Annual fall forum highlights 'year in the life' of airports

In the forum’s first session, Cathy Huebsch, assistant north region engineer with Mn/DOT, demonstrated the prototype for the agency’s new online Capital Improvement Plan, called Mn/CIP. The system is expected to launch late summer of 2010. Huebsch said the new system will allow Mn/DOT to better manage data from the 136 Minnesota airports submitting annual CIP information and therefore, better allocate funds.

Forum attendees were encouraged to try the system at computer kiosks set up for that purpose, as Mn/DOT is interested in getting feedback on the process before it goes live.

The CIP is used to plan and program for construction projects that develop and preserve the public-owned system of Minnesota airports. Eligible projects include planning, land acquisition, paving, lighting, navigational aids, obstruction removal, equipment purchase, fencing, noise mitigation, and other needs.

Mn/DOT’s goal for the Mn/CIP process, was happening with the state’s airports. Harold Van Leeuwen Jr., Bemidji Regional Airport manager and Minnesota Council of Airports president, mentioned recent negative publicity airports have received in the national news.

Airport managers, he said, need to avoid becoming a target of criticism, “and the way we do that is to spend our money and do our jobs really well, and make the public aware of what they get from their airports.” The AirTAP Fall Forum is one way to do that, he added. “It gives us the opportunity to talk to other people who work at airports and learn how to tell that story.”

New CIP system will give airports ‘one-stop shop’

In a session geared toward assessing pavement, Weiss said. “It’s not just me going out there and saying ‘That’s good.’”

The main objective for any APMS is to apply the right treatment, at the right time, to the right pavement. “Pavement is going to wear out…Even if you didn’t have any traffic on it, it’s going to deteriorate. The idea is to catch [problems] before reconstruction is your only option,” Weiss said. The challenge, he added, is determining the best timeline for repair.

Weiss cautioned that the APMS is not intended to replace the sound engineering judgment of decision makers. “[The system] can’t just spit out a solution,” he said. It’s also not meant to provide detailed design information, to remain a static database, or to provide a “worst first” management approach for project selection.

Weiss said the output from the system is a PCI between 0 and 100. From that, the system can prepare maintenance and repair budget scenarios—minor things such as crack sealing or patching, or more extensive repairs such as milling and overlays, he said.

“Anyone who owns or manages a network of pavement knows it’s the largest asset you have,” Weiss said. In a tough

Pavement management protects an airport’s largest asset

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Safe fueling operations rely on regular inspections

In this panel session focusing on airport fueling operations, Joshua Brown, Edward Puchtel, and Craig Holmquist of O’Day Group Equipment discussed fuel storage, tank inspection, fuel dispensation, and other recommended user practices.

The panel began by emphasizing the importance of checking a fuel tank’s vents—both the operating and the emergency vents. These tests are most important in the fall, when the weather turns colder, leading to condensation on inner tank walls; however, vents should be tested on a regular basis. The panel noted that most tanks are designed to be pressurized at three pounds per square inch (psi)—less than the tires on most four-wheelers—which is why venting is so critical. Another vital task for ensuring a safe gas tank is checking for water infiltration, which commonly occurs due to condensation in the tank or pipes. These checks can be administered either by the fuel provider or by the airport maintenance crew. The important thing is to have a mutual agreement on who is responsible, Holmquist said.

Cathodic protection (CP) is another key element of maintaining safe fuel-storage systems. If the charge of your tank becomes positive, it will begin to lose particles, which manifests as rust. The anode, which is added after the manufacture of a tank, acts as a sacrificial metal that helps keep a tank at the appropriate charge. Depending on the soil, an anode can last between 5 and 50 years. Some tanks will allow airport maintenance crews to conduct CP tests on their own; others will require a third party. The panel noted the advantage of conducting these tests during the spring or summer, when ground water is high and the cost of a test is low. If a CP test reveals that an anode needs to be replaced, action should be taken as quickly as possible. The Minnesota Pollution Control Agency requires that airports keep a written record of their CP tests.

Next, the panel discussed the importance of removing water from fuel tanks. With water come bacteria, and although there are chemicals to destroy these bacteria, some are not suitable for aviation fluid. Fuel can be treated with these chemicals, called “biocides,” at the airport or by the suppliers, but again the key is to have a mutual agreement on who assumes this responsibility, the panel said. When the diesel industry changed to a low-sulfur fuel, for example, it was determined that suppliers would add the biocide to keep in-fuel bacteria levels low. Airports should consider writing fuel-quality maintenance into the contracts they maintain with their suppliers.

