

RAILWAY ROUNDABOUT - HOBART

Signal Renewal

Date: Sept 2021 – Jan 2022

Principal: Dept of State Growth

Project Value: \$2.50M



TASK

To replace the existing traffic signal infrastructure at the Railway Roundabout - Hobart - including 26 Signal poles, 36 Lanterns, 37 Cable Pits, 19 Kerbside junction boxes, Detector loop system, conduit network connecting pits, poles and boxes to the Traffic Control Cabinet and new security cameras.

Further the project required decommissioning of the old system, removing all redundant cabling and pits, and to remove all existing signal poles over one night.

The project was to be completed overnight (6.30pm-4.30am), to limit delays on commuters and not cause congestion. As such the road was to be left in a fully sealed and functional state each morning, with no traffic management to be left in place out of hours.

CHALLENGES

To maintain traffic during the project, the works needed to be completed at night. This required overnight works to be completed on schedule to avoid disruption to the morning peak. Further, the works were substantively completed in winter which meant the project was susceptible to nights of snowfall down to 200m.

Traffic was successfully managed including multiple traffic setups during a single shift. Managing the operability of the individual legs of the roundabout was important in this success.

A major challenge successfully overcome by the project was managing the high number of known and unknown services including an unmarked Old Town Gas main. All trench runs were susceptible to these services along with myriad other latent conditions including concrete slabs, remnant civil infrastructure and large rock. An example included ornamental flower beds which overlaid an asphalt layer along with concrete slabs from the previous railway station. These operational complexities along with the need to reopen the roundabout to full traffic movements each morning meant real time engineering decisions needed to be constantly made.

Another significant challenge faced on this project was with the design. Given the latent conditions could not be considered for the design, and the known services had not been, it was impossible and impractical to place the infrastructure in the locations identified in the IFC drawings. Shaw worked collaboratively with DSG to identify outcomes allowed us to determine the systems requirements and place pits, conduits and signals poles where required to deliver a practical solution.

CHALLENGES Cont'd ...

During the length of the project it was important to maintain the operationality of the existing system including loop detector units. Shaw worked collaboratively with DSG to determine the validity of existing infrastructure and determine a system of construction which avoided temporary decommissioning. An innovative solution here was the use of directional drilling. During the works, the volume of services and unknown inground elements made directional drilling difficult. Multiple heads and crews were used to manage this issue including amending available staff to recover lost time and productivity.

OUTCOMES

Ultimately the project was commissioned two weeks ahead of the original PC date despite all the challenges faced and without any major incidents of service strikes. Despite the significant exposure to road users and potential for severe disruption to the traffic, the project was completed without substantive complaint from the public and significant daytime disruption to the traffic.