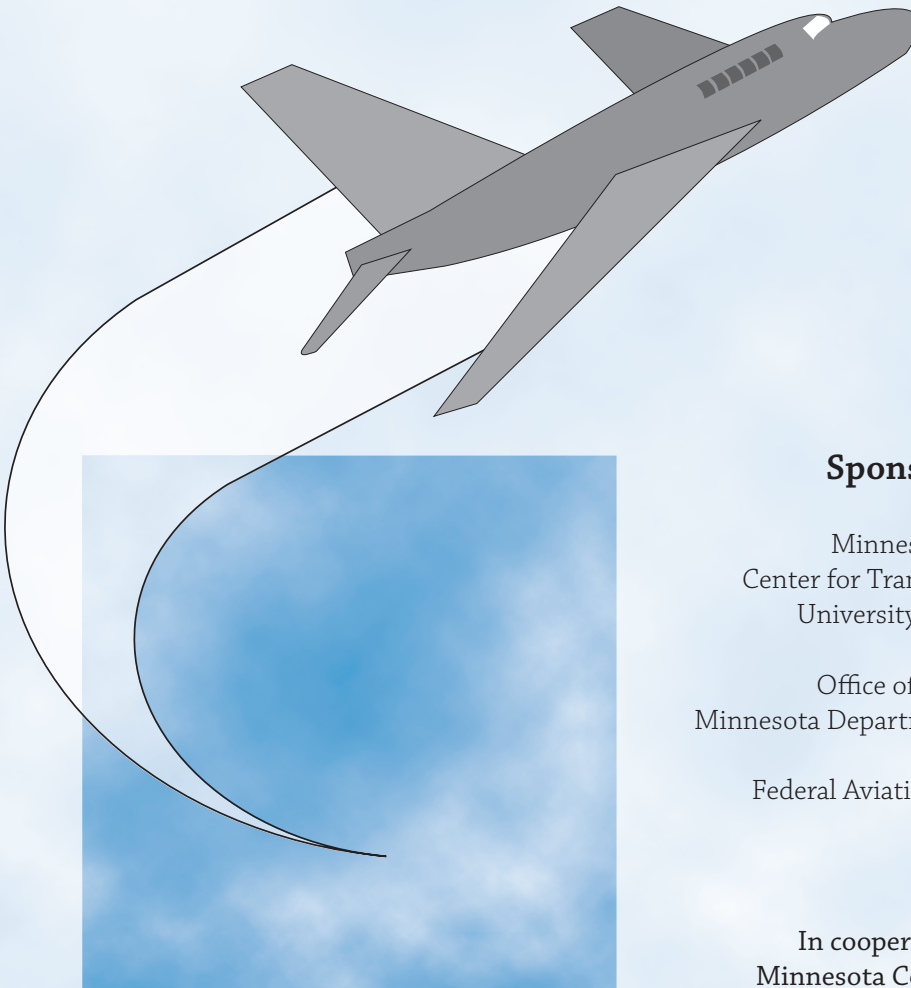




AirTAP Fall Forum

November 3–4, 2004 • St. Cloud, Minnesota

Proceedings



Sponsored by:

Minnesota AirTAP
Center for Transportation Studies
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Office of Aeronautics
Minnesota Department of Transportation

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In cooperation with the
Minnesota Council of Airports



UNIVERSITY OF MINNESOTA
CENTER FOR TRANSPORTATION STUDIES



“The unique program design is a roll-up-your-sleeves working session for you to problem-solve with session experts and one another. So don’t sit back and relax—jump into the discussion and learn.”

— Cheri Marti

Opening and Welcome

On Wednesday and Thursday, November 3 and 4, 2004, the Airport Technical Assistance Program (AirTAP) held its first-ever fall forum in St. Cloud, Minnesota.

As an experimental departure from AirTAP’s one-day, one-topic training sessions traditionally held periodically at various airports around the state, this two-day event covered a number of diverse subjects. Participants actively engaged with and learned from aviation experts and each other on topics that ranged from setting rates and charges and meeting Federal Aviation Administration (FAA) minimum standards to controlling wildlife and keeping runways safe.

Cheri Marti, assistant director of the Center for Transportation Studies (CTS), opened the first general session with a brief background on AirTAP. She explained that AirTAP is sponsored by the Minnesota Department of Transportation (Mn/DOT) Office of Aeronautics in cooperation with the Minnesota Council of Airports (MCOA) and is the first program of its kind in the United States. From this inaugural forum, she said, participants could expect to walk away with “real solutions to some of the challenges at their airports” and a broader network of aviation professionals with which to connect. Further, Marti told participants that the unique program design was “a roll-up-your-sleeves working session for you to problem-solve with session experts and one another. So don’t sit back and relax—jump into the discussion and learn.”

Bill Towle, airport director for the St. Cloud Regional Airport and member of the AirTAP steering committee, added that the forum was designed to be interactive and to allow for the exchange of ideas and best practices between experts and participants. “Your feedback on the sessions also is critical,” he said. “We want to know what you want and will work to continually improve our offerings to you.”

Ray Rought, director of the Mn/DOT Office of Aeronautics, also offered opening remarks, noting that the focus of AirTAP and this forum was to improve the safety, quality, and efficiency of Minnesota’s general aviation airports. “You may think a particular challenge is occurring only at your airport, but chances are the same thing is happening at other airports, too, and maybe a good group discussion could help solve the problem,” he said.



Cheri Marti



Bill Towle



Ray Rought

Ray Klosowski, former executive director of the Duluth Airport Authority, moderated the first general session, which included updates on general aviation (GA) airport information from the Minnesota Department of Transportation (Mn/DOT) and the Federal Aviation Administration (FAA). “These topics are some of the most critical,” Klosowski warned. “As a GA airport operator, being unaware of this information could get you into trouble.”

Aeronautics rules and changes

Rick Braunig, aviation representative with the Mn/DOT Office of Aeronautics, opened the discussion. He explained that his office is proposing to make selected clarifications, revisions, and updates to the rules governing aeronautics in Minnesota. Braunig then offered an overview of the proposed changes, which include creating a “special purpose public airport” designation, separating airport licensing from zoning, changing the obstruction criteria to match the Code of Federal Regulations (CRF) Part 77, updating old insurance minimums, and others.

“These really are the first rules changes we’ve made in 24 years, and we think these revisions are, for the most part, a relaxation of the existing rules and hopefully will not be controversial in any way,” Braunig said.

He went on to explain some of the differences between Minnesota’s rules and the standards set forth by the FAA. Simply put, each entity has jurisdiction over some areas that the other does not. For example, the state doesn’t regulate airlines, but it does regulate aircraft rental. He also outlined the rules change process and indicated that the entire process should be completed in 2005. He cautioned, however, that “just because you see a change in our proposed rules, that doesn’t mean you should follow those changes. Be sure you follow the old rules for now.” [To see a complete list of the proposed rule changes, visit www.mnaero.com.]