Airports should also regularly inspect fuel filters. The panel suggested that maintenance crews verify that pump pressure does not exceed the limits for which the filter elements were designed. Filter elements should be changed on a calendar schedule, which will reduce the chance for biological growth within the fuel and water trapped in the filter.

It’s helpful for airports to be familiar with the brand of fuel their suppliers are using. Some brands inject their own anti-icing agents; others don’t. This is another quality-control measure that can be written into supplier contracts.

The panel then discussed the basic guidelines of fuel dispensation. Jet fuel at rural airports is usually pumped from a truck at a rate of about 40 gallons per minute, whereas the flow into cars at a gas station is less than 10 gallons per minute. A static charge is created when fuel flows through a system, which is why grounding is so important.

Airports should also conduct regular hose inspections, from the most basic, daily inspection of checking for wear-and-tear to the recommended every-six-month inspection of testing hoses to maximum pressure. The panel said it is acceptable practice to reverse a hose when it begins to show signs of wear. Reversing the hose can extend its life, as most hoses are used primarily on only one end.

Finally, Holmquist, Brown, and Puchtel touched on fuel-storage maintenance. They stressed that even though most airports are relatively small fuel-storage centers, they must prioritize meeting these safety recommendations and requirements. The inspections can be conducted on several levels—by the suppliers, the fixed-base operators (FBOs), or the airport maintenance crews—and responsibility for these inspections should be explicit in FBO contracts. In addition, the panel stressed that most airports will need to update their Spill Prevention, Control, and Countermeasure (SPCC) plans, many of which were written in the mid-1990s. Any airport storing more than 1,320 gallons of fuel must have an SPCC plan, and any airport that has added fueling products or methods must update its plan.

Accuracy, timeliness critical when reporting conditions

In a panel discussion focusing on winter pavement surface condition, Dave Beaver of Owatonna Degner Regional Airport, Brian Thompson of Rochester International, Kevin Baker of Mankato Regional Airport, and Jim Anderson of the Metropolitan Airports Commission agreed on the need to communicate accurate and timely information about the airport’s surface conditions to pilots, although methods may vary.

Thompson said his first priority is to notify the tower about pavement conditions, then the air carriers, rather than issuing a NOTAM (Notice to Airmen). “During a winter snow event, the condition changes just like that,” he said. Thus a NOTAM might be obsolete almost as soon as it’s issued.

Baker said he has no experience yet using the electronic system (e-NOTAM) for issuing NOTAMS, and it seems it’s being used more by airports with air service. The Mankato airport purchased a friction meter several years ago because many commercial pilots were looking for a new reading, he said, although general aviation pilots often prefer ratings of “good,” “fair,” or “poor.” The drawback of the friction meter is the high cost of annual calibration, Baker added.

Beaver said his airport doesn’t issue mu readings. Rather, experience helps him to identify pavement conditions. “It does change quite a bit. You have to be on top of it,” he said. “I try to describe it beyond just good, fair, or poor...[such as noting] if there’s slushy snow, or a layer of ice.” Beaver and Thompson both said they tend to be conservative when they issue pavement reports. “If it’s fair to poor, I’d go with poor,” Thompson said.

Beaver said he liked the e-NOTAM system because it allows the issuer to enter information directly rather than having to explain it to a briefer. The documentation is readily available, and the issuer receives quick confirmation. “You can forward the e-mail on to your users. You used to have to write it down in a binder and fax it out to everyone, and by then conditions may have changed,” he said.

“But there are still a lot of challenges.” Anderson said the e-NOTAM system has made significant progress since it debuted. He encouraged users to call the hotline set up by Lockheed Martin Flight Services, which administers the e-NOTAM system, and report issues they’ve experienced.

Rochester International uses an online system, created by Corporate Web Services, to report conditions from a laptop on the airfield. “It’s not free, but it’s worth the money if you’re concerned about getting that information out, without having to send 5,000 e-mails to airport users,” Thompson said. The system is comprehensive because it’s built on a database using every field condition report the airport has generated in the last three years. As a result, the airport is exceeding FAA requirements for record retention, he said.
economic environment, airports need to make the best use of every dollar, and pave- 
ment management provides a cost-effective approach for tracking critical infrastructure. 
“If you defer maintenance, eventually you’ll need to do a reconstruction, which is the 
most expensive option,” he said.

Weiss then described a plan to slow the rate of deterioration for a newly reconstruct- 
ed pavement. Ideally, he said, crack sealing 
would take place two to five years out, and 
slurry seals on asphalt pavement about three 
to six years out. Since additional cracks will 
show up, Weiss recommended annual rou- 
tine maintenance after a few years. “In general, you can expect the original 
pavement to last 20 years or so,” he said, 
adding that there are many factors to con- 
sider, such as geometrics and the extension of the runway.

