

Appendix K : Kelowna International Airport Landside Redevelopment Plan



KELOWNA INTERNATIONAL AIRPORT
LANDSIDE DEVELOPMENT PLAN

AUGUST 30, 2016



LANDSIDE DEVELOPMENT PLAN

INTRODUCTION

The purpose of this planning study is to provide a Landside Master Plan for the Kelowna Airport. The preferred plans were created through a series of workshops and discussion with YLV. They define a general layout of the roadway system, parking lots, terminal curbside and the number of parking stalls needed for development to the year 2025.

Each item within this study is expected to be further developed in later works by YLV. This study utilizes the following documents as its primary reference material:

- YLV Traffic Study Report 2014 (MMM)
- YLV ATB Schematic Design Report 2010 (Dialog)
- YLV Airport Master Plan 2025 (c.2007InterVistas)

In consultation with the YLV Management, this study defines a series of planning parameters for use in the development of parking and roadway options. It also considers a variety of industry best practises, parking programs and related cost structures, future parking offers, lot usage and walking times/distances in the development of the landside concepts. The work herein is seen as part of the continuous development of specific business cases and implementation plans by YLV as they identify opportunities to diversify their parking offer and develop the parking lots/roadways. This report groups projects into one of two categories: Short Term Projects and Long Term Projects.

Recommendations

Over and above the physical aspects of the landside redevelopment plan itself, the study considered the impact to the parking business. As such, there are a series of recommendations that should be considered in greater detail within the future infrastructure design and the parking business model of the airport.

INFRASTRUCTURE

- Develop oversize vehicle parking areas within the various lots. The quantity and location of these stalls is not reviewed in this study;
- Removal of the meter parking at the terminal curb and the short term redevelopment of the curbside parking allocations in line with the long term vision.

PARKING BUSINESS MODEL

- Oversize vehicle stall management model to be considered and implemented. Management style range from active to passive enforcement of the stall use;
- Expansion of online parking services;
- Consideration of stall booking services within the online product; and
- Consideration of data driven services by the wants/needs of the passenger.

LANDSIDE DEVELOPMENT PLAN
**BACKGROUND MATERIAL
& PROJECT CONTEXT**

Parking Price vs. Distance

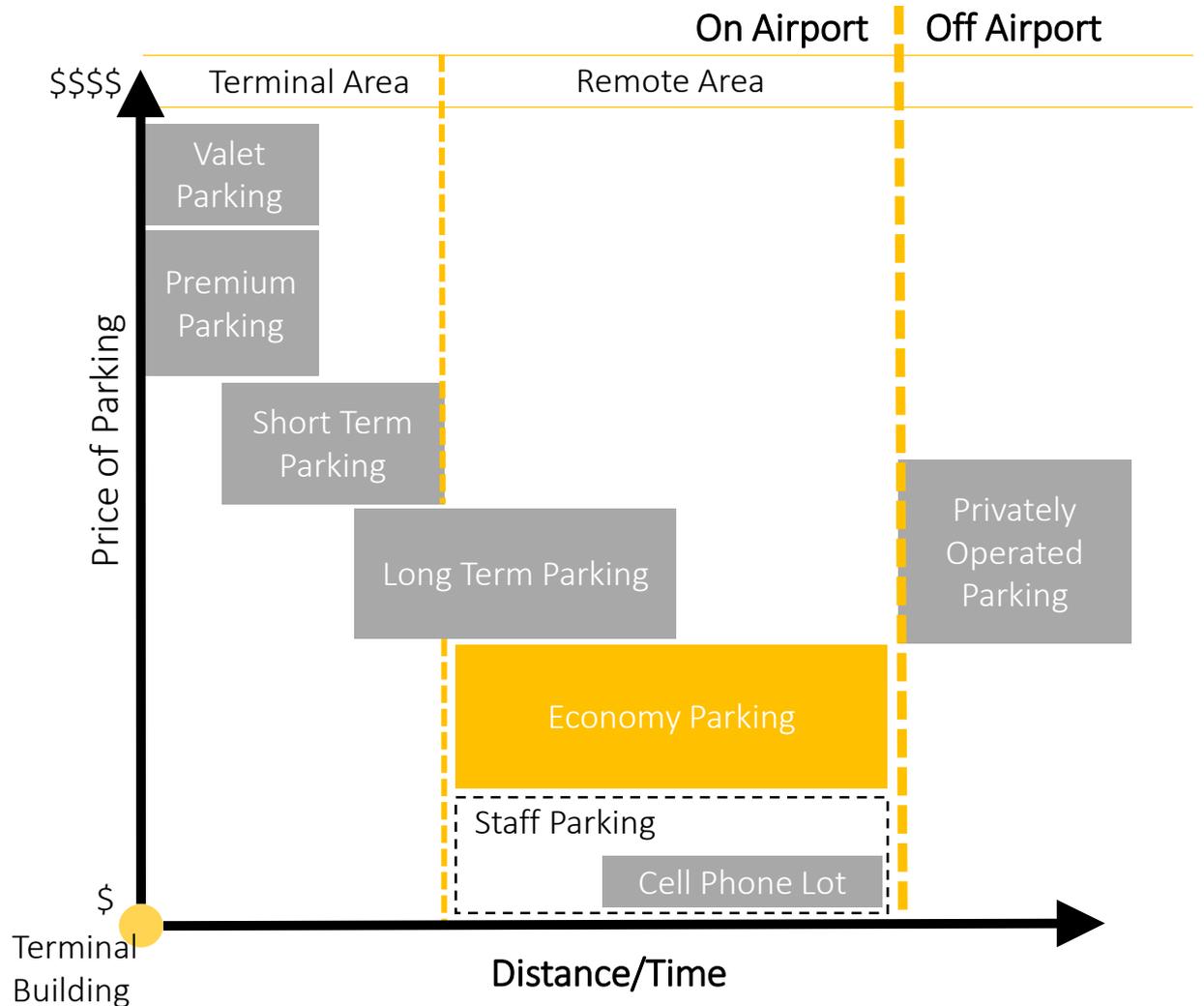
Airports generally offer parking via two products:

- Short-term; and
- Long-term.

Each is priced using a regressive strategy based on the length of stay.

Diversification of the parking offer considers the passenger's propensity to pay for proximity to the terminal (refer to image on the right). Product diversification should be carefully considered via business case development, demand/capacity assessments, pricing strategies, customer surveys and limited pilot programs to test the concept prior to a larger scale launch of a service.

The YLV parking system is flexible and will allow for a wide array of products to be explored with little infrastructure change. This places YLV in a positive position with respect to re-evaluating their parking offer.



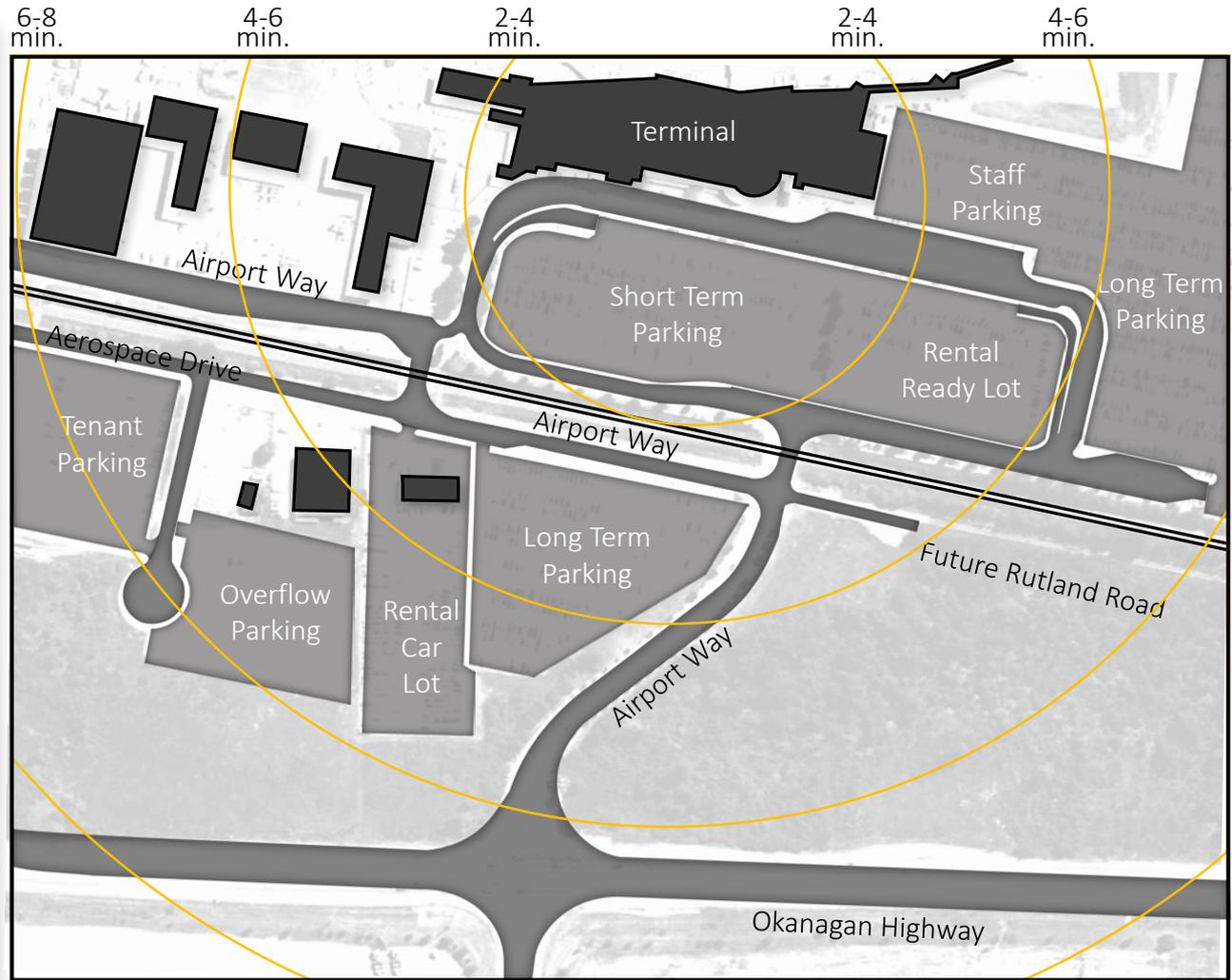
Walking Times

Utilizing similar planning assumptions of the walking speed of passengers within the terminal, we have allocated a range of walking times from the parking lots to the main entry points of the terminal building.

WALKING RATES
800mm/sec to 1m/s

This overlay allows for the passenger experience and parking products to be considered when defining the function and potential pricing for each lot. Proximity to the terminal generally equates a higher level of passenger experience and a higher parking fee.

As the airport grows, this overlay may assist in developing a commercial parking model that reflects the best mix of passenger experience and acceptable parking pricing.



Parking Standards

The existing parking standards at YLV were used throughout this study. More detailed planning work may require a review of the dimensions utilized within this study. Larger new vehicle sizes have caused other Canadian Airports to consider larger than average standard stall sizes in new parking lot developments. As a baseline, we have provided the existing parking standards that exist at the Kelowna Airport. The chart below compares typical minimum standards with current average stall dimensions in YLV's main lots. The short and long term lots have the same stall size with the aisle width being less in the short term lot than the long term lot.



