

Executive Summary

Detroit Region Aerotropolis Benchmarking Report

John D. Kasarda, Ph.D.

Director

john_kasarda@unc.edu

and

Stephen J. Appold, Ph.D.

appold@unc.edu

Kenan Institute of Private Enterprise
The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina 27599-3440
U.S.A.

31 January 2008

Overview of Major Detroit Region Aerotropolis Studies (to third level of detail only, Kenan Institute contribution highlighted)

- A. Identify leadership options to spearhead the initiative**
 - a. Short-term: Establish a public/private task.
 - b. Long-term: Identify a formal governing entity.
 - c. Guidelines for revenue sharing strategies to fund infrastructure.

- B. Benchmark Detroit against competitor regions and global best practices and provide initial economic impact assessment**
 - a. Develop the value proposition
 - i. Identify goals
 - ii. Develop the value proposition
 - iii. Identify the low hanging fruit - how can we increase cargo/logistics and other uses given existing infrastructure and amenities
 - b. Conduct a study that benchmarks Detroit against global best practices for an Aerotropolis and against Midwest/U.S. competitors on a variety of important factors.
 - i. Global best practice issues should address:
 - ii. Benchmarking of U.S/regional advantages/weaknesses should include but not be limited to the following items:

- C. Prepare a comprehensive master development plan to develop the aerotropolis and capture a larger share of the global logistics traffic, including:**
 - a. Development of an asset inventory that identifies assets, ownership, capacity and other relevant items, including:
 - i. Workforce skills base and availability
 - ii. Air travel times and costs
 - iii. Built-in infrastructure (highways, bridges, runways, gates, rail, tunnels, etc.)
 - iv. Under-utilized infrastructure to speed throughput/transit of goods and people (runways, gates, land, etc.)
 - v. Current excess cargo capacity at Willow Run airport
 - vi. Available land for development
 - vii. Customs/regulatory preparedness
 - viii. Operating costs/fuel costs
 - ix. Free Trade Zone/Customs service
 - x. Highways, rail, Detroit River ports, etc.
 - xi. Identify technology platform to make us world class
 - xii. Unique characteristics, amenities or services that can be incorporated to provide a competitive advantage
 - b. Site Analysis
 - i. Size / Location
 - ii. Access / Transportation
 - iii. Floodplain/Wetlands

- iv. Utility Availability, capacity and level of service
- v. Jurisdictional Considerations (FAA, City, County, Airport Authority)
- vi. Airport Layout Plan (ALP) considerations
- vii. Adjacent Land Uses
- viii. Legal / Regulatory Issues (FAA Grant Assurances, Airport Use Agreement, Cost Revenue Center (CRC) considerations, etc.
- c. Market Analysis – conduct a comprehensive air cargo, distribution/logistics, office and hotel market assessment including:
 - i. Market Overview
 - ii. Submarket Analysis
 - iii. SWOT Analysis
- d. Policy Assessment
 - i. Review and assessment of any County, State or Airport Authority policy issues/considerations that may impact decision making on implementation and/or monetization strategies.
- e. Highest and Best Use Analysis
 - i. For each property inventoried, identify “highest and best use” for each based upon aforementioned market and site analyses:

D. Develop a preliminary economic impact analysis to define the opportunity and measure the impact on communities and the region, and help build public support for long-term infrastructure investments. Include:

- a. Employment during and after construction
 - i. Consumption patterns
 - ii. Impact of personal income on consumption
 - iii. Identify potential positive impact on surrounding counties and the state

E. Develop a business attraction strategy

- a. Short term:
 - i. identify the needs of existing customers
 - ii. identifying the existing logistics/cargo business generated within metro Detroit, statewide, and in the Upper Midwest and Canada that could be captured by Detroit
 - iii. identify NWA’s cargo needs to move its operations to Detroit
 - iv. develop a strategy to capture these business opportunities
- b. Long term:
 - v. Identify major potential customers and their needs
 - vi. Identify growth opportunities/new business opportunities
 - vii. Identify actions needed to realize growth opportunities
 - viii. Identify small to medium size growth companies that would benefit from an accelerator

- ix. Develop a strategy to capture a larger share of the global logistics traffic, including identification of target industries, high opportunity companies and business case proposals.

