

CHAPTER 4: ALTERNATIVES

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4.1 INTRODUCTION

Several alternatives were developed and evaluated based on their capability to meet the facility requirements as well as the goals for the MSP LTCP Update set forth by the Metropolitan Airport Commission. There are three components to the alternatives development and evaluation process:

1. Develop broad concepts for facility improvements
2. Evaluate and refine the concepts
3. Establish and select alternatives for development

Though it is typical for an airport master plan to provide a series of broad concepts for airport development, the nature of the LTCP Update was to focus on key facilities at MSP and develop concepts that would resolve existing and forecast facility deficiencies. The specific facilities with existing deficiencies and forecast deficiencies were identified through an assessment of known issues and the facility requirements evaluation presented in Chapter 3.

Facilities were evaluated and concepts were developed by a planning team of subject matter experts in the areas of airfield facilities, terminal facilities, ground transportation facilities, and airport support facilities. The planning team worked through these challenges in concert with one another so that each concept would, ideally, complement the others and a cohesive plan for MSP could be realized. Additionally, the elements of this LTCP Update will incorporate sustainable airport development practices whenever feasible. The MAC will use its Stewards of Tomorrow's Airport Resources program to focus on developing and exploring new and innovative opportunities that will allow the airport to meet the needs of the present without compromising the ability of future generations to meet their own needs. By focusing on sustainable solutions, MSP will be able to address long-term environmental, operational, financial and social needs.

Sustainable development practices will focus on a holistic approach that will ensure the integrity of the Economic viability, Operational efficiency, Natural Resource Conservation and Social responsibility (more commonly referred to as EONS) of the airport. The EONS approach attempts to balance the four functional parts of airport management by taking into consideration the economic, ecological and social components with respect to operational efficiency. The MAC will also consider the US Green Building Council's Leadership in Energy and Environmental Design (USGBC LEED®) program for guidance in the design and construction of new or rehabilitation of existing facilities. A description of each subject area is described below and a summary of the airport-wide plan is provided at the end of this chapter.

The LTCP Update for MSP is illustrated in **Figure 4-1 - MSP 2030 Conceptual Plan**. The plan includes:

- Airfield improvements
- Expansion and improvements of Lindbergh Terminal
- Expansion and improvements of Humphrey Terminal
- Roadway access improvements
- Expanded parking capacity
- An airport hotel
- Land use designations for cargo and airport support facilities

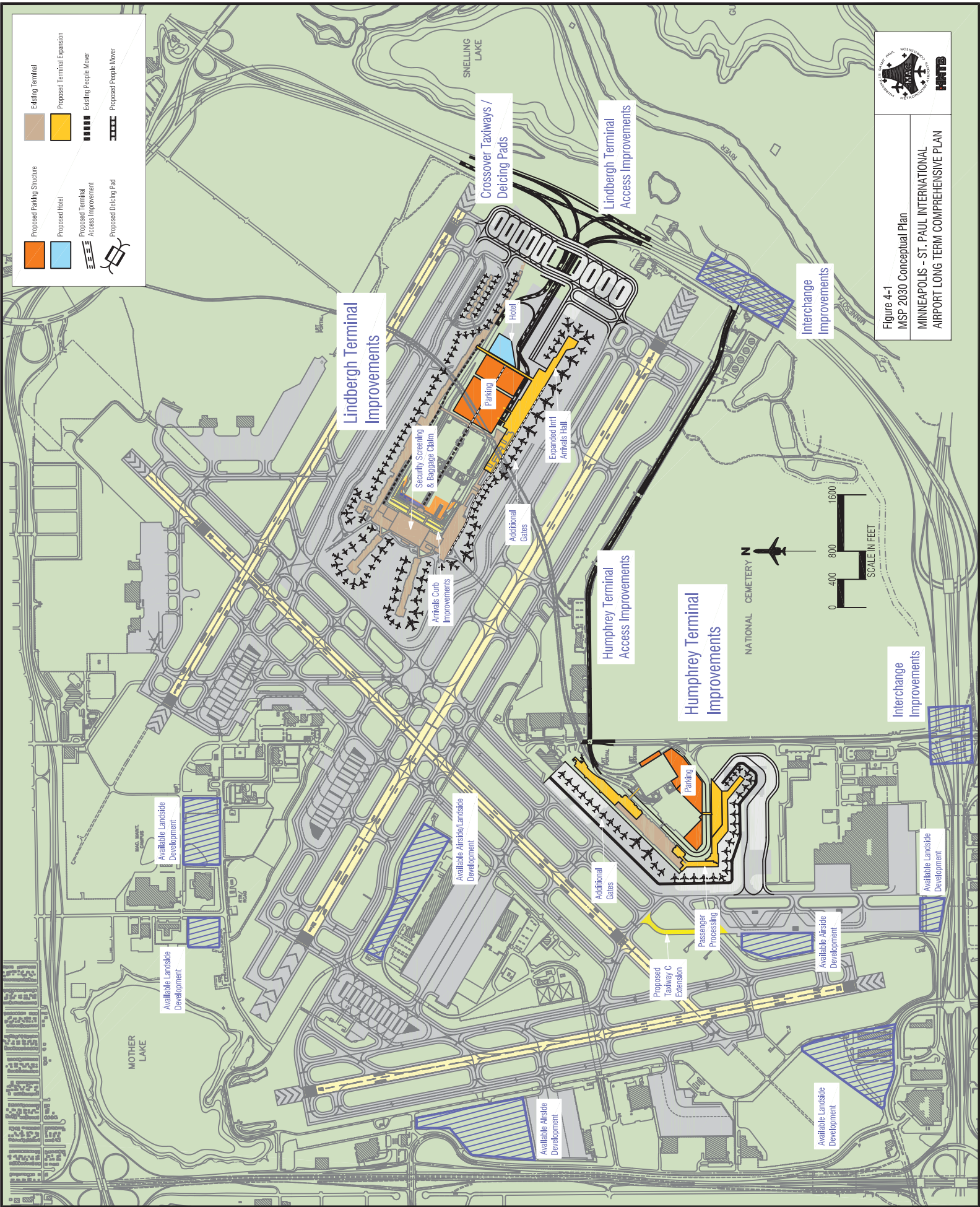


Figure 4-1
 MSP 2030 Conceptual Plan
 MINNEAPOLIS - ST. PAUL INTERNATIONAL
 AIRPORT LONG TERM COMPREHENSIVE PLAN

Lindbergh Terminal
 Improvements

Crossover Taxiways /
 Deticing Pads

Lindbergh Terminal
 Access Improvements

Interchange
 Improvements

Humphrey Terminal
 Access Improvements

Humphrey Terminal
 Improvements

Interchange
 Improvements

Available Landside
 Development

Available Landside
 Development

Additional
 Gates

Available Landside
 Development

MOTHER LAKE

Available Landside
 Development

Available Landside
 Development

NATIONAL CEMETERY



N



- Existing Terminal
- Proposed Terminal Expansion
- Existing People Mover
- Proposed People Mover
- Proposed Parking Structure
- Proposed Hotel
- Proposed Terminal Access Improvement
- Proposed Deticing Pad

4.2 AIRFIELD

Airfield facilities include the system of runways, taxiways, and aprons where aircraft land, take off, taxi, and park. Generally speaking, these are the portions of the airport where aircraft operate. In the context of long-term planning, airfield facilities must be assessed for their capabilities to efficiently accommodate forecast aircraft operations. An operation is either a takeoff or a landing. The aviation activity forecast prepared for the MSP LTCP anticipates growth from approximately 450,000 annual operations in 2008 to 630,000 annual operations in 2030. MSP currently has four runways. Runway 17-35 was opened in October 2005 and has helped to reduce delays at the airport, especially during poor weather conditions. As reported in Chapter 3, several analyses of MSP's airfield capacity (with all four runways in place) have been completed in recent years. At 630,000 annual operations, these studies anticipated average annual delay of approximately 10 minutes per operation.

Because the airfield can operate at this level of operations with a level of annual delay acceptable for a large hub airport, the LTCP Update did not evaluate alternatives for constructing additional runway capacity at MSP. The existing four-runway airfield is considered to have sufficient capacity to accommodate forecast levels of operations through the planning period.

