

MINUTES OF THE SENATE COMMITTEE ON COMMERCE.

The meeting was called to order by Chairperson Senator Karin Brownlee at 8:30 a.m. on February 12, 2002 in Room 123-S of the Capitol.

All members were present except: Senator Lynn Jenkins (Excused)

Committee staff present: April Holman, Legislative Research
Norman Furse, Revisor of Statutes
Sherman Parks, Revisor of Statutes
Lea Gerard, Committee Secretary

Conferees appearing before the committee: Ken Daniel, Chairman National Federation of
Independent Business
David R. Downing, NASA Small Airplane
Transportation Program

Others attending: See attached list.

Chairperson Brownlee welcomed Ken Daniel, Chairman and CEO Midway Sales & Distributing and Chairman, National Federation of Independent Business (Attachment 1). The National Federation of Independent Business (NFIB) represents 6,800 small and independent businesses in Kansas. Mr. Daniel stated that some of the key issues that need to be addressed for the survival of small businesses in the State of Kansas are high taxes, complicated regulations and health insurance mandates. Small businesses provides employment to 53% of the private work force and generates 51% of the gross national product.

The Committee questioned Mr. Daniel if he had any specific recommendations they should consider to address the rising costs of health insurance. Ken Daniel stated the legislators need to make it as easy as possible for small businesses to have group insurance. There was a law passed in 1994 that made it very difficult for new small groups to start a health insurance group. The exception to this is the Wichita Independent Business Association, with 1500 members, has health insurance which was started before 1994. Ken Daniel stated to expand or allow health insurance groups to cross state lines, federal and state laws will have to be amended.

Written testimony regarding the present economic climate for small businesses was submitted by Patrick J. Finn, President and owner of Finn and Associates, Inc. located in Wichita, Kansas and a member of the Wichita Independent Business Association (WIBA)(Attachment 2).

Chairperson Brownlee welcomed Doctor David Downing, KU Aerospace Engineering Department, who presented an overview of NASA's Small Airplane Transportation System Program (Attachment 3). Dr. Downing discussed the following is his presentation:

- Problems addressed by the Small Airplane Transportation System.
- What is the NASA SATS Program?
- What is the SATS Program is successful?
- Status and cost of SATS technology.
- Why SATS for Kansas?
- What is needed?

The goal of the SATS program is to create a multi-mode transportation system that will work with the airlines and will have the capability of being four times faster in transportation than a car. The Small Airplane Transportation System Program would like to implement this program at 83 of the Kansas communities that have at least one paved runway greater than 3000 feet.

In accordance with KSA 75-3715a, the fiscal note concerning **SB 397** was submitted to committee members.

Meeting was adjourned at 9:30 a.m.

The next meeting is scheduled February 13, 2002 at 8:30 a.m.

**SENATE COMMERCE COMMITTEE
GUEST LIST**

DATE: February 12, 2002

NAME	REPRESENTING
+ Hal Hudson	NFIB/KC
KEN DANIEL	NFIB & MIDWAY WHOLESALERS
Barb Lewis	Office of the Governor
Marsha Strubm	CPWA of Kas.
Diffany Cornejo	Sen. Brungardt's Intern
Cathy O'Connell	Kansas Dept of Commerce & Housing
Stephanie Buchanan	DOB
LARRY MAGILL	KAIA

Presentation to the Senate Commerce Committee
February 12, 2002

By Kenneth L. Daniel, Jr.
Chairman and C.E.O.
Midway Sales & Distributing, Inc. d/b/a Midway Wholesale
And
2002 Kansas Leadership Council Chairman
National Federation of Independent Business

Madam Chairwoman and Members of the Committee:

My name is Ken Daniel. I am here today both as a spokesman for my own business and for the 6,800 Kansas small businesses which belong to the National Federation of Independent Business (NFIB).

I am the Founder, Chairman and C.E.O. of Midway Wholesale, a building materials distributor headquartered in Topeka with branches in Salina, Manhattan, Lawrence, Elwood/St. Joseph, and Kansas City, Missouri. I am also the Chairman of Kansas NFIB, a volunteer position.