When Mn/DOT is evaluating pave- 
ment, its first task is to collect sources of 
pavement history information and begin 
contacting airports about pavement inspec- 
tions, Weiss explained. Next, inspectors 
visually assess the pavement surface and 
the current conditions, which include the 
structural integrity and the impact on opera- 
tions. The third task is for inspectors to 
update the APMS database, organizing and 
summarizing the data collected. Mn/DOT 
then develops engineering models from the 
information brought back from the field. 
Pavement integrity models are used to estimate 
future PCI, not distress, Weiss said. 
Mn/DOT provides two types of recom- 
mendations in the report: near-term main- 
tenance (within one year from inspection) 
and major rehabilitation 
(projected five-year plan). For near-term 
maintenance, treatment is most cost-effective 
when it’s applied to pave- 
ments in generally good 
condition (with a PCI 
greater than 50) and on 
sections with little or no 
structural distress, Weiss 
said. Recommendations 
for major rehabilitation 
would identify sections 
in need of substantial 
repairs and costs based 
on projected PCI.

Weiss closed by urging airports to keep a 
monthly inspection log to demonstrate that 
an effective pavement management system 
is in place. Following Weiss, Ann Johnson of 
Professional Engineering Services led a 
group exercise on how to use Airport 
Pavement Evaluation reports to develop a 
five-year plan for an airport’s pavement.

CIP from page 1

Huebsch explained, is to build a “one-stop shop” for airports to manage their CIPs, giv- 
ing them 24-7 access, greater control of proj- ect selection, and earlier notice of funding. 
“IT will be a very powerful tool,” she said. 

This new system will also enhance budget 
planning at the local level, give airports guid- 
ance on project planning to improve their 
project scoping, and provide airports with the 
ability to better manage their CIP requests, 
Huebsch said.

Huebsch explained some of the process 
changes for the system. The online informa- 
tion will be entered by the airport or its con- 
sultant at any time; only the airport, however, 
can submit the request. The form will ask 
for more detailed information than in the 
past, and the system will also employ new 
terminology, distinguishing projects from 
requests. A project is the overall objective 
(such as new grading and paving), while a 
request is a piece of the project that’s funded, 
Huebsch said. “We fund requests, not proj- 
ects. That’s kind of the big difference,” she 
added, noting that this categorization will 
help Mn/DOT organize related CIP requests 
and help airports plan projects better by 
reducing common oversights.

The final step is for an airport to ensure 
it has actually submitted the information, 
Huebsch said. After a request has been 
submitted, it can still be edited, such as to 
update costs.

Mn/DOT’s process will be performed 
annually, and requests submitted after the 
CIP deadline will be included in the follow- 
ing year’s CIP. Initial priority will be based 
on project type—for example, pavement 
preservation will always score higher than 
a lawn mower, Huebsch said. Final priority 
will be based on Mn/DOT’s review.

Pavement

Airport managers balance technical, ‘people’ skills

Jeff Hamiel, executive direc- 
tor of the Metropolitan Airports 
Commission, returned to the 
conference, this time sharing thoughts 
on how to be an effective airport 
manager. Hamiel prefaced his talk 
by highlighting the importance 
of the public decision-making 
process. Government is often criticized for 
being slow-acting, overly bureaucratic, and 
warful, he said, but “slowness is built into 
the process to make sure things are done 
properly.” Airport managers, like govern- 
ment regulators, secure public safety; they 
serve a necessary function in a democracy, 
he said.

Engineers and pilots master certain tech- 
nical skills in order to do their job. Airport 
managers have the same task, though their 
technical skill set is less visible, Hamiel 
continued. Among other abilities, effective 
administrators must learn to scrutinize and 
assess how money is spent, prioritize expen- 
ditures, and interpret laws and legislation. 
In addition, he said, administrators must pos- 
sess political acumen and “human skills.” 
He emphasized the importance of drawing 
useful feedback from staff mem- 
bers and other colleagues and noted 
that self-awareness is key. Effective 
administrators must also master the 
art of conveying genuine gratitude. 
“Recognize the positive contributions 
of others,” he said.

Conceptual skills are equally impor- 
ant. “Where will we be 5, 10 years from 
now?” Hamiel asked. This question, he said, 
should inform every decision an airport 
manager makes.

Administrators must be responsive to 
democratic institutions. “Citizens are our 
boss,” Hamiel said. To be effective, airport 
managers must contribute to open debate. 
Decision making in the world of airport 
administration is a public process, and it is 
the duty of lifetime administrators to com- 
municate their expertise both to policymak- 
ers and to the public, he said. 

