APPENDIX T – TERMINAL FACILITIES

Introduction

This appendix discusses the commercial service terminal and its supporting facilities. Existing issues are reviewed and current data, combined with forecast requirements, are used to establish the terminal design necessary to meet projected requirements at the Minot International Airport (MOT).

Terminal Requirements

At the beginning of this Master Plan process a new replacement passenger terminal was being constructed near the previous passenger terminal. All references to the passenger terminal will be for the new facility opening in 2016. The MOT terminal is designed to be expandable to meet the demands for approximately up to 600,000 annual enplanements.

The terminal is located on the west side of the airport area directly south of Runway 8-26. The passenger terminal complex consists of the passenger terminal building, terminal curbside frontage, commercial aircraft parking apron, the roadway network, public parking areas, car rental parking and servicing areas and the airport administrative offices.

The terminal area is accessed using Airport Road via U.S. Highway 83. Parking is located in front of the terminal with public parking lots to the south and west of the terminal, rental car parking is west of the terminal. Terminal employees park to the east of the building. Users can enter the lot either before or after the terminal curbside.

The aircraft parking apron directly north of the terminal building is designated for airline use. Six (6) aircraft parking positions are marked on this pavement with four passenger boarding bridges (PBB), expandable to six gates. The apron is also used for aircraft deicing as well as parking for airline ground support equipment (GSE).

The MOT Airport Terminal is two levels in a linear configuration totaling approximately 125,000 usable square feet. The terminal was constructed in 2015 and replaced the previous 32,200 square foot terminal constructed in 1990. The layout of the terminal is provided in **Exhibit T-1 Passenger Terminal Building Map (Lower Level)** and **Exhibit T-2 Passenger Terminal Building Map (Upper Level)** showing the types of uses in the terminal.

Exhibit T-1 Passenger Terminal Building Map (Lower Level)