Labor requirements for airport projects

Next, Charles Groshens, labor investigative unit supervisor with the Mn/DOT Office of Construction and Contract Management, reviewed some general guidelines relating to labor requirements on airport construction projects. He explained first that the role of the Mn/DOT Labor Compliance Unit is to help Mn/DOT, county, city, and consultant contract administrators comply with federal (Davis-Bacon Act) and state prevailing

wage laws.

He talked specifically about what should be considered with regard to contract documentation, pre-construction meetings, contract management, and project inspections for both federally funded and state-funded projects. The one thing that must be in a contract, above and beyond anything else, is the state wage decision, Groshens said. At pre-construction meetings, you should let the contractors know that there are prevailing wages in the contract, and that they will have to adhere to requirements that may differ from those of a private project, he added. Groshens also pointed out that federal laws require weekly submission of payroll reports, which are important factors in ensuring compliance with the federal and state prevailing wage laws.

The contract administrator should let the general contractor know that any violations of these laws could lead to money being withheld and legal actions, he added, “so make sure you review your contracts. It’s very important that you have the correct wage decision for that contract.”

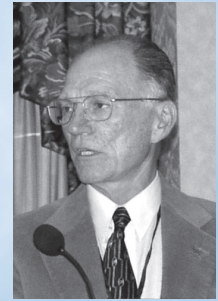
Groshens then ran down a list of contract-management-related items, including month-end trucking reports. “Trucks are covered by prevailing wage laws, and since they take up 30 to 40 percent of our investigative time, this really is an area to which you should pay particular attention,” he said.

With regard to employee wage complaints, Groshens recommended getting any disputes resolved up front rather than at the end of a project. [For more information, including wage rates for both state and federal contracts, visit www.dot.state.mn.us/const/main/labor.html.]

Non-primary entitlements

In his discussion on the use of non-primary entitlements for GA airports, Robert Huber, assistant manager with the FAA’s Minneapolis Airports District Office, first offered some general background for audience members unfamiliar with this funding option. Basically, he explained, Congress set up an entitlements program for small airports by passing the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (AIR-21), which reauthorized the FAA budget through fiscal year (FY) 2003.

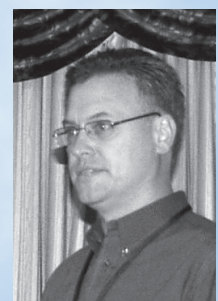
For the first time, AIR-21 set aside grant funds for pavement maintenance work at GA airports, reliever airports, and commercial service airports with fewer than 10,000 passengers per year; a list of these airports is contained in the National Plan



Ray Klosowski



Rick Braunig



Charles Groshens



Sandy DePottey

of Integrated Airport Systems (NPIAS). With AIR-21, GA airports can receive a “non-primary entitlement” (NPE) up to \$150,000 per year based on the FAA assessment of maintenance needs over a five-year period. This “set-aside” money kicks in when FAA appropriations reach \$3.2 billion. If FAA funding drops below \$3.2 billion, these set-aside funds evaporate.

Congress recently passed the Vision 100—Century of Aviation Reauthorization Act, which reauthorized AIR-21 for FY 2004 through FY 2007. Vision 100 provides more flexibility in how these NPE funds are used, allowing for such things as terminal development and reimbursement for work already accomplished. It also extends the life of those funds, allows them to be transferred to another airport and be carried over multiple years, and allows them to be used for revenue-producing aeronautical support facilities such as fuel farms and hangars.

Three key elements within the Vision 100 language detail eligibility requirements: first, the funds must be used for revenue-producing aeronautical support facilities that are sponsor-owned and that generate a reasonable revenue for the sponsor; second, only NPE funds can be used; and third, the airport must first provide for airside needs (i.e., must be maintained in operating condition) before using NPE funds for revenue-producing facilities.

“This doesn’t mean that all airside needs have to be completed first, but the sponsor must have a financial plan in place to address whatever those airside needs are,” Huber clarified. [For more information regarding entitlements for revenue-producing facilities and other funding options, visit the FAA Great Lakes Region Web site at www.agl.faa.gov or the main FAA Web site at www.faa.gov.]

Grant compliance

Sandy DePottey, program manager with the FAA’s Minneapolis Airports District Office, wrapped up the session with information pertaining to grant compliance. “We love to give your airports grants,” she said, “but there are strings attached that you need to know about and comply with.”

She noted that most compliance concerns revolve around three specific areas: Grant Assurance 22—Economic Nondiscrimination, Grant Assurance 23—Exclusive Rights, and Grant Assurance 24—Fee and Rental Structure. “What this means is that first, we verify that the airport is available to the public and that there aren’t ‘sweetheart’

deals going on behind the scenes,” DePottey said. “Second, in general, an airport can’t grant exclusive rights and allow just one operator to have all of the business. And third, the airport must be as self-sustaining as possible, and the public should see the business benefit the airport offers to the community.”

One of the tools GA airports can use to make sure they comply with their grant assurances is the minimum standards guidelines. While they are not required, minimum standards guidelines are strongly encouraged because they help protect airports, DePottey explained. Minimum standards set criteria for things such as hours of operation, financial stability, and minimum liability insurance coverage for a business, so an airport can use these minimums, for example, to evaluate a business that wants to operate from it.

DePottey advised audience members to periodically review and revise their airports’ minimum standards, making sure they are fair and reasonable and applied uniformly to all activities making the same or similar use of the airport. The most important thing is to actually read the grant assurances and be familiar with what they say, she added.

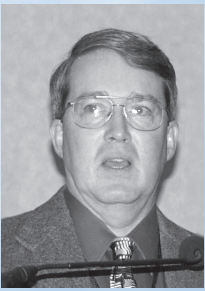
[For additional tools, assistance, and information about grant assurances and compliance, DePottey offered the following resources:

- FAA Advisory Circular 150/5190-5—*Exclusive Rights and Minimum Standards for Commercial Activities*: www.faa.gov/arp/ACs/5190-5a1.pdf
- FAA Grant Assurances: www.faa.gov/arp/financial/aip/assurances.cfm?ARPnav=aip
- Wisconsin DOT: www.dot.wisconsin.gov/travel/air/docs/minimum-standards.pdf
- Aircraft Owners and Pilots Association (AOPA): www.aopa.org/asn/minimum_standards.pdf
- American Association of Airport Executives (AAAE): www.aaae.org/government/200_Regulatory_Affairs/300_Non_Hub_GA_Office/300_Document_Library/MinimumStandards.pdf]

At the conclusion of session one, Rought introduced special guest Representative Mike Beard who, in addition to sitting on both the Minnesota Transportation Finance and Transportation Policy committees, is also a general aviation pilot. “He knows what aviation is all about,” Rought said of Representative Beard. “It’s great that we now have some advocates in the legislature.”

“Just know that there are several of us at the legislature championing your cause.”

