



Business Technology

Monthly Report August 2018



An Auckland Council Organisation

Executive Summary

Key Initiative Information

Technology initiatives utilising CCTV and machine learning technology continue to evolve at a rapid rate. In this space, our supplier VidSys acknowledged the hard work of the Business Technology and Service Delivery teams by awarding them the Best Practices Award for projects delivered using the Vidsys and RiskShield products.

During August, the programme has expanded the number of Special Vehicle Lanes monitored with legal enforcement of infringements due to start soon. A radio commercial has been produced advising motorists of the new capability and is available to listen to from the link on the right.

Pedestrian safety is becoming a focus of the CCTV and video analytics technology and the ProVision team has worked with the Safety Team to create a trial of the CCTV and analytics features that create and analyse data, to provide statistics on just how often near miss incidents are happening along the Whangaparaoa Dynamic Lanes corridor.

The new AT premises at Albany officially opened with a karakia led by local Iwi representatives. The office environment replicates that of 20 Viaduct Harbour and BT has delivered the same high-level technology infrastructure that we enjoy in the Viaduct.

Location capability for watercraft produced two new services – the ability to locate moorings on a map portal on the external website and an arrival-time prediction service for ferries, included in the Things That Move platform.

As a result of the Capital Programme, consequential Opex is having a significant impact on the division's financial budget.

Listen to the radio commercial advertising the new Special Vehicle Lane infringement charges here – [activate hyperlink to listen](#)



Above: the ProVision CCTV and Video Analytics Team with the VidSys awards

Projects Delivered August 2018

Project	Benefits
Albany Office	Completion of new office space for 70 AT staff in Albany, with a technology environment designed to deliver the same functionality and 'look and feel' as the 20 Viaduct Harbour facility.
AT Mobile Sprint 16	Improvements to the notifications function; journey planning from existing location and user interface fixes to improve service display, plus a number of background improvements to the performance of the application for customers.
Data Classification	The Data Catalogue allows users to browse the Enterprise Data Warehouse content to locate data sets and the subject matter expert for the content, enabling better access to our datasets for Analysts across AT.
Digital Asset Management System (DAMS)	Centralised management of AT's digital assets ensuring only approved versions of digital content is accessible and released for authorised use. Improves efficiency of AT business units wanting to source and use approved AT images and helps the Design Studio team be more efficient in their delivery of services to internal and external parties.
E-Permits	Allows customers to apply for residential parking permits online via AT.govt.nz. This simplifies and modernises the current paper based process. St. Marys Bay is the first residential area to go live with over 150 applications received.
Enterprise Power BI Reporting Platform	The Customer Metrics acquisition report provides insight of new HOP customers.
GIS Public Deployment	Presents geographically enabled business content to a Public audience. This is the first release to the public of "Maps on External Websites". In August we added the first of the Harbourmaster moorings information (i.e. the first set of content publicly available).
Linear Asset Management Implementation	Additional Roading Asset Management RAMM data layers fed to the Opera Data portal, including High Performance Motor Vehicle (HPMV) emergency detour, height and tunnel restrictions and 50 max restriction. A new over dimension routes replaced the previous version.
Maori Engagement Te Waharoa	Manages information to provide "one source of truth" for Maori contacts, communications and up-to-date information on projects affecting Maori authorities. Now includes a late design change to store Iwi contact information in AT's CRM system.

Project Cornerstone Phase 1	Completed application suitability assessment, operating model document and right-sized the pre-production environment. Now preparing for the purchase of Azure Stack – the private cloud architecture.
Social Media Backup	A robust social media site transaction backup solution that meets mandatory data storage and retention standards and Local Government Official Information Management Act (LGOIMA) responsibilities. The solution utilises existing technology.
Strategic Road Network	Provides an integrated spatial dataset of the core AT transport Network. This is back-end capability required for uses including: bus signage, planning, enriching analytical datasets, routing analysis for Journey Planner, TTM, Disruption, and first/last leg journeys. The service is available in the GIS "All in One viewer".
Targeted ESRI Apps	"ARC GIS Earth" live in the GIS environment to provide a powerful 3D display of AT data, supplier data or personal content and enhanced analysis versus a 2D presentation. The presentation of data and ideas is simple to understand and uses the power of 3D drawing and measuring tools.

Projects Scheduled for Delivery September 2018

Project	Benefits
CCTV Video Analytics Builds 18 and 19	Focus on safety to deliver analytics for Red Light Runners along Albert Street and Whangaparaoa Dynamic Lane pedestrian safety plus expansion of Vehicle Journey Time analytics on Esmonde Rd corridor.
Command Centre Sprint 3 and 4	Sprints support the launch of Command Centre 2 minimum viable product on 28 September that focuses on the Customer Contact Centre and improvements in First Call Resolution (FCR).
Comprehensive Journey Times Information Sprint 2	Pre-Production release for UAT of 5-minute vehicle journey time calculation, piloted on Onewa Road. This CCTV analytic calculates the 5-minute average journey time over a route, and displays it in near real time in a PowerBI dashboard. The capability will be enabled on any routes where there are CCTV's such as Pah Rd, Esmonde Rd and Manukau Rd.
Contract Management Enhancements Sprint 6	Production release of online Operator Requested Exemption (ORE) Capture. This capability is a foundation for automated ORE's for operators, to be released in October.
Project Cornerstone	Deliver an updated cloud Total Cost of Ownership (TCO) model, which aims to provide clarity on the total cost of migrating applications to Cloud over a period of 5 years.
PTOM North and East Relocation	Go-live of 3 new bus depots for PTOM North – Go Bus Silverdale, Ritchies Warkworth and Tranzit Dairy Flat.
Rail Service Information Enrichment	Additional transit information on passenger information displays - "Stopping at" and train length.

BT Department Update



Programme Delivery

HOP Balance on Mobile: Development is underway to include this functionality in the early September release of the app (as a Beta). Build of the data feed (API) is complete and now in test and the App user interface is nearing completion ready for the release.

AT HOP Capacity and Platform Refresh: The success of HOP with customers has led to usage outstripping the original forecast volumes. The Capacity and Refresh project has now successfully delivered upgrades to the underlying hardware and software to enable support of the growing demand. The project has also delivered an upgrade to the latest version of the Thales system, V8.0. The remaining task to complete single sign on to the various environments and the Disaster Recovery (DR) fail over and fail back testing are now underway and are targeted for completion in November. Testing the DR solution will be executed in March 2019.

Audio Announcements on Buses: AT reached an agreement with the Human Rights Commission (HRC) to improve the information provided to visually impaired customers on our modes. Vendors are now in the process

of developing their solutions for the trial working closely with the BT Project team. Initial demonstrations scheduled for late September / early October.

Rail Service Enrichment Information: Enrichment of transit information used on our Passenger Information Displays. This month we completed the information displaying EMU service length to our customers.



Public Address Announcements at Rail Stations: As part of the agreement reached with the Human Rights Commission, AT will provide next stop audio announcements at rail stations for approaching trains and non-stopping services. The automated audio solution was rolled out to all Terminus stations (Papakura, Pukekohe, Onehunga and Swanson) with the exception of Britomart. Work is underway to deliver the solution to Britomart by the end of September. Work on an alternative triggering solution for intermediate stations has been ongoing due to poor predictions from Rapid. Analysis of the prediction problem shows better results from R9K (with some exceptions). Work is under way to use this data for triggering of automated messages for intermediate stations with the aim to roll out the solution to the first intermediate solution by end of September.

Command Centre: The re-build of the Command Centre is well underway with Sprint 2 of the 8-sprint activity already complete and a first beta version in front of users. Further refinements and features will continue to be released in forthcoming sprints prior to the MVP being launched.

Microsoft Things That Move: Ferry and Bus disruption management solution - keeping customers moving through their connected journey, delivering a safe, reliable, and efficient service.

Phase 2 is well underway and has made excellent progress discovering key connection information. Surfaced data shows how AT could potentially help large groups of customers with the multiple forms of travel options we provide. We are looking at how the information is shared with the Operations Team, who make the connection decisions, and to customers, who are affected by the disruptions. The key algorithms are built and being refined to increase their accuracy in order to test them. Historical location information has also been ingested to understand estimated time of arrival. We are starting to understand how weather impacts services and how this can affect the connected journey.

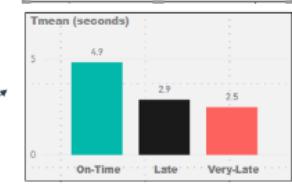
2. Highlighted Weather Features affected ETA Performance

Top features include:

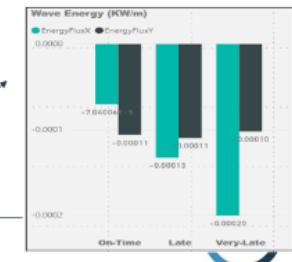
Low Cloud: Hi Low Cloud index contributes to Ferry being delayed in transit



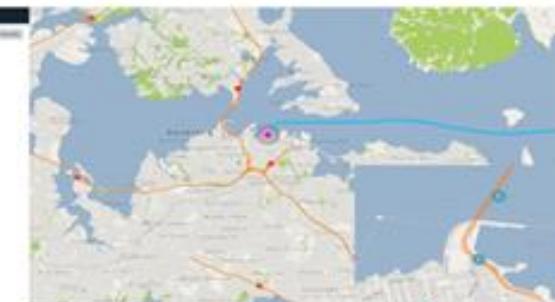
Tmean: Fast waves contribute to ferry being delayed in transit



EnergyFlux: Higher energy waves contribute to ferry being delayed in transit



Auckland Transport



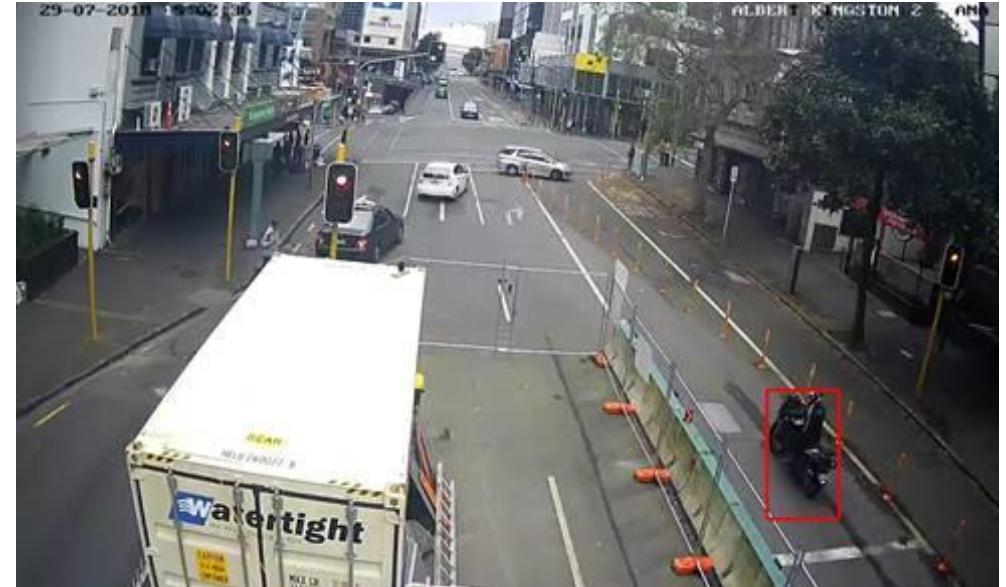
Images above: Example data insights from Things That Move Phase 2

Red Light Runners: Analytics were implemented at three more intersections along Albert Street. The camera data is ingested into the new on-premises Vertica environment and then presented using a PowerBI dashboard. At one site alone on Albert Street, **1608** red light runners were detected over a period of just one month! The Safety Team have received the data to use to support their safety driven initiatives. The Pro-Vision team is working very closely with the Safety and the Network Optimisation Teams on the feasibility of deploying the red light runners analytics at a further 20 intersections identified as a high risk.

Special Vehicle Lane analytics were built in six zones along Queen Street. Three zones are now in production, and legal enforcement will start in the next few weeks. Real time alerts are generated in the Production version of RiskShield for the Parking operators to process. Test number plate recognition data (more than 320,000 ANPR records) produced during the trial phase of the programme, has also been migrated into Vertica environment for historical analysis if required.

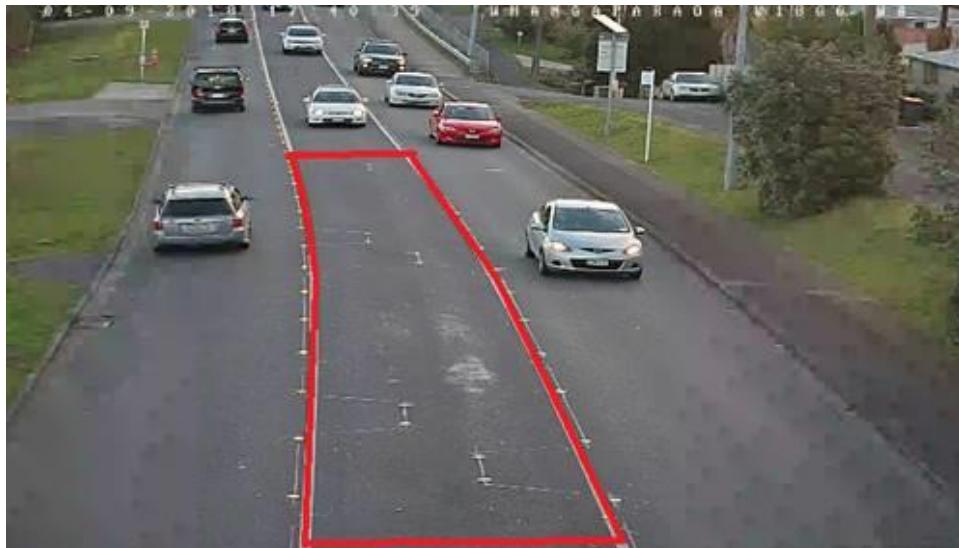


Image above: Special Vehicle Lane infringement image.