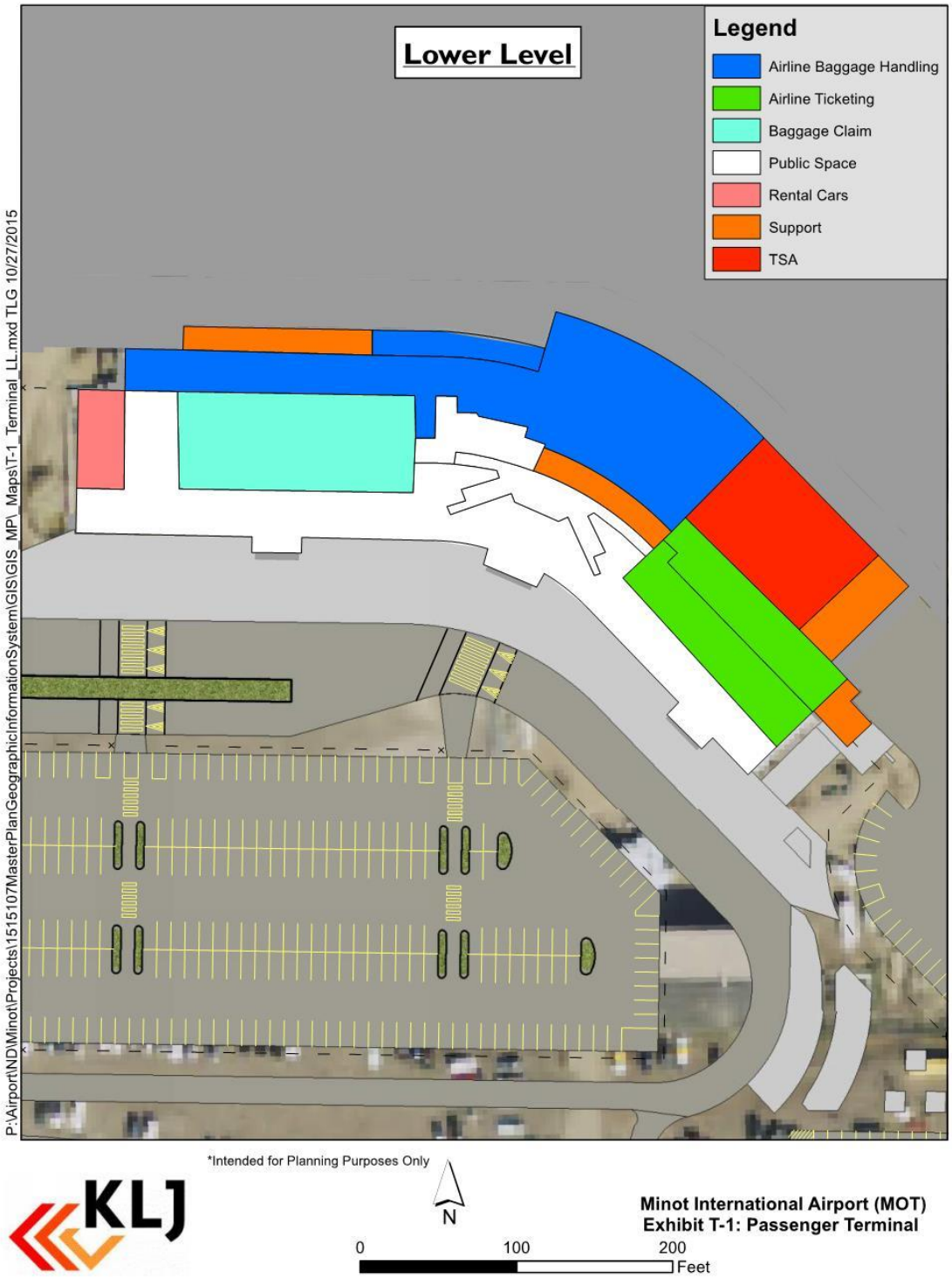
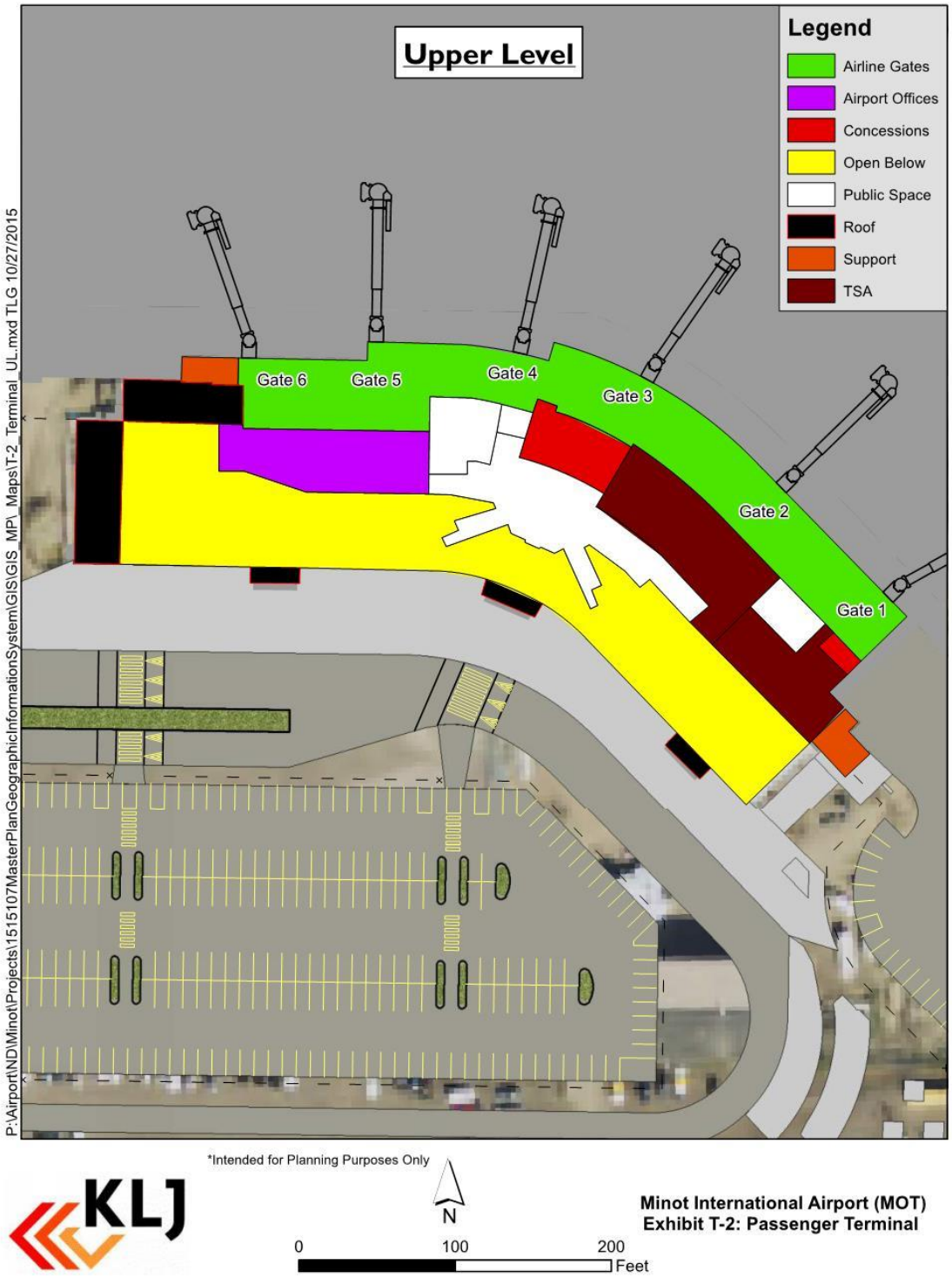


