Houston Airport System
Infrastructure Division
International Facility Management Association
Airport Facilities Council
A Retrospective...And Look Inside At What We Do
Happy Birthday, Sweet 16!

- Inaugural Airport Facilities Council Meeting
- Sponsored By DFW Airport
- March 25-26, 2004

DFW Airport Hosts First Ever Facilities Management Conference of Industry Executives

New Standards to Build, Maintain New Terminals & Major Construction Projects Is The Goal

DFW INTERNATIONAL AIRPORT, Texas (Feb. 23, 2004) – Skyscrapers and schools have them. So do hospitals and shopping malls. But in the airport business, there are no consistent benchmarks for airline terminals, no performance data for multi-billion dollar facilities and infrastructure construction projects built for millions of travelers.

DFW International Airport is leading the industry to make that change.

The Airport, in partnership with the International Facility Management Association (IFMA), will host the first-ever Airport Facilities Council for airport and airline executives March 25-26 with the goal of establishing industry-wide standards to measure and benchmark airport facility performance, and ultimately the potential development of industry facility design, operations and maintenance protocols. Executives from major U.S., Canadian and European airports are expected to attend.

"What we are all trying to do is make our facilities and our maintenance of them more cost effective, while providing the best customer experience we can," said Jim Crites, executive vice president of operations at DFW Airport, whose management staff will host the meeting. "Airport facilities must be operated in a way to exceed customer service expectations: they must be cleaner, more comfortable, and have all the latest customer amenities. We can begin to define airport facilities standards that architects, consultants, contractors and airport managers can use as a guide of "how it’s done in design," will indeed enhance the passenger experience at airports around the globe."

DFW will convene the meeting in the heart of its $2.7 billion Capital Development Program, which includes opening the new International Terminal D, new Skylink automated people mover system and enhancements to the Central Utility Plant of in 2002. The terminal South adds 2.1 million square feet of space to the Airport’s Central Terminal Area, while the Skylink project includes a 110,000 square foot Maintenance Storage Facility in support of the 12 Skylink stations. Construction of the first airport Grand Hyatt hotel is also under way and is incorporated into the Terminal D structure. The Grand Hyatt is a 12-story, 298-room facility that includes 17,106 square feet of ballroom space. Industry experts will see how DFW is using innovative benchmarking and performance standards in these three projects. The Airport’s work closely with the International Facilities Management Association to establish industry standards.

"For years, we’ve studied standards for what it takes to operate or construct a shopping mall or high-rise office tower, but an airport terminal cannot be compared to any other facility," says Rusty Hildreth, DFW Airport’s

Facilities Council Formed
By John F. Infanger
May 2004

DFW AIRPORT – In March, more than 100 industry representatives from airports, consulting firms, and others met at the DFW International Airport energy center for the first meeting of the Airport Facilities Council. The goal: Build facilities that reduce cost, improve efficiency and take into account life cycle issues, not just up-front design cost.

The AFC is being directed under the International Facilities Manage-ment Association (IFMA) based in Houston, which actively promotes “green” design of facilities and has a reputation for collecting and disseminating data for various industries.

According to DFW’s Robert Barker, who was named the first AFC president, a central theme for the new group is to design facilities that take into account level of service standards and integrate operations staff recommendations.

Eric Dillinger, a consultant with Carter & Burgess, a sponsor for the AFC event, says new design considerations focus on the total lifecycle cost of a building. Typically, he says, the construction of a building accounts for 25 percent of total lifecycle cost. More consideration needs to be given to how design ultimately affects operations and maintenance. He calls it “maintaining the Total Cost of Ownership balance sheet.”

Comments James Crites, DFW executive vice president, “Smart design with the environment in mind is the order of the day.” Such smart design, he explains, will increasingly involve criteria promoted by EPA and the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEEDs) standards. In fact, he says, airports are beginning to require LEEDs certification from respondents to requests for proposals for new structures. “We’re going to reach out to EPA,” he says.
A Retrospective

Why An AFC Was Established:
1. Recognition That No Aviation Facilities Management Industry-Specific Resources Existed
2. Make Our Facilities And Our Maintenance Of Them More Cost Effective
3. Provide The Best Customer Service We Can
4. Establish Industry-Wide Standards And Benchmarks
   A. Measure And Benchmark Airport Facility Performance

The AFC, As An Aspirational Goal, Was To Become The Industry Guiding Resource

Open Question For Reflection:
1. Has Our Reason For Existing, Or Goals, Changed?
Houston Airport System (HAS)

- **Vision**
  - Establish Houston Airport System As A 5-Star Global Air Service Gateway Where The Magic Of Flight Is Celebrated

- **Mission**
  - We Exist To Connect The People, Businesses, Cultures And Economies Of The World To Houston

- **Strategic Priorities**
  - Make Our Passengers Happy
  - Act Responsibly To Achieve Social, Environmental And Economic Sustainability
  - Build Platforms For Future Success
  - Invest In Our Partnerships And Our Employees
HAS Infrastructure Division

- Who We Are And What We Do
  - Primary Responsibilities
    - Sustainability
    - Building Standards
    - Asset Management
    - Capital Development
    - Capital Renewal
    - Planning
    - Environmental Management
    - Facilities Maintenance
    - Supply Chain Management

- Infrastructure Division - Summary
  - 388 Total Positions
  - 53 Vacancies (As Of 02/18/20)
  - 22 Vacancies (Of 53) In Maintenance

February 26, 2020
Infrastructure Division
Tactical Initiatives That Contribute To HAS Strategic Priorities

- Primary Initiatives Directly Tied To Strategic Priorities
  1. Achieve And Maintain Opening Day Fresh Asset Conditions
  2. Act Responsibly To Achieve Environmental Sustainability