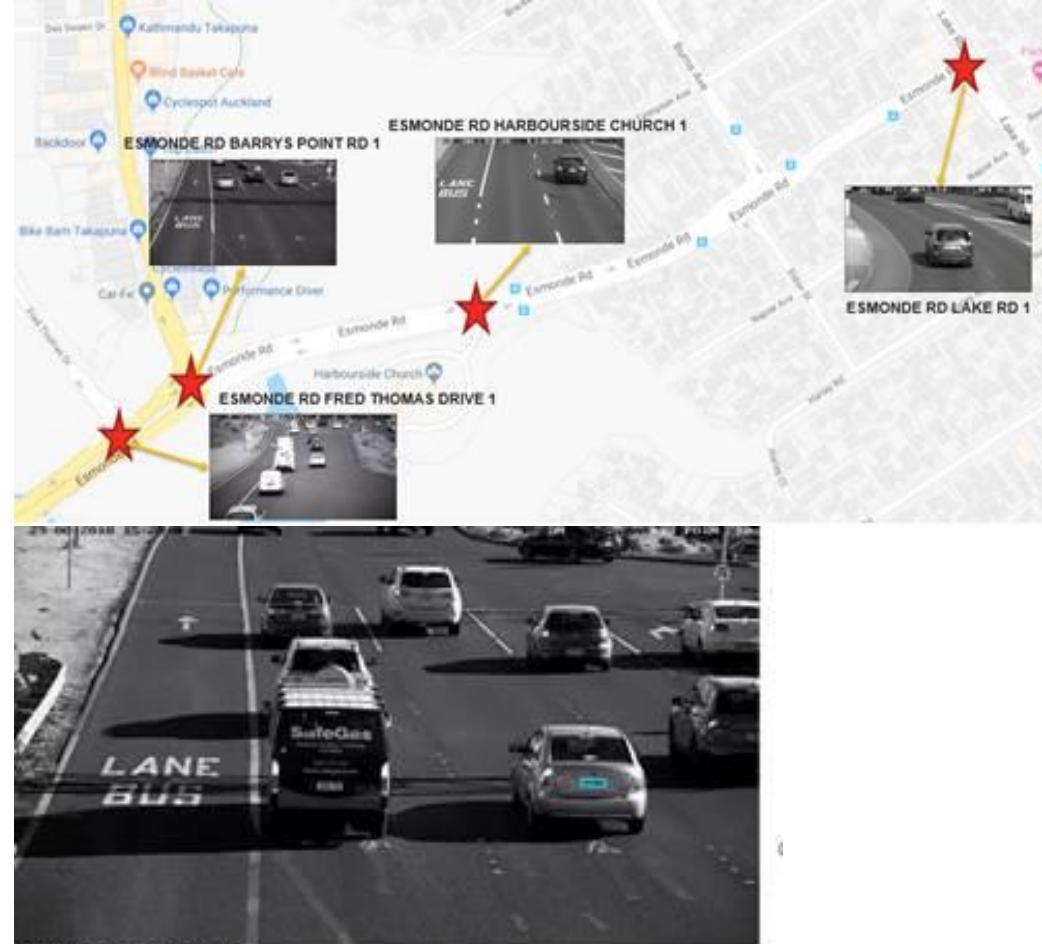


Images above: Red Light Runner capture and display

The Safety Team has engaged the Pro-Vision team to address **pedestrian safety** along the Whangaparaoa Dynamic Lane. They have identified five areas as the most critical along this road. Introducing analytics for this purpose will allow the team to count the pedestrians standing on the middle dynamic lane, time how long they stay there and identify when a car enters the same zone where the pedestrians are standing. Gathering this data provides statistical information for the Safety Team to use to support the introduction of safety measures on roadways, such as additional pedestrian crossings.



Vehicle Journey Times analytics expanded to the Esmonde Rd corridor where new cameras were installed. The Pro-Vision team built ANPR analytics at four sites with more to follow. The data is ingested into Vertica then presented in a dashboard format. The team is also working with the Network Management and Safety team on the feasibility of deploying the Journey Times analytics along Tamaki Drive.



plateRead	plateType	country	state	subRead	vehicleType	plateTypeCode
JB2631	Regular	NZ				
6KF80	Regular	NZ				personalised
DZT556	Regular	NZ				

Vidsys: Good progress was made on the development of action plans for the ATOCs. This delivery plus new functionality in Vidsys 2018 r1.2 should bring efficiencies to the operations. The project is working with the business units in regards how to effectively introduce and integrate the technology to the operators.

The project is also looking at ways to empower the ATOCs to administer their own assets and have the development capability in house rather rely on vendors. Deliverables for the project in September include:

- Completed Vidsys training for Level 2 Admins and Level 3 Developers for 10 AT staff.
- Established process for code changes and version control management of configuration files in Vidsys.
- Tested Day of Operations incident management situations user interface and will deploy to production on 4 September.
- The business reviewed the ATOC Smales Dynamic incident management situations user interface. Testing will be completed once the rules are developed in mid-September.
- Completed first round of functional testing of Vidsys Release 2018 r1.2. User acceptance testing commences 5 September. Deployment of release r1.2 to be completed in early October.
- Delivered ATOC S&S action plans into production.
- Commenced scoping work to record Skype calls for ATOC S&S.

Smart Streets: AT want to trial a ‘Digital Street’ to define, measure and assess the benefits that current and future technology solutions can deliver to the public, AT and other agencies. Smart Streets uses connected technology across the following segments; Energy, Transportation, Data, Infrastructure and IoT. Data from all segments is analysed, and patterns derived from the collected data, which is then used to manage assets and resources efficiently.

- Met with representatives from Google to gain an understanding on what they have done in other countries and what value they can deliver for AT.

- Discussed the draft technologies scope at the August ITS meeting to determine if the proposed scope works for the Service Delivery Team. Feedback was positive with no new items raised.
- Business case now underway to request the capital funding and initiate the design work.
- Met with Fulton Hogan to discuss how they could potentially contribute to the trial.

The **ePermits Project** is successfully implemented and live to the public, with over 150 permit applications received from St Mary's Bay residents. The Mt Eden area is now open for applications also. Customers easily managed the new online process. There are a couple of minor issues in production, which have workarounds pending a fix from the vendor, DCA. Handover to BT support is planned by 14 September. Handover to BT support for future ePermits product release management has been agreed and actioned.

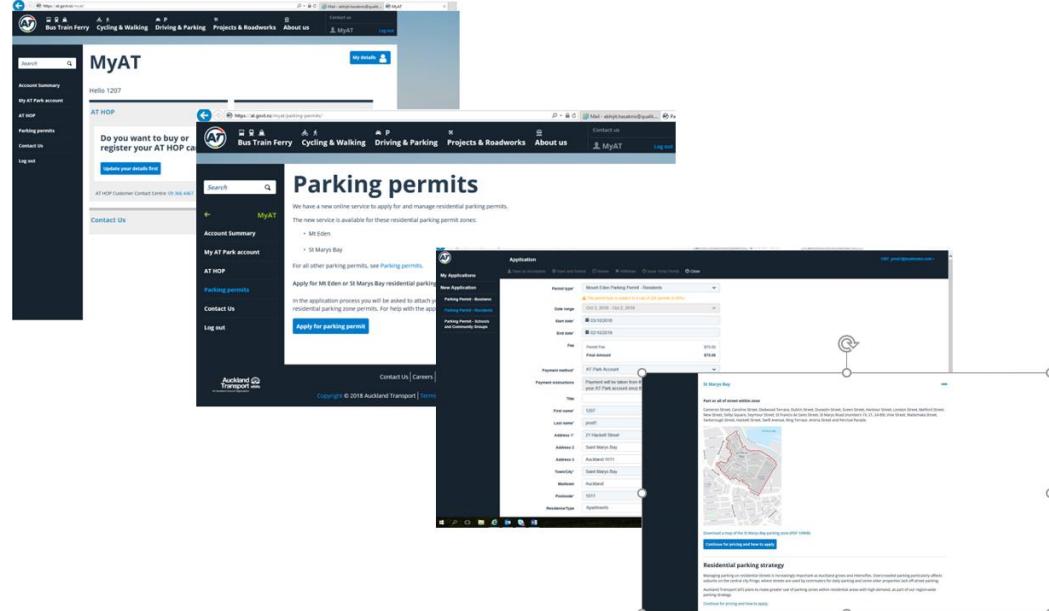


Image above: screenshots from residents parking ePermit portal

Northern Busway Security System Replacement: The Bosch software and associated hardware used in the Northern Busway stations is out of date and no longer supported by the vendor. This project will replace the Bosch system with the AT Gallagher system across 5 stations.

Manurewa Car Park CCTV: This project will deliver increased security within the Station Road car park. The contractor, CSLI, has installed lighting poles, 13 CCTV cameras and Wi-Fi links back to the station fibre cabinet. Infrastructure is installed and is being tested and commissioned prior to handover to BAU.

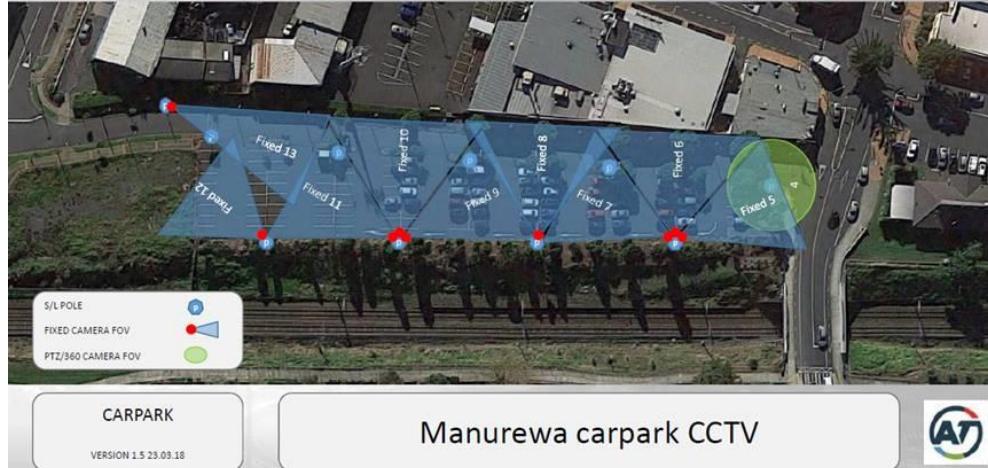


Image above: increased security coverage at Manurewa car park

AT Albany offices were opened and operational at 6am on Wednesday 29 August with a blessing and Karakia by our local iwi representative. Staff have now moved in and the office is fully functional with the same look and feel as 20 Viaduct. From a technology perspective, the configuration is the same as 20 Viaduct with AT building access cards, Follow-Me printing, Wi-Fi, digital signage, EV chargers, work settings and meeting room technology. The site supports full staff mobility between this and other AT offices plus enhanced collaboration with Skype for Business.



Image above: Opening of the new Albany office led by local Iwi.

Digital Streams Projects:

- An upgrade of the **AT Web content management** system “Umbraco” is underway to enable the AT Web teams to independently update website content more efficiently.
- Preparation is taking place for the addition of the **HOP balance to AT Mobile**. Once Thales have completed the Application Programming Interface (API), a user group will validate the overall user experience of the updated AT Mobile app. Finally, substantial performance testing will occur to ensure the additional anticipated load from these balance queries will not impact current HOP services.
- Creation of a new **design system** is underway by PurpleShirt, key outcomes of this include a more cohesive user experience when transitioning between apps and the AT website, and a more repeatable method of ensuring that future enhancements and functionality tie into the existing look and feel without a heavy user experience design process for each discrete piece of work.

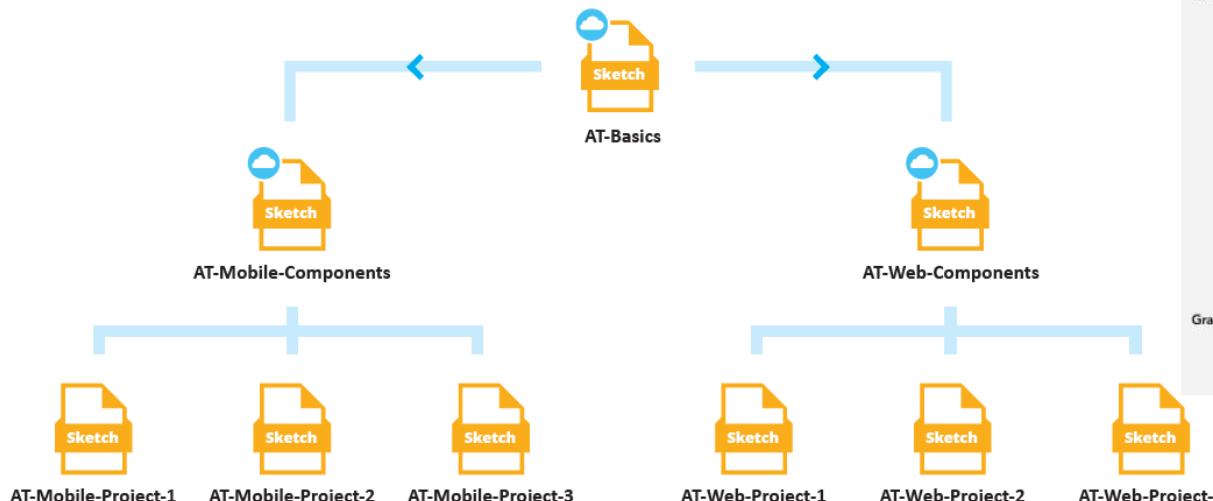


Image above: Proposed model of the new design system for repeatable digital products

Asset libraries are under development which tie together the Mobile and Web customer-facing systems in a way that allows for future branding changes to easily propagate to individual systems:

Image below: a set of standard visual elements for AT digital designs

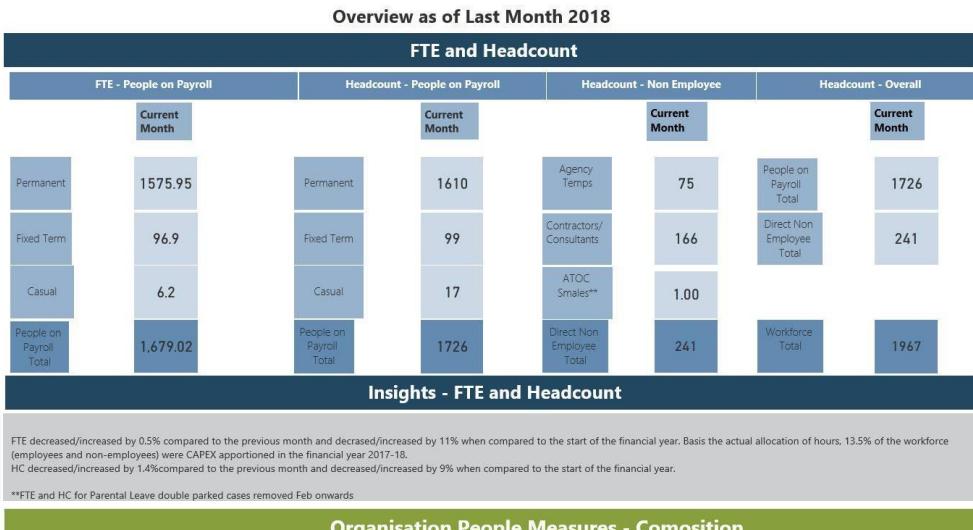


FAQ-BOT (Frequently Asked Questions Robot): After a trial on selected customer-facing pages, the AT BOT was rolled out across AT HOP web pages. A working group of representatives from AT HOP, Customer Services and BT has been set-up to review the reports and monitor the progress of the BOT. This will identify the requirements for future development to support and grow this new customer facing communication channel.

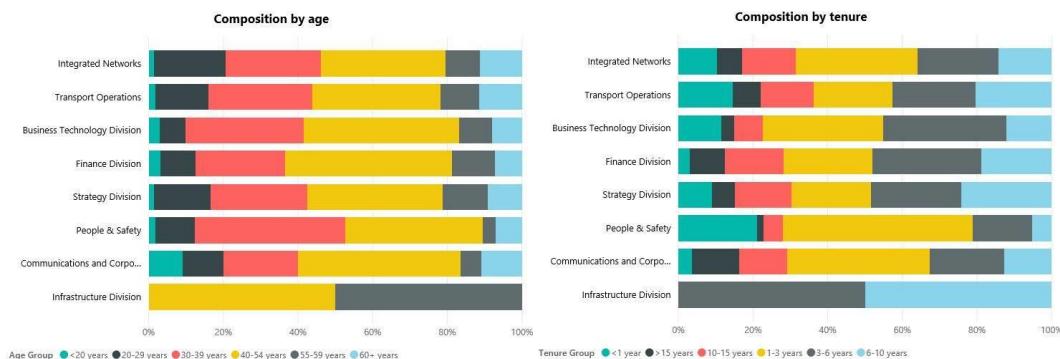
Images: highlighting the FAQ BOT as it appears on the AT website (above) and the chat interface (right).

