



Terminal Planning



Terminal Facilities Programming

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Flexible, Balanced, Visionary

When L&B first began planning airport terminals in 1949, most were essentially utilitarian buildings located alongside a runway. Today, airport terminals are complex facilities that must efficiently process large surges of passengers and baggage, interface seamlessly with airfield and ground access systems, while also reflecting the city's unique character. The passenger terminal is the community's first chance to make a lasting impression. It is the critical link between the city's air service and the community's business and leisure travelers that serves as an essential cog in the city's economic success. Today's airports are also embracing sustainability principles for new and renovated passenger terminals as part of their environmental stewardship.

To assist airport operators to achieve these diverse objectives, L&B develops its terminal plans to be flexible, balanced, and visionary:

- **Flexible** - The ever-evolving airport and aviation industry demands that terminals be planned and constructed so that they may be modified, at minimal expense, to reflect the changing needs of passenger and security processing, airline business relations and operating models, evolving aircraft fleets, and the increasing need for commercial revenue generation. Today's terminals must have the flexibility to adjust to these changing needs.
- **Balanced** - A key principle underlying any passenger terminal complex is that the capacity of the airside, terminal, and landside components must remain in balance with one another today as well as in the future. As a firm solely dedicated to airport planning, L&B's terminal planners are well versed in all aspects of airside, terminal, and landside operations to ensure that an appropriate operational balance is always achieved.
- **Visionary** - Airport terminal planning must also be visionary by anticipating what the future will hold for the airport. L&B is in the forefront of researching the future of airport terminals through our involvement with multiple Transportation Research Board (TRB) Airport Cooperative Research Program (ACRP) projects. L&B has recently led the research development of a new *Airport Passenger Terminal Planning Guidebook* and *Spreadsheet Models for Terminal Planning & Design* as well as served as the Panel Chair for a third ACRP research project, *Innovations for Airport Terminal Facilities*.

L&B's terminal planning practice is composed of experienced architects, planners, and LEED® AP specialists who devote 100 percent of their professional careers to airport terminal planning and studies. With a 60-year heritage in planning and conceptually designing terminals, our highly skilled and motivated terminal planning staff is ready to assist with the following project assignments.

Terminal Facilities Programming

Developing and translating the forecast of aircraft operations and passenger activity into quantifiable amounts of space and facilities sets the stage for all design work and, ultimately, the construction of the terminal project. A future schedule of aircraft arrivals and departures is used to establish terminal gate, building, curbfront, and vehicular parking requirements. These critical land use requirements, as well as the key internal airline and passenger processing functions of the terminal, are used to develop the design solution. L&B programming services address the level of precision needed for master planning, conceptual, and schematic design phases.

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Terminal Complex Site Planning

Whether as part of an original Airport Master Plan, Master Plan Update, or special terminal planning study, L&B offers the most industry experience in developing terminal complex site plans. This expertise covers a wide-range of terminal planning assignments including all sizes of facilities for both international and domestic operations. L&B strives to achieve a balance between airspace, airfield, apron, terminal, and ground transportation systems. We set the appropriate course for the terminal facilities by measuring all logical constraints on the project against the airport's mission.

Conceptual Design of Terminal Facilities

Once the overall planning direction for the terminal complex has been established, L&B uses its architectural expertise to establish the functional solution for the internal workings of the terminal building itself. Whether a brand new terminal, expansion of an existing terminal, or renovation of an existing facility, our project approach typically includes multiple iterations of alternatives focused on identifying the best possible facility solution. We address each critical-path decision with creativity, combining the best analytical tools and practical expertise available in the industry. L&B's conceptual design services often conclude with a Program Criteria Document (PCD) that succinctly sets the programmatic design criteria for subsequent architectural design/development and contract document phases and solidifies capital cost projections.

Financial Feasibility and Revenue Maximization Assessments

An essential aspect of our passenger terminal projects involves developing a preliminary plan of finance. This analysis evaluates the financial implications of making physical and operational changes to an airport's terminal including recommendations for maximizing concessions and collateral development revenues. The increasing scarcity of federal funding through the AIP program has created the need to find new revenue and funding sources, and to assess changes to airlines' lease and use policies. L&B's studies consider alternative funding sources, leasing terminals on a preferential and common use basis, and various utilization criteria. These elements, along with an analysis of non-airline revenues and operating expenses, allow us to create a dynamic management tool that assesses the impact of a terminal program on an airport's rates and charges and on an individual airline's cost per enplaned passenger.

Sustainability Strategies

L&B is at the forefront of sustainable airport planning through its involvement in preparing the new Sustainable Airport Manual (SAM) for Chicago O'Hare International Airport, involvement with the Sustainable Aviation Guidance Alliance (SAGA), and participation in the Airport Consultants Council's Sustainability Committee. Our LEED® AP accredited staff stands ready to assist with preparing strategies that achieve our airport client sustainability goals.

Aircraft, Passenger, and Baggage Flow Simulations

L&B continues to pioneer and utilize state-of-the-art computer simulation software that analyze areas closely related to and in the terminal complex. Our staff is experienced in determining the most efficient apron and taxiway configurations for a terminal's design and model the level of service provided by the major passenger and baggage processing functional areas of the terminal building.

Wayfinding and Signage Studies

Passenger wayfinding is a vital factor in virtually every terminal complex project starting with the regional highway network, the airport approach and exit roadways, the arrival and departure roadways and curbs, as well as inside the terminal from ticket counter, to and from the aircraft gates, concessions, and baggage claim. L&B understands the importance of this performance characteristic and uses 3D visualization tools to assess and propose appropriately placed and designed signage

Multimedia Presentations and Broadcast Quality Visualizations and Videos

Effective communication can be an airport operator's most powerful tool in gaining private and public support for airport terminal plans. L&B's clients have a persuasive advantage with our 3D visualizations, multimedia presentations, and our broad-cast quality video productions. Our high-resolution animations take audiences on interior tours of proposed terminals or our fly-overs of conceptualized airport terminals. L&B combines high-tech communication capabilities with our knowledge of airports to create simple, understandable messages for press releases, public workshop presentations, and special political and business community briefings.

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