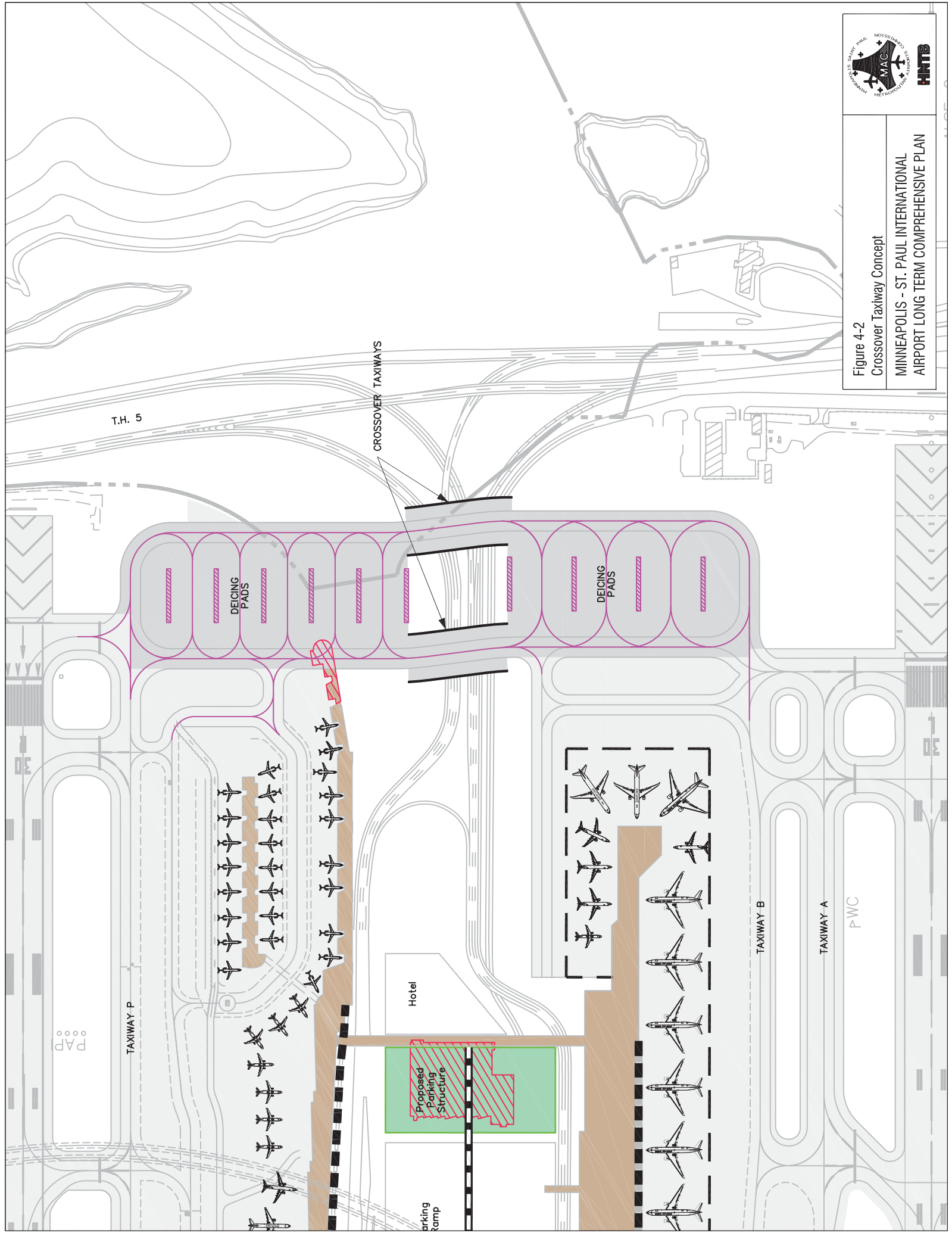
However, the airfield also includes the taxiway system which allows aircraft to move between the runways and the terminal facilities, cargo facilities, maintenance facilities, and general aviation facilities. The taxiway system does not allow the airport to accommodate more landings or takeoffs but it does contribute to the overall efficiency of the airfield. An efficient taxiway system allows aircraft to circulate efficiently about the airfield and gives air traffic controllers the ability to route aircraft to and from runways in the most direct route.

As shown in **Figure 4-2 - Crossover Taxiway Concept**, MSP's terminal area is located between Runways 12R-30L and 12L-30R. Previous expansions of the Lindbergh Terminal have included the continued extensions of boarding concourses to the east including Concourses A, B, C, and G. Though aircraft parked at Concourses A and B are very close to the end of Runway 30R, they require a substantial taxi distance, and time, to reach the ends of other runways, including Runway 30L. In a similar fashion, the proposed expansion of Concourse G will require more taxi distance and time for aircraft to reach Runway 30R and will add to taxiway congestion.

Providing an additional taxiway connection at the east end of the airfield will help resolve this congestion and provide efficient access to Runways 30L and 30R for aircraft parked along Concourses A, B, C, and G.

Considerations in planning a crossover taxiway include maintaining existing end-of-runway deicing pads, avoiding impacts to the navigational aids for aircraft approaching Runways 30L and 30R, avoiding impacts to Concourses A and B, protecting for the potential extension of Concourse G, and bridging the airport's primary entrance road (Glumack Drive).

Three configurations for these crossover taxiways were evaluated. In all three, two taxiways were provided so that aircraft could taxi in both directions. The preferred alternative would reconfigure the deicing pads and relocate them between the proposed taxiways as shown in **Figure 4-2**. This was preferred because the deicing pads would be available to aircraft departing either Runway 30L or Runway 30R. The preferred alternative is located as far east as feasible without impacting the approach zones for Runways 30L and 30R. However, a portion



of Concourse A would be impacted and approximately three commuter gates would require relocation to another portion of the terminal area. The proposed crossover taxiways would bridge Glumack Drive, which is discussed in detail in Section 4.4, Ground Transportation Alternatives.

An extension of Taxiway C on the south side of the airport is recommended to alleviate localized congestion in and out of the Humphrey remote apron. No other significant improvements to the airfield were evaluated as part of this update to the MSP LTCP.

4.3 TERMINAL

As presented in Chapter 1, MSP has two airline terminals, the Lindbergh Terminal and the Humphrey Terminal. Delta Air Lines hub operations are accommodated at the Lindbergh Terminal while MSP's other airlines are accommodated at both the Lindbergh Terminal and the Humphrey Terminal. In evaluating alternatives for terminal development at MSP, there were two primary issues to resolve:

1. Forecast growth and an assessment of gate requirements indicate that the Lindbergh Terminal would be unable to accommodate the growth of its current mix of airlines through the 20-year planning period, even with an extension of Concourse G.
2. The Lindbergh Terminal is characterized by a series of acute facility deficiencies including its international arrivals (Customs and Border Protection – CBP) facility, ticketing lobby, security screening facilities, and bag-claim facilities. These deficiencies were noted in Chapter 1 and in Chapter 3.

The facility requirements analysis presented in Chapter 3 identified a requirement for an additional 28 gates at MSP by 2030. The forecast of gate requirements by airline also indicates that Delta Air Lines and its SkyTeam alliance partners would require a total of 119 gates while all other airlines at MSP would require a total of 36 gates by 2030. Providing sufficient gates, ticketing, bag-claim, and ground transportation facilities at the Lindbergh Terminal for the existing mix of airlines is not feasible. Thus, a key task for the LTCP Update was to evaluate the potential to relocate some airlines from the Lindbergh Terminal to the Humphrey Terminal where expansion could be more readily accommodated. It was determined that relocating all airlines other than Delta and its SkyTeam partners to the Humphrey Terminal would better balance the mix of passengers beginning and ending their trips at MSP between the two facilities and would allow all airlines, including Delta and its SkyTeam partners, room to expand their facilities.

4.3.1 LINDBERGH TERMINAL

The Lindbergh Terminal requires both expansion and resolution of several facility deficiencies noted above. Each of the Lindbergh Terminal's existing passenger concourses is currently adjacent to a taxiway, except the east end of Concourse G. Concourse G currently provides the only available location for expansion without significantly impacting the airfield. This is due to Delta Air Lines' vacation of one of its maintenance hangars and the hangar's subsequent demolition by the MAC, which was located to the east of the Lindbergh Terminal. The extension of Concourse G would provide several new gates that would meet the gate requirements for the Lindbergh Terminal including access to international arrivals facilities.