- Enterprise Power BI Reporting Platform:** The Power BI project developed self-service, automated reporting in August for the Audit and Risk recommendation report, and the initiation of Human Resources reporting.

Images below: sample HR reports delivered during August

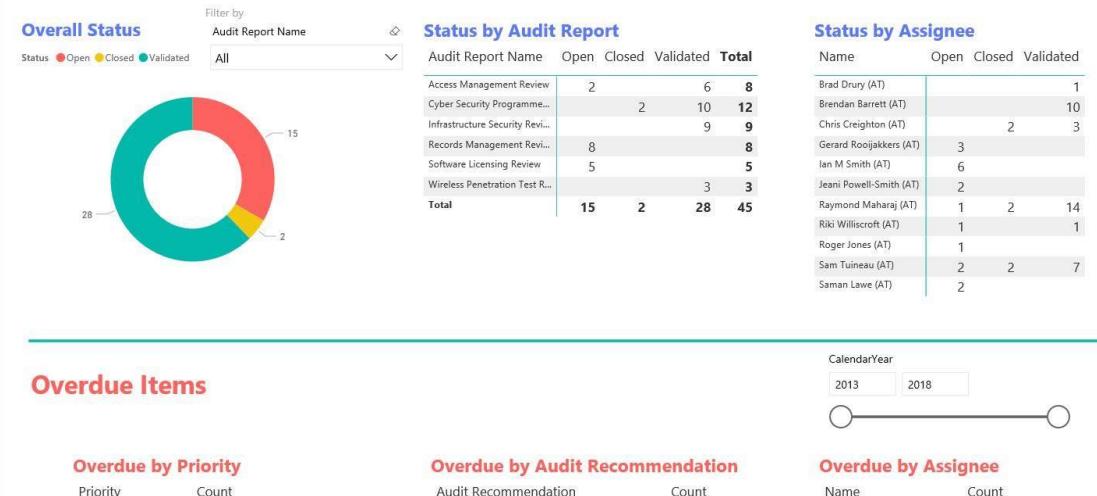


Organisation People Measures - Comosition



Audit Recommendation Remediation Status

Business Technology [Click here to go to the Audit Recommendations Sharepoint Site](#)



- Project Portfolio Management System:** Following a Request for Proposal (RFP) and due diligence, a business case has been approved and a contract signed with the vendor ConsulCad, to implement the Edison365 Portfolio Tool. Project mobilisation will commence in September. This crucial tool will help capture key project data within the Capital Infrastructure Programme of work. It uses Project Online and SharePoint, which is consistent with the Business Technology programme tool, to ensure enhanced data management. The programme team secured a cost saving of \$200,000AUD during contract negotiation.



Image above: the Edison365 Portfolio Tool

- ServiceNow:** The vendor IKC has been engaged to help continue key asset database work, as well as refine the discovery process. This will map and catalogue all AT technology assets to the correct user and creates a platform to deliver improved business processes through the ServiceNow system.
- ProAction (Property Acquisition):** Two extra sprints were approved to enable the project to deliver additional requirements to the Property Acquisition team. The project will deploy in September and has been a successful agile project with a highly engaged team building the capability. See *images below*.

CyberSecurity: Cloud Application Security Broker (CASB) was integrated into the Security Operations Centre. Multi-Factor Authentication is implemented for every Auckland Transport user that has a company issued mobile phone. The Business Case for Security Operations Centre final stage of implementation is approved and work starts in September. A training module is now available in Think Tank, which gives all employees the opportunity to heighten their awareness around CyberSecurity and how to keep themselves and the organisation safe

Facilities Building Management Solution: A Request for Information (RFI) for a Facilities Management solution was sent to market and responses have been received and reviewed. Selection of a preferred vendor for the design phase is under way. It is critical to deliver the information to the City Rail Link Ltd (CRL) by November to guide their technology team. Additionally, there is a key driver from the Metro Operations division to implement a Central Control System to manage the day-to-day operations of transport premises more effectively

The Core and Capital Programme Team held a working lunch to develop a **Team Charter**. As well as an opportunity to celebrate the successes of the last year, the event and activity focused on our key values and behaviours as a team. It brought together the Project Managers, Business Analysts and Solution Architect in an environment where we worked to align our programme direction. Following the workshop, we completed a site visit to Downtown Ferry Terminal and Lower Albert St to view the major infrastructure projects underway and highlight the work of BT Infrastructure project managers. Through this exploration, we talked about the key challenges faced in this type of project and then how each team member fits into the big picture of Auckland and how our role is crucial to the development of the City.



Image above: the Core and Capital project team.

Parnell Train Station Walkway CCTV: Five new CCTV cameras are being installed along the new walkway/path being built from Parnell Station to Carlaw Park. They will be commissioned in September.



Images above: from the Parnell Train Station walkway CCTV cameras

Enterprise Information Management (EIM) Programme

Moorings Web Map on external website is now publically available. The Moorings Map enables boaters to view all moorings available in the Auckland region and search for a specific mooring. All the underlying data for moorings information is updated via an automated processes each night from the source database.

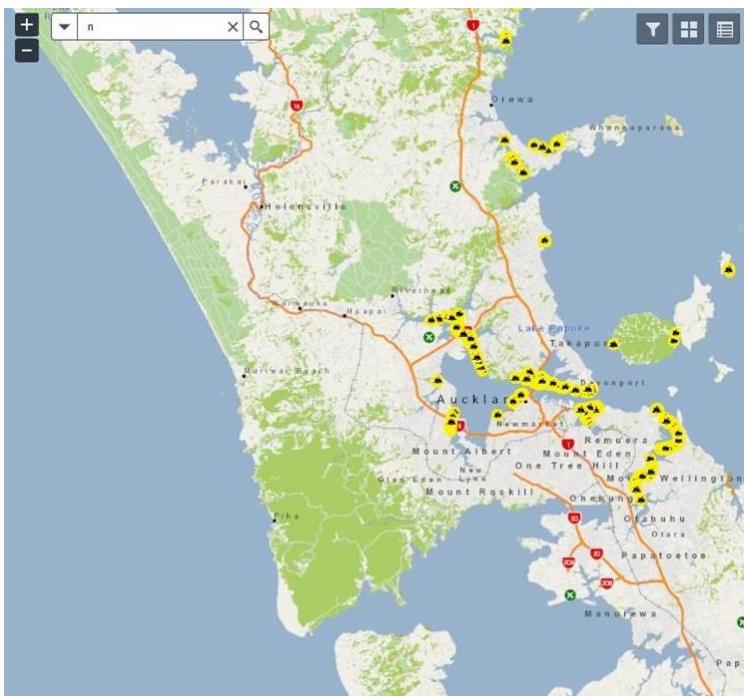


Image above: the Moorings web map

Infrastructure Programme Viewer (IPV) is the mapping solution which provides project teams with the capability to identify other infrastructure projects in the same area, has released and undated additional functionality including:

- RAMM carriage ways added and the condition grade attributes have been added.
- New fields added to Major Capital Works and Minor Improvements
 - NZTA funding information from SAP / SharePoint master list
 - Link to SharePoint master list (you can now open project items directly from the GIS viewer)
- Opportunities identified can now be logged and quantified.

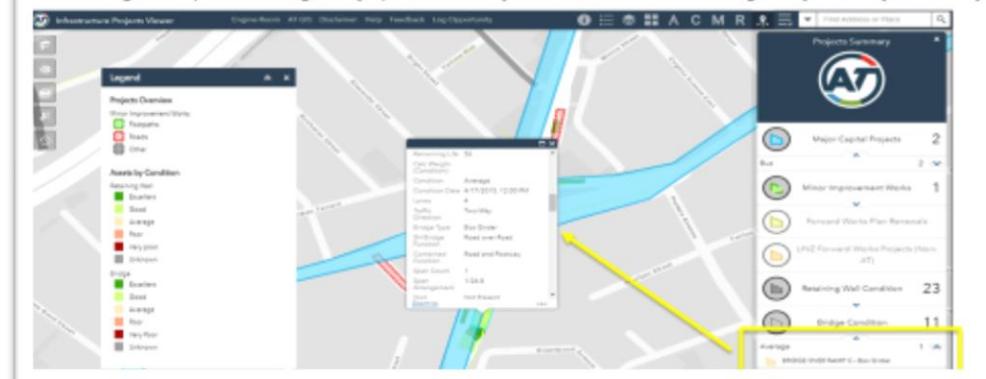
Infrastructure Project Managers are now receiving personalised automated emails that notify them about possible opportunities (co-located projects) which ought to be assessed to see if disruption to the public can be minimised and / or money saved by bringing planned work forward or deferring it.

Images following: new enhancements from the Infrastructure Programme Viewer

IPV enhancements released in Aug-18

RAMM carriageways have been added as a new layer, and colour coded by condition grade

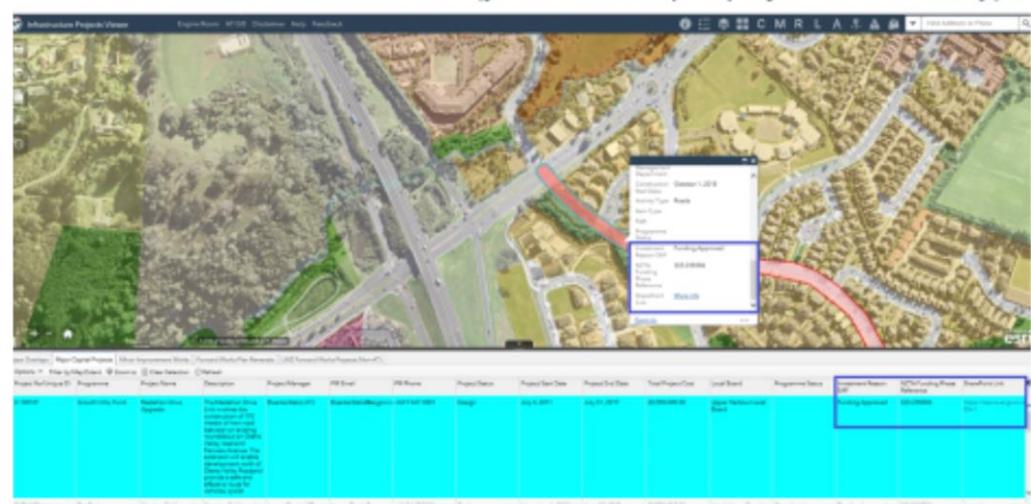
- This layer is updated from RAMM into GIS on a nightly basis
- Note: the screenshot below shows bridges and signs colour coded by condition grade (not carriageways) as we only finished off the carriageway work yesterday



IPV enhancements released in Aug-18

New fields added to Major Capital Works and Minor Improvements

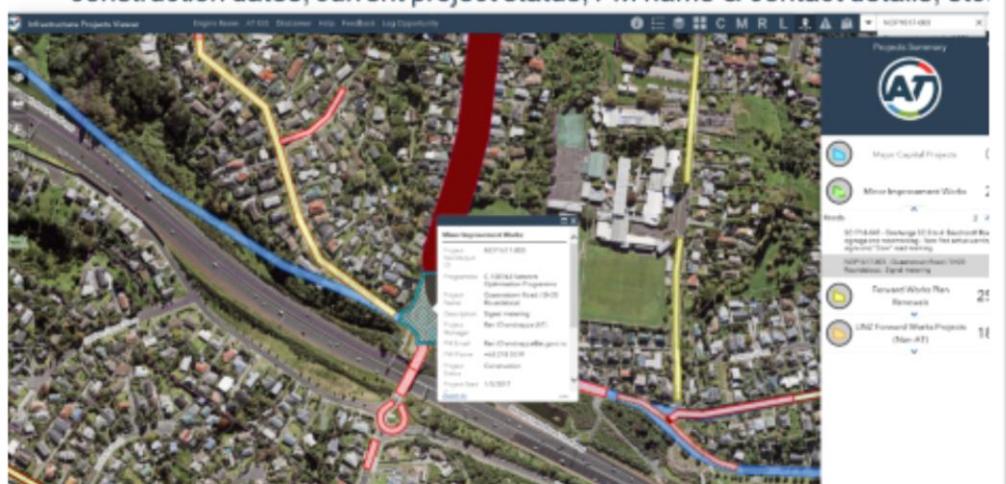
- NZTA funding information from SAP / SharePoint master list
 - Link to SharePoint master list (you can now open project items directly)



IPV enhancements released in Aug-18

Opportunities assessment process

- Step 2 - PM's are requested to zoom to, view and assess each opportunity in their list. All projects have a description, activity type, start / end / construction dates, current project status, PM name & contact details, etc.



The **Traffic Overview** project has added additional mapping layers to allow the Network Travel Demand Team to make further comparisons between network priority routes / road network demand. The additional layers are:

- Auckland Cycle Network
 - Network Priority Routes
 - Congestion Mapping

Things That Move (TTM): a GIS-based ferry prediction ETA service has been produced for the TTM team.

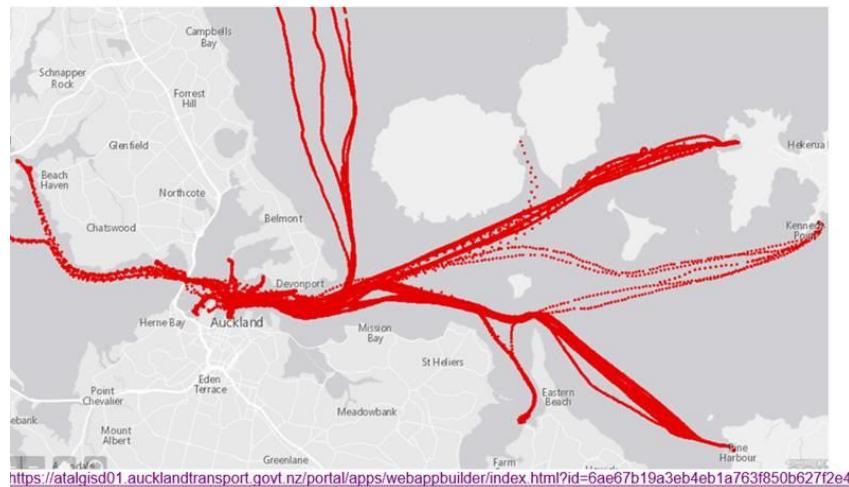


Image above: GIS based ferry prediction service.