Parking Standards	Typical Minimum Requirements	Existing Short & Long Term Lots
Stall Width	2.6 m	2.67 m
Stall Depth	5.8 m	5.64 m
Aisle Width	7.6 m	7.5 to 7.62 m

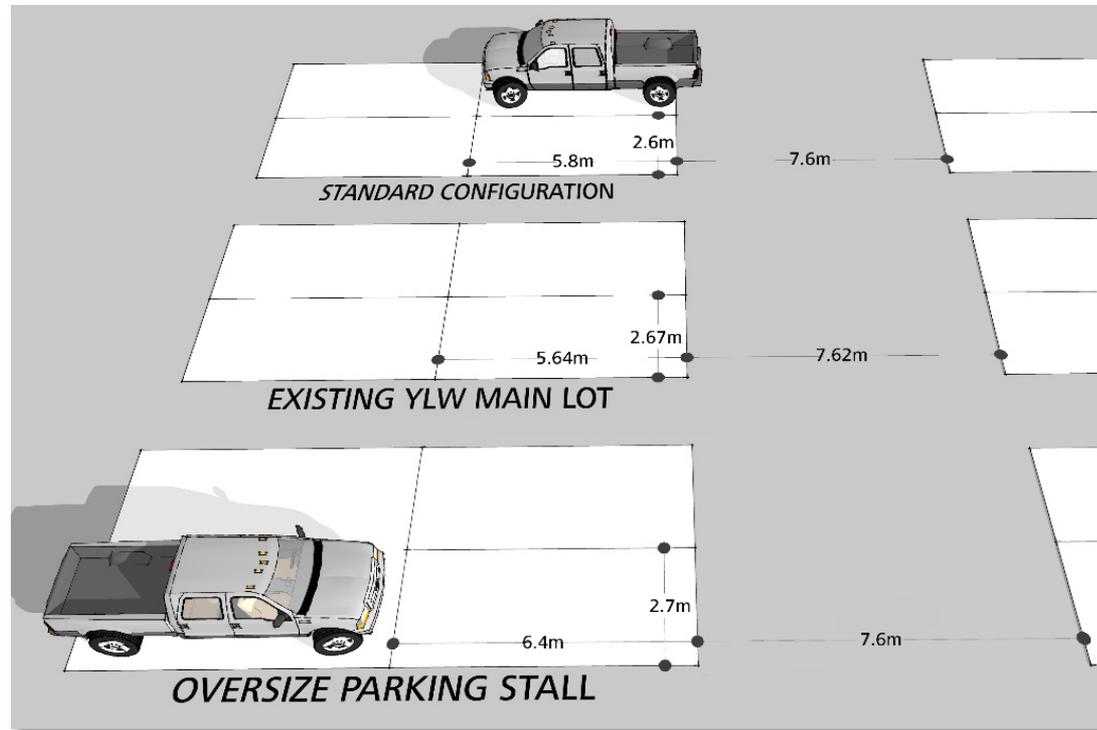
Parking Standards

Oversize parking stalls are allocated at many airports where there is a high degree of large vehicles such as pick-up trucks, vans or SUV's. Small motorhomes and similar type vehicles may also require consideration. The number, size and location of these stalls requires additional review and will need to be coordinated with the YLV parking management practices.

Airports vary in management of their parking lots from active to passive. Oversize stall is managed most often with signage which leads vehicles to dedicated areas. This is an example of a passive approach. An active approach involves surveillance and enforcement practices.

Lane width is also a consideration with a high degree of oversize vehicles.

The chart below compares typical minimum standards with oversize stall dimensions. It is anticipated that oversize stalls may be provided in both the short and long term lots.



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Stall Depth	5.8 m	5.64 m
Aisle Width	7.6 m	7.5 to 7.62 m

Industry Best Practice

Airports are creating “value-added services” that allow passengers and tenants to benefit from an increased level of service or choice in exchange for a fee. Diversification segments the parking product based on duration and cost of their stay. A comprehensive signage program is necessary to direct travellers to their desired parking product.

Public parking activities are a significant revenue source of the airport. As such, any development initiative should be assessed against a base case scenario associated with maintaining the car parking facilities as they stand. The existing public parking spaces at YLV (2245 short and long term stalls combined) have a theoretical maximum daily or annual revenue. An annual baseline estimate provides one method to evaluate parking performance, multiple parking options, and can serve to balance lot segregation against lot utilization in an effort to maximize each lot’s revenue potential.

The planning work undertaken in this study did not address the commercial model at YLV directly. However, some of the commercial aspects of the existing and anticipated future operations in developing parking concepts and the preferred option were considered. A more in-depth study is required to fully realize the commercial opportunities that are possible within the YLV parking program.

The following best practise items were reviewed with YLV through this planning exercise and may form part of a future business plan on the parking services at the airport:

Parking Services by:

- Duration
- Maximum charge by duration
- Proximity to terminal
- Data driven parking services

Parking Service by Product

Offering:

- Short Term (ST)
- Long Term (LT)
- Valet Parking
- Staff Parking
- Reserved Permit

Other Existing Parking Services:

- Shuttle Service

Possible Future Services:

- Park and Fly
- Express Covered Parking
- Premium Parking
- VIP Parking
- Remote Check-In/Baggage Drop
- Covered Rental Ready Lot
- Online Parking
- Cell Phone Lot

Industry Best Practice

Airport Web Site

Airports are widely utilizing their web sites to:

- communicate with airport users
- offer access to special parking programs
- offer time sensitive promotions
- provide parking rates, contact numbers, maps and other items to enhance the passenger experience

A short listing of airport web sites are listed below, providing examples of different ways in which an airport explains their parking offer:

- Dublin Airport - <http://www.dublinairport.com>
- Schiphol Airport - <http://www.schiphol.nl/>
- Cincinnati Airport - <http://www.cvgairport.com/park/options>

In general larger airports worldwide offer a wider variety and a more complex parking product line, however passengers are increasingly more familiar to accessing parking web pages for information and bookings.

Data Driven Parking Products

In particular, Dublin Airport is using passenger data to define and organize parking products. Through the use of frequent traveller vehicle ID and real time analysis of parking stall use, Dublin Airport is offering a variety of products and offerings that align to the needs of their passengers (refer to their platinum service on the web site above for more detail).

Airport Product Offering

There are a number of unique programs and offers that are being promoted at airports around the globe. Below is a listing of items for YLOW to consider within their planning for diversifying or promoting airport parking:

- Frequent flyer discounts or programs
 - Airport frequent flyer program
- Additional services (special assistance, bicycles, etc.)
- Online booking discounts
- Business product offerings
- Parking cost estimator
- Parking stall availability

It should be noted that not all of the industry best practice technologies, offers, or programs will be directly applicable to YLOW. Each initiative will need to be assessed on its own merit to determine its fit with YLOW's infrastructure, passenger needs and weather conditions.

Car Rental Facility - Requirements

A previous report by MMM identified the rental car parking demand as follows:

	Budget	Avis	National	Enterprise
Ready Lot	44	20	27	22
Remote Lot	120	60	80	56

Based on a review of a sample of rental-days transactions and the baseline passenger traffic growth forecasts from the 2025 Kelowna International Airport Master Plan, the following projected ready lot and maintenance remote parking requirements combined for all operators was identified as follows:

Year	Ready Lot Parking	Maintenance / Remote Parking
2015	160	280
2020	190	350
2025	230	420

While these requirements should be vetted by car rental companies, they form the baseline of our review for the time being.



Parking Lot Demand Forecast

	Existing Capacity	2015 Demand	2025 Demand	Capacity Change
*Staff Lot	(integrated with Long Term Parking)	100	196	create dedicated staff parking with 196 stalls
Rental Ready Lot	230	160	230	none
Rental Staging/storage	300	280	420	add 120 stalls
*Short Term PAX	345	220	320	subtract 25 stalls (negligible)
*Long Term PAX	1,900	1,230	2,411	add 855 stalls
*Admin. Lot	54	54	75	add 21 stalls (negligible)
TOTAL	2829	2,044	3,652	

This Table assumes that staff parking will be separated from long term parking in the future

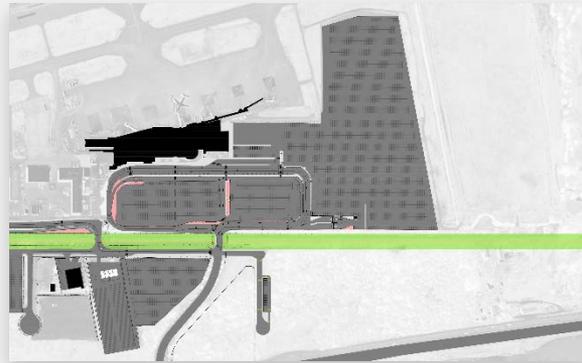
*Based on the MMM Group Traffic Report from Sept. 2014 and utilizes a 1.96 growth factor for design year 2025

