



# Aviation Services

*Dedicated Knowledge and Support  
for the Aviation Challenges of Today*



*Creating innovative  
solutions for issues at  
the nexus of  
transportation.*

## Selected Clients

- Federal Aviation Administration
- National Aeronautics and Space Administration
- California Department of Transportation
- Montana Department of Transportation
- Chicago O'Hare and Los Angeles International Airports
- George Mason University
- Oregon Department of Transportation
- City of Richmond, Virginia
- European Commission

ICF Consulting provides a variety of services for aviation and ground based transportation systems. ICF Consulting specializes in addressing issues at the nexus of transportation: technology, the environment, economic development, strategy, policy, and management. We help clients create innovative solutions that address issues from developing strategy to establishing policy and implementing solutions.

ICF Consulting's core business is to provide our clients with superior technical and program management support—differentiating us from companies that sell hardware and software solutions. Because we do not supply aviation products, we can offer an objective and pragmatic perspective with no conflict of interest.

## Our Services

### Engineering and Technology

ICF Consulting has proven capabilities in engineering and implementing technology solutions for the aviation community. Our approach employs comprehensive multidisciplinary engineering and program integration skills.

### Environmental Analysis and Assessment

Our environmental practice addresses environmental policy and engineering issues. ICF Consulting supports clients in analyzing and assessing impacts on the environment as well as the impacts to human welfare as a result of airport improvements.

### Strategy and Policy

ICF Consulting designs and applies strategic solutions and supporting policy to help public and private organizations address community needs and changing market conditions.

### Capital Planning and Project Analysis

ICF Consulting considers the entire project lifecycle for project planning. Transportation investment alternatives must be aligned with an organization's strategic goals. Today's fiscal environment demands that budgets be performance based. Investments implemented must be analyzed to ensure that planned benefits are being realized.

### Economic Analysis

ICF Consulting is at the forefront of developing new approaches to understanding the links between regional economies and infrastructure investments. ICF Consulting has developed and applied frameworks for analyzing how transportation investments support a region's economic development strategy.

### Homeland Security and Emergency Management

We provide emergency management services to numerous private companies, industry associations, and government agencies. We help agencies assess their organizational structure and reexamine policies and programs to better prevent and respond to terrorism.

### Transportation and Land Use

We draw on our capabilities in economic development, land use, and environmental planning to address transportation related land use issues. We help federal, state, and local governments face questions about how to best manage and benefit from the interaction between land use and transportation.

### Aviation Safety

ICF Consulting is experienced in developing concepts of operation for the implementation of advanced aviation safety technologies.

# Featured Solutions

## **System Engineering, National Aeronautics and Space Administration (NASA).**

ICF Consulting provided system engineering expertise for the NASA Small Aircraft Transportation System (SATS) research program. This effort required integrating avionics technologies, flight experiment design, and transportation system analysis in a general aviation (GA) environment. As the focal point for systems engineering within the State of Virginia SATS Laboratory, ICF Consulting's system engineers worked with transportation modeling engineers and scientists, human factors researchers, and aerospace industry avionics engineers to design a systems engineering process that met aggressive performance goals for aircraft separation assurance, lower landing minima, and GA safety improvements in the terminal environment. Within that framework, ICF Consulting coordinated and wrote a Systems Engineering Management Plan, served as a key team member to design operational concepts for demonstration during flight testing, developed operational and technical requirements, and designed physical and functional architectures that were aligned with the National Airspace System (NAS) Architecture framework.

## **Environmental Analysis, Federal Aviation Administration (FAA).**

ICF Consulting has extensive experience in environmental management for planning, acquiring, and implementing air traffic control systems for the FAA. This includes review and analysis of the unique environmental considerations and constraints for airports. Activities include tradeoff analyses between environmental and operational considerations, and land use limitations. Other issues such as visual impact, biological impacts, and historical/cultural impacts have also been addressed. ICF Consulting also ensures that airport contractors comply with federal, state, and local environmental laws. Typical products include environmental analyses and studies, environmental site surveys, Environmental Due Diligence Assessments, planning and conducting public hearings and outreach programs, and compliance assessments.

## **Economic Analysis, City of Richmond, Virginia.**

ICF Consulting provided a comprehensive economic impact and cost-benefit analysis of several transportation infrastructure projects, including two interstate highway expansions, an inter-

modal center, airport runway expansions and access improvements, and high-speed rail service and regional improvements for the Richmond Virginia Chamber of Commerce. We analyzed investment in these infrastructure projects, individually and collectively, to determine the anticipated economic expansion and regional growth. Analysis of high-speed rail service between the Washington, D.C.-Richmond, Virginia, corridor included a comparison of the cost of investment in increased highway capacity with the cost of investment in rail services.

## **Implementation Engineering, Federal Aviation Administration (FAA).**

ICF Consulting provides implementation engineering expertise to the FAA in the fielding of air traffic control systems. Activities include performance of technical/cost tradeoff studies and alternatives analysis; development of system specifications; performance vs. cost analyses to ensure system contractors' development and implementation activities meet FAA user needs and National Airspace System requirements. ICF Consulting led major engineering initiatives for airport infrastructure items such as air traffic control tower (ATCT) cab glass, ATCT structural engineering, airport underground cable mapping, and knowledge sharing.

## **Airport Air Traffic Control Investment Solutions, Chicago O'Hare and Los Angeles International Airports.**

ICF Consulting works with the Chicago and Los Angeles area airports to improve safety and enhance the mobility of the traveling public by assisting airport authorities participate in the AIR-21 Program. The AIR-21 Program encourages non-federal investment in partnership with the FAA in critical air traffic control facilities and equipment.

## **Evaluation Methodology, European Commission.**

ICF Consulting was tasked to provide an effective methodology to evaluate numerous Air Traffic Management projects proposed to improve operations for airlines, airports, and air traffic service providers throughout Europe by the European Commission (EC). The objective of this engagement was to better enable the EC decision-makers to understand how the various projects supported the proposed air traffic control vision and to determine, based on shortfalls, where additional work was needed.

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## About ICF Consulting

ICF Consulting is a leading management, technology, and policy consulting firm. Drawing upon extensive industry knowledge, distinguished professionals, and innovative analytics, the firm develops solutions to complex energy, environment, emergency management, community development, and transportation issues. ICF Consulting's approach to these issues is strengthened by its expertise in information technology, organizational improvement, program management, and communications. Since 1969, ICF Consulting has been serving major corporations, government at all levels, and multinational institutions. More than 1,000 employees serve these clients from key business centers in the Americas, Europe, and Pacific Asia.

For more information, please visit [www.icfconsulting.com/aviation](http://www.icfconsulting.com/aviation) or contact:

Jeff Breunig  
Phone: 1.703.934.3318  
Fax: 1.703.934.3740  
E-mail: [JBreunig@ICFConsulting.com](mailto:JBreunig@ICFConsulting.com)

Lou Pack  
Phone: 1.703.934.3467  
Fax: 1.703.934.3740  
E-mail: [LPack@ICFConsulting.com](mailto:LPack@ICFConsulting.com)

ICF Consulting  
9300 Lee Highway  
Fairfax, VA 22031