— Representative
Michael Beard

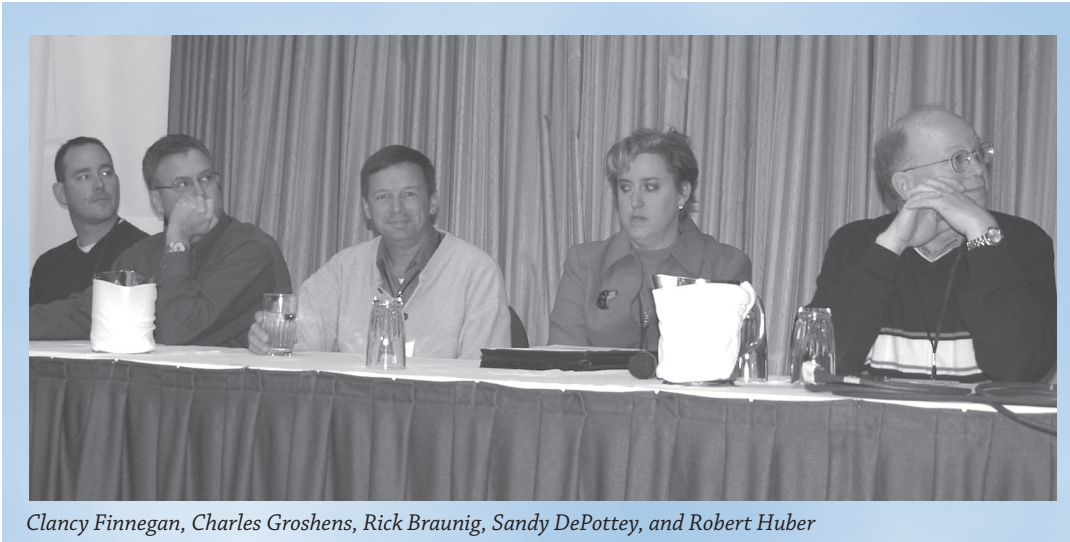


Mike Beard

Having just won re-election to his second term in the Minnesota House of Representatives the day before, Beard said that he believed in the forum and was eager to be part of it.

On the subject of aviation funding, he mentioned what happened several years ago, when the state was seeking to fill large budget holes. Funds meant for aviation were snagged for other uses because they were not constitutionally protected.

“That got my attention,” Beard explained. Through the efforts of the House Aviation Subcommittee, on which Beard serves as chair, he said he was hopeful of getting the aviation funds back. “Just know that there are several of us at the legislature championing your cause.”



Clancy Finnegan, Charles Groshens, Rick Braunig, Sandy DePottay, and Robert Huber

General Session 2 — Highlights of the Statewide GA Security Guidelines and Inspection Visits

Session two, moderated by Joe Harris, airport manager with MAC Reliever Airports, covered highlights of the Transportation Security Administration (TSA)’s statewide general aviation security guidelines and inspection visits.

Becky Roering, assistant federal security director for inspection with the TSA, admitted that one major criticism of the agency by GA airport owners and managers is that the TSA doesn’t understand the GA industry. In an effort to change that and help the TSA become better acquainted with general aviation, Roering explained how she and other TSA representatives made several site visits to various Minnesota GA airports during 2004.

Through these visits, Roering said she discovered that most security controls at GA airports are in place to eliminate theft and may not always be related to terrorism; nonetheless, these controls can serve a dual purpose. She discovered also that the main security system is often the community itself. “We found out that general aviation is part of a close-knit community,” Roering reported. “It

was interesting to see how involved communities are in general aviation and how important the GA facilities are to these communities.”

In the end, Roering said, the site visits did give TSA representatives a better understanding of general aviation. Particularly, she explained, “We understand that if the TSA gives you mandates, you’ll need funding to implement them.”

She went on to say that while the TSA has no regulatory oversight of GA airports, it does offer a set of federally endorsed guidelines for enhancing airport security at GA facilities based on their size and complexity. This information is contained in a report, *Security Guidelines for General Aviation Airports—Information Publication A-001*, intended to provide GA airport owners, operators, and users with guidelines and recommendations that address aviation security concepts, technology, and enhancements. Specifically, the document offers suggestions for implementing perimeter controls, alarm systems, airfield lighting, aircraft locking devices, and airport commu-



Becky Roering

nity watch programs. The report also talks about how to respond to specific threat information as it becomes available. [To view a copy of this report, visit www.tsa.gov/interweb/assetlibrary/security_guidelines_for_general_aviation_airports_may_2004_a-001.pdf.]

According to Roering, general aviation isn't a current priority for the TSA. "Right now we're working to get 100 percent baggage screening. We're focused on the passengers at large airports and on cargo inspections," Roering explained. "We

are expanding our efforts to the smaller aircraft and flight training schools and are even inspecting maintenance stations. But at this point we feel that general aviation, while important, doesn't pose an extremely high threat, and our plate is pretty full handling other, more likely threats." [For more information call the Minneapolis TSA 24-hour hotline at 612-726-5784 or visit www.tsa.gov.]

Concurrent Session 3a — It Takes a Village: A Case Study on Successful Runway Safety Initiatives

“It really does take a village to improve runway safety. If you try to take it on yourself, you will fail miserably.”

—Jeff Kleinbeck

In 2002, Flying Cloud Airport gained a reputation as a dangerous place. That year, the airport had the most runway incursions (per 100,000 operations) of any airport in the country: 28, up from 8 the previous year.

Joe Harris, airport manager for MAC reliever airports, and Jeff Kleinbeck, air traffic controller and tower manager at Flying Cloud, set out to discover why—and to fix the problem. Their success was reflected in the fact that the following year, the number of incursions dropped to two. In a session on runway safety, moderated by Ann Johnson of P.E. Services, they discussed the measures they took to make the airport safe again.

“It really does take a village to improve runway safety. If you try to take it on yourself, you will fail miserably,” Kleinbeck began. The “village” he referred to included airport management, the control tower, flight standards, airport operators, the local aviation community, and pilots—all of whom were considered when evaluating the problem and searching for solutions.

Flying Cloud, a non-Part 139 airport, is the second-busiest airport in Minnesota and is used primarily for flight training, corporate charter, and recreational aircraft.

A runway incursion is an occurrence involving an aircraft, vehicle, person, or object on the ground that results in a loss of separation with an aircraft taking off or landing; the level of severity depends on the resulting risk of collision. Kleinbeck said that any of the incidents at Flying Cloud could have had serious consequences.

The large increase in incursions at Flying Cloud was especially mysterious considering the airport's traffic was not peaking, Kleinbeck said. Realizing that the unusual situation would likely attract at-

tention from the FAA, he and Harris took a proactive approach. A close look revealed that there was plenty of blame to go around.

One cause was pilot and controller mistakes. The vast majority of the pilots responsible—almost 90 percent—were not part of the Flying Cloud community, but rather, hailed from across the region and the country. Local airport users know the airport and its environment, Kleinbeck said. The challenge was how to reach the far-flung users.

More than half of the incidents were due to pilot deviation, while 21 percent were due to operator error or deviation, and 19 percent to vehicle deviation. “As we took a look at this one by one, we found that in every case, there was a ‘mental noise’ factor involved,” Kleinbeck said. Even highly experienced pilots can make errors because they're not fully concentrating. The same is true for controllers and vehicle drivers on the ground—especially those who may have been working all night and are fatigued, he said. Another problem the team noticed was that airport signage was sparse and non-standard, and pavement marking paint was faded and cracked.

