

Feasibility Study for Fort Lauderdale Aviation and Aerospace Training Program

Final Report

**INSTITUTIONAL
RESEARCH**
BROWARD COLLEGE®

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Purpose of Study

The Center for Applied Research is performing a comprehensive feasibility study on establishing Fort Lauderdale Aviation and Aerospace Training Hub, by gathering data and conducting in-depth analysis of viability and economic impact.

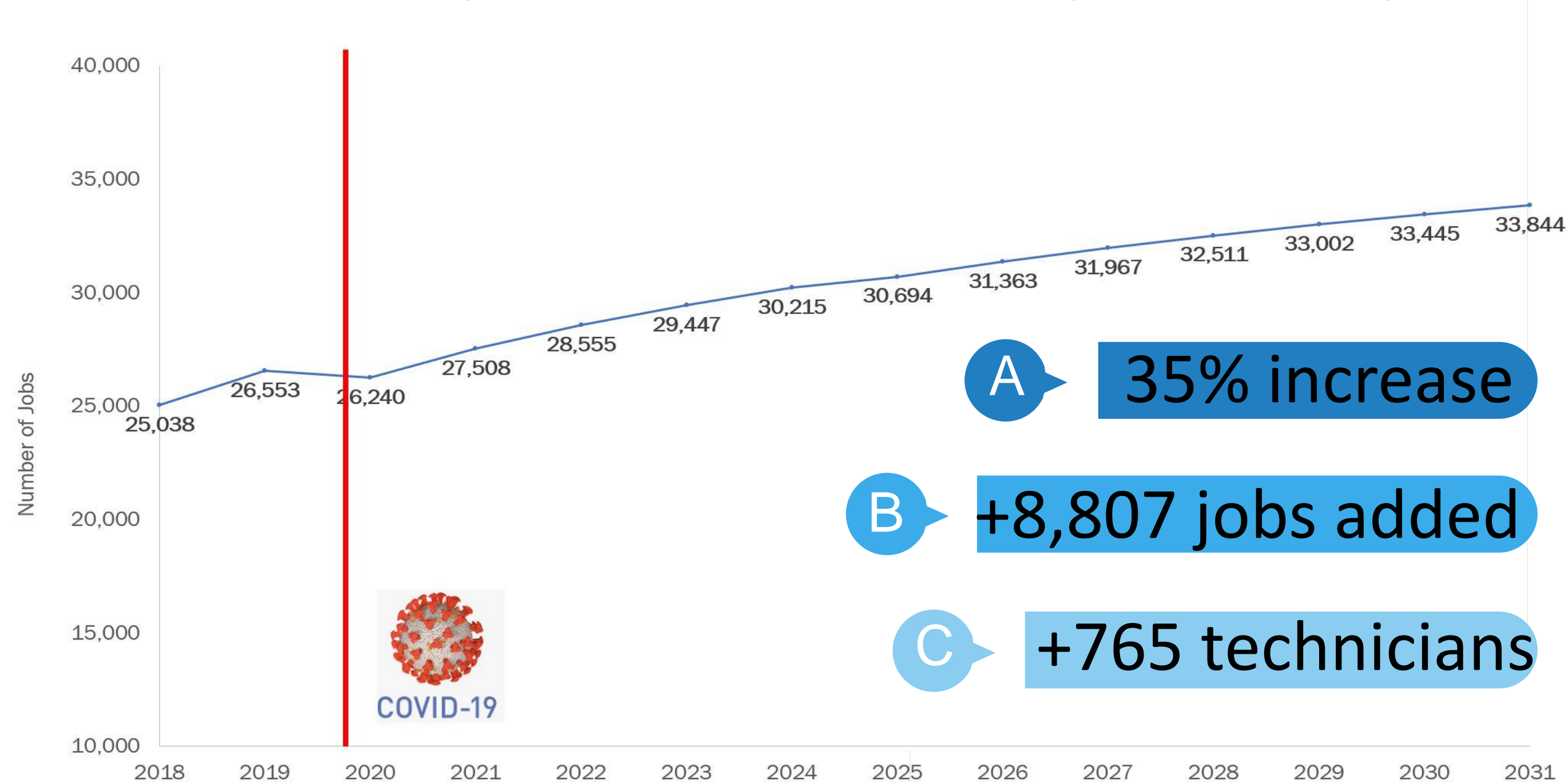
VISION:

In coordination with existing and new partners, the City of Fort Lauderdale, will become an aviation and aerospace training hub.



