



For many years the William J. Hughes Technical Center (WJHTC) has been the nation's premier aviation research, development and test evaluation facilities. It is also one of Atlantic County New Jersey's major employers with roughly 3000 individuals divided between federal employees and contractor employees. At any time there are over 150 projects underway at the center, with much of the work performed through contracts with private companies. The State-of-the-Art laboratories, test facilities, support facilities and proximity to the Atlantic City International Airport are positive factors which have led to an alliance of agencies formed to study the potential for a research and technology park.

The key agencies are;

- The Atlantic County Improvement Authority
- The Richard Stockton College of New Jersey
- The New Jersey Economic Development Authority
- The South Jersey Economic Development District
- The County of Atlantic
- The Federal Aviation Administration

The State of New Jersey has targeted private companies which are highly innovative and strongly focused on research and development. Many of these companies can benefit from proximity to research centers such as the WJHTC.

The Federal government, as well, is concerned with improving the capacity, safety and efficiency of the national air system and its interface with international air traffic. The Next Generation Air Traffic System (NextGen) is being discussed by Congress and the Administration as a multi-departmental management entity which can work to improve air passenger and freight growth.

This report presents a master plan for a new Aviation Research and Technology Park (ARTP) to be developed over a ten year period on a 55 acre site located near the Atlantic City International Airport. The master plan developed by Wallace Roberts & Todd LLC (WRT) includes 294,520 square feet of private research space in a campus environment.

In addition to the Master Plan, a Market Assessment and Feasibility Study was prepared by the firm of George Henry George Partners (GHGP) which addresses Market Potentials of alternative development strategies and a financial analysis for implementation of a successful park development.

A separate Environmental Assessment was prepared by Remington, Vernick & Walberg, Engineers (RVWE) which addresses environmental factors which influence development feasibility.

Recommendations by the consultant team have already been implemented with the formation of a non-profit operating entity 26 U.S.C. 501(c)(3) of the Internal Revenue Code.

## **What Research Related Companies can be Attracted?**

The GHGP report suggests aviation related companies in the following fields:

- Avionics
- Air frame manufacturers and consultants
- Airport operations including security and safety
- Data base consultants serving the aviation industry
- International aviation consultants
- Military ATC systems consultants
- Advanced imaging and data analysis

- Systems Integrators
- Technology communications and training firms
- Radar and supporting electronics
- Security equipment manufacturers and testing
- Paving, fire resistance, explosive resistance consultants

Over 2000 new employees could be added to the proposed park in addition to the 3000 people now working at the WJHTC. While some of the new companies would require direct access to the labs at the WJHTC, others would have their own research facilities. The feasibility of development is dependent on attracting existing technology companies, startup companies and branches of national businesses that could benefit from proximity to WJHTC.

## **Market Factors Which Influence Development Feasibility**

Interviews with public officials, members of the WJHTC staff, private contractors and others in the leadership group, combined with the expertise of GHGP, provide evidence that there is market potential for successful development of a technology park at this site.

- The FAA William J. Hughes Technical Center is the nation's premier aviation research and development and test evaluation facility. At any point in time over 150 projects are underway at the Center.
- The NextGen program is concerned with improving the capacity, safety and total efficiency of the national air system and its interface with international air traffic. Congress and the Administration are charged with a work program and multi-departmental management entity to achieve the objectives of this program.

- The WJHTC is well positioned to either lead or support many of the government agencies, private company and university partnerships which will best provide the excellence in professional services needed to meet the NextGen challenge.

The State of New Jersey recently reported that the strong research history has slipped in recent years and the Governor has responded with a strong commitment to impressive investment to bringing the state to the top again. Aviation-related technology can be a priority for the State of New Jersey if those elected officials work with the private sector, the WJHTC and the University community to allocate funds. With the recent federal change of administration funding may be delayed, however the strong need associated with air security and international competition suggests that future funds will be committed.

- The New Jersey Economic Development Authority (NJEDA) has a strong track record of supporting research, business and technology parks similar to ARTP. In some cases NJEDA has been involved in master leasing space intended for small technology companies in early buildings as well as playing a lead role in managing the development process.
- The Atlantic City International Airport and Atlantic County are committed to improving access to the airport. Improvements to Delilah Rd. (County Rt. 646) have been funded and the potential exists for a new airport access road which would eliminate the congestion of Tilton Road Circle. A new road crossing the 55 acre site could serve as an attractive approach to the airport, the WJHTC and the new research park.
- The first Phase of the research park could build on the participation of NJEDA to help catalyze the development. The New Jersey Casino Reinvestment Development Authority (NJCRDA) has shown an interest in financing the first building pending the acquisition of an anchor tenant to assure a sound loan commitment.

