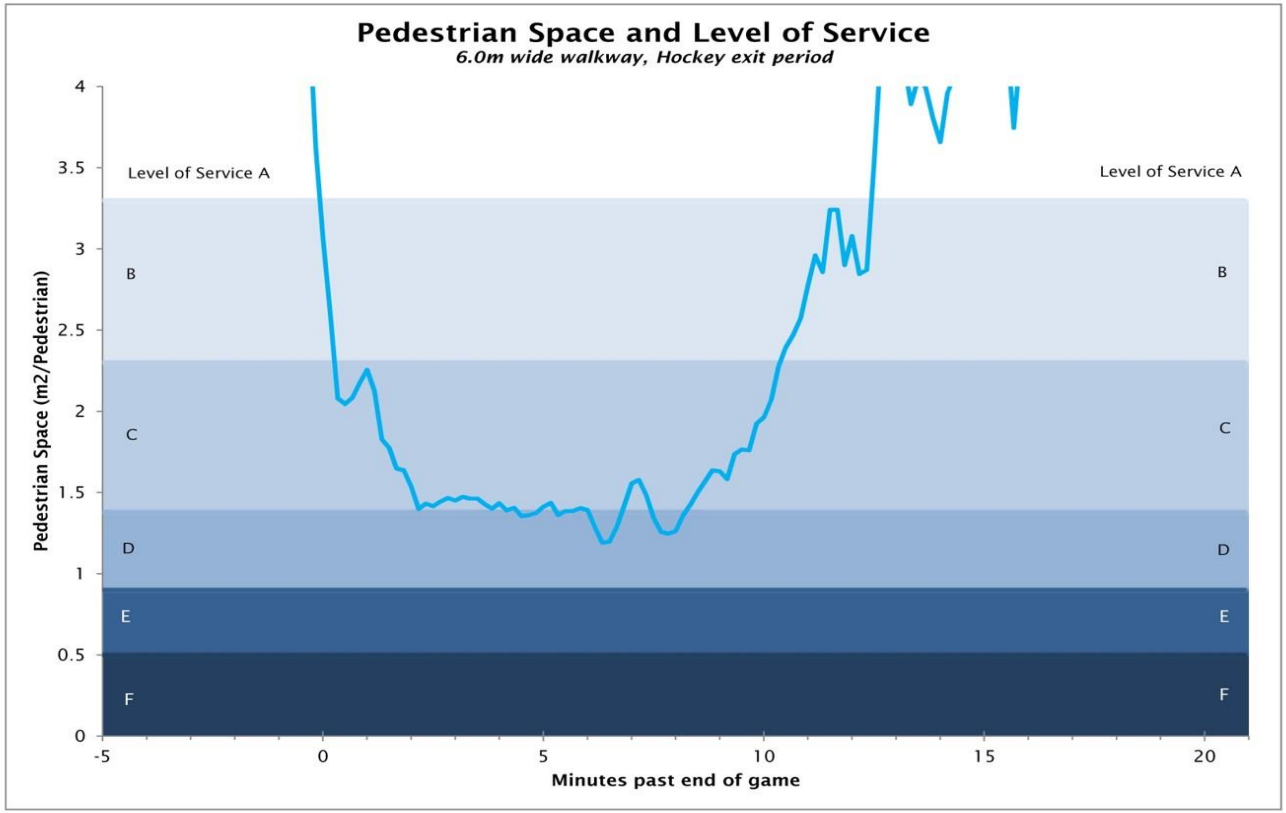


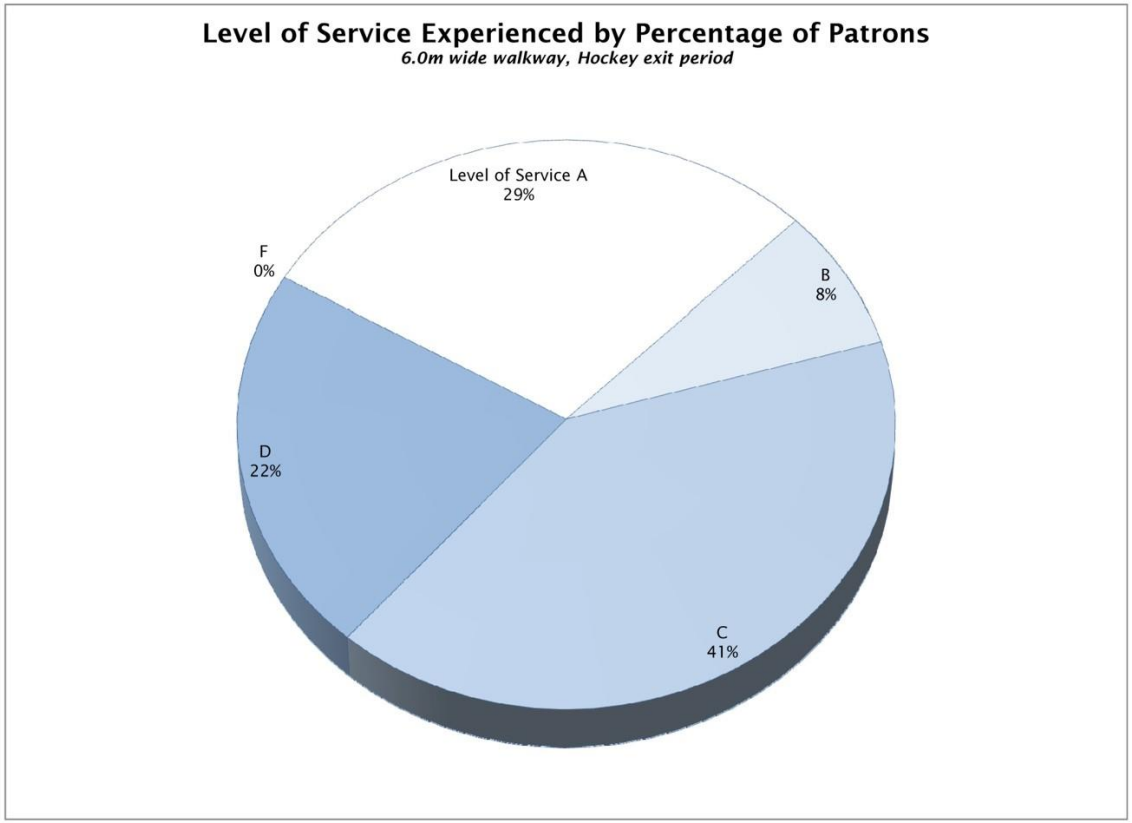
Base Case Forecast, Opening Day, LRT 25%



Base Case Forecast, Opening Day, LRT 25%



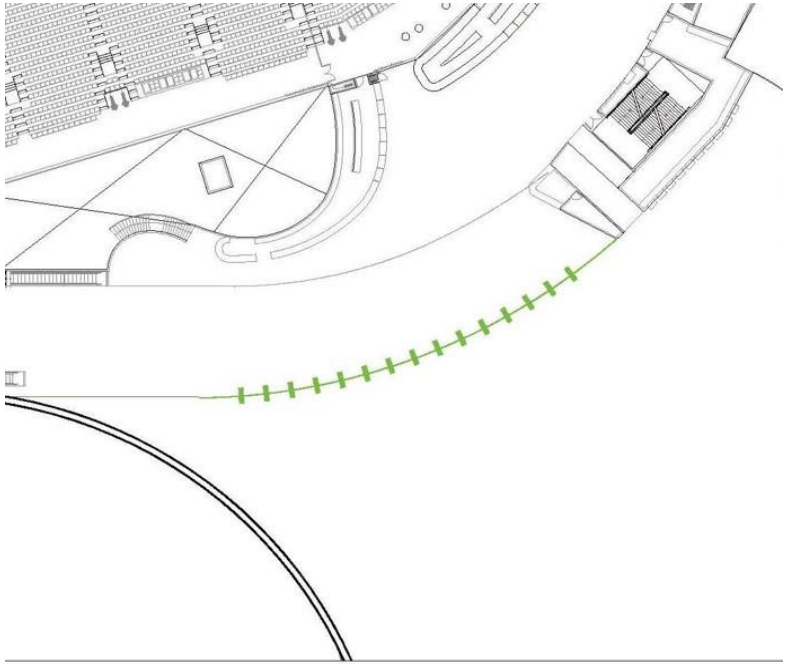

Pedestrian Space and Level of Service
6.0m wide walkway, Hockey exit period
Level of Service A
Level of Service A
B
C
D
E
F
B
C
D
E
F
Pedestrian Space (m2/Pedestrian)
Minutes past end of game
4
3.5
3
2.5
2
1.5
1
0.5
0
-5
0
5
10
15
20


Level of Service Experienced by Percentage of Patrons
6.0m wide walkway, Hockey exit period
Level of Service A
29%
B
8%
C
41%
D
22%
F
0%