Recap of Preliminary Findings

Broward County: Aviation Job Projections by 2031



Training Needs

- Line service
- Maintenance helper
- Specialty
- Aircraft specific
- Soft skills

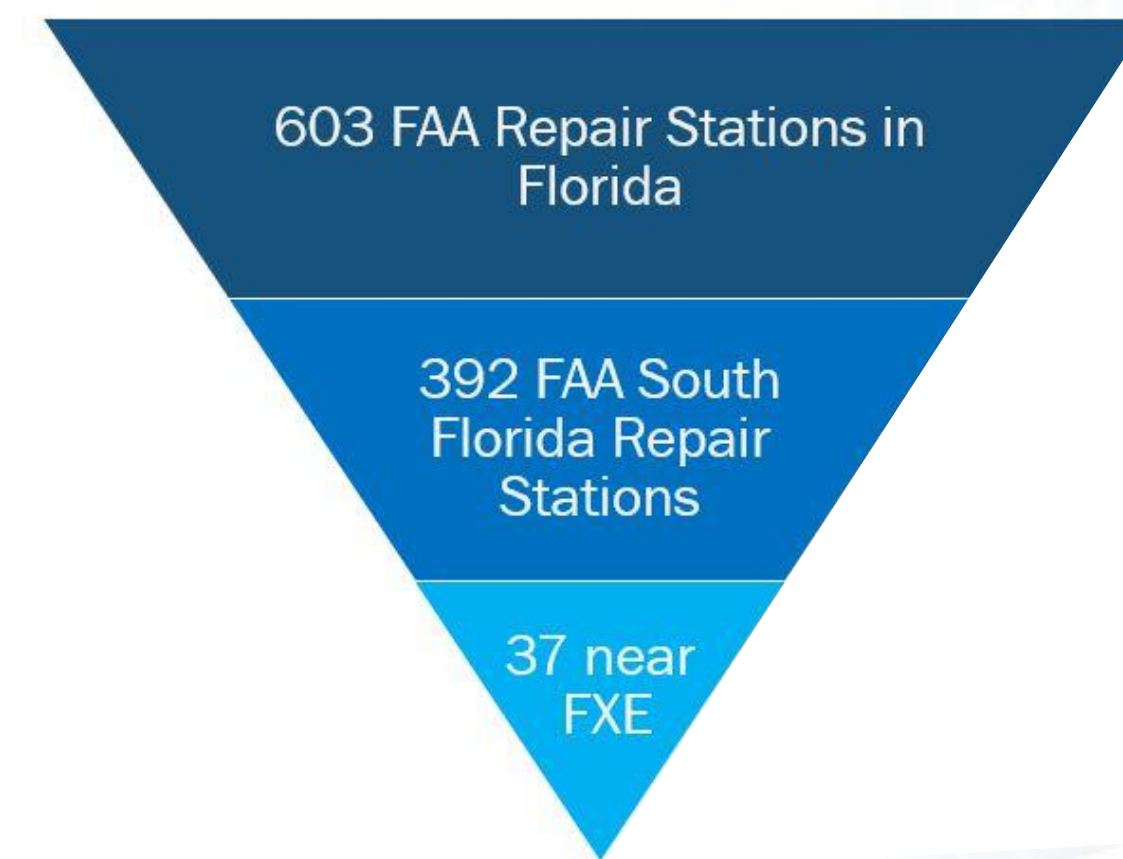
Future Trends

- Electric propulsion
- VTOL
- UAS/UAV/AAM
- Tech modernization
- Additive manufacturing

Challenges

- Cost of living
- Relocation cost
- GA vs Commercial
- Skill/worker shortage
- Aviation interest