F. Develop a Marketing/Outreach Plan

- a. Address Michigan's business climate—taxes, regulation, labor
- b. Develop a plan to market the development of the Aerotropolis—what it is, what it means for the region, benefits, economic impact, etc.
- c. Develop a grassroots information/advocacy campaign
- d. Build recognition as a region-wide asset

Detroit Region Aerotropolis Benchmarking Study

Full Report Table of Contents

Table of Contents

I. The Detroit Region Aerotropolis Value Proposition

The need and goals for the Detroit Region Aerotropolis

The business case for the Aerotropolis

E-commerce and order fulfillment

The Importance of Air Passenger Service

A Quick Overview of Economic Impact and Job Creation at and Around Airports

The Rise of the Aerotropolis

II. Commercial Development Lessons Learned from Aerotropolis Experiences Elsewhere

U.S. Airport-centered commercial development

Dallas–Fort Worth

Denver International Airport

Memphis

Kansas City

Ontario, California

Alliance, Texas

Rickenbacker, Ohio

North Carolina Global TransPark

Southern California Logistics Airport

Asia’s Airport Cities and Aerotropolises

Hong Kong International Airport

Incheon: Korea’s Air City

Singapore Changi International Airport

Dubai: United Arab Emirates

Subic Bay, Philippines

European Airport City and Aerotropolis Experiences

Amsterdam Schiphol

Frankfurt International Airport

Vatry

Frankfurt Hahn

Reasons for Commercial Success or Failure

III. The Detroit region compared to national standards and global best practices

III. A. Benchmarking of U.S./regional advantages/weaknesses

Regional Resources

- Workforce skills base and availability*
- Geographic location*
- Available land for development*
- Foreign Trade Zone presence*

Airport and Infrastructure Capacity

- Airport infrastructure*
- Air cargo handling facilities*
- Surface infrastructure and inter-modal interfaces*
- Customs/regulatory preparedness*
- Freight forwarders and logistics service providers*
- Fuel costs*
- Airport passenger service*

Air Transport Service

- Regional passenger and cargo bases*
- Airline hub status and type of service*
- Air travel times and costs*
- Current excess cargo capacity at Willow Run Airport*

Airport Performance in Regional Context

- Airport Costs*
- Employment creation*

III. B. Global best practice issues

Best international governance practice

- Governance structures*
- Uniform permitting, zoning, code and other regulatory requirements*

Best international finance practice

- Financing of annual operating expenses*
- Financing of major infrastructure capital expenses*
- Financial and other incentives to attract customers*
- Incremental tax revenue sharing practices for local governmental units*

Best international development practice

- Technology and infrastructure platforms needed to make Detroit Region*
- Aerotropolis world-class*

Commitments to “green” building
Development partnerships with local airports

IV. The Credibility and Viability of a Detroit Region Aerotropolis

Strategic Considerations in Assessing a Detroit Region Aerotropolis

Regional Strengths

Regional Weaknesses

Threats in the Wider Economic Environment

Opportunities Presented by the Broader Environment

Summary

Aerotropolis Marketing Strategies

Envisioning the Aerotropolis

A framework for decision-making

Recruiting key partners and building coalitions

Most Likely Target Sectors – The “Low Hanging Fruit”

Aerotropolis Marketing Timing

Detroit Region Aerotropolis Benchmarking Report

Executive Summary

Introduction

The objective of the Detroit Region Aerotropolis is to leverage Detroit Metro Wayne County Airport and Willow Run Airport to drive economic transformation throughout all parts of the Detroit region generating renewed competitive advantage, well-paying jobs, and greater prosperity for its citizens at all rungs of the socioeconomic ladder.

Transformation

“There is no ‘magic bullet’ in economic transformation. True transformation comes about when people across and within all sectors (government, education, business/industry, not-for-profit, arts and culture) come together in genuine partnerships for the common good. It comes about when processes are improved. It comes about when bureaucratic impediments are swept aside. It comes about when, intertwined with basic improvements, a few bold experiments are launched. And it comes about when the public and private sectors come together to invest the resources needed to stimulate transformation.”

— Staying a Step Ahead: Higher Education Transforming North Carolina’s Economy, Pappas Consulting Group, July 2006

Today, the Detroit Region finds itself rife with challenges. Once an economic powerhouse, the Region is now near the bottom of many metropolitan competitiveness rankings. For many, the Detroit Region represents de-industrialization and economic decay. Yet the Detroit Region, despite its reputation to much of the American public, actually has a strong set of resources to offer the American and global economy. As discussed in the full report and in more detail elsewhere, the region has a large, well-educated population that has the skills and the ability to work together productively. The key question is whether the region will continue on a path of decline or will marshal its many resources for collective benefit.

