

Airports



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Airport **Advisory**
Services



We Make Big Things Possible

About ICF

ICF (NASDAQ:ICFI) is a global consulting services company with over 5,000 specialized experts, but we are not your typical consultants. At ICF, business analysts and policy specialists work together with digital strategists, data scientists, and creatives. We combine unmatched industry expertise with cutting-edge engagement capabilities to help organizations solve their most complex challenges. Since 1969, public and private sector clients have worked with ICF to navigate change and shape the future. Learn more at [icf.com](https://www.icf.com).

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[icf.com/aviation](https://www.icf.com/aviation)



Our Markets

Tap into the collective knowledge of ICF's diverse staff.

Our expertise is focused in highly regulated markets tackling many of the world's biggest ongoing challenges. Our solutions leverage the best of our work across private industry, nonprofits, and all levels of government.

- Aviation
- Energy
- Health
- Digital and Marketing
- Cybersecurity
- Transportation
- Education
- International Development
- Environment
- Social Programs and Communities
- Resilience
- Natural Disaster Recovery
- Climate



Serving the Aviation Community Since 1969



ICF Aviation Comprehensive Services:

Whether you are a government department, an operator, an investor, or a finance provider, you can rely on our team's perspective and vision to help you manage assets and operations, mitigate risk, and maximize return on investment. Our four specialized aviation practice areas—airports, airlines, aircraft, and aerospace/MRO—collaborate with each other and with our clients to do what it takes to address any business challenge, however complex or difficult it may be.

Airlines

Fleet and network planning, pricing and revenue management, OTP and operational efficiency

Airports

Strategic planning, transaction due diligence, route development, concession and master planning

Aircraft

Valuations, cash flow forecasts, portfolio due diligence, market analysis, technical services

Aerospace and MRO

Operations assessment, mergers and acquisitions support, marketing analysis



Airport Services

We help airport operators, investors, and governments in countries throughout North America, Europe, the Middle East, Asia, and emerging regions make key strategic planning decisions, as well as policy, route development, capital investment, and concessions planning.

Our services include:

- Business Planning/Transaction Due Diligence
- Traffic Forecasting
- Master Planning
- Strategic Planning and Organizational Reviews
- Pricing Strategies
- Commercial Planning
- Air Service Development
- Passenger Experience
- Environmental Services
- Stakeholder Engagement
- Workforce Development

Why Choose ICF?



Our Business Plan Capabilities



Business Planning/Transaction Due Diligence

Our global team of experts in business planning, traffic forecasting, regulation, commercial planning and master planning allows us to provide a one-stop shop for all your technical needs. Critically, we understand the key value drivers for airport investments and how these differ between airports and investors, adjusting our approach accordingly. We provide a holistic approach to business planning, taking into consideration how each element of the airport business interacts and the potential impact a change in one aspect of the business, be it capacity or traffic mix, might have on the whole. This is supported by our comprehensive, fully dynamic operational models, which allow you to easily run multiple scenarios.

Services include:

- Business plan reviews
- Sell and buy-side due diligence
- Scenario analysis
- Lender and equity reports
- EBITDA and capital expenditure
- Business plan strategies

Case Study: Copenhagen Airport Sale

ICF provided full business planning support to Arbejdsmarkedets Tillægspension (ATP), the Danish pension fund, in its acquisition of a stake in Copenhagen Airport from MIRA. A key part of this analysis was a review of the regulatory system and, in particular, the potential impact of a new proposed regulatory framework published by the government during the deal. ICF considered long-term drivers of traffic growth, with a focus on the strategy of the dominant air carrier SAS, LCC growth potential, and the implications of the wider Danish aviation strategy. ICF also reviewed Copenhagen Airport management's master plan for resolving capacity bottlenecks at the airport.

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Traffic Forecasting

ICF has been producing aviation forecasts for all major airport markets for over 50 years. Each forecast is unique and is developed for a clear purpose. Some forecasts include over 50 scenarios, some just one. We have compiled extensive databases of benchmark and case study data to support our forecasts and to help convey the rationale to both technical and non-technical audiences. With our airline and aerospace colleagues, we produce an independent global forecast of demand and have an approach that combines deep analytical rigor with practical airline and airport insight. We are experienced at converting annual forecasts into busy period forecasts for planning purposes as well as into practical air service development plans.

Services include:

- Annual airport traffic forecasts
- Busy day and peak hour forecasts
- Design day schedules
- Scenario analysis
- Master plan traffic forecasting

Case Study: Gatwick Airport, Strategic and Technical Forecasting Support

ICF was, and continues to be, Gatwick's strategic traffic advisor on the London capacity debate. Since 2012, ICF has undertaken several studies related to traffic forecasting and capacity analysis in the London airport system, including building a proprietary traffic allocation model, simulating numerous traffic and capacity scenarios, and supporting Gatwick throughout the Airports Commission process. Since the conclusion of the Airports Commission, we continue to provide support and advice on both short- and long-term traffic questions.