The proposed improvements to the Lindbergh Terminal will result in a net increase of three gates bringing the total to 120 gates. This accounts for a loss of two Concourse A gates,

reconstruction of nine Concourse G gates and will allow all of Delta's 2030 fleet to be accommodated simultaneously at peak periods. The Lindbergh Terminal will also accommodate 20 international parking positions. These are substantial improvements over today's Lindbergh Terminal gate layout, which is incapable of supporting the forecast future aircraft fleet and operations. The proposed expansion of the Lindbergh Terminal is illustrated in **Figure 4-3 – Lindbergh Terminal Concept Phase I (2015-2020)**, **Figure 4-4, Lindbergh Terminal Concept Phase II (2020-2025)** and **Figure 4-5, Lindbergh Terminal Concept Phase II (2025-2030)**.

The Lindbergh Terminal's ticketing, bag-claim, security screening, and international arrivals facilities are also in need of improvements to improve efficiency and capacity.

Ticketing

The Lindbergh Terminal ticketing lobby will be reconfigured to provide additional passenger circulation and queuing space. Currently, Delta Air Lines and its SkyTeam partners occupy approximately half of the ticketing lobby. It is anticipated that the relocation of non-Delta/SkyTeam airlines to the Humphrey Terminal could alleviate some crowding in the ticket lobby as will the continued deployment of new technologies that allow passengers to print their own boarding passes and bypass the ticketing facilities entirely. Facilities for checking bags will still be required, however, for those passengers who do not carry their luggage on-board.

Baggage Claim

The Lindbergh Terminal baggage claim facility is outdated and undersized, as discussed in Chapter 3. A reconfiguration of the baggage claim facility where the outdated round claim devices are replaced with larger carousels would help alleviate much of the congestion and lack of circulation. The proposed conceptual plan of the baggage claim area includes seven sloped-plate oval devices that will range in size from 145 to 260 linear feet, and will replace the circular-shaped smaller claim devices to provide improved passenger circulation and claim frontage within the area. The relocation of non-Delta/SkyTeam airlines to the Humphrey Terminal would also alleviate congestion within the Lindbergh Terminal bag-claim area.

Security Screening

There are currently six security screening checkpoints adjacent to the Lindbergh Terminal ticketing hall providing access to the secure area and passenger boarding areas. As described in Chapter 3, these areas lack sufficient queuing area and operate somewhat inefficiently. Two concepts were provided for consolidating the security screening facilities in the Lindbergh Terminal. In each concept, the security screening facilities would be consolidated to a large central node and a queuing area would accommodate forecast passenger demand. The final configuration of the security screening facilities would be determined during an advanced planning and design phase for Lindbergh Terminal improvements.

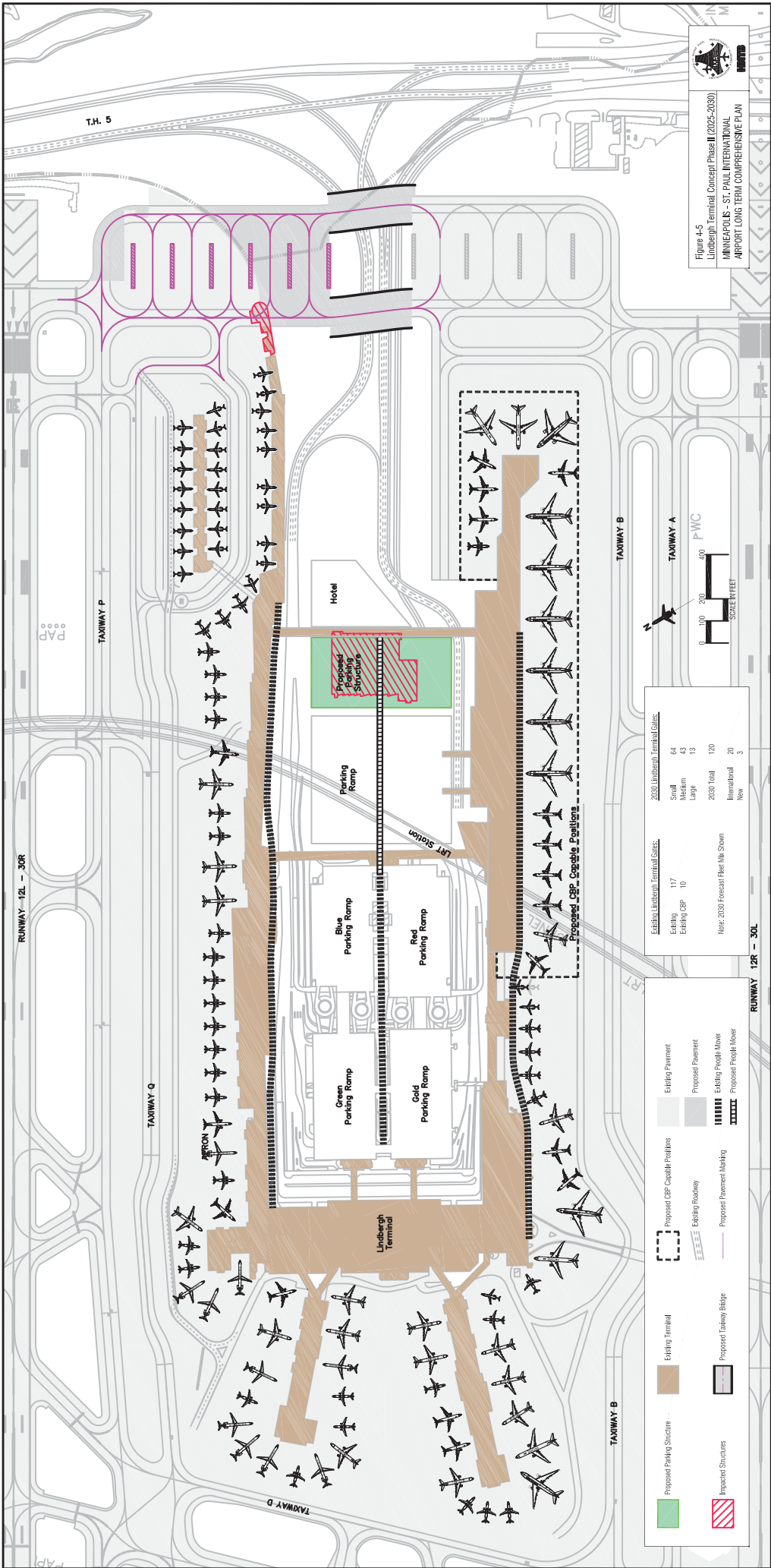


Figure 4-5
Linderbergh Terminal Concept Phase II (2022-2030)
MINNEAPOLIS - ST. PAUL INTERNATIONAL
AIRPORT LONG TERM COMPREHENSIVE PLAN

2030 Linderbergh Terminal Gates

Category	Count
Small	64
Medium	43
Large	13
2030 Total	120
International	20
New	3

Existing Linderbergh Terminal Gates

Category	Count
Existing	117
Existing GBP	10
2030 Forecast Fleet Mt. Shown	
International	20
New	3

Note: 2030 Forecast Fleet Mt. Shown

Legend:

- Proposed Parking Structure
- Existing Terminal
- Proposed GBP Capital Facilities
- Existing Taxiway
- Proposed Taxiway Bridge
- Proposed People Mover Structure
- Existing Pavement
- Proposed Pavement
- Existing People Mover
- Proposed People Mover
- Proposed Taxiway Marking
- Proposed Pavement Marking

International Arrivals (Customs and Border Protection)

Delta Air Lines currently operates international flights to Europe, Asia, Mexico (on a seasonal basis), and Canada from MSP. The airport's existing international arrivals facility is undersized for forecast demand levels and would be unable to efficiently process forecast international passenger arrivals. Three concepts were evaluated for improving the international arrivals facility at MSP and are outlined below.

Concept 1: Vertical Expansion of Federal Inspection Services

Concept 1 would expand the existing international arrivals facilities by providing a second level for immigration processing so that the baggage claim area and customs area could be expanded into the area currently occupied by immigration. These two functions would then operate on separate levels requiring passengers to move vertically, as well as horizontally through the facility. Additional gates would need to be connected to the international arrivals facility via secure corridors. These corridors would likely be provided by extending them along the curtain wall of the concourse façade, similar to how the secure corridor is currently configured along Concourse G.

Concept 2: Reconstruct Concourse F

Concept 2 would require the closure and demolition of existing Concourse F. It would be reconstructed as a facility that could accommodate both domestic and international arrivals and departures. A new immigration and customs processing facility would be integrated into Concourse F.