First I will answer the questions that were asked in your invitation.

The present economic climate has not yet hurt my company. Our business is dependent upon construction and remodeling, and those sectors are holding up mainly due to low interest rates. We do not expect a slowdown until the second half of the year at the earliest. The drop in interest rates and energy costs helped us greatly in 2001, but for 2002 our health insurance costs increased 36% and our casualty insurance went up 39%. In 2002, insurance costs will eat up any savings

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on interest and energy and more. Our biggest problems with respect to federal, state, and local regulations and laws are their complexity. We have not laid anyone off, and it is fairly easy for us to find good new employees at this time. We expect to weather the current recession, but we have no plans to open any new locations, build any new buildings, buy any major new equipment, or add any additional personnel in 2002.

For the rest of my presentation, I would like to speak for small business in general.

The Small Business Survival Council (www.sbosc.org) recently ranked the states as to their small business climates. Here's how the states in our area ranked: Texas was 6th, Colorado 11th, Missouri 17th, Arkansas 25th, Oklahoma 28th, Nebraska 31st, Iowa 39th, and Kansas 47th. Only Maine, Hawaii, and Rhode Island were ranked lower than Kansas.

Small business is the backbone of the Kansas economy. Much needs to be done to nurture it. High taxes, complicated regulations, and health insurance mandates are three key areas that need to be addressed to improve the climate for small business in Kansas.

This year about 9,000 new small businesses with employees will start up in Kansas. Only a tiny fraction of these will have any financial subsidies from the

State of Kansas. Unlike Enron and other huge corporations, if these small businesses make money, they will pay income taxes.

Collectively, small business isn't small. It provides employment to 53% of the private work force and generates 51% of the gross national product. It has been providing 3/4 of the growth in jobs to the economy and it has been giving 67% of workers their first job. It hires a larger proportion of women, younger workers, older workers, and part-time workers than does large business.

Instead of direct subsidies, all you have to do to help more small businesses survive is to concentrate on the three key areas—no new taxes, simplify regulations, and eliminate mandates.

Taxes: In the 13 years from FY1989 through FY2001, total state spending increases averaged 7.5% per year while inflation averaged 3.2%. It was a robust business environment that allowed this prolonged spending spree, but we are now in a recession. The State is going to have to pull in its horns and allow the recession to pass and let business revenues catch up with government spending. The worst thing you can possibly do during a recession is to increase taxes. That methodology is how we got into the Great Depression. Taxes should be decreased to cure a recession.

Excessive regulation: We need you to ncrease the property tax threshold on business machinery and equipment to \$1000 from \$250. This is much more of an

excessive regulation issue than a tax issue. We contend this will cost the state nothing. The fiscal note was estimated at \$1 million last year but we contend it will be zero. This is a small business issue. Big business is not reporting and paying tax on items under \$1000, anyway. Most of the 250,000 small businesses in Kansas will save paperwork with this law. If on the average they save \$100 each year, it will put \$25,000,000 into the Kansas economy each year.

Mandates: The Small Business Survival Index rated Kansas dead last of the 50 states in costs of health insurance to small business. The “Mental Health Parity” mandate passed last year was a dagger to the heart of small business. It is a gift to big business, which doesn’t have to comply, because it helps big business at the expense of small business. That law needs to be rescinded or made optional, and new health insurance mandates of any type need to be avoided.

Any investment you make in small business in Kansas will be much less risky than those you might make in large business. Kansas was built upon small business in the form of the family farm, and Kansas can continue to grow and thrive on family-owned small businesses today, if we will only nurture them.

The business of government

“And the job of government is always to remember the importance of the small business and the entrepreneurial dream. The job of government is not to try to create wealth. The job of government is to create an environment in which people are willing to take risks to realize their dream. It's to educate people. It's to provide opportunity and then make the playing field as level as it is and see who can succeed or not in the great country called America.”

- President George W. Bush
Jan. 5 speech in Ontario, Calif.