LANDSIDE DEVELOPMENT PLAN PREFERRED CONCEPT

Overview of Future Projects



EXISTING
2015



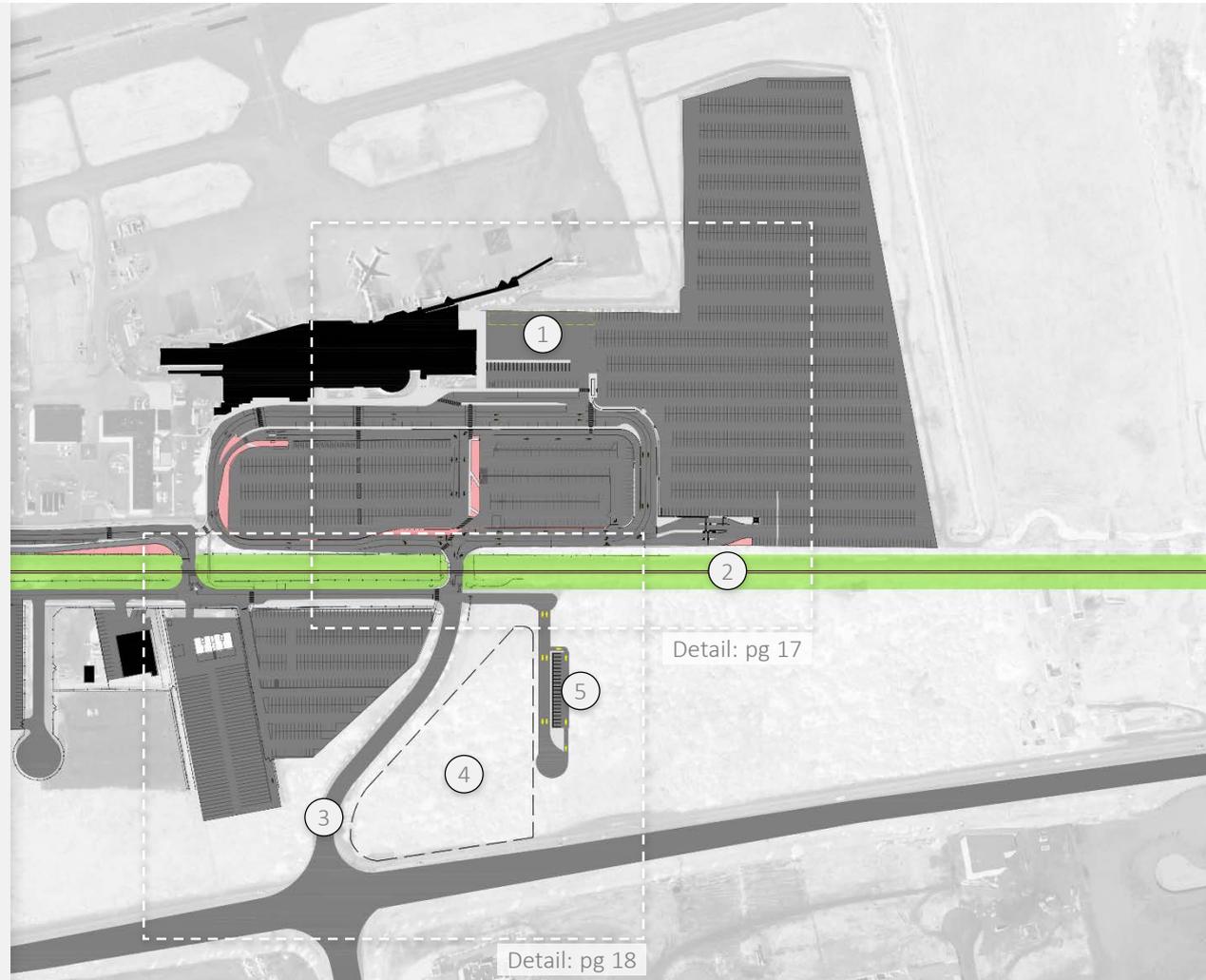
SHORT TERM PROJECTS
2016-2020



LONG TERM PROJECTS
2020-2025+

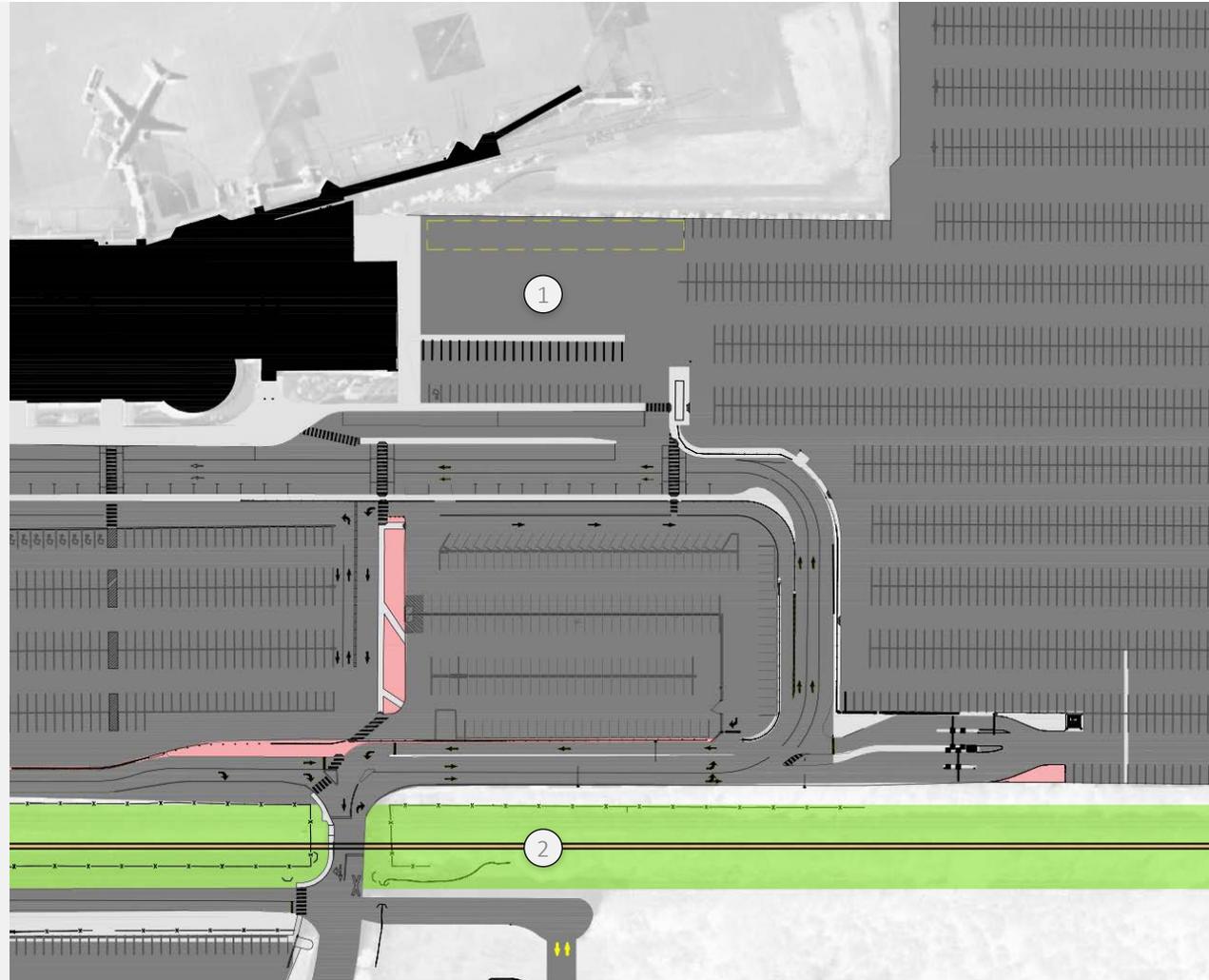
Short Term Projects: 2016-2020

1. Develop Temporary Terminal Shipping & Receiving
2. Recreational Greenway (by others)
3. Develop Airport way (including the addition of extra lanes and left-hand turning lanes onto Hwy 97)
4. Royal Star Plaza (by others)
5. Cell Phone Lot



Short Term Projects: 2016-2020

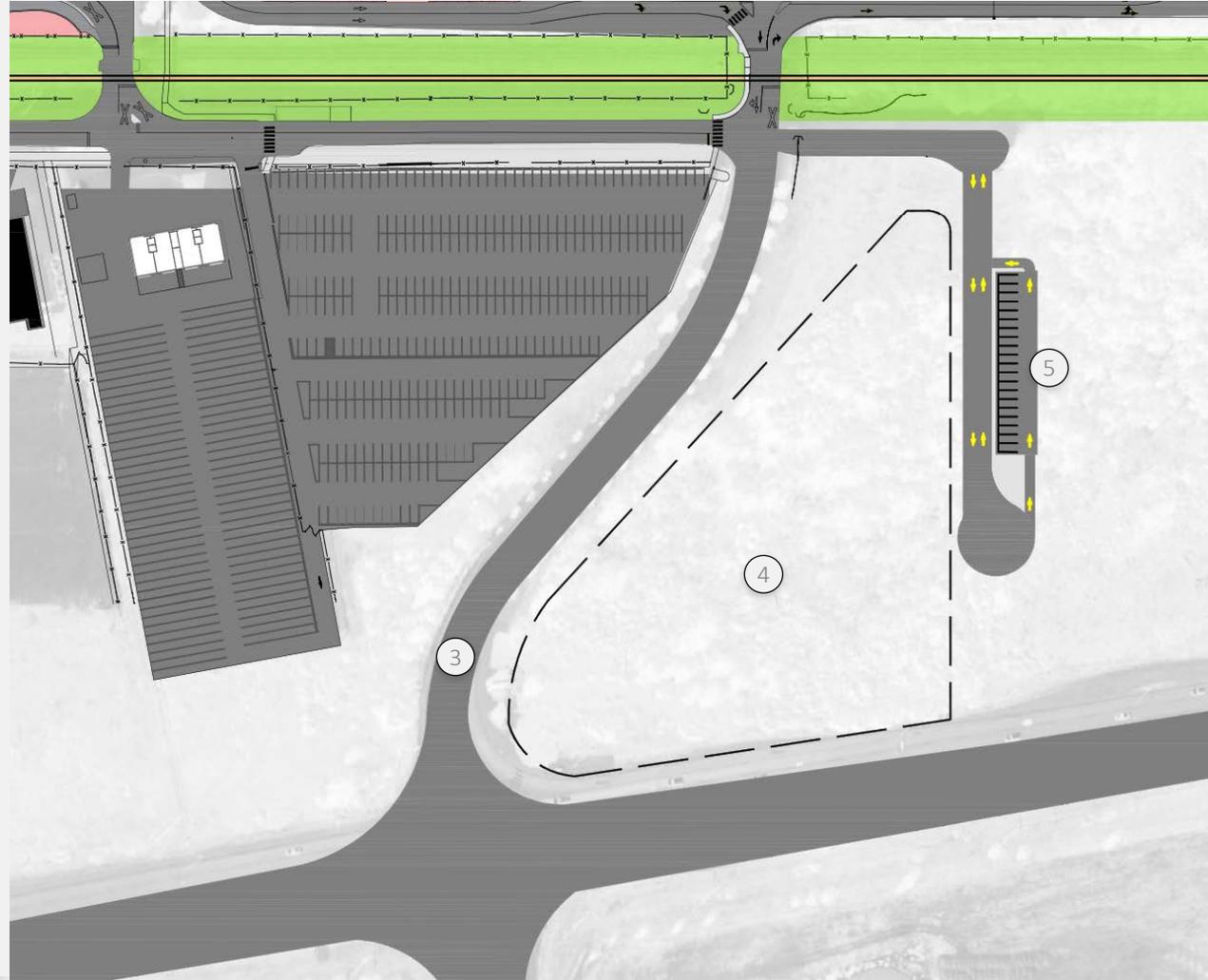
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*See page 16 for Context

Short Term Projects: 2016-2020

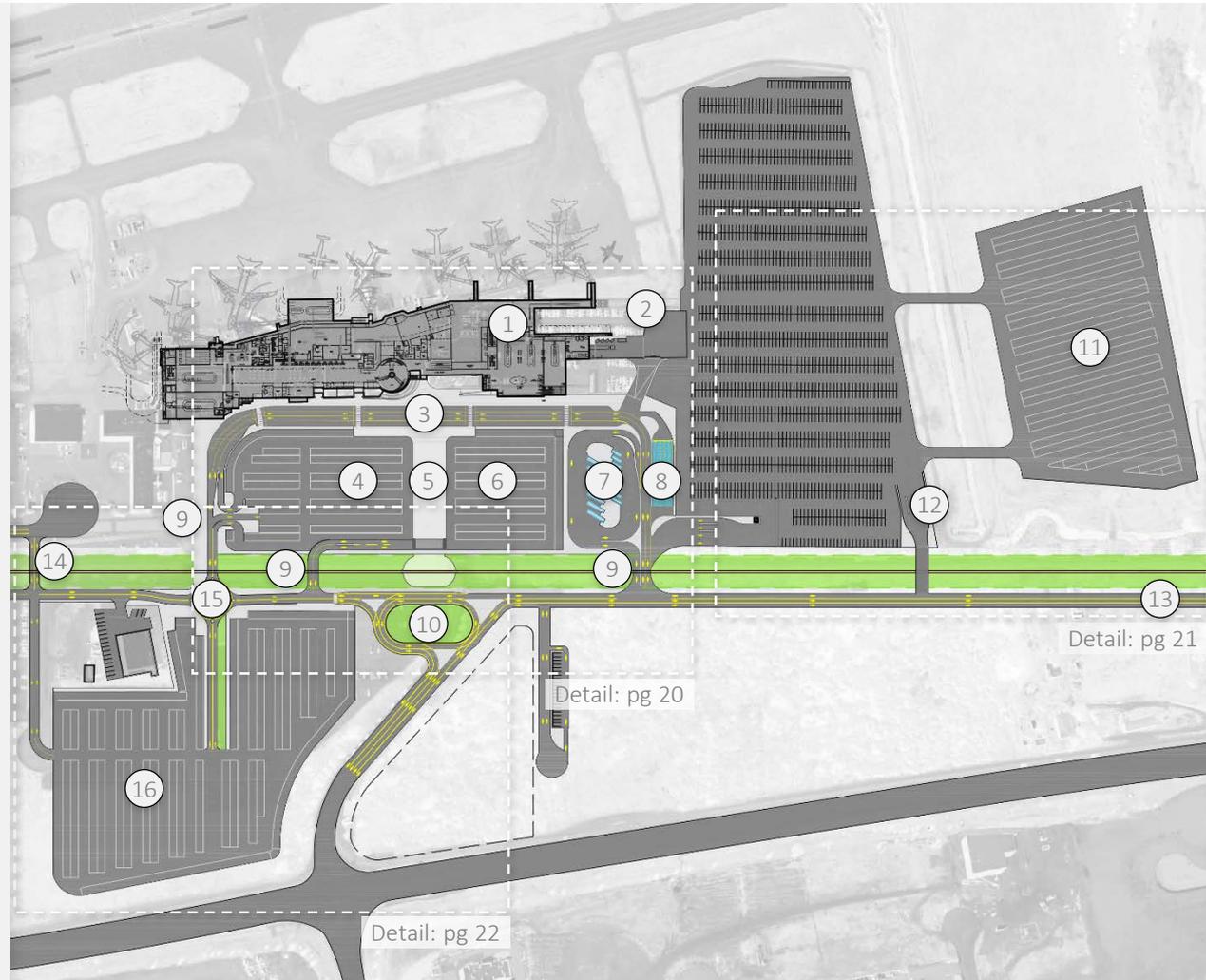
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Long Term Projects: 2020-2025+

