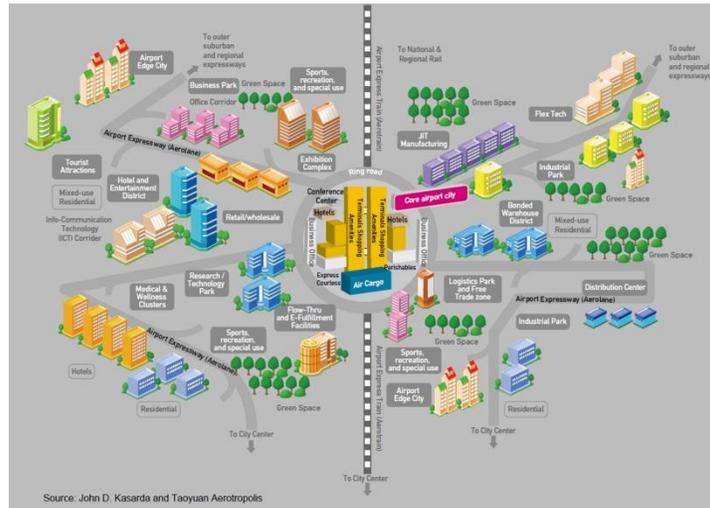


Aerotropolis Feasibility Study Final Report



Co-Grantee: East County Economic Development Council
Co-Grantee: South County Economic Development Council

Award No.: 07-86-07029

Award Period: September 1, 2013 – February 28, 2015

11.302 Short-Term Planning Investment

Prepared for:
Economic Development Administration
915 Second Ave
Seattle, WA 98174

Date:
31 March 2015

Prepared by:
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Aerotropolis Feasibility Study Final Report
Brown Field – South County Economic Development Council
Gillespie Field – East County Economic Development Council

Unifying Executive Summary

This project undertook an assessment of the feasibility of an aerotropolis concept for two of San Diego County, California’s regional airports: Gillespie Field Airport in the east County and Brown Field Municipal Airport in the South County.

The Aerotropolis Feasibility studies focused on the low per capita income and high unemployment census tracts – as defined in the South-East San Diego County Comprehensive Economic Development Strategy (CEDS)¹ -- around both these airports. It identifies existing assets and opportunities and planning for specific targeted investments in the distressed areas surrounding these airports. It will build on the established economic value of regional airports across the nation and the economic network of San Diego County’s regional airports.

Named as one of [Time Magazine’s “10 Ideas That Will Change the World,”](#) an **Aerotropolis** is an urban form with its layout, infrastructure, and economy centered on an airport that extends to the associated airport city. A recent report published by Airports Council International-North America (ACI-NA) identified America’s commercial airports as powerful economic engines, generating 10.5 million jobs and \$1.2 trillion in total economic impact².

Recognizing this reality and potential, the East County Economic Development Council (ECEDC) and South County Economic Development Council (SCEDC) led efforts to develop feasibility assessments for an Aerotropolis concept around each airport.

Gillespie Field and Brown Field are already economic drivers. Gillespie Field contributes over \$403M and 3,164 jobs to the local economy. Although Brown Field is currently under-utilized, plans for phased construction of new aviation and support facilities will create 4,000 permanent jobs and contribute over \$500M annually to the local economy. An Aerotropolis can extend this impact outside each airport’s fenceline.

The industry clusters considered in each of the the Aerotropolis feasibility studies touch most of the clusters identified in the San Diego Association of Governments’ *Traded Industry Clusters in the San Diego Region*³. Each study concluded that proximity to a thriving airport can boost growth within each of these clusters supply chain of goods and services. Traded industry clusters are groups of interrelated, export-oriented industries that bring new money into the

¹ South East County Comprehensive Economic Development Strategy (CEDS), Updated, January 2013.

² *The Economic Impact of Commercial Airports in 2010*, Airports Council International-North America, Jan. 2012.

³ *Traded Industry Clusters in the San Diego Region*, San Diego Association of Governments, December 2012.

region, making them economic drivers for the region. Industries within a cluster have business transactions with one another, and thus are interdependent. Companies within a cluster also compete with each other for market share, which drives innovation and productivity.

East County EDC and South County EDC each formed an Aerotropolis Steering Committee to guide and contribute to the development of the feasibility studies and to invite wide reaching stakeholder input. The two steering committees met jointly twice during the project Period of Performance, once in December 2013 and again in July 2014. The committees determined that the starting scenarios for each airport-adjacent region were sufficiently diverse that two, separate and independent feasibility studies would be produced, one for Brown Field and one for Gillespie Field.

- Brown Field has abundant available land resources to attract development and investment but must address the airport's current under-utilization and a need to mobilize quickly to leverage unique, private-investment led projects like the Metropolitan Airpark and the Cross Border Xpress.
- Gillespie Field is extremely well-connected by transportation and other infrastructure and unprecedented multi-jurisdiction commitment to the study area, but is almost entirely built-out, presenting a re-development challenge in a State where local jurisdictions of have lost their primary tool for elevating depressed areas.

This two-study approach permits the aerotropolis concept for each subregion to be circulated, and promoted, independently of the other. Both Steering Committees determined that, with additional study and region-wide collaboration, each sub-region can leverage existing assets to help encourage growth of industry clusters that can gain competitive advantage through airport proximity. Each region presents an excellent business environment that would drive real job creation and improve the quality of life for all its residents.

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Executive Summary

In its *Our Greater San Diego Vision* publication, the San Diego Foundation identified three “traded economies” that are of vital importance to San Diego’s future well-being: tourism, the military and advanced technology/innovation¹.

The [East County Economic Development Council](#) (East County EDC) believes that the “[Aerotropolis](#)” concept has the capacity to support and advance these economies in a manner that will establish San Diego as a progressive leader on the local, national, and global stages. The realization of this vision will vastly improve the economy of the East County subregion and will increase its value to the greater San Diego-Imperial-Baja Mega-Region.

As aviation-related businesses cluster around airports with access to ground transportation, a new business concept is emerging globally: the aerotropolis. Designed to attract economic investment and workforce talent, an aerotropolis is an urban planning area in which the infrastructure and economy center on an airport. In 2011, *Time Magazine* featured the aerotropolis concept as one of “10 ideas that will change the world.”

This feasibility study, funded by the U.S. Economic Development Administration and matched with local funds from the San Diego Foundation and others, considers the best ways to create an aerotropolis surrounding county-operated Gillespie Field, a public airport in El Cajon. With the planned development of the 70-acre Cajon Air Center and fueled by the commitment of the three surrounding jurisdictions – the cities of El Cajon and Santee and the County of San Diego to addressing planning and land use of a Special Use Center around the airport, Gillespie Field is poised to become a vibrant, new employment center that can grow jobs near where people live.

Recently identified by Caltrans as a lead candidate for “smart growth” and mixed-use urban development in its Airport Forecasting Study², San Diego County’s Gillespie Air Field and its surrounding area possess the strategic location, multimodal transport connectivity, and industrial mix to foster considerable investment and economic development on and around the airport. An objective of this study is to assess the feasibility of Gillespie Field’s role as a key transit-oriented center – an economically efficient, productive, and environmentally sustainable Aerotropolis – by leveraging its multimodal

¹ *Our Greater San Diego Vision*, Malin Burnham Center of Civic engagement, San Diego Foundation, July 2012, p. 25.

² *Caltrans Airport Forecasting Study: the Role of California’s Airports in Smart Growth and Economic Vitality*, California Department of Aeronautics (prepared by Cambridge Systematics, Inc.), February 2014.

connectivity, local jurisdiction collaboration and willingness to address land use issues, and other assets. This study provided a blueprint for strategic investment and implementation.

The feasibility study dovetails with other planned transportation improvements for the region, like the SANDAG (San Diego Association of Governments) Sustainable Communities Strategy. SANDAG recently designated the Gillespie Field area as a Special Use Center on its Smart Growth Concept Map because it is an existing multi-modal employment hub served by the Gillespie Field LRT transit station. The City of Santee, City of El Cajon, and County of San Diego have partnered to support the development of an advanced manufacturing and aviation-related industry cluster with multi-modal connections and facilities. This Special Use Center is the first-ever tri-jurisdictional submission to SANDAG's Smart Growth Map. El Cajon is leading a proposal to SANDAG for Smart Growth Incentive Program³ planning funds to further the development of this employment center. Such unprecedented commitment by three local jurisdictions clearly demonstrates East County's political will to maximize the economic potential of the area surrounding Gillespie Field.

Gillespie Field and its surrounding industrial parks are already economic drivers. Gillespie Field contributes over \$403M and 3,164 jobs to the local economy⁴. An Aerotropolis concept, if realized, can extend this economic impact far outside the airport's fence line.

The industry clusters considered in the Aerotropolis feasibility study touch most of the clusters identified in the San Diego Association of Governments' *Traded Industry Clusters in the San Diego Region*⁵. Some of the most promising clusters for the Gillespie Field Aerotropolis include, but are not limited to, Advanced Precision Manufacturing, Defense and Transportation (Aerospace sub-cluster), Logistics/Distribution/Warehousing, Tourism/Hospitality, and Aviation Operations/Sustainment.

This study concluded that proximity to a thriving airport can boost growth within each of these clusters supply chain of goods and services. Traded industry clusters are groups of interrelated, export-oriented industries that bring new money into the region, making them economic drivers for the region. Industries within a cluster have business transactions with one another, and thus are interdependent. Companies within a cluster also compete with each other for market share, which drives innovation and productivity.

East County EDC and its Aerotropolis Steering Committee determined that, with additional study and region-wide collaboration, the East County subregion can leverage existing

³ Smart Growth Incentive Program (SGIP) Proposal submitted on March 20, 2015.

⁴ *Gillespie Field Economic Impact Analysis*, County of San Diego Airports, Department of Public Works, CIC Research, March 2011.

⁵ *Traded Industry Clusters in the San Diego Region*, San Diego Association of Governments, December 2012.

assets to help encourage growth of industry clusters that can gain competitive advantage through airport proximity. Gillespie Field and its environs present an excellent business environment that would drive real job creation and improve the quality of life for all its residents.

East County Aerotropolis Feasibility Study Final Report

Introduction

In its *Our Greater San Diego Vision* publication, the San Diego Foundation identified three “traded economies” that are of vital importance to San Diego’s future well-being: tourism, the military and advanced technology/innovation⁶.

The [East County Economic Development Council](#) (East County EDC) believes that the “[Aerotropolis](#)” concept has the capacity to support and advance these economies in a manner that will establish San Diego as a progressive leader on the local, national, and global stages. The realization of this vision will vastly improve the economy of the East County subregion and will increase its value to the greater San Diego-Imperial-Baja Mega-Region.

Defining the Aerotropolis Concept

As aviation-related businesses cluster around airports with access to ground transportation, a new business concept is emerging globally: the aerotropolis. Designed to attract economic investment and workforce talent, an aerotropolis is an urban planning area in which the infrastructure and economy center on an airport. In 2011, *Time Magazine* featured the aerotropolis concept as one of “10 ideas that will change the world.”

The aerotropolis was first conceptualized by Nicholas DeSantis in the November 1939 issue of *Popular Science*.⁷ It was revived by John D. Kasarda in 2000. Kasarda defined the term “aerotropolis” and works with regions and countries worldwide to leverage airports and their surrounding areas for economic growth. He is author of more than 100 articles and nine books on airport cities, aviation infrastructure, economic development, and competitiveness.

In his book, *Aerotropolis: The Way We’ll Live Next*, Kasarda writes that the airport-centric concept calls for the creation of a concentrated economic hub that supports cities and communities around them by facilitating and connecting workers, buyers, suppliers, executives and goods to the global marketplace⁸. Industries regularly found in and around airports include:

⁶ *Our Greater San Diego Vision*, Malin Burnham Center of Civic engagement, San Diego Foundation, July 2012, p. 25.

⁷ DeSantis, Nicholas, “Skyscraper Airport for City of Tomorrow,” *Popular Science*, November 1939, p. 70.

⁸ Kasarda, John D., Aerotropolis and Lindsey, Greg, *Aerotropolis: The Way We’ll Live Next*, Farrar, Straus, and Giroux, 2011.

- Manufacturing
- E-commerce fulfillment
- Telecommunications and logistics
- Hotels, entertainment complexes, exhibition and conference centers
- Retail outlets and restaurants
- Offices for business people who travel frequently by air or engage in global commerce
- Clusters of business, logistics, and industrial parks
- Information technology complexes
- Wholesale merchandise marts and distribution centers
- National security research and development

America's airports are established economic hubs that support and drive regional economies both inside and outside the airport fence line. Gillespie Field is already an economic driver in East County and the San Diego region, contributing more than \$403 million and directly supporting 3,164 jobs annually⁹.

Although the term Aerotropolis has typically been applied to large gateway or feeder airports, in his February 2013 visit with East County EDC, Dr. Kasarda stated that, "San Diego County Airports - including Gillespie Field and its environs -- would be 'perfect' for a mini-aerotropolis¹⁰" focused on corporate aircraft and supporting the businesses located in the surrounding industrial park.

In planning an aerotropolis for a community, Kasarda calls out three main areas of improvement that must be addressed: (1) improved people and logistics mobility, (2) airport area land use and community development, and (3) firm and regional competitiveness. The focus is on creating new "economies of speed" in goods and services trade through better local and global aerotropolis connectivity with coordinated business siting.¹¹

This study, funded by the U.S. Economic Development Administration and matching local funds from the San Diego Foundation and others, considers the best ways to create an aerotropolis surrounding county-operated Gillespie Field, a public airport in El Cajon. With the planned development of the 70-acre Cajon Air Center and fueled by the commitment of the three surrounding jurisdictions - the cities of El Cajon and Santee and the County of San

⁹ *Gillespie Field Economic Impact Analysis*, County of San Diego Airports, Department of Public Works, CIC Research, March 2011.

¹⁰ Meeting, John D. Kasarda and East County EDC, El Cajon, CA, February 28, 2013.

¹¹ *Economics of International Air Transportation*, John D. Kasarda, James H. Peoples, Jr., Editor, (West Yorkshire: Emerald Group Publishing, 2014).

Diego to addressing planning and land use of a Special Use Center around the airport, Gillespie Field is poised to become a vibrant, new employment center that can grow jobs near where people live.

Study Process

Recently identified by Caltrans as a lead candidate for “smart growth” and mixed-use urban development in its Airport Forecasting Study¹², San Diego County’s Gillespie Air Field and its surrounding area possess the strategic location, multimodal transport connectivity, and industrial mix to foster considerable investment and economic development on, and around, the airport. An objective of this study is to assess the feasibility of Gillespie Field’s role as a key transit-oriented center – an economically efficient, productive, and environmentally sustainable Aerotropolis – by leveraging its multimodal connectivity, local jurisdiction collaboration and willingness to address land use issues, and other assets. This study provided a roadmap for strategic investment and implementation.

Project Study Area and Demographics

The proposed study area is about 1,300 acres. It is bounded by SR-52 (north), SR-67 (east), Vernon Way (south), and the western edge along Gillespie Field and adjacent industrial park; it includes area within the Cities of Santee and El Cajon. The study area is characterized by its wide-ranging transportation infrastructure and associated industrial development and opportunity sites. With the completion of SR-52 in March 2011, the area is well-served by freeways including I-8 and SR-125, 1.0 mi south and 1.5 mi west (respectively). The San Diego Metropolitan Transit Service (MTS) Gillespie Field Trolley Station is within the study area. Two other trolley stations are within 2/3 mile of the study area (Santee Town Center Trolley Station and Arnele Avenue Trolley Station). Although there are some thriving businesses, much of the study area is characterized by vacant and underutilized parcels, brownfields, deteriorating and dilapidated structures, deficient infrastructure, and a distinct lack of open space and basic amenities including sidewalks and trees. Private developments are currently being proposed within the study area. The feasibility study will support and facilitate coordination of these developments with future proposals.

The Aerotropolis Steering Committee considers the study area defined in this report as the core Gillespie Field Aerotropolis footprint. However, its analysis indicated that the aerotropolis sphere of influence will stretch out further, primarily along those state route connections that lead to and from land zoned for industrial uses. In addition, the economic

¹²Caltrans Airport Forecasting Study: the Role of California’s Airports in Smart Growth and Economic Vitality, California Department of Aeronautics (prepared by Cambridge Systematics, Inc.), February 2014.

impact of the Aerotropolis will reach beyond the cities of El Cajon, Santee, and portions of San Diego County's unincorporated areas to communities like Lemon Grove, La Mesa, and Spring Valley because the immediate environs of the airport Special Use Center cannot produce sufficient workforce for the businesses surrounding the Aerotropolis.

The combined population size of Santee and El Cajon is about 155,000; there are about 13,000 people in the Census tracts that intersect with the study area. Most of these (about 12,700) live within El Cajon, with the remainder in Santee. The majority (65 percent) of this population is White, and about 19 percent is Hispanic. Incorporated Santee and El Cajon have an unemployment rate of 9.31percent, compared to San Diego County's 10.5 percent and the national unemployment rate of 7.9 percent¹³. According to the East and South County Comprehensive Economic Development Strategy (CEDS), pockets of high unemployment still exist and are primarily located in the study area. The average Per Capita Income (PCI) of incorporated Santee and El Cajon is \$23,528, which is lower than the PCI of \$29,188 for the State of California and the U.S. PCI of \$27,344¹⁴. As stated earlier, Gillespie Field and the surrounding industrial park already contribute over \$403M and 3,164 jobs to the local economy¹⁵. The feasibility study will focus on maintaining this economic base while improving the low per-capita income and high unemployment around Gillespie Field. The study will actively support, integrate, expand, and diversify the study area's economic base, including existing, emerging, and locally-owned businesses and entrepreneurs that generate quality jobs, investment and environmental sustainability. This need is critical for job seekers and low-income residents near the study area, and can be addressed by creating more well-paying jobs here. The feasibility study will identify priorities -- for investment and development within the distressed areas -- that make the most sense and impact.

The study area includes a regional airport, existing and planned transit, and the potential to develop a much stronger mixed-use employment center. Planning to enhance these features will help the Aerotropolis emerge as a smart growth area and transportation hub, based on:

- Proximity to high employment density
- Proximity to multimodal infrastructure
- Land that is potentially suitable for high-density mixed-use development
- Proximity to existing utility and service infrastructure

¹³ American Community Survey, U.S. Census Bureau, 2006-2010

¹⁴ *South-East San Diego County Comprehensive Economic Development Strategy*, January 2013 Update.

¹⁵ *Gillespie Field Economic Impact Analysis*, County of San Diego Airports, Department of Public Works, CIC Research, March 2011.

The feasibility study dovetails with other planned transportation improvements for the region, like the SANDAG (San Diego Association of Governments) Sustainable Communities Strategy. SANDAG recently designated the Gillespie Field area as a Special Use Center on its Smart Growth Concept Map because it is an existing multi-modal employment hub served by the Gillespie Field LRT transit station. The City of Santee, City of El Cajon, and County of San Diego have partnered to support the development of an advanced manufacturing and aviation-related industry cluster with multi-modal connections and facilities. This Special Use Center is the first-ever tri-jurisdictional submission to SANDAG's Smart Growth Map¹⁶.

Public Participation

In its efforts to define an Aerotropolis Vision for the area surrounding Gillespie Field Airport, East County EDC sought to align existing assets and opportunities that surround Gillespie Field as well as identify and plan for specific, targeted investment geared towards establishing the Aerotropolis vision. The goal was to turn the Aerotropolis concept into an economic engine that will benefit not only the East County subregion, but the entire San Diego region and, by extension, the Cali-Baja Mega Region of San Diego and Imperial Counties on the U.S. side and Baja Mexico Norte on the Mexico side.

This project provided numerous avenues for community input. The overall goal for public participation was to design and implement a community and multi-stakeholder education and participation plan that informs development of a widely-supported Aerotropolis Vision for Gillespie Field. The objectives were as follows:

- Identify key stakeholders in the immediate project area and surrounding communities with a vested interest in the project
- Educate participants on the project concept, explaining how the current airport is already a local and regional economic driver, and how proactive economic development could create jobs and expand the local economy
- Facilitate stakeholders' input on their vision, issues and opportunities for the project, identifying how the project could support or directly link to related ongoing community and economic improvement initiatives
- Develop a stakeholder-driven strategic "road map" that supports a comprehensive and holistic project development approach including land use, transportation and economic development

¹⁶ *Smart Growth Concept Map*, San Diego Association of Governments, October 2014 Update.

Table 1 lists the primary and secondary potential stakeholders identified during the study.

Table 1: Primary and Secondary Stakeholder - Aerotropolis Vision

Primary Stakeholders	
	Cities of El Cajon and Santee: Elected officials, executive staff, community leaders
	East County Economic Development Council (ECEDC), Aerotropolis Steering Committee, Gillespie Field Committee
	County of San Diego - Elected officials, executive staff members, and community leaders. County Airports under Department of Public Works
	San Diego Association of Governments (SANDAG)
	San Diego Regional Airport Authority
	California Department of Transportation: District 11 that covers San Diego & Imperial counties; Aeronautics Division Caltrans (Sacramento)
	Major employers, business groups, and neighborhood/resident groups within and adjacent to the project area and in the greater San Diego region
	East County Education: Grossmont-Cuyamaca Community College District (Grossmont College, Cuyamaca College), San Diego Christian College, Grossmont Union High School District (all East County high schools)
	San Diego Foundation (as Aerotropolis Vision Donor)
	Local economic development, industry associations and affinity groups: San Diego Workforce Partnership, East County Visitors Bureau, local and regional economic development councils, chambers of commerce, organized labor
Secondary Stakeholders	
	Cities of La Mesa, Lemon Grove and San Diego, adjacent urbanized unincorporated communities (i.e., Lakeside, Rancho San Diego, Spring Valley: Elected officials, executive staff, community leaders
	Commercial/industrial brokers and members of the building industry
	Native American tribes in the San Diego region: Barona Band of Mission Indians, Viejas Band of Kumeyaay Indians, Sycuan Band of the Kumeyaay Nation
	Representatives of the Military and Defense sector in the San Diego region
	Regional/Technology/Industry Associations (BIOCOM - life sciences), National Defense Industrial Association (NDIA), San Diego Military Advisory Council (SDMAC -- Defense/Military), CommNexus (telecom/wireless), CONNECT (Innovation)
	San Diego Tourism Authority
	Local media outlets including UT San Diego, San Diego Business Journal, The Daily Transcript, East County Magazine, and more
	Philanthropic organizations such as San Diego Grantmakers, San Diego Women's Foundation, Malin Burnham Center for Civic Engagement, United Way, and more

	San Diego region-wide education sector: University of California San Diego (UCSD), San Diego State University (SDSU), University of San Diego (USD), and all community college districts under San Diego-Imperial Counties Community College Association (SDCCCA).
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Aerotropolis Steering Committee

These twin goals of benefit to East County and the wider San Diego region drove the recruitment of leaders within East County as well as outside the East County community to join the ECEDC Aerotropolis Steering Committee. The Steering Committee members executed a charter guiding its roles, responsibilities, and objectives in August 2013.