The power of small

“It’s very appropriate that we’re having this hearing because a lot of the economic stimulus ideas that we hear are likely to go mostly to large companies that are downsizing and laying off. And we know that just about all the net new jobs in this country are coming from small businesses, small growing businesses.”

- U.S. Representative Jim Demint, R-S.C.,
at a House Small Business Committee Hearing
on “Small Businesses in the Struggling Economy”

CAPITOL COVERAGE

www.nfib.com



Message From NFIB/Kansas Leadership Council Chairman, Ken Daniel

Dear NFIB Member:

It is an honor to be the chairman of your all-volunteer NFIB/Kansas Leadership Council. We will be working to see that the issues that are important to NFIB members are promoted to the Kansas Legislature. Those issues are determined by your votes on the ballots NFIB sends to

you. Unlike other organizations, the NFIB's leadership works for what you say is important, and not for what a small group of leaders says is important.

Elsewhere in this newsletter are the results of our just-completed 2002 State Ballot. Based on this ballot and past ballots, our three top priorities in the upcoming session of the Kansas Legislature will be:

- No tax increases.
No new health insurance mandates. Work for new legislation to make last year's expanded mental health benefits optional.

- Increase the property tax exemption on machinery and equipment to \$1000 from \$250.

It is critical that our members to contact legislators this year. Last year, mental health parity, an issue that our members overwhelmingly opposed, was passed by the Legislature because a small number of zealous advocates, mostly vested interests, made enough noise to get their way.

We cannot allow this to happen again in 2002! We have to make the voices of small business heard this year! If you are willing to help by calling, mailing, faxing or e-mailing your legislators, please let me or NFIB State Director Hal Hudson know.

Sincerely yours,
Ken Daniel, 2002 Chairman

2002 Is An Election Year

ALL 125 MEMBERS of the Kansas House of Representatives will be up for election, or re-election, in November 2002. Now is the time to watch your representatives and make sure they are performing in your best interest. Let them know that you are watching.

More important, let them know your position on issues important to you by writing, calling or visiting in person.

Write to senators and representatives at: Kansas State Capitol, Topeka, KS 66612. Phone them at 785-296-0111.

Speaker of the House – Kent Glasscock:

785-296-2302

House Majority – Leader Shari Weber:

785-296-2497

House Minority Leader – Jim Garner:

785-296-7630

Senate President – David Kerr:

785-296-2419

Senate Majority Leader – Lana Oleen:

785-296-2497

Senate Minority Leader – Anthony Hensley:

785-296-3245

Members Vote Ballot for 2002

NFIB members responding to the 2002 Kansas State Ballot made their wishes clear with decisive votes on all issues. Here's how they voted:

Right to Choose Health Care Coverage: Should Legislation be adopted allowing Kansas small employers who provide health insurance for their employees the right to offer only the benefit coverages they choose?

Yes 88% No 9% Undecided 3%

Moratorium on Health Care Mandates: Should the Kansas Legislature declare a moratorium on new health care mandates?

Yes 83% No 8% Undecided 9%

Use of Unemployment Trust Fund: Should the Unemployment Trust Fund be made available for other purposes, such as paid family leave, or any purpose other than the payment of Unemployment (UC) benefits to workers who have lost their jobs?

Yes 5% No 93% Undecided 2%

Increase Taxes to Fund K-12 Education: Should the Legislature increase sales, property and/or income taxes to provide additional funding for K-12 public schools?

Yes 13% No 79% Undecided 8%

Which (if any) taxes should be increased to fund education? If taxes were increased, which taxes would you prefer to see increased at the state level?

Sales Tax 84% Property Tax 3%
Income Tax 13%

HAL HUDSON
State Director

National Federation of Independent Business
(785) 271-9449, (785) 273-9200 (fax)

3601 S.W. 28th Street, Suite 116B
Topeka, KS 66614

NFIB
The Voice of Small Business

Facts about NFIB

Did you know that....

