greater WELLINGTON
REGIONAL COUNCIL
Te Pane Matua Taiao

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Committee Economic Wellbeing
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Update on Real Time Information Project

1. Purpose

This report provides an update on the Real Time Information (RTI) project, focusing on the remaining components of the project, and some of the ways in which RTI data is being used.

2. The decision-making process and significance

No decision is being sought in this report.

3. Background

The contracts for the design, supply, installation and five years' maintenance and support of the RTI system for Metlink bus and rail services were signed in September 2009, with a total value of $9.7M.

A pilot phase was completed in June 2010, and phased implementation has progressed with major bus operators between March 2011 and July 2012.

The key component of the project is the provision of accurate departure time predictions for Metlink bus and rail passenger services. RTI will be available on 250 display signs at major bus stops and at the majority of rail stations, and as 'Live Departures' via established Metlink information channels for all bus stops and stations.

4. Project progress to date

4.1 Overview

Following the recent extension of RTI to Mana Newlands bus services, the planned implementation of RTI on Metlink bus services is complete. The majority of bus stop display signs have been commissioned, and the Metlink web-based RTI services are fully operational.

Delay to the project timeline amount to around nine months. Delays result from a range of technical issues, and from external factors such as changes to KiwiRail's train equipment programme, and a change of ownership of the RTI system supplier.

The project remains within budget.

Outstanding project elements include the deployment of RTI for rail, the Wellington CBD display signs, and the final completion of some minor programme items (outlined below).

At the end of June, the RTI Maintenance and Support contract, covering all ongoing operation and support aspects of the system, came into operation.

4.2   Bus stop display signs

4.2.1   Installation progress

The approved scope of the project provides for the installation of a total of 190 bus stop display signs.

To date, 164 bus stop display signs have been commissioned. The installation and commissioning of the remainder, with the exception of the fifteen Wellington CBD sites, is scheduled for completion by the end of September. A number of these are sites where access to a suitable power supply has required an alternative approach, such as battery storage to enable the use of street lighting power supplies.

Around 7% of all bus stops in the Metlink network will have a display sign, although RTI is available for all bus stops via the Metlink website and mobile website, irrespective of whether a display sign is installed.

Two additional display signs have been installed as a result of third party funding. There is also a precedent for a third party utilising the Metlink RTI 'Live Departures' web feed to display RTI for a local bus stops within their premises, at no cost to Greater Wellington.

4.2.2   Wellington CBD display signs

Progress with the fifteen Wellington CBD display sign sites has been delayed. Each of the CBD locations and the design of the prototype 'totem' display (as installed in Manners Street) were originally approved. However, the decision was made to defer their construction and installation, in case any possible safety improvements identified by the Wellington City Council Pedestrian Safety Review affected them.

Although the Pedestrian Safety Review and the guidance it will generate for the design and location of street furniture have not been finalised, the process is sufficiently advanced to inform a revised approach.

Discussions are underway to determine revised design and location parameters. It is likely that the display screens will be pole-mounted rather than enclosed in a substantial structure. A revised design will also address the known

shortcomings of the prototype installed on Manners Street, including the poor legibility of the screens in bright sunlight.

4.3 On-bus equipment

A total of 433 buses have been fitted with RTI equipment, covering all public services in the region with the exception of those in Wairarapa and Otaki. The original project scope excluded Wairarapa and Otaki services, but made provision for them to be added as a follow-on project if budget is allocated.

In future, it is expected that service contracts will require operators to fund on-bus RTI equipment for new buses.

4.4 RTI for rail services

4.4.1 Overview

In response to train fleet, organisational and operational changes, the approach to the development of RTI for rail services has evolved from the original project scope.

RTI will utilise the 'KUPE' location equipment fitted to most trains, including Matangi and the locomotives providing the Wairarapa services. KUPE is not currently fitted to the Ganz fleet.

In addition to their geographical location, RTI also requires the service identification of individual trains, which will be obtained through interface with KiwiRail's KUPE operational management system.

4.4.2 Project approach

Although its longer term status remains under review, the Ganz fleet will provide services for the medium term, and will need to have RTI capability.

The project provides for the cost-effective extension of KUPE to the Ganz fleet, through re-use of KUPE equipment from other KiwiRail sources. Preparations are underway for the installation programme to begin shortly.

The project also provides for the development of existing roles by the rail operator to actively support the integration of RTI into the business. This includes providing and maintaining train service identification data.

The development of the interface between the KUPE operational management system and RTI is also in progress.

A further refined project plan is under preparation, and will ensure that the necessary resources and arrangements can be put in place by the operator, and that the process for testing and releasing RTI is defined and robust.

4.4.3 Displays on rail stations

60 display signs will be installed at rail stations. Most stations will have one display sign, with two at those where one is impractical.

The project scope does not include display signs on Wellington station platforms, where scheduled departure information is provided by the existing KiwiRail display signs, supplemented by regularly updated platform announcements. A small number of very low usage stations will not have a display sign installed (Kenepuru, Matarawa, and Maymorn).

The rail display sign installations had been held back until the closing phase of the overall installation programme, but are now in progress and are expected to be complete by the end of September. There will therefore be a period of up to three months between when displays are installed and before RTI is available.

In the interim period, displays will be capable of showing network status messages, and delay and disruption information relevant to the particular station and line. This information will also be available via all of the established Metlink channels.

4.4.4 Timeline

Some elements in the project timeline for RTI on rail services are still being quantified, particularly completion of the Ganz equipment and the development of the RTI system interface. RTI for rail services is expected to be introduced by the end of 2012.