Although commercial development near Detroit Metro Wayne County Airport and Willow Run Airport won’t immediately reverse long-term regional economic decline by itself, a Detroit Region Aerotropolis can:

- provide the appropriate commercial environment, residential opportunities, regional access, and air transport centrality that is needed by a growing number of firms in an expanding set of industries,
- thereby allowing the considerable regional assets to exercise their attraction on business location decisions, and
- concretely symbolize the Region's commitment to building competitiveness in a 21st century economy increasingly shaped by speed, agility, and global connectivity.

By offering suburb air access to national and global markets, serving as a welcoming point of entry, and by enhancing sustainable development, the Detroit Region Aerotropolis can lead the economic transformation and revival of the entire Detroit Region.

As an important step to planning and implementing the Aerotropolis, we were asked to benchmark the Detroit Region and its two major airports against other airports and regions in global best practices in Aerotropolis and air logistics hub development. Benchmarking for design focuses on capacity: the capacity of the airports and the capacities of the region. This task is part of a much larger strategic effort (in outline form above) and is intended to provide a basis for a more detailed study of the Detroit Region and serve as a foundation for a development strategy for the Detroit Region Aerotropolis. This Executive Summary provides an overview of the full report.

Origins and Scope of the Detroit Region Aerotropolis

The idea for a Detroit Region Aerotropolis originated when Wayne County along with the Airport Authority acquired 1,300 acres just south of Detroit Metro Wayne County Airport (DTW) for noise mitigation required by the construction of DTW's fifth runway. Plans were drawn up to use this as a contemporary image-building gateway to DTW signaling Detroit's emergence into the new 21st century economy. Designated as the Pinnacle AeroPark, its physical layout, green space, and commercial facilities were to provide an appealing and contemporary "front door" to the Detroit region for air travelers. Shortly thereafter, 25,000 undeveloped acres were identified between DTW and Willow Run airports that could serve as the future commercial core of a greater Detroit Region Aerotropolis. The Pinnacle was viewed as the CBD of the broader Aerotropolis commercial core.

In several ways, the Detroit Region Aerotropolis project is unprecedented. Its scale is large and it is one of the few planned airport-centered developments that is spread over multiple parcels and multiple jurisdictions: two airports, two counties, at least seven municipalities, and countless stakeholders all have interests in the project.

While few Aerotropolis projects face coordination issues of this scale, few other regions have hoped to gain as much either. The Detroit Region Aerotropolis has, from the beginning, been conceived of as a commercial real estate development in support of thorough-going regional economic reform. The Detroit Region Aerotropolis is only the

visible part of the renewal restoring the Detroit Region's competitiveness in the 21st century.

This report follows on the outcomes of the 2006 University of Michigan charette and subsequent work completed by Wayne County officials and stakeholders. It attempts to tackle a set of the questions that must be answered before significant development can proceed. The report has four main sections. First, we develop the value proposition for the Detroit Region Aerotropolis. In doing so, we identify the need and goals for the Aerotropolis, basing these in contemporary trends in the increasing use of air transport for the supply and distribution of goods and for business travel. The impact of such trends on the Detroit Region is discussed. The potential impact of the Detroit Region Aerotropolis on regional employment trends is identified. Subsequent sections provide commercial lessons learned from Aerotropolis experiences elsewhere, benchmark the region and Detroit Metro Wayne Airport against competitor regions, identify best practice in a number of important areas, and assess the viability of a Detroit Region Aerotropolis.

I. The Detroit Region Aerotropolis Value Proposition

The value of a Detroit Region Aerotropolis is based on contemporary business strategies and trends in personal and goods movement that are, in part, caused by improvements in air transportation and the consequent impact on the way firms compete. These can be summarized in four key terms: globalization (far-flung producers and consumers), speed (time-based competition), agility (customization), and connectivity (enterprise networks). A major portion of the report articulates the value proposition by discussing the need for the Detroit Region Aerotropolis, the growing importance of air transport in competitive success, the regional economic impact, and the role of the Aerotropolis. Key issues are summarized in the subsections below.

New Realities of Business Location

It is already clear that an increasingly fast-paced, globally networked economy is changing the rules of business competition and industrial location. These rules are being altered by a catalytic convergence of digitalization, globalization, aviation, and time-based competition.

The combined importance of these factors is creating a new economic geography, with commercial airports driving and shaping business location and industrial development in the 21st century as much as highways did in the 20th century, railroads in the 19th and seaports in the 18th. Today, these airports have become key nodes for time-critical manufacturing, distribution, and business services and engines of economic development, attracting numerous types of air commerce-linked enterprises. These include, among others, time-sensitive manufacturing and distribution, e-commerce fulfillment and third-party logistics firms; hotel and exhibition complexes, and office complexes that house air-travel intensive professionals such as researchers, consultants,

auditors, and high-tech industry executives.

