

21 世纪航空城

——浦东国际机场地区综合开发研究

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上海科学技术出版社

Air-city in the 21st Century

——Research on the Comprehensive Development in Pudong International Airport Area

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Shanghai Scientific & Technical
Publishers
1999

前 言

浦东国际机场是一项跨世纪的重大工程。按规划，它最终将建成 4 条跑道，年处理旅客能力在 7000~8000 万人次，年货运能力在 500 万吨，年飞机起降 30 万架次以上。这一重大设施的建设将给上海的社会、经济和文化发展带来什么样的影响，一直是大家关心的问题。

浦东国际机场地区综合开发研究旨在从城市发展的角度预测浦东国际机场将给上海市带来什么样的影响，论证将在浦东国际机场地区发生的城市化变革，进而研究这一变革发生的城市背景，提出浦东国际机场地区应实施的规划建设须遵循的原则和综合开发的方针、政策，从而回答浦东国际机场地区所要建设的航空城是什么，应该开发建设什么设施和怎样开发建设等一系列问题。

经过近两年广泛、深入的调查研究，我们首先完成了下述一批有价值的调查研究报告：

- 《关于浦东国际机场与上海城市规划的研究报告》
- 《上海市几个经济开发区开发情况调查报告》
- 《关于浦东国际机场地区建设飞机总装基地设想的报告》
- 《浦东国际机场机务维修及飞机改装中心开发研究报告》
- 《关于浦东国际机场可持续发展的研究报告》
- 《浦东国际机场的规划设计》
- 《关于大航空时代到来的报告》
- 《世界机场制度的研究报告》
- 《日本城市航站楼考察报告》
- 《国外机场地区综合开发研究》

在上述调查研究的基础上，我们从浦东国际机场地区航空城总体规划、开发规划和规划实施三个方面展开了研究。

“总体规划研究”主要从航空城的本质和国外航空城建设的经验和教训，以及浦东国际机场地区所具备的经济条件和城市环境现状两大方面研究了航空城的定位，并结合实际提出了航空城的总体规划设想和环境规划、信息系统规划设想；

“开发规划研究”主要从航空城有可能开发的几个主要设施着手，较详细地论证了航空城“会务·展销设施群”、“物流·产业设施群”、“周末产业设施群”和“航空工业设施”、“城市航站设施”的开发可行性；

“规划实施研究”主要研究了“开发利益还原论的理论与实践”，“城市开发与证券化的问题”，以及开展“利用民间投资与活力的实践活动的可行性”和“航空城规划与建设一体化”等四个方面的课题。

以上述大量调查研究为基础的本书分为三个部分：

第一部分指第 1 章，研究航空城开发的背景和环境。主要从以下三个方面论证：一、从交通发展的历史分析着手，研究未来交通体系的模式和未来交通体系中民用航空业的地位，并科学预测国际国内民航业的发展和机场的发展特征，提出航空城的课题；二、研究浦东国际机场建设的内涵，为第二部分探讨浦东国际机场给上海市，特别是给浦东新区带来的机遇奠定基础；三、研究浦东国际机场在上海城市规划中的地位，探讨航空城发展的城市环境。

第二部分指第 2、3、4 章，研究航空城的规划和综合开发。主要分三个方面进行：一、通过对国外机场地区综合开发的研究，提出浦东国际机场航空城的定位进而确定航空城功能设施的构成；二、通过研究浦东国际机场对周围地区发展的制约因素，提出航空城的土地利用规划设想和市政公用设施的规划构想，进而研究了航空城中心区的规划；三、研究航空城综合开发实施的政策体系和管理制度。在这里我们分别研究了航空城开发建设中开发利益还原的必要性和可能性，以及技术上的手法；研究了航空城开发建设中投资流动化、证券化实践的可能性；论证了航空城建设中利用民间（含外资）投资，借助民间经济活动的必然性；以及航空城规划开发一体化的必要性和通过经济手段实施一体化的可能性等课题。

第三部分指第 5~11 章,是航空城规划的分论,对浦东国际机场地区综合开发的主要设施群和主要课题分七章进行较为详细的开发研究和规划研究。第 5 章研究航空城核心设施群的开发,核心设施主要指人、财、物、信息的交流设施,如大型展示厅、会务设施、商务设施、办公设施等等。第 6 章从物流分析入手,研究物流与产业的关系,进而对浦东国际机场地区的临空产业之构成与开发进行了科学的探讨。第 7 章以上海人周末活动为研究对象,展开航空城的娱乐、休闲、运动等设施的开发研究。第 8 章针对上海和浦东国际机场的实际,研究了在浦东国际机场周围地区开发飞机维修、改装中心和飞机总装基地的可行性。第 9 章从可持续发展的高度出发,对航空城未来开发中的生态环境问题、社会环境问题和经济环境问题进行了全面的规划研究。第 10 章针对航空城的特征和航空城规划中高层次、高水平的要求,全面探讨了航空城未来的信息系统构成和通讯规划问题。第 11 章从提高上海市的形象和提高机场服务水平、优化城市交通的高度出发,研究了城市航站楼和城市航空货运站的开发可行性。

