

Engineering Management
Field Project

**Business and Marketing Plan for
XXXX Engineering**

By

Steve Stratton, PE

Master of Science

The University of Kansas

Spring Semester, 2010

An EMGT Field Project report submitted to the Engineering Management Program and the Faculty of the Graduate School of The University of Kansas in the partial fulfillment of the requirement for the degree of Master's of Science

Linda Miller
Committee Chairperson

Terry Flanagan
Committee Member

Tim Wilcoxon
Committee Member

Date Accepted: _____

TABLE OF CONTENTS

Acknowledgements

Executive Summary

I. Introduction

II. Company Background

1 Strategic Review

- a) Industries
- b) Clients
- c) Strengths
- d) Weakness
- e) Competition
- f) Strategic Intent
- g) Strategic Goals
- h) Branding

III. Ownership

IV. Marketing Plan

1 Market Review

- a) Financial Overview
- b) Company Analysis

2 Customer Review

- a) Customer Demand
- b) Customer Needs
- c) Customer Database

3 Assumptions/Risks, Competitive Advantage

- a) Assumptions/Risks
- b) Competitive Advantage

4 Forecasts

5 Value Equity

- a) Goals and Objective
- b) Strategies
- c) Value Proposition

6 Relationship Equity

7 Controls and Monitoring

V. Summary

VI. Suggestions for Future Work

References

Appendix

- 1. Phone interview questions to civil engineer firms.
- 2. Phone interview questions to general aviation airport
- 3. Income Statement
- 4. Start-up Cost and Expenditures

Figures

1. Number of Exiting Airport by Ownership and Use.
2. NPIAS Airports and Classifications
3. Kansas Airport Locations and Classifications
4. Missouri Airport Locations and Classifications
5. NPIAS Cost By Airport Type
6. Five Year Development Estimates from Published NPIAS Reports to Congress
7. Change in Development Cost from 2007 Published NPIAS Reports to Congress

ACKNOWLEDGEMENTS

First I would like to thank my wife, Tami, and my kids for there support and encouragement in this long process. All of you have made great sacrifices in order for me to accomplish this goal. Every time I look at my diploma I will think of you and all that you have done for me.

Second I would like thank all the faculty of the Engineering Management Program. I would like to thank Linda Miller for all her guidance over this last year. I would also like to thank Terry Flanagan and Tim Wilcoxon for being part of my final project.

EXECUTIVE SUMMARY

XXXX Engineer is a proposed Veteran Owned Electrical Engineering Firm that specializes in Aviation Lighting Design. Aviation Lighting Design includes runway lighting, taxiway lighting, guidance signs, approach lighting system and siting of Navigational Aids (NAVAIDS). The owner of XXXX Engineer will be Steve Smith, PE. Mr. Smith has over 15 years of experience in the Aviation Lighting design. Mr. Smith is a Veteran of the United States Navy. XXXX Engineering will employ an additional engineer and one design detailer. The proposed staff has over 15 years experiences in this field. XXXX Engineering will be located in Overland Park Kansas.

XXXX Engineer will provide electrical design services for all areas of aviation lighting. XXXX Engineering will strive to be the recognized leader in Aviation Lighting Field.

XXXX Engineer will provide a vital service to Civil Engineering Firms and General Aviation Airports. With our small business status, XXXX Engineering will be able to assist Engineer Firms in making their goals for small business participation. XXXX Engineering will provide individual airports an avenue to maintain their lighting system.

The business plan for XXXX Engineering will demonstrate a strong market in the aviation industries with expected growth each year. But over the past eighteen months, the changes in the economy have created a situation where the anticipated funds for (federal) fiscal year have not been appropriated. Even though XXXX Engineering would provide a needed service as a Veteran Owned Business to many engineering firms with federal contracts, until the funding issues are resolved with the FAA, it would not practical to start a business at this time.

Currently the FAA has a continuing resolution is in place as an interim measures to fund existing grant. Along with the impact of the economy on the federal government, local and state governments are having budget issue that will affect future project. In recent week the Kansas Department of Transportation and the Missouri Department of Transportation has cut funding due to a budget short fall.

I. INTRODUCTION

The field project is a marketing plan for a start up veteran owned engineering firm called XXXX Engineer. XXXX Engineering will provide electrical engineering services in the aviation lighting market. XXXX Engineering will provide it services in Missouri and Kansas. XXXX Engineering will provided work national if contacted by another engineering firm to be a member of their team.

XXXX Engineering will provide service to engineering firms, general aviation airport and Military. The services will include design, construction overview and maintenance services.

II. COMPANY BACKGROUND

XXXX Engineering is a proposed Veteran Owned Electrical Engineering design firm that specializes in the design and maintenance of airfield electrical systems. XXXX Engineering will be Limited Liability Company (LLC). XXXX Engineering will provided specialize design services for all aspects airfield electrical systems, including runway and taxiway lighting, approach lighting systems, and Airfield Lighting Control and Monitoring Systems (ALCMS). Upon completion of the project, XXXX Engineer will provided maintenance program to help maintain the airport's electrical systems

XXXX Engineering will be based in Overland Park, KS and will provide its services to various airports, Military, and Civil Engineering firms in the states of Kansas and Missouri. XXXX Engineer will utilize its status as a Small Business to support larger firms in making their small business goals on federal projects. XXXX Engineering will employ, along with me, one additional Registered Engineer and a CAD technician/designer.

