# Land Use Planning & Development Concepts



# Volume II

## January 2013



### Section 1 SWOT Analysis, Planning Guidelines and Site Constraints

1.1	SWOT Analysis	1-1
1.2	Planning Guidelines and Assumptions	1-4
	1.2.1 Aviation Use	1-5
	1.2.2 Overall Development Product	1-5
	1.2.3 Roadways / Access	1-6
1.3	Site Constraints	1-7

### Section 2 Land Use Plan and Site Development Concepts

2.1	Master Land Use Plan	
2.2	Site Development Concepts	
	2.2.1 Tract 'A'	
	2.2.2 Tract 'B'	
	2.2.3 Tract 'C'	
	2.2.4 Tract 'D'	
	2.2.4 Tract 'F'	
	2.2.4 Tract 'G'	
2.3	Summary	

## Figures

Figure 1-1 SWOT Analysis	
Figure 1-2 Operational Constraints	
Figure 1-3 Topographic Constraints	
Figure 1-4 Roadway Buffer Zones	1-10
Figure 1-5 Roadway Buffer Sections	
Figure 1-6 Cumulative Constraints and Slope Analysis	1-12
Figure 2-1 Land Use Plan – Alternative 1	
Figure 2-2 Land Use Plan – Alternative 1A	
Figure 2-3 Tracts for Further Refinement	
Figure 2-4 Tract 'A' – Alternative 1	
Figure 2-5 Tract 'A' – Alternative 2	
Figure 2-6 Tract 'B' – Alternative 1	
Figure 2-7 Tract 'B' – Alternative 2	
Figure 2-8 Tract 'C' – Alternative 1	
Figure 2-9 Tract 'C' – Alternative 2	
Figure 2-10 Tract 'D' – Alternative 1	
Figure 2-11 Tract 'D' – Alternative 2	
Figure 2-12 Tract 'F' – Alternative 1	



Figure 2-13	Tract 'F' – Alternative 2	
Figure 2-14	Tract 'G' – Alternative 1	
Figure 2-15	Tract 'G' – Alternative 2	2-22



## Section 1 SWOT Analysis, Planning Guidelines and Site Constraints

This section outlines the process through which the study team evaluated the physical characteristics of the property at the Greenville-Spartanburg International Airport (GSP) against the marketing and highest and best use analyses completed in Volume I of the study report. The analyses completed includes a strengths, weaknesses, opportunities and threats (SWOT) analysis, as well as determination of appropriate and desired planning guidelines, assumptions and development criteria. Finally, the physical site constraints that relate to the identified planning assumptions and development guidelines will be mapped to reveal the true development potential of each site. These analyses, in conjunction with the real estate market analysis outlined in Volume I, will be used to guide the identification of land uses and development types in Sections 2 of this report.

The following sections outline the results of each of these analyses and will be used to develop the land use plan and development concepts for GSP.

## 1.1 SWOT Analysis

A SWOT analysis is a strategic planning tool that identifies the Strengths, Weaknesses, Opportunities and Threats (SWOT) associated with a specific action, object or area. SWOT analyses involve indentifying a specific object (i.e. GSP) and listing the internal and external factors, both favorable and unfavorable, that will impact the success of that object in a given operating environment. The SWOT analysis for the GSP land use planning and development effort categorizes the features of the airport and operating environment into one of the following categories:

- Strengths internal resources that are helpful to achieving the airport's mission and development goals
- Weaknesses internal deficiencies that are harmful or limiting to the mission and development goals of the airport
- Opportunities external conditions, trends or factors that are helpful and beneficial to the mission and development goals of the airport
- Threats external conditions or impediments that are harmful or contradictory to the airport's mission and development goals

The relationship of these features and potential impact to the success of the development are illustrated in **Figure 1-2**.





Figure 1-1 SWOT Analysis

The SWOT analysis for GSP is based on information gathered and presented in Volume I of the study report and categorized based on the primary elements that impact the overall competitiveness of the airport considering other facilities in the region. The strengths/opportunities identified generally represent areas or characteristics that should be promoted and/or targeted when marketing GSP. The weaknesses or threats represent potential deficiencies represent characteristics or factors that should be improved or mitigated to limit their impact on the success of the airport. The results of the SWOT analysis are presented below.

