

MANAGING AIRPORTS ON THE MARGIN

Capital Investment Decision-making in a Slow Growth Environment

The ability to implement capital improvements will be constrained during slow growth periods unless traditional industry approaches to funding aging infrastructure are reconsidered.

MANY of our nation's passenger terminals were constructed in the early 1960s in anticipation of the jet age. Although some degree of modernization has occurred, the average age of terminal facilities in the United States is about 25 years, and those facilities that have not been substantially overhauled will begin to reach the end of their useful lives in the near term. In its 2009 *Infrastructure Report Card*, the American Society of Civil Engineers assigned the nation's overall transportation infrastructure a grade of "D." Although some transport categories received better grades, aviation infrastructure also received a "D." It is becoming increasingly apparent that a substantial portion our nation's aviation infrastructure is aging and in serious need of rehabilitation or replacement.

"Useful Life" is defined as the length of time between construction of the facility and the onset of facility deterioration. Virtually no U.S. airport terminal has a life cycle longer than 50 years without requiring complete rehabilitation or reconstruction.



The Challenge of Investing in Rehabilitation or Replacement

In a slow growth environment, the justification for capital improvements needs to be based on a project's benefits other than the traditional capacity enhancement.

A slow growth environment poses three challenges for airport sponsors considering facility improvements. First, the ability to implement capital investments is complicated by economic conditions, the financial state of the airlines, and increased pressures to maintain low costs and do more with less.

Slow Growth Environment—

Between 1960 and 2000, the number of enplaned passengers in the United States increased an average of 6.1% per year compared with 0.6% per year between 2000 and 2009.

Second, there are often pressures to postpone capital improvements to address short-term budget deficiencies. However, postponing such improvements can diminish the financial health of the airport sponsor because aging facilities (1) increase operating and maintenance (O&M) costs; (2) typically trigger unforeseen rehabilitation projects; and (3) complicate budgeting and financial forecasting. Such costs and inefficiencies are ultimately passed along to tenants and users.

Third, the planning issues in the current U.S. aviation industry are different from those of an emerging market characterized by robust growth. As a result, funding projects to rehabilitate or replace facilities – rather than adding new capacity – requires recognition that the environment has changed and traditional approaches to project approvals and funding may not apply. Traditional capital planning approaches have focused on adding capacity, rather than facility rehabilitation or replacement.

MANAGING AIRPORTS ON THE MARGIN

Events of the last few years have forced airport sponsors to make financial and physical planning decisions within a very narrow range of operational certainty. Ongoing restructuring of the airline industry together with a prolonged recovery from the financial crisis and economic recession suggest that traffic growth, at least in the near term, will be modest and provide a small margin for airport decision making. This focus piece is the third in a series addressing issues airport sponsors face in managing their airports *on the margin*.

Planning Approaches Should Be Updated

Approaches to identifying, evaluating, and funding capital expenditures need to account for the benefits provided by facility rehabilitation or replacement.


The standard industry approach to planning capital improvements is to develop activity forecasts and then conduct thorough demand-capacity analyses. “Future demand” is compared to “existing capacity” and improvements are identified for implementation over the course of the planning period. However, this approach is not adequate in a slow growth environment, not only because its primary focus is on providing capacity, but because the financial and other benefits provided by newer, efficient, and more sustainable facilities are not considered.

Such challenges require airport sponsors, planners, and policy-makers to adapt and broaden the planning and decision-making process to include consideration of the following:

- Age of the overall facility relative to its useful life, and the age/condition of infrastructure systems (mechanical, electrical, plumbing, etc.) and their ability/capacity to accommodate needed improvements
- Metrics that can be used to compare the costs and benefits of rehabilitating existing or providing new facilities versus maintaining aging infrastructure; in other words, the true costs of “doing nothing” associated with unforeseen maintenance costs, diminished levels of service, and increasing O&M costs
- Alternative funding sources to finance rehabilitation or replacement projects when tenants are unwilling to provide financial support, or when the triggers for traditional funding mechanisms are based on capacity enhancements