1. Strategic Review

XXXX Engineering is a start up small business that will provide our customers with engineering services and construction services for airfield electrical project. After the completion of the project, XXXX Engineering will provide the General Aviation Airports with a maintenance program for maintaining their airfield lighting system.

a. Industries:

XXXX Engineering is in the Aviation Construction Industries. There is the potential for great growth. The federal government (FAA) provides yearly funding to these airports with the Airport Improvement Program (A.I.P) and Stimulus Bill projects.

b. Clients:

XXXX Engineering will have three types of client, Military, Civil Engineering firms and General Aviation Airport.

First, XXXX Engineering will need to market to civil engineering firms that do not have electrical engineer departments or no electrical engineer with airfield lighting experience and Civil Engineering Firms that will need to meet small business contracting goals.

The second group of clients will be the airports themselves. Smaller airports do not have full time electrical maintenance department or people dedicated to the airport. They use city electricians or hire local electricians when there is a problem at the airport. These electricians usually do not have experience in airfield electrical systems. Part of the services will provide for these airports with a maintenance program for their new airfield electrical systems. We will provide training to those airports that have electricians on staff or contractor, on all the components of their systems. If the airport does not an electrician available, we provided electricians to perform the maintenance.

The third group is the US. Military, Corp of Engineers, center of technology for Airfield design is located in the Omaha, Nebraska. They control design and construction contracts for military airfields.

d. Strengths:

XXXX Engineering is very knowledgeable in the Airfield Electrical field. We are members of the IES Aviation Lighting Committee and have been in this field for over 15 years. We will be a Veteran Owned Business; this will assist larger firms to meet their small business

subcontracting goals as required by the federal government and allow us to compete for small business set aside projects.

Prime contractors and design firms awarded federal contracts are required by federal regulations to develop plans and goals for subcontracting with small businesses, including, veteran owned small business, woman-owned small businesses, Historically Underutilized Business Zone (HUBZone) small businesses, and service-disabled veteran-owned small businesses.

To be qualify as a Veteran-Owned Business (VOB) Business, the business must meet the requirements as a Small Business and it must be at least 51% owned and controlled by a U.S. Veteran or Veterans possessing a discharge other than dishonorable. A VOB will need to be registered with [SBA Veterans' Program](#) or [SBA Pro-net](#) to provide the certifications.

f. Weakness:

We are a start up engineering firm with no active clients. Also, at this time we don't have any electrician on staff. We will need to hire one electrician to be able to market to airports. For the maintenance of airport, we are not local to the airport. We will need to provide fast responses to the airport.

h. Competition:

1. Design:

We will have to compete against larger firms that can provide both the civil and electrical design under one company and small electrical firms that provided electrical services. These companies include:

- Burns & McDonnell

- HNTB
- Bucher, Willis and Ratiff, (BWR)
- Aviation Alliance (Women Owned Business).
- Coffman & Associates
- PEC
- HDR
- TranSystems Corporation
- Olson & Associates

2. Maintenance:

Local electrical contractors that are providing services to the airports.. The manufacturers (Siemens, Crouse-Hinds) provide a training class to airport maintenance personnel. Locally, Capital Electrical provides on-call maintenance service for Kansas City Airport Authority and Johnson County Airports.

i. Strategic Intent:

To provide electrical engineering services to civil engineer companies and to provide airports the capabilities to maintain their equipment.

j. Strategic Goals:

We plan to start out first in the Kansas/Missouri Airports. Then grow to Nebraska and Iowa (FAA Central Region). We also plan to market to Corp of Engineer in Omaha, Nebraska

k. Branding:

Our brand will be to provide quality service from the start of your airport lighting project to the completion and beyond. As a start-up business we will need to complete projects for a brand to become effective in soliciting new work.

III. OWNERSHIP

Mr. Smith will be the sole owner of the XXXX Engineer. Mr. Smith, a veteran of the United States Navy, has over 15 years of experience in electrical engineering and airfield electrical design. Mr. Smith is a Registered Profession Engineer in Kansas, Missouri, Georgia, New Jersey, Wyoming, Maine, and Tennessee. Mr. Smith has been involved with all aspects of the design and construction processes including the coordination of grant requirements between the Owners and Federal Aviation Administration (FAA). Mr. Smith is a member of the Illuminating Engineering Society (IES) Aviation Lighting Committee. Mr. Smith recent projects in electrical airfield design included.

- Hays, Kansas
- New Century Airport, Johnson County, Kansas
- Garden City, Kansas
- Jefferson City, Missouri
- Eldon, Missouri
- Ft. Riley, Kansas
- Branson, Missouri
- Kansas City International Airport, Kansas City Missouri
- Wheeler Downtown Airport, Kansas City, Missouri
- Memphis International Airport, Memphis Tennessee

IV. MARKETING PLAN

1. Market Review

The market our company is going to operate in is the Airport Design and Maintenance market segment of the Transportation Industry. We are going to concentrate on the design and maintenance of airfield electrical systems including: runway and taxiway lighting, guidance signage and Navigational Aids (NAVAIDS).