- How We Approach “Opening Day Fresh” Conditions
  - Asset Condition Assessments
  - Capital Renewal Approach
  - Facilities Maintenance Key Performance Indicators
Opening Day Fresh Asset Conditions
Asset Condition Assessments

- **Assessment Approach**
  - Baseline Assessments Completed On All Assets
  - Recurring Re-Assessments Conducted On 5-Year Cycle
  - Standardized Assessment Approach, Format And Deliverables
    - All “Deficiencies” (Items That Affect Full Remaining Service Life) Are Documented As Open Work Orders Into Enterprise Asset Management System (EAMS)
    - Deficiencies Prioritized As “Immediate”, “Near Term” Or “Long Term”
    - Deficiencies Programmed As Operations & Maintenance-Level, Or Capital Renewal, As Appropriate
  - **Asset Condition Key Performance Indicators**
    - Financial Condition Index:
      - The Cost To Restore An Asset To Full Service Life Condition Divided By The Asset’s Replacement Value = FCI
    - Actual Condition Index:
      - An Objective Numerical Score Of The System’s Condition Based On Its’ Remaining Service Life, Operational Status And Design Intent Status
Opening Day Fresh Asset Conditions
Asset Condition Metrics

HAS Target Conditions
- FCI Less Than 0.25
- ACI Greater Than 7

**Standard Asset Management Metrics**

<table>
<thead>
<tr>
<th>Rating</th>
<th>Descriptive Criteria</th>
</tr>
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<tbody>
<tr>
<td>10</td>
<td>Fully operational asset, fully meets mission requirements, like new asset, 20+ years remaining service life.</td>
</tr>
<tr>
<td>7</td>
<td>Fully operational asset, fully meets mission requirements, 10+ years remaining service life except for specific components as may be identified.</td>
</tr>
<tr>
<td>5</td>
<td>Fully operational asset, meets minimum mission requirements, 5+ years remaining service life except for specific components as may be identified.</td>
</tr>
<tr>
<td>3</td>
<td>Reduced operability and/or less than 3 years remaining service life for identified conditions, and/or near-term obsolescence of key system components or repair parts may impact maintainability.</td>
</tr>
<tr>
<td>0</td>
<td>Non-operational, and/or the asset does not meet mission requirements, and/or current design needs are not met by this asset's basis of design, and/or the asset cannot be adequately maintained due to obsolescence of key system components or repair parts.</td>
</tr>
</tbody>
</table>
## Opening Day Fresh Asset Conditions

### Asset Condition Metrics → The Roll-Up Benefit
Opening Day Fresh Asset Conditions
Capital Renewal Approach

- Annual Infrastructure Renewal Metric
  - Fund Renewal At The Minimum Rate Annually Of 0.8-1.2% Of The Infrastructure (Fixed Assets) Book Value
  - Asset Condition Assessment-Identified Capital Renewal Deficiencies Provide The Prioritized “Work List”
Opening Day Fresh Asset Conditions
Facilities Maintenance Key Performance Indicators

- Planned Maintenance v. Corrective Maintenance
  - Our Goal: 80% Or More Maintenance Labor Hours Should Be Consumed Through Performance Of Planned Maintenance

- Planned Maintenance On Time Completion
  - Our Goal: 95% Or More Planned Maintenance Should Be Completed As Scheduled

- Open Work Order On Time Completion
  - Our Goal: 95% Or More Open Work Orders Should Be Completed As Scheduled

- Labor Utilization
  - Our Goal: 65% Or More Expended Labor Should Be “Effective”
Opening Day Fresh Asset Conditions
Facilities Maintenance Key Performance Indicators

![Pie charts and tables showing work orders by airport and booked/estimated hours by work order type.](image-url)
Act Responsibly To Achieve Environmental Sustainability
What Environmental Sustainability Means To Us

▪ Remember “EONS”?
  ▪ **Operations** – Resilience. Climate Action
  ▪ **Natural Resources** – Energy Conservation. Renewables.
  ▪ **Social** – Be Good Neighbors. Air Emissions. Noise. Storm Water
Specific Initiatives – What We Are Doing

- Climate Change, Airport Resiliency Project
- IAH Energy Initiatives Project
- State Energy Conservation Office, Texas A&M University Energy Projects
- Capital Development Net Zero Energy Initiative
- Fleet Vehicle Electric And Hybrid Vehicle Conversion Project
- IAH Water Reuse Initiative
- Solid Waste Diversion – Consolidated Receiving Project
Tying It All Together
Processes And Cycles

- How We Incorporate skytrax And Asset Management Into Our Business Processes
- Remember Our Vision – Establish Houston Airport System As A 5-Star Global Air Service Gateway Where The Magic Of Flight Is Celebrate
  - skytrax Annual Cycle

  ![Diagram](image)

  - skytrax 5-Star Attributes
  - Identify Supporting Initiatives
  - Implement Initiatives
  - Annual skytrax Audit
  - Correction/Improvement
Tying It All Together
Processes And Cycles – Business Cycle

July 1st - Begin Fiscal Year

City Council Budget Approval

Administration Budget Approval

Finalize HAS Annual Budget

Update Capital Program

Execute Annual Business Plan

Identify / Update Strategic Initiatives

Annual Divisional Budget Development

November-December

December-February

March-April

May-June
Tying It All Together
Processes And Cycles – Asset Management

- Perform Condition Assessments
  - Budget Approval
  - Finalize HAS Annual Budget
  - Update Capital Program
- Document Service Life Deficiencies
  - Execute O&M Level Corrective Maintenance
  - Annual Divisional Budget Development
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Thank You

We Sincerely Appreciate The Opportunity To Host The IFMA Airport Facilities Council 2020 Spring Conference.

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