Exhibit T-2 Passenger Terminal Building Map (Upper Level)



PASSENGER TERMINAL BUILDING REQUIREMENTS

Within the passenger terminal building, services are required for processing passengers arriving and departing on commercial flights. Enplaning services include ticketing, baggage, passenger service areas, and airline offices. Processing services typically include passenger and bag screening facilities operated by the Transportation Security Administration (TSA). Deplaning services include baggage claim, rental car counters, and parking prepay facilities. Other services necessary to plan for in a terminal building include concessions (restaurants and gift shops), restrooms, advertising and display areas, mechanical and utility rooms, and janitorial service and storage areas.

MOT is currently served by Allegiant, Delta and United airlines which offer 11 to 13 commercial flights per day. The new terminal was designed to accommodate at least 200 enplaning and 200 deplaning passengers during the design hour.

The terminal building lower level provides airline ticket counters, passenger check-in, airline office space, passenger baggage claim, baggage handling, car rental counters and offices, and airport security offices. The upper level consists of passenger screening checkpoints, airport offices and conference room, concessions inside security, and the linear concourse area consisting of six aircraft gates and hold rooms. See **Table T-1** for a breakdown of space in the passenger terminal building.

Table T-1 Passenger Terminal Space Breakdown

Space Category	Lower Level Area	Upper Level Area	Total
Ticketing	5,100	-	5,100
Airline Ticketing Offices	2,400	-	2,400
Airport Administration	-	4,400	4,400
Baggage Claim	12,100	-	12,100
Baggage Handling	24,600	-	24,600
Concessions	-	2,400	2,400
Rental Cars	3,100	-	3,100
Passenger Hold Rooms	-	13,090	13,090
Public Circulation	15,000	11,010	27,200
Security Screening & TSA	9,400	9,400	18,800
Utilities, Storage, Other	5,800	6,900	12,700
TOTAL	**77,500**	**47,200**	**124,700**

Source: KLJ Analysis

Ticketing

The 5,100 square foot ticketing lobby is located in the east portion of the terminal building on the lower level. There are 13 ticket counters with a total of 120 linear feet of ticketing frontage. This includes space for queuing, circulation and electronic check-in kiosks. Airline ticketing offices are located behind the ticketing area.

Baggage Makeup

Approximately 12,000 square feet of space is dedicated for airline baggage makeup. Security screened bags are sorted onto baggage carts to load onto departing aircraft. There is space for two large baggage carousels consisting of 440 linear feet of carousel frontage to load and unload baggage carts. The tug tunnel traverses the rear of the terminal from east to west with the terminal building access on the west side.