The actions they took to correct these problems were relatively simple, Harris said. They painted or repainted surfaces and got MAC to commit to an annual paint refresh, and they installed new standard airport signage.

Other solutions involved getting information to airport users. The team organized local user meetings at the airport and talked to flight instructors about incorporating airport safety into the training they provide. The team also solicited assistance from their flight standards district office in creating a pamphlet on safety that is distributed to pilots.

Another component was instituting a mandatory read-back reminder, in which pilots read back their instructions from the controller. “It can be a pain, but if you repeat it, it forces the issue,” Kleinbeck said. Because Flying Cloud had also experienced some incidents with truck drivers and tug drivers crossing active runways, the team established new rules requiring operators to attend a driving certification class in order to get recertified to drive on the airport, Harris said.

Kleinbeck urged aviators to work together on

a proactive approach to solving these types of problems and dealing with them on a local level. Resources such as the FAA, Mn/DOT, and air traffic providers can help with improving safety, he added.



Joe Harris and Jeff Kleinbeck

Concurrent Session 3b — Lease Agreements and Setting Rates and Charges

Jeff Stewart, associate/group manager with WSB and Associates and AirTAP program consultant, moderated a concurrent session that highlighted key aspects involved in negotiating lease agreements and setting rates and charges at GA airports.

What to include in a lease

Susan Thompson, director of planning and development with the Duluth Airport Authority, supplied copies of various lease samples and touched on the main points that should be incorporated in any standard agreement or lease. Some of these include recording the tenant’s proper name and determining if the tenant is an individual or a corporation; listing the lease term and renewable options; defining how the space will be used; defining who’s responsible for specific taxes, utilities, maintenance fees, and other charges; clarifying when rent payments are due; and noting where the tenant’s records are located for audit purposes.

Thompson pointed out that the sample leases cover all of the most important items and are “attorney-approved.” Your lease might not need to include everything included in the samples, but the samples can be a great resource to use as you develop your own agreements, she said.

According to Thompson, one of the most common challenges owners have is getting out of a lease. The best way to avoid lease termination problems is to be sure the contract states what constitutes default and how you can terminate a lease based on that, she said. In addition, a lease should define how many days’ notice is required for termination and whether or not the termination notice must be in writing. “Since there are so many issues that can crop up, the best advice I can give you is to be sure to address everything you

can in your leases. Of course you can’t cover all of the possibilities, so you just have to do the best you can,” Thompson said.

Setting rates and charges

Glenn Burke, airport manager with the South St. Paul Municipal Airport, described some ways to determine the proper rates and charges for airport tenants. Some airports, he said, base their rates on lot size; others base them on the size of the buildings, while others base their rates on the building footprint size plus a percentage.

As with many things, “location, location, location” is key, and airport owners and managers should charge tenants appropriately, Burke said. For example, if a tenant’s operation has access to an aircraft ramp, take that into account when setting that tenant’s rent rate.

When determining rates for T-hangar and multiple-plane storage facilities, many airport managers first conduct a market survey—talking to other airport owners and managers in their location, looking for similarities, and setting rates accordingly, Burke explained. Another important element to think about is the demand. Demand for space in the Twin Cities area is greater than that of a smaller community, so Twin Cities airports may have higher rates than out-state airports. In addition, he added, some airport managers charge fuel flowage fees, basing these prices on what the market will bear. Or they forecast how many gallons they hope to sell and set rates accordingly as a way to reduce their dependency on funding from their local government. “Some resort airports are also beginning to use vehicle parking fees as a revenue source,” he said.

Burke reported that to date, 33 responses had been received from the rate survey MCOA recent-



Kelly Gerads, Glenn Burke, Susan Thompson

“You need to come to a consensus with your board about what your airport is trying to do—that is, essentially establishing a mission statement for your airport.”

—Kelly Gerads

ly sent to more than 150 GA airport managers across the state. Rate information gleaned from the responses so far:

- Private land rental rates: high, \$0.17½ per square foot; low, \$0.03 per square foot; average, \$0.13 per square foot.
- Commercial rental rates: high, \$0.25½ per square foot; low, \$0.07 per square foot; average, \$0.13 per square foot.
- Unimproved ground rental rates: high, \$0.19 per square foot; low, \$0.03 per square foot; average, \$0.11 per square foot.
- Farm rental rates: high, \$142 per acre; low, \$7.66 per acre; average, \$67 per acre.

[Look for the completed survey results in the near future at www.mnairports.org.]

Kelly Gerads, manager for administrative services with the Metropolitan Airports Commission (MAC), described three basic steps MAC uses to develop and implement rates and charges: defining the financial objective, building the proposal, and implementing the proposal. “You also must consider your audience, which consists of not only your airport tenants, but also your board,” she said.

“You need to come to a consensus with your board about what your airport is trying to do—that is, essentially establishing a mission statement for your airport. This helps you argue your case with the tenants and board and also helps you develop what your infrastructure should look like as well as the services you provide your tenants.”

In addition, she explained the importance of conducting a market rate analysis and of looking at the niches and demands your airport is trying to serve. “We [MAC] hadn’t increased rates in 30 years,” Gerads revealed. “Finally, in 1999, as our deficit continued to grow, our commission set a financial goal for us stating that we would attempt to recover management and operations expenses of the reliever airports and generate additional revenue for capital projects.”

You also must examine what the annual capital improvement expenses will be and decide if you will charge your tenants for these. “In our case, we had two categories of capital improvements: those that maintain the current system and those that improve it,” she said. “We charge tenants for those capital expenses that maintain the existing system.”

Gerads suggested talking with other airport managers to find creative new revenue sources. “Remember, you always will be challenged by your tenants, so make sure you have mapped out the complete picture of your case,” she stressed. “Make sure you have an in-depth understanding of how other airports are operating.”

[For electronic copies of the lease samples provided in this session, contact Jeff Stewart at JStewart@wsbeng.com.]

Concurrent Session 4a — Controlling Wildlife at Your Airport

In a session on controlling wildlife, John Hart, wildlife biologist with the USDA’s Wildlife Services program, and John Lott, airport certification/safety inspector with the FAA, discussed the impact of wildlife on airport operations and methods for managing it. The session was moderated by John Hippchen of Mn/DOT.

Lott began by noting that during the past century, wildlife strikes by aircraft have resulted in the loss of hundreds of lives worldwide, as well as billions of dollars worth of aircraft damage. “Wildlife strikes are a very serious threat—don’t underestimate [them] for a minute,” he said. Wildlife strikes pose an increased risk today because more

commercial aircraft are flying, and they’re faster and quieter than older aircraft.

Every species of wildlife can pose a threat—some direct, some indirect, Lott said. Not only can an animal or bird strike result in aircraft damage, injuries, or fatalities, but it can also result in an airport being found liable for the incident.

Hart reported that about half of all strikes are caused by just three species of birds: gulls, raptors, and waterfowl. Geese are especially problematic and have been known to bring aircraft down when struck, Lott said.

According to rankings by the FAA and USDOT, deer cause the most major damage. “If you have

deer on your airfield, it's a high-risk situation and needs dealing with immediately," Hart said.