#### **Internal Strengths**

- GSP has a large amount of land available for development both aviation and non-aviation uses
- GSP has excellent facilities and available capacity (runway, rail, highway, etc.)
  - Plans for future parallel runway if needed
- There are four interchanges with Interstate 85 providing highway access to the airport and excellent ground transportation access
- GSP has enhanced passenger service provided by several mainline carriers with mature route structures
- There are established cargo handling services with increasing demand for cargo services and facilities



- Internal airport district organizational support for future growth of GSP
- Ability to create various incentives for future development
- Established vision / product and customer service level (image)

#### Internal Weaknesses

- Some topographic challenges across most development parcels will likely limit the total available developable acres
- Ability to achieve dual rail service is questionable due to the alignment of the Norfolk Southern line and unlikely nature of crossing it with competing rail service
- Some residential development adjacent developable airport property that creates potential for some incompatible land uses. Screening and buffering using natural or manmade structures may be necessary in some areas
- Limited non-aviation parcels currently development ready
  - Cost to open/develop some parcels could be significant due to necessary infrastructure (taxiways and apron area) and/or earthwork to correct unsuitable topography
- Costs to develop true multimodal site may be significant due to site conditions and infrastructure requirements (second rail line access, taxiway to airfield, etc.)

#### **External Opportunities**

- The Upstate region is a leader in manufacturing center of excellence
  - Manufacturing is one of the leading industries in terms of economic recovery not only for the Upstate area but nationwide
- There is a significant lack of available Class A industrial space in Upstate region and surrounding areas
  - Higher product level is just not currently available in the marketplace
- BMW and other large local manufacturers provide a certain level of existing cargo demand which has been steadily growing over the past 12 months
  - There is an established level of cargo handling service through past BMW activity
  - There are a number of logistics providers currently located at or familiar with GSP
  - BMW and current logistics providers seeking scheduled cargo service options
- There is some potential to serve unmet and/or future demand created by the Boeing manufacturing facility in Charleston
- There is a supportive local and regional economic/business development community in place that GSP can partner with
- GSP has a unique ability in Southeast region to provide enhanced multimodal capabilities with significant available land for development
- There is a significant labor pool of skilled workers in a low cost of living area in the Greenville, Spartanburg, Greer and overall Upstate area

#### **External Threats**

• There has been slow economic recovery in many market segments in the Upstate region, southeast and nationwide



- Commercial financing market is a significant challenge for developers and projects
  - This is especially so when considering lease vs. own scenarios
- There is significant cargo/multimodal competition from larger regional airports Atlanta and Charlotte
- It could be challenging to establish the minimum demand/volume threshold for cargo/logistics operations in the short-term without additional tenant or local demand

The SWOT analysis presented in this section represents a summary of the major factors that will impact the marketing and development efforts of the airport. The factors focus on the strategic themes and trends for the land use planning and development effort that will be important to GSP's ability to expand existing markets and obtain market share in underserved, new and/or emerging market segments. The SWOT analysis will be particularly important in later sections of this chapter when considering the overall marketing plan for the airport and evaluating development opportunities that should be considered and/or pursued. By ultimately comparing the proposed marketing plan and development opportunities against these factors and strategic themes, an understanding of how well they fit the airport's existing SWOT can be established.

## 1.2 Planning Guidelines and Assumptions

This section establishes the planning approach, guidelines and assumptions for establishing the land use and site development concepts for GSP. In general, the following items have been considered and incorporated in to the planning guidelines and assumptions:

- Spatial organization;
- Aesthetics, architectural and community/campus image;
- Flexibility to accommodate future fluctuations in demand;
- Technological changes and changes in aviation operations;
- Ground access system support (roadway and rail);
- Driving distances and times;
- Construction impacts, including ease of phasing and construction;
- Construction and operating costs;
- Airfield delays and other operational factors; and
- Environmental impacts.