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Master Planning

ICF does not see master planning as an academic exercise of engineering but rather as the physical embodiment of an airport's business plan. Therefore, prior to considering a master plan, it is essential to understand the business drivers. Our general approach is to conduct a gap analysis to understand the needs of the business, both immediately and long term, and to understand the existing assets, their serviceability, and constraints. This analysis allows the future operations and assets to be planned in a coherent, rational manner aligned with the needs of the business. Moreover, it allows for the identification of operational over infrastructure solutions and it is mindful of the benefits of long-term planning and phasing of flexible, affordable infrastructure.

Services include:

- Technical due diligence
- Capacity analysis
- Land use planning
- Strategic and detailed master planning
- Analysis of airport systems
- Investment phasing and strategy

Case Study: Major South Asian City, Strategic Planning

ICF undertook a strategic review of a current and proposed airport in a major South Asian city. We assessed the capacity of an existing airport and its medium-term proposed expansion, as well as considered the time at which further investments would not yield viable returns for the airport. We also considered the commercial potential, capacity needs, and capital costs of transferring traffic to a second international airport, under a range of operational scenarios with and without the airport remaining in operation. We recommended a strategy to make best use of existing infrastructure and to deliver a financeable investment in future capacity.

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Strategic Planning and Organizational Reviews

Airport organizations operate in a challenging and uncertain environment, including pressure on airline charges, introduction of new technologies, external shocks and airline consolidation. Successful and high-performing airport organizations require an effective strategic plan that both clearly defines the organization's future vision and engages staff in carrying out a coordinated set of actions to reach the vision.

ICF's airports team includes seasoned experts in strategic planning, organizational development, and governance, with experience as trusted advisors to the management teams of many of the top 100 airports.

Services include:

- Strategic planning
- Organizational development
- Governance advice

Case Study: Los Angeles World Airports, Strategic Planning

Since May 2016, ICF has been working collaboratively with the staff and stakeholders of Los Angeles World Airports (LAWA) to develop a strategic plan, enabling LAWA to navigate future challenges including guest experience improvement, capital program delivery, innovation, business sustainability, and increased organizational effectiveness. Following the initial strategy development phase, we continued to assist LAWA with the development of action plans to implement the strategic plan, and we recommended a process for managing implementation.

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Pricing Strategies

Airports wish to understand how charges today compare to peer airports, both in level and in structure. There is also a broader strategic question about the power of airports to optimize their aeronautical revenues by striving for volume growth in more price elastic traffic segments, yielding growth in less price elastic segments and incentivizing the efficient use of capacity. We have worked with many airports on their discount and airport charge structures and levels to simultaneously optimize revenue and volumes.

Services include:

- Price elasticity analysis
- Demand profiles
- Airline cost profiles
- Airline revenue analysis
- Restructuring charges
- Regulatory implications
- Competitor benchmarking

Case Study: Montego Bay, Establishment of Regulatory Framework

ICF supported Montego Bay Airport, Jamaica, through the establishment of a new regulatory framework in the country. ICF evaluated alternative approaches to regulation, developing strategies to optimize the airport's position, preparing regulatory submissions, and engaging with the regulator. ICF also advised on the cost of capital and cost allocation procedures, and developed the airport's regulatory forecasts. Finally, ICF evaluated the impact of potential changes to charges on air carriers and assessed potential price elasticities. As a result of a successful regulatory process, the airport secured the adoption of a hybrid till cost formula and a substantial real increase in charges.



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Commercial Planning

Commercial activities represent an increasingly important profit source for airport operators and investors. In turn, passengers are demanding increasingly sophisticated and diversified product and service offerings. In particular, the growth of digital technology places new pressures on traditional retail practices. Working alongside our digital media arm, ICF Olson, we are well placed to help clients transform their offerings to best meet changing demands.

Services include:

- Revenue enhancement strategies
- Implementation plans
- Benchmarking
- Industry trend identification
- Customer experience insight
- Optimal commercial demand analysis
- Commercial master planning
- Introducing digital technologies
- Contract negotiation advisory

Case Study: Southwest Florida International Airport, Concession Planning

As part of the Checkpoint Expansion Study at Southwest Florida International Airport (RSW), ICF is working as a subconsultant to Atkins North America to provide concession planning services. RSW plans to consolidate its security operation into a single screening area, reducing the size of the landside program and creating a new and expanded centralized airside commercial area. Our work to date has included an analysis of concession demand, schematic design reviews and layout planning, sales forecast sensitivities dependent on different layouts, guidance on passenger amenities and experiences, and debt service sensitivities. Work is ongoing, and will include brand strategy, market insight work, and journey mapping.



