

Northern Rail Group Strategic Capacity Study

NETWORK:
Melbourne metropolitan rail network

CLIENT:
Victorian Department of Infrastructure

DATE:
April 2004 to May 2005

Systemwide created a comprehensive upgrade strategy through to 2020 for the development of the most complex sector of the Melbourne metropolitan network—the Northern Rail Group.

The Challenge

Growth forecasts for the city of Melbourne indicate significant future residential growth within the northern and western regions of the city. These areas are serviced by several lines which together make up almost a third of the Melbourne metropolitan rail network and are known as the Northern Rail Group.

In future years, the number of train services must significantly increase to cater for this expected patronage. This will require additional line and station capacity. The Department of Infrastructure engaged Systemwide to develop an Infrastructure Management Plan for the Northern Rail Group through to 2020.

Our Approach

The Infrastructure Management Plan was developed in two stages. The first stage identified where capacity constraints will exist given expected growth and created three potential investment pathways that would remove these constraints. A preferred infrastructure pathway for the Northern Rail Group was selected at the end of stage one.

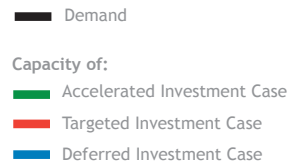
The second stage verified the preferred infrastructure pathway by conducting dynamic simulations using the Railsys modelling tool. These simulations tested whether the viability of the proposed infrastructure would support the forecast growth in trains reliably.

The Benefits

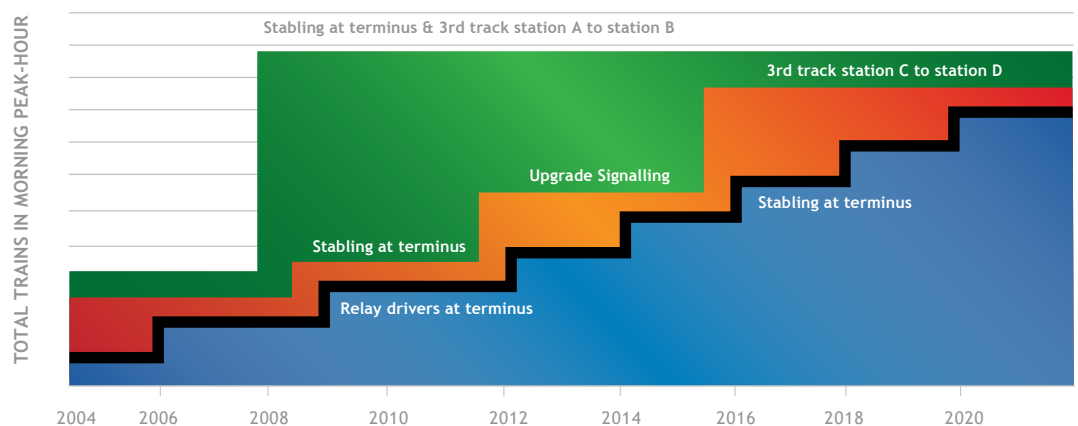
Systemwide has enhanced the Department's understanding of key capacity constraints of the Northern Rail Group and provided the Department with an Infrastructure Management Plan to address expected growth in the region. This Plan now has been used as the basis for more detailed design and costing of future infrastructure projects within the Group.

"Systemwide has made a substantial contribution to the Department of Infrastructure towards gaining a better understanding of the rail system operation and dynamics. Their professional conduct and expertise both in the RailSys model and understanding of Melbourne's railway, and particularly in the interpretation and presentation of complex data made it much easier to focus on material issues and scenario testing".

-Manager, Project Planning & Development, Dol-



Investment scenarios for one line



SYSTEMWIDE