The overall planning approach and conceptual evaluation criteria, including basic development assumptions, was developed using the above general criteria. The resulting planning and development guidelines were the segmented into functional categories and are presented in the following sections.



### 1.2.1 Aviation Uses

Aviation uses are those land uses and development types that require access to the airfield for performance of core business functions. These uses must be located on an airport based on the functional requirements of their business operation and other sites that do not have airfield access will not be adequate. In general aviation uses at GSP will be;

- Aviation uses should be maximized when runway access and adequate topography exist or are planned
- All taxiway and taxilane infrastructure to support aviation uses should meet Group V design standards
- Aviation uses should be planned in "clusters" or "modules" to maximize efficient land use
- Land use plans and development concepts should accommodate relocated ATCT
- Land use plans and development concepts should accommodate the proposed future runway and dual parallel taxiways
  - Accommodate long term aviation growth based on future airfield configuration
- Evaluate the potential for an extension of aviation access north of Highway 101
- Plans should accommodate potential growth in air cargo based on recent demand/opportunities through BMW and increases in cargo demand over the past 12 months
- Plans should anticipate future aviation activity through flexible land use concepts to accommodate opportunities in corporate, executive training, manufacturing, maintenance/MRO, and R&D

### 1.2.2 Overall Development Product

The following planning assumptions were developed to guide the overall development product to ensure the ultimate build out meets the aesthetic and quality level envisioned for the overall development product at GSP.

- The market demand, highest and best use and physical site characteristics should guide the land use plan and development concepts
- The ultimate development should create a unique, high quality product not currently available in Upstate region or southeast in general
- Industrial uses should be high quality Class 'A' industrial facilities with opportunities for multimodal and FTZ capacity where possible/feasible
  - $\circ$  50% +/- lot coverage
  - o Utilize natural features/characteristics of land to guide development



- Plans should seek to accommodate high tech aviation/aerospace technology, training, manufacturing and/or research & development facilities and uses
- Plans should include opportunities for development of corporate facilities and manufacturing centers of excellence
- Land use and development concepts should plan for short- to mid-term use of proposed future runway area that limits any "throw away" facilities
- All plans and concepts should maintain larger flexible parcels to the greatest extent possible
- There should be extensive use of buffers and green space to maintain natural beauty (campus/park like feel)
  - Standardize buffer/landscape across property campus feel
  - o Large/dense buffer along airport entry road
  - Utilize existing characteristics of land to create natural buffers (streams, topography, etc.)

### 1.2.3 Roadways / Access

The planning guidelines outlined in this section were developed to establish the minimum criteria necessary to ensure that future ground access and travel to and from the airport remains efficient and free from excessive delay and congestion. The planning and development assumptions related to future roadways and ground access include;

- Plans should have no access/curb cuts into Airport entrance road –in order to maintain the existing ease of access and use of the terminal area
- Roads should utilize curb and gutter design in more campus/business park areas but remain natural road edge without curbs in more natural areas such as the airport entrance road.
- Plans should include road way buffers and landscape packages to promote a common campus feel across the airport property
- Common signage and way finding should be sued throughout the property to enhance the airport campus feel
  - o Identify areas for improved landscape/entry design
- Plans should maintain smooth traffic flow and reduce opportunity for congestion
  - Utilize existing access points where feasible
  - o Identify new access points where needed
  - Identify potential improvements (i.e. traffic signals, added turn or travel lanes, etc.)
- Traffic should be segregated by land use/traffic type



• Restrict/minimize industrial traffic through retail/hospitality, commercial or professional/technical uses

## 1.3 Site Constraints

Upon completion of the market assessment and highest and best use analysis (Volume I) and the SWOT analysis and planning assumptions and development guidelines (Sections 1.1 and 1.2); the next step in the planning process is to determine the realistic amount of development area actually available given existing natural or manmade site constraints. These site constraints can often significantly reduce the total acreage available for development and subsequently limit the type of land use and development that may be deployed without unacceptably high costs of construction and/or operation.