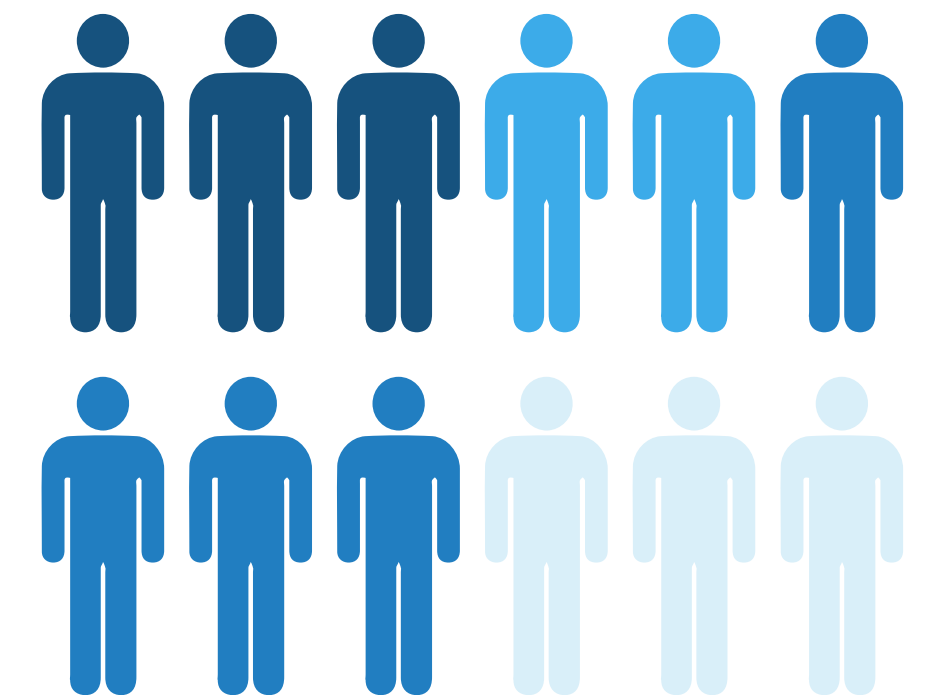
South Florida Repair Stations



Repair Stations

The volume of repair stations in south Florida signal the demand for trained mechanics in the region. There are 603 FAA repair stations in south Florida that collectively employee 12,227 people with the average repair station employing 31 people. There are 144 repair stations within 30 miles of FXE and 37 repair stations in close proximity to FXE.

12,227
Employees
Across South
Florida Repair
Stations





FINAL REPORT HIGHLIGHTS

**BASED ON FINDINGS FROM INTERVIEWS, FOCUS
GROUPS AND SURVEYS**

Study Participants

Industry Groups

Greater Ft Lauderdale Alliance
Beacon Council
Greater Miami Aviation Association
South Florida Aviation Maintenance Council
South Florida Business Aviation Association
South Florida Manufactures Association
Career South Broward
Space Coast EDC
South Florida Defense Alliance
+ 5 other industry groups

Aviation Companies

Spirit Airlines
Tropic Ocean Airways
National Jet
Heico
GA Telesis
Banyan Air Service
Duncan Aviation
GAMA Aviation
Florida Jet Center
+ 114 other aviation companies

