CHAPTER 5

LANDSIDE FACILITIES

5.0 INTRODUCTION

This chapter focuses on the landside circulation and access system at the Spokane International Airport (GEG or "the Airport"), and includes the following four components.

- Airport Roadway and curbside facilities.
- Parking facilities including public, employee and rental cars.
- Airport ground access.
- Public transportation.

Existing traffic conditions and planned roadway improvements are discussed in **Chapter 1**. Individual facility requirement needs or improvements are derived from demand forecasts provided in **Chapter 2**. Consistent with the industry standard, landside facility requirements are largely influenced by passenger demand and by the multiple modes of access to and from the Airport.

Passenger enplanement forecasts during peak periods are driving the planned landside facility improvements. Passenger enplanement levels are forecasted through the year 2030, and are expected to have a compound annual growth rate (CAGR) of 3.42%. This growth rate nearly doubles the number of enplanements over the next 20 years, which will require additional parking facilities for private automobiles, taxis, shuttles, and rental cars.

5.1 TERMINAL ACCESS AND CURBSIDE FACILITIES

Airport Drive is the primary roadway serving the terminal facility at GEG. This section focuses on the functionality of the Airport Drive in the vicinity of the terminal and the effectiveness of the existing curbside facilities at the terminal building. A 2010 traffic study conducted by DKS Associates (2010 Traffic Study) indicated that Airport Drive has an Average Daily Traffic (ADT) volume of 5,500 vehicles per day. The 2010 Traffic Study also inventoried landside signage, and made improvement recommendations. As passenger volumes increase at the terminal building, traffic flow through the terminal areas as well as curbside facilities will become increasingly significant.

The 2010 Traffic Study classifies the curbside facilities as "congested" during peak travel periods because of the number of vehicles waiting to load and unload passengers. Airport management has identified the need to modify the configuration of the travel lanes, signage and posted speed limits nearest the terminal area. Airport management intends to designate curbside facilities according to use, such as shuttle bus drop-off zones, in specific areas. Curbside designations for separate uses are intended to improve traffic flow as shuttle busses that take longer to load and unload will not block private vehicles, which typically do not take as long to load and unload.

Short-term recommendations place emphasis on the on the following improvements.

- Improving wayfinding and roadway signage.
- Enhancing the landscaping in the medians and on the sides of the road.
- Providing designated taxi, shuttle, and charter bus pick up and drop off areas.

Passengers provided several suggestions regarding their desire to see fueling and convenience stores closer to the terminal. GEG has identified suitable sites for gas station and convenience store development to accommodate passenger preference.

It is expected the existing terminal landside infrastructure will be sufficient for many years given the forecasted level of passenger demand. Larger improvement projects are expected after the new runway, described in Chapter 3, and new midfield terminal, described in Chapter 4, are constructed.

Short term improvements are shown in **Figure 5-1**.