Location B and F: Event Level SE Stairs, Escalators & Doors

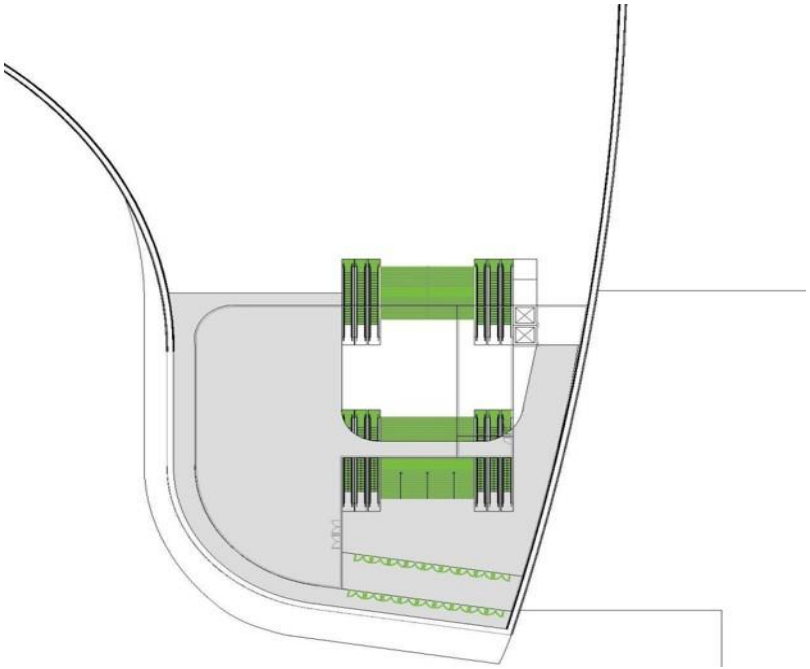
- 10ft stair provided
- Adequate if at least 25% use escalators
- 14ft required if 100% use stairs
- 2 escalators provided will accommodate about 50% of patrons
- Could reduce number of doors to 6
- 20ft clear zone is required at the top and bottom of escalator
- At least 20ft should be provided for walkway space
- 37ft of walkway space should be adequate

Main Concourse Level Location 7: Ticket Scan & Walkway



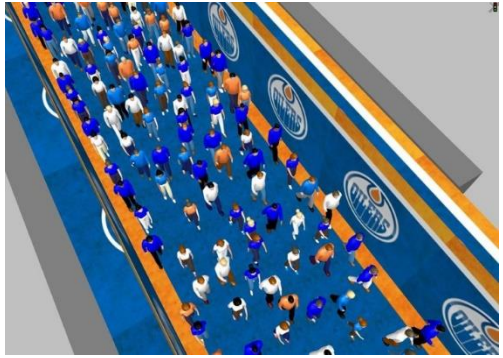
- Number of ticket scan locations could be reduced to about 20 stations
- More than enough queuing space
- Need to maintain 40ft in front of ticket scan area

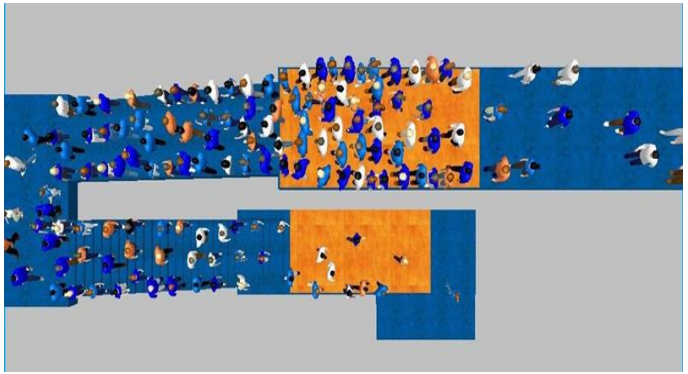
Main Concourse Level Location E: Stairs, Escalators, Walkway & Doors

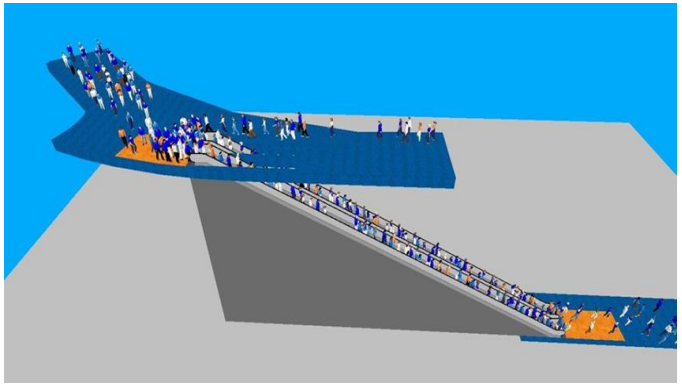


- Need to maintain 35ft for walking space
- Providing 36ft wide stair will accommodate 66% of the demand
- 56ft wide stair required to accommodate 100% of demand
- 6 escalators (5 down, 1 up) accommodates 50% of demand
- Number of doors could be increased from 18 to 22