As more and more aviation-intensive businesses cluster near these airports and along transportation corridors radiating from them, a new urban form—the Aerotropolis—is emerging, stretching up to 20 miles outward from the airports. With the airport serving as a multi-modal transportation and logistics nexus, strings and clusters of business and technology parks, industrial parks, distribution centers, and information and communications technology (ICT) complexes are forming around the airports and along connecting surface transportation corridors. Even some cities and development zones located up to 60 minutes drive from some airports are experiencing accelerated economic growth.

Air Logistics and Industrial Competition

To remain competitive, today's industries require fast-cycle logistics. Manufacturers must be able to access regional, national, and global networks of suppliers of materials, components and sub-assemblies in order to obtain the best-quality components at the lowest possible price. At the same time, increased flows of information worldwide are leading to rapid changes in customer demands. It is becoming clear that new strategies to meet these challenges will require the development of innovative multi-modal air logistics infrastructures which synthesize information and multi-modal transportation to speed the delivery of parts, components and finished goods from suppliers to manufacturers and from manufacturers to customers around the nation and increasingly worldwide.

The rise of e-commerce further heightened time-based competition and the importance of airports. Most of this explosive growth is expected to be business-to-business (B2B), supply-chain transactions where materials and components will be ordered through the Internet and quickly shipped to next-stage producers.

The expansion of the B2B e-commerce and direct-to-customer internet orders has placed a particular premium on speed and reliability in the delivery process. To meet these new imperatives in order fulfillment, e-commerce distribution centers are being built near air express hubs that have speedy, reliable shipping networks. Air express hubs actually extend the business day for e-commerce fulfillment by allowing shippers to take orders for expedited national or global delivery as late as 11:00 p.m. in some locations.

Air logistics, which includes air cargo, air express, and their supporting logistics services, represented a \$250 billion industry in 2006. It is expected to triple by 2025, while international air-express shipments are expected to increase at least four-fold during this period. Already, air cargo and air express are the preferred modes of international shipping of higher value to weight B2B transactions in microelectronics, automobile electronic components, aircraft parts, mobile telephones, fashion clothing, pharmaceuticals, optics and small precision manufacturing equipment, as well as many perishables such as seafood and fresh cut flowers. These time-critical industries are increasingly locating near airports to improve their speed, agility and connectivity to their

suppliers and customers.

Airports as Service Sector Magnets

Not only time-sensitive goods-processing and distribution facilities are being drawn to locations near airports. As the world's service economy also shifts into fast-forward, these airports are becoming magnets for regional corporate headquarters, trade representative offices, and professional associations that require executives and staff to undertake frequent long-distance travel. Airport access is likewise a powerful attraction to information-intensive industries such as consulting, advertising, legal and financial services, data processing, accounting and auditing, which often send out professionals to distant customers' sites or bring in their clients by air. The accessibility commercial airports provide has become essential to attracting business meetings and conventions, trade shows, exhibitions and merchandise marts.

High-tech industries and airports also increasingly reinforce each other. With intellectual capital supplanting physical capital as the primary factor in 21st century wealth creation, time has taken on heightened importance for today's knowledge workers as has the mobility of these workers over long distances. Research in the U.S. has shown that high-tech professional workers, for example, travel by air at least 60 percent more frequently than most other professionals.

With this sector's supply-chains and employees increasingly geared to speed, connectivity and mobility, quality air express and air passenger service have become essential to the location of many high-tech firms. Clusters of high-tech companies are thus locating at and near air express hubs such as Memphis, Louisville, Indianapolis, Alliance Texas, Ontario, California, Subic Bay Philippines, Penang, Malaysia, and Campinas Brazil. The impact of airport-induced job growth on land use in the vicinity of airports is likewise substantial.

The Rise of the Aerotropolis

Emerging corridors, clusters, and spines of airport-linked businesses are giving rise to a new urban form—the aerotropolis—extending outward up to 20 miles from larger airports. The airports function as the multi-modal logistics hub and commercial nexus of this diffuse airport-integrated urban complex, analogous to the function central business districts (CBDs) play in the traditional metropolis. Indeed, under the rubric of Airport Cities, some of these airports have assumed the very same roles of metropolitan CBDs by becoming regional intermodal surface transportation nodes and significant employment, shopping, meeting and entertainment destinations in their own right.