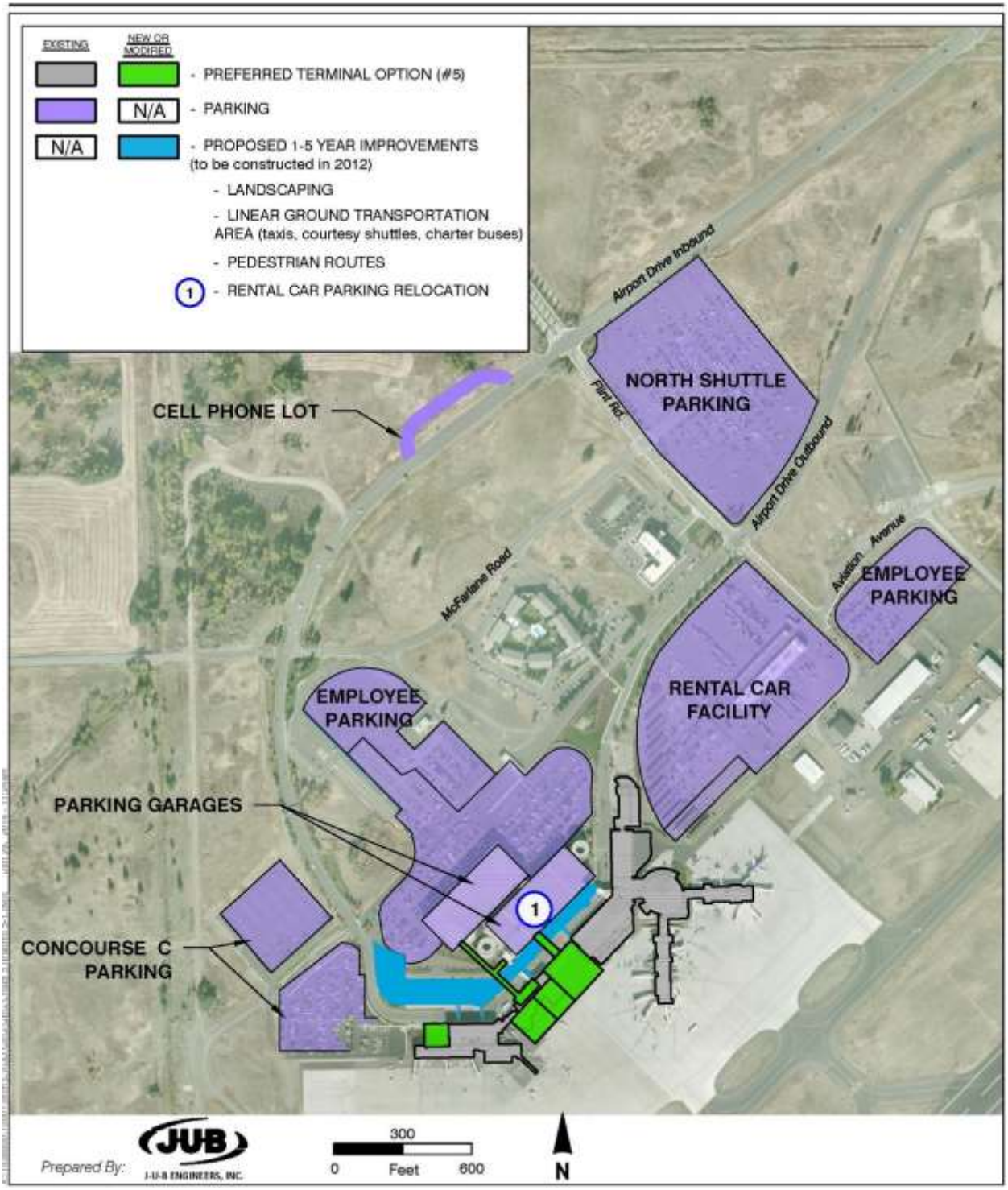

Figure 5-1

Short-Term Access Improvements

Spokane International Airport

5.2 PARKING FACILITIES

Vehicle parking facilities at GEG include spaces for public parking, employee parking, and rental car parking. Public parking consists of two parking garages with 2,600 parking spaces, three long-term surface parking lots with 1,700 parking spaces, and two short-term surface parking lots with 70 parking spaces. There are two employee parking lots with 1,000 parking spaces, located near Flint Road and McFarland Road. There are 1,900 rental car parking spaces.

The public parking facilities average 3,000 occupied spaces per day. Airport management records indicate that up to 4,000 parking spaces, 750 parking employee parking spaces, and 1,600 rental car parking spaces were occupied during peak periods in 2010.

There are eight rental car companies operating at GEG in 2013. The pick-up and drop off facilities are shared between the rental car companies. The pick-up and return lot is located northeast of the terminal facilities, and contains covered and uncovered parking spaces. Access to the return lot is via Airport Road and Flint Road. The rental car facilities also include parking spaces designated for the servicing of vehicles called the quick turnaround area (QTA).

Airport management has a number of concerns with existing parking facilities and operations, including the following.

Airport maintenance closes down the double helix ramps used to access Parking Garage One when heavy snowfall accumulates. The double helix ramps are inaccessible to snow plows and the presence of ice and snow is hazardous to other vehicles. The stairs providing access to Parking Garage One are typically shut down in the winter due to snow and ice accumulation as well, which sometimes causes pedestrians to walk up the double helix ramps to access their vehicles. Airport management recognizes the safety concerns associated with pedestrians and vehicles occupying the ramps during snowy and icy conditions, and is developing alternatives to solve this problem. Alternatives include the addition of screening on the existing helixes and stairwells, demoing the existing helixes, or building a new parking garage without helix structures.

Parking Garage Two is newer than Parking Garage One, but there are functionality concerns with this structure as well. Drivers have reported becoming disoriented when parking due to insufficient signage within the structure. Drivers changes levels on ramps that go up and down two stories, which also causes confusion for some. Some passengers have commented that it is difficult to find a pedestrian route to the terminal after parking in Parking Garage Two.

It is expected that parking demand will increase proportionally to projected passenger enplanement demand. Using this methodology, public and employee parking demand are expected to exceed the existing parking facility capacities within ten years. Parking demand forecasts are shown in **Table 5-1.**

Table 5-1. Summary of Additional Parking Spaces Needed					
Parking Facility	Existing Supply (March 2011)	Estimated Additional Parking Spaces Needed			
		2015	2020	2025	2030
Public	6,869	0	0	334	1,753
Employee	1,063	0	0	47	163
Rental Car	1,910	0	279	709	1,225
Total	9,842	0	279	1,090	3,141

(Source: J-U-B ENGINEERS)

It is expected that there are an adequate number of parking spaces available through 2020 in the public and employee parking facilities; however, there will be a need for 280 rental car parking spaces. Near-term terminal improvements, discussed in Chapter 4, locate the 280 rental car parking spaces inside Parking Garage One. Parking demand forecasts expect that all three categories of parking will need additional parking spaces in 2025. The location and type of parking facility depends on the progress of the planned implementation of a new midfield passenger terminal. Until the midfield terminal is built, it is recommended that the Airport place additional surface parking within the infill area created by Airport Drive. After the midfield terminal is built, it is expected that landside facilities will be reconfigured. Modifications and improvements are to be made to vehicle circulation roads and parking facility locations, which will allow for the additional parking capacity.