4.5 Other outstanding items

4.5.1 Traffic signal priority

The RTI project includes the capability for late-running buses to generate priority requests at traffic signal intersections controlled by Wellington City Council's SCATS traffic control system.

The development of the necessary interface between SCATS and RTI is complete, and acceptance testing is currently in progress.

Wellington City Council will manage the parameters for dealing with bus priority requests, integrally with its existing traffic management role. A limited trial will initially be developed to monitor the effects on wider traffic flows in the urban network.

4.5.2 Audio announcements

All RTI display signs have an audio capability, which can assist blind users by 'reading' the information on the display. Each destination and bus stop name has been modelled to ensure its pronunciation is correct.

The audio capability is a licensed product of the Royal National Institute of Blind People (RNIB) in the United Kingdom, and is activated by a hand-held fob.

Procurement of the activation fobs has been delayed, while the product is improved by RNIB to address problems of compatibility with older RTI systems, and short battery life. When they become available, provisional

arrangements for a quantity to be administered locally by the Foundation of the Blind will be finalised.

4.6   RTI performance

There are many measures of RTI system performance, but most important for the user is the reliable provision of accurate predicted departure times.

System performance is constantly monitored against established key performance indicators. Overall, the system now performs to the standards expected, but maintaining performance is continually dependent upon a wide range of third party inputs of the requisite quality. These inputs are captured in procedures or protocols, and where possible are incorporated into formal agreements.

Software and equipment faults affecting on-bus equipment, display signs and the central system have adversely impacted RTI performance during implementation, and have required resolution.

RTI has also exposed issues with established operational practices (such as excessive early running on some routes), and errors or duplication in existing databases. These clearly affect wider business processes and the quality of service provision, as well as adversely impacting RTI performance. However, RTI also provides the insight to quantify the issues and to monitor their resolution.

4.7   Customer feedback

RTI provides many thousands of constantly updated departure time predictions for bus services, every day. Customer feedback includes a range of positive comments, welcoming the system as an essential and timely addition to the Metlink network. The vast majority of users have taken to RTI rapidly and intuitively.

Detailed customer feedback has been invaluable in the identification and resolution of some performance issues, particularly where their cause has been locally generated by unique operational circumstances.

4.8   RTI availability

4.8.1   Metlink 'Live Departures'

In addition to bus stop display signs, RTI is fully integrated into the existing Metlink information channels. RTI 'Live Departures' are available via the Metlink website, the Metlink mobile website, and from the Metlink customer service centre. Changes have been made to the websites to optimise the ease-of-use and presentation of live departures.

4.8.2   Website usage

In the corresponding April to June quarters of 2011 and 2012, visits to the Metlink website increased by 13.5%, and bus stop information page views (including RTI Live Departures) increased by just over 60% to over 90,000.

Over the same period, visits to the Metlink mobile website increased by 174%, and page views specifically of RTI Live Departures increased by 253%, to over 200,000 (accounting for a quarter of all page views of the mobile website).

The growing usage of the Metlink websites and the greater penetration of web-enabled devices are further factors in the consideration of additional bus stop display signs. Although there are clear benefits to display signs physically at bus stops, their role is only one part of the evolving context of overall information provision.

It is intended to make Live Departures available as a feed for incorporation in third party websites, or as the basis for development of smart applications for internet devices. At least one developer has accomplished this unofficially to produce a smartphone application for RTI.

4.8.3 txtBUS

As the use of Live Departures is possible at negligible or no data cost to the user, the continued viability of the txtBUS service (where the user pays 20c per text) is being closely monitored. Usage of txtBUS is in decline, as the number of visits to the Metlink and Metlink mobile websites continues to grow.

4.8.4 Messaging

In addition to predicted departure times, messages may be displayed at bus stops and via the web feed. These include service cancellations, and information or advisory messages, targeted to a specific stop, group of stops (such as a route), or across the network.

4.9 Use of RTI data

4.9.1 General

In addition to the benefits to customers, a major benefit of RTI is the unprecedented visibility afforded to operators and to Greater Wellington, both of the operational status of services and of their historic performance.

4.9.2 Operational management

Real time tracking of services provides operational supervisors with the ability to ensure that schedules are maintained, and to respond rapidly to incidents. RTI has already assumed a central role in bus operators' day-to-day operational management and provision of Metlink services.

4.9.3 Service quality monitoring

Although service provision contracts do not currently permit the use of data generated by the RTI system as the basis for contract enforcement, RTI data is being used in support of existing service quality monitoring activities.

Currently, operator participation in RTI is through a Participation Agreement, but future service provision contracts will be able to be more specific on the

required inputs to support accurate operation of the system, and on the permitted use of RTI-sourced data in support of service quality management.

4.9.4   Scheduling

RTI provides a unique source of data supporting schedule and network optimisation activities. Conventionally, data of this type has been obtained by sampling from observation, which is costly and time-consuming.

A programme of analysis and optimisation of the schedule performance of bus routes, jointly with operators, is in progress. This in turn improves service reliability through the progressive elimination of historic early and late running that unrealistic timetables can generate. The Route 10 timetable is the first to have been rescheduled using RTI data, and will be introduced in early September.

RTI data providing the accurate location history of buses is regularly used by operators and Greater Wellington in the investigation of specific incidents such as customer complaints.

5.   Recommendations

That the Committee:

1.   **Receives** *the report.*

2.   **Notes** *the content of the report.*

Report prepared by: Report approved by: Report approved by:

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