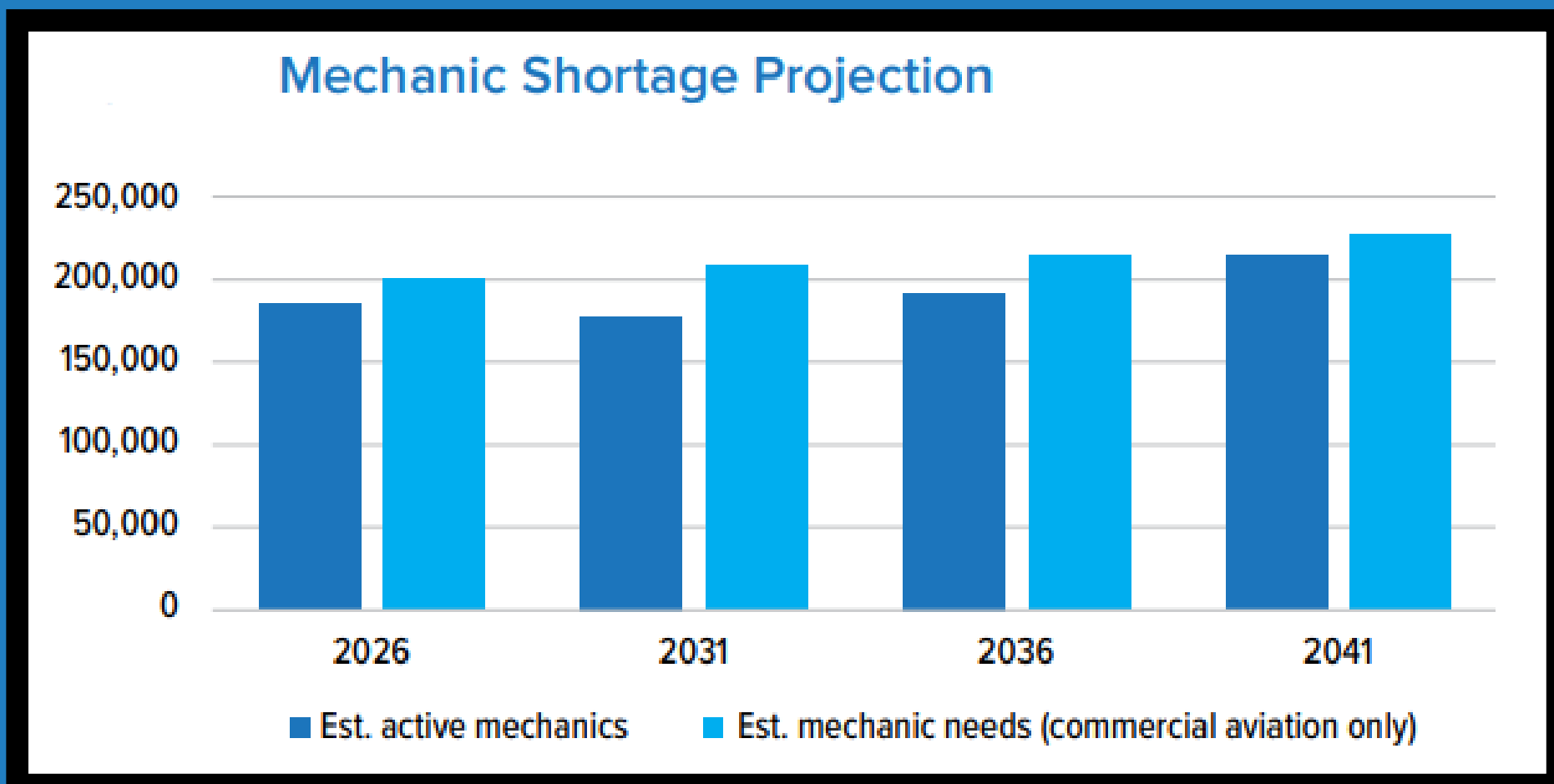
Educational Institutions

Broward College
Broward County Public Schools
Broward County Technical Colleges
Lynn University
Everglades University
Aviation Institution of Maintenance
Florida Memorial University
Flying Classroom
Museum of Discovery
Embry-Riddle Aeronautical University

TRAINING NEEDS

Aviation Technician

Line Service | Maintenance Helper |
Specialty | Aircraft Specific



- Industry is experiencing significant workforce shortage in skilled labor.
- Industry is unable to grow with workforce shortages.
- Opportunity for residents to gain training toward high skill and high wage careers.
- Potential for new companies to relocate to Fort Lauderdale.
- Preemptively prepare for future workforce needs.

Types of Training Needed

01

Non-certified aviation mechanics

- Apprentices, helpers, assistants to Airframe & Powerplant (A&P) technicians
- High School programs
- May articulate to college credit

02

FAA Certified Airframe and Powerplant (A&P) Technicians

- The only person that can work and sign-off on aviation repairs in the US
- Dual Enrollment articulation opportunity
- Multiple degree pathways exist

03

Specialized Aviation Maintenance Trained Mechanics

- Avionics, advanced materials, electric propulsion, system integration specialist
- Stand alone or scaffold training program
- May articulate to college credit

What is a FAA Airframe and Powerplant (A&P) Technician?

Federally certificated by the Federal Aviation Administration to work and sign-off on all US registered aircraft.

The only federally certified skilled technician available who is training in over 40 aviation technician skills that allows the technician to work on all aircraft systems, structure, and engines.