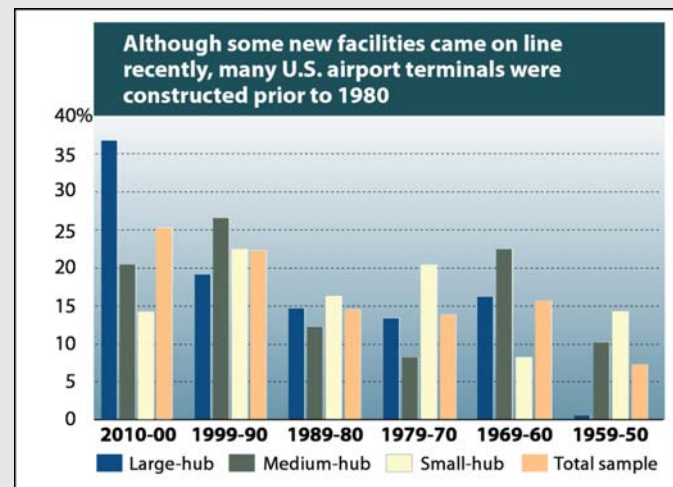
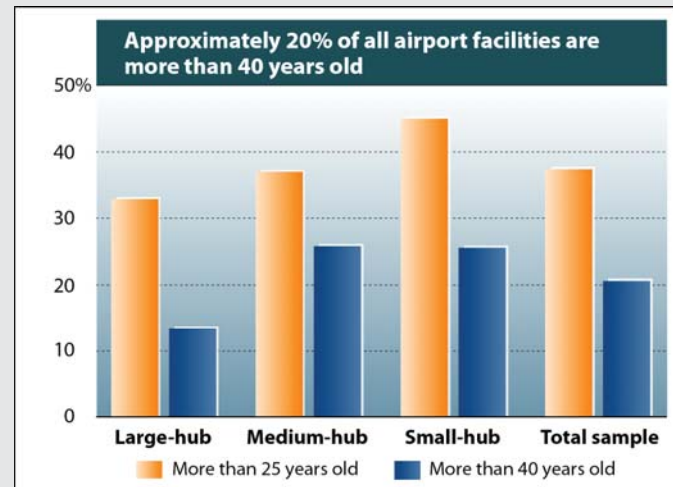
To garner support for rehabilitation or replacement projects, airport sponsors and planners need to incorporate new tools and methodologies into the planning process, such as:

- **Life Cycle Costing**—A financial assessment of the relative cost-effectiveness of continued operations with



Integrating sustainability strategies into airport operations can reduce operating costs and provide the added value of doing the right thing in the eyes of airport stakeholders.

Our next Focus Piece in this series—Sustainability: A Strategy to Enhance Airport Performance—covers this topic



Based on a sample of 195 airport terminals and concourses, with consideration given to dates of major expansion and renovation projects.

Source: Survey of individual airport websites conducted by LeighFisher, July 2010.

an existing versus a renovated facility. Investments in facilities with a useful life of 40 to 50 years must be balanced with potential changes in technology, aircraft fleets, and airline industry operations. (See “Beyond Affordability” in our October 2009 compendium *Economics and Energy*. Email inquiry@leighfisher.com for a copy.)

- **Passenger Level of Service**—An operations approach based on the increased value of a renovated facility in which capital investments are focused on areas of the terminal that are no longer in step with current trends (security checkpoints, revenue generation via enhanced concessions, etc.). Such an approach has been the foundation in the planning for the Bradley West terminal at Los Angeles International Airport.
- **Sustainability**—Environmental considerations related to reuse of existing facilities, potential to mitigate environmental impacts, reduced emissions and energy consumption, etc.
- **Risk Mitigation**—A risk analysis in which the potential for (and cost of) significant system failures in aging facilities (water mains breaking, electric system failures, etc.) are considered.