During this process a total of nine areas of currently vacant land were identified as potential development areas at GSP. The following preliminary site constraints and conditions were then evaluated across airport property to determine their potential impacts on the nine identified development areas:

- Airfield and operational constraints
- Topographic constraints
- Roadway buffers and screening
- Roadway landscape and buffer section analysis
- Cumulative constraints and slope analysis

The following site constraint maps depict the results of the above analysis and resulting developable acreage. In all cases, reduction to the total potential development area within each of the nine identified development areas was found. It should be noted that a conservative approach to site constraints, especially when related to airfield operations and site topography, we taken in this analysis and more land for development in certain tracts may be realized depending on the land use type and overall development approach taken. An example of this is that smaller foot print buildings can more easily utilize rough terrain and steeper slopes.

**Figures 1-2 through 1-6** illustrate the results of the site constraint analysis and subsequent mapping effort.





![](_page_10_Picture_1.jpeg)

OPERATIONAL CONSTRAINTS

![](_page_11_Picture_0.jpeg)

![](_page_11_Picture_1.jpeg)

TOPOGRAPHIC CONSTRAINTS

![](_page_11_Picture_3.jpeg)

![](_page_12_Picture_0.jpeg)

![](_page_12_Picture_1.jpeg)

ROADWAY BUFFER ZONES

![](_page_12_Picture_3.jpeg)

![](_page_12_Picture_4.jpeg)

![](_page_12_Picture_5.jpeg)

![](_page_13_Picture_0.jpeg)

ZONE 1-GSP CAMPUS ENTRY

![](_page_13_Picture_2.jpeg)

## ZONE 2-SECONDARY CAMPUS ENTRY

![](_page_13_Figure_4.jpeg)

## ZONE 3-PERIMETER ARTERIAL ROADS

![](_page_13_Picture_6.jpeg)

![](_page_13_Figure_7.jpeg)

## ZONE 5-HIGHWAY COMMERCIAL FRONTAGE

PRELIMINARY LANDSCAPE BUFFER STUDY GSP AIRPORT AND ENVIRONS BUFFER ZONE SECTIONS MARCH 20, 2012

NOTE: SECTIONS DO NOT NECESSARILY REPRESENT EXISTING TOPOGRAPHY AND EXISTING VEGETATION

![](_page_13_Picture_11.jpeg)

ROADWAY BUFFER SECTIONS

![](_page_13_Picture_13.jpeg)

![](_page_13_Picture_14.jpeg)

![](_page_13_Picture_15.jpeg)

![](_page_13_Picture_16.jpeg)

![](_page_14_Picture_0.jpeg)

![](_page_14_Picture_1.jpeg)

CUMULATIVE CONSTRAINTS AND SLOPE ANALYSIS

![](_page_14_Picture_3.jpeg)

FIGURE 1-6

## Section 2 Land Use Plan and Site Development Concepts

There are real estate and land use opportunities unique to the Greenville-Spartanburg market that is significantly enhanced by association with the Greenville-Spartanburg International Airport (GSP or the Airport). The intent of this chapter is to build upon the information presented in Volume I and previous sections of this report and outline the highest and best use of the identified development areas at GSP in keeping with the policy directive established by the Airport District (District).

The land use plans and development concepts presented in this chapter address land development from a global campus wide land use perspective down to conceptual site development of six specific development tracts. The total airport land use plan, as well as the final/preferred concept for each development area, will be presented and reflects a consensus having the greatest opportunity for implementation and revenue generation.

## 2.1 Master Land Use Plan

In developing the land use plan for GSP, of special concern was the question of what type of land uses and development product was desired by the Airport, the District, community and local stakeholders. As outlined previously in Volume I, much input was received from airport staff, airport commission and community stakeholder groups and ultimately guided the vision for the master land use plan and included the following ideals:

- A product that is not in a head-to-head competition with off-site development, but is unique in demand based on the relationship with the Airport and multimodal opportunities.
- A product that is aviation, technology and manufacturing driven, serving to differentiate from the off-airport marketplace and target unmet demand in the Upstate.
- A product that is unique, upscale and creates value through strong design standards and selective development and tenants.
- A product that enhances the airport's campus like feel and establishes a sense of place through strong signage, circulation, streetscape, and architectural motif.