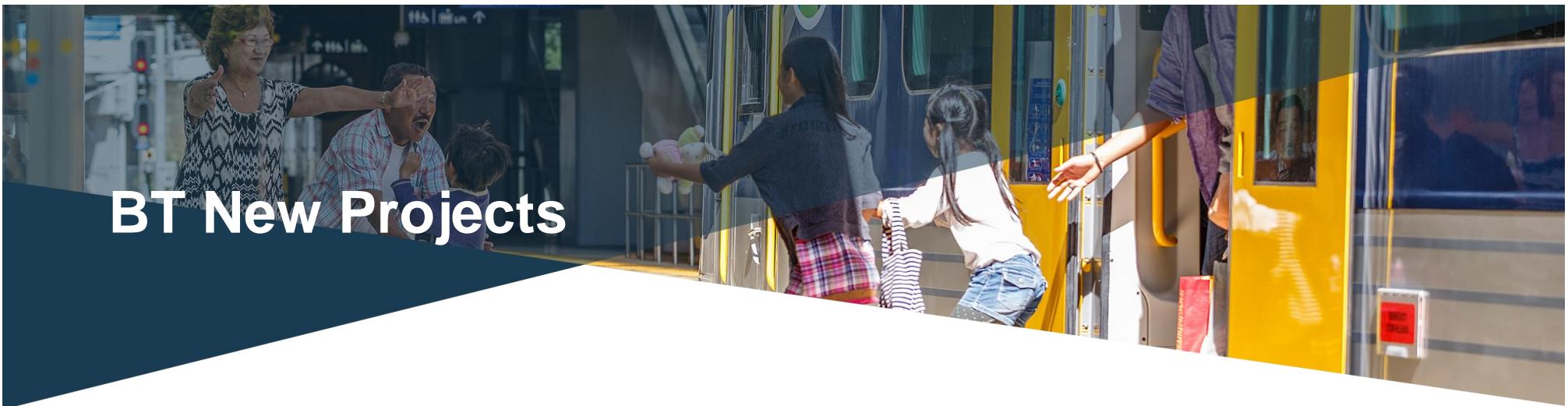
SharePoint Auto Classification – Project Haystack. Project Haystack will help staff find documents easier in SharePoint by automatically adding hidden tags / labels to documents. The project successfully started applying some initial categories of tags to documents in SharePoint in the last week of August. The deployment will continue across the different SharePoint environments, starting the Business Technology, until a test search page can be established in September for all AT staff to use and provide feedback.

The initial categories of tags include: Suppliers, Applications, Projects / Programmes, and Document Category. Other tag categories will include those for specific business units like Finance, HR and Construction / Engineering, as well as external stakeholders (e.g. schools, key organisations, and people in governance roles) and assets (e.g. roads, servers). These tags will then be able to be used for classifying documents to be encrypted (as highly secure/confidential) or to be retained under the Public Records Act.

The test search page for AT staff will look something like the diagram below, where the user can filter their results using the dynamic filters on the left hand side. Eventually we intend to remove the requirement for people to manually tag documents when they save to SharePoint – encouraging many of the 4 million documents in individual user OneDrives to move to join the 4 million documents in SharePoint.

A screenshot of a SharePoint search results page. The top navigation bar shows 'Office 365' and 'SharePoint'. The search bar contains the query 'Auto-classification Business Case'. Below the search bar, there are several dynamic filters on the left: 'Document Category', 'Performance', 'Request for Information', 'Process Diagram', 'Report', 'User Acceptance Testing', 'Application', 'All', 'Microsoft SharePoint', 'Auckland Council GIS View', 'Salesforce CRM', 'Future', 'IMS Application', 'AT HOP', 'Unknown', and 'Programme'. The main results list includes items like 'Auckland Transport Business Case V0.9 DRAFT for Discussion', 'Auckland Transport IM Strategy 2016 v006', and 'Business Technology Monthly Reporting June 2017'. A blue callout bubble labeled 'Refiners - for filtering' points to the dynamic filters on the left. Another blue callout bubble labeled 'Auto-tagging of documents in the background' points to the search results area. The Auckland Transport logo is in the bottom right corner.

Image above: Test SharePoint auto-classification search page.



Programme	Project	Objective
ITS	CCTV Vehicle Journey Times 18_19	To measure vehicle travel times and provide analytics on selected road corridors by using CCTV analytics
Core & Capital	Small Cell at Rail Platform POC	Small Cell at Rail Platform POC
ITS	Body Worn Cameras - Pilot	Body Worn Cameras were identified as a key requirement to support Transport Officers and increase the perception of passenger safety. The use of these devices will enable the Transport Officers to capture events/incidents whilst in the field, to identify fare evaders, anti-social behaviour and to resolve queries and complaints.
AT HOP	New HOP Devices FY18-19	All AT Buses require HOP equipment installed to enable HOP travel in support of AT services. Buses are required to be fitted with HOP and AVL

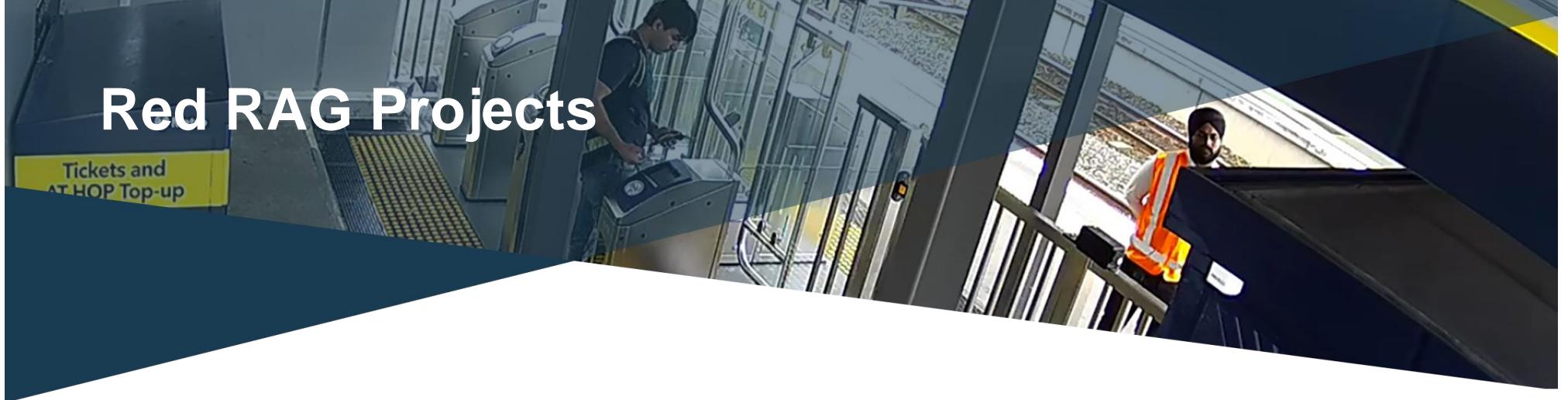
Transport
Services

New HOP API

devices during FY18-19 in support of the New Network North launch, and BAU organic growth. Also existing Bus Operators are refreshing their fleet with new Buses which require HOP fit-outs. Spares are required for Thales equipment failures for non-Bus equipment e.g. Retail devices.

The objective of the project is to create a Version 2 of the HOP API for AT Mobile only which will bypass the SSE for the high volume application data calls. This approach will remove the risk of impacting HOP performance and ensure AT Mobile is responsive.

All projects approved under Divisional delegated financial authority.



Red RAG Projects

Red Rag projects for the month of August

HOP Capacity Refresh

The HOP Capacity Refresh project is in Red status due to a delay in delivery of one component.

The Project is to upgrade all underlying HOP Infrastructure and Software. However, although otherwise complete, the Disaster Recovery environment is not fully delivered and tested.

This situation is listed on the Corporate Risk Register.

AT Customer Facing Solutions



AT Park

Total number of downloads:

- Android = 23K
- Apple iOS = 61.2K

Number of registered users: 73k

Number of parking sessions August: 144k

Revenue: \$527k

Playstore rating 3.8

AT Mobile
Total number of downloads – 329K
Android = 124k
iOS = 205k
Downloads in August – 17,000
Active users – 125,000
App ratings – 2.7



AT Mobile Dashboard

Total downloads

330K

Current monthly unique active users

126K

Total downloads vs active users



iOS Rating

2.7

Android Rating

2.7

Ease of use

4.4

Look and feel

3.8

Information accuracy

3.4

Overall Satisfaction

4.0

BT Risk, Security and Compliance

- The Security Awareness e-Learning module is now live
 - Sent to 136 employees at the end of July
 - 76 (55%) have completed the e-Learning
 - 59 (45%) have attempted it but not completed the e-Learning.
- Simulated phishing email campaigns will begin with selected employees prior to August 2018.
- BT will begin a PoV (Proof of Value) to trial a new leading edge threat detection and threat hunting system called Crowdstrike in the next few weeks. AT needs to modernise its security protection systems which run on laptops and servers to make use of new emerging technologies like machine learning (ML) and artificial intelligence (AI) which is the cornerstone of products like Crowdstrike.
- AT continues to modernise its mobile fleet by rolling out threat detection software called Lookout onto mobile devices (phones and iPads and tablets). The process will complete in several weeks.

BT Architecture

- Held an initial meeting with Google to understand their product offering in the Cloud and Productivity Tools space. Auckland Transport also shared several use-case scenarios we are working on to understand if the technology google has or is working on can help benefit making Auckland a smarter city.
- Government agencies for New Zealand and Australia attended a workshop run by AusRoads to understand capability and direction for Artificial Intelligence (AI). Auckland Transport highlighted that we are using AI in several areas to improve traffic flow across the region. AT highlighted our focus was also on how to use Predictive Analysis to further improve daily operations.
- Conducted a retrospective review of our cloud datacentre environment to ensure implementation of design, recommended security practices and support are in place.
- Several members of Business Technology are working with New Zealand Transport Agency to help shape the implementation of the Transport Operating System (OS) Initiative.
- Architectural input for the National Ticketing project run by Greater Wellington Regional Council continues. We are assisting with RFP reviews.

BT Emerging Technology

Software drives many functions that we take for granted on devices, provides the ability to create fantastic presentations and performs complex business transactions.

Recent software upgrades to the ESRI ArcGIS and Autodesk Revit platforms now provide direct-integration capabilities between the two. AT users can now interact and consume data and files from either, without having to log into the other application and perform an export / import function. This delivers significant productivity gains for both GIS users directly importing CAD files produced by the Drafting Team while the Drafting Team can directly import a Geospatial layer into their CAD drawings. This capability will save AT procurement of additional software licenses and application training needs.

Software upgrades within **cellular communications networks** deliver new functionality to users such as speed or security and are often invisible. While some of these capabilities are available in other countries, New Zealand subscribers often do not see the benefits until the NZ Mobile carriers upgrade their networks. Recent upgrades in NZ include "Push-to-talk" over cellular or PTT. Subscribers can use their phones as walkie-talkies with unlimited range. A PTT call connects almost instantly with the significant advantage of a single person reaching an active talk group with a single button press; users need not make several telephone calls to coordinate with a group.

AT and Vodafone are actively working on this capability to understand how this would benefit communications between staff in an integrated communications environment.

The **Microsoft Portfolio contract for Enterprise Strategy** (ESP) FY17/18 completed all nine deliverables at the end of August. Under a new engagement for FY18/19 further in-depth work is planned to build on those deliverables while exploring new advances. The ESP provides AT with a dedicated Digital Advisor and Senior Solutions Architect, equivalent to one FTE, access to the combined resources of Microsoft globally and visibility

of emerging or evolving products under strict Non-Disclosure (NDA). This provides AT with early insight in the making of strategic choices for technology.

Notable Deliverables from the FY17/18 ESP were:

- Intelligent Transport Systems Technology Strategy (ITS)
- Cloud Integration capabilities
- Security Reference Architecture
- Data Analytics Maturity Roadmap

The **ITS technology strategy** provides the high-level view, maturity and identifies where additional work is needed. Under the FY18 – FY19 ESP work will continue to focus on detail to inform and guide the AT project pipeline on the choice of technologies related to ITS.

Three interconnected streams across **Azure, Azure Stack and integration** were run to understand their relationships and interactions. This culminated in a reference architecture document clearly defining implementation guidelines. Again, work will continue in the coming year to encompass other cloud providers such as Google and AWS.

A **security reference architecture** was created under the security stream. Components of this will be tested and implemented over the next year. The key focus was Cloud Application Security, Advanced Threat Protection and Information Protection with product implementations well underway within the Business Technology Operations team.

Data analytics maturity delivered a detailed roadmap, designed to assist AT in maturing the practices around management of data and data analytics capabilities. AT established a governance group to bring together all the groups involved in analytics. Microsoft will continue to provide guidance to the governance group over the coming year as an ESP deliverable.

BT Commercial

Fusion Renewal: the Commercial Team completed negotiations with Fusion, consolidating Managed Circuits for HOP and Traffic Signals, Dark Fibre Links and Network Support services into a single agreement and saving \$126,000 in operating expenditure.

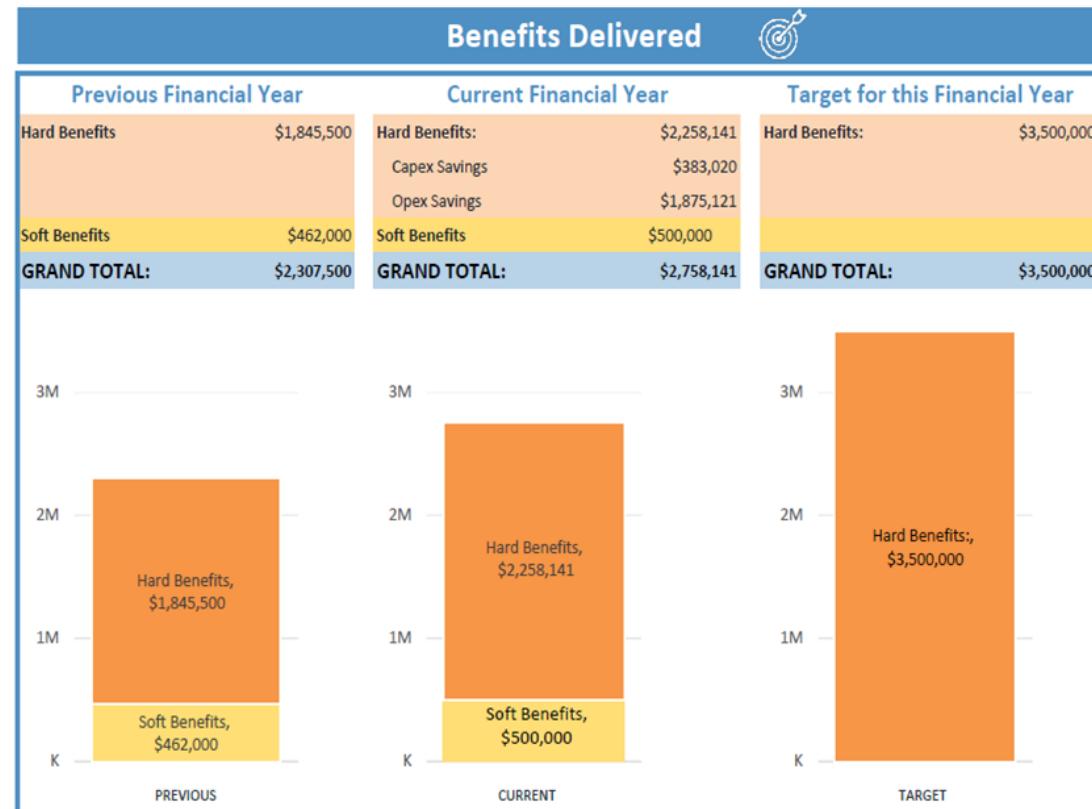
Consulcad: Business Technology negotiated the agreement for the Portfolio Management Solution, saving \$211,000 in capital expenditure.