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ICF

Proprietary Software

NetWorks®

NetWorks® is a sophisticated software system that realistically simulates an air carrier's network. It quickly and accurately reveals the impact of schedule

changes on traffic, revenue, and profitability. NetWorks® provides a safe virtual environment for choosing the most cost-effective and market-driven schedule changes. It provides a flexible and efficient means of understanding your network's strengths and weaknesses within the larger competitive environment.

Use NetWorks® to evaluate:

- Schedules in terms of passengers, revenue, and profitability
- New markets and/or enhanced frequency
- Traffic and revenue potential of code shares and alliances
- Optimum departure times for local and connecting markets
- Impact of competitive actions and alternative responses
- Impact of mid-year schedule modifications on sales targets and the annual plan
- Overall profitability of a network
- Individual contributions for each flight and route

Air Service Development

Air Service Development (ASD) is a strategic imperative. In an environment where airlines have far more service opportunities than they have aircraft to fly them, however, convincing those airlines to add new routes and invest in your airport is more challenging than ever before. ICF's ASD 2.0 helps airports get the service they want by first giving airlines what they want: stronger passenger demand for their service at your airport. Our approach uses a four-pronged methodology – Determine, Decide, Design, and Drive – to put the airport in control of its air service destiny.

What really separates us from our competition, however, is our process to build and test potential strategies with both the airport and airline sides of air service decision-making. Our proprietary network planning tool (NetWorks®) is highly respected in the industry and used by airlines and alliances such as British Airways, Copa, Virgin Atlantic, and oneworld.

Case Study: BWI, Ongoing Air Service Development

ICF has been one of Baltimore/Washington International Thurgood Marshall Airport's (BWI) air service development consultants since 2002, helping to identify target carriers and target markets, developing market strategy, and supporting airline meetings. ICF research, analysis, and advice helped BWI to target and attract five new carriers within the last five years, with service to six international and 18 domestic markets. ICF's work for BWI exemplifies the benefits of retaining an experienced air service marketing consultant that can provide timely strategic advice, supported by sound technical analysis to respond to the dynamic and competitive domestic and international air service market.

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ICF Next brings together world class expertise in digital platforms and solutions, client relationship management (CRM) and loyalty, branding and advertising, public relations, and social media.

Services include:

- Digital strategy and experience design
- Technology platforms, optimization, and management
- Consumer, social, media, multicultural, and experiential engagement
- Corporate affairs
- Content development and design
- Loyalty and CRM strategy
- Strategy and analytics
- Digital platforms and experiences
- Spark Labs: a multidisciplinary strategy team providing functional prototyping of major strategic challenges

Case Study: Belize, Brand

ICF Next was hired by the Belize tourism board to rebrand and market the country's tourism offering. Belize's identity was developed 20+ years ago, and its advertising did nothing to highlight its point of difference. Our research found that Belize is for travelers, not tourists. We developed a new brand and supported digital platforms that emphasized the country's authenticity, rather than changing to appeal to the tourist masses.

Results have included the below:

- Belize's own central bank attributed our work to a 2.4% rise in Belize's GDP
- After five years, stay-over visitors rose by over 44%
- TravelBelize.org is the highest-performing travel website among its competitors

Passenger Experience

Too often, airports focus on retail, passenger marketing, and communication but do not deliver an efficient and informed passenger experience from curb to gate. We advise airports on how to deliver—and profit from—passenger-centered air travel by identifying value-creation opportunities across the passenger journey, including both digital and physical infrastructure. The unique combination of ICF aviation's subject-matter expertise with the deep creative and digital expertise of ICF Olson, our customer experience agency, sets us apart in the industry.

Services include:

- Operational efficiency
- Digital engagement
- Passenger flow improvements
- Customer experience master plan
- Digital experience management
- Data analytics

Case Study: JFK Terminal 4, Operational Efficiency

In 2016, ICF developed a terminal optimization plan for the JFK T4 departure hall. The work involved studying the passenger flow through the departure hall, identifying bottlenecks in the process, and recommending a range of operational solutions to improve the passenger flow from the curb, check-in, and security. ICF developed a holistic strategy including technology, dynamic queuing, organization restructuring, changing airline processes, wayfinding, and physical and operational improvements. The client is now in the process of implementing these recommendations in order to maximize passenger flow, with minimum investment in new capital expenditure, and enhance the passenger experience.

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Environmental Services

ICF deploys integrated services to execute environmental impact assessments for complex transportation projects involving diverse stakeholders and multiple layers of regulation. As one of the U.S.'s most experienced NEPA consultants, we thoroughly understand the perspectives of involved regulatory, commercial, community, and nongovernmental organizations. ICF experts in all areas of environmental compliance understand federal, state and local regulations as well as federal policy. As part of our global airport transaction service we undertake EHS due diligence assessments to help our clients understand the scope and magnitude of the potential financial exposure represented by EHS risks.