![](_page_15_Picture_9.jpeg)

- A development plan containing delineated land uses that are flexible and responsive to market demands.
- A product that can be implemented in a proactive or responsive manner through established infrastructure, site certification and a program specific marketing campaign
- A product supported by the community, local stakeholders and regional economic development programs unique to create a team approach to deployment.

As outlined in Volume I, the Airport currently has property that could be utilized for seven general land use types that could be included in a master land use plan that meets the above requirements. The seven potential uses include; aviation, retail/commercial, office, industrial/intermodal, flex/R&D and hospitality.

Based on a review of projected aviation demand, future aviation development will likely be heavy in commercial passenger service, air cargo service and corporate aviation. Expansion of the commercial terminal area and support facilities is currently underway and additional air cargo facilities will likely be necessary in the short-term period (within 5 years). MRO, manufacturing, research and development and additional corporate hangars, FBO, and maintenance facilities are also likely. Non-aviation development could be spread across all other potential land uses dependant on market conditions and the overall priority established in Volume I by the highest and best use analysis. Market demand, land use compatibility and site conditions ultimately guide the land use planning effort for these non-aviation development opportunities.

The research and analyses completed in the previous Volumes and sections of this report have developed an understanding of the current economic conditions of the local and regional development market in the vicinity of GSP as well as the highest and best use of airport property considering these market conditions. Utilizing this information, in conjunction with the development goals and criteria of the District for GSP and current development momentum of the area, a master land use plan was developed. Ultimately, a preferred land use plan and flexible alternative were developed, creating two potential land use concepts. The master land use plan is presented in the **Figure 2-1** and **Figure 2-2** and presents a long-term guide for the development of compatible and viable aviation and non-aviation land uses at GSP.

![](_page_16_Picture_8.jpeg)

![](_page_17_Picture_0.jpeg)

## LAND USE PLAN - ALTERNATIVE 1

![](_page_17_Picture_2.jpeg)

![](_page_17_Picture_3.jpeg)

![](_page_17_Picture_4.jpeg)

![](_page_18_Picture_0.jpeg)

## LAND USE PLAN - ALTERNATIVE IA

![](_page_18_Picture_2.jpeg)

![](_page_18_Picture_3.jpeg)

![](_page_18_Picture_4.jpeg)

## 2.2 Site Development Concepts

Upon completion of the master land use plan, six development areas/tracts were identified for further refinement into site development concepts/. The six development tracts are illustrated in **Figure 2-3**. Specific criteria in evaluating the general opportunities and constraints of each tract were utilized during initial development of concepts. This criteria, outlined below, established an understanding of what basic site layouts may be feasible while still promoting the overall vision for development and creating a minimum level of quality to set the development standard.

### 1. Building and parcel relationships and sizes

Important to this assessment was an understanding of potential building footprints, including sizes, layout and circulation, and visibility for each development site.

#### 2. <u>Treatment of special features</u>

Special features include things like highway frontage along I-85, Highway 101 and others, airfield access and topography. Because these features are a "given", the concepts must be developed to benefit from these features and minimize negative impacts that may occur.

#### 3. Optimization of attractive natural features

Because final appearance of the site and ability to maintain the "natural beauty" of the area is an important location consideration for the Airport, local residents and businesses, it is important to enhance existing natural features. Such features as creeks, views and natural elevation/grade changes were incorporated into the concepts where possible and appropriate.

#### 4. Integrate Aviation Facilities

For those sites that have airfield access, it was important to consider the currently planned airfield improvements (i.e. future parallel runway, new ATCT, etc.) and develop conceptual layouts of general locations, sizes and configurations of aviation related facilities. The layout must accommodate anticipated demand as well as opportunities for other development that could be supported by the local/regional market and recent development trends. Additionally, aviation facilities such as the air cargo and/or corporate aviation areas should be considered when developing concepts for adjacent non-aviation sites that may benefit from a synergy between the two development types and work to support further growth.