Security Screening & TSA

The security checkpoint is located on the second level of the terminal. A 1,100 square foot queueing area and a 4,200 square foot screening area can accommodate up to three (3) security checkpoint lanes with two (2) body scanners. There is approximately 1,000 square feet of space for TSA offices. A 1,000 square foot meet and greet area is located at the top of the stairwell in the non-secure area. Checked baggage screening occurs behind the ticketing area in approximately 7,000 square feet for baggage screening, equipment and offices.

Gates & Passenger Hold Rooms

The MOT passenger terminal was constructed with positions for six (6) gates. As of 2016 there are only four (4) gates in use, each with a Passenger Boarding Bridge installed. The gates and hold rooms are designed to accommodate different sizes of aircraft ranging from Embraer E195 up to Boeing 757-200. See **Exhibit T-3 Terminal Gates**.

The passenger hold rooms are those areas inside security and configured to accommodate the passengers at each boarding gate while awaiting for departure. The hold rooms also must accommodate the flow of deplaning passengers as they leave the aircraft. There is a total of 11,900 square feet of hold room space at MOT for six (6) gates. Each hold room is designed to accommodate aircraft holding as many as 106 passengers. See **Table T-2 Passenger Hold Rooms**.

There are separate seating areas located opposite the gate areas which are used for concessions.

Table T-2 Passenger Hold Rooms

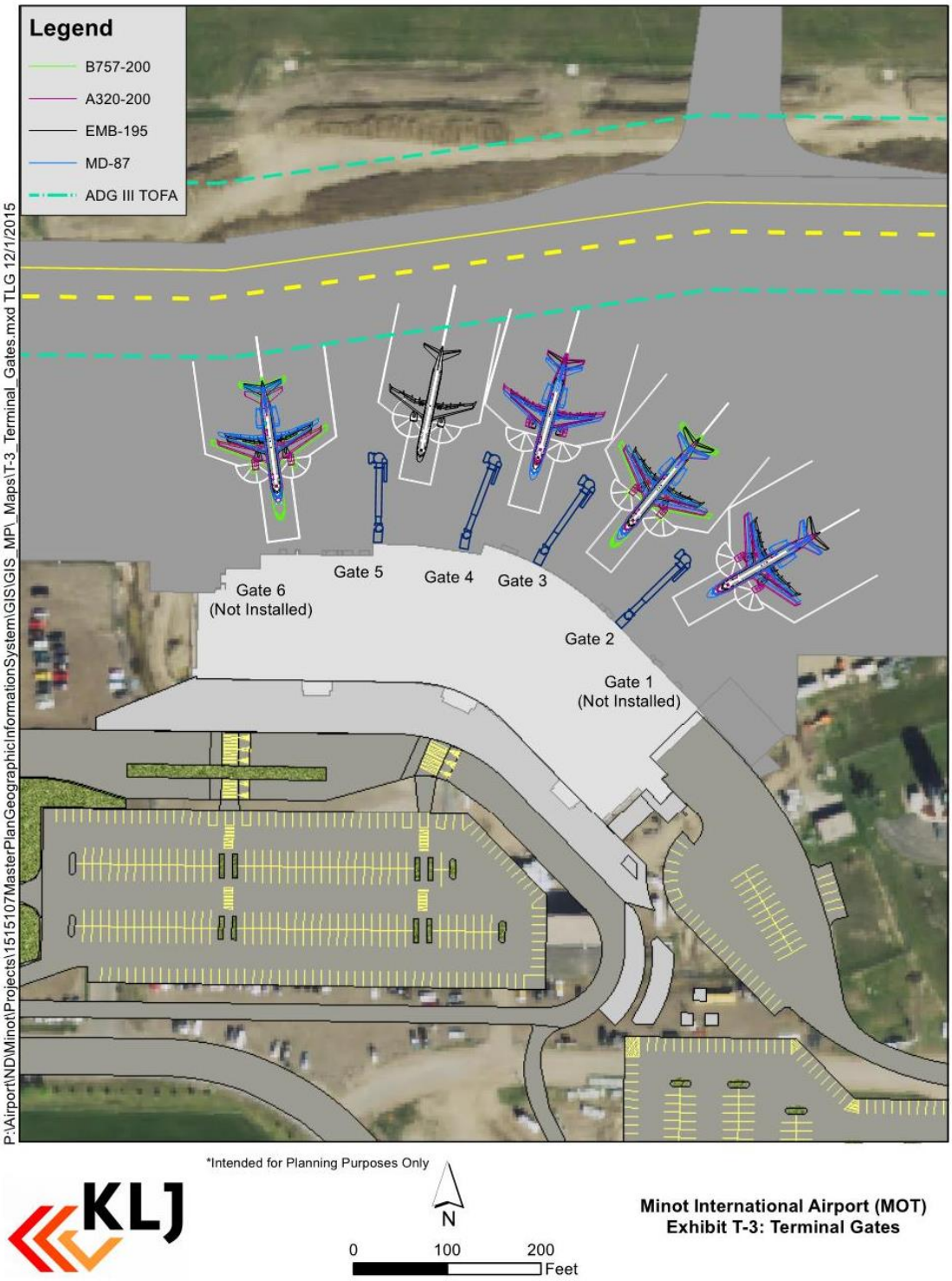
Gate	Total Space (sf)	Apron Design			Hold Room Design
		Aircraft	Seats	Difference (sf)	
1*	2,260	A320	177	-640	135 Seat Aircraft
2	2,150	B757	215	-1,250	120 Seat Aircraft
3	1,880	A320	177	-1,020	100 Seat Aircraft
4	1,635	E195	106	-265	90 Seat Aircraft
5	3,765**	B757	215	365	160 Seat Aircraft
6*	1,400	E195	106	-500	150 Seat Aircraft