NIWA: the Commercial Team negotiated the Weather Data Agreement for weather information around Auckland Harbour, saving \$50,000 in capital expenditure.

Pedestrian Monitoring: Auckland Transport and Auckland Council signed the Services Agreement, which will enable Auckland Transport to utilise \$500,000 of Council funds to undertake pedestrian monitoring at specified sites in Auckland.

Virtual Reality Solution for Driver Education: In line with Auckland Transport's strategic priority for Road Safety, the Commercial Team is working to expand the capability of the current Virtual Reality Solution for Driver Education. The team negotiated the contracts to move the solution over to standalone goggles (rather than oversized laptops), saving \$22,500 in operating expenditure. In addition to the savings, the hardware provider agreed to continue to provide the laptops free of charge until the solution is moved across to the new hardware.

VidSys Master Licence Agreement: the Commercial Team negotiated a Master Enterprise Licence Agreement for the VidSys software for increased licences and expansion to other government organisations in preparation for the Board. The Board requested a full business case. The agreement will remain on hold pending the outcome of the business case.



BT PMO

With the move towards **AGILE delivery models**, we are aligning a number of enabling processes to support AGILE delivery. We worked with Finance to agree on the impact of Agile models on financial processes including capitalisation, business case sign off, Opex vs Capex as well as benefit tracking.

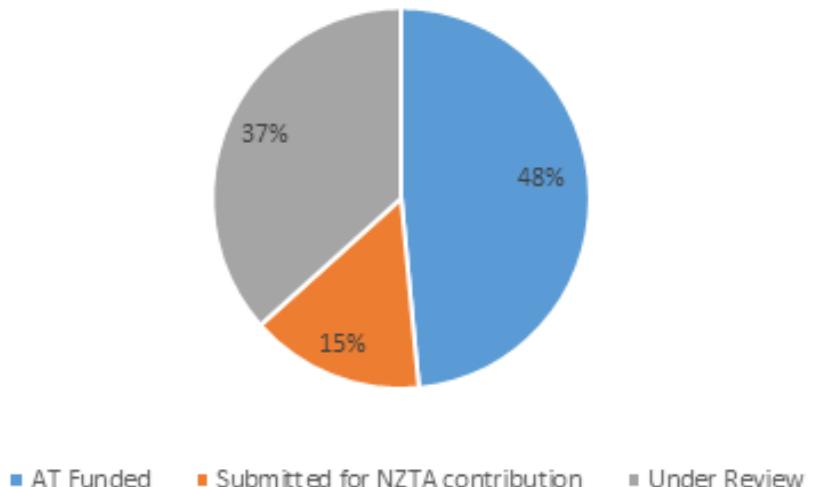
There is a strong focus on working towards reducing the **Work in Progress (WIP) balance** for Business Technology. All projects with high WIP balance are being reviewed and we are working closely with Finance to reduce the balance by the end of September.

Work is underway with the **Continuous Service Improvement** team to mature the transition process. This is taking into consideration the AGILE delivery models and ensuring the change processes support both AGILE and Waterfall delivery models.

BT Resource approval is now aligned to the new organisational resource process and business change around it is being managed.

The PMO has agreed to develop business cases to **secure NZTA funding** for the Things That Move (TTM) and CCTV programmes for the over \$1m life of project budget category. Business Analysts have been assigned to assist project managers develop the business case. As well as these two projects, several other projects that could be eligible for NZTA funding have been identified as well.

BT Capital Plan (NZTA Funding Contribution)



BT Business Analysis (BA)

AGILE learnings from a BA perspective: The BA team recently met with Southern Cross to understand their experience to date in the Agile space and discussed what has worked well, what hasn't, and lessons learned. We're looking forward to sharing this feedback with our team, and working with Delivery Central to define how our BA's roles and responsibilities could / will look going forward.

Improvement in BA resource utilisation: Our trial for assigning BA resources to programmes of work has proved to be very effective. On occasion, when the demand for immediate BA services has been higher than what we have been able to supply this month, we've worked with the BT Programme Managers to assist us with prioritisation decisions, and defer non-urgent tasks when necessary. At this stage our BA Team are able to service the BT programme of work, with no need to bring in external/contract resource.

NZTA funding business cases: Our BAs are working with the BT PMO and BT Programme Managers to create and / or contribute to detailed business cases so that AT can apply for NZTA funding on projects with over \$1m life of project cost. We are taking this work on as a priority task.

New starter: Our new starter Sagar Sachdev has been assigned to the Transport Services programme, and has been primarily working on the Middleware Re-architecture project as a team member. He has been a great hire, and really has hit the ground running, as supported by the fact that we were able to capitalise just over 82% of his time in August (his first month with us)!

BA assignments: In August, the BA Team were involved in the following active projects / work:

Programme	Projects
BT > Transport Services	Contract Management Enhancements (CMOP)
	Enterprise PID Device & Management Solution
	Ferry Fare Integration
	Middleware Re-architecture
	Things that move (TTM)
	VPID RFP
BT > Core & Capital	Activate Migration
	Azure Stack
	Harbourmaster
	Organisational Risk Management
	Portfolio Management Solution
	ProAction Enhancements
	Project Cornerstone
	ServiceNow Enhancements
BT > Corporate & EIM	Auto-classification Toolset
	CRM Review
	EAM Programme
	GIS Business Case Creation
	GIS Infrastructure Projects Viewer enhancements
	Synergi Re-platform and Mobile
BT > ITS and ITS Infrastructure	AT HQ DC Establishment
	Devonport Smart Cities Trial
	Vidsys Phase 2
Customer Central	Recruitment Sprint

BT Finances



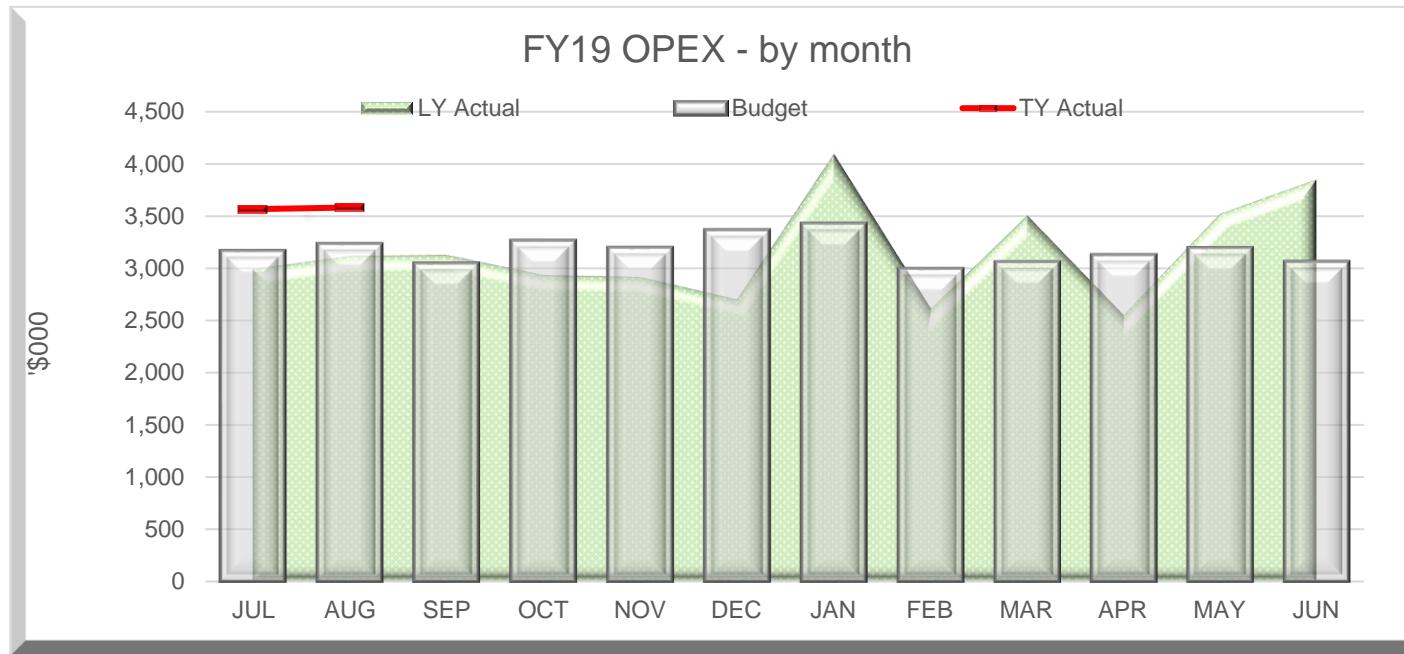
	Year To Date			
	Actual	Budget	Variance	
	\$000	\$000	\$000	%
Total operating income	117	11	-106	964%
Total operating expenditure	7,148	6,390	-758	-12%
Total	-7,031	-6,379	-652	-10%
Depreciation	3,935	3,303	-632	-19%
Total Operating Surplus/(deficit)	-10,966	-9,682	-1284	-13%

	Full year Budget \$000	Actual	Year to Date		Full year	
			% Spend to Annual Budget	FY19 Annual Budget	FY19 Annual Plan	Forecast
Total Capital Expenditure	\$68					
	38,121					
	-38,053					
	28,583					
	-66,636					
			\$000			
			%	%		
			22%	14%		
			\$000	\$000		
					36,776	57,095

Revenue

Monthly revenue streams include NZTA subsidies and recovery of costs from CRL Ltd. All capex business cases reviewed for NZTA subsidy potential.

Operating Expenditure



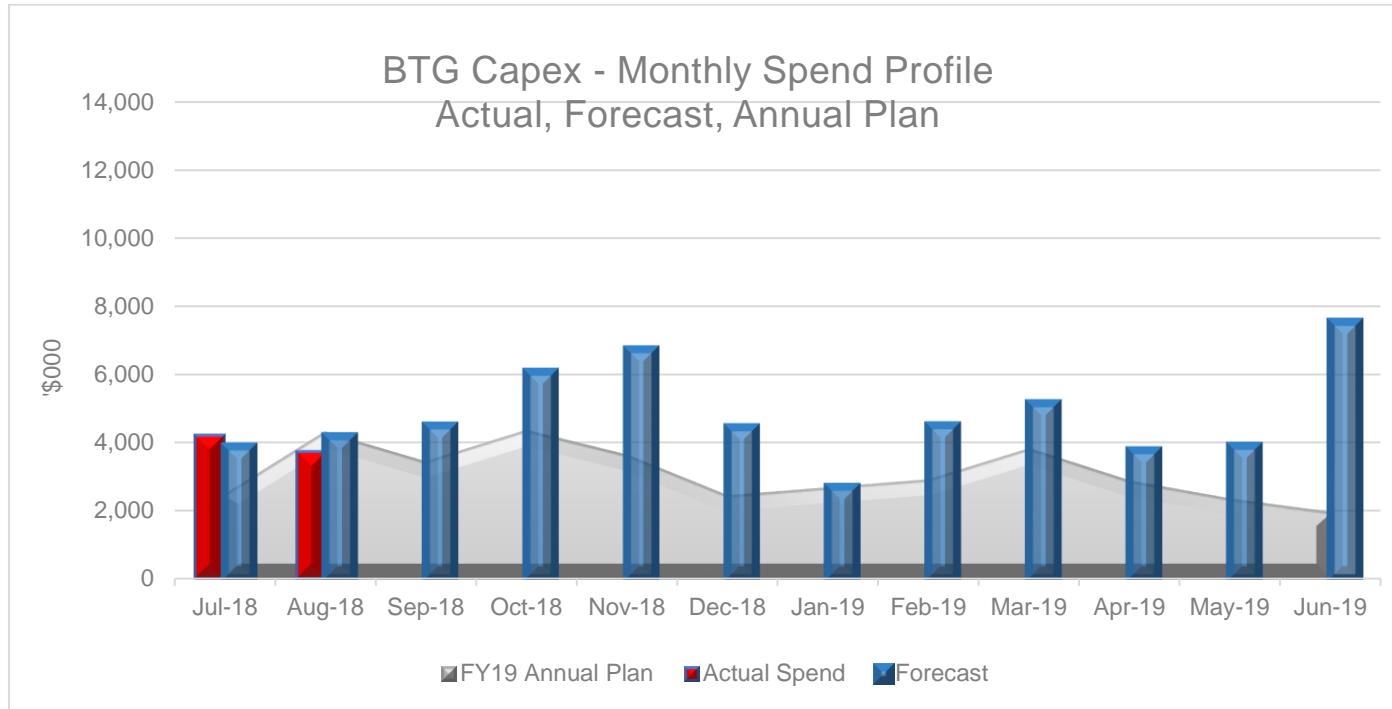
The year to date operating expenditure (excluding depreciation) is 12% higher than that budgeted. The unfavourable variance results from consequential opex realised this financial year, permanent staff placements, projects written off to opex, higher than average communications costs due to installation of a server rack, delayed invoicing from suppliers and costs pertaining to activities from last financial year.

Improved timesheets since prior month has led to a favourable variance in staff recoveries. Targeted reviews of vendors and cost groups will lead to

opportunities in reducing operating expenditure. Analyses currently underway includes contractor costs in project initiation and planning phases as well as identification and tagging of consequential operational costs from capital projects.

Other key focus points for FY19 include alignment of expenditure to apps and services for improved monitoring and reporting and improvement in identifying consequential operational costs from capital projects and ensuring timely recognition of expenses.

Capital Expenditure



BT's capital expenditure is \$7.9m year to date. The month's expenditure was 11%, or \$0.4m lower than the forecasted spend. Forecasts are undertaken on a monthly basis across the capex portfolio.

The year to date expenditure equates to 22% of the total annual plan. Alignment to RLTP projects and tagging of RFT projects within the \$36.7m portfolio was a primary focus in August.

Clearance of the capex work in progress is a priority this quarter. During August, approximately \$10.2m of capitalisation was processed with another eight projects submitted for asset creation after month-end. The current work in progress balance is \$63m of which \$6.4m are flagged as overdue for capitalisation. A concerted effort by BT will be taken in September to clear those the overdue items.

Enterprise Information

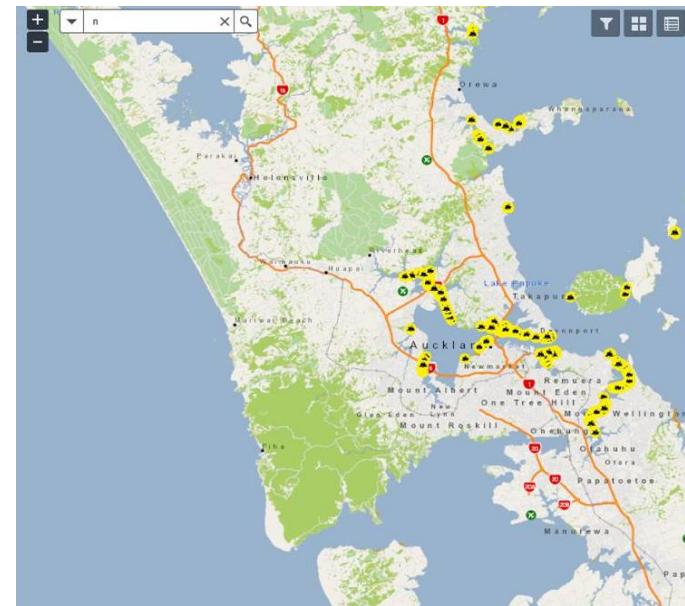


Enterprise Information

Geographic Information Systems (GIS)

- Moorings web map:** The GIS team have successfully implemented a moorings map services from our new Azure GIS Platform that is available to the public. The data is refreshed on a nightly basis so is always up to date. This initial release of the public GIS will be followed over the next few months by a multitude of new GIS services to the website.