#### 5. Ground Access and Circulation

Consideration of the existing interstate highway, state and local roadway and parking facilities, as well as possible expansion and/or improvements of the overall on-site ground circulation system must be considered during initial concept development. Ultimately the access system must support a high level of service to tenants in order to ensure success of the overall development.

The above criteria and overall planning approach was applied to the four development sites previously mentioned in order to create the initial development concepts.

![](_page_19_Picture_15.jpeg)

![](_page_20_Picture_0.jpeg)

![](_page_20_Picture_1.jpeg)

## TRACTS FOR FURTHER REFINEMENT

![](_page_20_Picture_3.jpeg)

![](_page_20_Picture_4.jpeg)

### 2.2.1 Tract 'A'

Tract 'A' is located directly to the north of the airport along SC 101 and J. Verne Smith Parkway. The tract is approximately 746 acres total, with approximately 452 developable acres. Due to the size and location of the tract it was selected as a prime location for industrial multimodal users. Both alternatives provide ease of access to I-85 and rail without interfering with airport operations.

- Alternative 1 was designed to split the main developable area into 2 near equal size parcels for industrial development. The two parcels each have rail access, three main entrances and a significant amount of road frontage within the industrial park. The smaller parcels would serve the same development purpose as alternative 2.
- Alternative 2 was designed to maximize the acreage in the center of the tract for a single large industrial site. The main parcel includes rail access, three entrances and significant developable area for a major industrial facility. The smaller parcels around the perimeter allow smaller suppliers or industries to work in association with the larger industry if those parcels were not conveyed with the main parcel.

As a result of our analysis and layout Alternative 2 is recommended as the preferred development approach for Tract 'A'. Alternative 1 is presented in **Figure 2-4** and the recommended concept (Alternative 2) is presented in **Figure 2-5**.

### 2.2.2 Tract 'B'

Tract 'B' is located north of the airport across J. Verne Smith Parkway from Tract 'A'. The tract measures 375 acres in total size with approximately 292 developable acres. The tract borders an existing rail line to the north as well as a residential area to the west. Buffers and setbacks will need to be considered along the western boundary of the property in order to provide an acceptable separation from the residential neighborhood. The tract was initially slated to contain a mixture of industrial, light industrial and service users depending on the selected alternative. Development options have been impacted by the proposed intermodal yard on the north portion of the tract.

- Alternative 1 was created to provide a large number of parcels in small four to 18 acre areas. The land type uses shown are service and light industrial uses. There are two entrance roads into the tract from J. Verne Smith Parkway and a large loop to maximize the amount of road frontage for the large number of parcels.
- Alternative 2 was designed to maximize the acreage for more industrial customers while also considering the location and effects of the proposed Norfolk Southern Intermodal property to be located along the northern portion of the tract. Alternative 2 has two entrance roads into the tract which are planned to manage traffic. The larger parcels allow for future expansion and growth for potential users that would best utilize the proposed intermodal yard.

![](_page_21_Picture_11.jpeg)

As a result of our analysis and layout, Alternative 2 is recommended as the preferred development concept for Tract 'B'. Alternative 1 is presented in **Figure 2-6** and the recommended concept (Alternative 2) is presented in **Figure 2-7**.

## 2.2.3 Tract 'C'

Tract 'C' has access to the airfield and is located on the west of the runway and airport property, along the J. Verne Smith Parkway near the SC 101 intersection and Runway 22 threshold. The tract is approximately 109 acres total with 96 developable acres and is intended to provide aviation related parcels between the two alternatives.

- Alternative 1 features a large common apron meeting airplane design group (ADG) III design standards. The common apron is surrounded by hangars that could remain flexible in size and meet varying tenant requirements. Alternative 1 is designed to meet predominantly corporate and smaller commercial aviation use with similar tenant facilities grouped into one large module. Alternative 1 also has potential for aircraft assembly and/or maintenance facilities. A fuel farm is also included in this alternative.
- Alternative 2 creates three smaller hangar modules within the site but increases ADG standards to Group IV and includes a partial parallel taxiway to Runway 04-22. This concept would accommodate larger commercial service aircraft and could be utilized for aircraft manufacturing and/or large MRO facilities. Flexibility and phasing of this concept may also be easier due to the separation of apron space and facilities across the site.