VISSIM Simulation of Walkway – LOS C/D







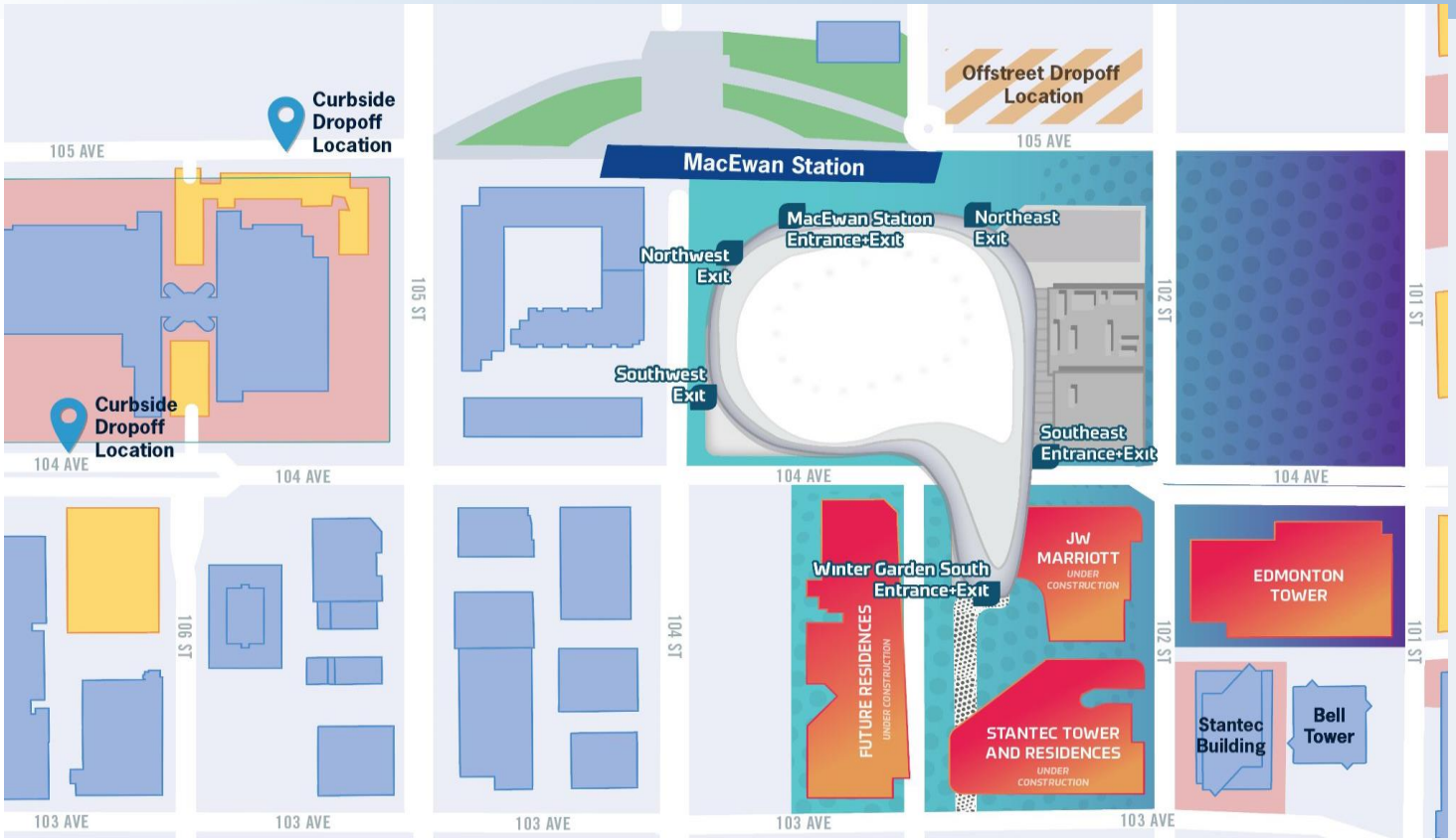
Micro-simulations were used to reconfirm technical assessments

Key Findings

These have biggest influence on forecasts & analysis results:

1. Number of patrons
2. Proportion of patrons in peak 5 minute arrival or departure interval
3. Distribution to entries/exits, which is influenced by:
   - Building Design
   - Patron type (seat location, entry/exit proximity and constraints)
   - Mode Split (LRT and Auto have biggest effect)
   - Effect of Linked Trips pre and post game
4. Ticket scan processing rate (for ticket zones only)
5. Assumed LOS Threshold for design