Concept 3: Construct a New International Arrivals (Customs and Border Protection) Facility at Concourse G

Concept 3 would extend Concourse G and provide new gates that could accommodate both domestic and international arrivals as well as provide a new passenger processor with ticketing, bag-claim, immigration, and security screening for both domestic and international passengers.

The recommended alternative is Concept 3. Concept 3 is illustrated in four figures:

- **Figure 4-6 – New Int'l Terminal – Departures Level**
- **Figure 4-7 – New Int'l Terminal – Mezzanine Level**
- **Figure 4-8 – New Int'l Terminal – Ground Level**
- **Figure 4-9 – New Int'l Terminal – Sections**

Concept 3 provides the required additional gates and gate frontage required for larger aircraft anticipated in the future as well as an entirely new international arrivals facility. The new gates would be multi-use gates in that each could accommodate either domestic or international flights without any impact to adjacent gates. This is an improvement over the current facility which can require the closure of several adjacent gates in order to utilize the sterile corridors when an international flight arrives. The primary advantage of Concept 3 is the addition of a new passenger processing facility. The existing Lindbergh Terminal passenger processor cannot be expanded. Its ticketing lobby and baggage claim areas can be reconfigured but the overall size is constrained by its location between Concourses F and G. In Concept 3, international passengers and, potentially, some domestic passengers could utilize the supplemental passenger processing facility that would replicate the convenience of a stand-alone international terminal while still fully integrated into the Lindbergh Terminal complex.

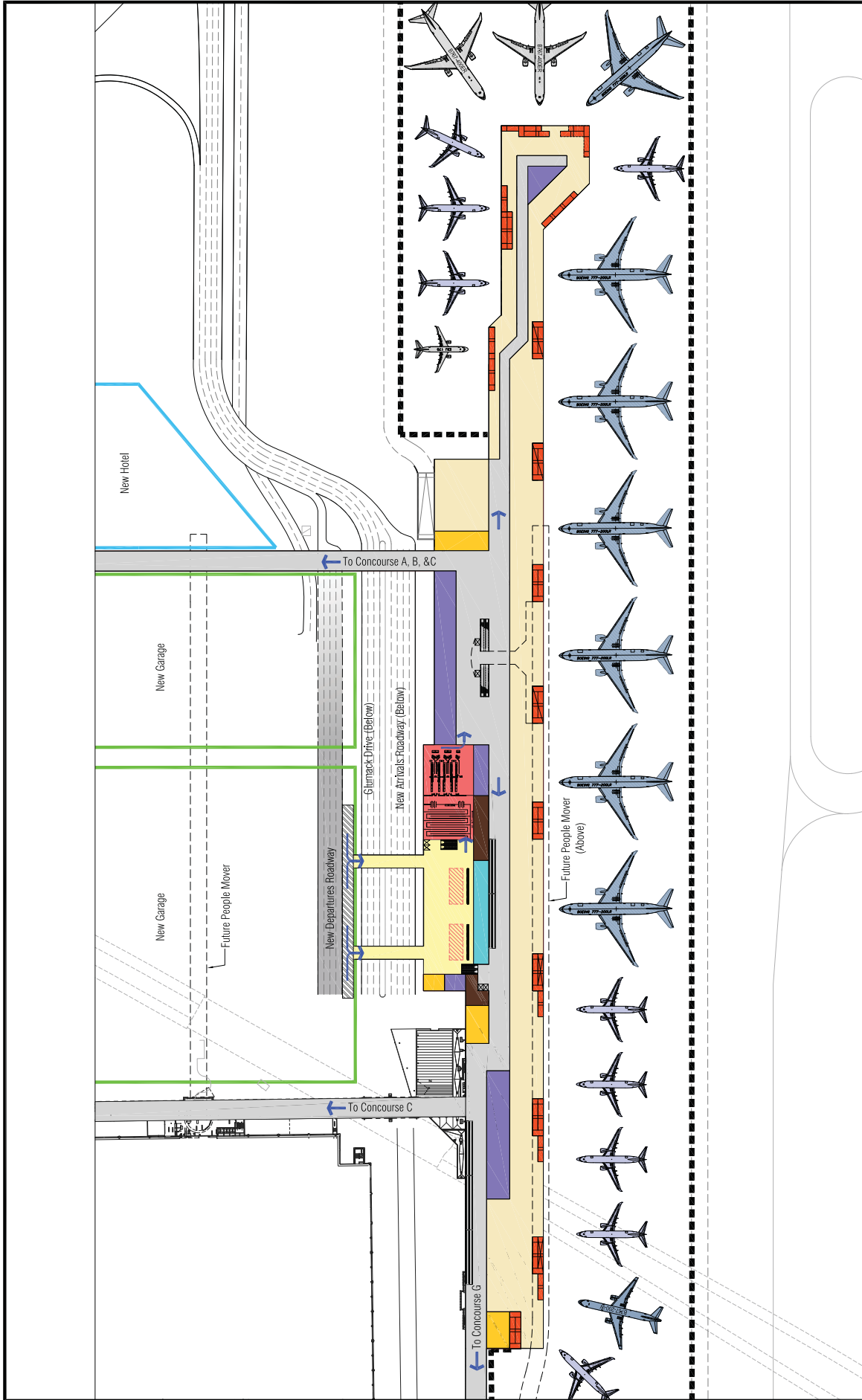


Figure 4-6
 New Int'l Terminal - Departures Level
 MINNEAPOLIS - ST. PAUL INTERNATIONAL
 AIRPORT LONG TERM COMPREHENSIVE PLAN



	SSCP		Ticketing Queuing Area		Non-secure Public
	Concessions		Tenant Support		Secure Public
	ATO		Sterile Corridor		Restrooms
			Holdroom / Gate Area		Passenger Flow
			Departure Curb		

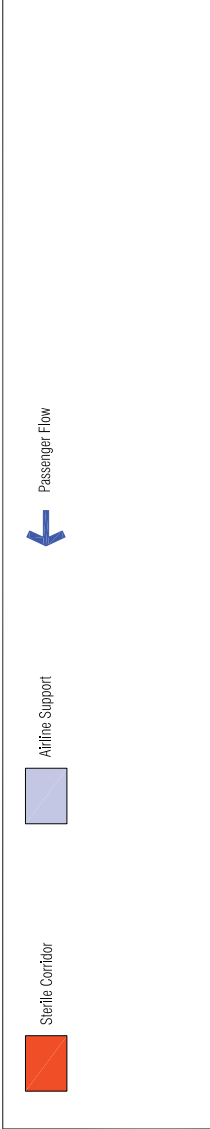
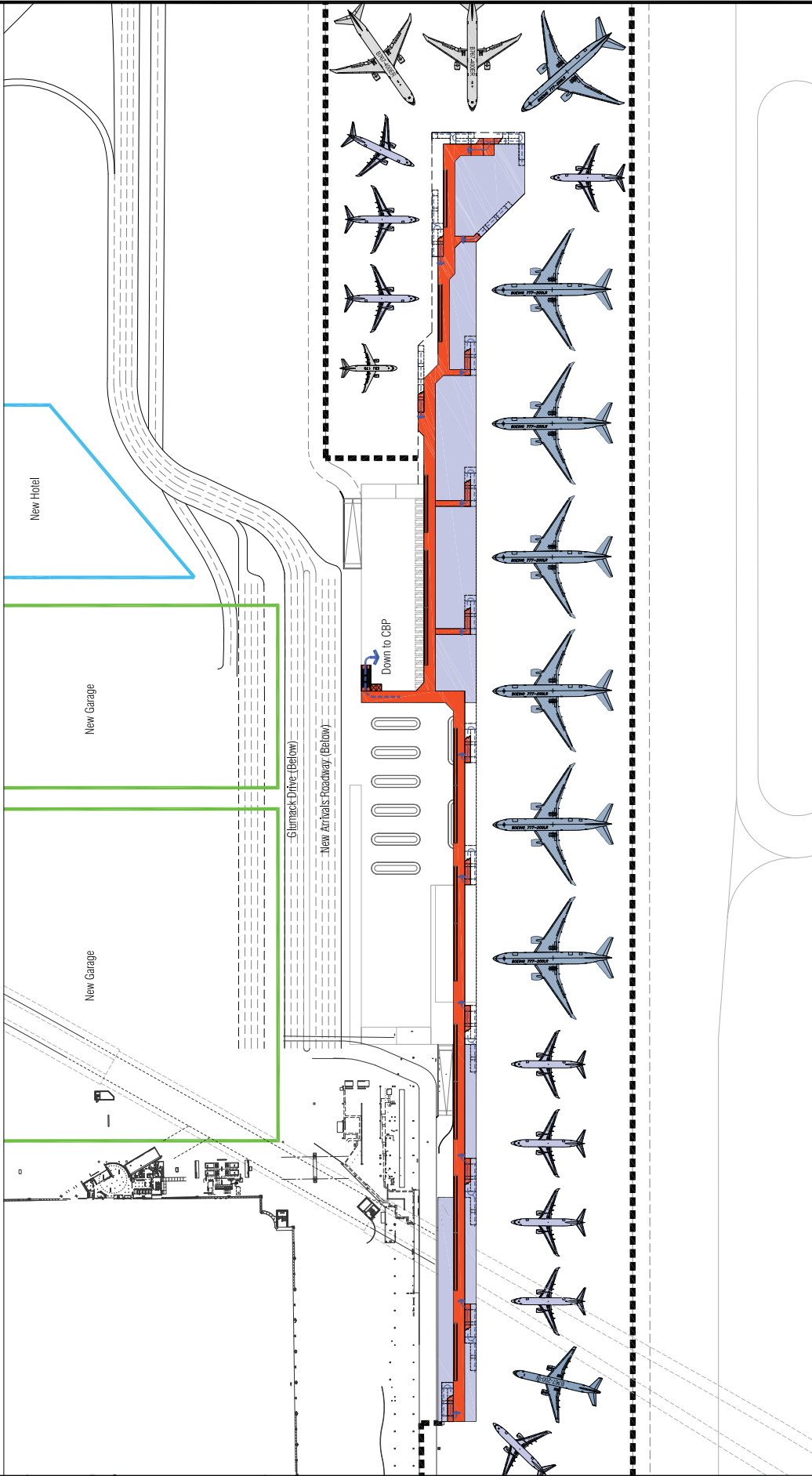