There are 19,847 airports in the United States. Figure 1, shows the number and classifications of airports in the United States.

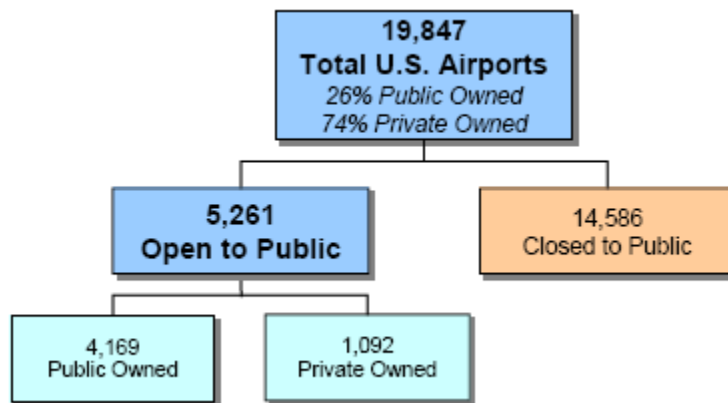


Figure 1. Number of Existing Airports by Ownership and Use

(Furnished by NPIAS Report to Congress (2007-2011))

Of the 19,847 airports, the National Plan of Integrated Airport Systems (NPIAS) has identified 3,411 airports that are significant to national air transportation and are eligible for to receive grant money from the Federal Aviation Administration (FAA) Airport Improvement Program (AIP).

The Airport Improvement Program (AIP) provides grants to public agencies---and, in some cases, to private owners for the planning and development of public-use airports that are included in the NPIAS. Grant amount varies from 75% of the cost of the project for large and medium airports to 95% of the small primary, reliever and general aviations airports.

The NPIAS classifies the airports into the following categories: Primary, Commercial Services, Relievers and General Aviations. Figure 2, breaks down the 3,411 airport into their respective categories. Our company will focus on the State of Kansas and Missouri. In Kansas, there are 80 AIP eligible airports, 3-Primary, 4-Relievers, 5-Commercial Services and 68-General Aviation. In Missouri, there are 77 AIP eligible airports, 5-Primary, 6-Relievers, 2-Commercial Services and 64-General Aviation. Figures 3 and 4 shows the locations of these airports.

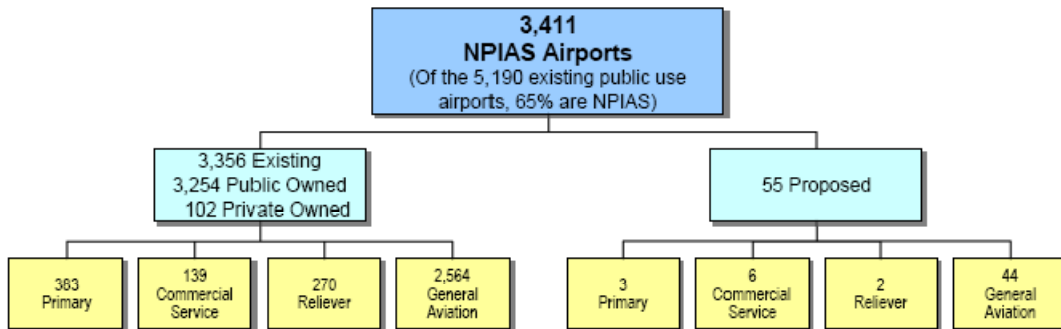


Figure 2. NPIAS Airports and Classifications

(Furnished by NPIAS Report to Congress (2009-2013))