General Dropoff & Pickup Location



DATS Access

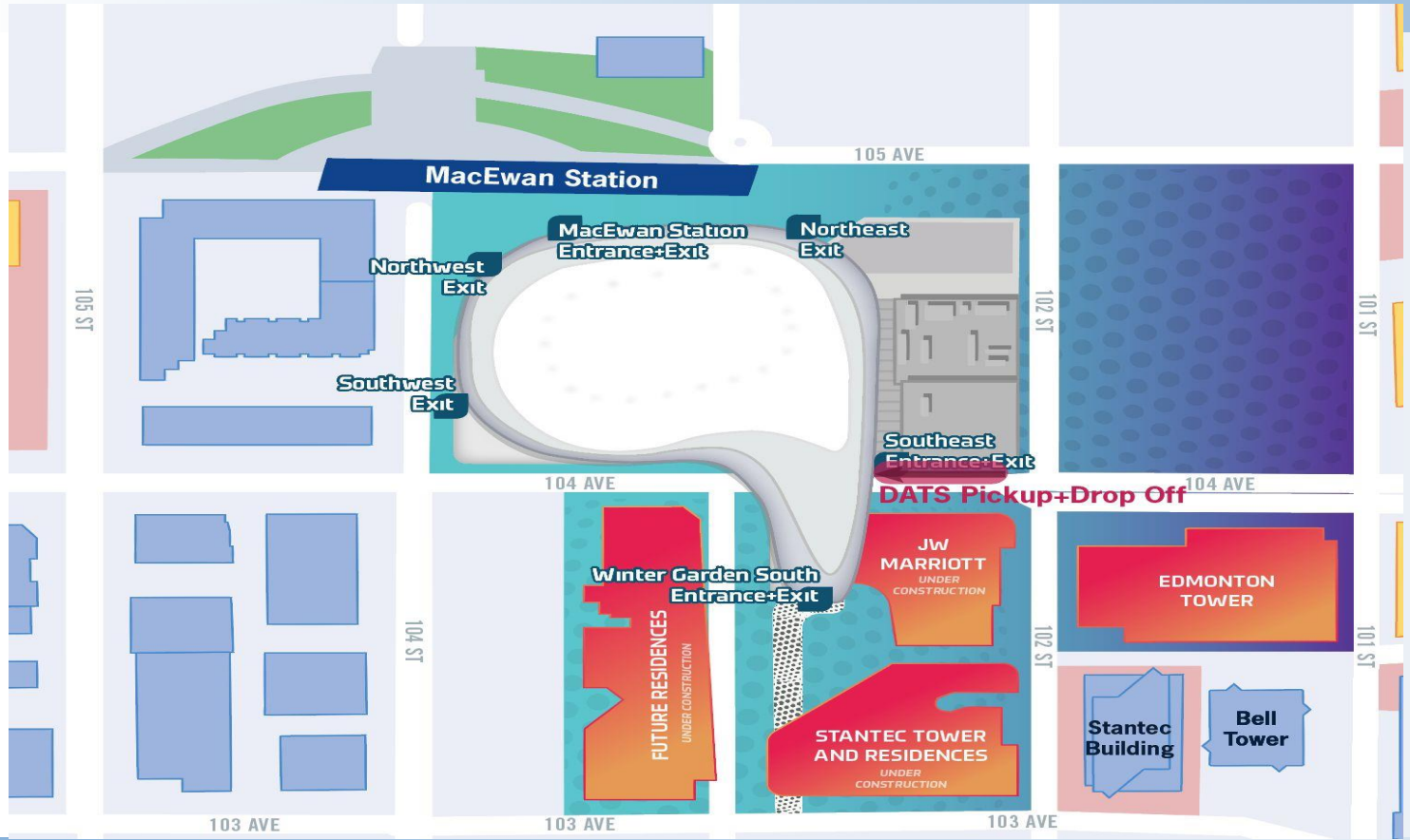
a. Persons with Disabilities

b. Pedestrian Access

c. Bicycle

d. **Drop Off**

Persons with Disabilities Dropoff & Pickup Location



DATS Access

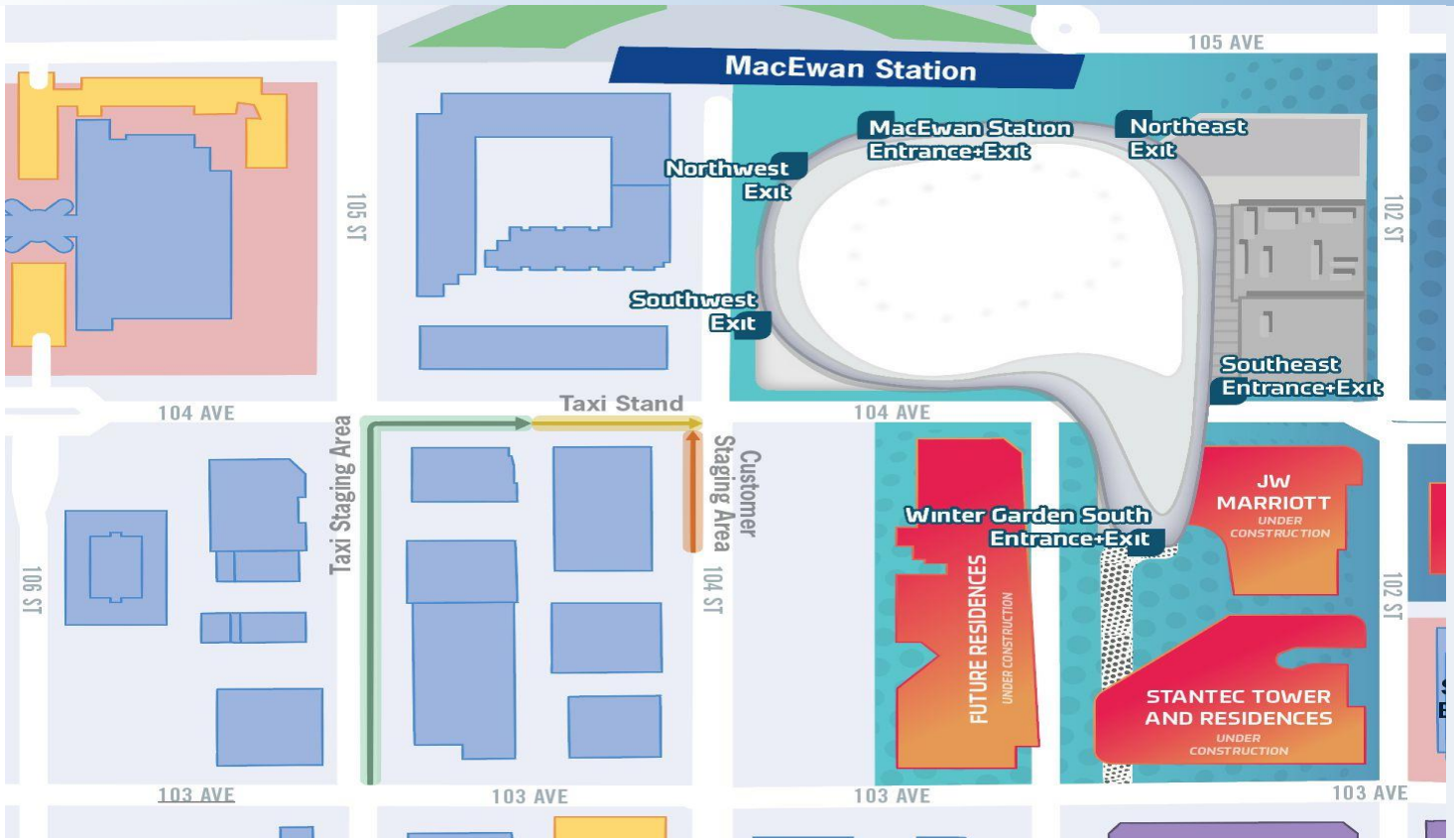