Services offered include:

- Environmental impact statements and assessments
- Environment, Occupational Health & Safety (EHS) due diligence
- Training
- Air quality and greenhouse gases (GHG)
- Community impacts
- Noise
- Habitat and ecosystems

Case Study: Los Angeles World Airports Sustainability Key Performance Indicators, Reporting, and Implementation

ICF assisted Los Angeles World Airports (LAWA) with improving its sustainability programs at Los Angeles International, Van Nuys Airport, and Ontario International Airport. LAWA began its sustainability program with limited resources, which made improvement difficult beyond initial successes. ICF's aviation and sustainability experts helped LAWA streamline its sustainability initiatives and track progress. Work has included issuance of sustainability reports with a fresh and revitalized approach. By developing and rethinking all facets of LAWA's sustainability approach, ICF has added depth and structure to LAWA's sustainability program.

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Stakeholder Engagement

ICF manages strategic communication, engagement, and public outreach programs for government agencies, private companies, and organizations with a need to inform, educate, and engage the public, elected officials, agencies, and stakeholders. Our communication experts leverage a multi-channel engagement model, providing services in the practical application of public relations and outreach, along with digital engagement and facilitation. We work closely with our clients to assess the situation, reach mutually agreed upon objectives, and develop comprehensive communication approaches, including strategies, tactics, and timelines to meet a project's need. We use digital listening throughout to measure and refine the messages, content, and channel optimization.

Services offered:

- Multi-channel engagement model
- Stakeholder and value mapping
- Engagement strategy
- Measurement
- Content Creation
- Media and influencer engagement
- Public involvement
- Digital engagement

Case Study: Conserve Energy SoCal Campaign

After a gas leak, a natural gas provider turned to ICF to set up a call center to handle customer inquiries and improve communications during the crisis, including creating digital content that could be shared quickly and engage key audiences. ICF used a combination of its energy expertise, paired with digital communications leadership to offer the client a holistic solution. Once the crisis was resolved, the client needed to partner with other local utilities to promote energy conservation. They once again turned to ICF to bring an emergency conservation campaign online in 6 weeks. ICF launched a completely integrated multi-channel engagement model of paid advertising, PR, web development, content development and social media and offline community engagement.

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Workforce Development

ICF delivers effective workforce employment and training strategies and implementation for U.S. airport MBE/DBE/local commitments for large airport public-private partnership (P3) infrastructure transactions. These development projects often relate to tax exempt bonds or tax increment financing (TIF) where the public sector seeks specific labor commitments from private developers in construction and operation in exchange for advantageous financing terms. This happened in Denver with the Great Hall Project and is now happening in New York with the JFK redevelopment project. ICF uses our longstanding workforce development expertise to help private sector developers make the most of airport P3 development.

Services offered include:

- Job creation plans
- Local workforce education and training
- Local community engagement
- Community benefits agreement negotiations
- Hiring/training implementation
- Coalition building to accelerate project execution

Case Study: Port Covington

ICF prepared the workforce strategy used by a large P3 developer to meet the MBE/DBE/local commitment for Port Covington, a 235-acre redevelopment project located on Baltimore City's prime waterfront. As one of the largest urban revitalization efforts in the U.S., this transformative project will include: up to 18 million sq. ft. of new, mixed-use development; 2.5 miles of restored waterfront; and 40 acres of parks and green space. In exchange for \$660 million in TIF, the developer agreed to create an innovative community benefits agreement (CBA) with the City of Baltimore. ICF's workforce strategy included commitments written into the CBA for 40-50,000 DBE/local construction jobs and 20-30,000 DBE/local follow-on operational positions.

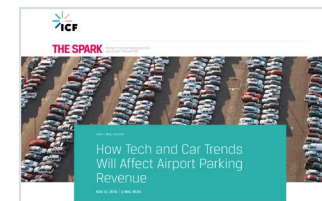
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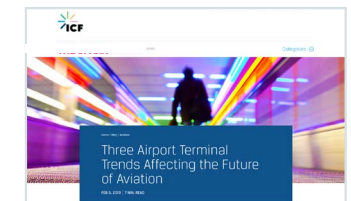
ICF Perspectives

The papers below illustrate the diversity of issues that ICF aviation experts engage in during the course of their work.

How Tech and Car Trends Will Affect Airport Parking Revenue



Three Airport Terminal Trends Affecting the Future of Aviation



Stakeholder engagement: The key to U.S. P3 success *By Eliot Lees*



Mind the gap: Avoiding investment crises at the end of concession agreements *By Simon Morris*



A full collection of our ICF aviation perspectives can be found on our website: www.icf.com/aviation

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