Reflecting the new economy's demands for connectivity, speed and agility, the Aerotropolis is optimized by corridor and cluster development, wide lanes, and fast movements along highways as well as good rail connectivity. While commuter and light rail infrastructure development at and around DTW and YIP and to Detroit and Ann Arbor is likely decades away, the regional planning process needs to commence

immediately and appropriate land reserved before on-going property development precludes such critical future infrastructure.

II. Commercial Development Lessons Learned from Aerotropolis Experiences Elsewhere

Beginning with a series of overviews of the commercial developments at and around selected airports, this section (1) identifies specific commercial components and support facilities of aerotropolis/air logistics hub developments around the world, (2) specifies commercial successes and reasons for their success, and (3) discusses development effort failures and reasons for their failure. In the United States, Dallas-Fort Worth, Denver International Airport, Memphis, Kansas City, Ontario, California, Alliance, Texas, Rickenbacker, Ohio, the North Carolina Global TransPark, and Southern California Logistics Airport are discussed in some detail. Hong Kong International Airport, Incheon, Singapore Changi International Airport, Dubai in the United Arab Emirates, and Subic Bay in the Philippines, represent Asia's airport cities and Aerotropolises. In Europe, Amsterdam Schiphol, Frankfurt International Airport, Vatry in France, and Frankfurt Hahn were surveyed.

There are too many stakeholders and too many criteria to allow a simple assessment of success or failure. Further, any assessments must be provisional. Aerotropolis development is in its early stages. Reversals in fortune also occur. Many factors are involved and the number of thoroughly-studied cases limited.

Our assessments must be taken with those caveats in mind. In general, if the airport is not successful, the airport city is not successful. The area can be successful, however. With the help of road and rail logistics, the Fort Worth Alliance development itself has been successful even though the airport has only a fraction of the air cargo processed at nearby Dallas-Fort Worth. Similarly, most of the commercial development surrounding Ontario Airport, which is located in the heart of one of the nation's most rapidly growing metropolitan areas, is as much a consequence of ocean-based logistics as air logistics.

The success of some airports, such as Ontario and Frankfurt Hahn, is driven by capacity constraints at nearby major hubs, LAX and Fraport, respectively. The Southern California Logistics Airport and Vatry have been less successful because other regional airports, located more conveniently to regional population and employment centers, have sufficient capacity for present needs.

The planned Kansas City development is beset by a number of issues. First, the region may not be sufficiently strong to support a critical threshold of aviation-dependent business activity nor is the airport sufficiently central in air routes to generate appreciable levels of activity. Second, the airport is sufficiently distant from densely-populated residential areas to make labor recruitment difficult for businesses located near the airport. Third, although the Kansas City economy is strong, there is not a strong demand

for new commercial space. That which exists has been suitably served by piecemeal developments in and near the city itself. Similar factors apply even more to the North Carolina Global TransPark.

Denver's airport area, however, appears to be ripe for development. The airport is well-served and generates a large volume of passenger traffic. Nearby Aurora is the most rapidly-growing city in Colorado. Nevertheless, the airport, barely ten years old in its new greenfield location is still beyond the rapidly approaching crabgrass frontier. The major commercial developments surrounding other airports, including O'Hare and Dulles, needed to wait on suburbanizing residences and a surge in the demand for office space that resulted in the formation of edge cities. As Joel Garreau points out in his 1991 book, edge cities tend to develop between the airport and the central city. Similar factors affected the pace of growth near Dallas-Fort Worth with the difference, until recent years, that a single large developer was able to accommodate much of the demand for real estate and coordinate building. Now other major DFW-linked commercial areas are taking off.

The Asian airports surveyed are unique in that each is a relatively new greenfield airport, with Singapore's Changi at just over 25 years being the oldest among them. Each was built because of capacity constraints at existing airports and each was a central component of national strategies to maintain global competitiveness in the face of increased pressure from other regions. Rapid processing of passengers and cargo along with attractive terminals has helped Changi maintain its position in the face of a less-than-ideal location and competing hubs in Malaysia and Thailand. The same has helped Hong Kong International Airport maintain its, and Hong Kong's, threatened role as gateway to China. Similarly, Incheon and the surrounding developments are part of a strategy to help Korea become avoid being a Northeast Asia economic *cul de sac*.

The two major European airports mentioned have largely followed the Asian lead. Frankfurt and Schiphol are two of the four largest European airline hubs, following London and Paris. Frankfurt and Amsterdam are probably the less competitive cities of the four major hubs. Their national governments have, therefore, been willing to think systematically about the role of their airports in national competitiveness to a degree not yet seen in London and Paris.