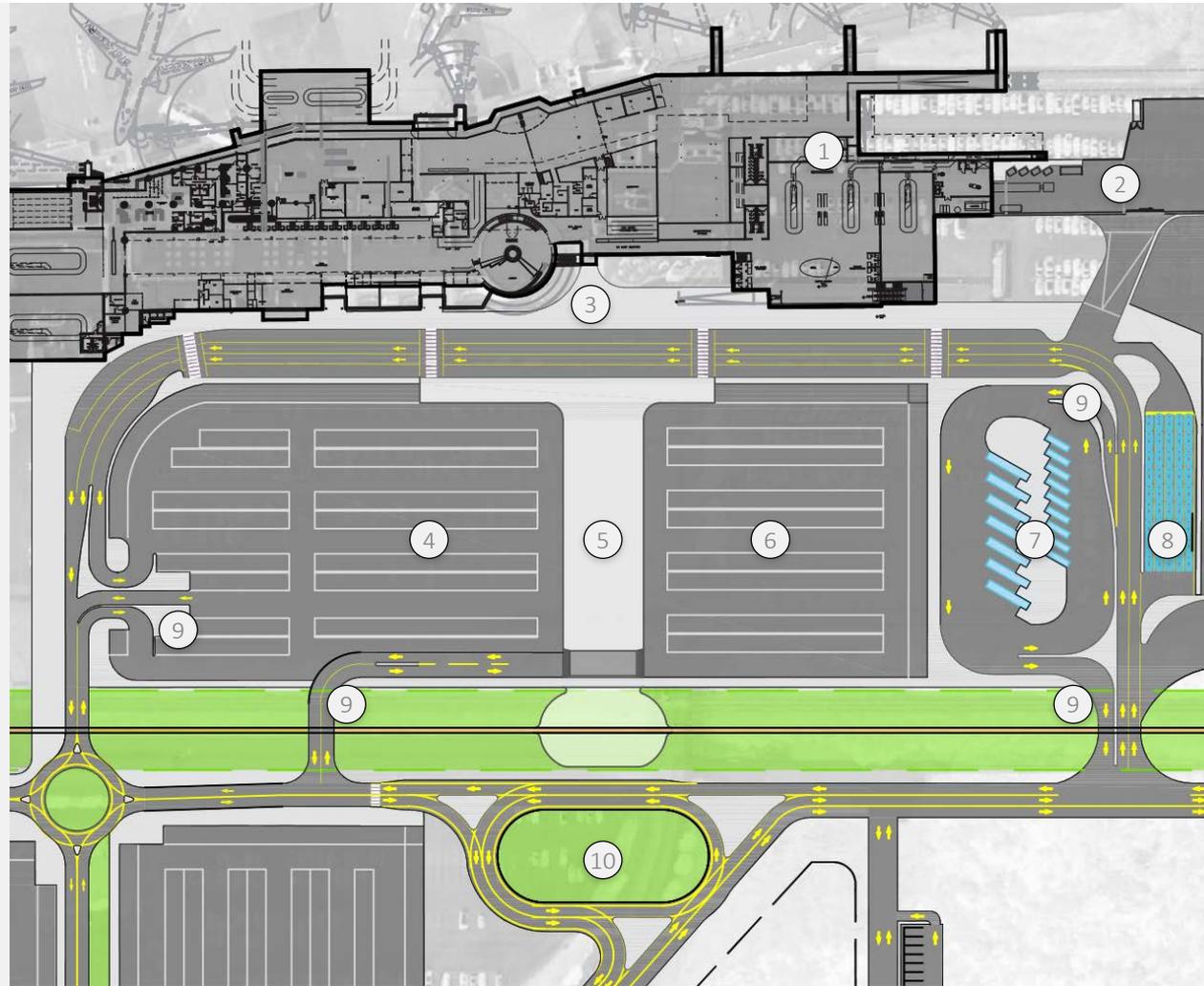
1. South Terminal Expansion (By Others)
2. Develop Terminal Shipping & Receiving
3. Reconfigure Terminal Curb
4. Premium Lot Development
5. Pedestrian Plaza
6. Rental Car Ready Lot Development
7. Bus and Shuttle Lot Development
8. Taxi Rank expanded to 45 spaces
9. Develop Entrances and exits to each of the 3 Lots (Premium, Rental Car, Bus & Shuttle)
10. Primary Roundabout (MMM will alter to an intersection)
11. Long Term Parking Lot Expansion (Aligned with SNC-Lavalin's Master Plan Concept)
12. Long Term Parking Exit Plaza Development
13. Rutland Road Extension (By Others)
14. Reconfigure connection between Airport Way and Aerospace Drive (parallel roads) to align with Convair Place
15. Secondary Roundabout
16. Development of Short Term/Tenant & Staff Parking Lot
17. Remote QTA (referenced, but not shown in this document)



PREFERRED CONCEPT

Long Term Projects: 2020-2025+

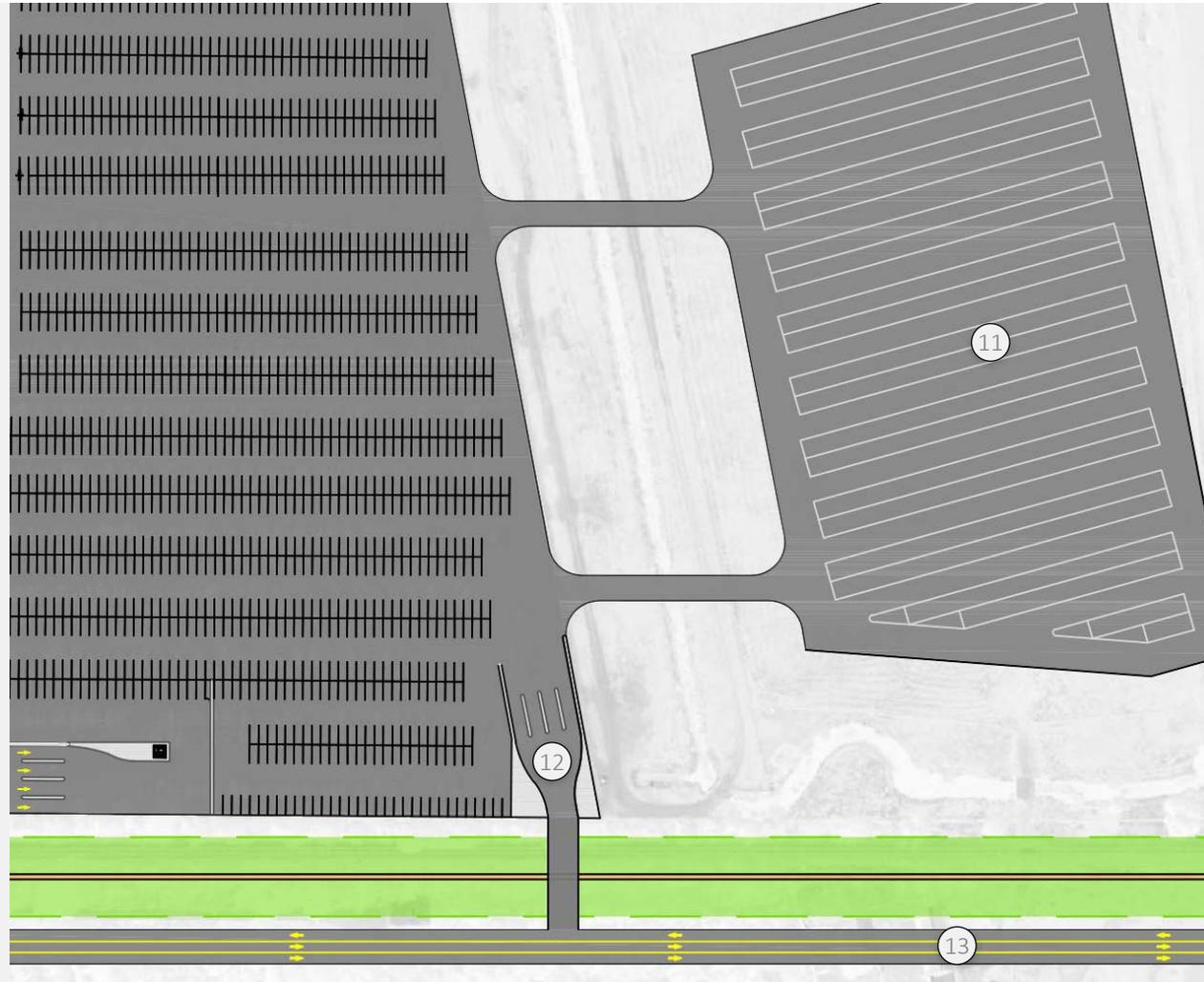
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Long Term Projects: 2020-2025+

