Many airports around the world are diversifying their land use strategies to integrate nonaeronautical development. These airports embrace the "airport city" concept to develop a wide range of commercial and light industrial land uses to support airport revenues. The consequences of this changing urban form are profound for both airport and municipal planners alike and present numerous challenges about integration of airport and regional planning. While several tools exist for regional planning and airport operational planning, no holistic airport landside and regional planning tool exist. What is required is a planning support system that can integrate the sometimes-conflicting stakeholder interests into one common goal for the airport and the surrounding region. This research presents a planning support system and evaluates its application to a case study involving Brisbane Airport and the South East Queensland region in Australia.