Lott pointed out that 14 CFR Part 139 requires certificated airport operators to take immediate action to alleviate wildlife hazards when detected. Also, airports that receive federal aid must maintain compatible land use and safe airport operations. Lott noted that FAA AC 150/5200-33A, *Hazardous Wildlife Attractions on or Near Airports*, provides guidance on the location of these land uses on or in the vicinity of public-use airports. Any type of human-made or natural habitat such as poorly drained areas, landfills, retention ponds, roosting areas on buildings, agricultural activity, or landscaping might be used by wildlife for escape, feeding, or reproduction.

"Whenever you're involved in an airport development project, you have to consider wildlife as part of the project. Any land use ... that has the potential to bring in more wildlife has the potential to increase the risk of strikes," Lott said.

Most bird strikes occur at or near airports, and steps can be taken to at least reduce the risk. A good first step is to learn what species of wildlife are present. Every airport should have a field guide available to help staff identify species, because different types of birds pose different threats.

One way to control birds is to drain ponds. However, since that isn't always possible, Lott described the use of a Kevlar wire grid over an area of standing water. The grid helps keep birds out of the water by creating an optical illusion that discourages them from landing. This method has worked well at Chicago's O'Hare Airport for controlling Canada geese and ducks, Lott said.

From the presenters' perspective, a good-quality fence is perhaps the only effective method for controlling deer. A fence should be at least 10 feet high, with secure gates that won't allow deer to squeeze through or under them. If deer do get in-

side, someone will need to run the perimeter to discover where deer are getting in. Many times fencing is breached at drainage ditches, and some ingenuity with posts might help. Although a fence is initially expensive, it should be relatively low maintenance, Hart said.

Other mammals—badgers, woodchucks, foxes, and even mice—can cause problems at an airport, often because they attract predators.

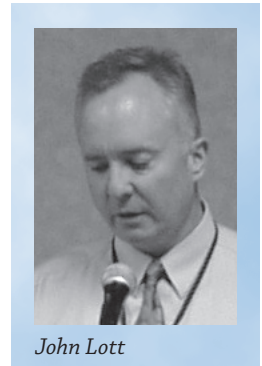
Some wildlife control methods worth trying include harassment/hazing, pyrotechnics, propane cannons, and loudspeakers. But remember, Hart said, that animals can habituate. "They're already used to loud noises living on an airport." Be prepared that trapping is labor intensive and hence expensive, Hart added, as is relocating animals.

For lethal removal of migratory birds, both state and federal permits are required; exceptions are made for starlings, blackbirds, and crows. For mammals, no federal permit is required for most, but a state permit is.

Both presenters emphasized the need to keep a wildlife log as documentation. The log should include the dates and times of wildlife sightings, type of wildlife, and what action was taken. In this way it provides a historical record, helps with planning, makes employees aware of any problems, and provides a good defense in the event of accusations of negligence.

Habitat modification is the best long-term solution, Hart said. But elimination of habitat for one species may result in attractive habitat for another. For example, letting grass grow longer may discourage geese, but may encourage rodents and then raptors, "so you need to be careful," he added.

No one method will work for every species and every situation, the presenters said. Rather, what is needed is a combination of tools, methods, and strategies for an integrated approach.



John Lott

“Whenever you’re involved in an airport development project, you have to consider wildlife as part of the project.”

— John Lott

In this marketing-oriented session, participants used computers to work along with the presenter to view and manipulate various parts of the marketing toolkit.



Ann Johnson

In the “Marketing Your Airport” session, Ann Johnson, president of Professional Engineering Services, demonstrated specific methods for using the *Flying High* airport marketing toolkit. Several laptop computers were provided for participants to use during the session so they could access and manipulate the various toolkit elements.

The toolkit was developed in 2003 by AirTAP to assist local airports in marketing their value to their local communities, Johnson explained. The three basic goals of the toolkit are to help airports promote their economic impacts, provide ways to build goodwill and support, and offer ideas for getting the word out about an airport’s activities and making it a community resource for non-pilots. When discussing these goals in the session, Johnson gave participants examples of how the toolkit can assist in accomplishing each.

One component of the toolkit is a study quantifying the economic impacts of Minnesota airports, and Johnson showed participants how to access the full study as well as the summary. This, she said, could be used as a handout at presentations or as a resource in personal visits to legislators or board members.

The toolkit also contains a ready-made presentation titled “The Economic Impact of Your Airport to the Local Community.” Johnson showed participants how to use the presentation as is or by making changes to customize it for their specific airport and community.

Ideas are also given in the toolkit for promoting the value of an airport to legislators and airport or community board members. Using the prepared information can assist airport advocates in educating others about the need to maintain the airport as an important community resource, Johnson said.

Suggestions for building goodwill within a community include starting an airport club, working with local school groups and scout troops, and planning events at an airport. The toolkit also contains case studies, which Johnson showed participants how to use, along with the names and contact information for people around Minnesota who have successfully built community support.

Making presentations at local community groups is an excellent way to get the word out about an airport’s economic value, Johnson said, adding that the toolkit’s PowerPoint presentation could work well for these types of activities. Other ways to generate publicity for an airport include developing an airport logo, buying a digital camera for recording airport events, creating an airport Web site, and preparing informational articles about the airport for publication in local newspapers or newsletters.

Finally, Johnson showed participants how to use the Web resources provided in the toolkit, which include links to promotional and marketing materials as well as places to get related videos and other documents.

Conversations with Jeff Hamiel / Commercial Service Session

At an informal gathering at the St. Cloud airport, Jeff Hamiel, executive director with the Metropolitan Airports Commission (MAC), led a discussion on commercial air service. “A general aviation airport manager trying to gain and secure [scheduled commercial air] service is not unlike what we [at MAC] do to try to draw competitive service into Minneapolis-St. Paul International Airport (MSP),” he began. “So, let’s have some feedback. For some of the smaller airports in Minnesota with scheduled commercial air service, do we deserve it? What’s our rationale for securing this service?”

What’s happening around the state

Bryan Ryks with the Duluth Airport Authority responded that airport managers are under pressure to expand service, because expanded service

means more revenue for those airports, which influences the economic development of the community. He described the situation with American Airlines’ American Eagle service that began in 1998 and continued to build until the terrorist attacks of September 11, 2001. “The downturn in aviation after that forced American Eagle to pull its service and Duluth got the short end of the stick.”

Next, Bill Towle with the St. Cloud Regional Airport explained that St. Cloud is in a “drive market.” “That is, we are 60 miles from the Twin Cities, so people drive from St. Cloud to the Cities to catch their planes. But we in St. Cloud think air service is nice to have...so far we’ve been unsuccessful at enhancing the existing service or bringing a second carrier into this airport. We’re still talking to the airlines,” he said.

Hamiel then asked to hear from representatives from communities that want but do not yet have commercial scheduled service.

Luther Krepstekies, City of Mankato, replied that at one time, Republic Air served the community; United followed, but with unreliable service. “We’ve taken three runs with Northwest Airlines (NWA),” he said. “We have buses that run between Mankato and MSP every day, but we’d love to get scheduled commercial air service back.”