Alternative 2 was selected as the preferred concept, however either concept could be developed subject to market demand and needs of the potential tenant. Alternative 1 is presented in **Figure 2-8** and Alternative 2 is presented in **Figure 2-9**.

### 2.2.4 Tract 'D'

Tract 'D' is located to the west of the airport property on either side of SC 14. A portion of the tract also borders J. Verne Smith Parkway to the north. The tract is approximately 210 acres total with 146 developable acres and is intended to provide light industrial, service, retail, and aviation support parcels between the two alternatives.

- Alternative 1 features a large parcel on the right side classified as service land use type. This alternative allows the service parcel to coordinate with the airport, although direct access to the airport is not provided. The remaining portion of the parcel consists of six light industrial parcels and one small service parcel.
- Alternative 2 was created to provide a large aviation support parcel on the northern portion of the tract with direct access to the airport. This alternative selected a retail style development for the remaining parcels to leverage the visibility from SC 14 and J. Verne Smith Parkway. The parcel sizes are slightly smaller than those provided in alternative 1 for a greater number of retail stores and shops.

Alternative 1 was selected as the preferred concept; however, final development can be a mix of uses between the parcel located west of SC 14 and the parcels located just east of SC 14. Alternative 1 is presented in **Figure 2-10** and Alternative 2 is presented in **Figure 2-11**.

![](_page_22_Picture_13.jpeg)

![](_page_23_Picture_0.jpeg)

![](_page_23_Picture_1.jpeg)

TRACT 'A' - ALTERNATNE 1

![](_page_23_Picture_3.jpeg)

![](_page_23_Picture_4.jpeg)

![](_page_24_Picture_0.jpeg)

![](_page_24_Picture_1.jpeg)

TRACT "A" - ALTERNATIVE 2

![](_page_24_Picture_3.jpeg)

FIGURE 2-5

![](_page_25_Picture_0.jpeg)

## GSPAIRPORT ROBER MILLIARD FIELD

## TRACT 'B' - ALTERNATIVE 1

![](_page_25_Picture_3.jpeg)

![](_page_25_Picture_4.jpeg)

![](_page_25_Picture_5.jpeg)

![](_page_26_Figure_0.jpeg)

![](_page_26_Picture_1.jpeg)

TRACT 'B' - ALTERNATIVE 2

![](_page_26_Picture_3.jpeg)

![](_page_26_Picture_4.jpeg)

![](_page_27_Figure_0.jpeg)

![](_page_27_Picture_1.jpeg)

TRACT 'C' - ALTERNATIVE 1

![](_page_27_Picture_3.jpeg)

![](_page_27_Picture_4.jpeg)

![](_page_28_Picture_0.jpeg)

![](_page_28_Picture_1.jpeg)

TRACT 'C' - ALTERNATIVE 2

FIGURE 2-9

CDM Smith

![](_page_29_Picture_0.jpeg)

![](_page_29_Picture_1.jpeg)

TRACT 'D' - ALTERNATNE 1

![](_page_29_Picture_3.jpeg)

![](_page_29_Picture_4.jpeg)

![](_page_30_Picture_0.jpeg)

![](_page_30_Picture_1.jpeg)

TRACT 'D' - ALTERNATIVE 2

![](_page_30_Picture_3.jpeg)

![](_page_30_Picture_4.jpeg)

### 2.2.5 Tract 'F'

Tract 'F' has access to the airfield and is located on the east of the runway and airport property, south of SC 101 and the existing Fed Ex facility. The tract is approximately 85 acres total with 80 developable acres and is intended to provide aviation related development capacity between the two alternatives. The majority of the site, located south of the Fed Ex facility and along the parallel taxiway, is flat and graded and appears to require limited preparation for development.

