

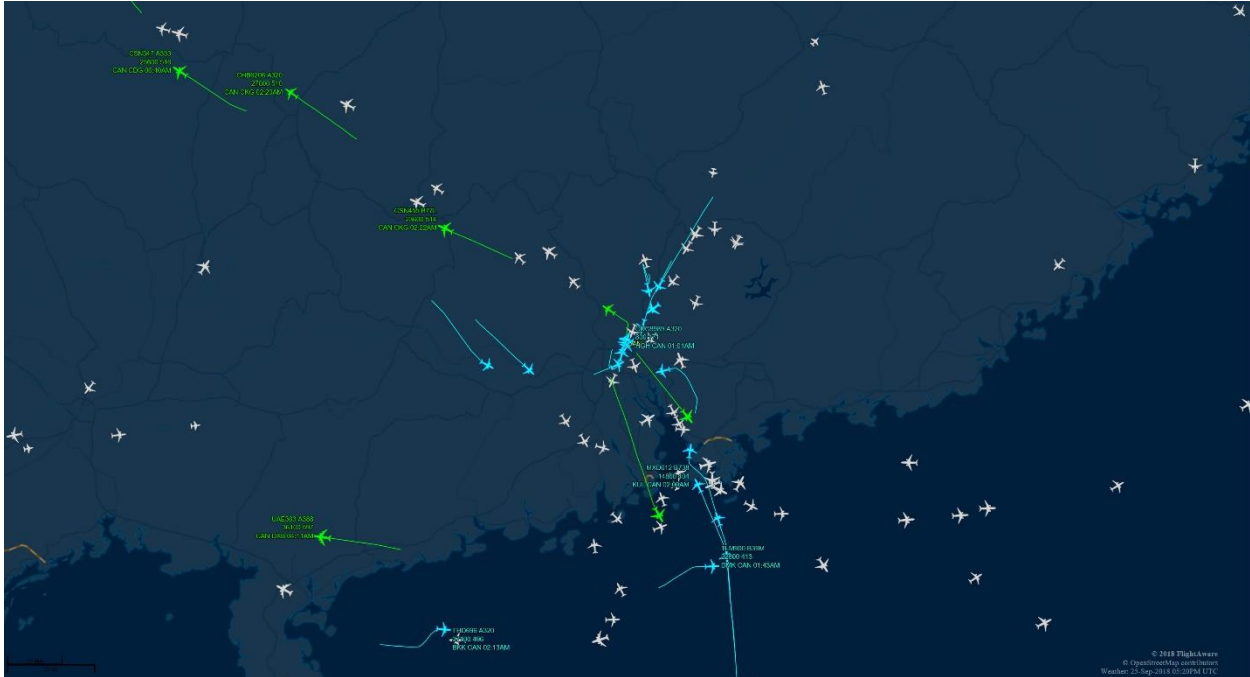
Location: Guangzhou BaiYun International Airport (CAN)
Client: Guangzhou Airport Authority
Projects: Multiple (Undertaken by SPS staff while previously employed by others)



Numerous SPS staff have worked on multiple projects for the Guangzhou Airport Group at CAN. CAN services were directed by SPS CEO when employed as CEO and the Client Officer for CAN with other firms, and by two other SPS Principals when they were employed as Officers or Project Managers while with other firms, with support by other SPS staff previously with another firm. The services provided included:

- **CAN - Guangzhou BaiYun International Airport**
 - Airspace/Airfield Simulation Analysis (2005)
 - Guangzhou T2 and Supporting Facility Planning and Design (2009 – 2012)
 - Guangzhou Terminal 2 Supporting Facility Planning Phase 2:
Ground Transportation Center (GTC) Planning (2010 - 2012)
 - Guangzhou Master Plan Hub Study (2016 - 2017)

Location: Guangzhou, China
Airport: Guangzhou BaiYun International Airport (CAN)
Client: Guangzhou Airport Group
Project Title: Airspace/Airfield Simulation Analysis
Year: 2005
Key Staff: Doug Goldberg, Jay Wang, Jeff Thomas, Qianlin Li (while employed by others)



SPS principals (while working for others) , provided leadership, management and technical support to the Boeing team in the simulation and analysis of the Pearl River Delta (PRD) airspace system, which includes Guangzhou, Shenzhen, Zhuhai, Hong Kong and Macau - one of the most complex airport/airspace systems in the world. The detailed TAAM simulation modelling effort assessed a combination of factors to efficiently balance the capacity of the airfield system with the terminal system throughout the 20-year planning horizon, including:

- operational performance
- optimal configuration for the future runway and airfield geometry
- airspace structure for the Guangzhou Baiyun International Airport
- recommended changes in airspace routes
- operational procedures,
- cost and operational impacts associated with alternative long-term runway spacing between parallel runways,
- impact of alternative terminal configurations to provide the optimum layout for the airport operator, the airlines and the traveling public,
- coordination with each of the airports in the PRD airspace system, and airlines operating in the region.

Location: Guangzhou, China
Airport: Guangzhou BaiYun International Airport (CAN)
Client: Guangzhou Airport Authority
Project Title: Guangzhou T2 and Supporting Facility Planning and Design
Year: 2009 - 2012
Key Staff: Jeff Thomas, Qianlin Li, Xiang Huang (while employed by others)



Jeff Thomas, while employed by others as CEO and China Group Leader , led the team that won the international design competition for Guangzhou Baiyun International Airport Terminal 2 and Supporting Facility Planning and Design. After the competition win, the team further refined the concept through review and analysis of operational characteristics in coordination with China Southern airlines and CAN airport operations staff. Each aspect of operational flows were considered for processing time and operational efficiency, to achieve the operational needs of the airlines and the forecast demand goals of the Guangzhou Airport Group, including:

- passenger processing
- baggage system
- airside layout
- terminal configuration
- APM system

In January 2010, the revised concept was presented and approved by the expert panel, with further approvals by the Guangzhou Airport Group, CAAC, and China Southern Airlines.