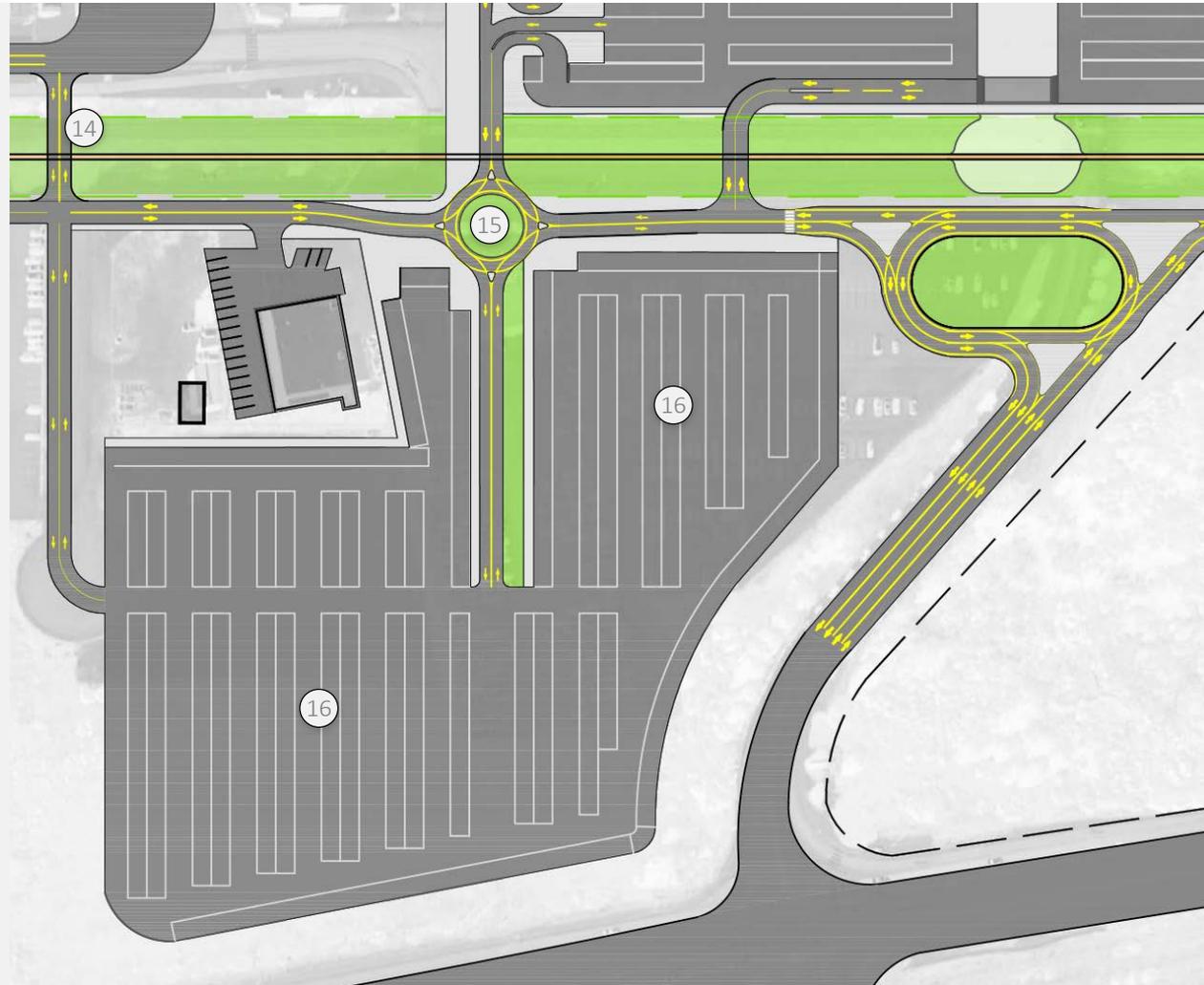
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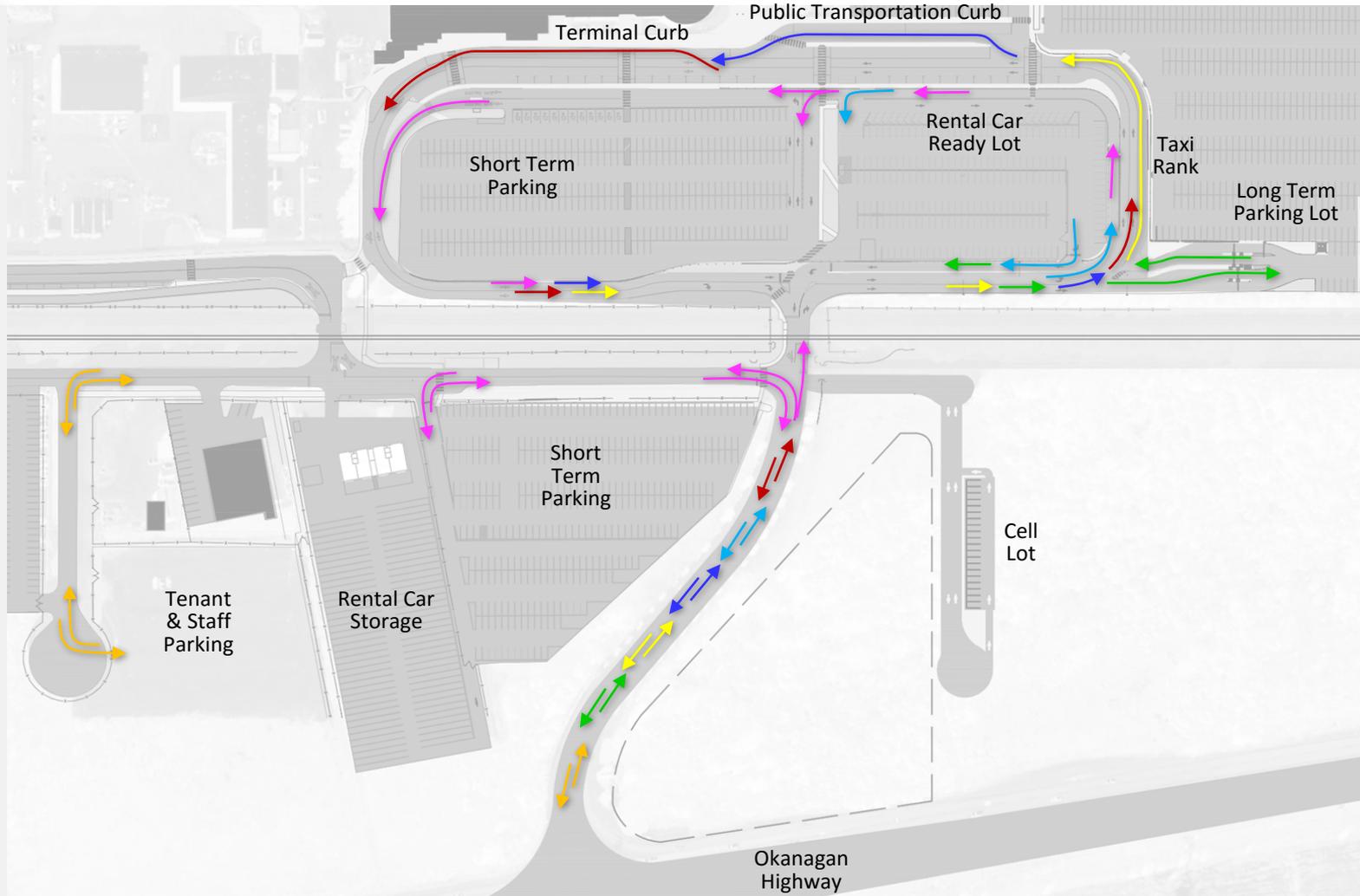


See page 19 for Context

LANDSIDE DEVELOPMENT PLAN

PASSENGER FLOWS

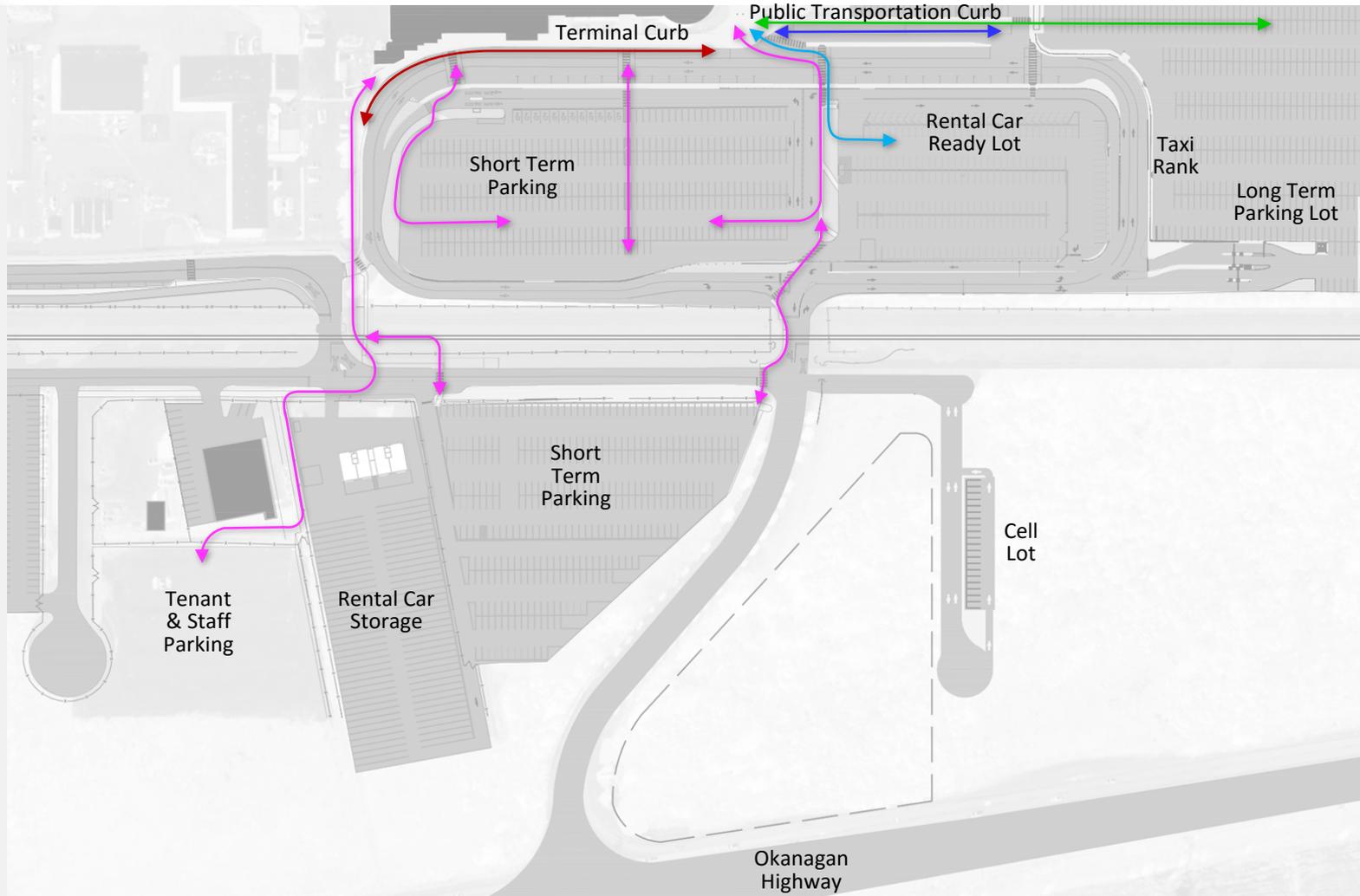
Short Term Vehicle Flows



LEGEND

- PAX Pickup/Dropoff
- Car Rentals
- Taxis
- Public Transportation
- Short term Lot
- Long term Lot
- Staff Lot

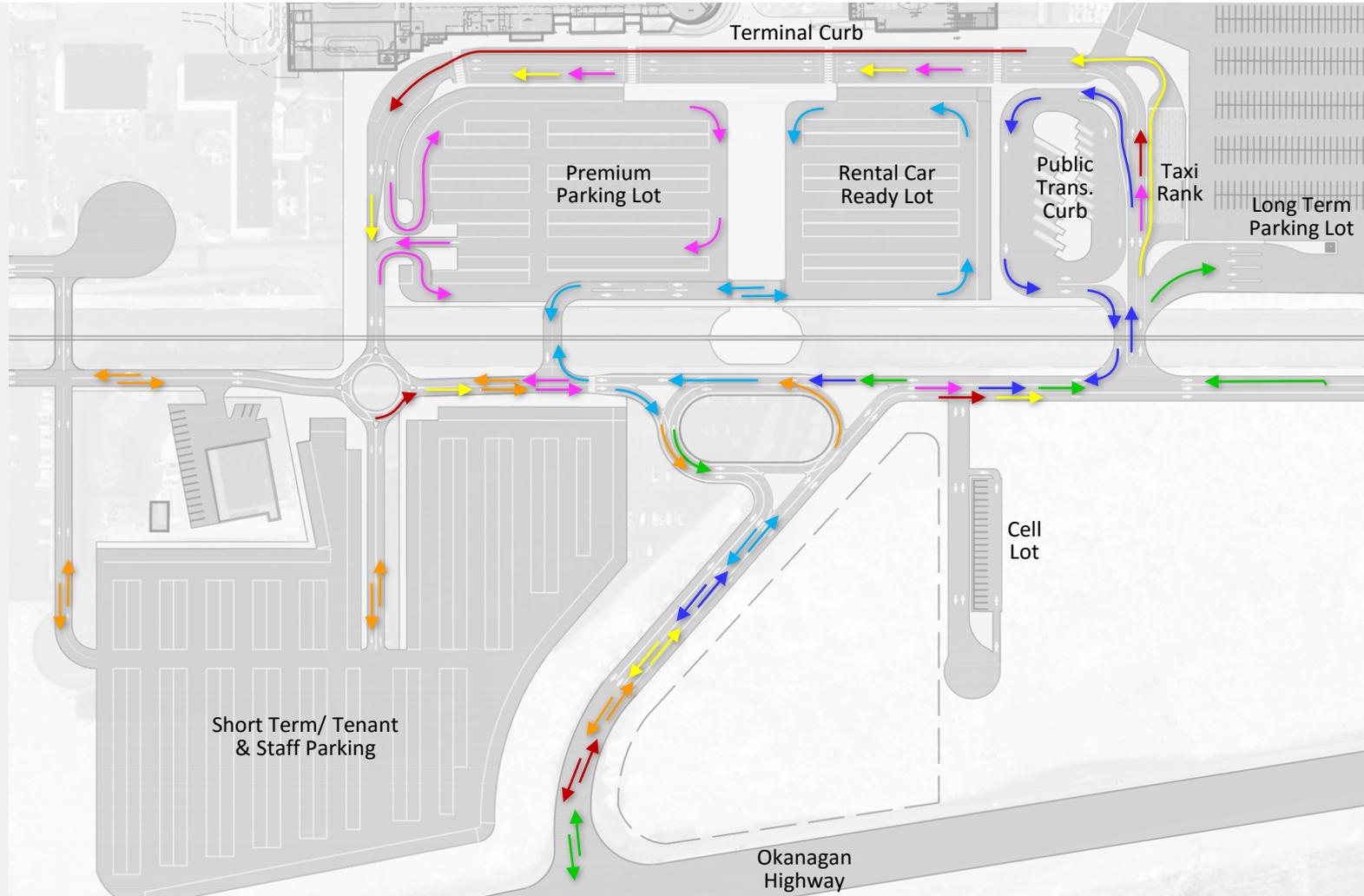
Short Term Pedestrian Flows



LEGEND

- Pickup/Dropoff/Taxi 
- Car Renters 
- Public Transportation 
- Short term / Staff Lot 
- Long term Lot 