See image on right – moorings web map



- **Ferry ETA Service for Things that Move:** The team has produced a ferry prediction ETA capability that is being used to predict the arrival times for ferries.

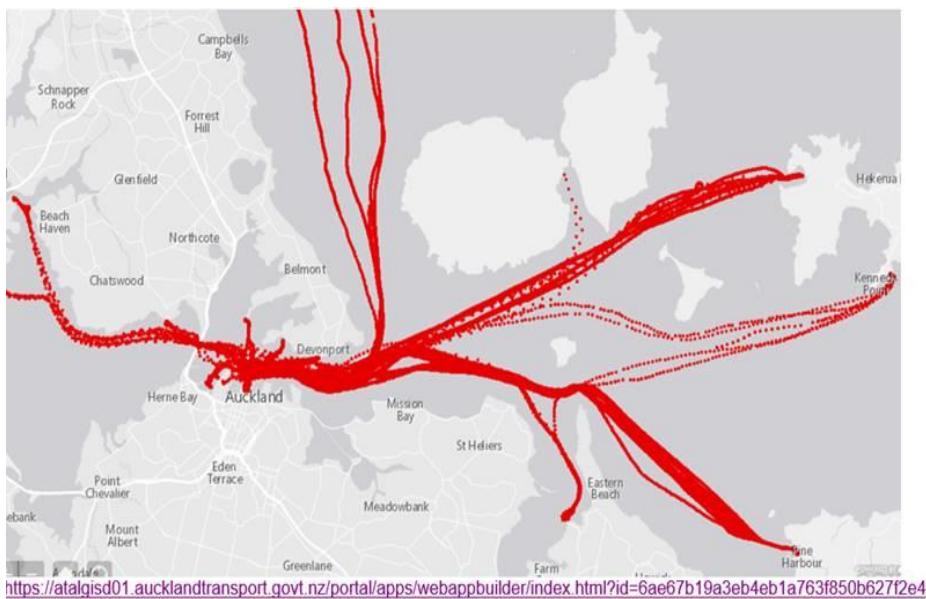


Image above: Ferry ETA prediction graph

Enterprise Data Warehouse (EDW)

- **CMOP Failed Trip Enhancement:** added additional information (driver, vehicle, route, service, duty, stop details etc.) about failed trips from EDW to the CMOP operator portal which will help operators to understand the measure of failures. This new context allows our operators to see more details of the trip in question and as a result the queries / questions to AT are reducing.
 - **Project Highlight Reporting:** completed a number of data modelling improvements to support the Business Intelligence enhancements that provide more data for the BI reports to consume, including the ability to model non-active projects.

- **Vertica Configuration:** deployed the ability to schedule data loading for micro batch data via Visual Studio Team Services (VSTS). This aids the deployment and management of the data loads, whilst reducing the level of manual involvement required.

Business Intelligence (BI)

- **Parking Offence Dashboard:** Developed a new parking report to visualise Parking Offence data. The report provides the Parking team with a high-level view of the total number of offenses by date, location and type. The new interactive dashboard allows the Parking team to drill down into a number of categories including an hourly breakdown, suburbs, day of week and infringement type.



Image above: Parking Offence Dashboard

- Capacity Strategy Simulation:** The Business Intelligence team are developing a “capacity scenario simulation tool”. This new report automates scenario simulation to replace a significantly time-consuming manual process when modelling even for one scenario. The report will help to simulate roading capacity impact when extra public transport capacity is introduced at a given time of day.

Web Intelligence - Map, Rest

Variables Column E

	(A) Threshold for Trips being Over-Capacity	20
	(B) Over Capacity that is Unacceptable	20
	(C) % natural annual Patagonia growth	5
	(D) Mins Customers prepared to wait for bus	18
Derived Dep/Arr Time <=	11:25	
Trip	95:35 0705 75	OK
Trip	95:49 5251 100	OK
Trip	07:08 0705 26	OK
Trip	9	OK

Note:
 (A) This report will be export to Excel with formulas.
 DO NOT ADJUST POSITION OF TABLES
 DO NOT ADJUST COLUMN WIDTH

Vendor	2016-05	2016-09	2016-10	2016-11	2016-12	2017-01	2017-02	2017-03	2017-04	2017-05	2017-06	2017-07	2017-08	2017-09	2017-10	2017-11	2017-12	2018-01	2018-02	2018-03		
ABERNETHY PROJECTS LTD	60.00%	57.00%	58.57%	56.33%	54.00%	54.00%	56.00%	60.00%	60.00%	60.00%	60.00%	60.00%	65.00%	60.00%	70.00%	57.14%	58.24%					
AECOM NEW ZEALAND LIMITED	61.54%	66.47%	67.39%	60.00%	62.91%	58.33%	58.96%	56.88%	54.64%	53.89%	57.80%	56.16%	53.79%	58.98%	61.60%	62.83%	59.75%	57.65%	57.40%			
ALEPH LIMITED																		75.78%				
ALTA CONSULTING LTD																			65.57%			
ANDREW TAYLOR CONSULTING LTD																			68.21%			
ARGORLAB CONSULTANCY SERVICES LIMIT	60.00%	55.79%	57.78%			55.00%		55.00%	45.00%	58.89%	52.94%	54.00%	62.86%	62.67%	60.00%	0.00%	62.86%	0.00%	62.22%	0.00%		
ARMITAGE SYSTEMS LIMITED																						
ARUP NEW ZEALAND LIMITED																						
ASCARI PARTNERS LIMITED																						
ASPLUNDH																						
ATKINS HOLM MAJUREY LIMITED																						
AURECON NEW ZEALAND LIMITED																						
BARTLEY CONSULTANTS LIMITED	63.16%	63.16%	63.33%																			
BECA LIMITED	60.00%	54.74%	58.36%	59.79%	51.90%	56.54%	55.13%	58.16%	57.41%	54.03%	51.91%	59.43%	58.93%	58.08%	62.98%	60.06%	61.85%	59.83%	63.59%	65.48%		
BLUE BARN CONSULTING LIMITED																						
BOFFA MISKELL LIMITED																						
BROADSPECTRUM (NZ) LIMITED																						
BUILD MEDIA																						
CAMPBELL BROWN PLANNING LIMITED																						
CHORUS NZ LTD																						
CLL SERVICES & SOLUTIONS LTD																						
CSL INFRASTRUCTURE LTD																						
DATA TRAFFIC LIMITED																						
DC SIGNALS LIMITED																						
DEMPEY WOOD CIVIL LIMITED																						
DENTEC NZ LTD																						
DESIGNBRAND LTD																						
DOWNER NEW ZEALAND LIMITED																						
Total	60.00%	58.96%	60.57%	60.09%	58.49%	57.56%	57.64%	56.58%	59.24%	58.40%	58.08%	60.25%	58.85%	58.13%	60.64%	59.57%	60.06%	60.02%	61.71%	61.31%	>	

Image above: Risk and audit PHR Summary

- Risk and Audit PHR Summary:** BI team provided new BO report for Risk and Audit to access the PHR information directly. The report will help the Audit team to check active PHR projects with their respective Department, Division, and Group information for their quarterly risk management attestations.
- AT PACE Power BI report set up:** BI team improved automatic data refresh for AT Pace reports. This new capability enables users to extract data from the AT PACE and create / share new self-service reports within their team.

Information Management (IM)

- Administrative and organisational preparations for the **APEC (Asia-Pacific Economic Cooperation) conference** in 2021 require that a secure site for document management is configured to contain classified information and correspondence from government agencies. The request from ATOC includes the certification of AT's secure APEC Project Site by MFAT/GBSC.
- The **Records Management Review** is on track for the delivery of agreed outcomes by the IM Team. The IM Strategy, all Information and records management policies, guidelines and standards have been reviewed, reformatted and provided for approval. The approval process is underway.
- Supporting both of the above is the **SharePoint Auto Classification** project (Project Haystack) which will enable (a) documents to be correctly tagged and classified automatically, and (b) users to find documents more reliably and quickly. An initial set of tags have been deployed in Production SharePoint with BT staff testing the functionality. Further types of tags will be developed and deployed through to February 2019. Security classifications, and retention rules for AT's obligations under the Public Records Act, can then be defined based on these tags. Automated cyber security activities such as encryption of specific documents can then take place.
- **Data Management:** The IM Team is working with the Auckland Forecasting Centre to improve the way the team manages and retrieves its data. An in-depth assessment of what, when and how the data should be stored, accessed and shared is under way.

Service Management

- 2809 Incidents and tasks logged
- 2956 Incidents and tasks closed
- 34 open problems, 5 active due to elevated priority
- The **ServiceNow Enhancement** project has started. Multiple streams of work occur under the same project: Configuration Management Database (CMDB) consolidation and process establishment, BT standard procurement process optimisation within ServiceNow and general ServiceNow enhancements to improve the customer experience.
- The **Activate Decommission** has started. Some of the functions previously provided by Activate are being transferred to ServiceNow and others to relevant systems. If a service is no longer required it is being removed.
- **#MSM Phase 2** has been completed. Deliverables and their structure within VSTS have been confirmed with the stream leads. Most of the deliverables are either underway or implemented. ServiceNow Enhancement resolves many of the intended activities. Phase 3, which starts at end of September, will engage Microsoft with individual stream leads and work on delivering the tasks that were highlighted in the initial workshop.

Continuous Improvement

- Optimised the project transition process with respect to active engagement with the support teams, asset team commercial team. The transition process will become part of induction programme given to new project managers. Working with the commercial team to further enhance contract transitions post project delivery.
- Added Fujitsu Service Request option to AT Assist to help project managers faster and efficiently requests activities pertaining to: Server builds / decommissions, Server / database ad hoc backup / restores, Design and documentation requests, Scripting / monitoring / configuration / installation, Commissioning a Statement of Work and VM RAM/CPU/Storage increase / decrease.
- CSI and Commercial have implemented the first supplier performance evaluation process on Armitage contract and the results has been great in terms of feedbacks we received from the supplier and the structure of monthly reporting they have improved as a result of the engagement provided by them.
- Microsoft True-up is finishing mid this month. Geoff Tribble and Niccy King-Andersen in conjunction with Microsoft and Spark are working on this.

Business Engagement

- The remaining 13 ATEED servers that used to reside on AT's Datacentres have been decommissioned.
- RFI / RFP for Service Provision for Recording, Arrival, and Presence and Departure of AT Contractors. Health and Safety and Rail team along with BT are catching up to understand the right set of requirements to get to RFI / RFP stage.

Desktop Support

- Completed the trial of faulty desk reporting process with identical tags in level 3 and that was successful. We will implement the same in other floors in Viaduct Harbour in September.
- Fujitsu continues to cover BT Drop in Desk and a proposal being submitted to BT management to continue the service without any cost impact.

DevOps

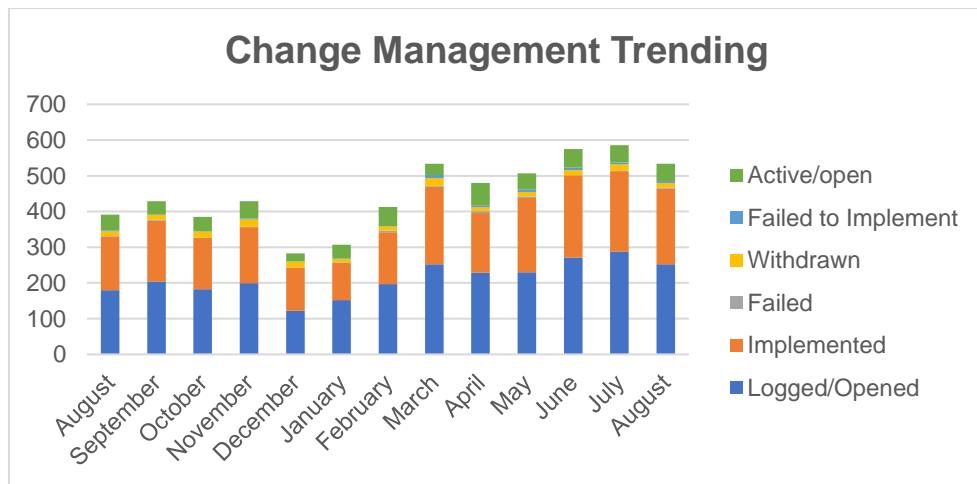
- Disabled TLS 1.0 for PCI Compliance
- ISOC DMZ has been enabled server built to host Phantom
- Ransomware false positive indication training given to Level-1 and Level-2 Analysts
- Detected a generic account has been put on dark web for sale. Necessary actions taken and will be mitigated.
- Systems that are using cleartext authentication has been detected and working with Fujitsu to mitigate the problem.
- Internal brute force attacks has been detected and working with DevOps and Fujitsu to mitigate the problem.
- Fire Warden training has been scheduled for next month to enable SOC's 24/7 capability

Applications Support

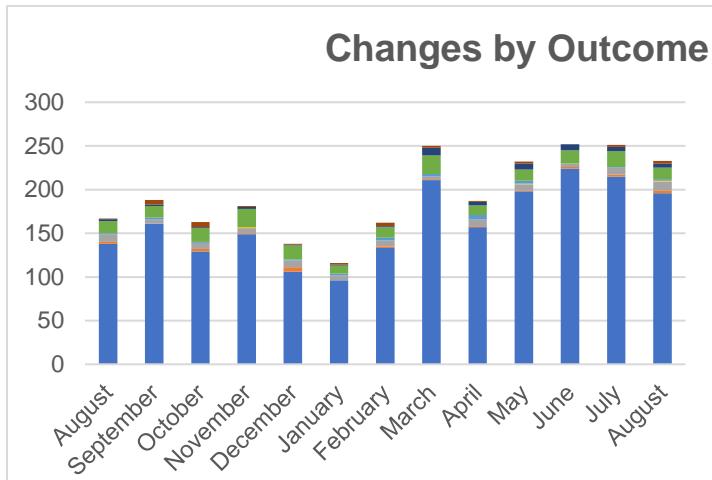
- **Visual Studio Team Services (VSTS)** is Microsoft's platform for Agile and Continuous Integration and Continuous Deployment (CICD). Over the past two years the operations team with help from Microsoft have been building a cloud integrated Application Lifecycle Management (ALM) pipeline to support AT's digital journey. After 6 months of intensive work defining standards and processes in VSTS, Azure, GitHub and automation; ATDx is AT's application lifecycle management and was published last month. Over the coming weeks we will be progressively implementing this program.
- The first round of **VSTS training** targets project managers. Following training gets more technical with further training in CICD and integration.
- Focus on **test automation** has seen the Test Team roll out automation to CRM, TTM and others. The live test status board can be seen in the app's area on level three.
- The **Online Team** has been retro-fitting CICD to the "Things That Move" project (first fully automated release this week). They have also applied CICD to the Engine Room and are supporting other projects towards expanding their automation. The aim is to make effort relative to change i.e. a small change should not take long nor should it be expensive.
- The Applications Support Teams have been collaborating with the **Services Team on Modern Service Management**. The aim to streamline service management processes to work Agile projects and Cloud services. Change control was targeted first and with help from Fujitsu, we have an automated change process which is gaining international attention from development teams at Microsoft and have a request to open source the code to the DevOps community.
- Not all technology projects are suited to CICD, and there is some setup to start. Once running we can fully automate deployment to production.