Members include:

- Joe W. Craver, Chair: Former Chair of San Diego Regional Airport Authority; Recently retired as San Diego Red Cross CEO
- Reo Carr¹⁷: Executive Editor, San Diego Business Journal, Aviator
- Bill Fischbeck: Land Use Attorney, Long time East County Leader, Ties to Developer and Environmental communities
- Jerry Hollingsworth: Golf Course Developer, former Gillespie Field Development Council member
- Dr. Cindy Miles: Chancellor, Grossmont-Cuyamaca Community College District, nationally recognized education and workforce development leader

The Steering Committee reports to the ECEDC Board of Directors and draws wider community input from the long-standing Gillespie Field Committee, an ad hoc committee of the East County EDC that has met, continuously, since 1996. The East County EDC established the Gillespie Field Committee with representatives from the County of San Diego Airports, the San Diego Association of Government (SANDAG), the California Department of Transportation (CalTrans), the Gillespie Field Development Council (GFDC), the cities of El Cajon and Santee, the County of San Diego, and other interested individuals and organizations to focus on long range planning for the future development of this regional resource. The Gillespie Field Committee actively looks at redevelopment on and around the airport and encourages the creation of aviation-related, high value-added jobs on the airport and complimentary investment and job development in the environs surrounding Gillespie Field.

Since its inception, the Gillespie Field Committee has been chaired by Dana Quittner, ECEDC Founding Board member and core member of the County of San Diego-led

¹⁷ In February 2015, Reo Carr stepped away from the Steering Committee owing to pressing business commitments. Bill Allen, Allen Airways Museum at Gillespie Field and private developer, joined the committee.

initiative to designate the land the FAA deeded back to the County as a redevelopment area. Once established as a redevelopment area, Ms. Quittner was instrumental in demonstrating the need for industrially zoned land around the airport and the creation of the industrial parks around Gillespie Field.

Table 2: Gillespie Field Committee // Aerotropolis Advisory Committee

<u>Name</u>	<u>Affiliation</u>
Alexander, Rick	Industrial/Commercial Broker, Sperry Van Ness
Al-Ghafry, Majed	Assistant City Manager, City of El Cajon
Ambrose, Tony	Councilmember, City of El Cajon
Avant, Gary	Wisdom Matrix
Bardack, Barry	Gillespie Field Development Council
Baron, Alec	Field Rep, Assemblyman Brian Jones District Office
Brown, Cheryl	Deputy Director, Marketing
Bruckart, Joseph	Wells Fargo
Diamond, Jo Marie	President and CEO, East County EDC
Drinkwater, Pete	Director, San Diego County Airports
Emerson, Michael	Grossmont Healthcare District
Gastil, George	Councilmember, City of Lemon Grove
Griffiths, Roger	County of San Diego Airports
Hanger, Christopher	County of San Diego
Harrison, Michael	Duncan Hunter's Office
Hollingsworth, Jerry	Aerotropolis Committee
Kenney, Rich	AeroSpace STEM
Kulis, Mike	San Diego County Regional International Airport Authority
Kush, Melanie	Planning Manager, City of Santee

Landers, E. Marie	America West Bank
Lund, Eric	SD East County Chamber
Mackey, Joe	XL Staffing / Excell Security
Minto, John	Councilmember, City of Santee
Neidre, Chris	LEEK Detection
Nelson, Eric	San Diego County Airports
Newsom, Tom	CEO, Burkett & Wong
Orso-Delgado, Pedro	Acting City Manager, City of Santee
Quittner, Dana	Quittner Consulting, Gillespie Field Committee Chair
Shute, Tony	Senior Planner, City of El Cajon
Sly, James	East County EDC
Smith, Ed	Center for Applied Competitive Technologies, San Diego City College
Steuer, Lee	Senior Field Rep, Congresswoman Susan Davis' Office
Trombi, Phyllis	Gillespie Field Development Council
Verbeke, Frank	Alturair (Aviation Business)
Williford, Douglas	City Manager, City of El Cajon

Caltrans Airport Forecasting Study - Catalyst for Stakeholder Input/Involvement

The Caltrans Airport Forecasting Study, released in February 2014, indicated that Gillespie Field offered excellent opportunities for the development of an economic engine that also aligned with smart growth principals. East County EDC led several small-scale discussions of the Caltrans study results and used the findings to develop one of two facts sheets on the Aerotropolis Vision (*Aerotropolis Vision: Why Gillespie Field? Why Now?*, **Appendix A**). This report, independently funded and implemented by the Caltrans Aeronautics Division, prompted the Steering Committee to invite Caltrans representatives to present its findings to a larger group of community stakeholders.

On the afternoon of September 18th, 2014, representatives from Caltrans, Santee, El Cajon, the County of San Diego, and the East County Economic Development Council (ECEDC)

met at High Performance Aircraft to discuss opportunities for collaboration. They discussed El Cajon's and Santee's joint application for a "Smart Growth" designation through SANDAG. They also talked about the "Transportation Planning Grants" recently released by Caltrans and discussed how the team might position the Aerotropolis to leverage these resources.

Later in the evening, more than 70 stakeholders came together at High Performance Aircraft to listen to a presentation on the Caltrans study and how it validates the Aerotropolis vision for Gillespie Field. Cindy Miles, Vice-Chair of ECEDC's Aerotropolis Steering Committee, framed the discussion and introduced the night's speakers. Derek Kantar, Aviation Planner at Caltrans, discussed findings from Caltrans' recent Airport Forecasting Study, which highlighted the competitive capabilities and potential of Gillespie Field Airport in El Cajon. Of all the airports throughout California, Gillespie Field was recognized as a leader in job creation and economic potential. Kantar stressed that the development of an Aerotropolis around Gillespie Field needed to complement the local culture and community. The airport needed to serve, not as the economic center of the community, but rather as an integral component of a larger, robust economic engine.

Jo Marie Diamond, President and CEO of the ECEDC, followed Kantar's comments with a presentation regarding ECEDC's plans for the Aerotropolis and the area surrounding Gillespie Field. She illustrated how the economic footprint of the Aerotropolis could extend throughout East County, bringing jobs and recognition to the entire region. Diamond also asked for input from the collection of stakeholders, emphasizing that the ECEDC's mission is to use community feedback to transform the area into an economic hub that will build off existing infrastructure and maximize the region's potential.

Bill Allen, owner of the Allen Airways Flying Museum, stated that he would like to see local businesses get involved in the crafting of the Aerotropolis strategy. He recommended that the leadership involve the leaseholders of on-airport facilities as well as developers, property owners, and major companies resident in, or involved with, the industrial parks surrounding Gillespie Field.

Input and feedback from the Caltrans event has initiated outreach to the Gillespie Airport Leaseholder Association (GALA), the developers and businesses holding long-term leases in the industrial parks surrounding Gillespie Field, and the wider business community.

Opportunities Assessment

Gillespie Field Airport

Gillespie Field Airport (SEE) is the oldest and largest of San Diego County's eight airports. The airport is located in El Cajon, a city 15 miles due east of the City of San Diego and the fifth largest of 18 cities in San Diego County. Gillespie Field is a public use reliever airport that includes three runways, a tower, and a terminal. The airport footprint includes two business parks that provide more than 3,000 jobs in the City of El Cajon and a \$403 million contribution to the local economy in direct, indirect and induced revenues.¹⁸

The businesses on the airport property (inside the fence line) cover Fixed Base Operators (FBOs), flight schools, repair aviation repair and maintenance facilities, aircraft storage, food and beverage services, fuel, instrument and avionics service and manufacturing, rental cars outlets, and aircraft sales and rental services.

The study team applied 11 characteristics to determine the role of the airport area in the regional SCS. The results of this screening indicated that Gillespie Field (SEE) met the criteria to qualify as one of the eight case study airports that can play the role of a smart growth area and a transportation hub. These roles involve the potential to attract denser, mixed-use development because of:

- Proximity to high employment density;
- Proximity to multimodal infrastructure;
- Land that is potentially suitable for high density mix use for development; and
- Proximity to service infrastructure (e.g., water, sewer, fire, police)

Quantitative economic analysis from the case studies suggests that smart growth consisting of higher density, walkable development connected to new or expanded transit services could lead to \$121.26 million in additional value added, and \$80.4 million in increased income. The following section extracts the major findings of the Caltrans Gillespie Field case study and applies them to Aerotropolis. It evaluates the market, regulatory environment, and access to infrastructure that help determine the area's constraints and opportunities.

¹⁸ *Gillespie Field- Market & Economic Impact Study*, CIC Research, conducted for County of San Diego, May 2003

Market Assessment

The market conditions that drive feasibility of the Gillespie Field environs as an economic hub and smart growth area may be divided between demand and supply. Demand comes from households and businesses for goods and services produced by businesses that locate within the Gillespie Field area. Household demand is manifested by the number and composition of the population and measured by demographic trends in the areas surrounding Gillespie Field. Business demand is generated from the Gillespie Field area firms and employees. The supply side is assessed by evaluating the competitive advantages of land located within the Gillespie Field area over the alternative land outside the Gillespie Field area. These population, employment, and land use trends are presented below.

Population Demographics

In June 2014, East County EDC published a *Demographics Study of East County* that looked at the entire East County subregion and, the contiguous, urbanized areas where 99 percent of East County residents live. Additionally, the study presented a separate look at the demographics of the four municipalities that fall within the Aerotropolis Sphere of Influence – El Cajon, Santee, La Mesa, and Lemon Grove -- and four urbanized communities within the East County subregion boundaries: Lakeside, Spring Valley, Rancho San Diego, and Alpine. Figure A shows the study's geographic boundaries.

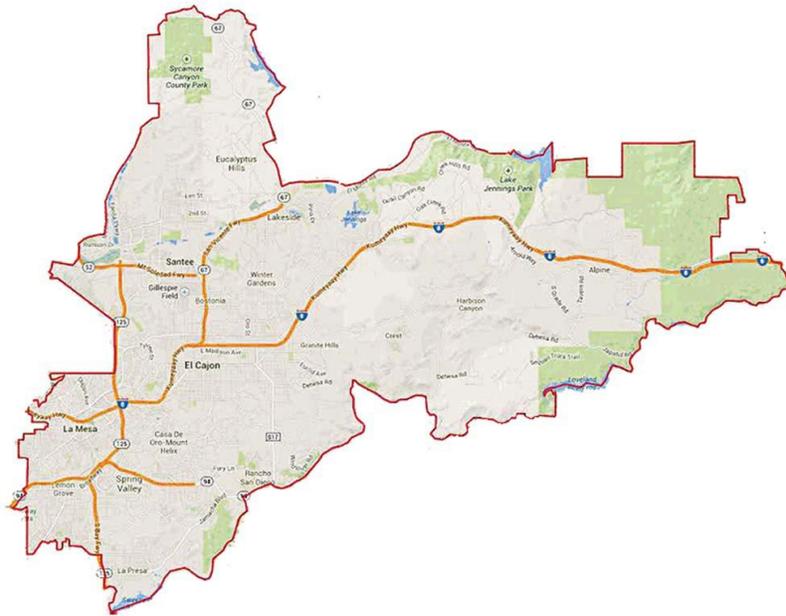


Figure A: East County Subregion Geographic Boundaries

(Source: San Diego East County Demographics, East County EDC, June 2014
Based on American Community Survey, 2008-2012)

This demographic study relied on data retrieved from American Community Survey (ACS). The ACS is a nationwide survey, developed and implemented by the U.S. Census Bureau, designed to supplement the decennial census. For the purpose of retrieving information with the lowest Margin of Error (MOE), the ECEDC Demographics study used ACS 5-year estimates for the 2008-2012 years. ECEDC consulted SANDAG demographers during all study phases, from development of the methodology to verification of statistical validity.

Figure B graphically summarizes the East County subregion demographics.

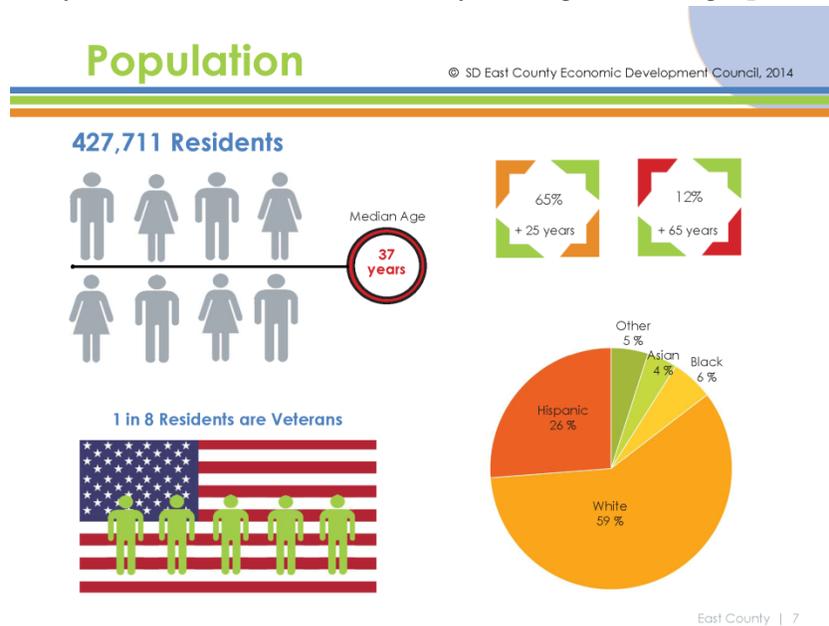


Figure B: East County Subregion -- Population Overview

(Source: San Diego East County Demographics, East County EDC, June 2014
Based on American Community Survey, 2008-2012)

The population age profiles for East County subregion, shown in **Figure B**, reveal that nearly one-quarter of the population is under age 25. The 18- to 34-year old cohort, which represents a potential emerging market for both housing and jobs, makes up 24 percent of the subregion’s population, slightly lower than San Diego County and California. The 25 to 44-year old cohort makes up 26 percent of the population in the East County and the 25- to 64-year old cohort makes up 26 percent, which is on par with the county and California averages.¹⁹

¹⁹ *San Diego East County Demographics*, East County EDC, June 2014, Based on American Community Survey, 2008-2012.

According to the East and South County Comprehensive Economic Strategy, pockets of high unemployment still exist and are primarily located in the study area. The Median Per Capita Income (PCI) for the East County subregion is \$32,695 and the Median Household Income is \$61,235. But for some East County communities there is a more significant income discrepancy. **Figure C** shows a comparison of the East County subregion labor force and income to each of the four incorporated cities and the four unincorporated communities analyzed in the study. The City of El Cajon reports a MHI of \$45,750 and a PCI of \$27,710, considerably under the aggregate income numbers for the entire East County subregion.

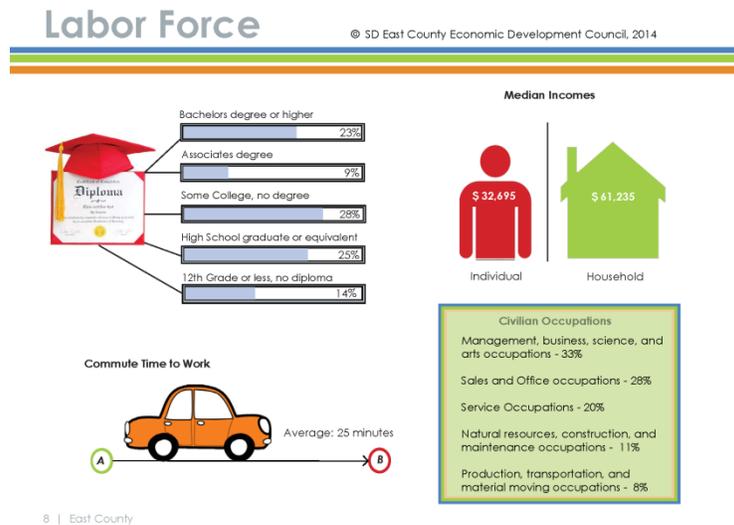


Figure C: East County Subregion Labor Force

(Source: San Diego East County Demographics, East County EDC, June 2014
Based on American Community Survey, 2008-2012)

The Aerotropolis will focus on maintaining this economic base while improving the low per-capita income and high unemployment around Gillespie Field. It is a stated objective for the Aerotropolis Vision to actively support, integrate, expand, and diversify the study area's economic base, including existing, emerging, and locally-owned businesses and entrepreneurs that generate quality jobs, investment and environmental sustainability. This need is critical for job seekers and low-income residents near the study area, and can be addressed by creating more well-paying jobs here. The feasibility study identifies priorities for investment and development within the distressed areas that makes the most sense and impact.

As shown in **Figure D**, the percent of people in the City with a Bachelor's degree or higher is about 23 percent. This labor force composition suggests better employee match for industries requiring blue collar professions, such as service occupations, warehousing, and manufacturing rather than professional or high-skilled technical jobs requiring advanced

degrees. However, based on a recent Brookings Institute report²⁰, half of all STEM jobs in the U.S. are available to workers without a 4-year degree and these jobs pay \$53,000 on average, a wage 10 percent higher than jobs with similar educational requirements. Understanding which industries require these types of job should inform the strategies for driving business interest in the Gillespie Field Aerotropolis.

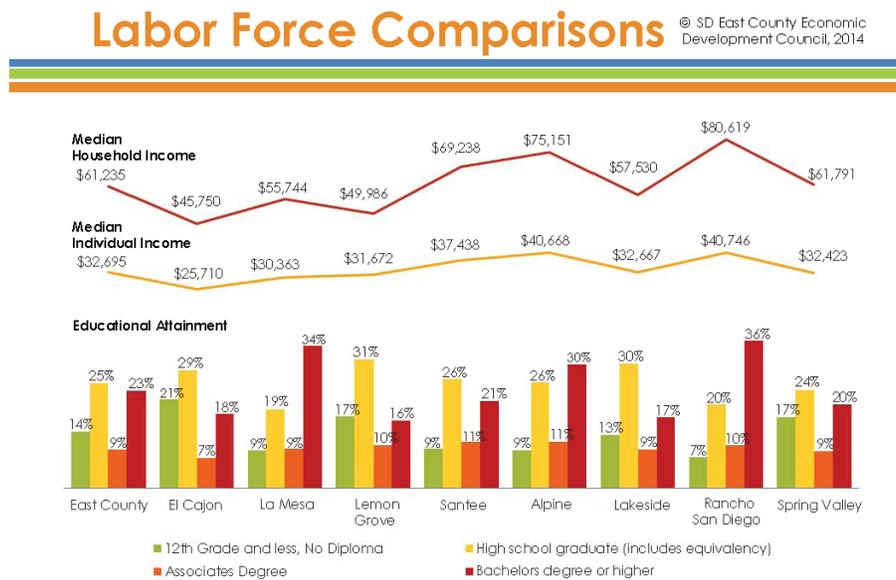


Figure D: East County Subregion & Communities: Labor Force Comparisons

(Source: San Diego East County Demographics, East County EDC, June 2014
Based on American Community Survey, 2008-2012)

Land Use // Caltrans View

This section provides information on the study area’s land use conditions, drawn from a variety of perspectives. Although the City of El Cajon has land use authority for Gillespie Field, the land surrounding the airport lies within three different jurisdictions: the City of El Cajon to the west and south; the City of Santee to the north; and the unincorporated areas of San Diego County to the east.

For the Caltrans Airport Forecasting Study, the total study area constituted approximately 1.3 square miles or 890 acres, of which roughly 123 acres are vacant. The study area

²⁰ Rothwell, Jonathon, *The Hidden Stem Economy*, Brookings Metropolitan Policy Program, June 2013.

surrounding Gillespie Field was evaluated in four geographic parts. **Figure E** illustrates the Gillespie Field study areas.

- **Area A** is in the City of Santee and generally follows Prospect Avenue. It contains Class B or Class C commercial space and strip malls.
- **Area B**, in El Cajon, includes two business parks. This area is the highest quality development found in the study area.
- **Area C**, also located in El Cajon, is fully built out with light industrial uses and a few shopping centers. The area includes a total of 400 acres bifurcated by roads. There are no vacant sites for infill or redevelopment in this area.
- **Area D** is a small section of land that is in both El Cajon and San Diego County. Currently, there are 70 acres of vacant land, once the home of the Cajon Motor Speedway and slated for development under a County-approved, phased Program EIR.



Figure E: Gillespie Field Smart Growth Case Study Areas

(Source: ESRI)

Gillespie Field Industrial Park

Phase 1/Gillespie Field Industrial Park: Construction of the Gillespie Field Industrial Park began in 1977. Approximately 70 acres, consisting of 32 individual lots, were completely developed and by 1983, the park was totally occupied. Light manufacturing and product distribution predominate; however, other businesses include wholesale supply companies and one condominium project with approximately 25 separate small businesses²¹.

Two large businesses occupying sites within this park include GKN Chem-Tronics and Veridium, Inc. GKN Chem-Tronics (now GKN Aerospace), an aerospace firm, is the largest non-retail, private employer in the City of El Cajon. GKN (occupies 20 acres of land, half of which is on Gillespie Field Airport property leased from the County since 1966. A tenant since 1961, Veridium, Inc., formerly operating as Carpenter Technology, is a manufacturer of high-quality steel tubing that occupies a little over seven (7) acres on the County's Gillespie Field property. Other tenants include Reynolds Communities, Micromode Products, Vision Systems, Suzuki Musical Instrument Corporation and others.

Phase II/Cuyamaca West: The County's newest commercial/industrial park at Gillespie Field is Gillespie Field Business Park, also known as Cuyamaca West, a two-phase industrial/business development. Phase I was approved in 1988 with the developer's groundbreaking in 1991. The project consists of 11 lots totaling more than 14 acres. The entire first phase was master leased for development by Diversified Properties. The businesses are diverse, resulting in the creation of about 400 jobs. Tenants include Taylor Guitars (the largest acoustic guitar manufacturers in the U.S.), Professional's Choice, Home of Guiding Hands, GTM Wholesale, Sea Con Brantner, and others. **Figure F** shows an example of Class A property in the Cuyamaca West business park.

²¹ <http://www.sandiegocounty.gov/content/sdc/dpw/airports/gillespie/businessparks.html>



Figure F: Class A Property in Gillespie Cuyamaca West Business Park

Phase II includes 17 lots with a net of 32 leasable acres. Individual lots range from one to eight acres, with buildings from 15,000 square feet to over 120,000 square feet. The buildings accommodate established but growing companies engaged in research and development, light manufacturing or office processing activities. It is anticipated that 700 or more employees will eventually work here. All buildings have been completed but some buildings have available space for new businesses. Tenants include Cox Communications, ThyssenKrupp Elevator Corporation, Cascade Scientific, ViaSat, Mouser Electronics, Scott USA and others. As such, this section of the industrial/business park in the study area represents the highest quality industrial inventory.

Marshall Avenue Development: Gillespie Field includes an approximately nine-acre vacant property adjacent to Marshall Avenue. This area, shown in **Figure G**, has been designated by the County and released by the Federal Aviation Administration (FAA) for industrial development compatible with the Airport. In 2012, the County issued a Request for Proposals (RFP) to develop this vacant property for industrial use under a ground lease -- Dentt Development, LLC (Dentt) was selected as the successful proposer. Dentt's proposed development concept includes the construction of multi-tenant concrete tilt-up buildings, with tenant units designed to provide flexible, high quality space to accommodate the needs of small and start-up businesses. Before the County and Dentt can enter into a ground lease for potential development of the property, Dentt must satisfy the requirements of the California Environmental Quality Act (CEQA).