Skill set transcends aviation into multiple industries include power distribution, construction, manufacturing, automotive, marine, heavy machinery, etc.

In 2020, the FAA issued 30 percent fewer new mechanic certificates than it did in 2019. The average FAA mechanic is 53, 11 years older than the usual U.S. worker.

Boeing reports the **need for 626,000 additional aviation** maintenance technicians in the next **20 years**.



Current A&P Technical Training in Broward is Not Meeting Demand

FAA Part 147
Airframe and
Powerplant
Technician
School

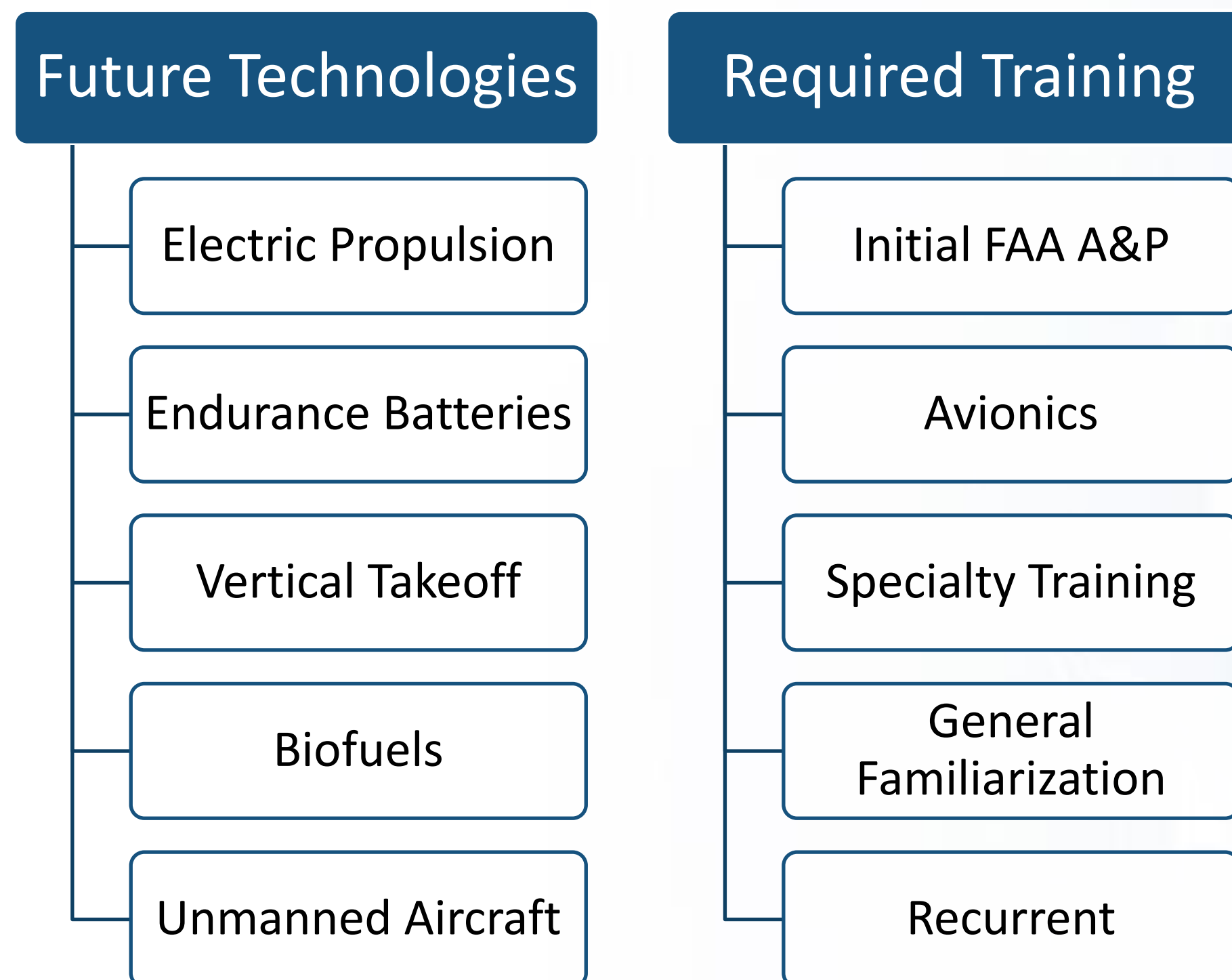
- Only 1 FAA approved school in Broward (Broward College)
 - Average 84 student graduates per year
 - 18 month program full-time
 - HS DE available – multiple degree pathways
 - 60 credits / 2,000 hours of instruction
 - Not currently offering training in:
 - Electric Propulsion
 - VTOL
 - UAS/UAM/AAM maintenance