## **Optimum Role of Technology Commercialization / Incubation**

In order to ensure successful development of the incubator and ascertain the satisfaction of its tenants, management and support services for start-up businesses and other small tenants should be provided as part of the total tenancy of the multi-tenant buildings.

As the research park development matures and technology flow in the region increases to a pace of company formation which justifies public investment in an incubator, public financing should be sought from state and federal sources to build and operate such a facility. This has been the typical pattern in other research parks.

The 55 acre site is part of the WJHTC land between Amelia Earhart Boulevard and Delilah Road. The site is wooded with a typical New Jersey Pinelands mix of Oak and Pine. Soils are suitable for development and a small seven acre site once used as a quarry has been cleared for materials storage. Improvements planned for Delilah Road and the Tilton Road Circle will improve access to the site and the airport. The Master Plan and Phase I construction documents will require appropriate reviews by Atlantic County, Egg Harbor Township and the New Jersey Pinelands Commission. This review often requires significant documentation of the environmental impact and extensive review time.

## **A Sustainable Development Plan**

The plan prepared by WRT is based on planning principals that address the size and locations of proposed buildings and supporting infrastructure such as utilities, roadways, parking and woodland preservation. Sustainable development concepts serve as a guide for landscape design and architecture of the research park and are an integral part of the master planning process.

Highlights of the plan include:

- Preservation of habitat area and a campus-like arrangement of buildings and pedestrian spaces.
- Accommodate a variety of research and technology uses and a range of individual site requirements with an objective of obtaining LEED certification.
- Minimize impacts on surrounding areas.
- Provide new access roadway to the Atlantic City International Airport which also serves as the main access to the research park.
- Use of native plant materials which respects the unique southern New Jersey landscape of the Pine Barrens with a diverse palette of trees and shrubs.

## **Environmental Factors Which Influence Development Feasibility**

While market conditions and public support seem strong for development of a research park near the WJHTC, environmental review by the New Jersey Pinelands Commission will influence the timing of construction. The Environmental Assessment prepared by Remington Vernick & Walberg Engineers (RVWE) suggests that a complete Environmental Impact Study (EIS) will probably be required as part of the New Jersey Pinelands Commission permit application. Their evaluation of the site suggests that such work will require at least twelve months.

The United States Environmental Protection Agency has provided written correspondence to RVWE stating that the proposed ARTP project as master planned in this report will not impact past Superfund Cleanup Activities on adjacent FAA lands.

## Costs of Phase I Development

The master plan shows a 44,500 GSF building located on the new access road to the airport as the first phase of construction. A series of development options are discussed by GHGP in the final section of this report. Assuming that the land remains in the ownership of FAA and the lease to the research park entity is minimal, the major up front costs are associated with site improvements. The new entry boulevard and utility infrastructure cost estimate is \$5,790,720, and site improvements for the first building are \$1,342,020. The budget for the first building is \$8,732,936 including design and contractor fees, and the fit out estimate for lab equipment is \$484,671. Sources for these funds are discussed in the final section of the report, however, clearly the costs of infrastructure must be covered by grants or public funding.

Operating costs associated with the development entity should also be included in the budget for the first phase development. The special purpose (501(c)(3)) entity must begin with the land lease with the FAA and work with NJEDA and NJCRDA in preparing the public portion of the research park. Private developers can be involved as well, but guidelines need to be set and management of phase I construction should be part of the staff budget. A phase I budget of \$500,000 for staff and expenses would cover most of the costs including the environmental studies needed for the Pinelands Commission and marketing the site to prospective tenants. Costs of design and construction are part of the Capital budget.

## Conclusions

The ARTP can be developed over the next few years on the 55 acre site selected by the FAA.

The market for the ARTP exists and there is excellent local, state and national support for development. A non-profit entity has been formed with an adequate operating budget to work with NJEDA and NJCRDA in developing a financing strategy for the park.

Although there are environmental issues associated with development of this site, these issues exist on nearly all property subject to review by the New Jersey Pinelands Commission. The additional review period can be mitigated by proceeding with the environmental studies simultaneously with phase I design work.

The WJHTC can be a major draw for tenants at the new park, but a major marketing program must be put in place to define the unique aviation research focus of the park. The project's close proximity to the Atlantic City International Airport and the Atlantic City Expressway can help in the marketing effort. There is a strong regional technology and total aviation sector advantage for the ARTP.

State and Federal support are critical in the first phase of development, which is estimated to be \$8.7 million. An infrastructure budget of over \$7,000,000 and a year-one operating budget of at least \$500,000 should be secured. A financing strategy should also be developed including participation of NJEDA and NJCRDA.