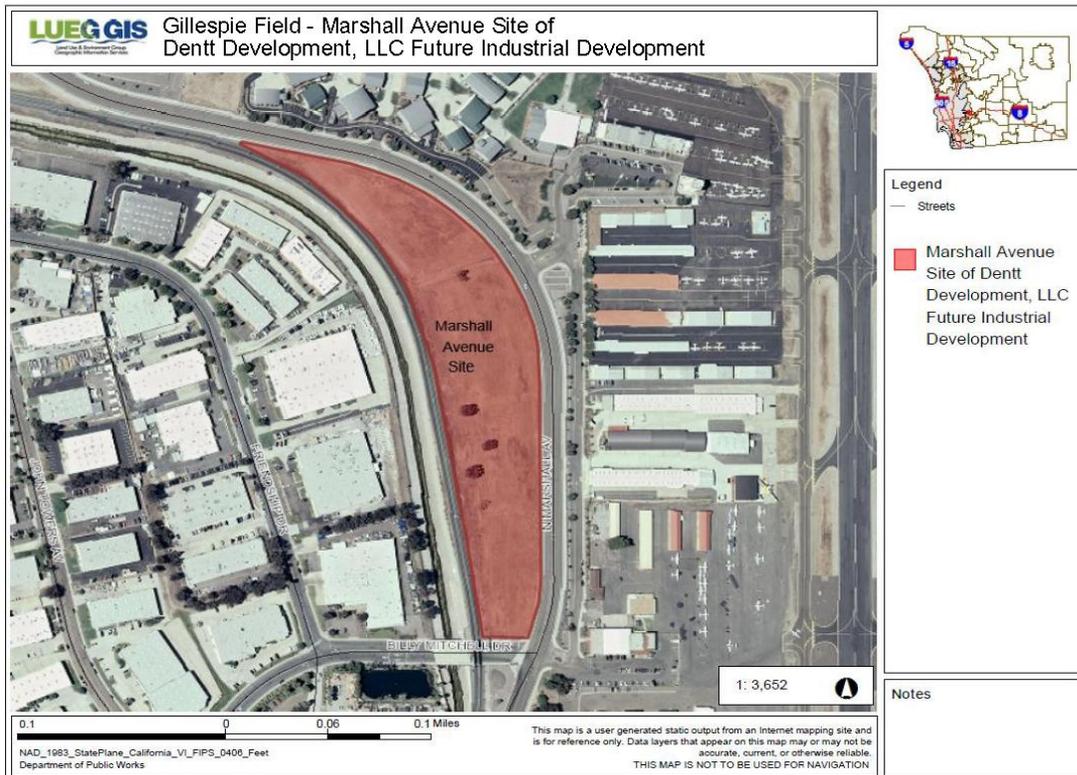


Figure G: Marshall Avenue Site – Industrial Development for Multi-Tenant Use

(Source: County of San Diego, 2014)

On December 5, 2012 (15), the Board of Supervisors approved the Preliminary Agreement Concerning Development and Disposition of Land between the County and Dentt (Preliminary Agreement), intended to provide sufficient assurances to the developer and assist in securing financing commitments and obtaining entitlements. Dentt would also conduct environmental reviews needed to comply with CEQA, including evaluation of impacts and plans for any mitigation needed to address impacts. Upon Dentt’s satisfactory completion of the environmental review outlined in the Preliminary Agreement, the County would consider an industrial ground lease of the site.

This Preliminary Agreement was scheduled to terminate on December 4, 2014, unless both parties agreed to extend its term. Dentt is currently working with its environmental consultants and the City of El Cajon, which would act as the lead agency for the purposes of CEQA for this potential project. Dentt is conducting necessary studies and preparing reports for CEQA review. The recent and anticipated updates to the stormwater mitigation requirements have impacted the size and scope of the development originally proposed by Dentt and prompted the developer to revise its initial plans. Because of these required revisions, Dentt has requested an extension of the Preliminary Agreement. The Board acted to approve the term extension on October 29, 2014.

Weld Boulevard: The next business park to be developed on County airports owned land is Weld Boulevard Site as shown in **Figure H**. The development will be located on the northwest corner of Weld Boulevard and Cuyamaca Street in El Cajon. It is currently zoned for industrial development. Constraints deriving from this parcel's location in the airport flight paths are considerable, but not insurmountable, given its immediate proximity to the SR-52 E/W freeway ramps.



Figure H: Weld Boulevard Site (corner of Weld Blvd. and N. Cuyamaca Street)

(Source: County of San Diego, 2014)

Other studies and plans indicate potential for land development near the airport. The City of Santee has plans and has designated approximately \$26 million – contracted before the State's dismantling of re-development agencies -- to redevelop the Prospect Avenue corridor, which runs east-west just north of the airport. **Figure I** provides an overview of the Prospect Avenue project area. The project includes mobility improvements and other upgrades to civil infrastructure to improve drainage, street lighting, curbs and beautification. Undergrounding of utility cabling will be a priority. Construction is expected to be completed in 2015.

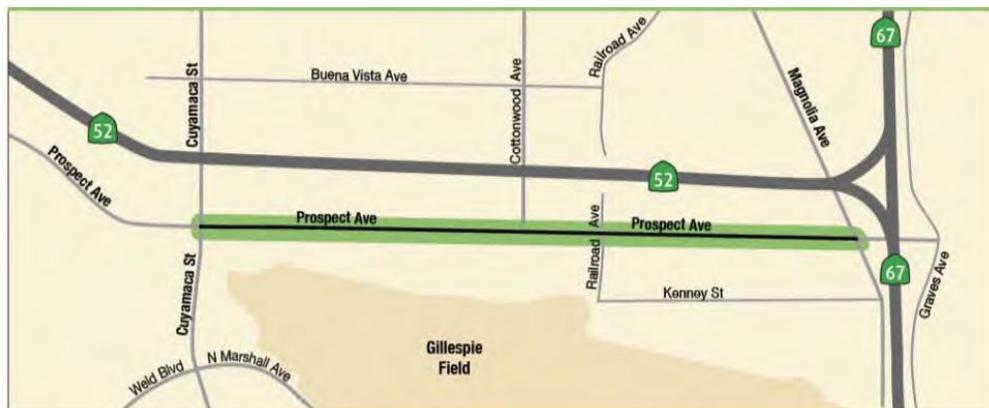


Figure I: Prospect Avenue Project Area Map

(Source: City of Santee)

Table 3 describes potential development projects or plans underway in the study area, as outlined through local plans and conversations with local development professionals.²²

**Table 3: Gillespie Area Development Activities
Area Jurisdiction Planned Development Description**

A	City of Santee	The City of Santee has committed \$26 million to improve Prospect Avenue corridor. Construction for the infrastructure improvements is underway. The City chose the Prospect Avenue corridor as the project designated for its remaining Re-development Agency funds just before the State’s dissolution of RDAs on February 1, 2012. Its proximity to the Gillespie Field Airport and interest expressed by private developers for airport-related commercial use led to the City’s decision.
B	City of El Cajon	In 2013 the County of San Diego Department of Public works issued a Request for Proposals to develop the vacant 31-acre area located at Gillespie Field in El Cajon with a mix of business park and light industrial uses.
D	City of El Cajon and San Diego County	According to the City of El Cajon, the 70 acre parcel located between Joe Crosson Drive and Wing Avenue will be developed for aviation use. Known as the Cajon Air Center, this parcel will be phased into two, separate development cycles, owing primarily to the traffic impacts associated with the Bradley/SR-67 Bridge Exchange.
New	City of El Cajon, City of Santee, and San Diego County	Special Use Center (EC-7) designated around Gillespie Field Airport approved on the update to the SANDAG Smart Growth Concept Map in October 2014. SANDAG staff reported that this update represents the first multi-jurisdiction application – from the Cities of El Cajon and Santee as well as the County of San Diego -- to update the map.

(Sources: City of El Cajon, City of Santee, County of San Diego Public Works, SANDAG)

Figure J shows the Special Use Center on the SANDAG Smart Growth Concept Map as updated in October 2014. A description of the Special Use Center, published with the Smart Growth Concept map, follows the illustration.

²² Information provided by City of El Cajon, City of Santee, County of San Diego, County of San Diego Airports, and the East County Economic Development Council.

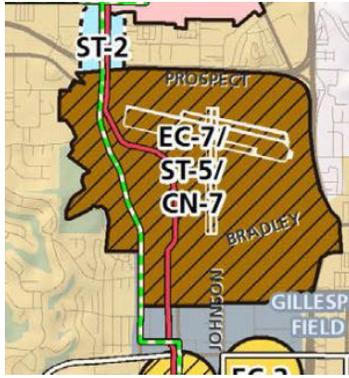


Figure J: EC-7 Special Use Center -- Gillespie Field Airport Industrial Area
(Source: Smart Growth Concept Map, SANDAG, October 2014)

Description of Special Use Center -- EC-7 – Published in SANDAG Smart Growth Concept Map

Area is bounded by SR-52 to the north, SR-67 to the east, Vernon Way to the south; and Cuyamaca Street and Gillespie Way to the west. El Cajon’s jurisdiction within this area extends north to Kenney Street.

Potential Special Use Center – Although the realization of the Special Use Center will require land use changes to the General Plans of the three participating jurisdictions, its intent is to maximize the employment potential of an existing multi-modal employment hub served by the Gillespie Field LRT transit station.

The City of El Cajon, City of Santee, and San Diego County have partnered to support the development of an advanced manufacturing and aviation-related industry cluster with multi-modal connections and facilities. Gillespie Field is strategically positioned to be a future driver of economic development. Further planning is needed to develop a coordinated transportation and land use planning framework that would provide additional employment opportunities and identify multimodal improvements needed to connect the area in a comprehensive manner and provide equitable access to the labor base in the surrounding area.

The North Cuyamaca Street Corridor and the Trolley alignment are identified as High Quality Transit Corridors and the surrounding area (within ½ mile of the transit corridor) as a Potential Transit Priority Project Area in the 2050 RTP. The area is planned for Industrial and Manufacturing use and currently developed with business parks, manufacturing, and ancillary retail. Due to the special nature of this area and the constraints of the Gillespie Field Airport Land Use Compatibility Plan (ALUCP), there is limited potential for additional residential development. Consistent with the SANDAG’s 2050 Regional Transportation Plan (RTP)/Sustainable Community Survey (SCS), the Special

Use Center would provide needed jobs in an existing urbanized employment area connected by transit to the greater region as well as to a community characterized by higher than average unemployment and an often transit-dependent population. Related Smart Growth Areas designated in the concept map include the City of Santee's Smart Growth Opportunity Area ST-5 and County of San Diego's Smart Growth Opportunity Area CN-7. Existing Light Rail Transit (LRT) is available as the MTS Trolley - Green and Orange Lines).

Special Use Center Next Steps

In March 2015, the three jurisdictions, led by the City of El Cajon, will submit a grant proposal for a Smart Growth Incentive Program (SGIP) Planning Grant that would be awarded by the San Diego Association of Governments (SANDAG). The grant would allow a tri-jurisdictional – City of El Cajon, Santee and County of San Diego – approach to develop a transportation and land use planning framework that provides additional employment and housing opportunities consistent with the Gillespie Field Airport Land Use Compatibility Plan (ALUCP). The Gillespie Field ALUCP will promote mobility, access and linkage of the Gillespie Field Airport employment center and airway system with the local and regional industrial and commercial land uses within the subject cities. It will enhance and leverage the existing Gillespie Field Light Rail transit station for improved mobility, and identify multi-modal improvements needed to connect the area in a comprehensive manner and provide equitable access to the labor base in the surrounding area.

East County EDC's vision for the Aerotropolis concept to maximize economic opportunities in the cities and communities surrounding the airport must align with local jurisdiction land use as well as the County's plans for the Gillespie Field airport. A well-coordinated land use, smart growth, mobility and multi-modal transportation plan – synthesized with a targeted economic development strategy – can drive significant investment and create well-paying jobs for East County to make this under-performing region an economic driver for the San Diego region.

The SGIP Planning Grant will allow El Cajon, Santee and the County of San Diego to develop a planning framework for smart growth development within the Gillespie Field Airport and the surrounding areas with a comprehensive approach to transportation, land use, employment and housing. The collaboration of the two cities and the county clearly demonstrates East County's political will to maximize the economic potential of the area surrounding Gillespie Field.

Gillespie Field Land Use – Aerotropolis Steering Committee Internal Analysis

The County of San Diego designated the core study area as a Re-Development Area in 1987 and the Gillespie Field Airport Enterprise Fund (GFAEF) leveraged public and private

investment to build the two existing industrial parks surrounding the airport (within the study area). To realize the Aerotropolis Vision surrounding Gillespie Field; however, the re-development of the older and underutilized properties will need to be addressed. Re-development investment presents challenge for local jurisdictions given the California legislature’s action in 2011 (AB 26) that dissolved local Re-Development Agencies as of February 1, 2012. Cities and Counties lost their primary tool to address the revitalization of poorer and blighted neighborhoods. Gone are significant resources that were available to build affordable housing, transit-oriented development, clean up brownfields and rebuild infrastructure. Although there are legislative activities that point to a re-establishment of a tax increment to support the re-development of blighted areas, all indications are that the replacement program will draw from far fewer taxable sources and produce a much reduced war chest for re-development projects.

The Aerotropolis Steering Committee concluded in its analysis that the aerotropolis sphere of influence and economics will stretch further than the immediate environs surrounding Gillespie Field, primarily along those transportation arteries that lead to and from land zoned for industrial uses.

The analysis focused on land designated for Industrial Uses, since these have the best use compatibility for the airport service area and are predominantly composed of land with the highest potential for job creation. **Table 4** provides the Land Use Assessment results.

Appendix B contains the General Plan maps examined in the assessment.

Table 4: Preliminary Land Use Analysis - Opportunity Areas

Core Areas		Close Proximity to Gillespie Field	
<u>City/Community</u>		<u>Available Industrial Land</u>	
El Cajon	Industrial Park	922 acres	
	Light Industrial	206 acres	
Santee	General Industrial	113 acres	
	Light Industrial	301 acres	
San Diego County – Lakeside	Significant Industrial	Some heavy industrial Build-to-suit parcels	
Secondary Areas		Adjacent East County Communities	
<u>City/Community</u>		<u>Available Industrial Land</u>	

La Mesa	Less than 1 %
Lemon Grove	Less than 3 %
Spring Valley	Small Areas
Valle de Oro	Negligible
Alpine	Less than 3 %

Tangential Areas

Connected via Major Transportation Arteries

City/Community

Available Industrial Land

South County

Via SR-125: Sweetwater/points South; excludes Brown Field

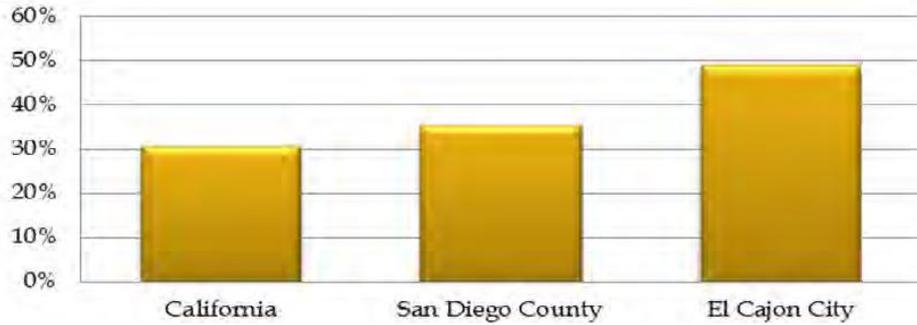
San Diego City

Potential Connectivity: Assess Airport Map, Lane Use Map & Planning Areas, Industrial Use Map; particular promise along Mission Gorge Road connecting Santee & San Diego

Housing Analysis

The City of El Cajon housing stock has a significantly higher portion of multifamily housing units than California and Los Angeles County, as shown in **Figure K**. The 2013 to 2021 draft Housing Element notes that with the vacant land remaining, opportunity for new single-family construction in El Cajon is limited. This housing profile suggests that there is a movement towards dense development that may stimulate demand for more robust transit service. This view is reflected in the Special Use Center, EC-7, as defined in the recently updated SANDAG Smart Growth Concept Map.

Although the City of Santee has a much higher proportion of single family homes than does El Cajon – and one of the highest owner-occupancy rates in the entire San Diego region – the City has consciously chosen to prioritize transit-oriented development in its General Plan. Again, this approach to smart growth principals is consistent with the Special Use Center, EC-7, as defined in the SANDAG Smart Growth Concept Map.



Source: U.S. Census Bureau American Community Survey 2012.

Figure K: El Cajon Share of Multifamily Housing (2012)

Figure L shows the comparison of housing stock and valuation for the East County subregion and each of the four cities and four urbanized unincorporated communities in the East County. These comparisons show that the region can benefit greatly from the increased employment projected from the Aerotropolis surrounding Gillespie Field that brings jobs closer to home for its residents.

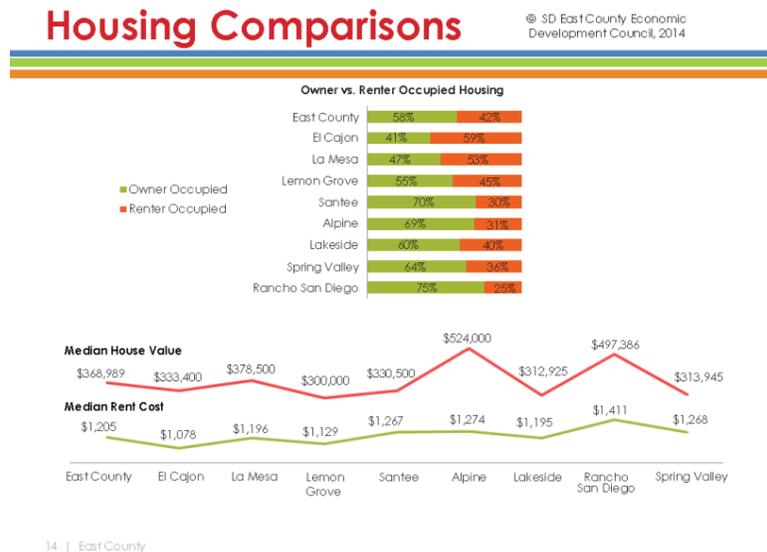


Figure L: Housing Comparisons in East County Communities

(Source: San Diego East County Demographics, East County EDC, June 2014
Based on American Community Survey, 2008-2012)

Regulatory Environment and Community Perspectives

Airports, by their designated use, bring with them complicated and overlapping regulations, restrictions, and plans. For that reason, no assessment of the feasibility of an Aerotropolis surrounding the Gillespie Field Airport would be complete without

examining the regulatory landscape and how these inter-related authorities might affect the further definition of the Aerotropolis Vision and its implementation. Regulations include zoning, height restrictions, historical preservation, noise abatement, recreational uses, open space or park preservation, or agricultural preservation. These regulations control the future use of land near Gillespie Field. In addition, feasibility must be viewed in through the lens of community support for continued development.

Zoning and Other Regulations

The City of El Cajon has land use authority over the airport itself and has prepared plans and regulations that govern development capacity near the airport. **Figure M** shows the Airport Land Use Compatibility Map for El Cajon.

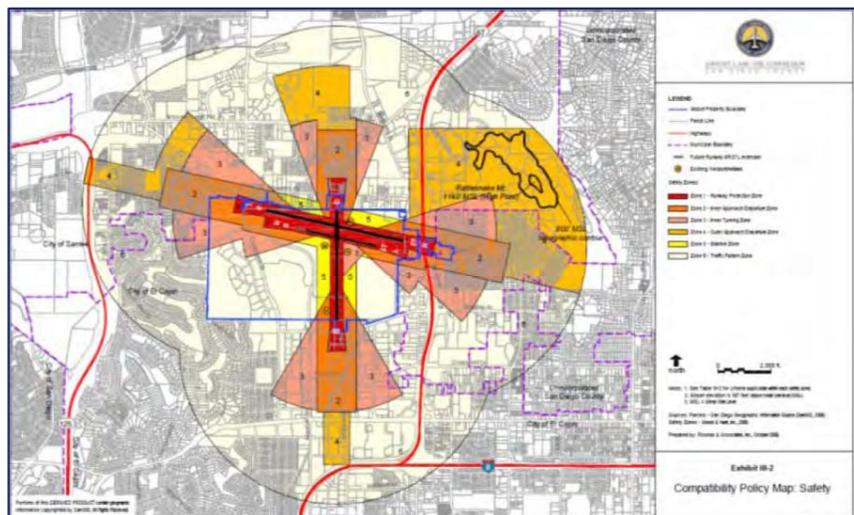


Figure M: El Cajon Airport Compatibility Policy Map

(Source: City of El Cajon, *Municipal Zoning Code*, accessed December 2013)

In El Cajon, the airport is zoned Manufacturing (M), described as follows:

- The M district is intended provide for manufacturing, warehousing, and limited industrial uses as well as certain employment generating office and service uses characterized by: a lack of public contact, a nonretail orientation, limited traffic generation, no need for advertising or retail signage
- No building in the M or Heavy Commercial – Light Manufacturing (C-M) zones may exceed a height of 35 feet unless a greater height is approved by specific plan²³.

²³ City of El Cajon Municipal Code, Chapter 4950 Section 3.

Figure N shows the zoning for areas near the airport for the City of El Cajon. **Figure O** shows similar zoning for airport adjacent areas in the City of Santee. The Cities have not set floor area ratio requirements. These zoning requirements show that local government policies allow the project area to expand as high and dense as the market can support.



Figure N: El Cajon Zoning Map Excerpt - Environs of Gillespie Field Airport

(Source - City of El Cajon General Plan)



Figure O: Santee Zoning Map Excerpt - Environs of Gillespie Field Airport

(Source - City of Santee General Plan)

As described earlier in this study, it is important to note that the Cities of El Cajon and Santee and the County of San Diego will review, collaboratively, all of the land use designations that fall within EC-7, Special Use Center surrounding Gillespie Field should they obtain Smart Growth Planning Grant funds from SANDAG in mid-2015. This collaboration demonstrates wide regional commitment to maximizing the economic value of the area surrounding Gillespie Field Airport.

Table 5 provides a summary of the municipal zoning codes that apply to the area within approximately one-half mile of the airport. The color blocks in the table represent the various zoning districts (residential, commercial, open space). The colors match the use of color-coding used in the excerpt of the Santee zoning map shown in **Figure O**, referenced earlier.

Table 5: El Cajon and Santee Zoning near Gillespie Field Airport

City of Santee	R-14	Medium High Density Residential (R-14)—(14 to 22 Dwelling Units/Gross Acre). (Multiple family such as apartment and condominium buildings). It is intended that this category utilize innovative site planning, provide on-site recreational amenities and be located in close proximity to major community facilities, business centers and streets of at least major capacity. 
City of Santee	IG	General Industrial District (IG). This district is intended for a wide range of industrial activities including manufacturing, wholesale distribution, storage, etc. 
City of Santee	IL	This district is intended primarily for light industrial uses such as manufacturing, assembly, research and development and similar industrial uses, as well as limited commercial and office uses which are compatible and appropriate in this district. 
City of Santee	GC	General Commercial District (GC). This district is intended for general commercial activities and services of more intensive nature. 
City of Santee	PD	Planned Development – (PD) is intended for select properties within the City where a variety of development opportunities may be viable and where the City wishes to encourage innovative and very high quality development in a manner which may not be possible under standard land use designations and their corresponding zones. 

(Source: Caltrans Airport Forecasting Study, February 2014
 Compiling Input from City of El Cajon, Municipal Zoning Code and
 City of Santee, Municipal Zoning Code, both accessed December 2013)

Access to Freeway Infrastructure -- Immediately to the east of Gillespie Field CA-67 (San Vicente Freeway) runs north-south, parallel to the eastern edge of the airport. To the north is a major east-west corridor in Santee, Prospect Avenue. Immediately to the north of Prospect Avenue, running parallel, is CA-52 (Mt. Soledad Freeway). Approximately one

mile to the west of the airport, CA-125 runs north-south. About a mile south of the airport I-8 connects with CA-67.