- Alternative 1 features development of an air cargo facility directly south of the existing FedEx facility. The air cargo facility is design to ADG V standards and could accommodate up to six B747 aircraft at one time as depicted in Alternative 1. Two 160,000 sq/ft buildings are located on either side of a central apron to accommodate typical air cargo/freight operations. Auto parking and truck dockage is also included. Additional corporate aviation hangars are also included in Alternative 1 along the existing apron are south of the proposed cargo facilities. A new access road is proposed and would link the existing access road near FedEx to GSP drive near the FBO facilities. Alternative 1 is designed to meet predominantly air cargo needs with the ability to expand the existing corporate aviation use along existing infrastructure.
- Alternative 2 maintain ADG V standards and extend the conceptual layout presented in Alternative 1 to a full build-out scenario. Alternative 2 maximizes the aviation development within the tract and adds an additional 160,000 sq/ft of air cargo facility, apron space for two additional B747 aircraft and creates an expanded corporate aviation development area with new apron and clusters of potential tenant hangars. Road access through the tract is maintained but has been realigned to accommodate the increased development footprint. Also, potential environmental impacts to existing creeks and wetlands areas are also greatly increased with this alternative.

Alternative 1 was selected as the preferred concept for the short to mid-term development, with Alternative 2 remaining the full-build long-term scenario. However, either concept could be developed subject to market demand and needs of the potential tenant. Alternative 1 is presented in **Figure 2-12** and Alternative 2 is presented in **Figure 2-13**.

### 2.2.6 Tract 'G'

Tract 'G' is located directly to the east of the airport and is bounded by Interstate 85 to the south as well as Brockman McClimon Road to the east. The tract measures 220 acres total with 210 developable acres due to the relatively flat terrain across a majority of the tract. The tract has been designed to be constructed in two phases. Land use types for each alternative include retail, research and development, hospitality, and office space. Both alternatives have one entrance in phase one and two entrances in phase two to provide better traffic flow throughout the tract. In phase 2 of each alternative a park/open space is utilized as an amenity to draw the public to the development. Also, both alternatives leverage visibility along I-85 and are separated from the main airport entrance and operations.

• In Alternative 1, phase one was designed with two hospitality parcels and two research and development parcels. There is also a flex parcel that could be either hospitality or

![](_page_31_Picture_10.jpeg)

research and development, depending on the interest level in each land use type from potential users. Phase two features additional hospitality, retail, and research and development parcels and completes development of the tract.

• In Alternative 2, phase one features two hospitality parcels, two retail parcels and one office parcel. Phase two provides additional hospitality, office, and retail parcels throughout the remaining portions of the tract.

No preferred or recommended alternative has been selected at this time, but both are viable options for the use of the tract. Alternative 1 is presented in **Figure 2-14** and Alternative 2 is presented in **Figure 2-15**.

## 2.3 Summary

The master airport land use plan and subsequent site development concepts presented within this section is representative of the planning process evolution undertaken with the airport. The compatible land uses identified in the plan support the long-term development goals and vision of the Airport and are further supported by recent activity in the local and regional market. These sites have been thoroughly analyzed, evaluated, and programmed to establish a development product for long-term growth. Thus, the aviation-driven planning process conducted within this study identified and confirmed the specific sites having aviation and fringe aviation development opportunities, as well as additional non-aviation development that will significantly increase the positive economic impact of GSP in the region.

![](_page_32_Picture_7.jpeg)

![](_page_33_Picture_0.jpeg)

![](_page_33_Picture_1.jpeg)

TRACT 'F' - ALTERNATIVE 1

![](_page_33_Picture_3.jpeg)

![](_page_33_Picture_4.jpeg)

![](_page_34_Picture_0.jpeg)

![](_page_34_Picture_1.jpeg)

TRACT 'F' - ALTERNATIVE 2

![](_page_34_Picture_3.jpeg)

![](_page_34_Picture_4.jpeg)

![](_page_35_Picture_0.jpeg)

![](_page_35_Picture_1.jpeg)

TRACT 'G' - ALTERNATIVE 1

![](_page_35_Picture_3.jpeg)

![](_page_35_Picture_4.jpeg)

![](_page_36_Figure_0.jpeg)

![](_page_36_Picture_1.jpeg)

## TRACT 'G' - ALTERNATIVE 2

![](_page_36_Picture_3.jpeg)