- NFIB represents 600,000 small and independent businesses in the U.S.?
- NFIB represents 6,800 small and independent businesses in Kansas? This is about 4 times as many businesses as any other “voice” of business in Kansas.
- NFIB members, not leaders, determine which issues NFIB will support or oppose? Unless about 2/3 or more of members are in agreement on an issue, NFIB will not be involved.
- The average NFIB member has five or fewer employees and has been in business for 10 years?
- 95% of NFIB members vote in elections?
- NFIB does not represent non-profit groups, governmental entities, or businesses with stock traded on a stock exchange?
- NFIB does not take any public money, period?

State and National NFIB Goals That Pertain to Kansas Legislation...

- Oppose health-care mandates, especially so-called “Mental Health Parity”.
- Allow small businesses to band together to purchase health insurance.
- Raise the personal property tax exemption threshold to \$1000 from \$250.
- Repeal all death taxes, state and national.
- Ease the complexity of taxes on small-business owners.
- Make regulations less costly and complicated for small business.
- Expand options for individuals who buy their own health insurance.
- Oppose making employers liable for health care issues.
- Curb frivolous lawsuits.

NFIB Issue #1: Tax Increases

- By a 6 to 1 margin, Kansas NFIB members are opposed to tax increases in this legislative session.
- In the 12 years from FY1989 through FY2001, total state spending increases averaged 7.5% per year while inflation averaged 3.2%. It was a robust business environment that allowed this prolonged spending spree, but we are now in a recession. The State is going to have to pull in its horns and allow the recession to pass and let business revenues catch up with government spending.
- The worst thing you can possibly do during a recession is to increase taxes. That methodology is how we got into the Great Depression. Taxes should be decreased to cure a recession.
- If there are any tax increases, 84% of our members prefer sales taxes to income or property tax increases. NFIB has no position on cigarette or gambling taxes. NFIB is opposed to increases in vehicle and fuel taxes.
- Education spending: Teacher's salaries in Kansas are higher than all surrounding states except Colorado. Per pupil spending in Kansas is higher than all surrounding states. Kansas is one of the very worst in the nation in the percentage of K-12 funding which gets to the classroom. Before there are any tax increases for K-12 education, districts must adopt and follow honest budgeting and accounting practices. Statewide, there are hundreds of millions buried in school district slush funds.

NFIB Issue #2: Increase Property Tax Threshold to \$1000

- This is much more of an excessive regulation issue than it is a tax issue.
- We contend this will cost the state nothing. The fiscal note was estimated at \$1 million last year but we contend it will be zero.
- This is a small business issue. Big business is not reporting and paying tax on items under \$1000, anyway.
- At Midway, we have to keep special records for this purpose only. Enactment of this law will cut 60% of our work in keeping those records. It will also cut 60% of the work that county appraisers are doing for this purpose.
- Most of the 250,000 small businesses in Kansas will save paperwork with this law. If on the average they save \$100 each, it will put \$25,000,000 into the Kansas economy.

- From spring of 2001 to spring of 2002, premiums are rising 11% on average, but for firms with 3 to 9 employees, they are rising an average of 16.5%.
- Give higher-paid employees better benefits than lower-paid ones.
- Drop dental, optical, and other optional coverages or make the employee pay 100% of the costs of optional coverages.
- Drop health insurance benefits entirely.
- Decrease pay raises, pensions, or other benefits to pay health insurance costs.

NFIB Issue #3: Health Insurance

Did you know that...

- The Small Business Survival Index rated Kansas dead last of the 50 states in costs of health insurance to small business?
- Employers who are not already providing company-paid health insurance benefits are highly unlikely to start now?
- All types of employers—public, private, and large corporations—are dropping payments for dependent coverage?
- The average premium for a single coverage is now \$2,650 per year or \$221 per month. Family coverage averages \$7,053 per year or \$588 per month?
- The State of Kansas offers a tax credit of \$35 per month to some small businesses as an incentive to offer health insurance coverage?
- Most small business owners are not allowed to deduct their insurance premiums for income tax purposes?
- Many lower-paid employees are dropping part or all of their employer-paid benefits because they can't afford the employee's share of the costs?
- 20-25% of the cost of health insurance goes to provide health services to the uninsured?
- The Society of Professional Benefit Administrators estimates that "Mental Health Parity" will cause insurance cost increases of 11% to 14%?
- The Kansas "Mental Health Parity" law strikes mainly at small business and not large business?
- 75% of the companies selling health insurance are already out of the business. Kansas has been especially adept at running carriers out of the state?