** Gates 1 and 6 do not have boarding bridges installed. ** Includes overflow area available for both gates 5 and 6.*
Source: KLJ

Baggage Claim

The baggage claim area at MOT is on the lower level in the west portion of the terminal. It is accessible to deplaning passengers by convenient stairs, an elevator and escalator. The area has two surface baggage conveyors with a total of 450 linear feet of baggage claim frontage. Total area for baggage claim is approximately 12,000 square feet. There is expandable space for another 150 linear foot baggage claim device. Baggage is offloaded directly onto the surface claim conveyors behind the claim area in the tug tunnel.

Exhibit T-3 Terminal Gates



Airport Administration
The 4,400 square foot primary MOT airport administration area is located on the upper level west portion featuring a conference room, six (6) offices, work room and storage space. Two separate conference rooms and a badging office totaling 650 square feet are located on the lower level.

Restrooms
There are a total of ten (10) separate public restroom facilities located throughout the MOT terminal building. There are a total of six (6) men's and six (6) women's stalls in the non-secure portion of the building plus one family restroom. On the secure side there are 10 men's and 10 women's stalls plus one family restroom.

Concessions
There is dedicated space for two concessions in the terminal. On the lower level non-secure side there is a vending area. On the upper level secure side there is 2,400 square feet for a restaurant including kitchen and dining area and a separate gift shop. A Sally-Port is connected to the restaurant providing secure access to and from the kitchen. With this Sally-Port, hot food can be provided to a non-secure eating area from the kitchen in the secure area.

Support Facilities
Support facilities include communication, utilities, janitorial and general storage.

Ground Transportation
There is approximately 3,100 square feet of space dedicated to rental car concessionaires. There is space for five (5) 200 square foot offices. There is approximately 20 feet of queueing space available in front of the rental car counters.

Terminal Curbside
There is approximately 430 linear feet of curbside frontage in front of the MOT terminal building for passenger pick-up and drop-off. Of this, 240 linear feet is in front of the ticketing area and 190 linear feet is in front of the baggage claim area. There are two dedicated lanes for loading and unloading, with a third lane for through traffic. In front of the baggage claim area, there is one separate bus/taxi/limo queuing lanes with approximately 150 linear feet of frontage, and another lane for through traffic.