Kansas

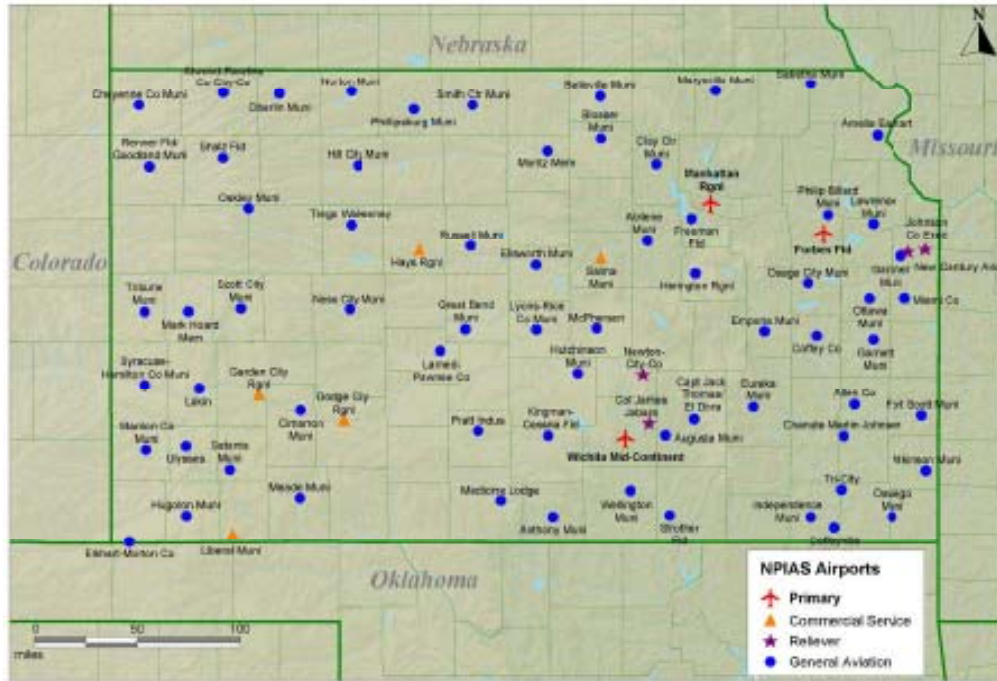


Figure 3. Kansas Airport Locations and Classifications

(Furnished by NPIAS Report to Congress (2009-2013))

Missouri

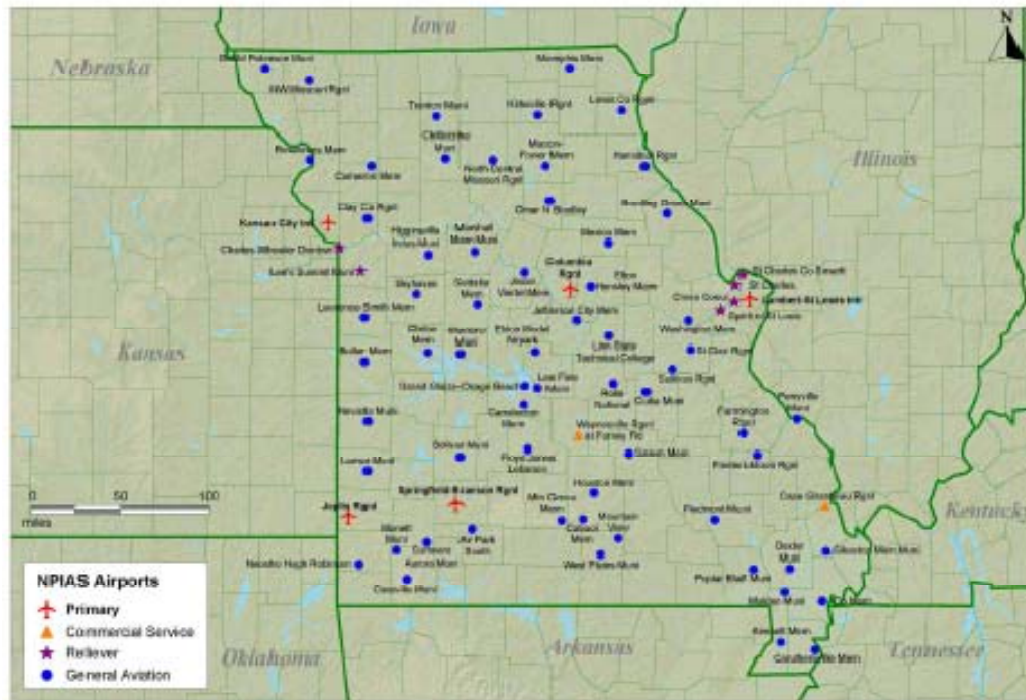


Figure 4. Missouri Airport Locations and Classifications
(Furnished by NPIAS Report to Congress (2009-2013))

Eligible projects include those improvements related to enhancing airport safety, capacity, security, and environmental concerns. In general, sponsors can use AIP funds on most airfield capital improvements or repairs except those for terminals, hangars, and non-aviation development. Any professional services that are necessary for eligible projects such as planning, surveying, and design are eligible as is runway, taxiway, and apron pavement maintenance. Aviation demand at the airport must justify the projects, which must also meet Federal environmental and procurement requirements.

a) Market Financial Overview

The NPIAS has updated there estimated from their 2007 report it is estimated between 2009 and 2013, there will be \$49.7 billions of AIP eligible project. The NPIAS has broken the estimated funding based on the airport type, see figure 5.