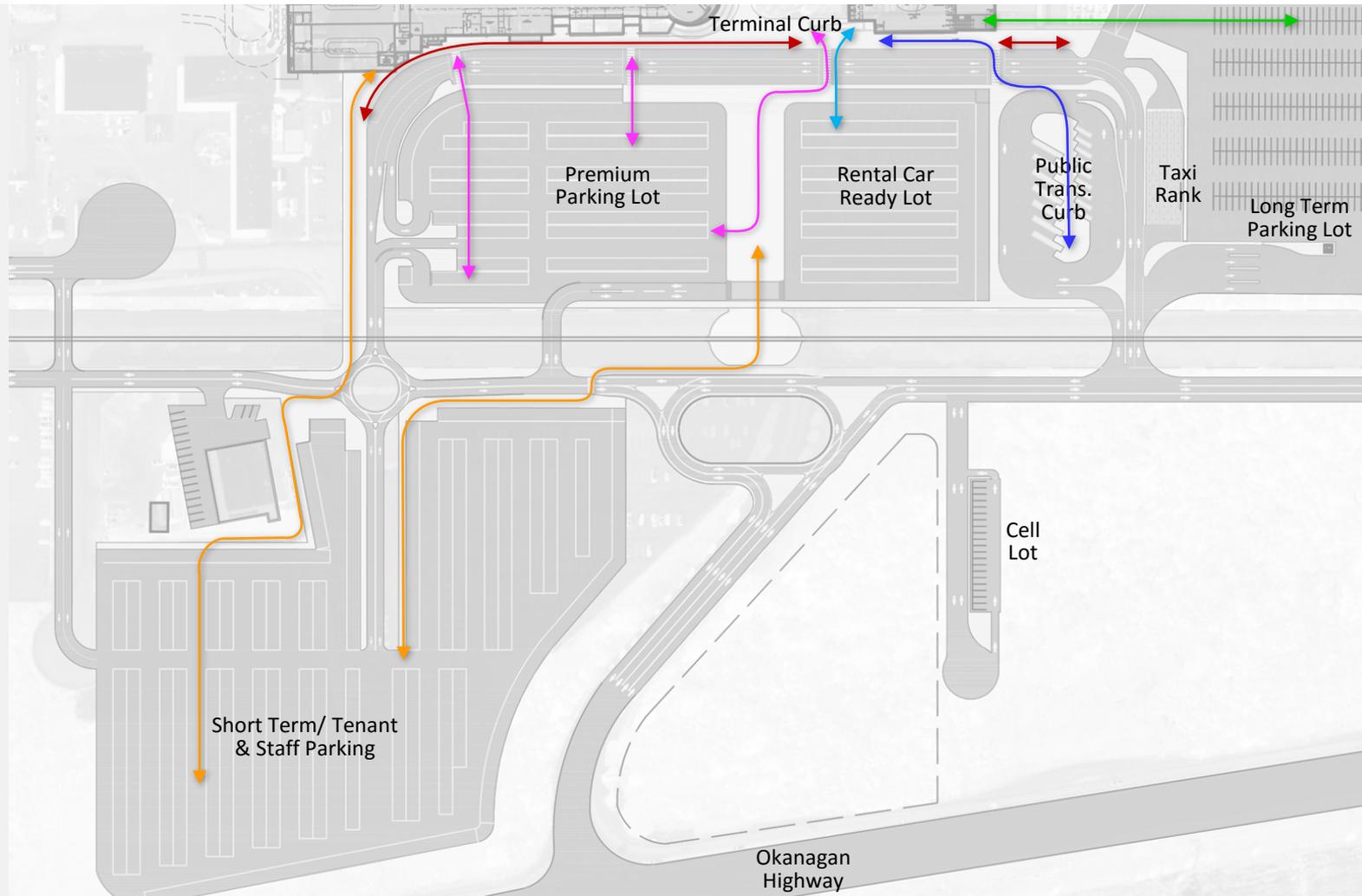
Long Term Vehicle Flows



LEGEND

- PAX Pickup/Dropoff
- Car Rentals
- Taxis
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- Premium Lot
- Long term Lot
- Short Term/Staff Lot

Long Term Pedestrian Flows



LEGEND

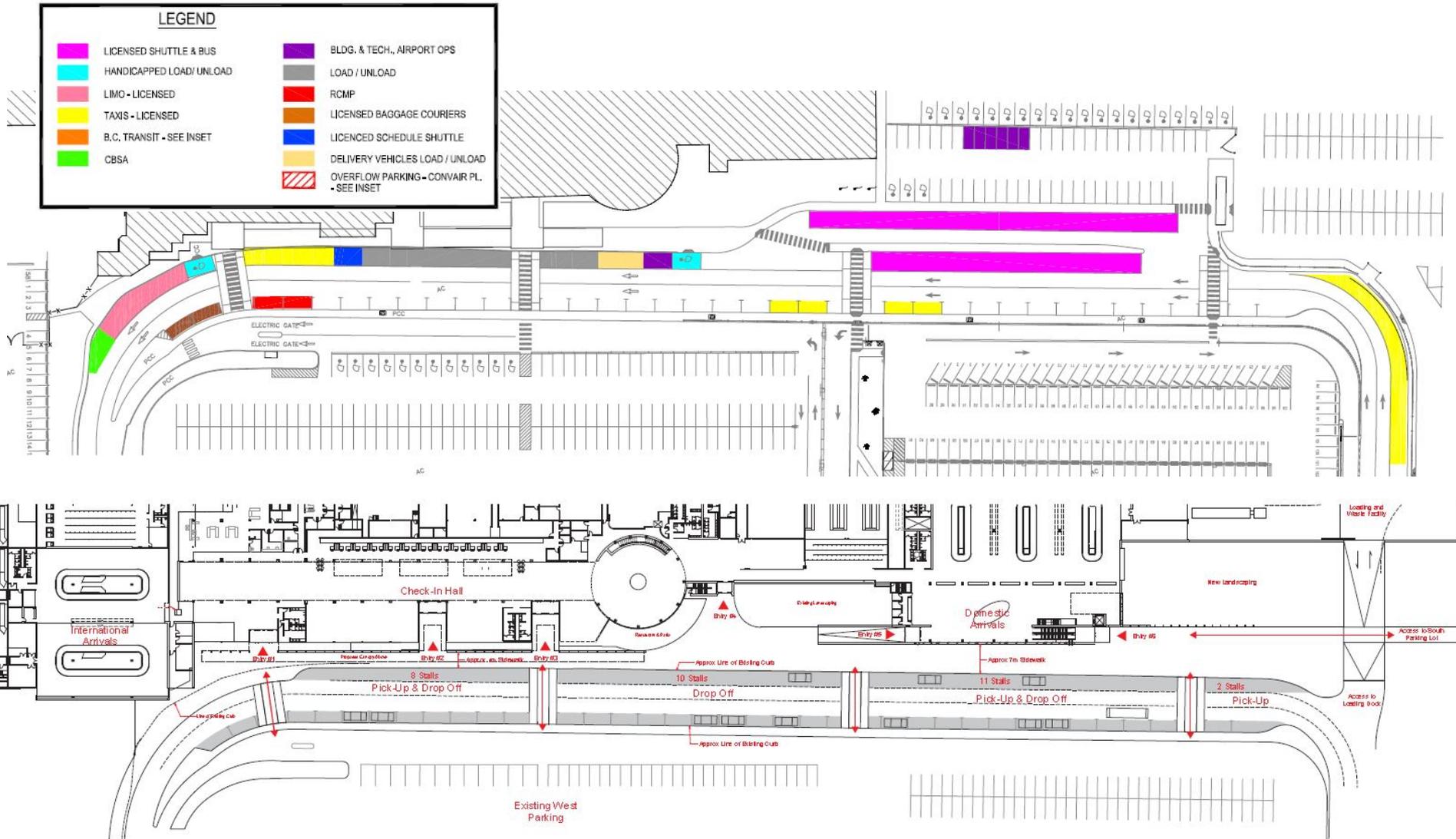
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- Car Renters 
- Public Transportation 
- Short term / Staff Lot 
- Long term Lot 
- Premium Lot 