Steps being taken by employers to limit their increased costs of health insurance:

- Eliminate paying for dependent coverage.
- Make the employee pay for the increases (56% of employers).
- Raise deductibles and employee co-pays (70% of employers.)



Finn & Associates, Inc.

7570 W. 21st N., Suite 1050C Wichita, KS 67205-1734 316-722-3466 Fax
316-722-4421

February 12, 2002

The Honorable Karin Brownlee
Commerce Committee
Kansas Senate
Topeka, KS

My name is Patrick J. Finn, president and owner of Finn & Associates, Inc. located in Wichita. My company primarily engages in selling businesses, consulting and valuing businesses. Our services are typically utilized by companies with sales ranging from one million to twenty million dollars. Finn & Associates, Inc. has been providing these services since 1988.

I have a rather unique perspective of small businesses as our company deals with a variety of industries and sizes of businesses and we are constantly in touch with many key executives throughout this region.

With that being said, I will try to address each question in your letter.

1 How has the present economic climate affected your business?

There have been two major detriments to our business in the near term. First, our business flourishes when the economy is vibrant and suffers during any slumps. If I were selling smaller, more main street businesses, this would not be the case as during economic downturns and periods of layoffs the sales of smaller businesses do well because individuals tend to purchase small businesses, they are in essence purchasing a new job. However, larger business sales tend to be depressed during periods of economic malaise as sellers are reluctant to sell based on declining profits and valuations while buyers are risk adverse as they fear they will be unable to make debt service during a down period. So the economic psychology portends a poor year for my business. Currently, finding quality companies that believe this is a good time to sell their business is difficult.

The second major deterrent to our business is the banking situation. Although interest rates are very low, bankers are much more stringent in their lending requirements. Banks are demanding far greater down payments (effectively reducing the buyer pools) and the qualified buyers must be more pristine than in the past.

While Dr. Greenspan has been lowering the discount rate, the banking regulators seem to

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have ratched up the credit worthiness criteria to prevent another savings and loan type debacle due to the slowness of the economy.

A prime example of this credit tightening is a small manufacturing company we had sold for \$1.3 million a few months back. Although the buyer did not have industry specific experience, he had successfully run and sold a business and had \$500,000 cash to put into the transaction (38% of purchase price) plus had an equity in his home of approximately \$300,000, which he agreed to pledge plus other assets. The business made a profit of approximately \$250,000 and there were assets in the business valued at approximately \$600,000. Four banks turned down this loan but three of the four would take the loan providing the seller would take a \$200,000 standby letter of credit (in effect the banks wanted this much additional security). However, the seller was unable to do this because of personal problems so the transaction was not consummated.

Because of the banking situation and current economic malice, I felt it was prudent in our corporate business plan to forecast a lower profit for the current year. This is the first time in fourteen years my plans call for less revenue than the prior year. I feel I could still have a good year, but it will require more effort, better-qualified buyers while more of our effort will address the consulting needs of our clients.

A client has also told me that his suppliers have tightened credit to him by demanding personal guarantees after having done business with this supplier for six years and never having missed a payment. He was told that this large foreign company was concerned about the quality of his accounts receivables during periods of economic uncertainty.

We had one client who indicated that after the September 11th attack, his business fell 40% for two months, but now his business is nearly back to normal levels. However, this dramatic one time drop will cause his year to decline when compared to 2000 as the slowdown hit during the critical selling period and he could not adjust expense levels quickly enough.

2 What are the problems you are encountering with respect to federal, state and local regulations or laws?

The biggest problem is the time, effort and knowledge required to comply with all of the paperwork. I do not have a problem with Kansas agencies as most of my business is done in this state, however, we have sold businesses in many states and there is a myriad of rules with no two states being the same. I have found through a hard experience that I cannot rely on the answers given by State agencies and although they provided the wrong answer to my firm, it was my firm that paid a price for the state agencies advice.