A successful airline partner is often the critical success factor driving nearby commercial growth. Memphis and Louisville are both almost exclusively dependent upon a single carrier delivering huge amounts of cargo. Those cities have successful commercial developments largely because FedEx and UPS have developed their main hubs there. Rickenbacker's success is also largely the result of Evergreen International choosing it as its main operational base. Commercial developments surrounding two airports, Dayton and Cincinnati, almost collapsed after the cargo airlines serving those cities were either absorbed or closed. All successful airports examined are major bases for successful airlines.

III. The Detroit region compared to national standards and global best practices

The resources of the Detroit Region and Detroit Metro Wayne Airport and selected critical airport-related practices were compared to those of several competing and complementary regions and airports. Three overlapping sets of benchmark regions and airports were examined. First, the most populous 25 U.S. metropolitan regions (Combined Statistical Areas) and their principal airports were examined in order to assess the broad resources available in each. These regions and their airports serve as a reference group. Second, several airports selected on the basis of their proximity to Detroit and the volume of passengers and cargo carried were examined more closely. The regions and the principal airports described include Detroit, Atlanta, Chicago, Dallas-Fort Worth, Houston, Kansas City, Memphis, Indianapolis, and Louisville. We also examined some smaller cargo-oriented airports similar to Willow Run.

Third, the practices of and related to prominent air passenger and cargo hubs world-wide were examined in order to distill strategic managerial “best practices” or exemplary actions to inform Detroit Region Aerotropolis development potential. The airports examined included Amsterdam, Beijing, Dubai, Hong Kong, Seoul, and Singapore. Selected aspects of each of these were reviewed in the previous section. Our aim here is to focus on particular aspects of their development to distill strategic lessons. For a few points, we need to look beyond airports to U.S. regional development practice.

III. A. Benchmarking of U.S./regional advantages/weaknesses

The Detroit Region was benchmarked against U.S. reference and competitor regions with respect to four main areas: 1) regional resources, 2) airport and infrastructure capacity, 3) air transport service, and 4) airport performance. These general factors tend to be mutually correlated. Under specific circumstances, each of the factors can affect the other two. All three impact airport performance in a regional context. The Detroit Region Aerotropolis effort is an attempt to invest some of the region’s resources in enhanced infrastructure capacity and in fostering greater air service to attract the economic activity that adds to regional resources. Only a few points are summarized here.

Despite its ranking 197 out of 200 metropolitan regions in the latest Milken Institute Best Performing Cities assessment, the Detroit Region has many resources, including its demographic composition, that favor regional competitiveness. The region has a significant population, labor force, and skill base that can both take advantage of and help support air transport-oriented development.

The Detroit region occupies an excellent position that is centrally located within the Great Lakes Mega-region. It is well-connected by highway and rail not only to the region, which includes the industrialized portion of Canada, but also most of the nation.

Detroit is uniquely positioned for a metropolitan area of its size to benefit from business trends to locate facilities near airports. The Aerotropolis site now under consideration includes a large expanse of potentially developable land. Spontaneous development, however, is already occurring with some inconsistent with airport “leveraging” so plans need to be drawn up while the opportunity to most effectively shape the Aerotropolis Region is still available.

There are close to 300 general-purpose Foreign Trade Zones in the U.S. and significantly more sub-zones associated with them. Many appear not to lend their regions a significant competitive advantage. The most effective Foreign Trade Zones are those that are integrated into both airport functioning and regional economic production.

Airport infrastructure capacity is an important consideration in launching an Aerotropolis. Airports, most specifically runways and passenger terminals are expensive capital investments that can be built only after prolonged periods of planning and review. Hosting an international airline hub is an exceptional advantage that only a handful of regions have the possibility of leveraging.

The Detroit Region has a world-class hub with NWA, some of the longest runways in the country and, with five parallel runways, has the capacity for substantially increased air traffic. DTW air traffic loses comparatively little time to runway and airspace delay, giving it a huge advantage over other airports. Airport costs are competitive with those in other regional airports. DTW has sufficient passenger terminal space and is recognized for its passenger satisfaction. Surface transportation to the airport is uncongested and adequate, at least for the near future.

III. B. Global best practice issues

Business and governance practices are a key factor in the success of airports and airport regions. Unfortunately, as an extensive literature shows, good practice is a rare exception and “best practice” is often not very good. Inter-jurisdictional conflicts over airport use, expansion, and land use are common. Those conflicts, instead of being quickly resolved, sometimes last for decades.