5.3 ULTIMATE TERMINAL ACCESS AND PARKING CONCEPT

The area located along Airport Drive can be developed to accommodate additional parking demand through 2030, as shown in **Figure 5-2**. It is expected that future planning exercises will assess and refine parking facility demand and development. A conceptual reconfiguration of terminal landside facilities has been developed to guide long-term planning. This development considers the proposed new runway and midfield terminal. Long-term landside improvements place emphasis on the following.

- Reconfiguring Airport Drive to access the midfield terminal location and provide additional space for infill facility development, including parking, hotels, transit, and rental car facilities.
- Consolidating the northernmost inbound and outbound road segments northeast of the terminal to enhance traffic circulation.
- Reserving property for high performance transit right of way.
- Improving separation of airport vehicles, private vehicles, and local non-airport traffic to enhance efficiency and safety.
- Establishing a long-term development plan that can accommodate future demand.

5.4 OTHER ROADWAY ACCESS CONSIDERATIONS

GEG is connected to its service area via interstate, U.S., and state highways, including Interstate 90 and U.S. Highway 2. Major roadways tying into the system of highways include Airport Drive, Flint Road, Spotted Road and Geiger Boulevard. Primary access into and out of the Airport's Business Park area is provided by Flightline Boulevard, Pilot Drive, and Spotted Road.

Airport management has identified three concerns pertaining to existing and future vehicle access and circulation. The first concern is that peak traffic volumes on eastbound U.S. Highway 2 cause delays to left-turning traffic at the Flint Road and Spotted Road intersections. Vehicle accidents along U.S. Highway 2 at Flint Road have elevated the safety concerns in this area. The second concern is that Geiger and Flightline Boulevards routinely experience congestion associated with heavy truck traffic. The third concern is that development of the new runway could result in the need to realign roadways that provide access to GEG, which could influence terminal building development.

Roadway improvements are intended to maintain or enhance the level of service (LOS) and safety conditions of access roads serving GEG. LOS is a metric that quantifies traffic flow and congestion. LOS categories are defined in the Transportation Research Board Special Report No. 209*, The Highway Capacity Manual* (TRB Report 209). TRB Report 209 defines LOS categories alphabetically from A to F. LOS A indicates little to no vehicle delay, and LOS F indicates significant vehicle delay and congestion which may lead to system breakdown. LOS is a temporal rating, and changes based on conditions. Most roads have LOS A during slow periods, and then experience a LOS degradation during periods of higher demand. LOS during peak periods is the most critical.

The 2010 Traffic Study rated Airport Drive at Flint Road (inbound) as LOS A for morning peak hour (5:00a.m.) and LOS C for midday peak hour (12:15p.m.). It is recommended that GEG access roadway improvement projects are designed to provide LOS C or better during peak periods.

Transportation planning is a regional process, and as a regional public facility, landside facilities at GEG are planned to integrate with transportation plans prepared by other entities. Other transportation plans considered include the Spokane Regional Transportation Council West Plains/Spokane International Airport Sub-Area studies, and Washington State Department of Transportation (WSDOT) studies. These improvements are shown in **Figure 5-3**, and described below.

- **21st Avenue East Extension** –WSDOT has studied a three-lane extension of 21st Avenue to provide congestion relief to U.S. Highway 2 through City of Airway Heights. The alignment of the extension may impact the Airport Business Park. There are several challenges of connecting the east end of 21st Avenue with U.S. Highway 2 while maintaining separation of U.S. Highway 2 and Airport Drive interchange. West of the Airport Drive interchange there would be four lanes on U.S. Highway 2, four lanes on Airport Drive. 21st Avenue will have either two or four lanes that will feed on to U.S. Highway 2 to the east of the Airport Drive interchange. The 21st Avenue Extension between Hayford Road and Flint Avenue would provide a new access route to the Airport that was lost when McFarlane Road was closed.