In my field, perhaps the biggest problem deals with real estate licensing. If I sell a business in Kansas that has real estate as part of the transaction does that require a license? In my opinion, yes. If you ask the real estate commission that question, they would concur. Yet, there are many selling businesses without real estate licenses. So, business intermediaries, like myself, who are licensed brokers, attend continuing education and subject ourselves to annual audits are handicapped because many don't.

While I don't like regulations in general, if you have them they should be enforced.

3 Has your firm had to lay off any personnel?

As the business outlook was not favorable I took the occasion to terminate one employee. It was a combination of a slowing economy and lack of productivity of the person. I am currently trying to add a part time person to bolster our marketing effort.

4 Has the labor market affected your company?

No, the type of person I need must have a very specific background and they are always difficult to find. However, over the last year, most of my manufacturing clients have discussed the difficulties in finding manufacturing personnel.

One of our clients that owns a retail business indicated that he no longer has trouble finding employees, which had been a problem in the past.

5 Do you have any ideas on what the Legislature can do to assist you in overcoming the present difficulties?

I would like to see less regulation, less government involvement in all areas. To hear our governor talk about new taxes to make up the revenue shortfall is disheartening to the average businessman. Businessmen see the state bureaucracy as bloated and wasteful and yet they ask for more money during a time when sales are falling for the average business and many are struggling to meet payroll. Business people cannot operate their business like government and we don't think government should operate that way either.

I think most businesses would like to see a consistent tax policy. It is hard to keep up with changes and the nuances available. A stable system is much more palatable.

The best thing you could do is place a moratorium on all taxes, especially stealth taxes like cell phone, gasoline, cigarettes etc. Hidden taxes breed distrust.

Government spending always seems to outpace inflation. If this trend line continues unabated, at some point it will become impossible to support government.

Most businesses would flourish in a low tax state.

6 What are your prospects for recovery from the present situation?

I will do fine. I think my profits will be lower and I think that some of my client will suffer greatly, but my small business can turn on a dime and change strategies to fit the evolving environment.

**NASA's Small Airplane
Transportation System Program**

**Presented
by
David R. Downing
KU Aerospace Engineering Department
Kansas Senate
Commerce Committee**

February 12, 2002

Presentation Outline

Who is David R. Downing?
What problems are addressed by SATS?
What is the NASA SATS Program?
What if the the SATS Program is successful?
Status and cost of SATS technology
Why SATS for Kansas?
What is needed?
Questions?

Who is David R. Downing?

- ♦ I have been a general aviation enthusiast all my life.
- ♦ I have been a Professor of Aerospace Engineering at KU for 20 Years and been a aviation Professional for 25 Years at NASA and KU.
- ♦ I would like to see Kansas play a leadership role in the development and implementation of the SATS Concept.
- ♦ I am involved in the SATS research in the KU-Kansas Flight Test Center with funding as a member of the North Carolina/Upper Great Plains SATS Lab Team

Current Transportation System Marginal

Current Hub & Spoke System is not providing service and is close to saturation

Demand for Air Service is predicted to double in next 20 years

Most business is not done at Hub cities or major airports

Proposed Solutions

Expand Existing or Build New Airport

Design a 600-800 Passenger Aircraft

Design & Implement a Small Airplane Transportation System

Access to Transportation Limited

Only 718 of the 5,400 Public Use Airports have Precision Approaches and only 18 of the 146 Landing Facilities in Kansas have Precision Approaches.

Many communities have no commercial service and thus have limited opportunities for economic growth or the access to the world's services and goods. This is particularly true for rural communities.

Proposed Solutions

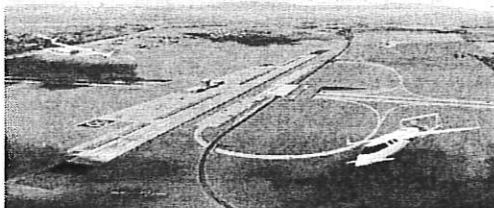
Develop & Implement a Small Airplane Transportation System at the 83 Kansas communities that have at least one paved runway greater than 3000 ft in length.