Some Aerotropolis developments are defined by one or two large parcels. In those cases, an individual owner can streamline governance and internal coordination. In the few cases where an Aerotropolis diffuses beyond a single large parcel four points stand out:

- 1) Airport governance ensuring efficiency and a high level of service is critical.
- 2) Formal governance structures, although important, are never sufficient.
- 3) Piecemeal cooperation – narrow agreements covering specific services or exchanges – partially counteract the absence of unified overall formal governance.
- 4) Multiple informal governance structures are critical to resolving what

might otherwise become insurmountable roadblocks.

Governance issues are often intertwined with finance needs. All indications are that gaining financing for needed infrastructure will be an exercise in continuing entrepreneurship. The Federal government has made funds available through several branches of the Department of Transportation but the funding landscape changes rapidly.

IV. The Credibility and Viability of a Detroit Region Aerotropolis

This section of the report assesses the credibility and viability of a Detroit Region Aerotropolis as a strategic economic development tool. An overview of marketing strategies follows. A four part marketing strategy is recommended entailing a process of envisioning, a process of formulating a framework for public investment decision-making, a process of recruiting key partners and building regional development coalitions, and, finally, a process of targeting and recruiting aviation-oriented industries and firms.

Envisioning the Aerotropolis

At this point, the Detroit Region Aerotropolis is promising but still a broad idea. The first marketing step would be to engage in a visioning process whereby the position of the Detroit Aerotropolis in the regional, national, and global economy is further specified. In order to be successful, the Detroit Region Aerotropolis needs to solve one or more imminent and long-term business problems. The Detroit Region Aerotropolis will likely not be a duplicate of another existing air logistics hub, such as Memphis or Louisville or a leading international passenger hub such as JFK, LAX, or O'Hare. A Detroit Region Aerotropolis will need to build on the specific strengths of the greater Detroit region, especially aviation connectivity, and possibly exploit weaknesses in other regions.

A framework for decision-making

Development of the Detroit Region Aerotropolis will likely require substantial public investment over several decades. Without a set of strategic guidelines and without a model of airport-driven regional growth, the value of particular investments cannot be evaluated. A comprehensive approach to planning based on a thorough analysis of the region's economic position, directed towards improving regional well-being and building on regional strengths, is necessary. Decisions about land use, transportation, and investment can then be made in the context of value to the region.

Recruiting key partners and building coalitions

A successful Aerotropolis is the result of cooperation among several parties and often many stakeholders whose interests do not always coincide. Successful marketing will depend upon recruiting key partners and building coalitions among them. At the

very least, cooperation among four key partners are required: the airlines who provides passenger and cargo air service, the airport that provides the most critical piece of infrastructure, the land owners who provide the basis for business facilities, and, of course, the business users of those facilities. Each of those groups is actually composed of many parties. Land developers and real estate specialists support the land owner function. Handling agents and freight forwarders support airline functions. Businesses are looking to lower costs, improve productivity, and expand market reach.

Initial marketing targets should focus on 3PL's, freight forwarders and shippers of time-sensitive products in the 150 mile radius of Detroit. The automobile industry is a likely sector. Marketing strategies should emphasize the value-added that Detroit airports can mean in terms of lower cost and more efficient shipment services of higher-value, more time-critical automobile parts and components.

Most Likely Target Sectors – The “Low Hanging Fruit”

At every stage of marketing, Wayne County's and the Detroit Region Aerotropolis' promotional strategies should be grounded in solid business research and planning. This will involve market research of a generic nature on likely DTW and Willow Run tenants and users as well as market research specific to the Detroit Aerotropolis Region. Research on commercial shippers from around the world points to five generic types of shipments where air transport is the consignees' mode of first choice. These are when:

- Flexible and customized production is the norm
- The high value of the product compared to its weight justifies the extra cost of airfreight
- The product is highly perishable—either in the physical or economic sense
- Short production cycles and/or “just-in-time” inventories require fast delivery
- Immediate delivery of spare parts, time sensitive documents or products is required

Target industry analysis for air logistics hubs conducted by UNC's Kenan Institute of Private Enterprise identified twelve industrial groups that are most likely to utilize the air express and air cargo facilities. Most of these would no doubt also be the best target industries for the Detroit Region. They include:

- Logistics service providers
- Semi-conductor and computer chip manufacturers
- Pharmaceuticals and contract biotech and pharmaceutical lab testing facilities
- Computer and electronic sub-assembly manufacturers
- Optics and small precision equipment manufacturers
- Aircraft assembly, aircraft parts suppliers and aircraft maintenance services
- Scientific and medical instruments manufacturers,
- Suppliers of small volumes of high value products, for example aromatics

- Suppliers of perishable products—for example, fresh seafood, live animals, fresh fruit and flowers
- Digital automotive component manufacturers and emerging spare parts suppliers
- Fashion, garments and accessory suppliers
- Jewelry and watch manufacturers.