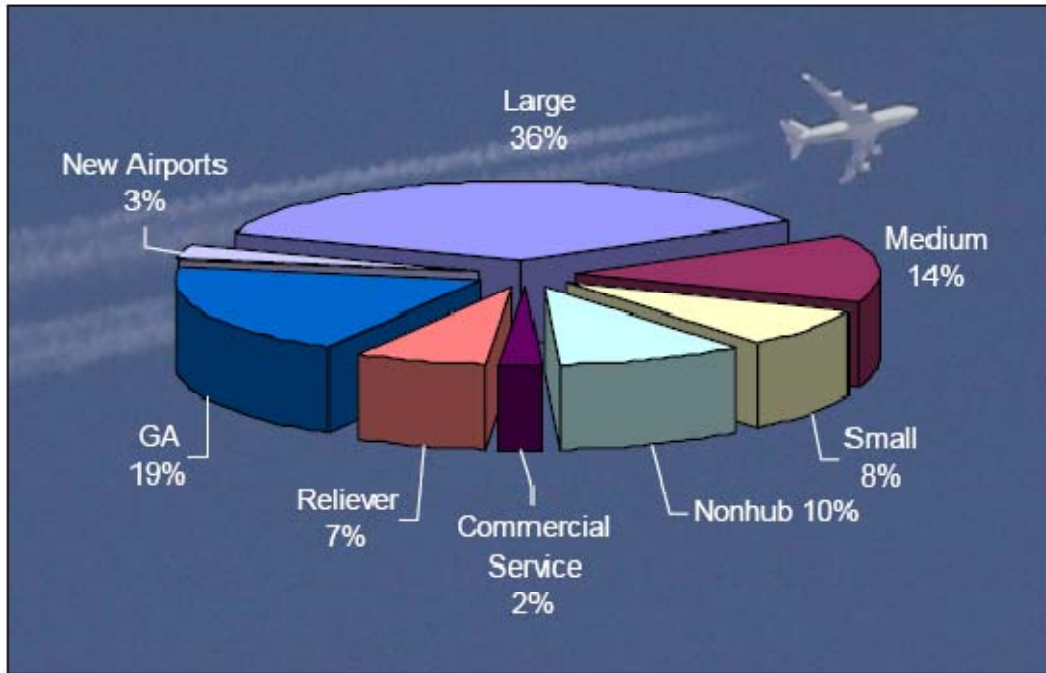


Figure 5. NPIAS Cost by Airport Type

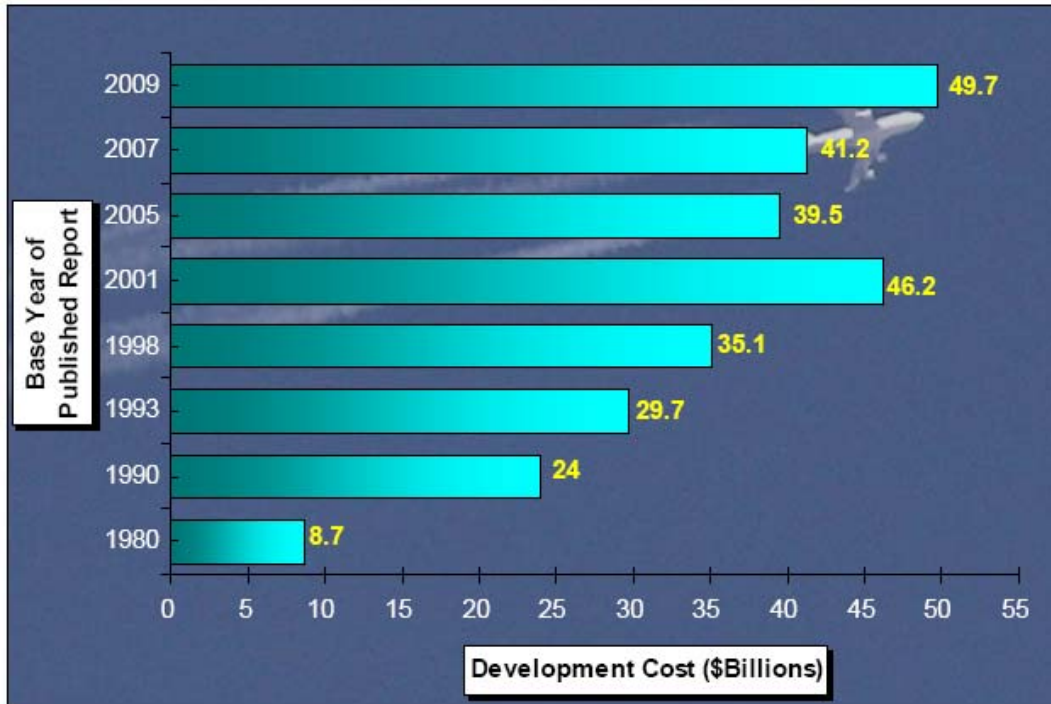
(Furnished by NPIAS Report to Congress (2009-2013))

Based on the type and number of airports in Kansas and Missouri, of the \$49.7 billion approximately \$1.2 Billion is estimated for Kansas and Missouri airports. Of that total approximate 2.5% or \$30 Million will be used for airfield lighting, signage and NAVAID projects.

b) Company Analysis

XXXX Engineering is a start-up company and there is no past or current performance information available. Based on the current forecast of this industry and the unique services that we are providing, our company will do well and it is worth time and effort to pursue the market.

The industry and our market do meet into the goal of our company. Over the next five years the Federal Aviation Administration plans on spending \$49.7 billion in AIP eligible projects. Based on previously published reports, the FAA will continue to fund the AIP program and will increase the amount funded each period. The following figure that was provided in the NPIAS Report to Congress (2009-2012) report shows this steady increase funding in this market segment, see figure 6. Figure 7 shows the increase in funding from 2007 to 2009 per Airport type.



Note: Costs are not adjusted for inflation, they reflect the estimated cost at the time the report was prepared.