What is the NASA Small Airplane Transportation System Program(SATS)



The NASA SATS program will determine the feasibility of adding a new element to transportation system that use of "small" aircraft and small airports that compliments the current trains, airliners and automobiles.



Involves Industry, Federal, State and Local Government and Universities



NASA Small Airplane Transportation System Program(SATS)



Program Goal: To contribute to a multi-mode transportation system that is 4 times faster door step to doorstep than a car.

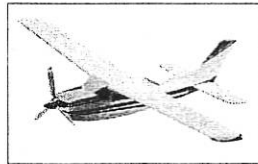
Program Assignment: To demonstrate by 2005 that the potential of SATS can be realized.

Provide at public use airports:

- ◆ Almost All-weather Operation
- ◆ Precision Approaches for All Runways
- ◆ Automatic Separation & Sequencing
- ◆ Weather Information in the Cockpit

For Additional Information:
<http://sats.nasa.gov>

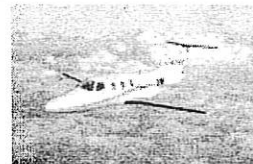
Typical SATS Aircraft



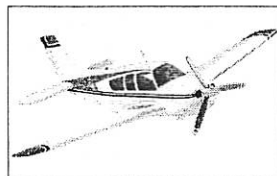
Cessna 210-Centurion



Lancair C-300



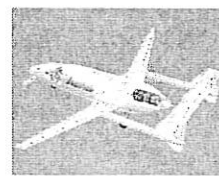
Eclipse 500



Beech Bonanza



Cessna Caravan



NASA Concept Design

What if the SATS Concept is Successful?

1. Every airport could become a “smart” airport.
2. All communities close to a “smart”all airport would have the same access and connectivity to the world as communities near major airports.
3. Travel time between non-major cities would be greatly reduced.

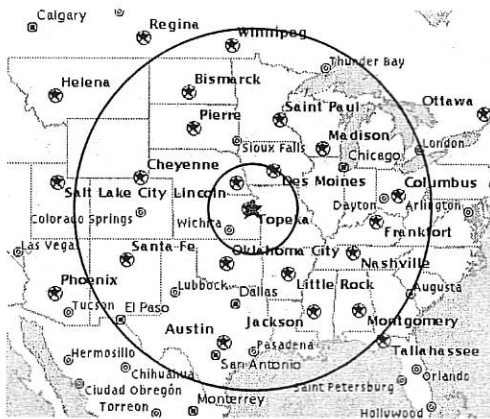
Impact on Individuals and Communities

1. Business and personal travel time will decrease.
2. Number of destinations will grow by orders of magnitude.
3. Medical, educational and economic development opportunities in smaller communities will greatly improve.
4. Ultimately, the Quality of Life of citizens would be enhanced with small America gaining the most.

Typical Business Trip

Activity	Travel by Airliner	Travel by SATS
Drive to Departure Airport	90 Minutes	15 Minutes
Activities at Terminal	90 Minutes	15 minutes
Fly to Hub Airport	600 MPH	240 MPH
Layover at Hub Airport	60 Minutes	0
Fly to "Destination" Airport	600 MPH	0
Activities in Terminal	45 Minutes	15 Minutes
Drive to Business Location	90 Minutes	30 Minutes
Total Non-Flight Time	315 Minutes	75 Minutes

3- Hour Operational Range



Auto Destinations*

- Hutchinson
- Wichita
- Des Moines
- St Louis

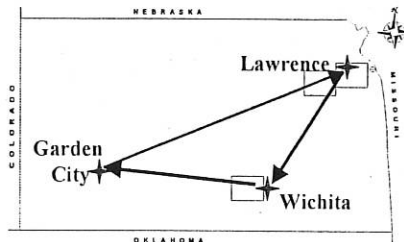
SATS Destinations*

- El Paso
- Winnipeg
- Pittsburgh
- Tallahassee
- Atlanta

* Assuming Average Auto speed is 60 mph.