a. **Persons with Disabilities**

b. Pedestrian Access

c. Bicycle

d. Drop Off

Taxi Dropoff & Pickup Information



Vehicular Access

a. Parking

b. **Taxi**

c. Vehicle for Hire

Charter & Yellow Bus Drop-off & Pick-up Information

Vehicular Access

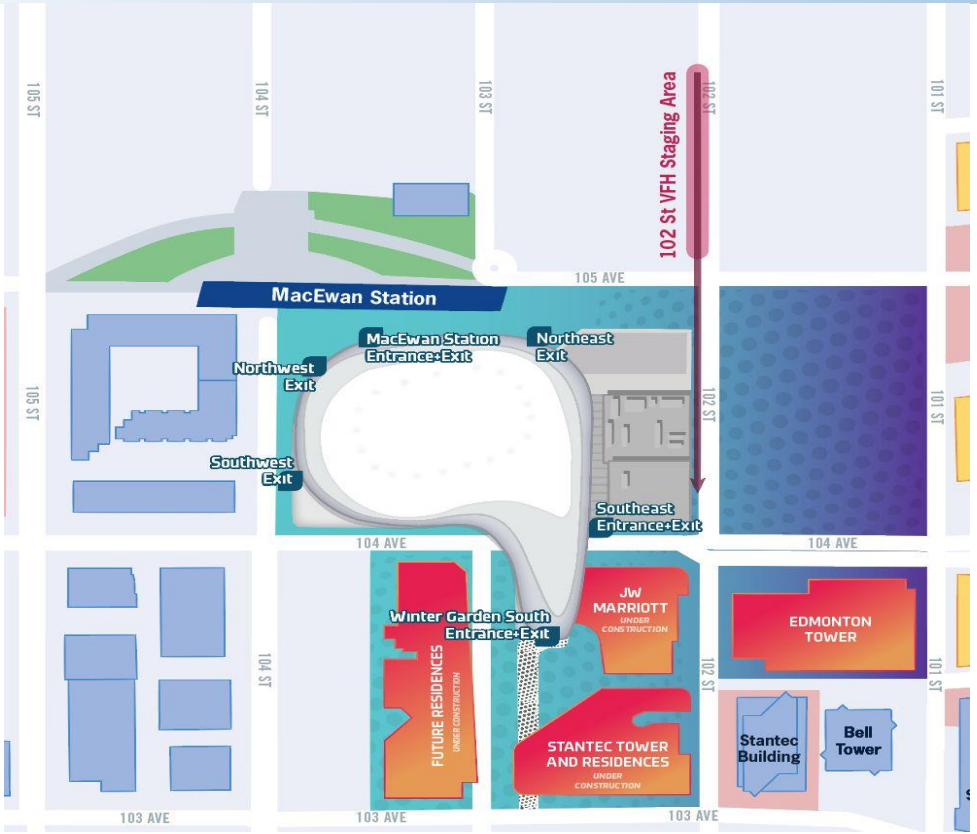