AUTOMOBILE AND GROUND VEHICLE ACCESS

The information regarding ground vehicle access is detailed in **Appendix J – Support Facilities**. In general, access to the passenger terminal complex is from U.S. Highway 83 via Airport Road. The terminal loop roadway is a one way, multi-lane road which makes a complete loop around the short-term parking area and provides direct access to the Rental Car and Employee parking areas. A separate access from Airport Road serves a separate long-term parking area as well as access to the terminal building loading dock and south general aviation complex.

AUTOMOBILE PARKING

Public automobile parking is provided in lots on the south and west side of the passenger terminal. In total, the lots have 1,525 parking spaces, with 32 handicapped accessible. There are dedicating parking lots for short-term parking, long-term parking, economy parking employee and rental car parking. See **Exhibit T-4** for more information on parking lot size and location. The parking lots include:

- Public Parking: 1,386 spaces
- Employee Parking: 49 spaces
- Rental Car Parking: 90 spaces

Table T-3 Passenger Terminal Parking Needs

Parking Lot Type	Existing or Projected Need				
	Base	PAL 1	PAL 2	PAL 3	PAL 4
Public Parking Demand	837	730	765	917	1,100
Public Parking Supply	1,386	1,386	1,386	1,386	1,386
Emp Parking Demand	54	47	49	59	71
Emp Parking Supply	49	49	49	49	49
RC Ready/Return Demand	150	130	133	161	190
RC Ready/Return Supply	90	90	90	90	90
RC Storage Demand	200	174	183	219	263
RC Storage Supply	0	0	0	0	0
TOTAL DEMAND	1,241	1,081	1,130	1,356	1,624
TOTAL SUPPLY	1,525	1,525	1,525	1,525	1,525

Source: KLJ Analysis

PASSENGER CONVENIENCE

Passenger pick-up and drop-off is located directly adjacent to the passenger terminal. Additional ground transportation including taxis, busses and limousines are located a mere 200 feet from the baggage claim exit. The rental cars are located 1,000 feet to the west of the terminal via an uncovered sidewalk. The short-term automobile parking lot is located between 150 and 750 feet from the nearest terminal building entrance. The west long-term automobile parking lot is located between 750 and 1,450 feet from the nearest terminal building entrance. The east long-term automobile parking lot is located between 200 and 1,350 feet from the nearest terminal building entrance.

TERMINAL AIRCRAFT PARKING APRON

The existing commercial aircraft apron consists of 50,000 square yards of concrete with space for six (6) aircraft parking positions suited for a variety of aircraft serving MOT. The parking positions are designed to accommodate aircraft ranging from Embraer 195 up to Boeing 757-200. All parking positions are designed for power-in, push-back aircraft operations. In addition, the terminal apron is bounded on the north side with Taxiway D for safe aircraft maneuvering to/from the airfield to the parking positions. There is also sufficient area for ground servicing the aircraft, and storage of the ground service equipment (GSE).

DEICING FACILITIES

Deicing at MOT is conducted for the airlines on the former airline terminal apron immediately west of the new terminal apron. Deicing equipment is parked adjacent to the terminal building. Due to the low outside air temperatures, deicing fluids are currently stored in the former Terminal building. The deicing fluids are sprayed onto the aircraft and any excess fluid drains into the airports storm sewer system. The airport regularly monitors discharges from the storm sewer system in compliance with the North Dakota Pollutant Discharge Elimination System (NDPDES) permit from the North Dakota Department of Health.

Terminal Area Recommendations

Terminal Space Allocation

No changes are recommended to the terminal space allocation. The terminal has sufficient overall space to accommodate the demand within the planning period. Facility improvements should be considered as demand dictates.

Ground Access and Parking

The total capacity of parking spaces is generally adequate through the planning period, but the allocation of those spaces leave a deficiency for rental car ready/return and storage. A reallocation of space is recommended early in the planning period to balance the availability of space with the needs. No roadway changes are recommended in the terminal area.

Apron and Deicing

The apron space is narrow for gates 4, 5 and 6. An expansion of the apron is recommended in the planning period to make the apron depth equal.

Exhibit T-4 Access Roads and Terminal Parking