- **U.S. Highway 2 and Flint Road Traffic Signal** – Traffic associated with the development along U.S. Highway 2 causes delays and automobile accidents at the intersection with Flint Road. It is expected that delays and the risk of accidents will increase as development continues. The installation of a traffic signal has been identified as the appropriate mitigation technique at this location.
- **U.S. Highway 2 and Spotted Road Safety Improvements** – An increase in vehicle traffic at the intersection of U.S. Highway 2 and Spotted Road has come with an increase in vehicle accidents. U.S. Highway 2 has a rise to the east of the intersection, which makes it difficult for northbound traffic on Spotted Road to see oncoming vehicles on U.S. Highway 2. One safety improvement under consideration is prohibiting left turns from Spotted Road on to U.S. Highway 2. This technique may decrease accidents at the Spotted Road intersection, but it is expected that traffic looking to turn left will use Flint Road instead. This will increase traffic volumes at the U.S. Highway 2 and Flint Road intersection, increasing the risk of accident. Limited eastbound line of sight prohibits the installation of a traffic signal at this location. This intersection remains under evaluation.
- **Hayford Road Realignment** – Hayford Road will need to be realigned to accommodate proposed runway. Realignment techniques include relocating the surface road, or tunneling the road underground. It is recommended that the Airport continue to coordinate with local transportation planners to keep realigned Hayford Road outside of the runway protection zones of existing and planned runways. WSDOT is considering improvements to the interchange of Interstate 90 and Medical Lake Road. Realignment of Hayford Road should consider maintaining access to this interchange, which would give planned westside airport development direct access to Interstate 90.
- **Flint Road and Inbound Airport Drive Improvements** – The intersection of Flint Road and inbound Airport Drive is classified as LOS B, but LOS is predicted to decline to LOS D within the 20-year forecast period. The need for improvements to this intersection relates more to accident protection than safety. One technique being considered is reducing speed limit on inbound Airport Drive east of Flint Road. Another technique is prohibiting traffic on Flint Road from crossing Airport Drive. This improvement may improve safety, but it will increase driving distances and the number of vehicles on Airport Drive.
- **Airport Drive and Spotted Road** – There are no capacity issues on the inbound and outbound Airport Drive intersections with Spotted Road, but these intersections have a history of vehicle accidents. Several safety improvements have been completed including the addition of rumble strips on Spotted Road and flashing lights on the stop signs. One safety improvement under consideration is an overpass to eliminate the intersections. If this improvement moves forward, it is recommended that both directions of Airport Drive are relocated together instead of constructing two bridges.

- **East Side Access Improvements** – The Airport Business Park is located on airport property east of Spotted Road. Additional road access is needed as part of the development. New roadways should be planned to integrate with existing and planned road developments.
- **I-90 and Geiger Interchange Capacity Improvements** – The Interstate 90-Geiger Road provides significant service to the east side of the Airport, and experiences congestion and delay during peak periods. One alternative relocates the westbound Interstate 90 off-ramp to the east, which allows installation of turn lanes and a traffic signal at the intersection of Grove Road and Geiger Boulevard. Another alternative under consideration is to install a roundabout at the intersection of Geiger Boulevard and Grove Road.
- **Thorpe Road Connection** – This connection which would cross over Interstate 90 and connect Electric Avenue west of I-90 to Thorpe Avenue east of Interstate 90. It is expected that this improvement will relieve congestion on Geiger Road and at the Interstate 90-Geiger Road interchange.

5.5 PUBLIC TRANSPORTATION ACCESS

Spokane Transit Authority (STA) Route 60, *Airport/Browns Addition*, connects GEG to the Spokane public transit network. Service is provided every 30 minutes from 6:00a.m. to 6:00p.m., and every hour from 6:00p.m. to 10:00p.m. on weekdays. STA serves GEG hourly between 6:00a.m. and 10:00p.m. on Saturdays. Service on Sundays and Holidays is hourly from 6:00a.m. to 6:00p.m., and every 30 minutes between 6:00p.m. and 10:00p.m. No changes to bus service are expected in the near-term.

The Airport is preserving space for a high performance transit corridor, which may have a stop at GEG. It is recommended that the Airport continue to preserve this space.

5.6 SUMMARY

Major landside improvement projects at GEG are expected to occur during the long-term, and several street access projects are being conducted by other organizations. Airport-specific landside improvement projects include the following.

By 2020:

- Construct a separate commercial vehicle pick-up and drop-off lane, improve signage access road signage, and street side and median landscaping.
- Relocate and expand the parking garage office.
- Relocate 280 rental car spaces to Parking Garage One.
- Construct access and internal roadways within the Airport Business Park.
- Continued safety improvements and project support on surface roads.

By 2030:

- Construct additional surface parking as needed between inbound and outbound Airport Drive.

Beyond 2030:

- Realign Hayford Road to accommodate new runway.
- Combine inbound and outbound Airport Drive at Spotted Road; and construct an overpass.
- Realign Airport Drive to access new midfield terminal, provide additional infill space for parking, improve terminal complex circulation.
- Preserve a corridor to connect new midfield terminal with potential regional high performance transit.