In addition, our Aerotropolis benchmarking shows that airports readily attract flex-tech and e-commerce fulfillment facilities, trade and exhibition complexes, health and wellness centers, hospitality and entertainment clusters, and office parks housing air travel-intensive managers and professionals, as well as a full range of supporting food and beverage establishments and retail.

In targeting these and other industries noted above, there are a number of services that need to be highlighted in a marketing plan for the Detroit Region Aerotropolis. Many have already been discussed and some already exist, a summary list of the key support services to be implemented and leveraged in marketing the Detroit Region Aerotropolis is in order.

- Expedited customs clearance and pre-clearance procedures
- Full electronic data interchange capability
- Foreign Trade Zone, FTZ operators, and bonded warehouses
- Streamlined roadway and rail access to DTW
- State-of-the-art materials handling services
- Reliable utility services (e.g., electricity, water, sewer)
- Industrial support services such as repair and maintenance and machine shops
- Enhanced one-stop servicing for foreign investors
- Expedited site and building permit approvals
- Quality of life—good housing, schools, recreation, nightlife, low crime
- Knowledge and education support, including a distance education and worker training facility at or near the Aerotropolis
- Aesthetics – appearance of airport and its environs

All of the above need to be woven into both the business plan and the implementation plan for greater success of the Detroit Region Aerotropolis. They are not only essential to the business and people marketing effort, but also to developing an effective multi-modal air logistics hub and regional network.

Aerotropolis Marketing Timing

Regional development does not occur in a vacuum and the Detroit region can benefit from the congestion and rising costs in other regions. With a Northwest hub, Detroit can offer high quality access to almost all U.S. destinations and to many Asian and European destinations. With a few more international routes, Detroit's global gateway status would be solidified. The recent tourism developments in center-city Detroit and the interest of Chinese investors in the city could be complemented by a supply of commercial development that allowed swift access to the airport to

accommodate the need for outward business travel and inward business visitors. The low-hanging fruit for Detroit is to follow up on established regional strengths (e.g., the automotive industry) and build new ones, such as, destination tourism and possibly biotechnology. These should be pursued vigorously.

In the medium-term, developing new international flights will be key to growing the cargo and passenger sides of the Aerotropolis. These flights will create the connectivity that further facilitates firm location and employment growth in the region. The increased service and passenger flow will help Detroit become a true international marketplace.

The Aerotropolis, in itself, may not be sufficient to return the Detroit Region to its economic glory days. It will, however, be a very credible symbol that Detroit is forward-looking and “open for business” in the 21st century and that it is willing to remake its institutions and make substantial hard and soft infrastructure investments to be highly competitive.

The Visteon development illustrates strengths of the region’s human and business resources and weaknesses of present governance of economic development. There are firms willing to make substantial investments in the Detroit Region in order to tap into local opportunities. Such decisions would be eased if appropriate environments were available and more directly tied to key infrastructure needs, such as the airport.

In summary, the following basic points emerged from our benchmarking:

1. Detroit possesses all the ingredients for a world-class aerotropolis: location; multimodal infrastructure (including superior NAFTA highways); integrated telecommunications; commercial support and knowledge support.
2. There are gaps in a number of critical ingredients requiring attention, such as inter-modal facilities, a suitable free trade zone, and airport cargo processing.
3. Considerable development will continue to occur around Detroit Metro and Willow Run Airports. It is the responsibility of Detroit Region public and private leadership to ensure that such growth occurs intelligently, guided by airport city and regional aerotropolis principles.
4. This will not occur without coordinated cross-jurisdictional planning.
5. Airport City and Aerotropolis development will complement and not compete with downtown development or needed development in other parts of the Detroit region.
6. Inside the fence and outside the fence airport-linked development are inextricably interwoven and mutually interdependent.

7. Airport planning, urban planning (including regional infrastructure planning), and business site planning must be integrated. They cannot be done independently of each other.
8. Although competition is increasing, few airport areas in the world are doing this, so the Detroit Region has a special opportunity to do it right for the mutual benefit of its airport and the region's municipalities and counties.
9. The ultimate objective is to make the Detroit Region Airport City and the greater Detroit Region Aerotropolis economically efficient, aesthetically pleasing and environmentally and socially sustainable (i.e., bring about transformation).
10. The result: better business, better environment, better quality of life, and Detroit Region leadership in Aerotropolis development.