Figure 6. - Five Year Development Estimates from
 Published NPIAS Reports to Congress
 (Furnished by NPIAS Report to Congress (2009-2013))

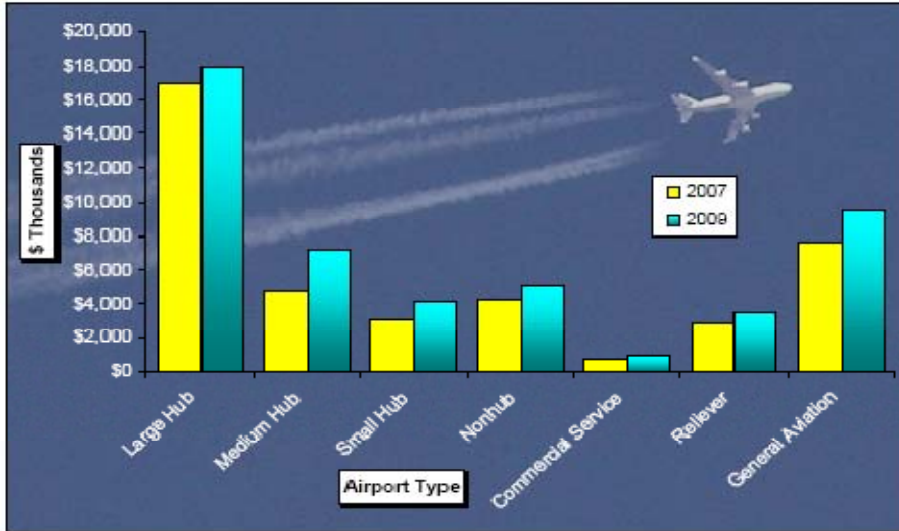


Figure 7. – Change in Development Cost from 2007

Published NPIAS Reports to Congress

(Furnished by NPIAS Report to Congress (2009-2013))

2. Customer Review

Our company has three distinctive clients or customers. The first are the airports, we will market our service directly to the airports themselves. The second are engineering firms that specializes in airport designs. The third will be Military. Our clients are separated into three categories: Ultimate, Intermediate and Feasible.

For the individual airport, the ultimate are the total number of the airport in the two state regions. The intermediate customers are the larger airports in the region; these will include the primary, commercial and reliever airports, and feasible airports are the general aviation airports. For the airport, their signification problem is how they come up with their matching funds for their projects. The A.I.P. program funds only 95% of the project so the cities need to fund the remaining 5%. This is a challenge for some smaller city to achieve. In addition, there is rising support in the House of Representatives and the Senate to change the sponsor matching

contribution from 5% to 10%. If this is approved, it would result in a significant financial impact to general aviation and small commercial airports. As a result, there may be drivers put in place to obtain funding from state sources in lieu of federal sources. It will be the consultant's challenge to work with the customer's financial planners and help develop strategies to complete projects within available programmed funds.

For the engineering firms, the ultimate customers are the total number of engineering firms in the states of Kansas and Missouri. The intermediate customers are firms that do civil airport design work and the feasible firms are those firms where we know each other through previous projects. Engineering firms have the same opportunities as our company, in that the federal government has been funding projects in this area consistently

For Military the ultimate customers include all branches of the military, The intermediate customers will be the Naval Facilities Engineering Command (NAVFAC), which handles contracting and construction for the US Navy, and US Army Corp of Engineers (COE), which handles the contracting and construction for the US Air Force and Army.

a) Customer Demands

1 Airports

- a. Ultimate Customers: There are 157 A.I.P. eligible airports in the states of Kansas and Missouri.
- b. Intermediate Customers: Of the 157, 25 are a primary, reliever or commercial service airport.
- c. Feasible Customer: There are 132 General Aviation airports. Of the 132 airports, we have worked with 40 airports with past employers.

2 Engineering firms

- a. Ultimate Customers: there are over 500 engineer firms in Kansas and Missouri.
- b. Intermediate Customers: There approximately 20 firms provided civil engineering services in Kansas and Missouri
- c. Feasible Customer: Of those 20 firms, we have worked with five with past employers.

3 Military

- a. Ultimate Customers: All the branches of the services, including the Air National Guard, US Navy, Army and Air Force.
- b. Intermediate Customers: NAVFAC which handles the contracting and construction for the US Navy. The COE which handles the contracting for the US Army and US Force.
- c. Feasible Customer: The COE my feasible customer. The COE bases their airfield design group out of the Omaha District. All airfield work that is performed by the US Air Force and US Army is contracted from this district office.

b) Customers Needs

As part of this report phone interview were conducted with various engineering firms. For this report, total of 15 engineering firm were interviewed. They arranged for larger regional firms to small local firms. A copy of the questions asked included in Appendix 1. The main need for the local engineering firms is another avenue for meeting their Small Business goals and requirements set by their contacts. Currently most firms subcontract with local surveying or geo-

tech firms as their only option to meet the small business subcontracting goals. One local firm responded that they did contract with a local small business for the electrical work on two recent projects. But the firm did not have the expertise in airfield lighting and they were looking other options. For the fiscal year 2010, the FAA has the following goals for Small Business Subcontracting (1).