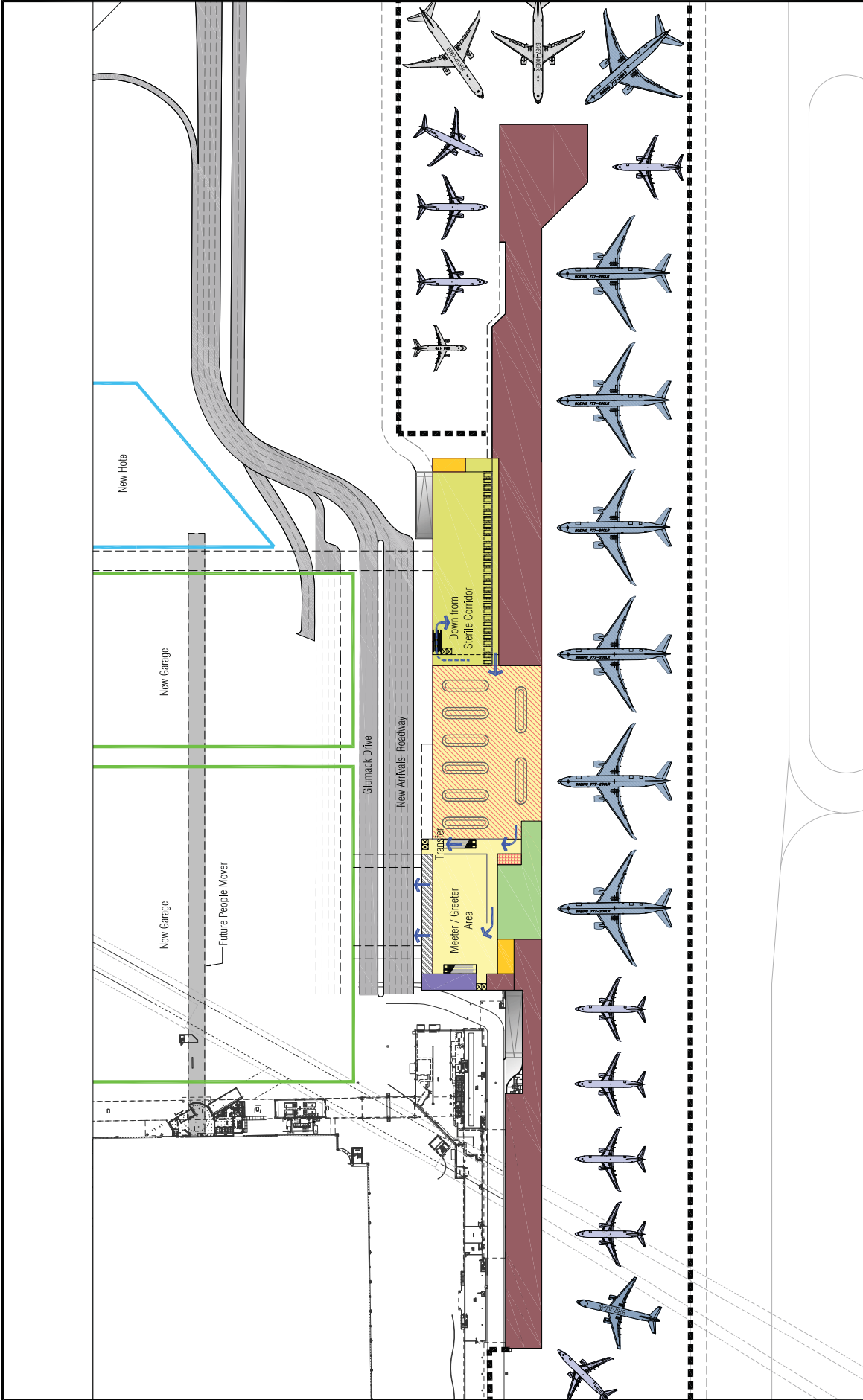


 Figure 4-7

 New Int'l Terminal - Mezzanine Level

 MINNEAPOLIS - ST. PAUL INTERNATIONAL

 AIRPORT LONG TERM COMPREHENSIVE PLAN














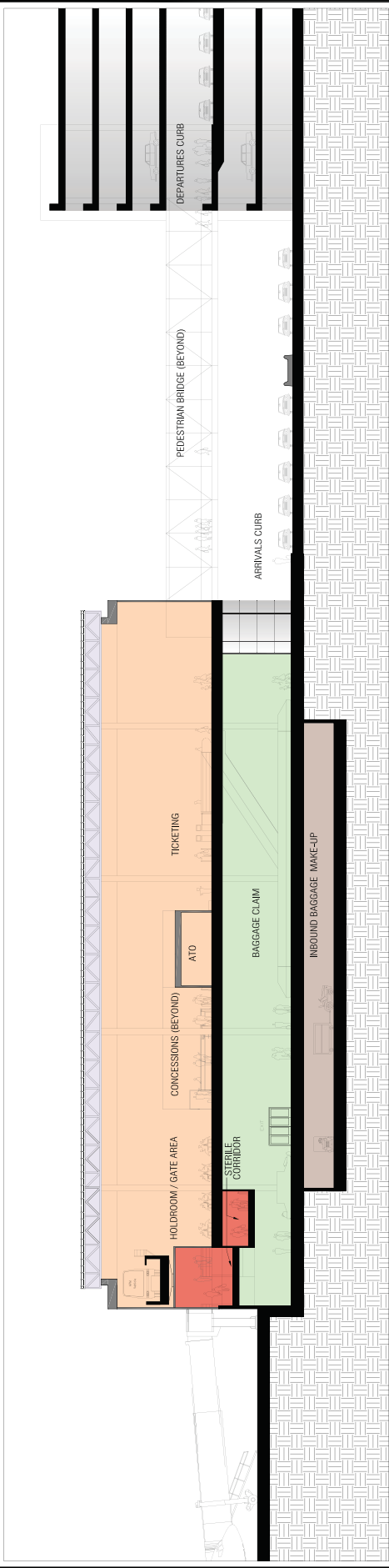
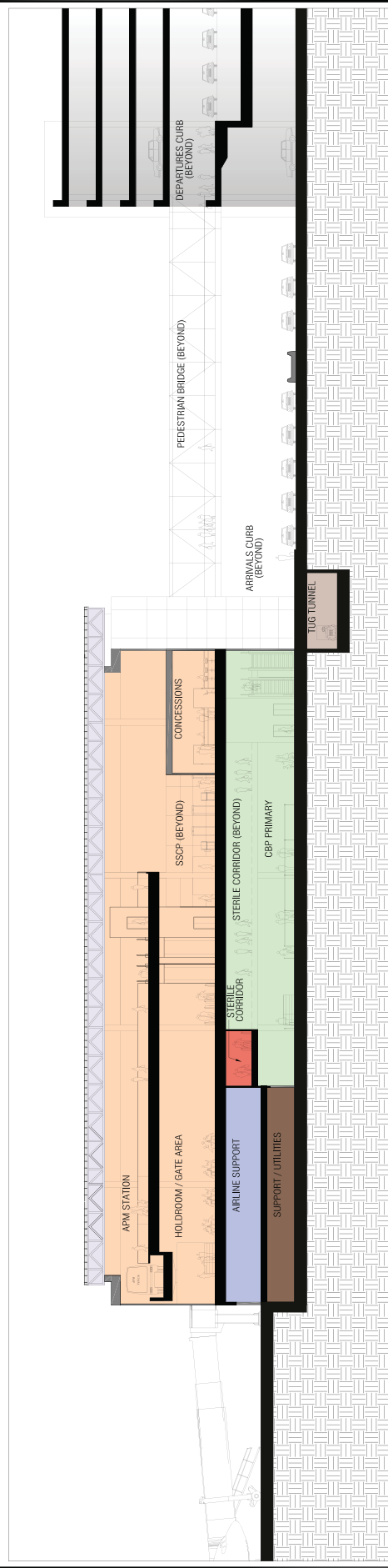