a. Parking

b. Taxi

c. Vehicle for Hire

d. **Yellow School Bus**

Vehicle for Hire Drop-off & Pick-up Information



Vehicular Access

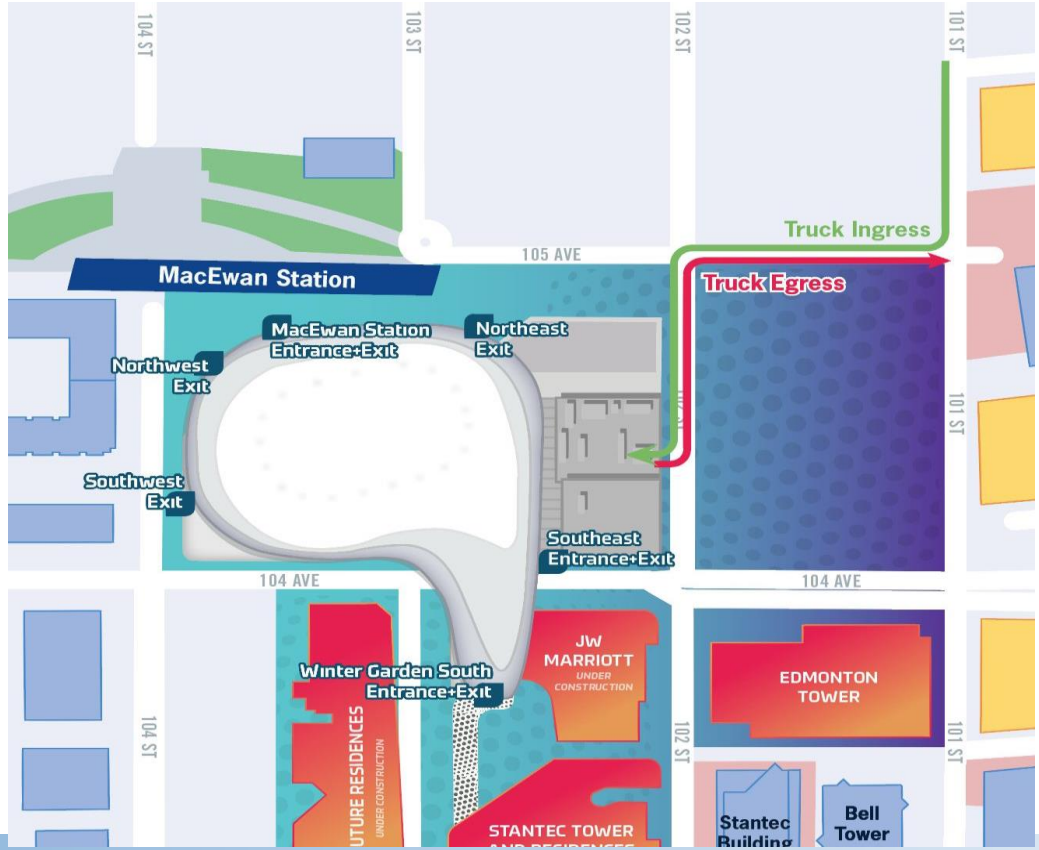
a. Parking

b. Taxi

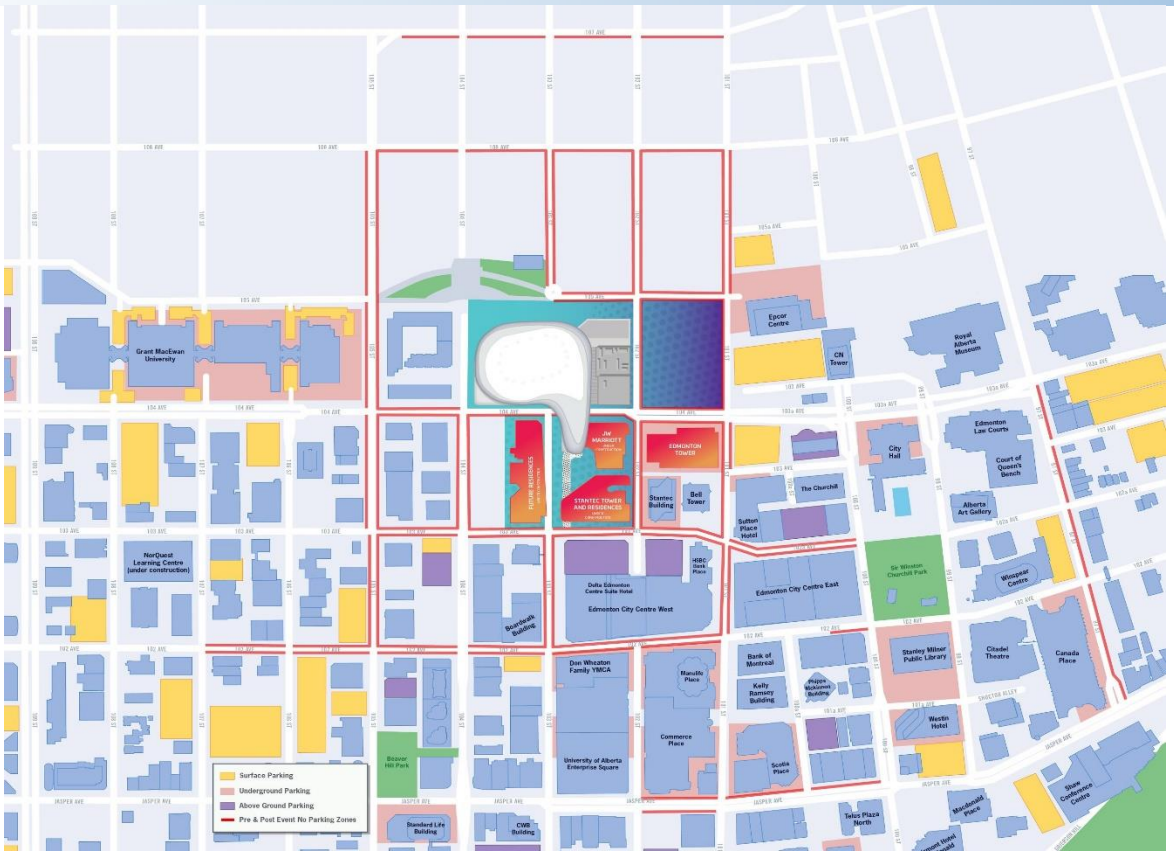
c. **Vehicle for Hire**

