

## Indianapolis Constructs Greenfield Airport

New airports extremely rare since 9/11



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**Summary:** Since the terrorist attacks on September 11, 2001, there has been a dearth of new airport planning and construction in the U.S. The Indianapolis International Airport is the notable exception. Although planning for the new airport goes back more than 30 years, design didn't begin until 2002, making it one of the first "greenfield" airports to be constructed post 9/11.

### Project background

Planning for the new Indianapolis Airport began in 1975 when the Indianapolis Airport Authority (IAA) adopted a master plan. The plan called for two parallel runways with a non-intersecting crosswind runway, leaving room for a new "midfield terminal" complex between those runways and new highway access from Interstate 70. The 760-acre site is a mile wide and more than two miles long.

In 1995, the IAA selected BAA Indianapolis LLC, a subsidiary of BAA plc., to manage its system of airports, including Indianapolis International, four general aviation airports, and the heliport in downtown Indianapolis. Hellmuth, Obata and Kassabaum was brought on board as the design architect through schematic design in 2002. The architect of record for the airport

is AeroDesign Group, LLC, which is composed of CSO Schenkel Schultz, Schenkel Schultz, and Arch Consortium. Indianapolis Mayor Bart Peterson and IAA Board members broke ground in September 2003.

Although the airport has been in planning for three decades, according to Jim Schellinger, AIA, president of CSO Schenkel Schultz, it's never been slow-tracked. "The first issue was moving the runways. They go on an east-to-west direction. At the location of those runways there were actually buildings that had to be relocated, then the new runways had to be constructed. Serving an international airport and having the capacity that they do, these aren't just little streets. These are huge, thick, long concrete runways that had to be constructed. Then we had to move forward with the terminal design in the process.

"When you're dealing with a billion dollar airport funded by the airport revenues, you have to negotiate with



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all of the various airlines,” Schellinger continues. “Indianapolis is not an airport with a one-carrier hub, so the negotiations with the airport carriers were fairly extensive. It took time to do that, but it’s been an ongoing process. It hasn’t been delayed for any specific reason, and now that the design has started, it’s moved fairly quickly. It’s now under construction and scheduled to be completed in 2008, which was always the timeframe.”

### Friendly design

The new \$1.1 billion airport is a modern terminal built in the “midfield” area between the two existing main runways. At the center of the terminal is the 200-foot-diameter Civic Plaza, whose circular shape evokes the shape of Indianapolis’s Monument Circle. The Civic Plaza will host the security and concession functions and serve as a public event space. The terminal roof is shaped to create a symbolic threshold emanating from the plaza. This form is generated through the union of the central, sheltering arch with the rise and fall of the building. This dynamic space welcomes visitors and serves as the gateway symbol of the city. “One thing we don’t always realize

in airport design is that other people besides the travelers are affected by airport design today,” says Schellinger. “Gone are the days when the meeters and greeters can go beyond the security checkpoint. When I was a kid, my dad used to fly around for his job all the time and we went right out to the plane with him. There were no concourses; there were direct connections to the planes. Nowadays, the meeters and greeters have to wait beyond security, so you have to make sure that the non-passengers are acknowledged and that they have areas where they can congregate to meet and greet passengers as they come and go. That’s something that, in the past, we didn’t have to look at as much, but this airport has looked at it quite a bit. I think that’ll be not only a better experience for the passengers themselves, but also for the meeters and greeters.”

### Eco-friendly design

The IAA determined that the city’s new airport should be designed, constructed, and operated in an environmentally sound manner. Because LEED™ goals were conceived early in the planning process, incorporating sustainable activities in the airport’s design, planning, and construction has been cost-ef-

fective. Site preparation was carefully planned to minimize local environmental impact. Some innovative measures taken include using root balls from trees removed from the construction site as new streambed habitat for local species and reusing old taxiway and roadway material as construction site infill. Additionally, over 90 percent of construction materials currently used on the project came from within a 500-mile radius.

The Indianapolis airport terminal will maximize daylighting while the terminal’s roof will reflect energy and limit heat gain. Use of high-quality low-E shaded glass will lower air-conditioning costs and energy use, and low-VOC paints, concrete sealers, sealants, caulking, and carpets will improve indoor air quality. Also, by positioning the new terminal between the existing airport runways, the time an airplane spends taxiing will be significantly reduced, saving dollars and fuel and lowering greenhouse emissions.

### Dealing with security

In terms of planning for the new airport, the business deal and development strategy were set before September 11, 2001, but the design of the project didn’t happen in earnest until after 9/11, so the team was able to design to the new FAA and Department of Homeland Security require-

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ments. Post-9/11 security measures necessarily have been makeshift at most airports throughout the U.S. The incorporation during design of the latest safety requirements at the new Indianapolis airport should ease the strain on airline and TSA workers, as well as travelers. The amply spaced security checkpoint lanes will be located in areas with plenty of natural light, making it a more pleasant experience for all. The parking garage will be located 300 feet away from the terminal and there will be blast control setbacks to protect the building and passengers from a terrorist-type attack outside the building.

"I'm not sure that there's anything that eases the security restrictions," says Schellinger, "but there are things that make it a lot more pleasant process and easier for security and for passengers to get around. It starts with having the adequate transition from parking areas to the garage, from the garage to the terminal, and then into the security checkpoints. The two things that have changed the most since 9/11 are the security baggage screening areas that are back-of-house and the security checkpoints. We've dedicated ample square footage and made two decentralized areas so that there's actually some redundancy in the security checkpoints to make it a little easier for the passengers to get in and get through. We've tried to do that in terms of area and also through the design of how they're positioned. We can't get rid of security checkpoints. They're probably here for our lifetime, but at least we can try to make it a better experience."

### Looking ahead

In addition to becoming a gateway to Indiana, the new airport will also be a reflection of its community. Mirroring the growing art scene in Indianapolis, 15 artists have been commissioned



to produce artwork for the airport, including six from Indiana. Many of the pieces will provide opportunity for community involvement. For instance, U.K. artist Martin Donlin will work with local writers and poets to obtain texts for architectural glass art. The selected artwork will express the character of the land and people of Indiana.

With an anticipated completion date of late 2008, the 1.2 million-square-foot terminal will feature 40 passenger gates with provision for future expansion; 96 ticketing positions; 22 passenger-security screening lanes; 77,000 square feet of retail space; and 446,000 square feet of non-retail lease space. The 7,100-vehicle parking garage will provide 5,900 public spaces and 1,200 rental-car spaces and be supplemented by an 11,000-vehicle surface lot with 1,800 employee vehicle spaces. Additional landside infrastructure will provide roadway access, utilities distribution, support facilities, and commercial development areas for the terminal complex, while airside development will provide aircraft parking and access to aviation support facilities.

More than 60 percent of the steel frame already has been completed and construction crews are working on the adjacent concourses. In about two years, the modern, high-performance

terminal will be servicing travelers with room for expansion. "The interesting thing about this project is that, if it's not the only, it's certainly one of the first greenfield site—brand new—international airports being constructed in the United States, if not the world, post-9/11. It's a brand new airport, so it's given us a golden opportunity not only to create a new front door for our community, but also take advantage of the latest understanding of the need for security, safety, and transportation," enthuses Schellinger.