Mark Hoyne with the Grand Rapids-Itasca County Airport discussed Grand Rapids’ recent loss of scheduled commercial air service. “When we examined the statistical data, we found that in 2001, more than 22,000 people from our area bought plane tickets, but only 30-some percent of these people flew from Grand Rapids; the rest leaked to other markets,” he said. “From a financial standpoint, we couldn’t fault NWA’s decision to pull its service, but some of the problems are generated by the airlines themselves with regard to schedules.” As an example, Hoyne noted that his airport’s number-one market was Phoenix, but if people left on the first flight out of Grand Rapids, they didn’t get to Phoenix until late at night. On the other hand, if they left from Hibbing, they got to Phoenix by late morning. Grand Rapids is now seeking scheduled commercial service from carriers other than NWA, he added.

What’s happening at MSP

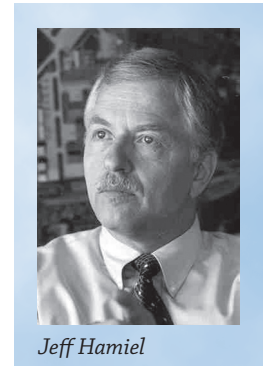
Hamiel next provided an update on what’s been going on at MSP. In 1996, the legislature decided not to build a new airport, but rather, to update the current one. MAC has just completed the final financing on a \$3.1 billion MSP expansion. “Eventually, though, we will have to think about building a new airport. MSP won’t be competitive past 2030, and the planning process takes about 15 years,” he said.

He admitted, too, that despite these airport improvements, the airline business is still in serious jeopardy. As far as legacy airlines go, NWA is doing “okay,” he said, but that just means they are losing less money than the other airlines. He also talked about the threat to legacy airlines from low-cost carriers and pointed out that Southwest Airlines is the most successful low-cost airline in history. “Every quarter since 1974 through today, Southwest has generated a profit. They’ve never had a losing quarter. They fluctuate with more and less profitability—but they don’t lose money.”

In response to the question “Why doesn’t Southwest Airlines serve MSP?” Hamiel explained that MAC keeps pitching the idea and Southwest keeps listening, but MSP doesn’t fit Southwest’s model. “Southwest Airlines does not like going into markets with a fortress-dominated hub,” he said. “NWA is the most tenacious competitor in the industry, and there’s too much low-hanging fruit in other markets for Southwest.”

Hamiel reminded participants that although NWA is often thought of as the “big gorilla,” the company employs many people and still wants to expand and grow when no other airline does. “NWA is strategically deciding to compete by looking 5 and 10 years down the road,” he said. “They are positioning for growth. They are adding flights when no one else is, and if I were a small community looking for service, I’d keep knocking at their door. It might take years to happen, but you will see changes in the future.”

In his closing remarks, Hamiel invited the group to contact MAC. “If there’s anything we can do to partner with your airport and help to improve the aviation environment in Minnesota, let us know. I believe we can grow aviation in the state, and if we can help you, we will work with you at your request.”



Jeff Hamiel

“A general aviation airport manager trying to gain and secure [scheduled commercial air] service is not unlike what we do to try to draw competitive service into Minneapolis-St. Paul International Airport.”

— Jeff Hamiel

In this session with Jeff Hamiel, participants from commercial service and general aviation alike engaged in a lively, informal dialogue exploring local impacts of national air service trends, then joined the full group in touring St. Cloud Regional Airport.



Kathy Vesely

In a session moderated by Ann Johnson of P.E. Services, Kathy Vesely with Mn/DOT Aeronautics and Jim Moriarty with PEER Associates covered three steps in the process of purchasing airport maintenance equipment: determining what equipment is eligible, determining what to buy, and completing grant applications.

Planning for purchases

Only snow removal equipment (SRE) and airport rescue and fire fighting equipment (ARFF) at commercial service airports are eligible for federal funding, Vesely said. State funds may be used to purchase SREs, mowers, inspection trucks, and friction meters if they are required, but not paid for, by the FAA. To be eligible for both state and federal funding, the equipment must first be listed on the airport's Capital Improvement Plan (CIP).

Moriarty urged airport personnel to thoroughly research equipment prior to buying it. One truck can be used for many purposes, but only if the attachments are considered when planning for the initial equipment order.

Next, Moriarty discussed other considerations when planning for equipment purchases: liability issues involved with airport maintenance, having the right equipment for the job, and keeping timely and current Notices to Airmen (NOTAMs) and field condition reports, including friction measurement records. Most important, make sure that equipment will fit into the airport maintenance garage or hangar on the airport, he said.

Airports should develop two-, three-, and five-year purchasing plans based on known or projected airport expansion or growth in operations and develop a depreciation (amortization) plan for equipment replacement.

Choosing equipment

When it comes time to choose equipment and obtain funding, Moriarty encouraged participants to consult with AirTAP and Mn/DOT Aeronautics staff. He then discussed the many features of blowers, brooms, trucks, blades, and other attachments. Moriarty recommended airports purchase a friction measurement device that provides a *mu* reading. This enables pilots to make an assessment of the landing conditions based on their aircraft, removing much of the liability from the airport itself. Also, purchased equipment should be approved by the FAA to further reduce liability issues.

Preparing to purchase

Once a purchase is approved, you need to develop the technical specification and request bids from manufacturers, Moriarty said. Research the various manufacturers specific to the type, size, capacity, and configuration best suited to your mission. Request a list of airports that have purchased the same equipment in the last three to five years, then contact them and ask questions such as how long they have had the unit, whether they experienced any recurring problems, and whether the manufacturer satisfied or corrected any problems.

Moriarty emphasized the importance of knowing the laws and regulations as they pertain to public bidding practices. Before you advertise to solicit bids, be sure to have your bid document (including the performance specification with boilerplate specification) reviewed by your legal and/or purchasing staff. Use the Minnesota State Contracts in the procurement process if possible, which will allow you to circumvent the lengthy bidding process. Call the state or visit www.dot.state.mn.us/equipment, or ask a local vendor if it is an accepted supplier of the needed equipment. Another source of purchasing information is the Airport Purchasing Group: www.airportpurchasinggroup.org/home.htm.

Regarding ethics, Moriarty urged participants to follow the letter of the law. "You're not starving; you don't need a meal from a vendor or manufacturer's representative," he said. "Rule Number 1: take nothing and you will owe nothing."

Vesely wrapped up the session by outlining equipment purchasing requirements and explaining how to secure grant money. State grants cover 80 percent of the purchase at airports not designated in the National Plan of Integrated Airports (NPIAS) and 70 percent of the purchase at NPIAS airports. The local airport covers the remainder of the purchase.

For equipment to be covered by state grants, you need to write a grant request letter that includes a copy of the successful bid or quote, as well as any engineering or administrative fees paid as part of the process (such as advertising costs), Vesely said. This request takes the form of a simple cover letter on appropriate letterhead with an authorized signature. Mn/DOT Aeronautics will then prepare a Grant Agreement and Resolution, to be approved by the airport governing board.