浦东国际机场地区综合开发的研究成果已引起有关决策部门的高度重视,并用来指导实际工作。关于浦东国际机场与上海城市规划的研究已影响新一轮上海市城市总体规划的修订。关于“国外机场地区综合开发的研究”发表后受到多方重视,被收入两本论文集。航空城中心区即机场航站区以北地区的规划研究已被采用、实施。关于航空城开发政策体系的研究成果,已被运用到浦东国际机场的开发建设中。关于航空城航空工业设施开发的研究报告已引起上海市政府的高度重视,正组织进行发展可行性研究。关于航空城可持续发展的研究已在机场建设中全面运用。关于城市航站设施的研究在上海机场(集团)有限公司领导和静安区政府领导的直接关心下,完成了工程项目的可行性研究,现已进入工程实施阶段,中国第一座城市航站楼将在 2000 年末启用。

浦东国际机场地区综合开发研究是航空城开发规划的前期工作,接下来需要进一步开展航空城的总体规划和详细规划工作。特别是浦东国际机场一期工程投入运营后,周围地区的综合开发将会大面积展开。那时一个完整的、有

远见的航空城规划将是开发活动的指导依据，是航空城发展的共同目标。但是要完成这样一个航空城的规划，任务是极为艰巨的，还需要我们做大量的工作。

本书是上海市科学技术委员会“1996 年度上海市青年科技启明星计划”资助的“上海浦东国际机场周围开发研究”课题的成果报告。该课题是在吴祥明（浦东国际机场建设总指挥）、夏丽卿（上海市城市规划管理局局长）两位导师的指导下完成的。

参加本书初稿执笔的有：刘武君（第 1、2、3、4、5、6、8、11 章），付荠（第 5 章），贺胜中（第 6、8 章），洪少枝（第 7 章），黄雅芬（第 8 章及英文翻译），周小娟（第 9 章），赵海波（第 10 章）。本书的统稿为刘武君、林晨。另外，本书写作过程中还得到了浦东国际机场建设指挥部秦灿灿、刘敏、孟迅、董政民、罗琳、孙玲、黄蔚、胡俊、李萌、龚伟燕等同志的大力支持，在此一并致谢。

由于时间仓促，本书定有许多不当之处，恳请各位读者不吝赐教。

刘武君

1999 年 6 月

Preface

The construction of Pudong International Airport is a significant century-crossing project. In accordance with the master plan, the new airport will eventually have 4 runways with an annual capacity to handle 70-80 million passengers and 5 million tons of cargo as well as over 300000 aircraft movements. What will be brought to the society, the economy and the civilization of Shanghai when such a significant facility is built? This is always what people show great concern about.

The research on the comprehensive development in Pudong International Airport area aims to forecast what influence it will bring to the Shanghai municipality from the perspective of urban development, and to demonstrate what urbanizing changes will be experienced in the Pudong International Airport area. Meanwhile, through further research on the Shanghai urban planning background which influences the urbanization, we proposed principles, strategies and policies of comprehensive development which should be observed when planning and construction are implemented in the Pudong International Airport area in order to answer such questions as what the air-city built in the Pudong International Airport area will be like, what facilities will be developed and constructed, and how to execute such development and construction.

Having had almost two years' extensive and deep investigations and researches, we've first accomplished the following valuable investigation and research reports:

- Research report on the development of the Pudong International Airport and Shanghai urban planning

- Investigation report on several economic development zones in Shanghai
- Report on a conception of establishing an aircraft assembly base in Pudong International Airport area
- Research report on a conception of developing an aircraft maintenance and aircraft modification center in Pudong International Airport area
- Research report on the sustainable development of Pudong International Airport
- Planning and design of Pudong International Airport
- Report on the approaching great aviation age
- Research report on the world airport system
- Report on the survey of the city terminal in Japan
- Research on the comprehensive development in airport area abroad

Based on the above investigations and researches, we started our research on three respects such as the master plan of the air-city, the planning of its development, and the implementation of the planning in the Pudong International Airport area.

“The Study of the Master Plan” mainly focuses on the study of the air-city positioning based on the two respects — one is the nature of the air-city and the experiences and lessons drawn from the other air-city abroad, and the other is the economic condition and urban environmental status available in the Pudong International Airport area at present. Meanwhile, we proposed conceptions of the master plan, the environmental plan, and the information system plan for the air-city by thinking of the actual situation.

“The Study of the Development Planning” mainly covers the study of several main facilities which are possibly to be developed in the air-city. It demonstrates in

detail the feasibility of developing “Convention and Exhibition Facilities in Clusters”, “Goods Flow and Facilities in Clusters”, “Weekend Industry Facilities in Clusters”, “Aviation Industry Facilities and City Terminal Facilities”.