Figure 4-8
 New Int'l Terminal - Ground Level
 MINNEAPOLIS - ST. PAUL INTERNATIONAL
 AIRPORT LONG TERM COMPREHENSIVE PLAN


	CBP Primary Process		Non-secure Public
	Concessions		Vestibule
	Int'l Bag Claim Area		CBP Secondary Process
	Support / Utilities		Restrooms
	Passenger Flow		



SECTION A-A



SECTION B-B

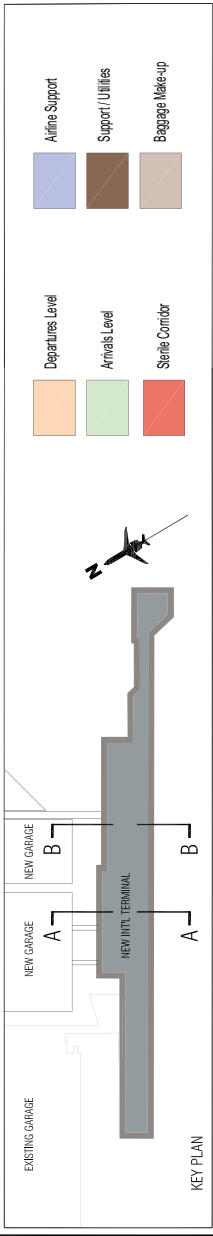
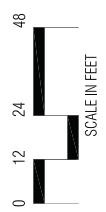




 Figure 4-9

 New Int'l Terminal - Sections

 MINNEAPOLIS - ST. PAUL INTERNATIONAL

 AIRPORT LONG TERM COMPREHENSIVE PLAN

4.3.2 HUMPHREY TERMINAL

Two alternatives for expanding the Humphrey Terminal were evaluated. Both proposed the addition of six gates by extending the passenger boarding concourse to the northeast along Taxiway D and the addition of 20 gates by extending the passenger boarding concourse to the south along Taxiway S and the east along Taxiway S2. The two concepts differed only in their approach to providing passenger processing facilities such as ticketing, bag-claim and security screening. In the first concept, the existing passenger processor would be expanded to the north and south to accommodate ticketing, bag-claim, and security screening for all Humphrey Terminal passengers. In the second concept, a second passenger processing facility would be constructed to the southeast to provide more convenient access to the 20 new southeast gates. The recommended concept is to provide a second passenger processing facility to the southeast. This concept is illustrated in two figures:

- **Figure 4-10 - Humphrey Terminal Concept Phase I (2010-2015)**
- **Figure 4-11 - Humphrey Terminal Concept Phase II (2020-2025)**

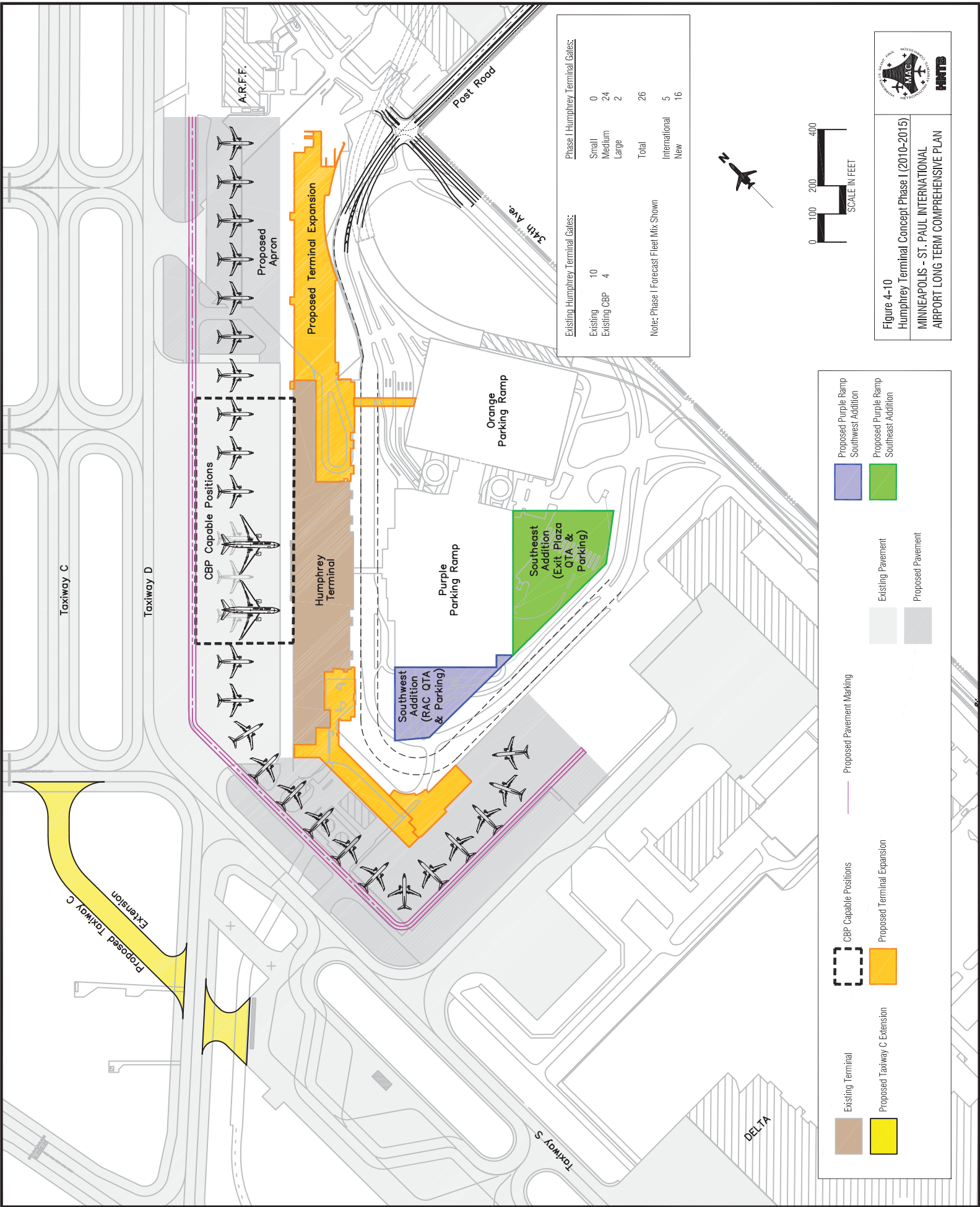
The proposed supplemental passenger processing facility can be seen in **Figure 4-11** along with its proximity to the 20-gate southeast expansion of the Humphrey Terminal. The advantage of this configuration is that most Humphrey Terminal passengers are either beginning or ending their trips at MSP as opposed to connecting. Therefore, proximity of the boarding gates to ticketing, bag-claim, security check points, curbs, and parking raises the level of service for each passenger. By providing two processing facilities at the Humphrey Terminal, the 20-gate southeast expansion maintains a level of convenience on par with the existing configuration. Build-out of the secondary passenger processing facility includes dual taxiways around the facility and will impact the existing run-up enclosure facility. Additional analysis of airline maintenance needs will be considered during this phase of development to address run-up enclosure facility requirements and relocation options. Relocation would take place in the immediate vicinity of the existing facility.