- Small Business – 45%
- Socially & Economically Disadvantage – 10%
- Women Owned – 5%
- Disabled Veteran Owned – 3%

I conducted a similar phone interview with airports managers in both Kansas and Missouri. Total of 10 airports were contacted. The question asked can be seen in Appendix 2. Currently most airport do the daily maintenance on the lighting systems, example of work performed are changing out light bulbs. If their lights systems currently goes down, most airport contact their local city work forces to trouble shoot and repair their lighting system. One city responded that they have local electrical contractor that they have on-call contract with. Another city has as a local electrical contractor on-call to assist their airport maintenance group. Time is critical to all airports. The airports want the trouble shooting and repair to start as soon as possible for safety of their clients and possible loss of revenue. Many airports responded positively on the need for training. They stated that they do not have the budgets to send their city electrician to the manufacturer training sites.

c) Customer Database

Our company is currently developing are database for our customers. Currently for the airports, we are using information obtained by the NPIAS Report to Congress for client

information. Our database for airport customers will track, future project and estimated construction cost, completed projects types and cost, dates of projects completions, engineering firms that designed the projects, and contractors that completed the project.

Our engineering database will need to include, name of airports where they have completed project, types of projects completed, and cost of projects. We also will track if the individual airports were satisfied with the work that firm provided them.

To assist has in the adding names to our database we reviewed the NPIAS reports, review airport master plans, and attended airport conferences.

3. Assumptions, Assumptions/Risks, Competitive Advantage

a) Assumptions and Risks

The one assumption made in our marketing plan is that the federal government will continue to fund the A.I.P program with the steady growth as in the past.

The risks associated with this market are. First, the federal government will cut funding to the A.I.P. program. Currently for this year the FAA has not approved their budget and our working under a continuing resolution. Many of the next year grants have not been approved. Second, the individual airports will not be able to fund their associated matches and the projects would not be completed. A final risk is that individual engineering firms will do the electrical work in-house.

b) Competitive Advantage

Our company' competitive advantages are the following:

- Small Business: Our firm will be able to offer traditional firms our service as a small business to help meet there small business contracting goals.
- Business and Personal Relationships with customers with past employers

- Experience (recent and past) on similar type projects
- Capacity to perform all elements of the project work
- This is not a new market for our company. We are familiar with the customer environment and the competition surrounding it. We understand how the market sector operates.

Our customers desire the project to be done Faster. Funding allocations are generally available any time after October 1 with this, the design must be completed and the project bid and award so the construction can start in late April or early May.

4. Forecasts and Sales

In order to be profitable, the first year's sales would need to be \$468,000. This sales number reflects the salaries of the three employees and a 1.8 multiplier for overhead. Overhead will include, marketing cost, employee benefits and general operation expenses. An income statement is provided in Appendix 3. The market demand continues to present some opportunities despite the lack of a fully funded reauthorization bill. Design fees for these projects will typically range from \$15,000 to \$50,000. Based on the above fees for our projects, XXXX Engineer would need to sell approximated 9 to 16 projects a year. With the current state of the economy, XXXX Engineer could not sell the required projects to be profitable the first year of business

5. Value Equity

a) Goals and Objectives

Our company's goals and objectives are to improve our position in the market by adding "value" to our customers is:

- Provide a one-day seminar to airport personal on airfield lighting maintenance issues. We will discuss required maintenance on each system. We will also go over trouble-shooting techniques to help get their systems back up and running quickly when their systems go do. When their lights do not work, planes cannot land and they do not make money.
- Provide a one-day seminar to engineering firms discussing the changes to the FAA Advisory Circulars. Over the last, two years the FAA has completely revamped their advisory circulars on airfield lights.
- Develop a Window based spreadsheet that will help assist airport personal, schedule and record routine maintenance. This spreadsheet can be used as an everyday tool for the airports.

These first goals are the initial goals of our company. As our company grows and matures, our goals and objective will be reevaluated accordingly.

b) Strategies

The following strategies will be employed by our company to achieve our first initial goals.

- To achieve this first goal, our company will offer two seminars, one for Kansas and one for Missouri airports. We will schedule, these seminars for the day either before or after the annual airport meetings for each individual state and hold them at the same location of these meetings. By tying our schedule, with these annual meetings, we hope will increase participation among the airports. We know the airports have very limited budgets for training so this way we can add know value to the airports at very little cost to our company.

- To achieve this goal, again we will schedule around a know event. For this seminar will well schedule with the FAA Central Region Conference. We will offer our class to engineering firms the day before the conference and will be held at are office. To add additional value to our clients, we will register the class with both engineering boards to ensure the attendees will get credit for the continuing education requirements.
- The third goal will be more difficult to achieve. The first objective is to develop the spreadsheet. This will need to be accomplished by early 2008. When this is completed, we will offer to one client as beta program free of charge. This will allow us to fine tune the spreadsheet as well as given the add value to one of our clients. The spreadsheet will be completed and ready by the first quarter of 2009.

c) Value Proposition

Our company's value position is to provide more for more. Our company will have two value propositions one for the airports and the second for the Engineering firms we will work for. The first value proposition is for our Airport client.

“Provide our clients with high quality engineering services and the knowledge to maintain their airports in a manner that enhances their customer satisfaction”

Our second value proposition is directed to the individual engineering firms.

“Provide high quality electrical engineering service to our clients to increase their customer satisfaction and help them succeed.”

5. Relationship Equity

Since our company is new, we do not have current relationships with customers as a company, but with our previous employer, we have relationships with the airports in Kansas and Missouri. We have established good relationships with these airports over the last nine to ten years working with our previous employers. In most cases, the customers with our previous employers are satisfied with our services and would be most like to continue a relationship with our new company.