Change Management



Change Statistic – Criteria	Change Statistic - Number
Number of Changes logged/opened	252
Number of Changes Implemented	212
Number of Failed Changes	3
Number of Withdrawn Changes	13
Number of Failed to Implement	5
Number of Active/Open Changes	49



Implementation Outcome	Change Statistic - Number
Successful	196
Successfully rolled back	3
Partially Implemented	10
Failed Objective Not Achieved	1
Failed Caused P1/P2 Incident	2
Cancelled	13
Failed to Implement	5
Unauthorised	3

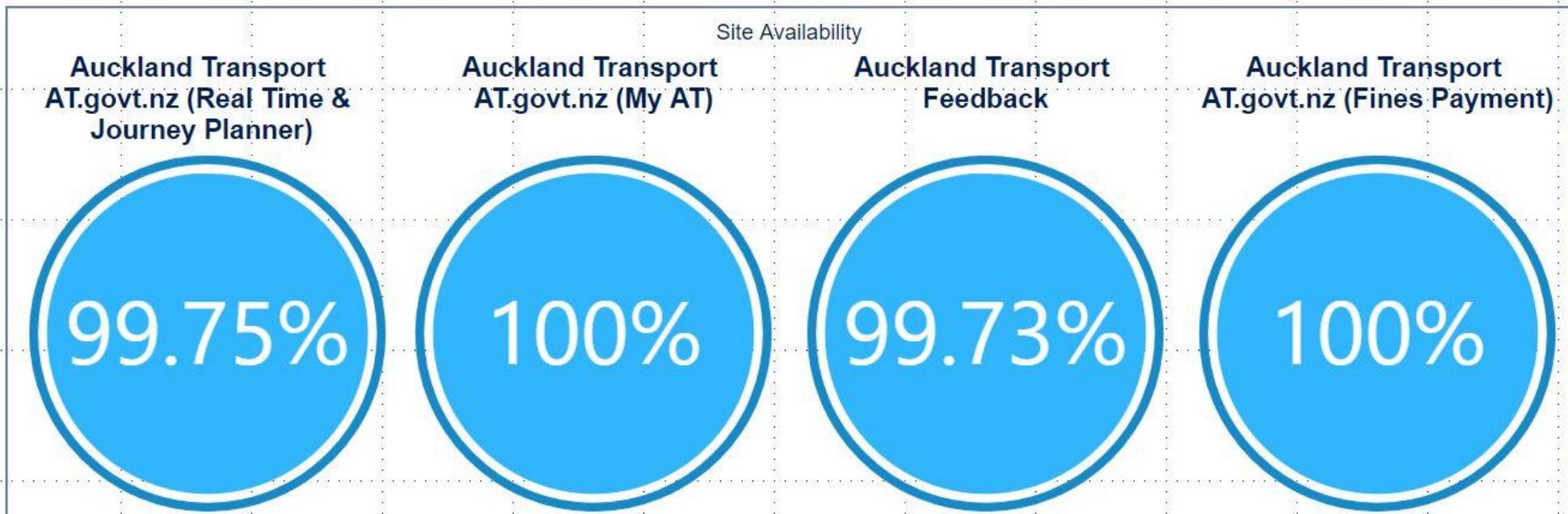
External Website Performance



External Website Performance

01-Aug-2018 to 31-Aug-2018

31 days



Site	Total Full Failure (Minute) ▾	Total Partial Failure (Minute)
Auckland Transport Feedback	119.64	19.50
Auckland Transport AT.govt.nz (Real Time & Journey Plann...	110.36	59.12

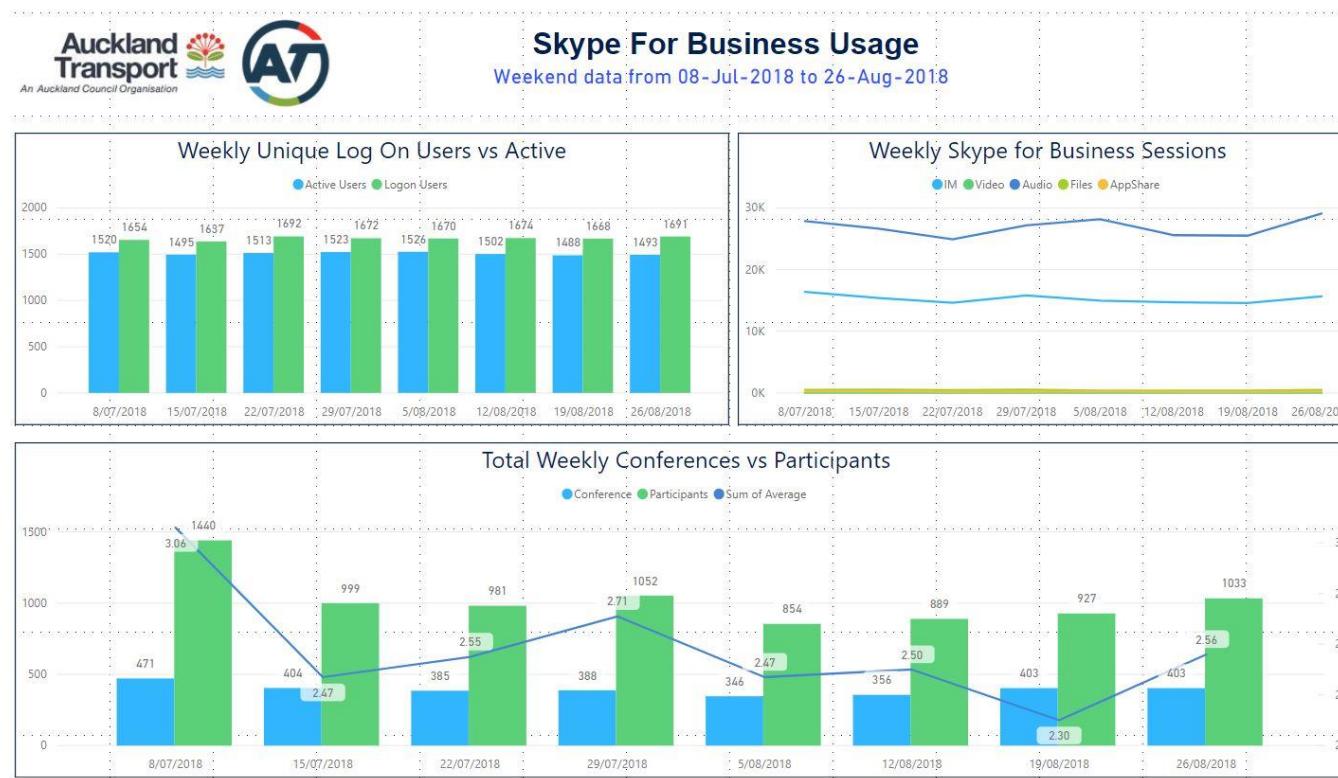
Reporting / Data Warehouse

Skype for Business – Business Intelligence Summary:

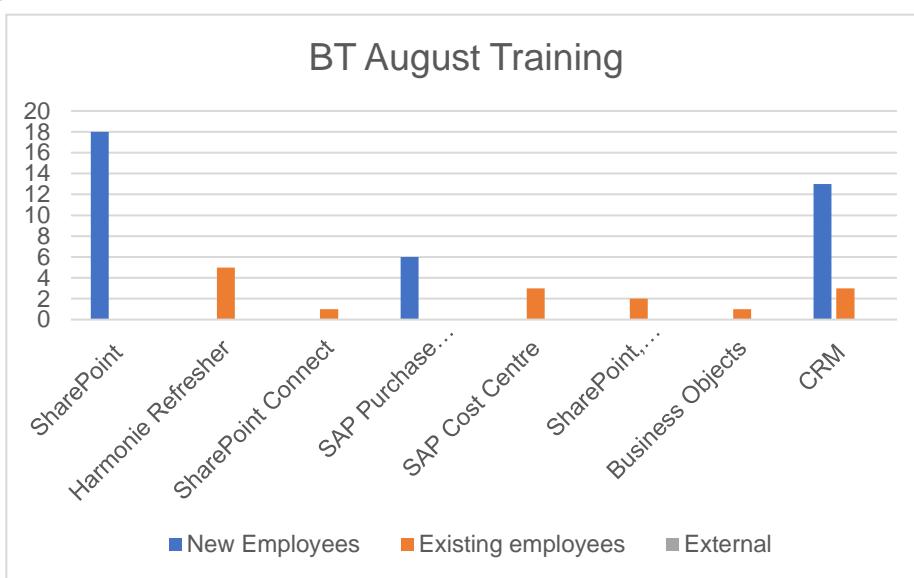
- Data from 08 July to 26 August is shown.
- 13,358 log-on users used Skype for Business in the last 8 weeks, a 1.7% decrease compared to the results from the previous 8 weeks. 90% of them were active users.
- An average of 42,788 Skype for Business sessions per week in the last 8 weeks (this includes Instant Messaging, Audio, File Transfer

and Application Sharing sessions). A 1.5% increase compared to the result from the previous 8 weeks.

- 36% of Skype for Business log-on users used instant messaging sessions, with 67% of them using audio sessions.
- There were around 395 conferences per week; an increase of 1.3% compared to the previous month. Each conference had 2.59 participants on average.



BT Training



eLearning Projects: Videos in the YouTube style are now one of the primary learning items we produce. Quick videos that last 2-4 minutes deliver a demo of technology quickly and are in high demand.

- Think Tank – Manager series: how to check your teams learning
- Think Tank – How to check My Learning
- SharePoint Connects – series of videos to support increased engagement
- SharePoint Auto-classification – video to support increased search capacity in SharePoint

Training Projects: ProAction is a version of SharePoint Fulcrum being upgraded for the Property and Acquisitions team. Trainers will deliver classroom sessions for two role types, plus we are also creating quick reference guides.

Top eLearning modules accessed via Think Tank during August:

1. Information Security Awareness
2. Change your Leave
3. Applying for leave
4. Change your timesheet
5. Check leave balances

Training Projects In-flight:

Vendor Performance



Supplier Performance – Service Level Agreements (SLA) summary

Incident SLA Performance

SLA Agreement Dashboards

Propellerhead SLA Performance August 2018

	Target	Achieved	Number of Tickets raised during month
P1 Resolve	95%	100%	1
P2 Resolve	95%	100%	0
P3 Resolve	95%	100%	9
P4 Resolve	95%	100%	41

Leapthought – SLA Performance August 2018

Support ticket summary

Priority Level	Start of Month	New	Closed	End of Month
P1	0	0	0	0
P2	0	3	3	0
P3	11	10	12	9
P4	24	45	44	25
Project	0	0	0	0
Total	35	58	59	34

New	Open	Pending	Solved	Total
0	0	0	0	0
0	0	0	0	0
0	1	8	0	9
0	3	22	0	25
0	0	0	0	0
0	4	30	0	34

Support ticket summary – L3 / Non L3 split

L3				
Priority Level	Start of Month	New	Closed	End of Month
P1	0	0	0	0
P2	0	1	1	0
P3	7	0	3	4
P4	16	3	7	12
Project	0	0	0	0
Total	23	4	11	16

Non L3				
Priority Level	Start of Month	New	Closed	End of Month
P1	0	0	0	0
P2	0	2	2	0
P3	4	10	9	5
P4	8	42	37	13
Project	0	0	0	0
Total	12	54	48	18

Fulcrum SLA Performance August 2018

Support ticket summary

Priority Level	Start of Month	New	Closed	End of Month	New	Open	Pending	Solved	Total
P1	0	0	0	0	0	0	0	0	0
P2	0	0	0	0	0	0	0	0	0
P3	0	1	1	0	0	0	0	0	0
P4	17	69	73	13	0	0	13	0	13
Project	0	0	0	0	0	0	0	0	0
Total	17	70	74	13	0	0	13	0	13

Support ticket summary – L3 / Non L3 split

L3					Non L3				
Priority Level	Start of Month	New	Closed	End of Month	Priority Level	Start of Month	New	Closed	End of Month
P1	0	0	0	0	P1	0	0	0	0
P2	0	0	0	0	P2	0	0	0	0
P3	0	0	0	0	P3	0	1	11966	1
P4	2	0	1	1	P4	15	69	72	12
Project	0	0	0	0	Project	0	0	0	0
Total	2	0	1	1	Total	15	70	73	12

*

- Fujitsu – SLA Performance August 2018

SLA Performance Dashboard

Service Level Name	Service Level Target	August 2018
User satisfaction	80% of Users who responded to the survey in the month score the Service 4 or better	94%
Participating Agency satisfaction - IT stakeholders	80% of IT stakeholders who responded to the survey score the service 4 or better	Under Review
Process Adherence	No Key Service Level failures due to non-compliance with Processes. All governance reports were delivered on or prior to the agreed delivery date.	-
Improvement Focus	No exceptions to documented and agreed undertakings in the month.	-
Accurate and timely production of invoices	No exceptions to documented and agreed undertakings in the month.	-
Response time (phone)	90% of calls answered within 30 seconds.	96.52%
Response time (Service Portal)	90% of Service Portal contacts responded to in less than 2 Business Hours.	N/A
Call abandonment	Less than 5% of calls abandoned	1.80%
First Contact Resolution (with follow-up calls)	60% of all calls from Year 2. <i>Note: This includes Drop in Centre</i>	68.75%
Incident Response	P1: 95% responded to within 15 minutes	100%
	P2: 95% responded to within 30 minutes	100%
	P3: 90% responded to within 2 Business Hours	100%
	P4: 90% responded to within 4 Business Hours	99.02%
Incident Resolution	P1: 95% Resolved within 2 hours	100%
	P2: 90% Resolved within 4 hours	100%
	P3: 90% Resolved within 1 Business Day.	100%