Access to Bicycle Infrastructure -- The area has a low-moderate level of bicycle facilities that would be likely to increase over time with the implementation of the El Cajon Bicycle Master Plan. The industrial area immediately surrounding Gillespie Field has very few bicycling-lanes on streets. The sidewalks and bike lanes in the nearby residential housing are not sufficient to constitute a multimodal approach typical of “complete streets” design standards. Fully realized planning for the Aerotropolis concept will take into account opportunities for integrating the design of walking, biking, transit, and auto connections.

Access to Transit Service -- El Cajon’s and Santee’s existing and future population and employment density support compact land use patterns supported by good transit service. A number of bus lines currently service the Gillespie Field study area and surrounding neighborhoods.

El Cajon is served by the San Diego Metropolitan Transit System (MTS); Routes 833, 848, and 870 carry passengers in the vicinity of the airport. For Routes 833 and 848, service is every 60 minutes or less, depending on the time of day; Route 870 is weekday only, offering very limited service.

Gillespie Field has a San Diego Trolley station located across Marshall Avenue from Gillespie Field Airport served by the Green Line. The trolley connects the airport to the City of Santee one stop to the north at the station located in Santee Town Center (the Green Line’s terminus). There is also light-rail that goes through this area. There used to be a Tijuana trolley that went through here as the rail goes to the border, but there is a transit stop in the area not far from the airport. This study assessed that the current transit profile is not fully integrated into a true multi-modal transportation system. Addressing this multi-modal integration is a stated objective of the Smart Growth Planning effort that the Cities of El Cajon and Santee and the County of San Diego are jointly proposing to SANDAG.

Fiber/Broadband Infrastructure

The study recognizes that a truly high-speed connectivity backbone, like Google cities or the recent Municipal Broadband Districts would be a tremendous asset to realization of an Aerotropolis surrounding Gillespie Field. According to the City of Santee, a huge network of dark fiber, installed by L3 Communications in the early 2000s, lies beneath Santee and other East County communities. The study team is currently working with various Internet Service Providers (ISPs) to determine where this fiber – as well as copper two-ply conduit -- is located as well as how much bandwidth potential it offers. Once the fiber network has

been characterized, a next step will be to propose a solution to local municipalities or to the private sector to tap this hidden potential.

Economic Analysis

An economic analysis of the environs surrounding Gillespie Field, based on the Caltrans study, shows that the agglomeration of the employees into a more compact space around the airport generates significant additional economic growth because the agglomeration improves the productivity of these businesses.

The relationship between economic density and productivity is widely known²⁴ with research tracing back well over a century. Fundamentally, increasing the scale and density of economic activity increases the size of markets, reduces shared costs, facilitates knowledge spillovers, and stimulates innovation – all of which can lead to increased productivity and growth. Yet, behind these broad outcomes lie a range of specific mechanisms that operate across a range of spatial and industrial scales.

For General Aviation airports like Gillespie Field, two distinct types of agglomeration are of particular importance. The first agglomeration recognizes the airport as a transportation hub. Airports can provide rapid access to nearby and distant cities in California, other states, and other countries. Distances enabled by connectivity provided by airports depend on sizes of runways, types of aircraft used, and regional compatibility plans/policies. The second agglomeration simply recognizes the airport as a locus of economic activity – a sub-metropolitan agglomeration of firms that, through co-location, can enjoy greater efficiency, and productivity, than if the firms were arranged in a more dispersed spatial arrangement.

It is important to emphasize that while these two categories can be measured distinctly – the second is fundamentally related to the first through the processes of agglomeration (i.e., positive spatial feedback). An illustrative example assumes two firms -- a warehouse and a small corporate headquarters -- are attracted to an airport as a transportation asset. They may develop or expand warehousing and office space to specifically take advantage of the airport (for freight shipment and passenger travel, respectively). Once these firms are there, other firms may subsequently be attracted to the site in order to be near the first two firms, for example, a trucking company or a sandwich shop. This secondary attraction is not directly related to the airport itself, but might not exist were it not for the presence of the

²⁴ See Weisbrod et al., 2012, <http://www.edrgroup.com/pdf/Alstadt-Weisbrod-Market%20Access-TRB-2012.pdf>

airport. Finally, the two initially airport-dependent firms may move or go out of business, and the buildings may become re-occupied by firms that have no interest in the airport at all, but are instead attracted by the clustered activity. Again, the specific firms may not be directly related to the airport, but the airport remains a strong residual influencer of the agglomeration process.

Projecting Land Use and Employment

The Gillespie Field study area contains 890 acres of land that include 123 acres of undeveloped land, 22 acres of housing, and approximately 7.6 million square feet of industrial and general commercial business space. This area is dominated by light industrial and commercial service uses with scattered retail uses along the major corridors. Approximately 1,020 private firms and 10 public sector tenants with established business operations within the project area employ 11,810 workers. **Table 6** shows the number of jobs by industry sector.

Table 6: Gillespie Field Area Employment by Industry (2012)
Industry Sector Jobs Industry Sector Jobs

Industry Sector	Jobs	Industry Sector	Jobs
Agriculture and Mining	109	Professional & tech services	6
Utilities	57	Management & administration	0
Construction	1,931	Education & health care	218
Manufacturing	2,456	Arts, Entertainment & recreation	76
Wholesale	1,650	Accommodations	2
Retail	1,631	Food service & drinking	399
Transportation & Communication	175	Automotive Services	247
Information	0	Other services	1,842
Finance, Insurance, real estate	241	Public administration	767
		Total	11,807

(Source: ESRI Project Area Employment Estimate, 2012;
 Corroborated independently by County Airports Economic Impact Analysis)

Both the Caltrans forecasting study and the independent County Airports study included a driving survey of the study area to assess businesses, vacant land areas, infill sites, roadways, open space and potential environmental constraints. This information was used to categorize developed areas by land use type. The analysis followed four key steps to assess existing conditions, including: 1) Estimates of gross employment changes by two-digit NAICS sector resulting from smart growth policy; 2) Estimate net employment changes for the State of California; 3) Use TREDIS to estimate net productivity change from

the change in airport access; 4) Application of statistical relationships to determine productivity effects from increased employment density at zip-code level.

The existing Floor Area Ration (FAR) from the assessment aligns appropriately with the light industrial and office park settings occurring in the study area. Commercial retail FAR was 0.31, light industrial was 0.32, and office park areas was approximately 0.35. The lowest calculated FAR was warehouse uses, at 0.14. The study area has 123 acres of undeveloped or vacant land.

The projections of new business space assume that sufficient market demand will emerge during the next 30 years to absorb the 122 acres of vacant land. Growth was allocated to the vacant land under the following assumptions:

- 50 percent of the vacant land will be converted to light industrial space.
- 50 percent of vacant land will be converted to office and business park space.
- 80,000 square feet of warehouse space will be converted to light industrial space.
- 20,000 square feet of warehouse space will be converted to office or business park space.
- The employment densities of the warehouse, light industrial and office park space will increase (i.e., floor area per employee decreases) to be more consistent with industry averages. Floor area per employee drops from 1,000 to 900 square feet in light industrial, drops from 400 to 215 in office/business parks, and from 1,200 to 1,000 for warehouse space.

Table 7 shows that the Gillespie Field core study area – that immediately surrounding Gillespie Field to include the County and Cities of El Cajon and Santee -- has the capacity to add 1.8 million square feet of new business space and 8,800 new jobs from elsewhere in California by the year 2040. Overall, by 2040 the smart growth area could hold 9.35 million square feet of business space that would accommodate 20,600 employees. It is important to note that these are jobs projected to be added to the statewide economy between 2013 and 2040. As such, jobs forecast to locate in this area cannot be described as “new” to California as a consequence of smart growth. However, projected reallocation served as inputs to the economic model in order to estimate additional economic activity in California that can be generated by the agglomeration induced by smart growth.

Table 7: Gillespie Field Area Employment by Industry (2040)

Building type	Acres	Jobs	Floor Area per Employee	Total Floor Area	FAR
Retail commercial	95	3,651	350	1,278,000	0.31
Light Industrial	369	5,815	900	5,233,777	0.32
Office, business park & general commercial	148	10,605	215	2,280,054	0.35
Warehouse	110	563	1,000	563,000	0.14
Residential	22				
Roadways and Public Spaces	146				
Total	890	20,635		9,354,830	
Projected new jobs and business space		8,830		1,796,830	

(Source: Caltrans Study, 2014)

Estimating Economic Impacts

The effect of greater smart growth development near SEE is forecast to result in 921 additional jobs, \$121 million in additional value added, and \$80 million in additional income to the California economy by the year 2040. These are the potential economic impacts of smart growth/business attraction policies are due to agglomeration in the smart growth area above the baseline forecast. The total impacts to California by industry sector are presented in **Table 8** below.

The leading industrial sectors include professional, scientific and technical services; and administrative support and waste management; and manufacturing. Professional, scientific and technical services account for 29 percent of the increase in value added, and 36 percent of income growth. Administrative support and waste management accounts for 21 percent of value added growth, and 27 percent of income growth. Manufacturing accounts for 16 percent of total change in value added, and 11 percent in total change in come.

Table 8: Gillespie Field Area Economic Analysis Results (2040)

NAICS Sector	Total Impacts to California			
	Jobs	Output	Value Added	Income
11 Agriculture, Forestry, Fishing and Hunting	7	1.03	0.50	0.38
21 Mining, Quarrying, and Oil and Gas Extraction	2	0.87	0.47	0.14
22 Utilities	1	1.19	0.57	0.19
23 Construction	11	1.94	1.15	1.01
31-33 Manufacturing	61	64.11	19.36	9.15
42 Wholesale Trade	23	5.54	4.08	2.35
44-45 Retail Trade	50	4.29	3.21	2.04
48-49 Transportation and Warehousing	19	2.60	1.42	1.12
51 Information	11	4.42	2.61	1.45
52 Finance and Insurance	31	7.27	4.16	2.14
53 Real Estate and Rental and Leasing	58	17.57	13.43	2.02
54 Professional, Scientific, and Technical Services	189	48.30	35.21	28.59
55 Management of Companies and Enterprises	10	2.48	1.54	1.34
56 Administrative and Support and Waste Management and Remediation Services	313	37.86	25.91	21.91
61 Educational Services	9	0.64	0.42	0.37
62 Health Care and Social Assistance	43	4.47	3.00	2.63
71 Arts, Entertainment, and Recreation	10	0.87	0.59	0.37
72 Accommodation and Food Services	40	2.93	1.70	1.14
81 Other Services [except Public Administration]	26	1.91	1.27	1.11
92 Public Administration	6	0.70	0.67	0.58
Total	921	211.00	121.26	80.04

(Source: Caltrans Airport Forecasting Study, 2014)

East County/Gillespie Field Study Area Opportunities/Strengths

Potential Business Clusters/Opportunities

National Security/Defense: Fully one-fifth of the jobs in San Diego County have some affiliation to the military or defense sector²⁵. The East County subregion has a long history of incubating small defense firms that, when successful, outgrow the facility capacity of the industrial and/or commercial building inventory. Areas to be explored further as targets for aerotropolis investment include: 1) Command, Control, Communications, Computing, Intelligence, Surveillance, Reconnaissance (C4ISR) – a strong candidate owing to the presence of the Space and Naval Warfare Systems Command and its associated Federal R&D lab, SPAWAR Systems Center, Pacific, in San Diego; 2) Unmanned Systems – both air, maritime, and terrestrial – in which San Diego has established expertise from research to manufacturing; 3) Aerospace Manufacturing – smaller by size than before the fall of the Berlin Wall and owing to the ongoing impact of sequestration, but offset by the resurgence in the commercial side where annual production of aircraft is expected to increase by 25 percent by 2013.²⁶

Aviation Operations, Maintenance and Support: The Aerotropolis concept, as described in this report, would lead to an increased demand from companies in/around Gillespie Field for aviation services. These include Maintenance Repair Operations (MROs), which provide aircraft maintenance, repair, and overhaul; Fixed Base Operators (FBOs) that provide aircraft tie-down, hangar space, and servicing; and companies specializing in research, manufacturing, and maintenance of aircraft parts and subsystems. Aircraft maintenance technicians are in high demand as FAA certification of repair facilities and technicians is a lengthy process with only one approved training facility in all of San Diego County, at Miramar College. Although San Diego County is home to hundreds of veterans with military aircraft maintenance certifications, these credentials cannot be automatically transferred to the maintenance of commercial/civilian aircraft. Further investigation of the demand for technicians, given the projections for increased aviation use on Gillespie Field, will be required to estimate the need for additional training resources.

First Responder Tech Support Center: Gillespie Field has long been a staging area for aeronautic resources used in disaster recovery, from wildfires to earthquake, because of its excellent resources, three runways, and ample room for tie-down of huge helicopters and fix-winged aircraft. The Aerotropolis Steering Committee is currently responding to a San Diego Gas & Electric (SDG&E) request to propose a First Responder Tech Support Center at

²⁵ 6th Annual Military Economic Impact Study, San Diego Military Advisory Council, 2014.

²⁶ http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/us_AD_GlobalAandDOutlook_01022014.pdf

Gillespie Field, to include new product tests and evaluation, technology and tactical demonstrations, training, field tests, and simulated incidents. In addition, the committee corroborated SDG&E's concept with Caltrans Aeronautics Division personnel that Gillespie Field is very well suited to a disaster response training center, particularly with regard to the disposition of aviation resources to response activities.²⁷ Potential agencies to invite to partner on the concept include: Immigration and Customs Enforcement (especially as the Border Patrol Special Operations Center is currently located in El Cajon), FBI, state and local law enforcement, fire, rescue, and post-disaster response (FEMA).

Logistics/Warehousing/Distribution Center: The nexus of the SR 52-125-67 freeways offer a unique competitive advantage to the core Gillespie Field Aerotropolis area. It allows industrial and commercial movement of goods and services to points north to the LA and Riverside County corridors, west to the Port of San Diego, east to the U.S. Southwest and industrial heartland, and south to the Mexico border.

Supply chain issues are key factors in today's global location decisions, but the logistics industry is faced with a host of issues that must be addressed, including a shortage of truck drivers and congestion at the nation's ports. In response to this, companies are choosing to locate their distribution centers in locations that enable them to minimize miles traveled and maximize access to a variety of modes and carriers. Consequently, rail-centric inland ports are playing a more prominent role. In fact, the volume of cargo carried by rail as part of an intermodal distribution system tripled from 3.1 million containers in 1980 to 12.8 million in 2013. And, according to the American Association of Railroads, intermodal traffic rose 9.9 percent in just the period from March 2013 to March 2014, representing the 52nd consecutive year-over-year monthly increase²⁸.

With the growth of e-commerce and "omnichanneling," there is more emphasis on proximity to the end customer, whether that customer be in the U.S. or in China, a vastly growing consumer market. Companies need to keep these trends in mind when establishing production as well as distribution sites. If a company does operate globally, is responsible for "e-tail," is a rapid growth tech start-up with talent scattered widely, or is dependent on imports or exports — among a host of other scenarios — locating near an airport might make sense²⁹. Locating near or on airport lands presents many opportunities for growth, but a company must also be aware of the risks involved in such a move. The consortium investigating the aerotropolis must make it easy for companies considering locating near Gillespie Field to determine that the opportunities far outweigh the risks.

²⁷ East County EDC Conversation with Derek Kantar, Caltrans Aeronautics Division, February 2015.

²⁸ Area Development Online, Logistics Centers Overview, www.areadevelopment.com, Feb 26, 2015.

²⁹ www.areadevelopment.com/logisticsInfrastructure/Intermodal-Sites-Q1-2015/airports

As stated earlier in this report, more work needs to be done on how best to position transit, freeways, and surface streets around Gillespie Field in a true multi-modal transportation hub. The transit facility at Weld and Marshall is not well integrated with the airport and the jobs center in the surrounding business parks. Increased business, tourist, and commercial aviation use at Gillespie will require means for travelers to access accommodations, attractions, and other parts of San Diego. All options are under consideration including a mixed use transit facility with trolley and bus, rental cars, and personal transport like Car2Go, Uber, and Lyft.

Tourism/Hospitality: Any successful aerotropolis concept for the area surrounding Gillespie Field must address the tourism and hospitality sector, from both the demand and supply side. Interstate 8 and the state routes connecting to the interstate have long been the gateway to backcountry tourism including off-road racing, hiking in the Cuyamaca National Forest, and the numerous Native American gaming casinos and resorts. Investigation of the Gillespie Field Aerotropolis has recently caught the attention of the Viejas Tribal Council and they have expressed interest in participating in future aerotropolis vision studies to ensure their interests are considered in any discussion regarding intermodal transportation linkages that may affect the Viejas Transportation Plan³⁰.

Hotels or other facilities with large conference space have been a longstanding East County need. More facilities to house business and leisure travelers, using the airport and the business hubs around them, are critical for the aerotropolis vision to succeed. In April 2015, the City of El Cajon will break ground for the first business class hotel to come to the East County: A Courtyard by Marriot in downtown El Cajon with nearly direct freeway access to Gillespie Field. Owing to this successful re-development project (one that required the City to justify its investment with the California Department of Finance in the wake of the legislatures' dissolution of re-development agencies on February 1, 2012), other hoteliers have accelerated their discussions with the Cities of El Cajon, Santee³¹ and La Mesa to meet market demand.

Gillespie Field is currently home to the San Diego Air & Space Museum Annex, housing historic aircraft and related memorabilia undergoing restoration and refurbishment. The private Allen Airways Museum is also located on Gillespie Field as are numerous private collections. Opportunities to integrate education programs with tourism assets are being

³⁰ Review of Viejas Transportation Plan with Captain Don Butz, Viejas Fire Chief, Viejas Band of the Kumeyaay Indians, February 2015

³¹ Santee is home to a Sportsplex USA franchise that lures thousands of visitors for softball, baseball, and other sports tournaments. In the past, visitors had to travel to Mission Valley and other more distant hotels.

considered including Aerospace STEM (Science, Technology, Engineering, and Math) and other K-12 linked learning initiatives. Aviation and aerospace-related tourism will be factored into follow-on aerotropolis studies to determine how they can drive commerce and create jobs.

Advanced Manufacturing: A recent San Diego Workforce Partnership study indicated that the Advanced Manufacturing sector in San Diego County is comprised of many diverse industries, including electronics, aerospace, fabrication metals, biotechnology and more. Manufacturing careers today demand high-tech skills in computers, robotics and information technologies. Advanced Manufacturing is slated to grow by 9,903 jobs (6 percent) from 2013 to 2018, and will continue to add employment to the region due to governmental economic and workforce initiatives.

In May 2014, the federal government designated San Diego, as part of the four-county Advanced Manufacturing Partnership Southern California (AMP SoCal), an official Manufacturing Community in the Investing in Manufacturing Communities Partnership (IMCP) program. This designation – coordinated at the Federal level by the U.S. Economic Development Administration (EDA) -- enables the region to access federal funding for workforce development, economic development, capital access, research and innovation, and infrastructure and site development.³²

The North American Industry Classification System (NAICS) codes used in this study to define Advanced Manufacturing include traditional manufacturing codes (NAICS 31-33) and codes from the San Diego Association of Governments (SANDAG) industry cluster analysis.³³

San Diego County's robust and diverse Advanced Manufacturing sector includes diverse industries such as aerospace, maritime, clean technology, biomedical devices and products, pharmaceuticals, sporting goods, beverage and precision manufacturing.

Using this expanded definition³⁴, the region's Advanced Manufacturing sector had 7,578 establishments and more than 169,000 workers in 2012. This sector accounted for 10 percent

³² www.eda.gov/challenges/imcp

³³ Traded Industry Clusters in the San Diego Region, SANDAG, 2012.

³⁴ **Traditional Manufacturing versus Advanced Manufacturing NAICS Codes:** The San Diego Workforce Partnership study expands the traditional definition of manufacturing NAICS codes 31-33 as defined by the U.S. Bureau of Labor Statistics, and includes data from the telecommunications, biomedical device and clean technology manufacturing industries. However, according to traditional manufacturing NAICS codes 31-33, San Diego County had 2,898 establishments and employed just over 99,000 workers in 2012. Additionally, the GRP was \$12.5 billion in 2007 and increased to \$13.4 billion in 2009 before declining to \$13 billion in 2010. Since then, traditional manufacturing GRP increased to \$15.1 billion in 2012.

of all establishments, 15 percent of all paid employment and 22 percent (\$13 billion) of annual payroll in San Diego County.³⁵

Advanced Manufacturing Gross Regional Product (GRP) – Advanced Manufacturing consistently made up nearly 23 percent of San Diego County’s GRP from 2007 to 2012 and shown in **Figure P**. More study will identify which Advanced Manufacturing targets make most sense in the Gillespie Field Aerotropolis.

Figure P: San Diego County Gross Regional Product³⁶
(in millions)³⁷



East County is already home to a significant share of the San Diego region’s Advanced Manufacturing companies, as identified in a 2012 SANDAG report on trade clusters. The concentration of these companies throughout the region is provided in **Figure Q**. The area surrounding Gillespie Field can be exploited to grow these types of industrial jobs if the right investments in infrastructure, industrial properties, and workforce are made.

³⁵ *Advanced Manufacturing Labor Market Analysis, San Diego County, San Diego Workforce Partnership (SDWP), October 2014.*

³⁶ Gross Regional Product is the value of all goods and services produced in a metropolitan area. Source: U.S. Bureau of Economic Analysis, Regional Data: Gross Regional Product and Personal Income.

³⁷ *Advanced Manufacturing Labor Market Analysis: San Diego County, SDWP, October 2014.*

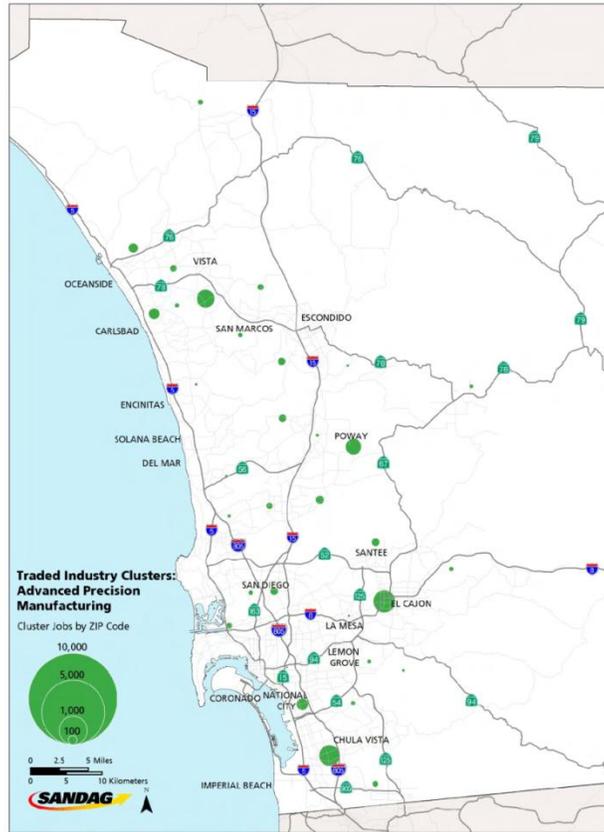


Figure Q: Advanced Precision Manufacturing Cluster

(Source: Traded Clusters in the San Diego Region, SANDAG, December 2012)

Challenges

As with any major initiative, the Gillespie Field Aerotropolis Vision faces challenges related to its acceptance, adoption, and implementation. The following are a few of the challenges that must be addressed in furthering the Gillespie Field Aerotropolis Concept.