3.6

SATS Travel Itinerary



Fly from Lawrence to Wichita	1 hour
Business in Wichita	2 hours
Fly from Wichita to Garden City	1 hours
Do business in Garden City	2 hours
Fly back to Lawrence	<u>2 hours</u>
Total	8 hours

Status of SATS Implementation Technology

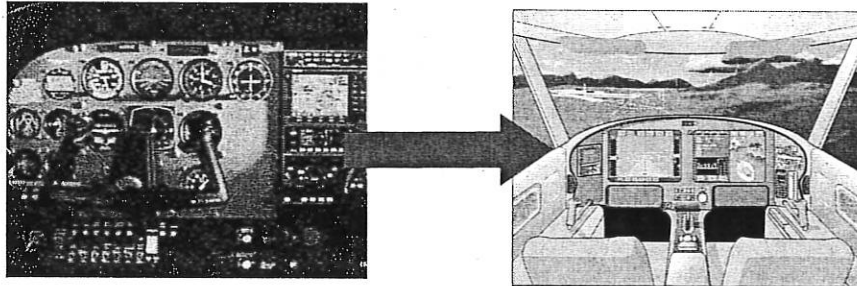
A SATS "Smart" airport must be as capable as a major airport and provide:

- ◆ **Navigation - Differential Global Positioning Systems(DGPS)**
- ◆ Weather - "Almost" real-time weather data-linked to aircraft.
- ◆ Traffic Information - On-board aircraft-aircraft collision avoidance system ground generated traffic advisories
- ◆ **Communication - Two-way digital data link & voice backup**
- ◆ Guidance - On-board generated on-route and landing trajectories
- ◆ **Pilot Displays - Integrated, Intuitive & Multi-Function**

<p>Technology Available Research Needed</p>
--

3.7

Cockpit Display Technology



Estimated* Ground Technology Costs

\$300,000 to equip a single site
\$30M to \$45M to equip all 146 Kansas Airports

Estimated* Aircraft Costs

Equivalent to IFR Current Avionics

How Would SATS be Financed?

Ground System by Joint Federal/State/Community Partnership
Aircraft Equipment Funded by Owners/Operators

* DRD Crystal Ball

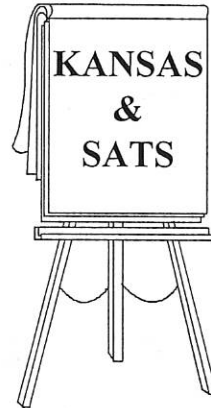
Why a Kansas/SATS Partnership?

1. An implemented SATS offers the citizens of Kansas a major improvement in their Quality of Life.
2. Kansas has all the major expertise to make a major contribution to the development and demonstration of SATS.
 - ♦ Small Aircraft Industry - Cessna & Raytheon
 - ♦ Avionics Industry - Honeywell & Garmin
 - ♦ University Expertise in Aerospace & Communications
 - ♦ KDOT-Division of Aviation
 - ♦ Airport Infrastructure at 146 Landing Facilities

What is Needed?

1. Formation of Kansas Industry/Government/University SATS Team
2. Development of a Kansas SATS Research & Implementation Plan
3. Conduct Outreach Activities to Inform Kansas Communities and Citizens
4. Work Closely with Regional and National Partnerships
5. Generate a Community/State/Federal Partnership to fund the SATS Implementation

Questions



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David Downing is a Professor of Aerospace Engineering at the University of Kansas and Director of both the Kansas NASA EPSCoR Program and the NASA Kansas Space Grant Consortium. His responsibilities include teaching an introduction to aerospace engineering course for freshmen and courses in flight control, instrumentation and flight testing. Downing's research interests include the full range of activities from theory to flight testing in the areas of navigation, guidance, control, instrumentation and display systems. He was formerly an aerospace engineer with NASA Langley Research Center, a systems engineer with the NASA Electronics Research Center, and an Assistant Professor of systems Engineering at Boston University. Downing received his Bachelor of Science degree in Aerospace Engineering and his Master of Science degree in Instrumentation Engineering from the University of Michigan and his Doctor of Science degree from the Massachusetts Institute of Technology.

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