LANDSIDE DEVELOPMENT PLAN

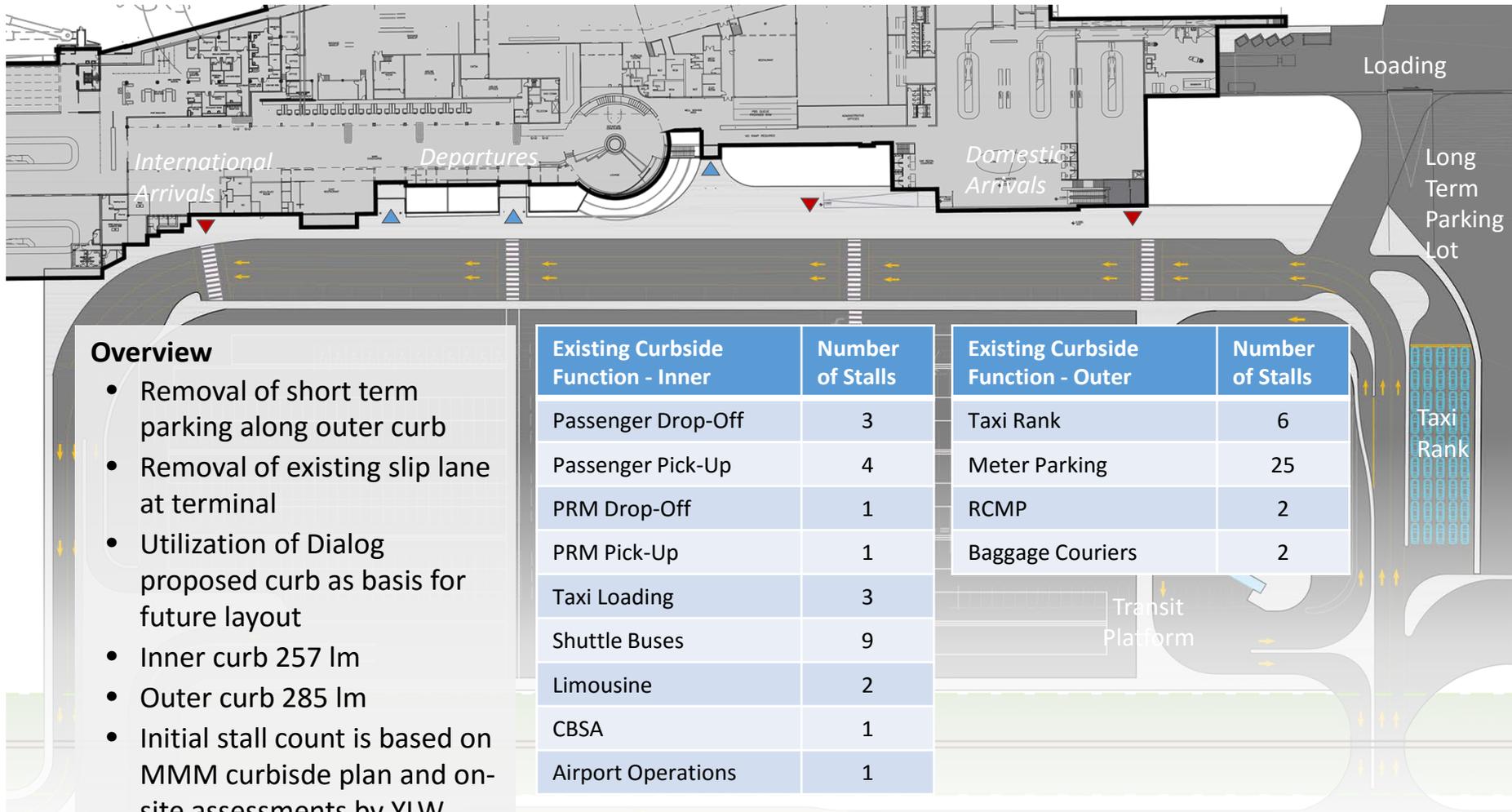
CURBSIDE PLANNING

CURBSIDE PLANNING

Existing Curb Detail



Planning Assumptions

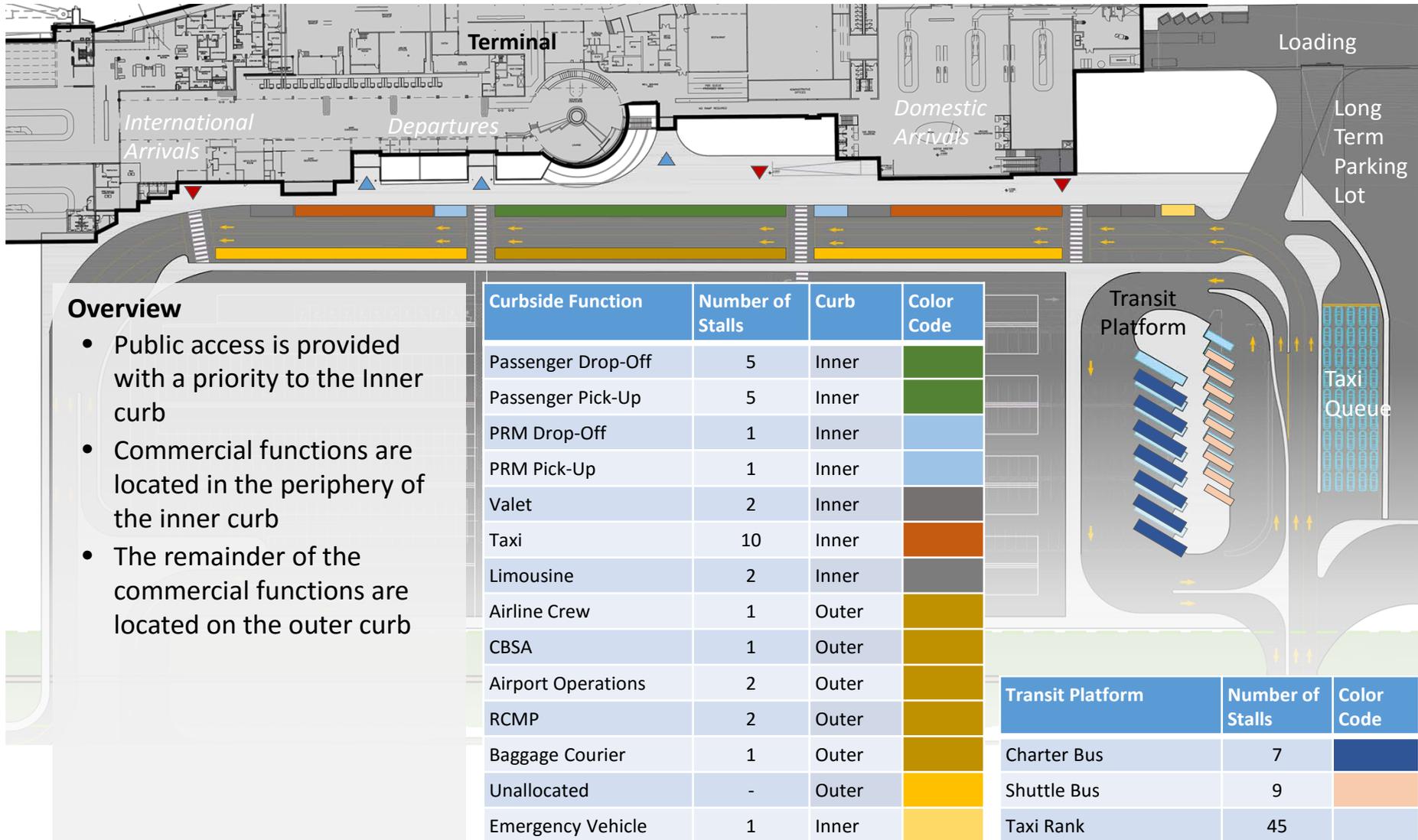


Overview

- Removal of short term parking along outer curb
- Removal of existing slip lane at terminal
- Utilization of Dialog proposed curb as basis for future layout
- Inner curb 257 lm
- Outer curb 285 lm
- Initial stall count is based on MMM curbside plan and on-site assessments by YLW

Existing Curbside Function - Inner	Number of Stalls	Existing Curbside Function - Outer	Number of Stalls
Passenger Drop-Off	3	Taxi Rank	6
Passenger Pick-Up	4	Meter Parking	25
PRM Drop-Off	1	RCMP	2
PRM Pick-Up	1	Baggage Couriers	2
Taxi Loading	3		
Shuttle Buses	9		
Limousine	2		
CBSA	1		
Airport Operations	1		

Preferred Option (Long Term Vision)



Overview

- Public access is provided with a priority to the Inner curb
- Commercial functions are located in the periphery of the inner curb
- The remainder of the commercial functions are located on the outer curb

Curbside Function	Number of Stalls	Curb	Color Code
Passenger Drop-Off	5	Inner	Green
Passenger Pick-Up	5	Inner	Green
PRM Drop-Off	1	Inner	Light Blue
PRM Pick-Up	1	Inner	Light Blue
Valet	2	Inner	Grey
Taxi	10	Inner	Orange
Limousine	2	Inner	Grey
Airline Crew	1	Outer	Yellow-Gold
CBSA	1	Outer	Yellow-Gold
Airport Operations	2	Outer	Yellow-Gold
RCMP	2	Outer	Yellow-Gold
Baggage Courier	1	Outer	Yellow-Gold
Unallocated	-	Outer	Yellow-Gold
Emergency Vehicle	1	Inner	Yellow-Gold

Transit Platform	Number of Stalls	Color Code
Charter Bus	7	Dark Blue
Shuttle Bus	9	Light Orange
Taxi Rank	45	Light Blue