Bradley Avenue/State Route 67 Interchange Project

The Bradley Avenue/State Route 67 overpass came to the attention of the ECEDC Gillespie Field Committee in the 1990s as an acknowledged problem for multiple jurisdictions, with no coherent path to correction. The affected jurisdictions and organizations then, and now, were Caltrans, County of San Diego, Gillespie Airport, SANDAG and the Cities of El Cajon and Santee. Over the next five years, ECEDC conducted the following activities to raise awareness of the problem and raise its priority status in regional infrastructure plans: 1) brought together the jurisdictions; 2) encouraged Caltrans, the County and SANDAG to

complete impact studies; 3) identified the interchange as a Regional Arterial System Project; 4) integrated the project into the regional plan; conducted a Value Analysis Study; 5) completed a Project Study Report/Project Report; 6) identified and confirmed the project's purpose and benefits; and 7) began environmental work to comply with state and federal requirements. In the next decade, the problems (Level F congestion, impediment to economic growth/jobs and local circulation from housing to jobs) have worsened. The goals have remained the same: relieve congestion at the overpass, on/off ramps, and adjoining streets; allow/support economic development/job opportunities; improve airport access; and enhance safety and mobility for pedestrians, bicyclists and transit passengers. In 2005, the projected timeline for construction was 2011. Today, 2015, environmental clearances have been obtained; design and engineering work completed, and most right-of-way-obtained. The project is shovel-ready for construction funding and is needed more than ever.

Rail Access

The Weld Boulevard/Marshall Trolley Station will need to be better integrated into a multi-modal transit and transportation strategy to support the aerotropolis. In addition, although the Metropolitan transit Authority (MTS) has jurisdiction over this and light rail spurs in the area, these assets are not well integrated into a coherent plan to address the efficient movement of goods and services.

Dissolution of Re-Development Agencies

Gillespie Field and its environs, primarily the business and industrial parks surrounding the airport, are built in established re-development areas and are the result of public-private partnerships between the County, the Cities of El Cajon and Santee, and private developers. With the State legislature's dissolution of Re-development Agencies on February 1, 2012, a critical tool for the re-development of underserved communities has been taken away. East County cities worked hard to protect as much of their redevelopment funds as possible by successfully defending existing obligations to the California Department of Finance. Santee was able to secure over \$23 Million for infrastructure improvements along Prospect Avenue, just north of the a Gillespie Field fence line and El Cajon matched funds to enable groundbreaking for East County's first business class hotel in April 2015.

These investments are encouraging, but new methods and techniques for public-private partnerships will have to be developed, and implemented, to realize the Aerotropolis vision for Gillespie Field.

Regulatory Environment

The California regulatory environment presents a challenge to all development initiatives, with the California Environmental Quality Act (CEQA) process being fraught with lack of coordination, invitation to litigation, and byzantine complexity that leads to delays, cost overruns, and abandoned projects.

In its *Roadmap to Shared Prosperity, California Forward*, a bipartisan collaboration of the private and public sector, calls for an update to regulatory processes such as CEQA, water transfers, and air permitting to advance the triple bottom line: encouraging economic prosperity, improving environmental quality, and improving opportunity for all³⁸.

This challenge continues to be a threat to realization of the Gillespie Field Aerotropolis vision. The collaboration of local jurisdictions, such as the Cities of El Cajon and Santee and the County of San Diego for the Special Use Center surrounding Gillespie Field, point to the political will to overcome some of the regulatory hurdles for the good of the region.

³⁸ *Roadmap to Shared Prosperity, California Forward*, 2014

Findings and Next Steps

The Caltrans Forecasting Study, using the analysis methods extracted and expanded upon in this feasibility study, found that the Gillespie Field environs projected more jobs, and aligned more closely with Smart Growth principals, than any of the 20 California airports it evaluated, in depth. These 20 airports had been down selected, based on minimum smart growth and economic criteria, among all 245 airports in the State of California.

See **Table 9** for the comparison.

Table 9: Selected Smart Growth Area and Smart Growth Airport Size/Employment

Airport	Acres	Undeveloped Acres	Jobs
Role 1 Smart Growth Areas			
Buchanan Field	621	3	5,791
Fresno-Yosemite International	2,040	540	10,910
Gillespie Field	890	123	11,807
Santa Monica Municipal	120	0	1,677
Role 2 Smart Growth Support			
Castle	880	704	179
Charles M. Schulz	860	709	3,430
Santa Maria Public	1,750	723	10,910
Yuba County	1,000	437	157

(Source: Caltrans Airport Forecasting Study, February 2014)

- Existing Economic Driver/Potential Remains -- The Gillespie Field environs clearly show potential to support high density pedestrian and transit oriented smart growth nodes, thus directly producing desirable environmental health benefits. An aerotropolis strategy to maximize this potential can greatly increase the economic contribution of this East County asset.
- Jobs Closer to Where People Live -- More jobs closer to the residential communities in San Diego's East County will reduce Vehicle Miles of Travel (VMTs) - even without transit and pedestrian utilization increases, simply by eliminating the percentage of commuters exiting East County on its main East-West freeways - I-8, SR-52, and SR-94.

- Economic Concentration Advantage -- Gillespie Field has a concentration of economic activity that reduces business costs, facilitates the sharing of information by businesses, and stimulates innovation. That adds up to greater productivity.
- Logistic/Transportation Advantage -- Gillespie Field's economic potential is supported by strong freeway access, with State Route 52 on the north, Interstate 8 on the south, State Route 67 on the east, and State Route 125 on the west. There also is good access to public transportation and rail links.
- Santee Investment -- The City of Santee has designated approximately \$26 million to redevelop the Prospect Avenue corridor north of the airport. This project will improve traffic flow. Santee chose this project for its remaining re-development resources owing to its proximity to the airport and the City's recognition of its economic potential.
- Tourism/Hospitality Investment and Opportunities -- The Aerotropolis vision could benefit from the City of El Cajon's efforts to increase the number of hotels near the airport. The city has completed negotiations with hoteliers to build a Marriott Courtyard at Magnolia Avenue and Rea Street. Officials also are considering ways to encourage hotel development on a site near the intersection of Broadway and State Route 67. The cities of Santee and La Mesa are also exploring business class hotel sites. Collectively, these hotel properties will benefit from the increased business and recreational travel associated with realization of the aerotropolis vision. In turn, the increased number of business class hotels can contribute to the attractiveness of the aerotropolis concept for business, tourism, and regional community uses.
- Growth capacity -- As stated in the Caltrans study, the area surrounding the airport currently supports 11,807 jobs with the capacity to add 1.8M square feet of new business space and support 20,800 jobs by 2040. Leaders of the aerotropolis initiative intend to accelerate job growth and add new, vital employment clusters that maximize the value of the airport and its environs.
- Collaboration Impetus -- The recent collaboration of the cities of El Cajon and Santee and the County of San Diego to designate a Special Use Center around Gillespie Field on the SANDAG Smart Growth Map clearly points to these local jurisdictions commitment to the potential of the area around Gillespie Field as an economic driver poised to grow jobs and improve quality of life for its citizens. The three-partner application for SANDAG Smart Growth Incentive Program planning funds, submitted in March 2015, furthers this commitment that includes, importantly, an

agreement that existing land use and zoning designation in all three jurisdictions are up for review and discussion.

- Population and Employment Driver -- The region and study area for Gillespie Field will likely experience continued growth in population and employment. SANDAG's 2050 Regional Transportation Plan projects the County will receive another 1.25 million residents, the creation of 500,000 new jobs and the construction of nearly 400,000 new homes over the next 40 years. The East County region is acting to ensure that a significant portion of these jobs reside in its own backyard, in a Gillespie Field aerotropolis.

Next Steps

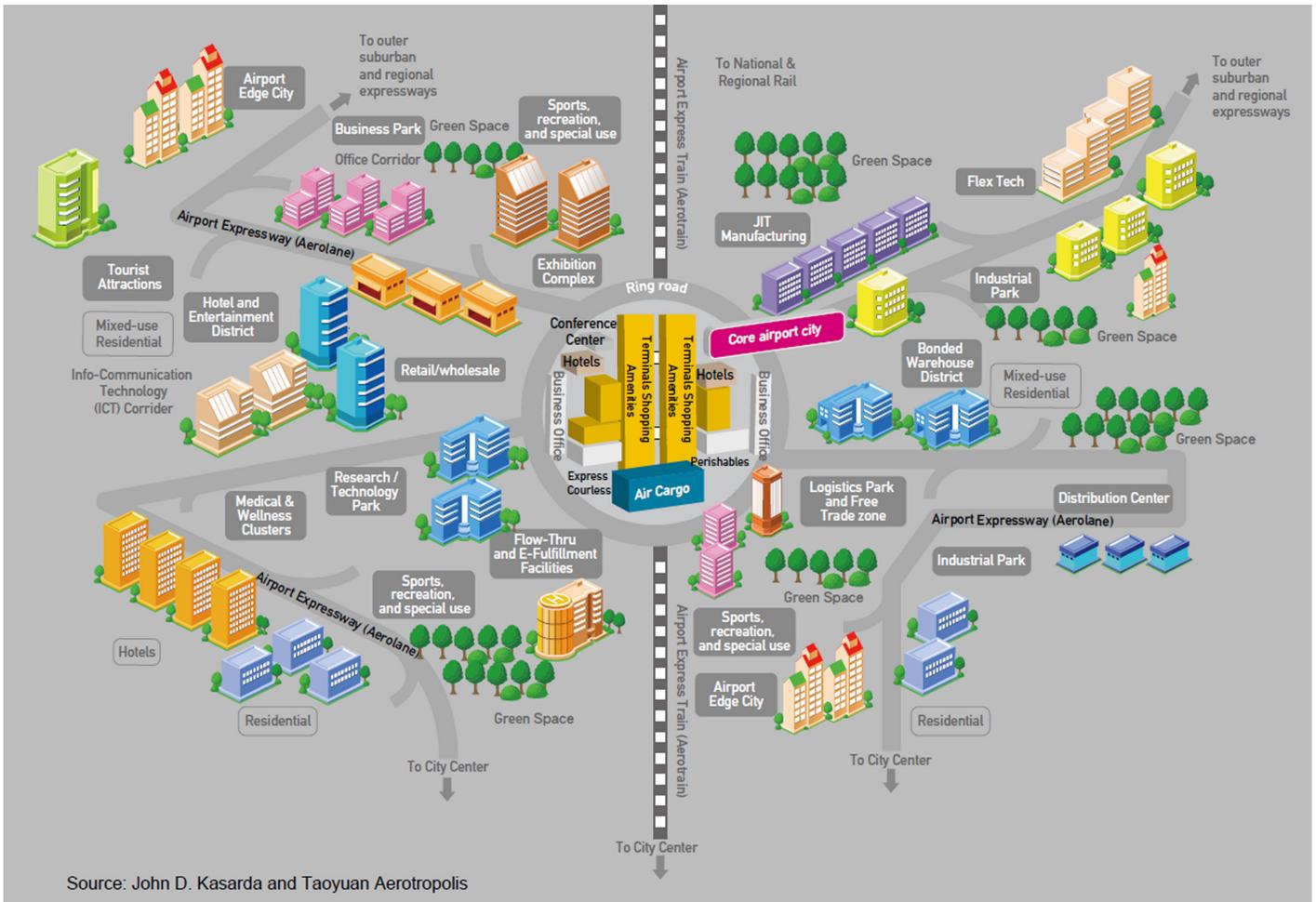
East County Economic Development Council will work with the Aerotropolis Steering Committee to expand the investigation of target industrial/business clusters that make the most sense of the Gillespie Field Aerotropolis.

East County EDC will work in collaboration with the three jurisdictions pursuing the Smart Growth Incentive Program (SGIP) planning grant to ensure that the consideration of land use, zoning, multi-modal transportation, and housing align with the findings of the Aerotropolis Feasibility Study.

The Aerotropolis Steering Committee will continue to address specific challenges to the success of the Aerotropolis Vision – especially the Bradley/SR-67 interchange and the scarcity of redevelopment funds – to see how these potential obstacles can be converted to strengths.

The Committee will prioritize which of the assets identified in this report can be leveraged for rapid implementation of near, mid, and far term aerotropolis opportunities.

Appendix A
Aerotropolis Fact Sheet



Source: John D. Kasarda and Taoyuan Aerotropolis

A TRANSPORTATION AND BUSINESS HUB FOR THE 21ST CENTURY

As aviation-related businesses cluster around airports with good access to ground transportation, a new business concept is emerging globally: the aerotropolis. Designed to attract economic investment and workforce talent, an aerotropolis is an urban planning area in which the infrastructure and economy center on an airport. In 2011, Time Magazine featured the aerotropolis concept as one of “10 ideas that will change the world.” The East County Economic Development Council (ECEDC) has begun studying the best ways to create an aerotropolis surrounding county-operated Gillespie Field, a public airport in El Cajon.

The ECEDC and the South County Economic Development Council (SCEDC) jointly have received a \$40,000 grant from the U.S. Economic Development Administration to develop aerotropolis plans surrounding both Gillespie Field and San Diego’s Brown Field Municipal Airport in Otay Mesa.

One of the goals is to determine which industry clusters can best enhance economic development, increase investment, and create higher paying jobs.

Although it is collaborating with the SCEDC, the East

County group’s main focus will be on Gillespie Field, said Santee City Councilman John Minto, chairman of the ECEDC.

In addition to the \$40,000 grant, the ECEDC has “received another \$50,000 from the San Diego Foundation and we are matching with some internal money as well,” said Jo Marie Diamond, president and CEO of the council.

If successful, an aerotropolis could become a catalyst for economic growth that benefits the entire East County community, she explained. “The underlying premise is an

aerotropolis is an economic accelerator.”

The Wall Street Journal reports that in countries like Dubai, China, India, and Africa, cities are being built from scratch around air travel. Because of tight land-use regulations, winning permission to build new airports in the U.S. is difficult. That makes those that exist all the more valuable, said Joe Craver, chairman of the ECEDC’s Aerotropolis Steering Committee.

“To build an airport from scratch is close to impossible,” said Craver, who is the former chairman of the San Diego Regional Airport Authority. “Our nation has to treat all existing airports as treasures.”

The ECEDC’s goal is to create a business hub where travelers and locals can conduct business, shop, and dine. This would benefit manufacturing and distribution facilities; hotels; retail stores; commercial offices; conference centers; and entertainment venues.

TREMENDOUS POTENTIAL

“What does that do for the community?” Craver asked. “It increases the tax base. It increases the economic viability of the area. It will create jobs, which is something we desperately need.”

The ECEDC has determined that the airport and its business parks now contribute over \$400 million per year to the local economy and provide nearly 3,200 jobs. In terms of the number of operations, Gillespie Field ranks No. 1 among San Diego County airports.

It also generates enough revenue to cover operations at all of San Diego’s regional airports.

This revenue comes from airport operations and property taxes on the surrounding industrial area. There are 55 acres in aviation use and 37 acres of industrial use land available for development.

Diamond explained that the aerotropolis concept is about developing businesses outside the airport gates. The planning area could extend for miles beyond Gillespie Field, but there are no plans to participate in development of the airport itself.

“Anything within the airport has to be aviation related,” Diamond explained. “We have much more leeway outside the fence. This whole thing is about bringing investment and jobs to the East County.”

STRATEGIC LOCATION

Dana Quittner, an education consultant who chairs the ECEDC’s Gillespie Field Committee, said one of the things that makes the airport a good aerotropolis candidate is its

strategic location near several freeways: State Route 52 on the north, Interstate 8 to the south, State Route 67 on the east, and State Route 125 on the west.

“We are connected,” Quittner said.

William Fischbeck, a real estate and land-use attorney who serves on the ECEDC’s Aerotropolis Steering Committee, said it would be a mistake not to consider creating an aerotropolis around Gillespie Field.

“There is a feeling that this post-recession period is a time for new kinds of growth,” he said. “Gillespie sits in the middle of a wonderful freeway grid.”

The idea of clustering businesses around transportation centers isn’t a new one. This frequently was done when cities, factories and retail centers took shape around railroad nodes. Before the development of railroads, seaports were strong magnets for such development.

The potential Gillespie Field has for stimulating growth could make the envisioned aerotropolis “a game changer” for the region, Quittner said. To make it happen will take careful planning, however.

The project will require cooperation between business interests and local government, said Minto.

“It’s not just for one city or one group, but for an entire region,” he said.

SMART GROWTH

An aerotropolis would incorporate “smart-growth” concepts. That means compatible development near residential communities, schools, and existing transit would reduce the need for people to make long driving commutes. This strategy supports the economy and protects the environment.

A recent Caltrans Airport Forecasting Study found that education and employment trends have created a demand for office and commercial growth that is compatible with development near Gillespie Field. Dr. Cindy L. Miles, chancellor of the Grossmont-Cuyamaca Community College District, said East County educators are very interested.

“Our role is workforce training and education,” said Miles, who serves on the ECEDC Aerotropolis Steering Committee. “We would be preparing the workforce for those new jobs and also educating students and community members about the [employment] opportunities.”

Jerry Hollingsworth, a former county planning commissioner who serves on the steering committee, views East County as a sleeping economic giant. He thinks creating an aerotropolis could awaken it.

“Whatever we can do to make it happen, that is what we are here for,” he said. “The key is jobs.”



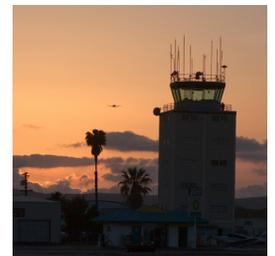
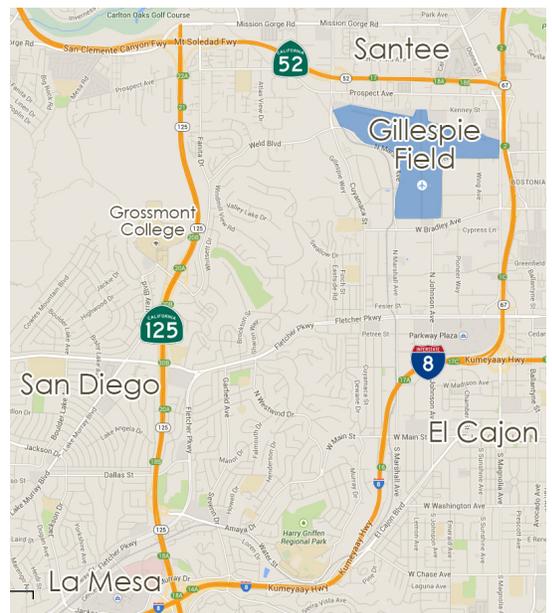


THE AEROTROPOLIS CONCEPT: Why Gillespie Field? Why Now?

As planners investigate potential locations for airport-centered business hubs throughout California, Gillespie Field is emerging as a prime candidate for an “aerotropolis” initiative. What is an aerotropolis? An aerotropolis -- sometimes called an airport city -- is a business cluster in which the infrastructure and economy are tied closely to airport activities. Surrounded by businesses, Gillespie Field Airport runways provide access to destinations as far away as Russia and Venezuela.

WHAT MAKES GILLESPIE FIELD A STRONG AEROTROPOLIS CANDIDATE?

- The recent Caltrans Airport Forecasting Study, which considered the economic potential of the state’s airports, concluded that the business district surrounding Gillespie Field has **tremendous potential for job creation with positive economic impact**.
- Gillespie Field is one of seven California airports that are highly suitable for sustainable economic growth. The others were Buchanan Field, Fresno Yosemite International, Hayward Executive, San Diego International, Santa Monica Municipal, and Van Nuys.
- Gillespie Field has a **concentration of economic activity that reduces business costs**, facilitates the sharing of information by businesses, and stimulates innovation. That adds up to greater productivity.
- Gillespie Field’s economic potential is supported by strong freeway access, with State Route 52 on the north, Interstate 8 on the south, State Route 67 on the east, and State Route 125 on the west. There also is good access to public transportation and rail links.
- The City of **Santee has designated approximately \$26 million** to redevelop the Prospect Avenue corridor north of the airport. This project will improve traffic flow.
- The initiative could benefit from the City of El Cajon’s efforts to increase the number of hotels near the airport. The city has begun negotiations with hoteliers to build a Marriott Courtyard at Magnolia Avenue and Rea Street. Officials also are considering ways to encourage hotel development on a site near the intersection of Broadway and State Route 67.
- The cities of Santee and La Mesa are also exploring business class hotel sites.



GILLESPIE FIELD OVERVIEW:

Location: 1960 Joe Crosson Drive in Northwest El Cajon.

Airport Connections: Gillespie Field Airport provides business access to destinations up to 3,700 miles away.

History: Commissioned as a Marine Corps facility in 1942, it was converted to a public airport in 1946. The county assumed ownership in 1952, with aviation deed restrictions, and the FAA still has final authority on inside-the-fenceline airport usage.

Airport operations: The county reported 183,991 operations in 2013. An operation is the arrival or departure of an aircraft to or from the airport.



Number of aircraft based there: 702 in 2013.

Surrounding businesses: Approximately 1,020 private firms and 10 public sector tenants.

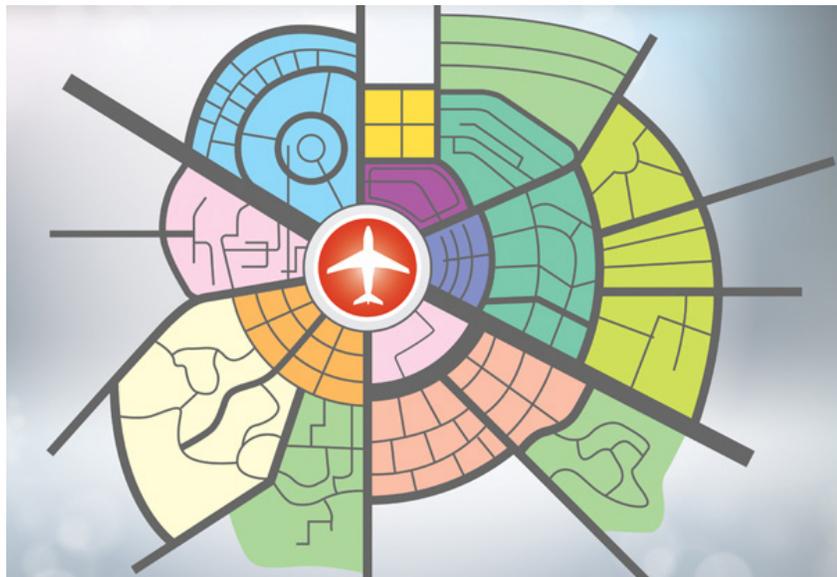
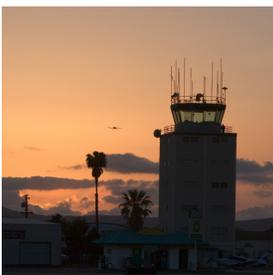
Existing land uses: The Caltrans Gillespie Field airport study area contains 890 acres of land with the 757-acre airport at the center. The area includes **123 acres of undeveloped land, 22 acres of housing (outside the fenceline), and approximately 7.6 million square feet of industrial and general commercial space.** East County EDC is thinking bigger and is actively defining the aerotropolis sphere of influence.

Economic benefits: The East County Economic Development Council reports that the airport and nearby business parks currently contribute more than \$400 million per year to the economy and provide nearly 3,200 jobs.

Growth capacity: The Caltrans study says the area surrounding the airport currently supports 11,807 jobs with the capacity to add 1.8 million square feet of new business space and support 20,800 jobs by 2040. Leaders of the aerotropolis initiative intend to accelerate job growth and add new, vital employment clusters that maximize the value of the airport and its environs.