d. Yellow School Bus

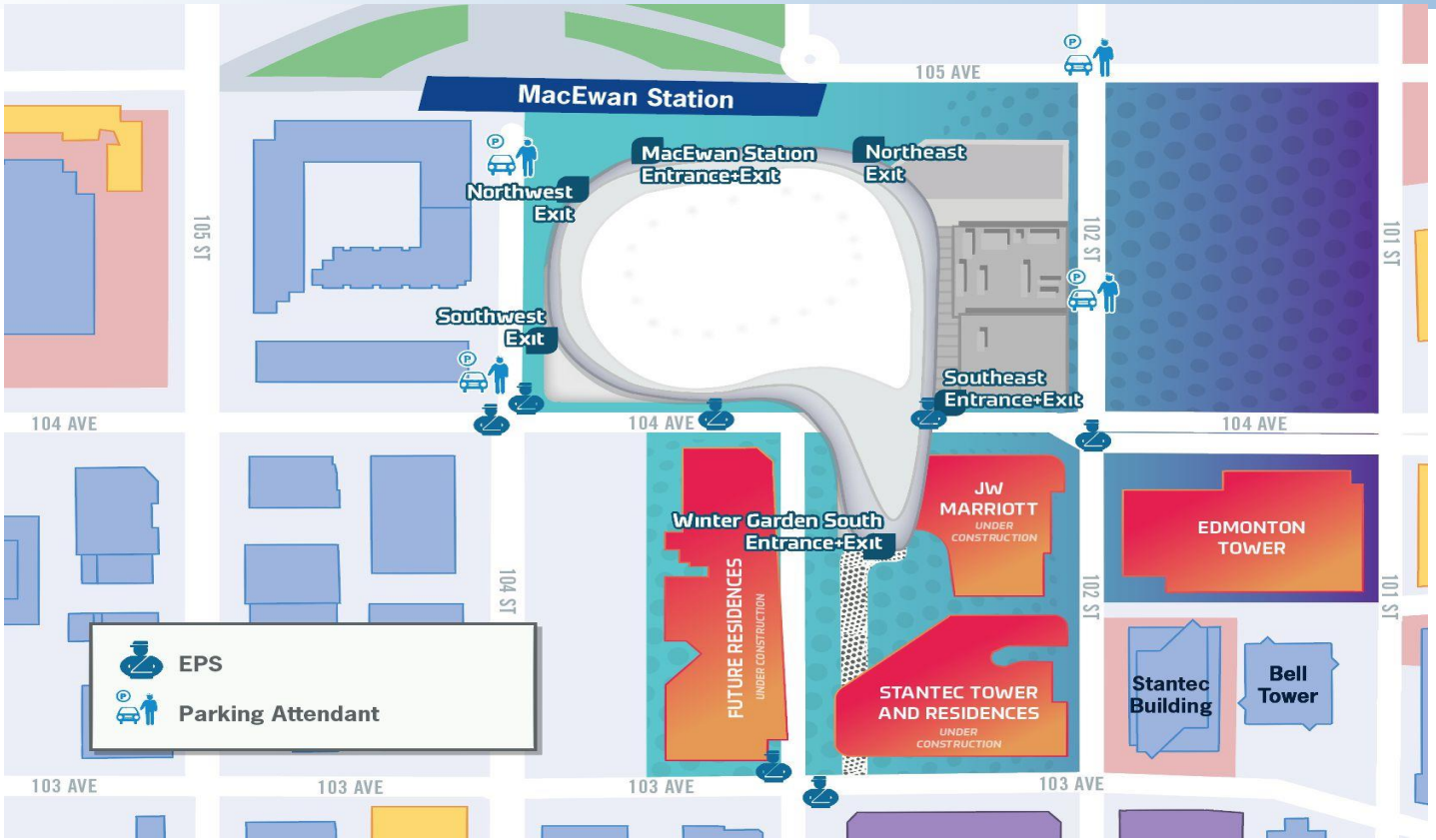
Truck Ingress and Egress Route to Arena Loading Dock



Road Closure, Lane Restriction, No Parking Plan



Support Staff Placement for Ingress and Egress



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Questions