Current Job
Postings in
Broward

- 217 current openings for at least 1 technician
 - Many companies post 1 job for multiple positions
- Jan 2021 to Jan 2022 – 2,810 unique job postings
- Broward seeing 20.6% job growth rate

Preparing to Meet Future Skill Requirements

Aviation technology is advancing at a rapid pace. The “future” technician must be able to not only work on legacy aircraft but become skilled in “new” technologies.



Failure to meet the current workforce training needs in Broward for aviation maintenance technicians will:

- Prevent local company growth
- Reduce the opportunities for company to consider Broward for relocation
- Likely result in companies relocating outside of Broward

Broward Impact

FAA Certified A&P technicians are in high demand

- 0 years work experience \$~25/hr
- 1-3 work years experience \$~30/hr
- 5-10 years work experience ~\$50/hr
- Wages are increasing due to lack on workforce and increase in cost of living

Result of lack of A&P technicians

- Companies have not been able to expand, unable to take new work
- Companies have available facilities and ramp, but must remain vacant due to insufficient workforce

Trained workforce spurs company relocation

- Determining factor for many companies looking to relocate
- Lack of available A&P technicians has increased the competition and cost for new hires

Non aviation demand for FAA Certified A&P technicians is strong

- Skillset of A&P technicians is in demand by numerous industries – manufacturing, electric, hydraulic, etc.
- NASCAR, Disney, NASA, SpaceX



OPPORTUNITIES FOR THE CITY OF FORT LAUDERDALE TO MEET INDUSTRY WORKFORCE NEEDS

Potential Roles for the City of Fort Lauderdale

Be a strong advocate for aviation education and commerce

Assist with partnership development

Assist with marketing, exposure, and recognition

Assist with identification and securing of funding

Assist with identification and securing resources and property

Provide direct assistance to programs (personnel, funds, location)

Program Opportunities

Program

Description

Impact

Aviation Career Awareness

Expand afterschool programming, in-school enrichment, FXE events. Targeted marketing for both students and industry.

Career Exposure

Short Term/Non-Certificate Training

Short term training programs in schools, community and corporate settings for specialized skill development and to promote job readiness.

Skill Training/Stackable

Dual Enrollment/Technical

Dual enrollment for high school students and adult technical education, leading to industry certificates.

Industry Certificates

Satellite Part 147-Aviation Maintenance

FAA authorized aviation maintenance training program (approximately 18 months), requiring work on actual aircraft and engines.

FAA Certificates-Maintenance

Aviation Technical Training Center

FAA certified training facility offering a range of industry certificates, including but not exclusive to maintenance. Can be a stand-alone facility or part of a hub.

Range of Industry Certificates & Skill Training

Example Part 147 A&P Schools in South Florida

George T. Baker Aviation Technical College

- Adjacent to Miami International Airport
- Operated by Miami-Dade County Public Schools
- 10-acre campus
- ~72,000 square feet
- FAA authorized for 1242 students



Broward College

- Ramp access to North Perry Airport
- Located on South Campus
- Two buildings
 - 99 is ~30,000 s/f
 - 90 is ~10,000 s/f
- FAA authorized for 225 students



Aviation Training Center / Hub



Range of Start-Up Expenses



Funding Opportunities Include

Direct funding | Government appropriation | Public Private Partnership | Grants & Philanthropic donations | Industry support

Next Steps

1

**Establish Commission
Direction**

2

**Formally Launch
Steering Committee**

3

Solidify Partners

**Finalize Program
Design and Budget**

4

**Pursue Funding
Opportunities**

5

**Contract
Implementation**

6

THANK YOU!

Questions?