Training: The Grossmont-Cuyamaca Community College District can provide a wide range of traditional, online, and customized training to prepare new workers.

The Gillespie Field area, with its state-identified economic development potential and numerous additional assets, is positioned well to serve as a smart growth node and an incubator of economic development that targets diverse, airport-compatible users to serve consumers, workers, residents within and beyond the airport.



Appendix B

[General Plan Maps](#)

(Due to the large size of the image files, this appendix has been included as a link to a document that can be downloaded from a secure web page.
Please click on the blue link above to view Appendix B)

South County Aerotropolis Feasibility Study Final Report



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Brown Field Airport

AEROTROPOLIS

Feasibility Study



FINAL DRAFT 1.15.15

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ANNIVERSARY
EST. 1989



SCEDC
South County Economic
Development Council

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Executive Summary

The *Brown Field Airport Aerotropolis Feasibility Study* has been prepared by the Aerotropolis Committee under the sponsorship of the South County Economic Development Council, which has been serving the community development interests of the South San Diego County Region since 1989. Its mission is to promote the binational economy of the region, to enhance job creation, increase educational opportunities and improve the quality of life for all its residents. In 2013, the South County Economic Development Council (SCEDC), working with business and community leaders, embarked on the *South County Visioning Project*, which had among its major objectives the development of Transportation Action Plans to grow new employment centers, ensure access to core community activities and improve existing transportation infrastructure. Brown Field Airport was identified as a potential asset in providing air transport services critical to achieving these objectives. In March 2014, the Aerotropolis Committee was formed and charged with completing a feasibility study to determine whether the South County/Otay Mesa region, with Brown Field Airport as a catalyst in promoting adjacent commercial activities, is a suitable site for implementing the Aerotropolis concept.

The term "Aerotropolis" is derived from author and educator, John D. Kasarda, generally considered the "father" of the Aerotropolis concept based on his research on airport-driven economic development.¹ According to Kasarda, airports have evolved as drivers of business location and urban development. A regional airport with sufficient air commerce capability and convenient access could, notionally, serve as a nexus for emerging business and community development activities. If such a facility could be integrated with other transportation infrastructure and the surrounding areas developed with compatible land uses, the combined effect would improve the region's prospects for quality employment opportunities and long-term economic prosperity. The Aerotropolis Committee focused the Feasibility Study on validating the Aerotropolis concept as it applies to Brown Field Airport. Located in the heart of the Study Area, the Feasibility Study examines the Airport as a potential asset in the South County's complex profile of international business opportunities and limitations due to the area's geography and proximity to the U.S./Mexico border. The core aviation-related services at Brown Field Airport considered by the Aerotropolis Committee—some existing, some proposed—include: a jet aviation business center, a fixed-base operator (FBO) providing support for General Aviation (non-commercial), air charter operations, on-demand air cargo transport, and an eco-industrial park, together with mixed commercial, retail, and hotel uses.

The Feasibility Study is divided into sections beginning with a description of Brown Field Airport, its current development/improvement plan and a profile of the surrounding area (approximately five-mile radius). In determining possible land uses for an Aerotropolis, the Aerotropolis Committee recognized the importance of remaining consistent with property designations specified in already-adopted community plan updates and Airport mobility and land use plans. Also, key stakeholders and community advocates were approached through formal public outreach and their views on constraints to increased air operations and measures necessary to mitigate increase noise and traffic surrounding the Airport were considered. Collaboration with Mexican business interests was undertaken by enlisting their views on common opportunities and strategies with their active participation on the Aerotropolis Committee.

The South County/Otay Mesa community is a vibrant mixture of light industry, businesses, commercial development, housing, recreation, education, personal services and civic uses. The Feasibility Study examines these major categories of land use designations and ties these business development opportunities to a number of Strategic Success Factors (SSFs). In the area surrounding Brown Field Airport a number of SSFs were identified, including: Trained and Available Work Force, Education System, Close to Customers and Suppliers, Trucking and Logistic Support, Transportation Infrastructure, and Utilities. Each factor was evaluated and reported on in Appendix 1 to this Feasibility Study.

Next, the defining demographic and social-political characteristics of the region were examined in the Strengths and Challenges section providing the basis for which the Strategic Success Factors could be fairly evaluated and decisions to locate business clusters could be reasonably approached. A SWOT Analysis was performed (Strength, Weakness, Opportunity and Threat) on key success factors (Appendix 3) with the conclusion that a number of business clusters were ideally suited for location, particularly Aeronautics & Aviation manufacturing in and around Brown Field Airport and others were highly feasible. The SWOT analysis concluded with area advantages such as: Access to Business Infrastructure, Access to Distribution, Utilities Water and Waste Re-Cycling, National/International Market Access and U.S./Mexico Border Ports of Entry, and importantly, Access to Talent.

After finding the relevant Success Factors were present and the Area's Strengths and Advantages justified confidence in the success of new business operations in the region, the Aerotropolis Committee concluded that the South County/Otay Mesa region presented a major

opportunity to successfully implement the Aerotropolis concept centered on Brown Field Airport. The Aerotropolis Committee recommended the planning process continue and actions taken to aggressively pursue business development opportunities highlighted in the Feasibility Study. By locating selected business clusters in the vicinity surrounding Brown Field Airport, and capitalizing on the Airport's capability to support commercial activity, the Feasibility Study concludes the South County/Otay Mesa region would provide an outstanding business environment that would encourage real job creation and improve the quality of life for all its residents.

1. INTRODUCTION

1.1 What is an Aerotropolis?

The Aerotropolis concept calls for the creation of a concentrated economic hub around an airport. It is a new urban form that supports cities and communities around them by facilitating and connecting workers, buyers, suppliers, executives and goods to the global marketplace. The Aerotropolis concept has been named as one of Time Magazine's "10 Ideas That Will Change the World."

The industries found in and around an Aerotropolis include:

- Manufacturing
- E-commerce fulfillment
- Telecommunications and logistics
- Hotels, entertainment/tourism complexes, exhibition and conference centers
- Retail outlets and restaurants
- Offices for business people who travel frequently by air or engage in global commerce
- Clusters of business, logistics, and industrial parks
- Information technology complexes
- Wholesale merchandise marts and distribution centers
- National security research and development
- Transportation facilities

San Diego/Baja California airports are established economic hubs that support and drive regional economies both inside and outside the airport boundaries. Brown Field Airport already is an economic driver in the South County and the San Diego region, providing General Aviation, corporate business services and military and public safety support. The airport has the potential to act as a catalyst for future economic development by providing businesses the option to use charter air services and air cargo deliveries and transport. Brown Field Airport is poised to become an even greater economic driver in the near future with the development of the "Metropolitan Airpark" project, a modern, smart-scale billion-dollar, twenty-year, master-planned aviation and business park. This 331-acre project will expand Brown Field Airport, generate \$500 million annually to the local economy and add more than 4,000 permanent jobs.²

"San Diego County's regional airports are perfect for a mini-aerotropolis network," said author John D. Kasarda, the father of the Aerotropolis concept, during a February 2013 visit to San Diego. Mr. Kasarda works with regions and countries worldwide to leverage airports and their surrounding areas for economic growth. He has written more than 100 articles and nine books on airport cities, aviation infrastructure, economic development, and competitiveness.



1.2 Purpose of the Feasibility Study

In its “Our Greater San Diego Vision” publication, the San Diego Foundation identified three “traded economies” that are of vital importance to San Diego’s future well-being: tourism, the military and advanced technology/innovation.³ The South County Economic Development Council (SCEDC) believes that the Aerotropolis concept can advance these economies, as well as others, in a way that will position San Diego as a progressive leader on the local, national, and global stages.

Brown Field Airport’s location and existing infrastructure make it an ideal hub for economic development. The recent approval of land use entitlements for the Metropolitan Airport project, along with the airport’s proximity to the U.S./Mexico border, including the construction of the new Cross-Border Xpress, which will connect directly with Tijuana’s International Airport, all contribute to the economic potential of the area. The creation of an Aerotropolis in the South County will foster a new employment center that can grow jobs near where people already live.

Recognizing this potential, the SCEDC is exploring the feasibility of developing an Aerotropolis plan for the areas surrounding Brown Field Airport. Although Brown Field Airport is currently underutilized, plans for phased construction of new aviation and support facilities—the Metropolitan Airpark—will create 4,000 permanent jobs and contribute over \$500 million annually to the local economy.⁴ An Aerotropolis can extend this impact outside each airport’s fence line. The industry clusters being considered reflect most of the clusters identified in the San Diego Association of Governments’ Traded Industry Clusters report in the San Diego Region.⁵ Traded industry clusters are groups of interrelated, export-oriented industries that bring new money into the region, making them economic drivers for the region. Industries within a cluster have business transactions with one another, and thus are interdependent. Companies within a cluster also compete with each other for market share, which drives innovation and productivity. Proximity to a thriving airport can boost growth within the supply chain for each of these clusters.

The SCEDC believes there is significant potential for the area surrounding Brown Field Airport. Development of an Aerotropolis plan is the next step to ensure that existing assets are leveraged to help encourage the growth of industry clusters that can gain competitive advantage through airport proximity.

This Aerotropolis Feasibility Study specifically focuses on the areas surrounding Brown Field Airport. This Feasibility Study will build on the established economic value of regional airports across the nation and the economic network of San Diego County’s regional airports. Although its major economic impact is within 2.5-mile radius of the Brown Field Airport, its ripple effects encompass a five-mile radius as shown in the adjacent exhibit.

1.3 The Aerotropolis Committee

The Aerotropolis Committee was formed to evaluate the concept of an Aerotropolis surrounding Brown Field Airport. Its purview includes Brown Field Airport and the Cross Border Xpress located at the U.S./Mexico border connecting directly to the Tijuana International Airport. The Aerotropolis Committee investigated the feasibility of an Aerotropolis and identified challenges and opportunities in making this concept a reality.

The Aerotropolis Committee was comprised of 21 volunteers with expertise in land-use law, planning, engineering, infrastructure, business, airports, marketing, government, and binational relations. It included pilots, adjacent property owners and community group representatives. The individuals were diverse in gender, ethnicity and knowledge and represented the binational region that exists in the San Diego-Tijuana area. The Aerotropolis Committee Chair is a former member of the San Diego Airport Authority and the Vice Chair is a pilot. The Aerotropolis Committee conducted joint meetings with the East County Aerotropolis Committee to share information and best practices. The SCEDC provided support to the Aerotropolis Committee.

The Aerotropolis Committee members met monthly and were divided into task-related subcommittees to maximize their expertise. Each subcommittee was charged with research and development of its respective section of the Brown Field Airport Aerotropolis Feasibility Study, sharing the information with the Aerotropolis Committee, incorporating thoughts and ideas and then submitting the final draft to another subcommittee charged with threading the information and writing the final report.

Although the scope of this study focuses principally on the U.S. areas surrounding Brown Field Airport, it should be recognized that there is a dynamic relationship with Mexico in this area, and in particular Tijuana's International Airport and its connection with Otay Mesa's new Cross Border Xpress currently under construction. These three distinct aviation projects create an unparalleled synergy and an international gateway that is envisioned by many to become a worldwide hallmark.



1.4 Public Outreach and Participation

To further enhance input, an Aerotropolis Public Advisory Group was formed. This group consisted of representatives from local businesses, the regional planning body known as the San Diego Association of Governments (SANDAG), property owners and members of local business organizations. This group met three times and was tasked with creating a list of stakeholders. It was also tasked with reviewing and commenting on the final draft of the Aerotropolis report. The Advisory Group's comments were forwarded to the Aerotropolis Committee, which reviewed their comments and incorporated them as appropriate.

The Comprehensive Economic Development Strategy (CEDS) Committee, which included public and private sector representation, offered guidance on the concept and its economic impacts to the region. The CEDS Committee understands the economic challenges facing the South County and supports the Aerotropolis Feasibility Study because of the positive economic impact it could bring to the entire East and South County region.



1.5 Key Stakeholders and Partnerships

As shown in Table 1 below, the Aerotropolis Public Advisory Group identified a number of key stakeholders and partnerships in the creation of a Brown Field Airport Aerotropolis.

TABLE 1

KEY STAKEHOLDERS	KEY PARTNERSHIPS (including binational entities)
Government Entities (city, county, state, and federal)	Local and regional economic development councils
Nearby property owners (commercial and residential) and business owners and employees	Chambers of Commerce and related business groups
Aircraft Owners and Pilots	Real estate developers
Airport tenants: Public safety, Law enforcement, DHS, Military	Area businesses
Real estate developers	Tourism officials
Commercial realtors and finance institutions	Community planning groups (i.e., Otay Mesa, Chula Vista, San Ysidro)
Environmental groups and governmental agencies (e.g., Environmental Health Coalition, Sierra Club, U.S. Fish & Wildlife, California Fish & Game)	Instituto Nacional de Estadística Geografía e Informática (INEGI), the Instituto Mexicano del Seguro Social (IMSS), and Desarrollo Industrial de Tijuana, A.C.
Trade Unions, Contractors	Local elected officials
	Educational institutions

2. LOCATION AND SETTING

2.1 Brown Field Airport

Brown Field Airport consists of approximately 900 acres and is located approximately 1.5 miles north of the U.S./Mexico border in the Otay Mesa community of the city of San Diego.⁶ The airport, originally named East Field in honor of Army Major Whitten J. East, opened in 1918 when the U.S. Army established an aerial gunnery and aerobatics school to relieve congestion at North Island. In 1943, the U.S. Navy took over the airfield and changed the name to NAAS Otay Mesa. Later that year, the name was changed again to NAAS Brown Field in honor of Navy Commander Melville S. Brown, who was killed in a plane crash near Descanso, California, in 1936. On September 1, 1962, the Navy transferred ownership of Brown Field Airport to the city of San Diego, with the condition that it remains an airport for the use and benefit of the public. During the mid to late 1960s, Pacific Southwest Airlines, an airline based in San Diego, trained its pilots there.⁷

Today, Brown Field Airport is a designated port of entry for aircraft entering the United States. It is a busy general aviation airport and remains under the ownership of the city of San Diego. It has significant airside facilities, including two runways, the longest civilian runway in San Diego County, a taxiway system, non-precision instrument approaches and a contract Air Traffic Control Tower as well as onsite customs. It is classified as a general aviation reliever airport for San Diego International (Lindbergh Field). General aviation encompasses all aviation except air carrier and military, although the military continues to maintain a strong presence. The types of aircraft that operate at Brown Field Airport include: private, corporate, charter, air ambulance, law enforcement, fire rescue, flight training, cargo, skydiving, banner towing, and airships. The airport currently has two Fixed Base Operators, offering fuel service, hangars and tie downs, aircraft

servicing and flight training. Other organizations include aircraft based eco-tourism, skydiving training and operations, a restaurant and bar, and the Experimental Aircraft Association.

Also located on the site is the proposed 331-acre Metropolitan Airpark project. This project comprises both aviation and aviation support facilities including a commercial retail center, multiple hotels, a bus transit station, offices, various FBO's, hangars, industrial park and a 6-8 MW solar PV array. The project will also contribute to local infrastructure improvements.

2.2 Aerotropolis Feasibility Study Area

The Brown Field Airport Aerotropolis Feasibility Study Area (Study Area) is a five-mile radius drawn from the center of the airport runway, and comprising approximately 78 square miles (50,000 acres). The Study Area's radius extends into Mexico, but its economic influence will not be primarily incorporated in the Feasibility Study. Brown Field Airport will serve as a catalyst for economic development in the broader Otay Mesa geographic area, which consists of over 9,300 acres. This Study Area is generally bounded by SR-905 to the south, Spring Canyon and Dennery Canyon to the west, the city of Chula Vista to the north, and the city/county boundary to the east. The open space to the north, is protected sensitive resources and habitat areas, and includes steep canyons that drop to the Otay River Valley Regional Park. Due to airport operations, the eastern and western areas adjacent to the airport are suited for low occupancy uses, including but not limited to, warehousing, distribution, auto salvaging, and truck yards for cross-border goods movement.



A description of the areas within the Study Area are included in Table 2 below.

TABLE 2: AREAS SURROUNDING BROWN FIELD AIRPORT

To the North:	Otay River Valley and the city of Chula Vista
To the East:	A portion of San Diego County's East Otay Mesa unincorporated planning area
To the South:	The city of San Diego's Otay Mesa Community Plan, along with the International Border, the Tijuana Airport and some of the city of Tijuana's prime industrial and commercial areas
To the West:	The Tijuana River Valley, together with the communities of Nestor and San Ysidro and one of the world's busiest land Ports of Entry, which connects the cities of Tijuana and San Diego

Other key attributes of the Study Area include:

- The recent Otay Mesa Community Plan has allocated 2,528 acres for industrial use, 1,125 acres for institutional use and 284 acres for commercial usage.⁸

- The area's location is close to the Mexican border, where a border crossing and the Cross Border Xpress (currently under construction) are located. Brown Field Airport itself has Customs and Immigration Service on site, with easy freeway access for trucking materials both north and south.
- Major industries in the area include manufacturing, transportation, wholesale trade, finance and insurance, information, and healthcare. A majority of the employment is in the healthcare sector, which employs approximately 17,000 individuals. Manufacturing employs over 9,500 individuals.
- Residential housing that could serve as Aerotropolis workforce housing exists nearby, along with supporting infrastructure and municipal services, including schools, shopping, and open space. This housing is supplemented with nearby housing in Mexico.
- Educational institutions are also located nearby, including a community college, private vocational training programs, and private colleges. A major new four-year university is now in late planning stages, and is proposed to be built on 330 acres of land currently owned and dedicated for this purpose by the city of Chula Vista.

2.3 Consistency with the Otay Mesa Community Plan Update

The Otay Mesa Community Plan Update was adopted unanimously by the City Council of the city of San Diego on March 11, 2014.⁹ A review of the Plan's goals and objectives and the planning factors for the Brown Field Airport Area of Influence (AAI) has determined that there are no incompatible land uses being proposed in the Aerotropolis Feasibility Study. There are also no conflicts with the development of Brown Field Airport Master Plan.¹⁰

2.4 United States/Mexico Economic Dialogue¹¹

The United States and Mexico are strategic allies and important economic partners. The two countries share not only a 2,000 mile border but a dynamic commercial relationship that generates more than \$500 billion in two-way trade and supports millions of jobs in both countries. Together with Canada, Mexico and the United States comprise one of the most competitive and successful regional economic platforms in the world, the sustained competitiveness of which is dependent in large measure on continued and deepened economic and commercial cooperation, integration, and policy alignment.

To further elevate and strengthen this dynamic bilateral commercial and economic relationship, President Obama and President Peña Nieto have agreed to establish a High Level Economic Dialogue (HLED). The HLED, which will be led at the cabinet level, is envisioned as a flexible platform intended to advance strategic economic and commercial priorities central to promoting mutual economic growth, job creation, and global competitiveness.

The HLED meets annually to facilitate dialogue and joint initiatives organized around three broad pillars. It will build on, but not duplicate, a range of existing successful bilateral dialogues and working groups, and is envisioned as a mechanism to advance shared strategic priorities in the following areas:

- Promoting Competitiveness and Connectivity
- Fostering Economic Growth, Productivity and Innovation
- Partnering for Regional and Global Leadership

The pillars have been selected to coordinate shared interests and priorities affecting the growth and competitiveness of the U.S. and Mexican economies, focusing on those linkages where our countries can collaborate to promote mutual prosperity. The HLED will explore ways to promote competitiveness through enhanced cooperation in specific sectors that connect our economies, including in the area of transportation, telecommunications, and energy, as well as promoting greater two-way investment. The HLED will also explore ways to promote entrepreneurship, stimulate innovation, and encourage the development of human capital to meet the needs of the 21st Century economy, as well as examine initiatives to strengthen economic development along our shared border.

Given the integrated nature of the two economies and the shared interest in global markets, the HLED will also help facilitate greater alignment and cooperation between the United States and Mexico on issues of shared concern in both regional and international forums, leveraging our existing engagement through the Trans-Pacific Partnership (TPP), the Asia Pacific Economic Cooperation (APEC) forum, the G20, and other initiatives.

The HLED will seek to engage and solicit input from the private sector and the general public as it develops its annual agenda. In support of the HLED, the Brown Field Airport Aerotropolis Feasibility Study is a timely opportunity to deepen economic and commercial cooperation, regulatory consensus, and policy alignment between the United States and Mexico. The three distinct hubs of the Metropolitan Airpark, the Cross Border Xpress and Tijuana International Airport, uniquely clustered on the U.S./Mexico border, will greatly boost promotion of this key region.

In addition, the planned development of three new ports of entry—the Cross Border Xpress, Virginia Avenue in San Ysidro and Otay East II—will relieve significant traffic and pedestrian congestion at the existing San Ysidro and Otay East II ports of entry, which are also under expansion and planned renovation. More efficient destination crossings will increase regional trade, just-in-time production, social renewal and demand for new services that will enhance Brown Field Airport’s strategic location.