Also with our previous employer, we have established relationships with various Corp of Engineering Districts including the Omaha District. The Omaha District is the technical center for the airfield lighting is located.

As for the engineering firms, our company does not have any customer type relationships with them. Our firm will need to work hard to develop these relationships, since we have been competitor with my previous employer. Our company will start developing these relationships.

The relationship sales model that we are going to implement is the “Seller-Doer”. Since our business is just starting out we will need to find the work, complete the work and maintain the relationships with the client.

The “Seller-Doer” model is very appropriate for our clients. Most of the airport clients are small towns or cities and they want to deal with the people that are actually going to do the work for them. When they are comfortable with the actual engineers doing the work then the relationships will strengthen.

Our company will respond to both for RFP and RFIs. Our company will limit the RFP and RFI's to the following limits.

1. For private airports, the work will need to be located with the states of Kansas and Missouri, unless we are requested by an engineering firm to be on their team for a proposal outside our region of operations.
2. For the Corp of Engineering, will respond to RFP that are set asides for small business, unless we are requested by an engineering firm to be on their team.

Our company will incorporate our brand message and value propositions into the introduction of the submittals. It is important that we are very carefully including all the information the clients are looking for also.

For unsuccessful proposal, we will request an individual debrief with the client. We will go over the reason why they did not choose our company for our project. We will discuss with them what they felt our strengths and weakness were.

The types of marketing communications our company will use are personal selling and trade shows. Personal selling and trades shows will be the most effective way to market our company. We will need to meet so they know who we are when we send them proposals.

6. Control and Monitoring

To monitor our marketing plan and sales goal we will monitor the number of projects that we been award and the total number of sales per quarter of the fiscal year. We will employ a spreadsheet to track are progress.

V. SUMMARY

The business plan for XXXX Engineering has demonstrated a strong market in the aviation industries with expected growth each year. But over the past eighteen months, the changes in the economy have created a situation where the anticipated funds for (federal) fiscal year have not been appropriated. Even though XXXX Engineering would provide a needed service as a Veteran Owned Business to many engineering firms with federal contracts, there are too many unknown at this time with the state of the economy. Until the funding issues are resolved with the FAA, it would not practical to start a business at this time.

Currently the FAA has a continuing resolution is in place as an interim measures to fund existing grant. Along with the impact of the economy on the federal government, local and state governments are having budget issue that will affect future project. In recent week the Kansas Department of Transportation and the Missouri Department of Transportation has cut funding due to a budget short fall.

VI. SUGGESTION FOR FUTURE WORK

Future work for XXXX Engineering business plan is to continue to monitor the economy and its recovery over the next year. As the economy improves, a more detailed financial analysis will need to be completed with refined numbers to validate the profitable of XXXX Engineering.

Reference

- (1) <http://www.sbo.faa.gov/sbo/GoalsDisplayDetails.cfm>
- (2) NPIAS Report to Congress (2009-2013)

Appendix 1

Phone Interview Questions to Civil Engineer Firm

1. Does your firm currently do work for General Aviation Airports?
2. Does your firm do the electrical design associated with the project?
3. Does your firm have a small business plan and goals that your firm must meet?
4. What type of service does your firm currently subcontractor to meet your goal?
5. Do you have a need for other options to meet your firm's goals?

Appendix 2

Phone Interview Questions to General Aviation Firm

1. How does the airport perform on their lighting systems currently?
2. Has the airport staff had training on our lighting systems?
3. If there is an unexpected outage at the airport, how do you deal with it?
4. Do you have a time issue when repairing the lights system?

Appendix 3

Estimated Income Statement for XXXX Engineer

Revenues	2011
Net Sales	<u>\$468</u>
Cost and Expenses	
Salaries	\$260 (see Note 1)
Marketing	\$ 20
Administrative/Overhead	\$168 (see Note 2)
Liability Insurance	\$ 5
Initial Start-up Cost	\$ 15
Total Cost and Expenses	<u>\$468</u>
Income Before Income Taxes	(\$0)
Income Taxes	0
Net Income (Loss)	(\$0)

Dollars in \$1,000

Notes

1. Includes salaries for three full time employees.
2. Includes payroll taxes, employee benefits and general operating expenses.

Appendix 4

Start-up Costs and Expenditures

Start-up Expenditures

- | | |
|----------------------|---------|
| 1. Rent Deposit | \$1,200 |
| 2. Utilities Deposit | \$ 100 |

Total Expenditures **\$1,300**

Start-up Expenses

- | | |
|----------------------------|---------|
| 1. Accounting Fee | \$ 200 |
| 2. Legal & Consulting Fees | \$1,000 |
| 3. Office Supplies | \$ 500 |
| 4. Misc. Start up Expenses | \$2,000 |

Total Start-up Expenses **\$3,700**

Capital Expenditures

- | | |
|----------------------|---------|
| 1. Computer Hardware | \$5,000 |
| 2. Computer Software | \$5,000 |

Total Capital Expenditures **\$10,000**

Total Start-up Costs and Expenses **\$15,000**