After it has been approved, sign and seal or notarize the agreement and return it to Mn/DOT Aeronautics for final approval and routing through the legal, finance, and administrative units. Once



Jim Moriarty

you receive it back as a Notice to Proceed, you may purchase the equipment and request the reimbursement on a credit application. Finally, after equipment is purchased, invite Mn/DOT Aeronautics to a final inspection.

For equipment eligible for federal grants, 95 percent of the purchase is reimbursed by the FAA, and 5 percent is covered by the local airport (the state cannot cover the local airport share of the purchase). Entitlement funds can be primary or non-primary (general aviation funds of \$150,000 per year).

For equipment to be covered by federal grants, the process includes several additional steps. Once completed, the airport writes a letter to

Mn/DOT Aeronautics asking it to apply for the federal grant. Once the FAA has offered the grant, Mn/DOT Aeronautics will forward the grant offer to the city.

The airport governing board should approve the federal grant offer before the equipment is purchased. After the federal grant is accepted, Mn/DOT Aeronautics will prepare a state grant agreement and resolution, and then the airport sponsor may request reimbursement on a credit application.

“As with a state grant, invite Mn/DOT Aeronautics to a final inspection,” Vesely said. Once the closeout report is approved, the project is closed.

Concurrent Session 5b — Understanding Airport Zoning

Once again, moderator Jeff Stewart led an informative session, this one geared to shed some light on airport zoning and licensing. And once again, Rick Braunig was back, this time to discuss different types of airport surfaces and their related requirements.

Surface requirements

Braunig acknowledged that most of the attendees were probably familiar with the Code of Federal Regulations (CFR) Part 77 surfaces that are used in airport licensing. “But,” he added, “there are a lot of other surfaces ... that you need to know about because when you sign your grant assurances, you’re essentially agreeing to meet certain surface-related requirements.”

Braunig talked specifically about three of the CFR Part 77 surfaces, highlighting how the federal and state requirements compare:

1. Primary Surfaces—State and federal requirements are the same: the surface is centered on the runway; extends 200 feet beyond the ends of paved runways; is 250 feet wide for visual utility and 500 feet wide for non-precision and other-than-utility runways; and is 1,000 feet wide for precision and for less than one mile of visibility.
2. Approach Surfaces—The trapezoid extends out and up from the primary surface in line with the runway. Minnesota’s rules differ from Part 77 in that the state requires the surface slope of visual utility approaches to be 20:1; for non-precision approaches it’s 40:1, and for precision approaches it’s 50:1.

3. Transitional Surfaces— State and federal requirements are the same: the surface extends out and up from the sides of the primary surface and approach surfaces.

Braunig noted that for licensing purposes, Mn/DOT considers only buildings and structures. So although trees are not an issue for licensing, they are with regard to compliance with FAA grant assurances. There are a number of different FAA grant assurances surfaces, he said. A few of the most important ones, and related requirements, are:

1. Runway Safety Area—The FAA wants this at all airports, including private airports.
2. Object-Free Area—The FAA encourages extending the Object-Free Area if possible.
3. Runway Protection Zone—This is similar to Mn/DOT’s land use zoning and is intended to protect people and property on the ground around the airport.

[For more information regarding airport surfaces and related federal requirements, see the FAA Airport Design Advisory Circular 150/5300-13, available at www.faa.gov/arp/publications/acs/5300-13_chg8.pdf. For more information on state guidelines, contact Rick Braunig at Rick.Braunig@dot.state.mn.us.]

Land use compatibility

Debra Sorenson, planner with the Mn/DOT Office of Aeronautics, said that although land use compatibility seems like a simple topic, it has many complex features. “I’ve broken the subject down based on the documents I think need to be includ-

“There are a lot of other surfaces that you need to know about because when you sign your grant assurances, you’re essentially agreeing to meet certain surface-related requirements.”

—Rick Braunig



Jon Tonneson

“GIS and aviation go hand in hand.”

—Jon Tonneson

ed: the community’s comprehensive land use plan and zoning ordinances, and the airport’s master plan and safety zones,” she said. Together, these documents provide for airspace zones to prevent aircraft hazards, protect adjacent land use from incompatible development and encroachment, protect the airport in terms of its runway capacity, and function as a public investment, she added.

Sorenson then described some of the state airport safety standards, including the details of airport safety zones A, B, and C and the permitted/prohibited uses for each. Permitted uses for safety zone A include agriculture, wildlife habitats, cemeteries, and parking lots. Prohibited uses in safety zone B are hospitals, churches, schools, stadiums, or other places of public assembly. Safety zone C prohibits any use that creates interference with radio or electronic communications between airport and aircraft and that creates a lighting distraction or impairs a pilot’s visibility.

Since one airport may affect more than one jurisdiction, the key with any of the state’s land use controls is coordination and cooperation, Sorenson said. One such control is the comprehensive plan, with which all zoning and regulations should be in accordance. Another is zoning, which is often used in place of a comprehensive plan and is given to municipalities with police power. Other controls include purchasing fees, titles, and easements: these can be the most costly, but most effective, way of controlling land use. One other control new to Minnesota is real estate disclosure notification, which requires the seller to disclose material facts that may affect the use of a buyer’s property, including whether or not a new runway is going to affect enjoyment of that property.

In Minnesota—and nationally—there is an increasing demand for developable land. Today, airports that were once in a field outside of town are feeling pressure from developers, and when communities are faced with budget cuts, the added tax base that comes with new development is appealing. But this development could compromise the safety and utility of an airport. “Air travel is safer than ever,” Sorenson said. “Consequently, there are beliefs that safety zoning has become too rigid and outdated. We have to objectively ask ourselves if that is true or not, and weigh it against our job

to ensure that communities are providing a safe environment around the airport.” Sorenson noted that the Mn/DOT Office of Aeronautics is working with Clarion Associates, a national land use and real estate consulting firm, to develop a comprehensive manual on compatible land use around airports. This manual will serve as a guide for airport managers, community planners, and zoning administrators and should be available in August or September 2005 at www.mnaero.com.

Airport planning and design

Finally, Jon Tonneson, airport GIS coordinator with Kadrmas, Lee, and Jackson, described the geographic information systems (GIS) his company uses when planning and designing airport expansion and improvement projects for its clients.

“GIS and aviation go hand in hand,” Tonneson said. “Using GIS models allows planners and other stakeholders to accurately see how a proposed airport expansion lays out compared with what exists today.” Planners can obtain a parcel database from the city or county that indicates where utilities are and how much land values are, for example, and can layer everything to form a complete picture. According to Tonneson, a three-dimensional GIS model is much better than trying to show this level of detail on blueprints or paper maps.

Tonneson demonstrated this from a laptop computer by showing a 3-D model of the St. Cloud airport. First, he opened a model containing only the ground layer components; he then added the airspace layer, which visually represented the actual space around the St. Cloud airport and showed any obstructions. Next, he completed the picture by adding GIS layers pulled from the city database that included environmentally critical areas. The completed model showed the location of proposed construction and what issues needed to be addressed or modifications needed to be made based on the proposed design.

Tonneson then showed a 3-D model of a South Dakota airport and the different design options planners were considering. “Through GIS modeling, we can create different scenarios that let us see which design plan best solves the challenges and meets the airport’s needs,” he explained. [For more information visit www.kljeng.com.]