3. STUDY AREA

The principal economic and recreational uses of land in the South County/Otay Mesa area are manufacturing, business services, and tourism. In planning for an Aerotropolis center of commerce located approximately within a five-mile radius of Brown Field Airport, it is important to understand the present profile of the area since different types of land functions and purposes require different amounts of building space and land. The study team recognized at the outset the manifold nature of this international community, with unique assets, due to the area’s geography and proximity to the U.S./Mexico border. The South County/Otay Mesa area is a mosaic of light industry, businesses, commercial development, housing, recreation, education, personal services and civic uses that make up this vibrant community. The following categories of land use designations and uses are identified as potential assets located within a five-mile radius of the Brown Field Airport.¹²

Proposed 5 Mile Radius Aerotropolis Influence Area for Brown Field: Land Use Map

Legend:

#1 City of Chula Vista General Plan

RESIDENTIAL	COMMERCIAL	MIXED USE
Low 0-3 du/ac	Professional & Office	Mixed Use Residential
Low - Medium 3-6 du/ac	Commercial Retail	Mixed Use Commercial
Medium 6-11 du/ac	Commercial Visitor	Transit Focus Area
Medium - High 11-18 du/ac		
High 18-27 du/ac		
Urban Core 28-60 du/ac		

OPEN SPACE, PARKS, & PUBLIC / QUASI-PUBLIC

Open Space-Active Recreation
Open Space
Open Space Preserve (*)
Parks & Recreation
Public & Quasi-Public
Water

SPECIAL PLAN AREAS

Eastern Urban Center
Resort
Town Center
University Study Area

INDUSTRIAL

Limited Industrial
General Industrial
Regional Technology Park

PUBLIC FACILITIES

- Future - Community Park
- Future - Neighborhood Park
- Future - Schools (***)
- Greenbelt Trail System
- General Plan Boundary
- River or Stream
- City Boundary Line

#2 San Ysidro General Plan

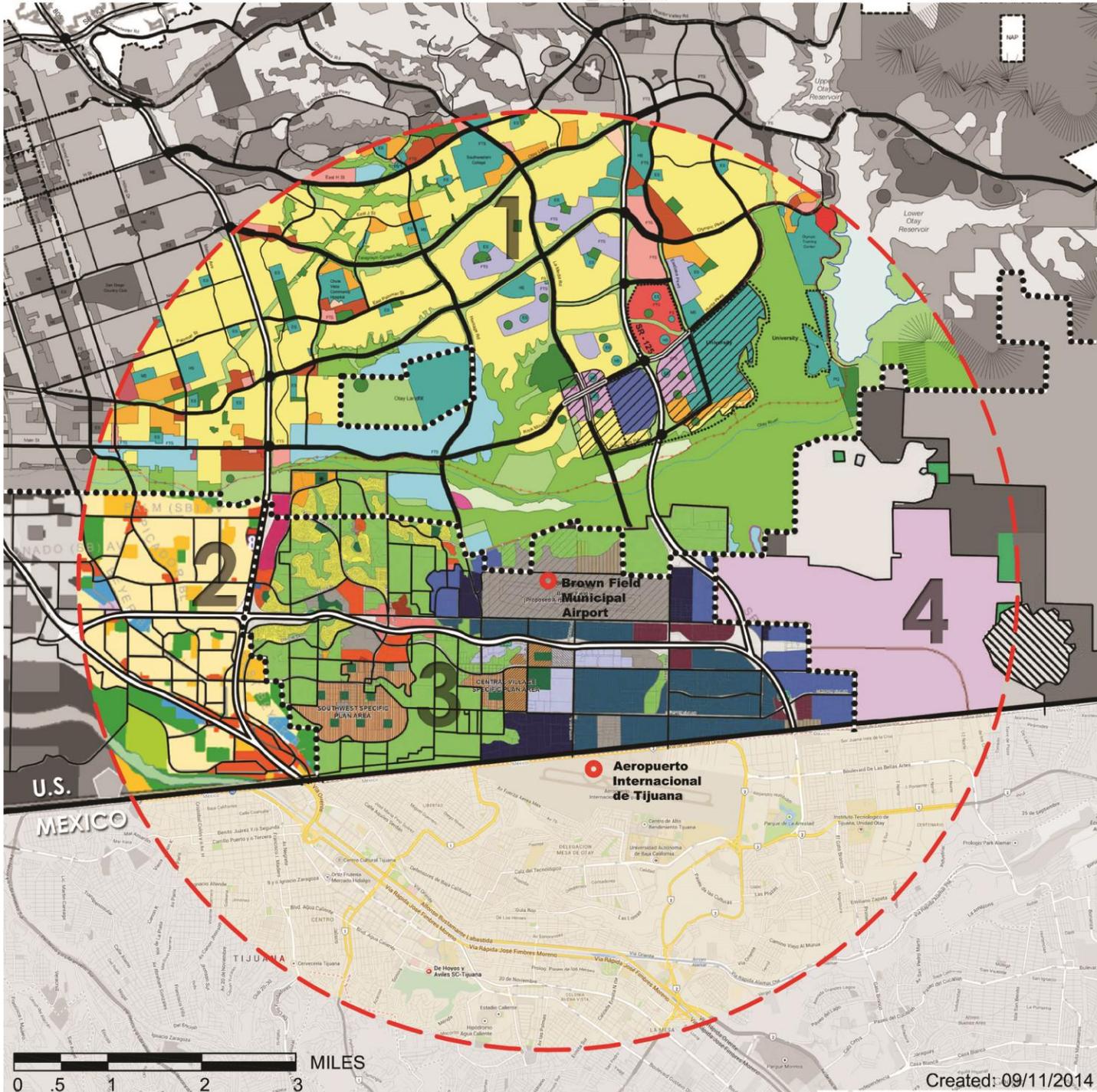
- Residential
- Commercial Employment, Retail & Services
- Multiple Use
- Industrial Employment
- Institutional & Public and Semi-Public Facilities
- Park, Open Space & Recreation
- Agriculture

#4 SD County General Plan

- Rural Lands (RL-40)
- Public/Semi-Public Lands (Solid Waste Facility)
- Public/Semi-Public Facilities
- Specific Plan Area
- Open Space (Conservation)
- Incorporated Area

#3 Otay Mesa Community Plan

- Parks, Open Space, and Institutional
- Open Space
- Parks
- Institutional
- Village Centers
 - Neighborhood Village 15-25 du/ac
 - Community Village 30-35 du/ac
- Industrial
 - Business Park - Office Permitted
 - Light Industrial
 - Heavy Industrial
 - Business Park - Residential Permitted 15 - 44 du/ac
 - Business and International Trade
- Residential
 - Residential - Low 5-8 du/ac
 - Residential - Low Medium 10-14 du/ac
 - Residential - Medium 15-29 du/ac
 - Residential Medium High 30-44 du/ac
- Overlays
 - U.S. Government Facility
 - Brown Field Boundary
 - Planning Area



3.1 Industrial Land Use

Heavy industrial land use includes property outside the field boundary and near the airport, which emphasizes base sector industries. These areas in South County/Otay Mesa remain prime locations for heavy industrial uses, and are one of San Diego's last remaining viable spaces where these activities can locate free of sensitive receptor conflicts. A heavy industrial land use designation and its corresponding zoning, applied to lands adequately distanced from sensitive receptors such as residences, public assembly uses, and schools, provides the policy and regulatory framework to allow potential manufacturing and assembly businesses to operate economically.

The heavy industrial lands are located along the eastern and western edges of Brown Field Airport and south of Siempre Viva adjacent to the U.S./Mexico border. The heavy industrial lands adjacent to Brown Field Airport are located in the Airport Influence Area (approximately 2.5-mile radius) and are subject to the Airport's Implementation Overlay Zone.

Light industrial land use is land near Brown Field Airport that is zoned for light industrial uses and allows a wide variety of uses by permitting a full range of light manufacturing and research and development. Additional industrial uses such as storage and distribution and transportation terminals are envisioned. Multi-tenant industrial uses and corporate headquarters office uses are also permitted in this area.

3.2 Commercial Land Use

Regional commercial land use includes areas that provide a wide variety of uses, including commercial service, civic, retail, office, and limited industrial uses. This area provides space and opportunity for retail sales, commercial services, office uses, and heavier commercial uses such as wholesale, distribution, storage, and vehicular sales and service. The area is also considered appropriate for additional transportation corridors allowing for both industrial and commercial uses.

3.3 Mixed Use

In a five-mile radius around Brown Field Airport there is ample property suitable for development of business parks. This area allows office, research and development, and light manufacturing uses. This designation permits storage and distribution uses and applies in portions of communities primarily characterized by single- and multi-tenant office development with some light industrial uses. The area supports the uses permitted in both the Business Park and Light Industrial designations. This land use allows single and multi-tenant office, research and development, light manufacturing, and storage and distribution uses. It is appropriate to designate portions of communities near Brown Field Airport and adjacent to the border, other ports of entry, or areas in transition to higher intensity industries.

Area surrounding Brown Field Airport zoned for residential use would provide housing in a mixed-use setting and serve the commercial and housing needs of the community-at-large. This would include the industrial and business employees living and working near Brown Field Airport. Integration of commercial and residential use is envisioned with civic uses adding an important component. Retail, professional/administrative offices, commercial recreation facilities, services businesses, and similar types of uses will enable businesses to locate employees in the area adjacent to their business enterprise near Brown Field Airport.

3.4 Public Use

A large, undeveloped area exists near Brown Field Airport that is identified as public or semi-public facilities in the Otay Mesa Community Plan and which offer public and semi-public services to the community. Uses may include but are not limited to: military facilities, community colleges, communication and utilities, transit centers, schools, libraries, police and fire facilities, post offices, hospitals, park-and-ride lots, government offices and civic centers. These uses compliment and fully support the residential and commercial uses envisioned in areas surrounding Brown Field Airport.

3.5 Open Space

There is considerable area that is designated open space within the five-mile radius of Brown Field Airport, particularly to the north. Other designations associated with this land use are park land, agriculture, and recreational land uses. All of these land use designation areas provide a community with much needed outdoor space and potential for recreational facilities.

4. REGIONAL STRENGTHS AND CHALLENGES

Given the Study Area’s available land and potential uses, with their diverse planning designations, a number of Strategic Success Factors (SSF), both tangible and intangible, were identified in the vicinity surrounding Brown Field Airport. If sufficiently developed, they would set the stage for supporting a variety of manufacturing, assembly, commercial and educational business clusters. The relevant SSFs studied are listed in Table 3 below.

TABLE 3: MAJOR STRATEGIC SUCCESS FACTORS (SSF) FOR AEROTROPOLIS BUSINESS CLUSTERS

Key SSF Items (Intangible)	<ul style="list-style-type: none"> Trained and available workforce Education system (general) Universities (specific) Trade schools (specific) Close to customers Close to suppliers and basic materials Trucking & logistic support Close to key support businesses Tourist Attractions
Transportation Needs	<ul style="list-style-type: none"> Highway Airport Labor
Repetitive Costs (Tangible)	<ul style="list-style-type: none"> Rent or mortgage amount Taxes and fees Transportation (inbound) Insurance Utilities: Electricity Utilities: Gas Utilities: Water
One-Time Setup Costs	<ul style="list-style-type: none"> Land Building Permits, licensing, and legal Recruitment and training

A summary analysis of the SSF is contained in Appendix 1, which contains a comparison between South County, San Diego Region and Southern California (from San Diego to Los Angeles). A Regional Strength Analysis of key SSFs, with Timelines and Estimated Costs, is set forth in Appendix 2.

On the following page is a discussion of selected Strategic Success Factors (SSFs), Land Use Assets, and the socio-political conditions that are considered critical to supporting the further development of an Aerotropolis center of commerce in the South County/Otay Mesa area. The following are Study Area Strengths and Challenges.

4.1 Otay Mesa Area Strengths

Demographics: The latest population growth forecast affecting the employment base by SANDAG (San Diego Association of Governments) for the Study Area from 2000 to 2030 shows population increases from 308,000 to 492,000, adding almost 185,000. In the

Otay Mesa Community Planning Area, alone, the increase is forecast at 47,500 people. The area consists of a highly stable and educated population with strong family and community ties.¹³

Education: Well organized and competent public schools systems with good access to schools (K-12), community colleges, plus a planned new four-year university and several existing junior college campus are all within the five-mile Study Area.

Regional Economic Conditions: The San Diego region economic base has expanded substantially since 1990. Annual gross regional product has increased by over 50 percentage points, in real terms, to approximately \$137 billion. Major industries that emerged in the region as major contributors to the economic base include biotechnology, electronics, software, telecommunications, and computer applications.¹⁴

Residential Housing Inventory: There is a large inventory of existing residential housing units (for workforce housing), located principally to the north and west of Brown Field Airport, in a wide variety of sizes and price ranges, and many more homes are in various stages of planning and development, including the Millenia project, a new urban center in east Chula Vista within five miles of Brown Field Airport.¹⁵

Tourism: Extensive tourist attractions and environmental resources currently exist within the Study Area, including the Olympic Training Center, Sleep Train Amphitheater, Aquatica Water Park, Living Coast Discovery Center, Sweetwater River Park, Tijuana River Park, Otay Lakes and San Diego Harbor and Bayfront. Additionally, over a million square feet of internationally famous shopping anchored by the destination oriented Las Americas Premium Outlet in San Ysidro.

Area Transportation Infrastructure: An extensive transportation infrastructure exists within the Study Area, including Interstate highways and major surface streets and roads, as well as rail access to principal coastal freight and passenger rail-carriers.

Nine and half miles of international border bisect the Study Area, with two existing and two additional border crossings, each with approved "Presidential Permits," with one under construction and the other in advanced planning stages on both sides of the border. There will be four crossing points in total. These crossings include the operating San Ysidro and Otay Mesa Ports of Entry, and will soon include the Rodriguez Airport Cross Border Xpress and the Otay East II Port of Entry.

Brown Field Airport: Brown Field Airport is a busy general aviation airport. The types of general aviation aircraft that operate at Brown Field Airport include: private, corporate, charter, air ambulance, law enforcement, fire rescue, flight training, cargo, skydiving, banner towing, and airships. The FAA has classified Brown Field Airport as a reliever airport for San Diego International, Lindbergh Field. A reliever airport is an airport that serves general aviation aircraft that might otherwise use a congested passenger air carrier airport. Airline passengers benefit by experiencing fewer delays due to air traffic congestion. A designated Port of Entry (POE) for aircraft arriving or departing the U.S. airspace, is staffed with U.S. Customs and Border Protection and U.S. Immigration and Customs Enforcement personnel on an as-needed basis.¹⁶

Cross Border Trade with Mexico: In 2013, the Otay Mesa border crossing had 4.9 million northbound personal vehicle crossings, a 4.4 percent compounded annual growth rate since 2003, and 697,000 truck crossings, a 3.5 percent annual growth rate since 1997.¹⁷

Maquiladora Sector: One of the most important economic drivers in Baja California is the maquiladora sector. As of April 2011, there were 150,815 employees and 571 plants in the maquiladora sector. During the 1990's, Tijuana almost doubled the number of maquiladoras, from 388 in January of 1990 to 742 in December of 1999, adding 354 new plants during the 10-year period.¹⁸

Tijuana International Airport: The Tijuana International Airport is a full service airport with passenger and scheduled freight operations to many western Pacific and South American destinations. It is located immediately south of the border, with a new Cross Border land bridge, connecting the terminal directly to a U.S. Port of Entry and terminal building on Otay Mesa, less than 1.5 miles from the Brown Field Airport.¹⁹

Available Developable Land: Over 4,000 acres of vacant land (with a variety of favorable land use and zoning designations) surrounds the Brown Field Airport, and this vacant land is under the jurisdictional control of four separate (and autonomous) land use authorities as shown on the graphic on page 11.

The land area immediately south and west of the Airport is all within San Diego's Otay Mesa Community plan area, and is thus governed by the city of San Diego, the "Eighth Largest City" in the United States, and "home" to multiple high-tech and bio-tech corporate headquarters.²⁰

Industrial Market Development: While Otay Mesa currently comprises just 5.7 percent of the total countywide inventory, it has been capturing approximately 36 percent of gross inventory growth during the past two and a half years. Otay Mesa also captured approximately 51 percent of regional net absorption.²¹

There are several aeronautics and aviation-related companies, with existing business offices and plants in San Diego, that require close proximity to airport services. Many of these businesses now need or will soon need the kind of expansion business and industrial space available at Brown Field Airport. This would suggest many businesses could leverage their business operations and its contribution to employment growth and area economic prosperity by locating some or all of their operations within or nearby Brown Field Airport.

Likewise, an existing cluster of biotech companies is presently located in Torrey Mesa in north San Diego County. But over time, these companies will need expanded industrial laboratories and manufacturing facilities together with "first-in-time" international corporate air travel facilities, which Brown Field Airport can support.

4.2 Otay Mesa Area Challenges

There are challenges associated with the South County/Otay Mesa that will need to be considered in developing a Brown Field Airport Aerotropolis:

Housing Affordability and Office Space: Housing affordability and lack of office space remains two of the South County/Otay Mesa region's major challenges, with diminishing supply of developable land and significant price appreciation in some areas, exacerbating the supply and demand imbalance.²²

Water Supply: There are redundant potable water resources between the U.S. and Mexico, including a dedicated aqueduct extending from the Colorado River to the coast, and a new planned desalinated water plant, both of which are located in Baja, Mexico. Together with a comprehensive U.S. water supply and distribution system, with multiple reservoirs and alternative supply sources provided by the State of California, along with the Metropolitan Water District and the San Diego County Water Authority, the area will nevertheless continue to face significant challenges in maintaining adequate water supplies necessary for major industrial uses over the next several years, until the combined potable water resources, available at the border, are more fully integrated as regional assets.

Recently, a series of International Treaty Agreements between U.S. and Mexico have created opportunities for cross-border cooperation targeting the supply and exchange of water. The Brown Field Airport Aerotropolis will likely be a prime beneficiary of these new water sources. (See SWOT Analysis, Appendix 3 for more detail.)

Rail Access: There exists access to industrial rail transport approximately six miles west by surface roads. There is also a freight line that crosses the border through San Ysidro into Mexico serving the border zone that has been closed for many years. (See SWOT Analysis, Appendix 3.)

Limited Airport Capability: Brown Field Airport is currently a "General Aviation" airfield and is likely to remain designated as such for the foreseeable time, which limits the types of aircraft that can utilize the airport.

The current runway's structural pavement section is adequate for general aviation traffic, however, the primary runway has a weight restriction that limits the size of aircraft to a B737 equivalent. Significant improvements, together with local, state and federal actions would be required to upgrade the airport classification which would be necessary to accommodate high volumes of heavy aircraft if they were to operate at Brown Field Airport in the future.

Prevailing winds are from the west, so westerly departures are the norm, requiring aircraft to overfly nearby populated areas.

Community residents within the Airport vicinity have voiced concern that increased flight operations would create unnecessary and unwanted noise and might pose a safety risk to their neighborhoods. These, and other concerns, (e.g. vehicle traffic) must be addressed with a plan to mitigate noise and eliminate, as far as possible, any community safety concerns.

The 2011 Regional Aviation Strategic Plan Executive Summary²³ suggests that scheduled passenger service and air freight carrier operations at Brown Field Airport cannot feasibly be implemented for the following reasons:

- The FAA has determined precision instrument approaches are infeasible at Brown Field Airport due to terrain and airspace complications, thereby precluding commercial operators from conducting all-weather operations;
- Established passenger airplanes are reluctant to “split operations” with San Diego International, and there are two other competitive commercial service airports (San Diego International and Tijuana Rodriguez International) in close proximity;
- Air cargo carriers are unwilling to operate from a facility south of San Diego International due to distance from/to their demand base in San Diego County and lack of cargo sorting infrastructure.

Due to restrictions in aircraft weight, the lack of a precision approach to the primary runway and significant community opposition, Brown Field Airport cannot accommodate heavy air carrier traffic (either passenger or cargo). While it is improbable that the current use will change within the five-year planning horizon, it is worth noting that the airside facilities described in previous sections can accommodate aircraft as large as a Boeing Business jet or B737, providing both existing and potential cluster businesses a viable, and much closer, alternative to San Diego International Airport for the efficient transportation of goods and passengers.

Area-Wide Economic Cooperation: Arguably, no other location in the nation has the potential for job creation and standard of living improvements that exists in the San Diego/Baja California region. However, for the vision of greater economic prosperity to be realized by both communities, it will require understanding and a willingness to cooperate on a regional scale. According to the Greater San Diego Vision, an effort that surveyed over 30,000 people, the majority of those surveyed rated the border relationship low. Therefore, a general misperception regarding the vital importance of a strategic global relationship with Tijuana or Mexico can be assumed exists at various levels. This presents excellent upside opportunities for changing public perception. Recognition of the vital importance of a strategic global relationship between San Diego and Tijuana, Mexico is a critical component. The public embrace of a common vision can be advanced with accurate information that promotes the tremendous value added to the economic success of the region with a robust trade and industry relationship between Baja California and southern California. One of the primary objectives in the South and East Counties, 2013 Comprehensive Economic Development Strategy (CEDS) centers on “working to ensure local, state, and federal political representatives understand the importance of improving the border region infrastructures; supporting infrastructure improvements within the region that will facilitate commerce, ensuring efficient and secure movement of goods and people, and reduce wait times. The types of infrastructure development that need improvements are international borders, crossings, roads, highways, regional airports (like Brown Field Airport) rail transportation, water, sewer, electrical and communications systems.”²⁴

5. SWOT ANALYSIS

The Aerotropolis Committee identified several distinct but interrelated Strategic Success Factors and Land Use Assets that characterize the Study Area. Included in each component is a brief discussion of potential Strengths, Weakness, Opportunities and Threats (SWOT), as applicable. The study assumptions and critical study components are listed below, and the entire SWOT Analysis is seen at Appendix 3.

Below are the assumptions that guided the SWOT analysis for the Study Area surrounding Brown Field Airport.

- Demographic trends in the region will drive residential and commercial property demand;
- Economic conditions and industry trends will drive demand for industrial and office uses;
- The magnitude and characteristics of border trade with Mexico and the role of the Tijuana and Maquiladora economy potentially will shape demand for employment and residential uses in Otay Mesa;
- Infrastructure development and planned improvements in South County will affect growth potential in Otay Mesa;

- Demand for residential units, industrial and office space, and retail space, and the conversion of such potentials to land absorption will affect property uses and infrastructure requirements for Otay Mesa to the year 2030;
- Positive employment trends will continue drive population growth with land use priorities given to residential and service sector infrastructure.

The Strategic Success Factors and Land Use Assets addressed in the SWOT analysis are:

Area Demographic Trends

Educational Status

Regional Economic Conditions

Growth and Diversification

Housing Affordability and Office Space

Manufacturing Employment

Cross Border Trade with Mexico

Maquiladora Sector

Maquiladora Restructuring

San Diego's Foreign Trade Zone

Otay Mesa II

Maquiladora Employment

Infrastructure Development

Potable Water Supply

Power Supply Availability

Area Transportation Infrastructure

Regional Access Roads

Railways

Employment and Land Planning

Land Planning

Manufacturing

Infrastructure Development

Potable Water Supply

Power Supply Availability

Area Transportation Infrastructure

Regional Access Roads

Railways

Employment and Land Planning

Land Planning

Manufacturing

5.1 Potential Business Clusters

Based on the assessment of strengths and challenges in the Study Area and the SWOT analysis, six initial business clusters have been identified for consideration. The expectation is these business clusters will find it beneficial to expand or locate some or all of their manufacturing/assembly and office needs into the areas surrounding the Brown Field Airport.

TABLE 4: POTENTIAL BUSINESS CLUSTERS

CLUSTER	DESCRIPTION
Aeronautics and Aviation	Provide support and expansion for existing local companies needing immediate access to airport facilities.
Biocom and Biotech	Provide new labs and production facilities to supplement existing Torrey Mesa operations, located adjacent to a convenient airport.
Health/Sports and Environmental Tourism	Capitalizing on the Olympic Training Center, Aquatica Water Park, Sleep Train Amphitheater, and miles of public parks, river valleys, and potential camping areas and visitors' centers, with fly-in and fly-out options.
Major Parts Manufacturing and Assembly	Provide industrial space for major manufacturing and assembly plant (e.g., Commercial and Service Industry Machinery Manufacturing).
Commercial Retail Shopping and Outlets	Developable space zoned for commercial retail operations and sales.
International Research Educational/Facilities	Ample properly zoned space, in proximity to nearby research facilities and educational institutions.

5.2 Aeronautics & Aviation Manufacturing Cluster

For the purpose of streamlining the Feasibility Study, the Aerotropolis Committee has identified the Aeronautics and Aviation Manufacturing Cluster as an example of the type of business that should be the subject of further inquiry and analysis. Numerous local manufacturing and aviation-related companies exist in the area that can form the core of an aerospace business cluster. Among these are general aviation support facilities called Fixed Base Operators (FBO) that provide aircraft tie-down, hangaring, and servicing; aircraft maintenance repair and overhaul (MRO); companies specializing in research; businesses that are focused on manufacturing aircraft parts and services, development and prototyping, or the development of new materials and their uses (R&D).

Author and educator, John Kasarda, generally considered the “father” of the Aerotropolis concept, has identified several activities and services shown in Table 5 related to Aerospace businesses in his seminal work, *Aerotropolis--Business Mobility and Urban Competitiveness in the 21st Century*.²⁵ The Aerotropolis Committee proposes a follow-on study of these activities aimed at that level of the aerospace business. Table 5 below contains selected types of business that would comprise an aerospace manufacturing cluster.

