

PROJECTS

Estimating courthouse demand

Econometric forecasting of future demand for courthouses

**LOCATION**

Queensland

CLIENT

Department of Justice and Attorney General

ECONOMETRICS

Background

TSA Management (TSA) engaged NineSquared to undertake an economic cost-benefit analysis (CBA) as part of the Department of Justice and Attorney-General (DJAG) Detailed Business Cases (DBC) for the proposed Beenleigh and Townsville Courthouse project. DJAG delivers court services across Queensland from 146 locations including courthouses, community justice centres and other government owned buildings. Of these 146 locations, 87 of these facilities are courthouses, of which 66 are owned by DJAG and 21 are leased from other government agencies including the Department of Housing, Local Government, Planning and Public Works.

In 2021-22, DJAG undertook a Strategic Assessment (SA) for seven priority courthouses: Beenleigh, Townsville, Southport, Ipswich, Rockhampton, Cairns, and Beaudesert. The SA considered initiatives at the seven courthouses in line with the State Infrastructure Strategy (SIS) priority preferences:

- reform,
- better use,
- improve existing,
- construct new facilities.

The SA identified capacity, safety, and functionality issues at each of the seven priority courthouses assessed. The SA identified that the reform, better use and improve existing initiatives will not alleviate capacity, safety and functionality problems at Beenleigh and Townsville.

The courthouse infrastructure at these sites were assessed as overcapacity, dysfunctional to service delivery and unsafe for court users, including vulnerable users. The SA identified that if not assessed urgently, these problems will continue to increase the critical risk profile of these courthouses and reduce the Government's ability to provide effective justice services in these regions.

Our role

During this engagement NineSquared was responsible for conducting econometric courthouse demand forecasting. The team utilised Queensland Police Service data of court demand potential and relevant

demographic and socio-economic profiles from the Australian Bureau of Statistics Census data to link offences to relevant drivers such as population, employment status, education, age, cultural background and income. Links were then established between offences, lodgements and court operations through profiling lengths of events and extracting room requirements and court types by type of crime and assessing possible existing and future additional supply constraints.

Results were aligned with courthouse requirements to project offences based on econometric modelling using relevant public forecasts. NineSquared built on the Queensland Government Statisticians Office econometric regression model which suggested a strong correlation between offence levels and population at a state level. It is also understood that socio-economic attributes play a role in a person's propensity to commit certain offences.

While the large and diverse state population make the simplification of growing offence numbers with population reasonable, local shifts in the social fabric can have a significant impact on offence numbers in smaller areas. NineSquared developed offence type specific projection models which include socio-economic profiles when considering the likelihood/frequency of specific types of offence occurring in a Local Government Area. These rates were then applied to population forecasts and adjusted if changes in the socio-economic profile of a catchment is to be expected. Operational requirements were also applied to aggregate offences to a total court demand, while also considering the effect of potentially existing supply constraints.

NineSquared also completed a Cost Benefit Analysis (CBA) in which the team:

- defined the "base case" for comparison against the "project case"
- identified the incremental costs and benefits that were expected when moving from the base case to the project case
- forecasted all costs and benefits able to be modelled within the available data over the appraisal period
- confirmed parameters to be used, and
- tested the sensitivity of various inputs.

A financial and affordability analysis was also undertaken by the team during this engagement. The financial analysis supported robust and transparent investment decisions, through detailed cashflow analysis of capital and operating costs, analysis and quantification of associated risks and linking capital costs in the proposal budget to whole-of-life costs for service delivery. The affordability analysis focused on whether the reference projects were affordable over the whole of its life, through considering key information needed to measure the expected risk-adjusted finance net cost (both direct and indirect) to the state of delivering the reference projects through traditional delivery.

Throughout this project the NineSquared team utilised its extensive experience and technical expertise to deliver robust economic and financial analysis. The team utilised a suite of econometric, economic and financial techniques to effectively deliver reliable forecasts, cost and benefit estimates and cashflow and affordability analysis results.

FOR FURTHER INFORMATION

For more information, find one of our experts at [ninesquared.com.au/people](https://www.ninesquared.com.au/people)