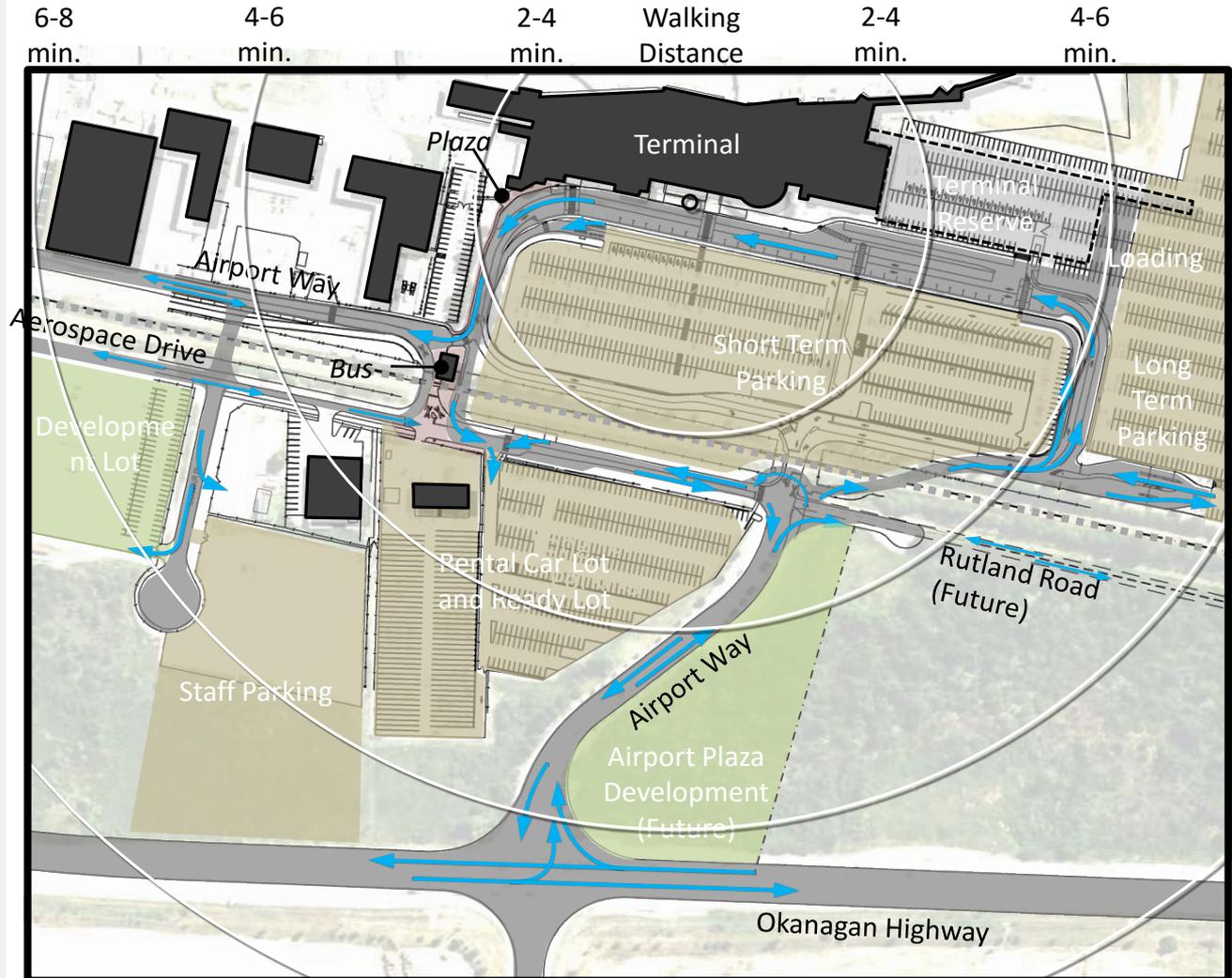
LANDSIDE DEVELOPMENT PLAN

APPENDIX: OPTIONS

Option 1: Traffic Circle

Overview

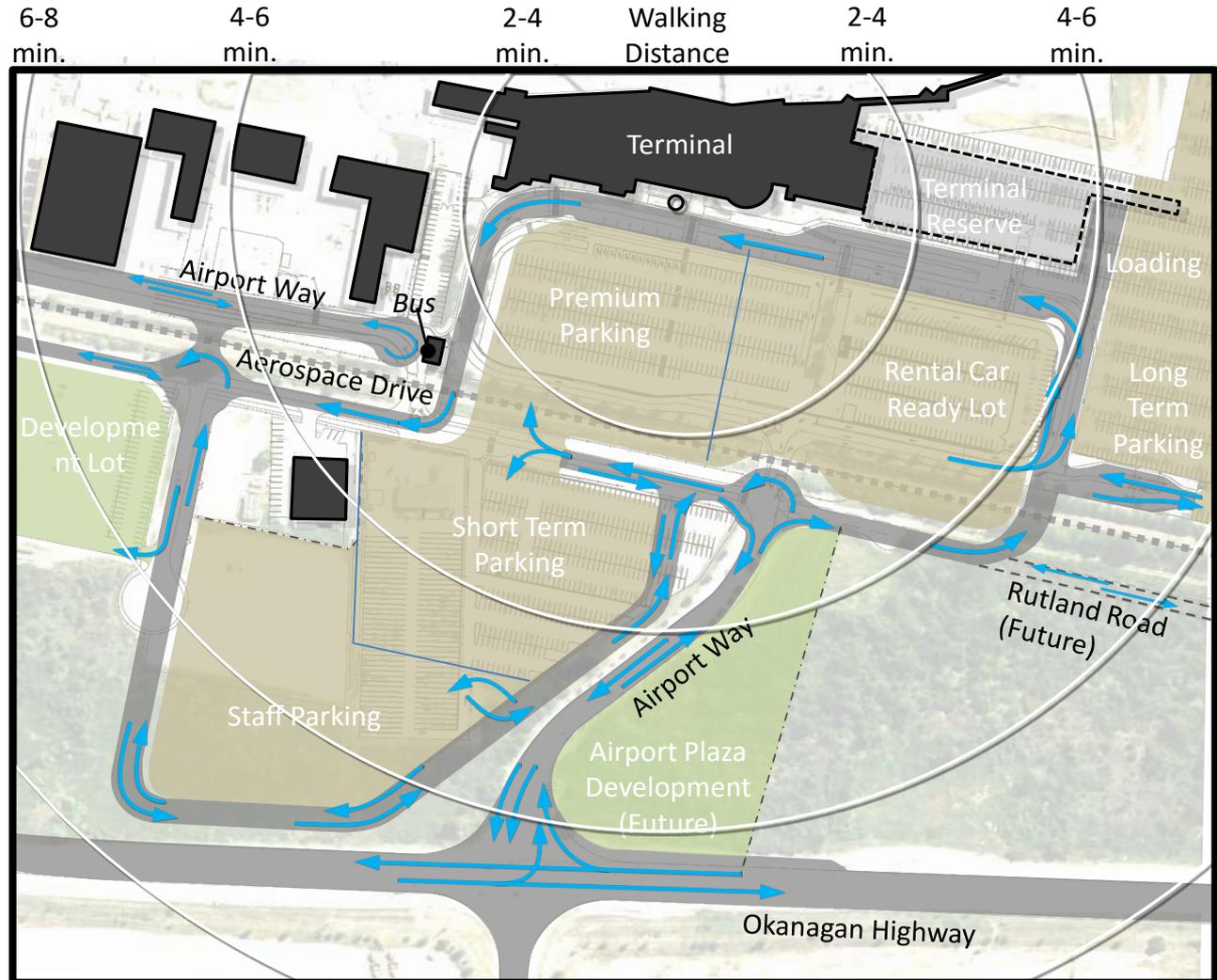
- Expansion of short-term parking lot
- Relocation of the rental car ready lot
- Remove rental car flows from the main traffic flow and allow for a single point of service at their current building location
- Introduction of a central traffic circle on Airport Way to improve traffic flows
- Municipal bus would access/exit the airport campus from Old Vernon Road
- Creation of a staff parking lot



Option 2: Expanded Perimeter Road

Overview

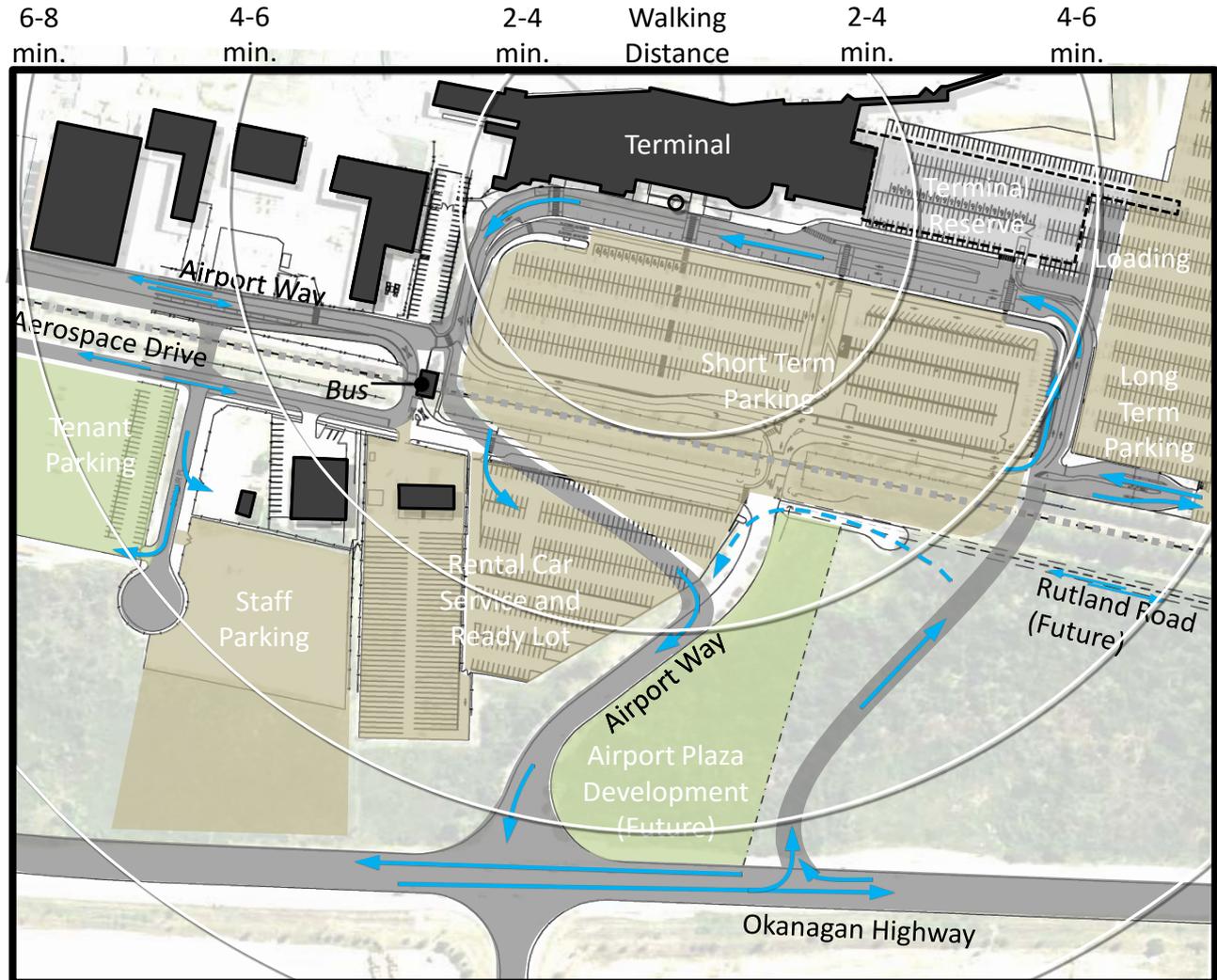
- The existing short-term parking lot to become a premium and rental car-ready lot
- The existing long-term and adjacent overflow parking lots to become a short-term and staff parking lots
- Introduction of traffic circles on Airport Way and Aerospace Drive to improve traffic flows
- Elimination of non-essential roads provides efficient traffic flows
- Creation of a perimeter roadway allowing for bypassing of the terminal area
- Rental car service incorporated into long term lot



Option 3: Loop Road

Overview

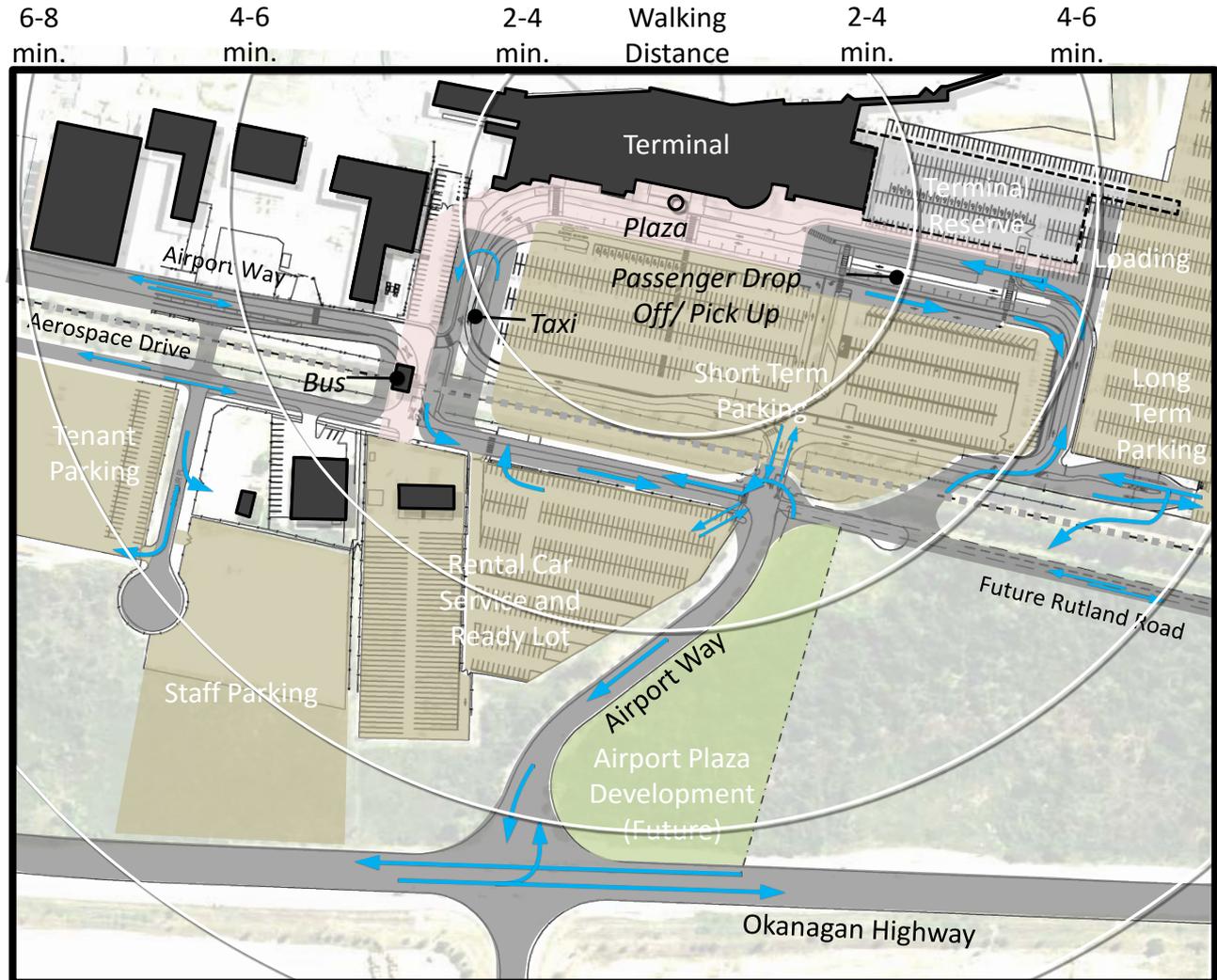
- Expansion of short-term parking lot
- Introduction of traffic circles on Airport Way to improve traffic flows
- New access road to the terminal separates the inbound and outbound traffic into a one way flow from Highway 97. Traffic study would be required to separate entry and exit flows
- Municipal bus would access/exit the airport campus from Old Vernon Road/Airport Way
- Car rental access via Old Vernon Road or via loop bypass. Options exist for review



Option 4: Pedestrian Plaza

Overview

- Expansion of short-term parking lot
- Introduction of traffic circle on Airport Way to improve traffic flows
- Development of pedestrian plaza that allows for passenger, taxi, car rental, public bus staff and short term parking to be accessed without crossing an active roadway
- Pedestrian Plaza developed as public forecourt to the airport
- Municipal bus access/exit via Old Vernon Road/Airport Way



Initial Preferred Option

Overview

- Compilation of preferred ideas from earlier concepts
- Inclusion of Dialog proposed bus and loading areas that aligns to the terminal expansion program
- Proposed location for future parkade
- Identification of Royal Star Plaza development
- Introduction of recreation corridor right of way and pedestrian crossings