INSTITUTIONAL RESEARCH
BROWARD COLLEGE®

Appendix

INSTITUTIONAL RESEARCH
BROWARD COLLEGE®

Opportunities for Fort Lauderdale to Support

Aviation Career
Awareness

Sort Term/ Non-
Certificate Training

Dual Enrollment/
Technical

Satellite Part 147 –
Aviation Maintenance

Aviation Technical
Training Center

- Model
 - After school program/ summer program
 - Aviation Day at FXE / other sites
 - Marketing for both students and industry
 - Example: Barrington Irving's Flying Classroom
- Required Resources
 - Location, Curriculum, Instructors, Materials
- Synergies
 - BCPS, Museum, Community Partners, Industry, Airport
- Timeline
 - Immediate launch opportunities
- SWOT
 - Easy to implement, not job ready, expansion of existing programs, current providers/programs available
- Projection
 - Additional locations, middle school, on-going marketing

Opportunities for Fort Lauderdale to Support

Aviation Career Awareness

Short Term/ Non-Certificate Training

Dual Enrollment/ Technical

Satellite Part 147 – Aviation Maintenance

Aviation Technical Training Center

- Model
 - Varied length of time (weeks, months)
 - Specific skill training
 - Stackable training
 - Example: Community/Corporate Education Course
- Required Resources
 - Approved programming, qualified instructors, equipment and materials, location
- Synergies
 - Colleges & technical schools, 3rd party training providers
- Timeline
 - Upon approved programming, contracts
- SWOT
 - Packaged programs available, apprenticeships, job ready graduates, specialized training,
- Projection
 - Provide at multi centers, including companies

Opportunities for Fort Lauderdale to Support

Aviation Career Awareness

Short Term/ Non-Certificate Training

Dual Enrollment/
Technical

Satellite Part 147 – Aviation Maintenance

Aviation Technical Training Center

- Model
 - DE program offered at High School, College, University
 - Example: Miramar High AMT at BC / ATC Avionics
- Required Resources
 - Approved programming, location, transportation, qualified instructors, equipment and materials
- Synergies
 - Colleges, Universities, BCPS, Museum
- Timeline
 - Upon approved programming, start of semester or school year – 3-6 month lead time
- SWOT
 - Current models in place, transportation can be costly, can infuse into existing DE subjects, industry certs
- Projection
 - Potential implementation at all HS
 - Easily replicated, build job path to specific companies

Opportunities for Fort Lauderdale to Support

Aviation Career Awareness

Short Term/ Non-Certificate Training

Dual Enrollment/ Technical

Satellite Part 147 – Aviation Maintenance

Aviation Technical Training Center

- Model
 - FAA authorized aviation maintenance training program
 - Students required to work on actual aircraft and engines
 - Approx. 18-month program
 - Example: No direct model exist – Coming May 2022 from FAA
 - College degree program offered at a high school for adults at night
- Required Resources
 - Substantial: Space, equipment, materials, FAA certified instructors
- Synergies
 - BC, other Part 147 schools, MRO/OEM partnership
- Timeline
 - 1-2 year lead time (requires FAA to approve new regulations)
- SWOT
 - Students graduate with FAA certs, requires FAA approval and ongoing inspections, provide training to students in north Broward and Palm Beach, Requires an existing FAA Part 147 school, not available until FAA approves updated regulations (potentially May, 2022)
- Projection
 - Meet students needs in central to north Broward, Segue into full FAA Part 147 program

Opportunities for Fort Lauderdale to Support

Aviation Career
Awareness

Short Term/ Non-
Certificate Training

Dual Enrollment/
Technical

Satellite Part 147 –
Aviation Maintenance

Aviation Technical
Training Center

- Model
 - FAA certificated training facility
 - Stand-alone school or part of hub of training
 - Students can articulate to degree programs
 - Example: George T. Baker Aviation Technical College / BC Miramar Campus
- Required Resources
 - Significant: Land, facilities, equipment, materials, functional system, accreditation
- Synergies
 - Potential new educational and MRO/OEM partner, BCPSTimeline
 - Lead time 2-3 years
- SWOT
 - Single location/responsibility, expensive, long lead time, provide multiple training programs, central training location, federal approval required, substantial funding, interrelated with other aviation training programs
- Projection
 - After start-up, central aviation training provider