CCTV Convergence Project

Recommendation

That the Board:

i. Receive this report.

ii. Approve reallocation of Capex funding of $2,035,000 for the CCTV Convergence project in the 2013/14 Capex Programme year.

Executive Summary

AT is operating four separate Operations Rooms in addition to the AT/NZTA JTOC at Smales Farm. Parking, Rail, Ferry and the Major Events Operations Rooms, these are all located at different sites and operating different systems.

These operation rooms manage approximately 2500 CCTV cameras on the Rail, Ferry, Bus and Road network as well as special operations areas.

The main purpose of these sites and the associated CCTV is security, safety and management of incidents and disruptions to their relevant mode of transport. The secondary purpose is to manage special events where these cameras provide visibility and communications to the event management team (Police, Emergency Services, Event Managers and other key stakeholders). There is no or little co-ordination between these centres and apart from corporate technology systems; these Operations Rooms operate diverse systems with no integrated management system.

All the Operations Rooms, including JTOC, rely primarily on CCTV, none of which have automation so are all manually monitored.

AT needs to move the current five CCTV platforms to a single system which then enables CCTV to be visible or monitored from any or multiple locations including the Police Control Room and other government agencies. AT has to shift from an onus on a staff manual monitoring approach of CCTV cameras to a modern automated approach using CCTV analytics. This enables pro-active monitoring of all areas covered by CCTV cameras and automatic alerting of events and incidents to the relevant monitoring site and staff.

AT has been requested to vacate Bledisloe House by the end of March 2014. The Parking and Major Events Operation Rooms and associated CCTV assets are contained in separate locations within Bledisloe and will need to shift as early as possible in 2014. This is likely to be in the April/May timeframe, given the timeline to install the technology components, once the procurement process is complete and integrate with Major Event operational demands.

In order to meet the requirements around relocation, BT issued a Tender to the market and needs to select a vendor by the end of February 2014 for a single CCTV management system with associated analytic and alerting capability.

The current CCTV Management System at MEOC, if retained would need a significant upgrade as it is based on the Windows XP operating system, for which support ends at the end of April 2014.

Background

AT operates Special Events and separate Parking and Enforcement Operations Rooms at Bledisloe House, but with the relocation requirement from AC these both need to be established to a new single site or sites. AT also operates a Rail and Ferry Operations Rooms at separate locations as well as JTOC.

All the operations centres use different CCTV management systems, which prohibits some CCTV from being shared and does not enable an operator at any of the sites to use one system to access CCTV from other sites.

The public expect that where AT has CCTV cameras as part of its infrastructure, i.e. car parks and stations that the CCTV is being monitored and provides them with safety. This is not the case, as staff may or may not see incidents dependent on which camera they are viewing at the time.

AT needs to implement CCTV analytics to assist staff to manage the CCTV pro-actively. This includes:

1) Automated alerts to operators as the CCTV detects motion in areas where persons are not supposed to be or as they cross into prohibited areas, i.e. railway tracks,
2) Automated alerts connected to events, i.e. rail crossings activated where people or vehicle movement is detected within the rail/closed portion of the road,
3) Congregation of groups of people outside of the norm,
4) Alerts to detect property vandalism on AT infrastructure,
5) Detection of vehicles stopping in the roadway or curb side on the motorways, clear lanes and bus lanes.

The analytics will also provide a range of other benefits to AT and stakeholders:

1) The ability to count people and vehicles, direction of travel and speed,
2) The ability to determine accurate road statistics i.e. .where and when vehicles enter and exit the city and other key areas and duration of stay,
3) Enable analytics and monitoring of road initiatives around schools, enhancing public safety,
4) Ability to detect crimes, either against people or property,
5) The ability to determine vehicle entry points and exits points in city for traffic planning,
6) Ability to use CCTV cameras on traffic intersections to detect cyclists and use this to activate traffic lights, preventing red light running,
7) Ability to measure and count vehicles running red lights.

A single CCTV management system will also enable the images to be displayed at multiple locations at the same time, including mobile devices. Police also use these cameras and are looking for AT to provide more of the AT CCTV camera images to them.

The current CCTV systems are maintained to varying levels of service and with differing vendors and maintenance contracts. The opportunity exists to consolidate these to a smaller number of support and supply contracts. During the 2013 year BT achieved cost savings of 50% on rail CCTV cameras via a competitive tender process. Similar savings are available across the remaining systems and consolidation of support contracts. It has been estimated by industry experts that cost savings of $700,000 per annum can be achieved on operational support contracts and operating costs by consolidation.

The CCTV data is currently carried across the AT corporate network, which will require some minor enhancement to carry the load between sites.

Strategic Framework

Both NZTA and AT need to complete a procurement process in respect of the CCTV management systems utilised at JTOC. The RFP proposal will assist both organisations with the selection of a system compliant with procurement requirements. NZTA is fully involved in the procurement process.

This CCTV Project enables some of the key themes detailed in the 'Chairman's Forward' section of the RLTP such as "**Managing Auckland Transport as a single system**", "**A co-ordinated approach**" and" **Transport to enhance the city liveability**".

CCTV management and analytics is central to these as it enables:

1) Visibility across the various network components in a co-ordinated integrated approach,
2) Enables visibility to management across multiple modes,
3) Enhances safety of the travelling public across all modes improving liveability,
4) Is a key tool in the planning and management of the transport network, and will provide data about the utilisation of the network,
5) Provides integral hard data for future and operational planning purposes.

AT is engaging with various parties to align this strategic initiative, i.e. ATEED, AC, Police and Waterfront Auckland to ensure that the technology can be utilised across all these agencies to maximise the benefits to Auckland as a whole. Wide support for this has been received.

This initiative also moves AT from using a single CCTV camera for only one purpose, to using a single CCTV camera for multiple purposes, leveraging existing assets.

Funding

The funding requirement for this project is made up of:

Components	Cost ($000)
Network	150,000
CCTV Storage	650,000
CCTV Analytics	928,000
Installation and Configuration	307,000
Total	**2,035,000**

Total Estimated Project Cost:

		Current Financial Year
1	Annual Plan/LTP Budget/Approved Reforecast	0
2	Actual Expenditure to date	$79,000
3	Current Forecast for Project	$2,035,000
4	**Difference (3 – 2)**	$1,956,000

Operational Cost Implications

BT estimates a cost saving of $700,000 per annum on the current AT spend; of this $200,000 will be reallocated to support the new system generating a saving of $500,000 in Opex per year from the next financial year onwards.

Future Expansion

Future costs for expansion are already contained in the relevant Business Unit budgets for future years and consists of growth in the number of cameras for Arterial Roads, intersections and additional cameras on Rail and Ferry infrastructure.

Implications on Capex and Opex Work Programme

The inclusion of this project in the Capex work programme will require funding from underspend in the overall AT Capex programme.

OPEX costs for this system will be obtained from a mix of replacement of the existing system support costs and also $200,000 from savings achieved as a result of consolidation of the existing contracts.

Document Ownership

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Glossary

Acronym	Description	Business Unit
AC	Auckland Council	
AT	Auckland Transport	
BT	Business Technology	
CCTV	Closed Circuit Television	
RLTP	Regional Land Transport Plan	