Hamiel concluded by highlighting the 
huge responsibility that airport managers 
carry. “In our business, you can’t make a 
mistake more than once,” he said. “You are 
a public employee who has been chosen to 
managing an important public asset.”

Hamiel then fielded questions from 
attendees, including one about local com- 
mmercial air service. Small, outstate airports 
wanting to attract commercial service need 
to take a realistic look at their community 
and economics and ask who is going to buy 
tickets, he responded. “Do I have enough 
demand in this community, year to year, and 
potential for growth, to make [an airline] 
provide service to this community? Can I 
offer a financial incentive? If you can’t do 
that, then you have to do the guts to face 
reality,” he said.

When asked whether he feels Delta has 
lived up to its promise regarding provid- 
ing service to outstate Minnesota, Hamiel 
said “yes.” He noted that Delta has 10,000 
employees in Minnesota and has struck the 
correct balance of large and small airplanes 
in its fleet.
This year’s forum offered a new feature in the form of “Jet Blast sessions”—10-min-
ute sessions focused on specific airport-related topics.

Kicking off with an icebreaker, airport managers voiced their biggest concerns, ranging from communicating the value of their airport to its community to get-
ting funding for projects. “I’ve made a concerted effort to always have a project on the table ready to go,” said Harold Van Leeuwen Jr., manager of Bemidji Regional Airport. “Money becomes avail-
able in one-year cycles. It requires some foresight. In today’s world…it really is short-notice money.”

In a session on the Airport Economic Impact Calculator, Professor Bill Gartner with the University of Minnesota’s Department of Applied Economics and analyst Brigid Tuck discussed updates made to the tool and asked attendees to participate in a focus group to test it. “Once you get those banks established it’s made to the tool and asked attendees to participate in a focus group to test it. Based on an airport’s location, fixed-base operations, number of visitors and local users, retail operations, and other factors, the calculator shows how the community surrounding an airport benefits from having an airport, regardless of its size. Gartner said the updates, expected to be ready in spring 2010, will allow for use by larger air-
ports statewide.

Rick Braunig of Mn/DOT’s Office of Aeronautics talked about snow removal around lighting in another Jet Blast ses-
sion. Braunig cautioned against getting too close to runway lights when plowing because their fragile couplings could break from the force of snow hitting them. Snow should be cleared in front of PAPIs andVASIs so they are visible from the end of the runway. And because airplanes have wings, he said, snow banks should be set back from pavement edges. “The first plowing is the most important, because it sets a pattern for the season,” he said. “Once you get those banks established it’s hard to move them.”

In a session on airport wildlife control, USDA wildlife biologist Alan Schumacher noted that wildlife strikes are on the rise: 1,759 were reported in 1990, while 7,516 were reported in 2008. This can be attributed to a number of factors includ-
ing a dramatic increase in the populations of wildlife and faster, quieter, and more frequent flights. Fortunately, public aware-
ness of the problem has risen, too, since United Airways Flight 1549 was forced to land in the Hudson River after hitting a flock of Canada geese in January 2009.

Of the reported wildlife strikes, 60 per-
cent occurred below 100 feet above ground level (AGL), which shows the importance of mitigating hazards in the airport environ-
ment. Schumacher said. He urged airports to develop a wildlife hazard management plan that identifies who is responsible for implementation, areas of potential habitat modification and land use changes, control measures, permits, and documentation. When it comes to incidents, “If it isn’t doc-
umented, it never happened,” he said.

In the final Jet Blast session, Jeff Stewart of WSB Engineering talked about con-
struction safety plans (CSPs), which are required for Part 139 airports and airports using Airport Improvement Program grant funds. Stewart said a good safety plan ensures public access to the airport and doesn’t trap vehicles inside hangars, for example. It’s understandable, enforceable, fair to bidders, clearly identifies phases and the requirements of each phase, and balances the needs of the construction with those of the airport. The purpose of a CSP cannot be served by simply publishing a NOTAM, Stewart said.

Save the date:
2010 AirTAP Fall Forum

The 2010 AirTAP Fall Forum will be held October 7 and 8 at the Arrowwood Resort and Conference Center in Alexandria, Minnesota (www.arrowwoodresort.com). Please note the new location for this year’s event.

We’ll keep you updated and post details on the AirTAP Web site as information becomes available.

AirTAP was developed through the joint efforts of the Minnesota Department of Transportation (Mn/DOT), the Minnesota Council of Airports (MCOA), and the Center for Transportation Studies (CTS).

Bill Towle, Barrett Ziemer, Glenn Burke, and Kathy Brophy try out the updated Airport Economic Impact Calculator, while analyst Brigid Tuck (standing) looks on.