4.4 LANDSIDE AND GROUND TRANSPORTATION

The landside facilities include airport terminal access roads and curb fronts, parking, and rental car facilities. The inventory and facility requirements presented in Chapters 1 and 3 outlined the key challenges with the existing facilities and what improvements would be required. The facility requirements are dependent on the mix of airlines operating at each terminal. All concepts for landside facilities were developed with the assumption that all non-Delta/SkyTeam airlines would relocate to an expanded Humphrey Terminal by 2015, when the Lindbergh Terminal would no longer meet demand for aircraft gates and processing. Concepts for landside improvements are presented independently for each terminal.

4.4.1 LINDBERGH TERMINAL

After 2015, it is assumed that the Lindbergh Terminal will service Delta Air Lines and its SkyTeam partners exclusively. Though the facility would serve only one airline and its partners, the facility requirements presented in Chapter 3 show that additional improvements to and expansion of access roadways and curb front, additional parking, and rental car facilities would be required.



Existing Humphrey Terminal Gates:

Existing	10
Existing CBP	4

Phase I Humphrey Terminal Gates:

Small	0
Medium	24
Large	2
Total	26
International	5
New	16

Note: Phase I Forecast Fleet Mix Shown

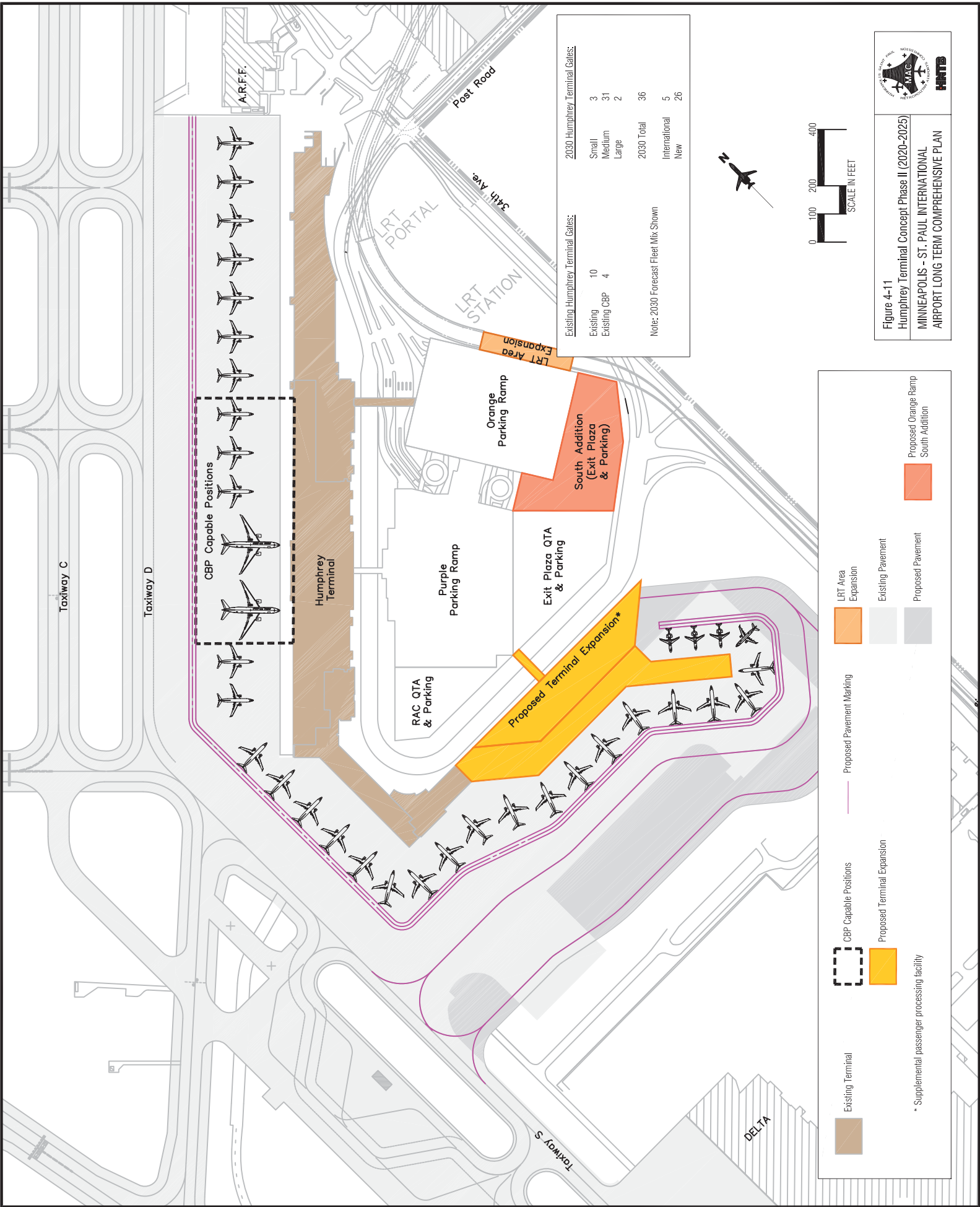
Legend:

- Existing Terminal
- Proposed Terminal Expansion
- CBP Capable Positions
- Proposed Apron
- Proposed Purple Ramp Southwest Addition
- Proposed Purple Ramp Southeast Addition
- Existing Pavement
- Proposed Pavement
- Proposed Pavement Marking
- Proposed Taxiway C Extension
- Southwest Addition (RAC QTA & Parking)
- Orange Parking Ramp
- Southeast Addition (Exit, Plaza, QTA, & Parking)



Figure 4-10
Humphrey Terminal Concept Phase I (2010-2015)
MINNEAPOLIS - ST. PAUL INTERNATIONAL
AIRPORT LONG TERM COMPREHENSIVE PLAN





Existing Humphrey Terminal Gates:		2030 Humphrey Terminal Gates:	
Existing	10	Small	3
Existing CBP	4	Medium	31
		Large	2
		2030 Total	36
		International	5
		New	26

Note: 2030 Forecast Fleet Mix Shown



Legend:

- Existing Terminal (Brown square)
- Proposed Terminal Expansion (Yellow square)
- Supplemental passenger processing facility (Grey square)
- CBP Capable Positions (Dashed line)
- Proposed Terminal Expansion (Yellow outline)
- LRT Area Expansion (Orange square)
- Proposed Pavement Marking (Pink line)
- Existing Pavement (Light grey square)
- Proposed Pavement (Dark grey square)
- Proposed Orange Ramp South Addition (Orange square)
- Proposed Orange Ramp (Light orange square)

Figure 4-11
Humphrey Terminal Concept Phase II (2020-2025)
MINNEAPOLIS - ST. PAUL INTERNATIONAL
AIRPORT LONG TERM COMPREHENSIVE PLAN



Airport Access / Curb Front

Glumack Drive provides access for all vehicles to the Lindbergh Terminal. The roadway operates with relative efficiency today but will require relocation to accommodate other airport improvements including a crossover taxiway that will bridge the road just west of Minnesota Highway 5. The redevelopment concept for Glumack Drive, illustrated in **Figure 4-12 – Realign Glumack Drive**, includes rebuilding the interchange with Highway 5 and relocating the roadway to the southwest in a more central location between the two parallel runways. The MAC will work with all appropriate agencies to implement these necessary interchange modifications, including preliminary environmental scoping and analysis, and work to include these improvements in the region's fiscally-constrained 2030 highway plan. Access would then be provided to the Lindbergh Terminal along the existing alignment while new access would be provided to the international arrivals facility and a potential airport hotel and conference center. Access would also be provided to two new parking ramps using the existing helixes.

The existing Lindbergh Terminal curb front is heavily congested at the lower level where commercial vehicles operate. A concept for improving the Lindbergh Terminal arrivals curb area is illustrated in **Figure 4-13 – Lindbergh Terminal Ground Transportation Center**. Because the curb front can't be readily lengthened due to Concourses G and C at each end, the concept for improving capacity includes providing an outer curb with pedestrian crosswalks traversing the inner curb area, potentially at grade. (Currently, the outer curb does not provide direct access to the terminal facility.) This would effectively double the available curb front but would require some passengers to traverse the inner curb.