Traditional capital planning approaches have focused on justifying capacity enhancement, which was relatively easy, and the business case for investment was essentially self-justifying. In a slow growth environment, the need for new analysis tools and methodologies is emerging. Airport planners and sponsors generally understand the nature and scope of the analysis, but it is especially challenging to conduct and to communicate. How can airport sponsors convince stakeholders that it is in their interests to mitigate the risk of aging facilities and consider the potential for new facility requirements in the future? The approach to grappling with these issues is the challenge ahead.

Changes in Perspective and Policy Are Needed

All stakeholders have a role in meeting the investment challenges posed by a slow growth environment.

There are three fundamental changes in the planning environment: (1) many U.S. passenger terminal facilities are



Midway International Airport—Terminal replaced in 2001

neering the end of their useful lives; (2) slow growth will be the baseline in a mature aviation market; and (3) capacity enhancement can not continue to drive the need for infrastructure investment. As a result, aviation industry stakeholders need to shift their perspectives and policies to embrace rehabilitation or replacement with the same vigor that capacity expansion has historically been supported.

Policymakers need to enact regulatory and procedural changes so that (1) capacity enhancement projects do not trump all others and (2) funding programs account for the fact that some projects are necessary even when no additional capacity is provided. As an example, improvements to aging terminals are often considered “maintenance” projects and, therefore, ineligible for passenger facility charge (PFC) funding. Without access to PFC funding, many airport sponsors are forced to issue more debt, passing the resulting costs to tenants and users.

Limitations of Primary Funding Mechanisms Available for Rehabilitation and Replacement

Funding Source	Eligibility	Availability	Explanation
AIP Grants	Very Limited	Very Limited	Terminal development in non-revenue-producing areas is a low priority for discretionary AIP funding. The operators of large, medium, and small hubs may only use their entitlement funding for such projects.
PFC Funding	Limited	Varies by Airport	Terminal development related to the movement of passengers and their baggage is generally PFC eligible if it preserves or enhances security, safety, or capacity or provides opportunities for enhanced competition. PFC funding may not be used for maintenance projects.
Airport Revenue Bonds	Eligible	Varies by Airport	Airport revenue bonds are the common funding source for terminal development, and airport bond interest rates are currently at record lows. Bond issuances may be limited by required airline or political approvals, debt capacity, and variability in the credit markets.
Airport Liquidity	Eligible	Varies by Airport	Airport sponsors could draw upon their own cash balances, including any segregated accounts for renewal and replacement or major maintenance established in the bond enabling legislation or airline agreements. At many airports, funds in these accounts are rarely used and are replenished through a combination of airline and nonairline revenues.

Airlines need to recognize that it is in their best interests to support projects that modernize, rehabilitate, or replace facilities as a means of maintaining reasonable and steady rates and charges. Prior to 2000, airlines were more willing partners in funding new terminal projects, but in the last 10 years, fewer examples of such airline–airport partnerships have materialized. Without airline support, airport sponsors have little choice but to exercise their rights under their business relationship with the airlines to proceed with necessary projects absent airline support, or allow their infrastructure to fail and capacity to diminish.

Airport sponsors need to work to optimize funding sources. As a practical matter, this means: (1) prioritizing all major capital projects (airfield, terminal, and otherwise); (2) identifying all eligible funding sources for each project; and (3) developing comprehensive financing strategies to ensure that the most restrictive and least restrictive funding mechanisms are correctly aligned with priority projects. For terminal improvements, the primary sources of funding include bonds backed by airport revenues and PFC revenues. Secondary sources include pay-as-you-go PFC revenue, entitlement grants through the federal Airport Improvement Program, Transportation Security Administration grants, and internally generated revenues. Sponsors may also wish to consider the merits of public-private partnerships in financing new facilities, potentially minimizing the financial impact on airport tenants.

According to the American Society of Civil Engineers, the United States needs to spend at least \$2.2 trillion over 5 years for deferred maintenance of existing infrastructure and investment in new infrastructure.

Finally, airport sponsors need to use a transparent planning process to educate local officials and other interested parties regarding the merits of specific projects and the challenges associated with obtaining financing. Increased awareness within the community and among policymakers can foster essential consensus, resulting in the political support required to implement major capital projects. ■



Airport facilities past their “useful lives”

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