“The Study of the planning Implementation” mainly covers the study of four topics, that is “the Theory and Practice of the Recovery of the Development Interest”, “the Issue of the Urban Development and Finance by Issuing Securities”, and “the Feasibility of Using Private Investment and Relying on Private Dynamics”, as well as “the Integration of the Planning and Construction of the Air-city”.

The book based on the above researches consists of three parts:

Part One refers to Chapter 1. Research on the background and the environment of the air-city development was mainly conducted in the following three respects: first, through the analysis of the history of the transportation development, we made a study of the future transportation system mode and the position of the civil aviation industry in future transportation system, and scientifically forecast the civil aviation development and the characteristics of the airport development both at home and abroad, thus bringing forward the study of the air-city; second, we made a study of the implication of the construction of Pudong International Airport, which laid a foundation for the study in Part Two of the opportunity brought by Pudong International Airport to the Shanghai municipality, especially to the Pudong New Area; third, we made a study of the position of Pudong International Airport in the Shanghai urban planning, and researched into the urban environment in the air-city development.

Part Two refers to Chapter 2, 3 and 4. The research on the planning and comprehensive development of the air-city was mainly conducted in the following three respects: first, we proposed a positioning of the air-city of Pudong International Airport and determined the configuration of function facilities of the air-city after making research on the comprehensive development of airport area abroad; second, we proposed a conception of a plan for land use in the air-city and for urban public facilities after making a research on the restrictions to the development of the periphery area due to Pudong International Airport, and made further study of the planning for the central area of the air-city; third, on studying the policy system and management system in the implementation of comprehensive development of the air-city, we respectively made research on necessity and possibility as well as technical means of recovery of development interest in development and construction of the air-city, and on the possibility of practice in making investment in multi-forms and financing by issuing securities; we demonstrated the necessity of utilizing private investment (including foreign investment) and relying on private economic activity in the construction of the air-city, and the necessity of integration of planning and development of the air-city, as well as the possibility of implementing the integration through economic means.

Part Three refers to Chapter 5 to Chapter 11. It demonstrates in detail the planning of the air-city. Detailed researches were made on the development and planning of main facilities in clusters and on main subjects in Pudong International Airport area in 7 chapters. Chapter 5 mainly covers the research on the development of core facilities in the air-city. The core facilities refer to the facilities for the convenience in exchange activities for the people, the finance, the goods and the information, such as large exhibition hall, conference facilities, business center facilities and office facilities, etc. Chapter 6 analyzes the goods flow, studies the relation between

the goods and the industries, and then makes a scientific research on the development of aviation industry in Pudong International Airport area. Chapter 7 extends the research on the development of entertainment, resort and sport facilities based on the weekend activities of Shanghainese. Chapter 8 covers a research on the feasibility of developing aircraft maintenance and modification center and aircraft assembly base in the periphery area of Pudong International Airport based on the actual situation of Shanghai and Pudong International Airport. Chapter 9 starts an overall planning and research on the issues of ecological environment, social environment and economic environment in the future development of the air-city from a high level point of view of sustainable development. Chapter 10 covers an overall research on the issue of the future information system composition and communication planning of the air-city according to the air-city characteristics and the high level and high quality requirement in the planning of the air-city. Chapter 11 provides a research on the feasibility of the development of the city terminal and city cargo terminal with the requirement of improving the image of Shanghai municipality, improving the quality of service, and optimizing the city traffic.

The achievement of the research on the comprehensive development in the Pudong International Airport area has aroused great attention of relevant decision-making departments, and has been taken as a guidance to the actual work. The research of the Pudong International Airport and Shanghai urban planning has influenced a new turn of revising the master plan of Shanghai municipality. The publication of “research on the comprehensive development of airport areas abroad” was quite a hit in various respects, and was taken into two thesis collections. The research on the planning of the air-city center which is located in the northern area of the air terminal has been adopted and implemented. The research achievements concerning the development policy system of the air-city

have been applied to the development and construction of Pudong International Airport. The research report on the development of aviation industry facilities in the air-city has aroused great attention of Shanghai municipal government, who is organizing a feasibility study in detail. The research on the sustainable development has been applied to the airport construction in all round. Regarding the city terminal facility, feasibility study has been accomplished under the leadership of the Shanghai Airport (Group) Company Limited, and with the direct concern of the Jing-an district government, it has been now in the stage of project implementation. The first city terminal in China will be put into operation in 2000.

The research on the comprehensive development in Pudong International Airport area is a preliminary work done for the development and planning of the air-city. The master plan and detailed planning work will be further performed afterwards, especially when Pudong International Airport (Phase One project) is put into operation, the comprehensive development of periphery area will be proceeded in large scale. At that time, a complete and far-sighted air-city plan will guide the development activities, and will be our ideal goal to develop the air-city. However, there is still a great deal of work for us to do for accomplishing such an air-city planning since it is a rather difficult task.

Liu Wujun

June, 1999

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