TABLE 5: AERONAUTICS AND AVIATION BUSINESSES COMPRISING THE CLUSTER CORE

TYPE OF BUSINESS	MAJOR SUPPORTING CLUSTER BUSINESS
Aircraft servicing	Engines (overhaul and repair)
Airport operations and ground support	Electronics/electrical systems
Primary fabrication of detail parts	Hydraulic systems
Material processing	Mechanical valves and seals
Product disassembly and assembly	Landing gear and other mechanical systems
Research and development	
Aeronautical design	
Prototype parts and systems	
Testing of products and processes	

5.3 SWOT Analysis and Conclusions

Two separate but related conclusions are discussed below. The first addresses the Feasibility Study Findings in Appendix 1, particularly the Strength’s Analysis Chart, where it is evident that the following Success Factors in fact exist in the Study Area:

Intangible items:

- Trained and available workforce
- Education system in general
- Trade school availability
- Close to manufacturing support businesses
- Close to suppliers
- Close to customers
- Good transportation support, except rail

Tangible items:

- Lease/mortgage
- Transportation and shipping
- Water and Utilities
- Waste disposal and recycling
- Recruitment and training

In reviewing the study findings seen above and discussed in greater detail in the SWOT analysis section, it is evident that the Otay Mesa Community Planning Area presents many of the Strategic Success Factors warranting further location analysis.

The principal conclusions are summarized below and convince the Aerotropolis Committee members that South County/Otay Mesa is ideally suited for the siting of the following industrial activities: critical parts manufacturing/assembly supporting household appliances, alternative auto power systems, aeronautics and aviation architecture, biocom and biotech manufacturing and health, sports and environmental tourism. Further study is warranted on siting commercial retail, educational research facilities. Importantly, it has been determined that the use of Brown Field Airport as a distinct asset in furthering the objectives of business development in South County/Otay Mesa is highly feasible. Air cargo deliveries and transport of finished products directly to distribution centers would significantly assist with the economy of doing business in the area. Acting as a corporate host for conferences and discussions and local trips, as well as supporting business charter and general aviation operations, would greatly benefit corporate users of the airport. The principal advantages to business development center on the following:

Access to Business Infrastructure: The Study Area has large areas of undeveloped and prepared property, properly zoned for industrial/commercial use in close proximity to a major metropolitan area (eighth in size and population in the U.S.). Property sizes and characteristics meet all prospective layout plans from small parts assembly to major manufacturing plants, and favorable lease terms are available. The area's parcels are sized and zoned to allow for expansion to accommodate business growth plans.

Access to Distribution: There is immediate access to limited air cargo transport (Brown Field Airport), surface roads to nearby rail and sea-lift, existing freeways north and east to major transportation/cargo distribution hubs.

Access to Utilities, Water and Waste Recycling: There is stable, reliable electric and gas power availability with a redundant potable water supply. Immediate access to recycling facilities and access to waste disposal (landfill) in three nearby cities.

Access to the National/International Markets: The area is just twenty minutes away from the 30th busiest airport in the U.S. (Lindbergh Field) with direct flights to all major U.S. markets, Britain and the Asian rim. Easy cross border access to Tijuana International Airport with direct flights to South America and major Asian markets.

Access to U.S./Mexico Border Ports of Entry: San Ysidro Port of Entry, just south of Brown Field Airport, is the busiest land border crossing in the world, open 24 hours a day. Immediate access to border related commerce, the NAFTA Pacific Rim Free Trade Zone, Maquiladora, Industry and Cross Border manufacturing.

Access to Talent: Businesses locating in South County/Otay Mesa will benefit from a large, stable pool of educated, motivated employees with strong community ties. Local area public educational institutions provide outstanding secondary and post-secondary instruction ranging from three accredited community colleges, two four year state universities and a nationally recognized private university.

Access to Housing and Schools: A wide range of nearby residential housing from affordable to very high end are available with primary and secondary schools located nearby, as well as access to private/charter schools.

Access to Safe Neighborhoods: South County/Otay Mesa has a historically low crime rate with a stable, entrenched population.

[Access to State and Community Business Support Resources](#): Businesses contemplating locating in South County/Otay Mesa will find a welcoming business climate and numerous assistance programs designed to facilitate the siting and start-up process. Follow-on business advice and coordination with local business support groups is readily available.

6. FEASIBILITY STUDY CONCLUSIONS & RECOMMENDATIONS

6.1 Conclusions

Brown Field is ripe for a scaled-down version of an aerotropolis. The South County/Otay Mesa Area provides an outstanding business environment that fully supports innovation and entrepreneurship. It possesses a balanced and diversified economic base that supports a wide range of manufacturing/assembly opportunities. There exists a significant inventory of prepared sites and facilities to accommodate new and expanding industries. Streamlined business permitting and other business-friendly policies and practices have been put in place. Sustainable industrial development that balances economic development with preservation of resources is an area-wide priority. There also exist major quality of life intangibles including a sufficient range of housing types and prices to support a balanced demography, pedestrian, transit oriented and bike friendly neighborhoods, first class tourism and recreational opportunities, strong school districts and safe neighborhoods.

Brown Field Airport is a central feature in the area's ability to support and foster business growth, to attract industrial and commercial business investment and the siting of manufacturing facilities that produce steady employment and high salaried employees.

The Metropolitan Airpark and Cross Border Xpress represent unique private sector infrastructure and innovation in International Air Gateways. These largely non-government highly competitive modernization projects represent an emerging private sector investment trend in border communities. High-level North American agendas confronting fiercely competitive global trade, will in due course weave a unique character in the urban fabric surrounding Otay Mesa's Air Gateways. The subject Study Area is poised with an Aerotropolis formula already integrating into a rising 21st Century Border with Mexico, an essential ally and strategic partner of the United States.

6.2 Recommendations

Further analysis of the advantages and challenges that the South County/Otay Mesa region present for major economic development is fully warranted. The planning process and resulting actions need to take advantage of current economic conditions and aggressively pursue business development opportunities highlighted in the Feasibility Study. Major manufacturing and assembly plants near Brown Field Airport can be well supported by the airport's current aeronautical capability and corporate hosting facilities to expedite business conferencing and "just-in time" delivery of parts and shipment of finished goods. An industrial park, properly planned and integrated into the surrounding community with easy access to freeway and Brown Field Airport would be essential to attracting national manufacturers. Most importantly, a well-developed industrial park, populated by major U.S. manufacturers would generate many hundreds of jobs, dramatically improve the local economy and bring a higher standard of living to the region. The Aerotropolis Committee strongly recommends continued location analysis of South County/Otay Mesa/ Brown Field Airport and the development of attainment plans that result in business development in the region.

6.3 Next Steps

- The Committee will work with South County Economic Development Council to incorporate the Aerotropolis Feasibility Study findings into the South County Visioning Project.
- The goal for the South County Visioning Project is to fashion a strategy that capitalizes on economic opportunities in South County and builds on the synergy among these prospects to provide a pathway to prosperity and job creation.
- The Committee will identify assets and advantages that the area presents that can be leveraged to accelerate economic development.
- The Committee will identify challenges to the South County/Otay Mesa area and Brown Field Airport that can be converted to opportunities and strengths.

- The Committee will work to align the Aerotropolis concept with existing airport development, regional visioning, and community land use plans.

APPENDIX 1 SSF ANALYSIS

Aerospace Manufacturing

Regional Strengths Analysis Core & Major Support Businesses

Success Factor Items	Priority	So. Cty.	S.D. Region	So. Cal.	Comments
Trained & available workforce	High	Fair	Fair/Good	Good	Required engineering skill level may be low for the region.
Education System	High	Good	Good	Good	Shows coordination at all ed. levels & community involvement.
Universities	High	Poor	Fair	Fair	Univ. are good, but don't have appropriate curriculum.
Trade Schools	High	Poor	Good	Good	S.D. City College has a good start, but limited subjects.
Close to customers	Low	Poor	Fair	Good	Based on primarily serving S.W. States.
Close to mfg. supt. companies.	High	Fair	Good	Good	
Close to suppliers	Medium	Poor	Good	Good	Most raw materials and supplies can be purchased locally.
Trucking & logistics support	High	Good	Good	Good	
Highway	High	Good	Good	Good	
Airport	Medium	Good	Good	Good	
Rail	Low	Poor	Fair	Fair	
Port	Low	N/A	N/A	N/A	
Repetative costs:					
Labor	High	Fair	Poor	Poor	
Rent/mortgage	High	Fair	Poor	Poor	
Taxes & fees	High	Poor	Poor	Poor	
Transportation (in)	Medium	Good	Good	Good	Most raw materials and supplies can be purchased locally.
Shipping (out)	Low	Good	Good	Good	Based on the close proximity of their customers.
Insurance	Low	N/A	Unk.	Unk.	Based on location and emergency response times.
Electricity	High	Poor	Poor	Poor	
Gas	High	Poor	Poor	Poor	
Water	Medium	Poor	Poor	Poor	High cost & low availability.
Waste disposal	Low	Good	Good	Good	
One time costs:					
Land	High	Fair	Poor	Poor	
Building	Medium	Fair	Fair	Fair	
Permits & licensing	Medium	Poor	Poor	Poor	
Recruitment & training	High	Good	Good	Good	

APPENDIX 2 REGIONAL STRENGTHS ANALYSIS

Manufacturing Business Infrastructure—Timeline and Cost Estimates

Strategic Success Factor Item	Start Date	End Date	Estimated Costs/Source
Trained and Available Work Force	7/15/2014	7/15/2018-2019	\$14M-\$18M / UCSD
Trucking and Logistic Support	12/15/2014	12/15/2016-2017	\$3.0M- \$6.0M / CA Trucking Association
Highway Access SR 125 and I-95	1/15/2015	1/15/2017-2018	\$10M-\$15M / CALTRANS
Airport (Brown Field) FBOs Hangars & Offices Air Cargo Facility	Airfield Available 7/15/2014 7/15/2014	N/A 7/30/2017-2018 7/30/2017-2018 7/30/2018-2020	N/A Total: \$100M -BFI Business Park LLC
Rail	N/A		
Port – 10 th Avenue Marine Terminal Roadway Access	Available		N/A
Land (property)	Available		\$100K/ac – Zillow Inc
Building (Manufacturing/Assembly)	Unknown		
Permits & Licensing	Unknown		Addendum 2

APPENDIX 3 SWOT ANALYSIS

The following SWOT Analysis discusses the major strategic Success Factors and South County/Otay Mesa Area Regional Assets identified in the Feasibility Study. They are intended as initial study findings and will require further analysis as the decision process to proceed with the Aerotropolis economic development initiative moves forward.

a. Area Demographic Trends

i. Background

The San Diego Association of Governments (SANDAG) forecasts the Aerotropolis Study Area, (which includes the city of Chula Vista, Imperial Beach and the city of San Diego’s Community Planning Areas of Tijuana River Valley, San Ysidro, Otay Mesa Nestor, and Otay Mesa) from 2000 to 2030 to grow from almost 308,000 to 492,000, adding almost 185,000 people during the 30-year period, for a 60.1 percent increase and 1.6 percent, faster than the regional average. This area is projected to receive 17.8 percent of the total growth in San Diego County between 2000 and 2030. Under current land use policies, the Otay Mesa Community Planning Area (CPA) is projected to grow from 1,740 people in 2000 to 49,282 by 2030, adding 47,542 people for a compounded annual growth rate of 11.8 percent. Otay Mesa is forecasted to capture 4.6 percent of the net growth in San Diego County.

Before the introduction of new housing developments in 2000, most residents lived scattered in certain pockets of Otay Mesa. Between 2000 and 2004, Otay Mesa CPA added more than 5,000 people for a 287.5 percent increase.²⁶

ii. Education: Strength

The population in Otay Mesa is relatively well educated. In 2000, of the total population 25 years and older in Otay Mesa, 29 percent had a bachelor's degree, compared to 19 percent in San Diego County. The percentage of the total population 25 years and older in 2000 without a high school degree was 17 percent for Otay Mesa, compared to 17 percent in San Diego County.²⁷

b. Regional Economic Conditions

i. Growth and Diversification: Strength

The San Diego region economic base has grown and diversified substantially since 1990, as indicated below.²⁸

- Annual gross regional product has increased by over 50 percentage points, in real terms, to approximately \$137 billion.
- Major industries that emerged in the region as major contributors to the economic base include biotechnology, electronics, software, telecommunications, and computer applications.
- The region's economy has benefited from NAFTA-related trade given its strategic geographic location adjacent to Mexican manufacturing facilities. Since its inception in 1994, the total dollar volume of international trade has more than tripled in the region.
- Wholesale trade is expected to grow by 46 percent, generating demand for warehousing/distribution space. Government, retail trade, self-employed and domestic workers (SEDW) and transportation, communications and public utilities (TCPU) are expected to increase by more than 30 percent.
- Wholesale trade in Otay Mesa is forecasted to grow by 3,725 jobs, or 44 percent from 2000 to 2030, accounting for 12 percent of total jobs by 2030 compared to 16 percent in the year 2000.
- Otay Mesa is forecasted to receive approximately 41.3 percent of all jobs created in the South Suburban MSA between 2000 and 2030. Otay Mesa's share of total employment in the South Suburban Metropolitan Statistical Area (MSA) is projected to increase from 9.4 percent in 2000 to 24.9 percent in 2030.

ii. Housing Affordability and Office Space: Threat/Opportunity

Housing affordability and lack of office space remains two of South County's major challenges, with diminishing supply of developable land and double-digit price appreciation in some areas, exacerbating the supply and demand imbalance. SANDAG forecasts that the San Diego region may add 440,000 jobs between 2000 and 2030, increasing its workforce from 1.38 million to 1.82 million. Such growth will generate significant demand for office space during the forecast period. Growth in the wholesale trade sector will drive demand for substantial increases in the quantity of regional warehouse and distribution space. Business development interest in the Study Area will increase significantly if accompanied by added commercial enterprises and successful business clusters located around Brown Field Airport. An Aerotropolis can provide the incentive, spurring growth for affordable and moderate-priced housing and office space construction.

iii. Manufacturing Employment: Weakness /Opportunity

According to SANDAG, the South County/Otay Mesa is forecasted to increase its employment base fivefold between 2000 and 2030 from 8,000 to 42,000 jobs. However, manufacturing employment is expected to decline by 8 percent. SANDAG forecasts that the manufacturing sector in Otay Mesa is expected to diminish in importance, only representing 6.5 percent of total employment in 2030, compared to 33.1 percent in 2000. SANDAG's projected decline in manufacturing's share of total employment is not due to fewer manufacturing jobs; rather, SANDAG forecasts that other sectors will account for most future employment growth, thus diminishing Otay Mesa manufacturing's relative share. In contrast, SANDAG forecasts that the services sector will account for 38.7 percent of total employment in Otay Mesa by 2030, adding more than 15,700 jobs during the 30-year period, compared to 5.2 percent in 2000. The

presence of a robust business center composed of one or more of the six business clusters identified in the Feasibility Study will provide significant employment opportunities with high paying positions and longevity.²⁹

iv. Maquiladora Sector: Strength

Commercial trade at the Otay Mesa border crossing began in 1997, replacing the majority of trade through the San Ysidro border crossing. In 2003, the Otay Mesa border crossing had 4.9 million northbound personal vehicle crossings, a 4.4 percent compounded annual growth rate since 1997, and 697,000 truck crossings, a 3.5 percent annual growth rate since 1997. Between 2002 and 2003, truck crossings fell by 34,000, a 4.6 percent decline, due to a down period in the maquiladora industry.

Still, one of the most important economic drivers in Baja California is the maquiladora sector. As of April 2004, there were 150,815 employees and 571 plants in the maquiladora sector. During the 1990's, Tijuana almost doubled the number of maquiladoras, from 388 in January of 1990 to 742 in December of 1999, adding 354 new plants during the 10-year period. According to the Instituto Nacional de Estadística Geografía e Informática (INEGI) and the Instituto Mexicano del Seguro Social (IMSS), 21,839 of the 24,838 new jobs generated in the state of Baja California during the last three years of the period analyzed were directly associated with the maquiladoras, representing almost 88 percent of total new employment in the state.³⁰

v. Maquiladora Restructuring: Strength/Opportunity:

- Increased international competition is compelling the maquiladora sector to restructure operations away from simple, labor-intensive assembly, and move towards the manufacture of higher value-added and larger products.
- Tijuana's geographic competitive advantage positions it for increased production in markets and industries where "just-in-time" delivery of products are crucial. Use of BFA as a regional asset in providing air cargo support for these deliveries is a significant opportunity.
- One of the industries with higher growth is the electronics industry, directly associated with higher consumption from the North American market. According to the "Secretaría de Desarrollo Económico de Tijuana" (SEDETI), companies such as JVC, Plantronics, Panasonic and Kyocera are hiring to cope with production demands. Other important companies include Sony, Samsung and Sanyo.
- The health products industry in Tijuana has also experienced growth and is expected to follow this trend. The aging population in the United States is expected to fuel this industry in years to come.
- The automotive industry in Tijuana has received a strong boost through the introduction of Toyota in Tijuana, strengthening this sector's role that started with Hyundai's plant. The auto parts industry is also expected to grow with the introduction of Toyota. It is reported that at least two suppliers will establish operations in Tijuana to service Toyota's plant operations. The Toyota plant in eastern Tijuana has created great expectation in attracting more Asian automobile manufacturers and their suppliers to the region.
- According to Desarrollo Industrial de Tijuana, A.C. (DEITAC), Ford, Honda and Kia have also expressed an interest in establishing manufacturing operations in the region.³¹

vi. San Diego's Foreign Trade Zone: Strength

San Diego's Foreign Trade Zone (FTZ) is in the Otay Mesa Community Planning Area. This strategic location serves the maquiladora industry of Tijuana, Mexico. The FTZ appeals to companies that buy or receive imported products from foreign or domestic vendors. Manufacturers, distribution companies, and exporters of imported merchandise take advantage of the FTZ and its accompanying incentives.³²

vii. Otay Mesa II: Opportunity

A third port of entry, known as Otay Mesa II, is proposed in East Otay Mesa. The project responds to the need for a third border crossing in the region and would link Otay Mesa with the growing industrial areas in the eastern Tijuana metro area. Phase 1 of the connecting

highway, known as SR-11, is currently under construction. SR-11 will connect Highway 905 to the toll road, South Bay Expressway (SR125) to the new port of entry. A financing study is currently being reviewed for the remainder of the highway. The completion of this project is expected to occur prior to 2020.³³

viii. Maquiladora Employment: Weaknesses/Opportunity

While Tijuana lost approximately 30 percent of its maquiladora employment during the early 2000s, it began to rebound during 2003-04; however, unlike past recovery periods when recoveries generated new historic highs, Maquiladora employment is still significantly lower than its previous peak prior to the U.S. recession. While Tijuana was affected by the U.S. recession and most economic development analysts interviewed in Tijuana expect that the future industrial composition and growth rates will be strong, it may not be as robust as the rates experienced during the 1980s and 1990s due to Asia's sustained competitiveness. These anticipated changes could affect the profile of demand for industrial space in Otay Mesa.³⁴

c. Infrastructure Development in South County/Otay Mesa

i. Potable Water Supply: Threat/Opportunity

Both city and county of San Diego authorities recognize the geography of the South County is at the end of water supplies located at the northern and eastern regions of the state pipeline, thus making "regional" water reliability a continuing problem for area businesses. In recent years, San Diego County Water Authority has improved source reliability by diversifying the water resources that support the local economy with long-term purchase agreements, as well as, contracting to buy water from a privately operated desalination plant. But despite this increased sourcing, San Diego's future water supplies, until recently, have remained exclusively reliant on historic water resources that continue to be subject to seasonal restrictions.

Periodic information published and distributed by the San Diego County Water Authority, the Metropolitan Water District of Southern California and the Otay Water District describing regional planning efforts with their counterparts in Mexico (under the terms of the 1944 Water Treaty with Mexico) have conveyed new opportunities for cross-border cooperation addressing the supply and exchange of water. The Aerotropolis will likely be a prime beneficiary of these new water sources. San Diego and Northern Baja Mexico already have much in common in dealing with natural resources, and with the recent Treaty Agreements, joint water reliability at the border, will become a real opportunity for both countries, and a specific opportunity for developing the Aerotropolis.³⁵

ii. Power Supply Availability-- Reliability and Cost- Threat/Opportunity

There are demonstrated plans and implementation programs for maintaining electric and gas power supplies necessary for current and forecast needs in Southern California. Given the uneven performance of the ISO (Independent System Operator) in managing the power grid in Southern California, it is not known with certainty if electric power reliability can be consistently maintained during periods of heavy demand surge. Cost per Kilowatt hour at the forecast industrial rate is expected to add pressure on manufacturing/assembly companies seeking to locate in Otay Mesa. The recent commissioning of the Sunrise Powerlink increases reliability and improves Southern California's ability to import power, particularly from new renewable generation projects in Imperial Valley. The principal power supplier to South County/Otay Mesa, SDG&E, has increased the reliability of the local grid over the past years with several major transmission system enhancements as well as continuing to coordinate with the California ISO and Southern California Edison on contingency plans for adequate electricity resources for customers throughout Southern California.³⁶

d. Area Transportation Infrastructure

Transportation facilities in the US area along the border serve international, regional and local traffic needs. Regional and local traffic systems have the dual purpose of filtering through traffic crossing the border, providing service to local industrial uses and the maquiladoras on the Mexican side of the border, as well as local residential needs. Significant investment will be required to service these multi-purpose traffic and major road links, which are currently in construction, in the design phases or are budgeted for development.

i. Regional Access Roads: Strength

The city of San Diego's Otay Mesa Public Facilities Financing Plan identifies thirty-four important road projects, of which 12 were completed and the remaining 22 are scheduled for construction and completion in the years by 2025. The most important of these was the construction of State Route 125, the development of SR-905, and SR-11 connecting SR-125 to the proposed third border crossing.³⁷

ii. Railways: Weakness/Opportunity

A freight line that crosses the border through San Ysidro into Mexico serves the border zone. This line, originally known as the San Diego and Arizona Eastern Desert line, eventually links back across the border to Imperial Valley and connects to both U.S. and Mexican rail networks. While the line to Imperial Valley has been closed for many years, a number of proposals have been made to upgrade and reconnect this system as an additional way of moving goods and traffic in the Border Zone. Recently, Pacific Imperial Railroad Inc., the operator of the railway running from San Diego through Tijuana and back across the border to El Centro in Imperial County, signed a 99-year lease with the San Diego Metropolitan Transit Development Board to operate the Desert Line. Pacific Imperial said it has acquired \$15M to begin refurbishing the railway so it can be fully operational.

e. Employment and Land Planning

i. Background

San Diego County's economy is more diversified than a decade ago, however, its major economic contributors remain manufacturing, business services, the military, and tourism. Trade volume has grown substantially during the decade, mostly related to cross-border trade with Mexico.

ii. Land Planning: Opportunity

The industrial profile of this future employment is important for planning land use, since different types of industrial uses and functions require different amounts of building space and land. If the future Otay Mesa economy is much more service-oriented, the amount of employment space and land required per 1,000 employees will be significantly less. If the future Otay Mesa economy is remains mostly warehouse/distribution and manufacturing, the amount of land required per 1,000 employees will be similar to today, or, perhaps, modestly less assuming some gains in productivity.

iii. Manufacturing Decline: Threat/Opportunity

SANDAG forecasts that the manufacturing sector, however, will decline regionally, and will represent a significantly smaller share of total employment Mesa, only 6.5 percent of total employment in 2030, compared to 33.1 percent in 2000. In contrast, the services sector is forecasted to account for 38.7 percent of total employment in Otay Mesa in 2030, adding more than 15,700 jobs during the 30-year period, compared to 5.2 percent in 2000. The presence of a robust business center composed of one or more of the six business clusters identified in the Feasibility Study 7 will provide significant employment opportunities with high paying positions and longevity.

ENDNOTES

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