Location: Guangzhou, China
Airport: Guangzhou BaiYun International Airport (CAN)
Client: Guangzhou Airport Group
Project Title: Guangzhou Terminal 2 Supporting Facility Planning Phase 2:
 Ground Transportation Center (GTC) Planning
Year: 2010 - 2012
Key Staff: Jeff Thomas, Qianlin Li Xiang Huang (while employed by others)

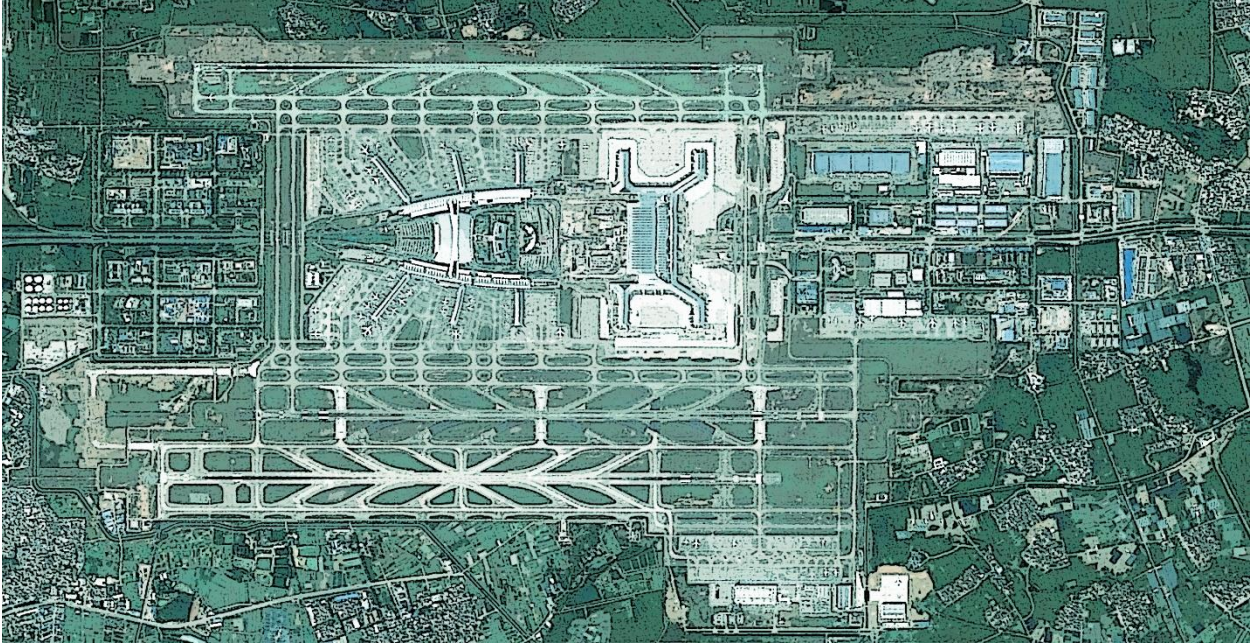


Jeff Thomas, while employed by others as CEO and China Group Leader, led the Phase 2 effort for the additional refinement of the T2 integration with the Ground Transportation Center.

Similar to the refinements for the airside and passengers, the integrated GTC elements were reviewed and refined to provide the highest passenger service levels and operational efficiency possible within the approved concept layouts. Passenger movements were separated from vehicle traffic by bridge and tunnel connections to the GTC analysis of operational characteristics in coordination with China Southern airlines and CAN airport operations staff. Roadway lanes were refined to minimize weaving and merging, reduce the need for bypass trips and increase overall roadway capacity within the terminal areas and support facilities. Key elements of analysis and refinement included:

- Landside planning for the GTC
- Support Facility planning and access
- Roadway Vehicle flows and Capacity
- Integration of the ground access modes to reduce conflicts
- Derivative mode forecasts and planning for:
 - Private vehicle parking,
 - Commercial vehicle staging areas,
 - Metro rail access
 - Long distance bus and
 - Rental car facilities

Location: Guangzhou, China
Airport: Guangzhou BaiYun International Airport (CAN)
Client: Guangzhou Airport Group
Project Title: Guangzhou Master Plan Hub Study
Year: 2016 - 2017
Key Staff: Jeff Thomas, Qianlin Li , Xiang Huang (while employed by others)



Mr. Thomas, while employed by others as CEO and China Group Leader, led the team to win the 2016 master planning study and hub strategy competition. The focus of the Guangzhou Airport Group for this effort was to identify and implement a master planning strategy that would achieve the forecast level of passenger demand while maintaining the desired level of passenger service. As a comprehensive master planning effort, the planning program included:

- Forecast updates to identify long term demand and the anticipated split in Guangzhou and Shenzhen traffic;
- Airfield analysis and layout plan for the 4th and 5th runway alignment options;
- Terminal airline strategy for China Southern, the primary home carrier, to address T3 concourse configuration, airline allocation and development phasing;
- Cargo facilities planning;
- Land Use and Supporting facilities planning.
- Landside plans to accommodate increased ground traffic activity, metro alignment and APM connections;