The proposed plan would re-route commercial vehicles such as taxicabs and multi-passenger vans to a reconfigured staging area adjacent to the existing taxi staging area.

Parking

An additional 10,100 parking spaces are required at the Lindbergh Terminal by 2030. The only feasible alternative that provides parking directly at the terminal would be to construct two new garages to the southeast of the existing Lindbergh Terminal parking garages. These garages would be accessed using the existing helixes.

Rental Cars

A consolidated rental car facility was considered and rejected due to the high level of customer convenience realized by accommodating rental car ready facilities and return facilities directly within the parking facilities at each terminal. Therefore, the proposed expansion of parking garages would also accommodate the required expansion of rental car ready return facilities and allow them to continue operating within the airport garages at each terminal.

On-Site Hotel

A site has been identified that would be appropriate for hotel development.

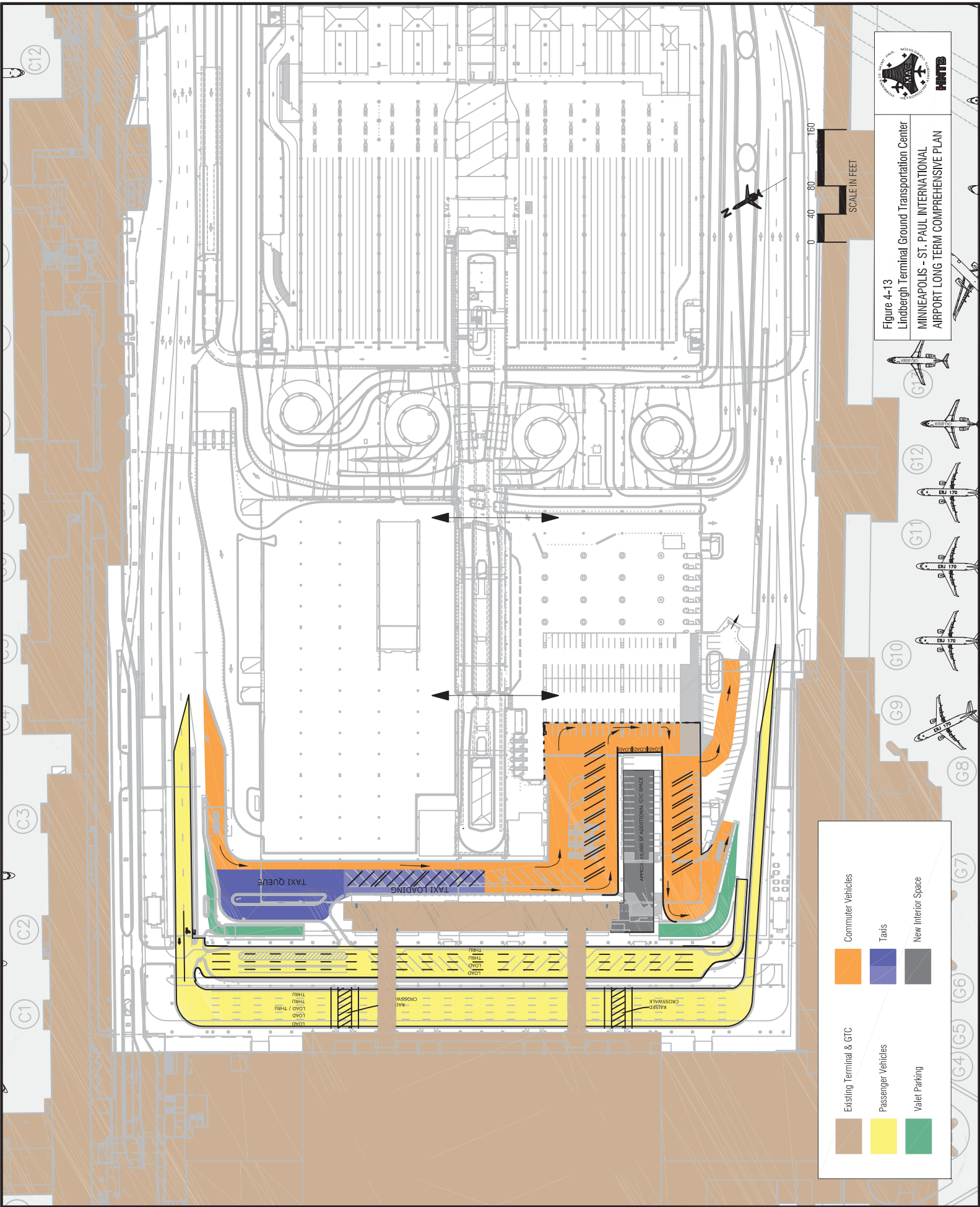


Figure 4-13
 Lindbergh Terminal Ground Transportation Center
 MINNEAPOLIS - ST. PAUL INTERNATIONAL
 AIRPORT LONG TERM COMPREHENSIVE PLAN

	Existing Terminal & GTC		Commuter Vehicles
	Passenger Vehicles		Taxis
	Valet Parking		New Interior Space

4.4.2 HUMPHREY TERMINAL

It is assumed that, after 2015, the Humphrey Terminal will accommodate all airlines except Delta Air Lines and its SkyTeam partners. The facility requirements presented in Chapter 3 show that additional improvements to and expansion of access roadways and curb front, additional parking, and rental car facilities would be required.

Airport Access Roadways / Curb Front

Access to the Humphrey Terminal is provided by both Post Road and 34th Avenue. Both existing roadways will be incapable of providing the required traffic volumes to Humphrey Terminal in future years. The concept for improving this condition, as illustrated in **Figure 4-1**, includes routing all inbound traffic for the Humphrey Terminal to Post Road and routing all outbound traffic to 34th Avenue. This concept would require several improvements, including widening Post Road. To address this issue, the MAC will work with all appropriate agencies to implement the necessary interchange modifications, including preliminary environmental scoping and analysis, and work to include these improvements in the region's fiscally-constrained 2030 highway plan.

The Humphrey Terminal curb area has sufficient capacity for existing demand levels and can be extended to accommodate an expansion of the existing passenger processor.

Parking

An additional 5,900 parking spaces will be required at the Humphrey Terminal by 2030. The existing parking garages can be expanded in place to accommodate this level of demand.

Rental Cars

As noted for the Lindbergh Terminal, a consolidated rental car facility was considered and rejected due to the high level of customer convenience realized by accommodating rental car ready facilities and return facilities directly within the parking facilities at each terminal. Therefore, the proposed expansion of parking garages would also accommodate the required expansion of rental car ready return facilities and allow them to continue operating within the airport garages at each terminal.

4.5 PREFERRED ALTERNATIVES SUMMARY

4.5.1 LINDBERGH TERMINAL

- **ADDITIONAL GATES** - Extending Concourse G would provide new gates capable of accommodating domestic or international flights.
- **EXPANDED INTERNATIONAL ARRIVALS (CUSTOMS AND BORDER PATROTECTION) FACILITY** - New, larger facilities will be provided as part of the Concourse G expansion to accommodate forecasted growth in demand for international flights to MSP.
- **SECURITY SCREENING** - Reconfiguration of security screening areas would improve efficiency and reduce wait times.
- **BAGGAGE CLAIM** - The existing baggage claim hall would be reconfigured with larger, modern baggage claim systems.

- PARKING - Additional parking garages would be constructed adjacent to the existing garages to accommodate existing and future parking demand.
- ARRIVALS CURB - Enhancements to the curb area would improve capacity and efficiency for arriving passengers to reach shuttles, taxis, and private vehicles.
- HOTEL - A site has been identified that would be appropriate for hotel development.

4.5.2 HUMPHREY TERMINAL

- ADDITIONAL GATES - New gates would be added by extending the passenger concourses to the north and south accommodating up to 26 additional gates.
- PASSENGER PROCESSING - Ticketing and baggage claim facilities would be expanded to accommodate additional airlines and passengers.
- PARKING - Existing garages would be expanded to accommodate future parking demand.
- RENTAL CAR FACILITIES - Accommodations for rental cars would be provided by developing facilities in expanded existing parking garages.
- ACCESS ROADS - Post Road and 34th Avenue would be improved and signed to accommodate increasing traffic volumes and simplify circulation.