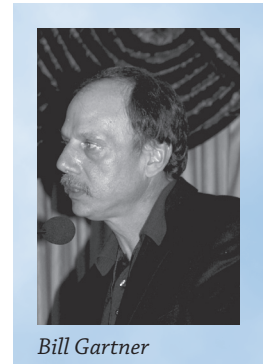
General Session 6 — Assessing the Economic Impact of Your Airport: Launching an Interactive Web-Based Tool

In a much-anticipated presentation, Professor Bill Gartner, Department of Applied Economics at the University of Minnesota, introduced a new interactive Web-based economic assessment tool that he and a team of University researchers had developed. “It’s important to try to measure what is happening with all of the smaller airports around the state,” Gartner told the audience. Although it was a challenging task, the tool should give airports a good approximation of their economic impact, he added.

Before taking participants through a step-by-step look at the new tool, Gartner clarified what was meant by “economic impact.” “Let’s be clear. We are not measuring revenue or profitability, but rather we are measuring money and jobs,” he ex-

plained. “For example, when someone flies in to your airport, then leaves from there to a seasonal home, that is economic impact, and that’s what we measure.”

The tool is set to launch in early 2005 and will be available to Minnesota’s regional airport managers at www.mnaero.com. Users simply follow the steps, filling in appropriate information as requested; upon completion, a straightforward, printable report is generated based on the information provided. Users can then go back, change assumptions, and generate another report. The tool should work well for scenario modeling and for estimating the impact new activity would have at an airport, Gartner added.



Bill Gartner

“Let’s be clear. We are not measuring revenue or profitability, but rather we are measuring money and jobs.”

— Bill Gartner

General Session 7 — Navigating Your Way Through the CIP Process

In October of 2004, Mn/DOT mailed its annual capital improvement program (CIP) request letter to Minnesota airports. Peter Buchen, airport development section manager with Mn/DOT’s Office of Aeronautics, explained that in previous years this request had consisted of a thick packet of information; now it’s a letter only. Recipients can find the rest of the information online at www.mnaero.com.

In a session moderated by Ron Lloyd of WSB and Associates, presenters Buchen, Jeff Stewart, and Nancy Nistler walked participants through the process of completing a CIP.

The CIP was designed as a planning tool to help airport owners and managers determine what improvement projects they can afford and when they can start them. From Mn/DOT’s Web site, users can pull up their previous year’s CIP and make any changes—including the addition of new projects—to that document, then send it to Mn/DOT for inclusion in its database.

The main thing to consider when completing the CIP forms, Buchen said, is not to “over-think” it. “The CIP form is just a planning tool, so you don’t need to know right now how you’ll address every issue. You just need to answer ‘yes,’ ‘no,’ or ‘maybe,’ and we’ll help you figure out the rest.”

Completing the CIP

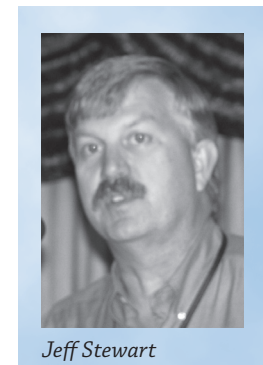
Jeff Stewart offered further guidance by discussing the nuts and bolts of the CIP. For help with the cost estimate portion of the CIP, for example,

Mn/DOT’s Web site [www.dot.state.mn.us/aero/avoffice/pdf/costupdate.pdf] can tell you what typical airport projects and equipment cost, and that can be used as a guide for your own estimating, Stewart said.

Another piece of the CIP involves eligibility. According to Stewart, most airport projects are eligible for some sort of state or federal funding, yet local airports often do not know which projects are eligible for which type of funding. If airports have questions regarding a specific project, their regional Mn/DOT engineers can help, he said.

Stewart then discussed the five basic project types within a CIP—airport planning, land acquisition, construction, maintenance, and equipment purchasing—and noted that the airport layout plan (ALP) is the key planning document for each of these projects. “When you seek funding for a project, the first question asked is ‘Does that project show up on your ALP?’ And if it does not, that’s the first thing you’ll have to do,” Stewart said.

Stewart explained that the “timeline” reference on the CIP form means the year that the airport anticipates beginning a project. “Rather than indicate the year you want to construct something, you may have to indicate in the previous year on the CIP a plan to start the design and plan the preparation process.” Also, consider budgeting by year, he said. “There are budget constraints that limit the number and type of projects per year, and you may have to phase a project over a number of years,” Stewart cautioned. [For help completing



Jeff Stewart

“There are budget constraints that limit the number and type of projects per year, and you may have to phase a project over a number of years.”

—Jeff Stewart

In the CIP session, participants formed small teams to work through “practice” CIP plans with a key expert, then presented and discussed their different approaches with the entire group.



Nancy Nistler

the CIP forms, see the AirTAP CIP planning guide available at www.airtap.umn.edu/pdf/CIP_guide.pdf. For additional assistance, contact Mn/DOT Aeronautics at aeroinfo@dot.state.mn.us.]

FAA review

Nancy Nistler, manager with the FAA Minneapolis Airports District Office, discussed the primary elements the FAA looks for when reviewing a CIP for approval: eligibility and justification, the airport layout plan, and any required environmental approval. “We also check to see whether or not the timing makes sense, the funding request is reasonable, and the CIP forms have been submitted,” she said.

Furthermore, to determine project eligibility, the FAA references the *Airport Improvement Program (AIP) Handbook* as well as program guidance letters, Nistler said. Airports completing their CIP forms should do the same. [The handbook can be found at www.faa.gov/arp/publications/orders/aip/AIPHAndbook/5100-38BChange1Complete.pdf; the guidance letters can be found at www.faa.gov/arp/financial/aip/guidance.cfm?ARNav=aip.]

Finally, there are several federal forms airports need to submit when updating their CIP, Nistler said. “These are also the forms we [at the FAA] use to program your project; they really serve as checklists for us as we go through the approval process.”

These documents include Attachment B–ACIP Attachment Checklist, Attachment C–Environmental Checklist, and Attachment D–Programming Work Item Sheet. [The forms can be downloaded from www.dot.state.mn.us/aero/avoffice/airportdevelopment/forms.html.]

Following the panel discussions, the participants separated into small groups to work on completing a “practice” CIP plan. Each small group worked through a scenario at a case example airport that resulted in a \$3 million runway extension project. The participants were encouraged to use the *Capital Improvement Program Guide*, a publication produced by AirTAP, to help develop their CIPs. After each small group completed their CIP, a representative presented their solution to the large group. The solutions were varied and generated further discussion.

Final Wrap-up and Evaluations

Cheri Marti concluded the event by taking the group through a verbal evaluation session. Audience members generally responded that the event was “excellent,” provided “many active learning” opportunities with experts and one another, and offered a diverse balance of topics within a short timeframe that were “current and relevant to the needs of Minnesota’s GA airports.” In addition, participants agreed that conference materials would serve as helpful references. They also indicated that they would like to see the forum offered annually with a continued emphasis on the interactive learning format.

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