Service Level Name	Service Level Target	August 2018
	P4: 90% Resolved within 3 Business Days.	100%
Service Request Fulfilment (Standard Service Requests)	95% of Standard Service Requests, including MAC requests, are completed within agreed timeframe	100%
Service Request Fulfilment (Non-Standard Service Requests)	An initial acknowledgement is provided to the User logging the Service Request within 2 Business Days with a full response within 10 Business Days.	100%
Change Process Failure	No more than one Change per month fails to meet Change Implementation Standards.	100%
Security	<p>No failures against:</p> <ul style="list-style-type: none"> • No instances of unauthorised access • Compliance with AT Security Policy • Current security patches as per agreed cycles • No instances of disabling code 	100%
Problem plan development	Problem plans created within 5 Business Days for all High Priority Problems.	100%
Problem plan development	Problem plans created within 10 Business Days for all other Problems unless otherwise agreed.	100%
Documentation updated to reflect Changes	<p>Documentation relating to Changes implemented during the month will be reviewed and validated or updated such that;</p> <p>98% will be completed within 2 Business Days; and</p> <p>100% will be completed within 5 Business Days or as otherwise agreed.</p>	100%
Event Management	No failures occur to the Business Services due to Events that could have been pre-emptively avoided.	No Failures
Availability – Business Service	Platinum (99.9% availability measured 24 x 7)	99.87%*
	Gold (99.0% availability measured 24 x 7)	100%
	Silver (97.5% availability measured 24 x 7)	100%
Availability – Technical Service	Platinum (99.9% availability measured 24 x 7)	100%

Service Level Name	Service Level Target	August 2018
	Gold (99.0% availability measured 24 x 7)	100%
	Silver (97.5% availability measured 24 x 7)	99.99%
Capacity and Performance – Business Service	Platinum (99.9% availability measured 24 x 7)	100%
	Gold (99.0% availability measured 24 x 7)	100%
	Silver (97.5% availability measured 24 x 7)	100%
Capacity and Performance – Technical Service	No outages occurred to Technical Services, due to forecasted Capacity Failures. All Capacity reports are provided by the 10th Business Day of the month.	100%



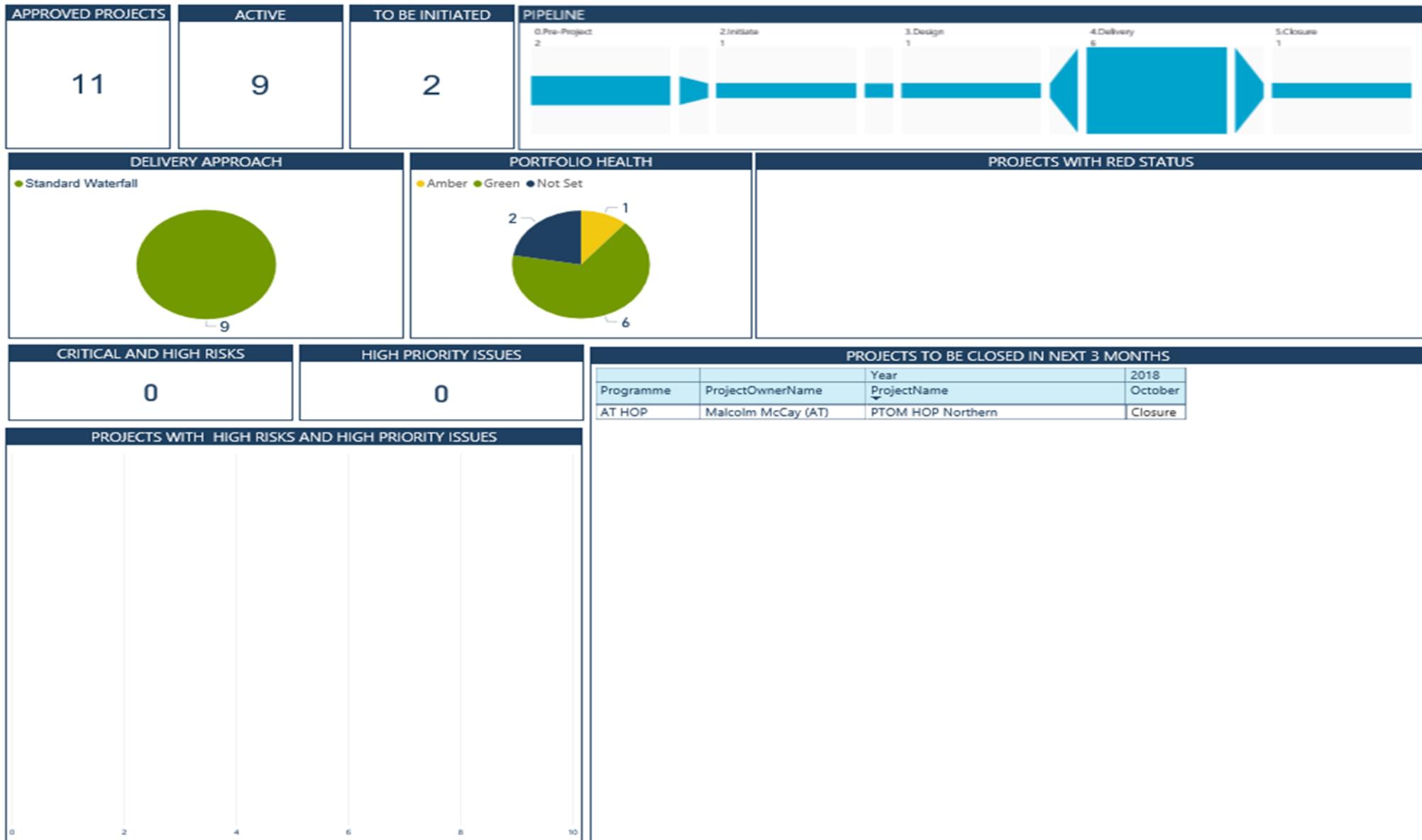
Current Programmes Status

AT HOP

- HOP – Overall pace of programme delivery has slowed and now largely dependent upon the speed and responsiveness of Thales.
- HOP Capacity / Refresh - Key items deferred until post go-live such as Disaster Recovery (DR) and Single Sign-on (SSO) are taking considerably longer to deploy than anticipated. The project schedule to completion now extends until the New Year. A Corporate risk has been raised with the lack of DR.
- 60 Day Limit – The project has been closed. HOP Rebuild is in close-out.
- Concessions Automation – Memorandum of Understanding (MoU) signed with Massey and AUT. Development underway with Massey, targeting launch in Nov. Unitec and MIT unlikely to go

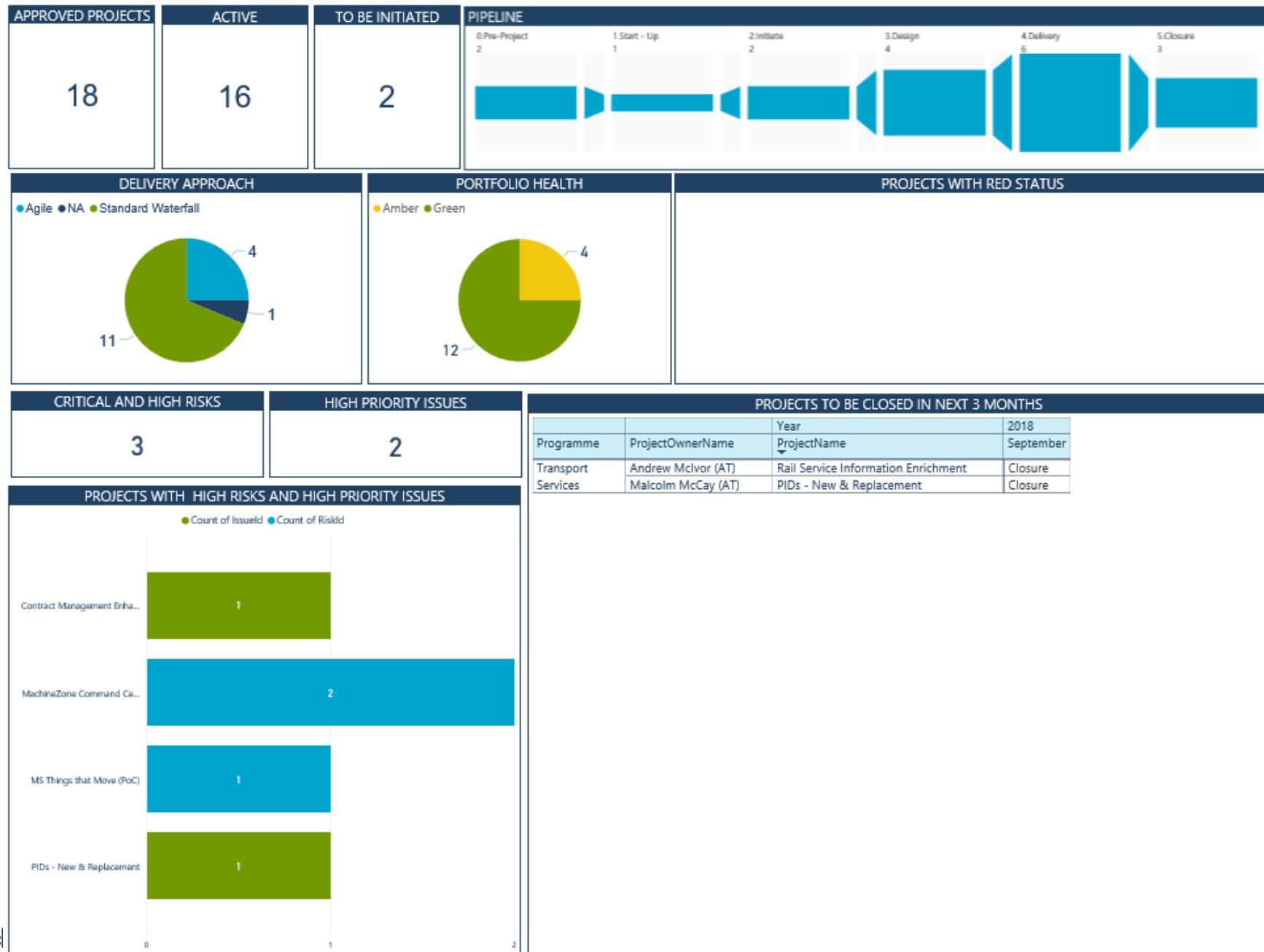
ahead this year. Ministry of Education also engaged and technical work commenced.

- PTOM Northern – Depot HOP infrastructure delivery in on track.
- Business Case being drafted for new HOP API in support of HOP Balance on AT Mobile.
- Barcode Reader for paper tickets project – work underway to confirm requirements, and cost the solution before completing the business case.
- New HOP Devices FY1/198: Business case has been approved and Smartrak AVL devices have now been ordered.
- HOP Automation Testing – Design work is underway.



Transport Services Programme

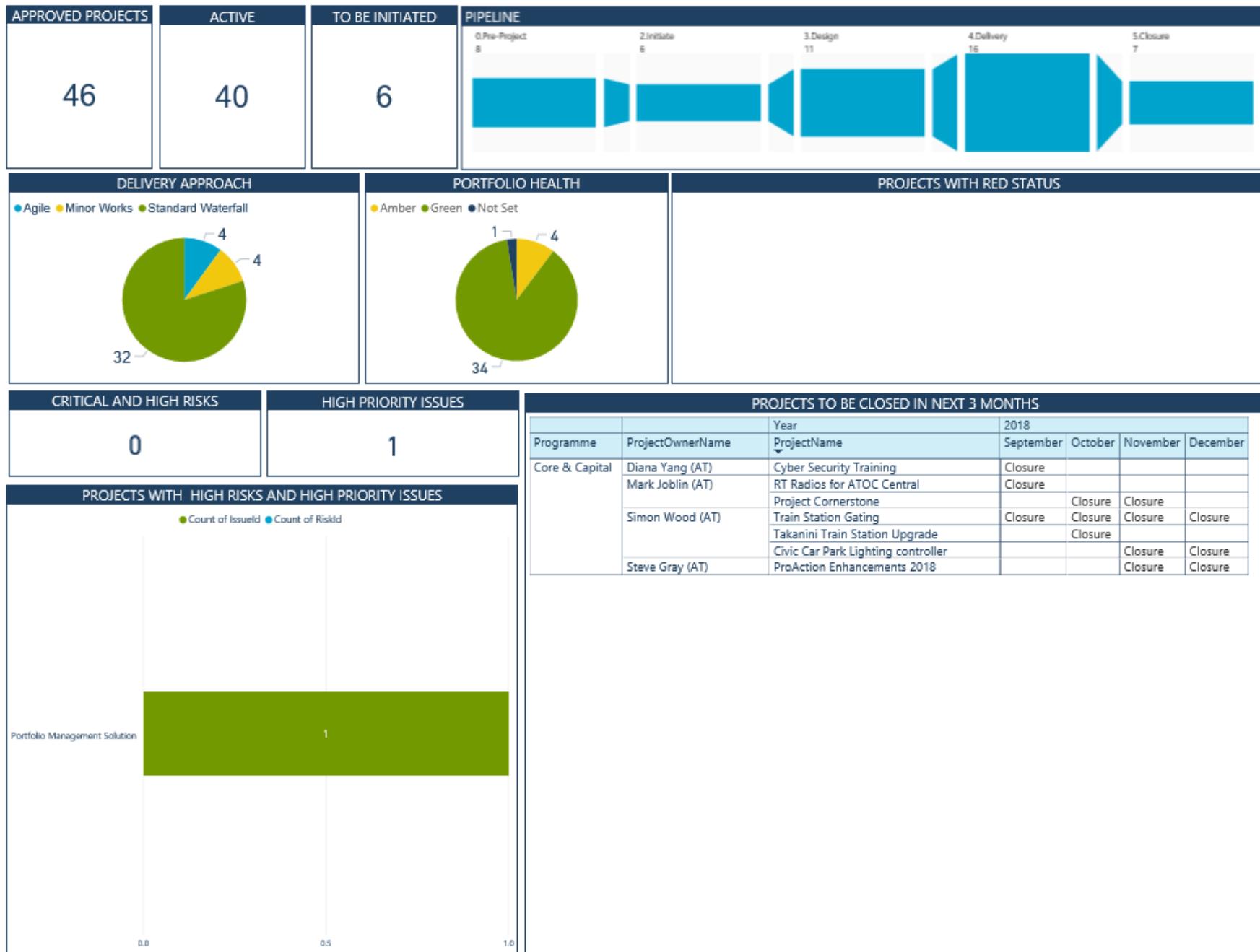
- Things That Move (TTM) – Ferry Slot Reporting has been delivered this month. TTM 2 focus is now on Ferry ETAs, weather impacts after ingesting NIWA data and Hold My Bus decisions.
- Command Centre (Satori) remains operational. Work has commenced with PHL for a replacement Command Centre.
- PID Refurbishment - Business Case approved following successful trial. Next step is full rollout of software change for low powered PIDS. Procurement process to start for Bus and Rail LCD components.
- Middleware Re-Architecture – Schedule Adherence sprints continue as the model is refined. Reviewing plan for Predictions.
- On Bus Projects: Trial approved and working with two providers to demonstrate capability of audio announcements and visual passenger info on a bus.
- Rail Service Info enrichment partly deployed and further changes being tested.
- Public Address (PA) Announcements at Rail Stations: Now live at Manukau with further terminal stations to follow in August. Predictions for intermediate arriving announcements being re-worked utilising other sources of data. Trailing is being carried out in consultation with the Blind Citizens NZ, Public Transport Accessibility Group and TransDev.
- APC Data – build work underway following completion of the detailed design.
- Contract Management Operator Payments (CMOP) – New sprints underway for Operator Requested Exemptions.
- Ferry Fare Integration – Requirements being developed.
- Barcode Reader – indicative costings received from Thales. Business Case workshop will be held to confirm proposed solution / requirements prior to Business Case submission.



Capital Infrastructure & Core

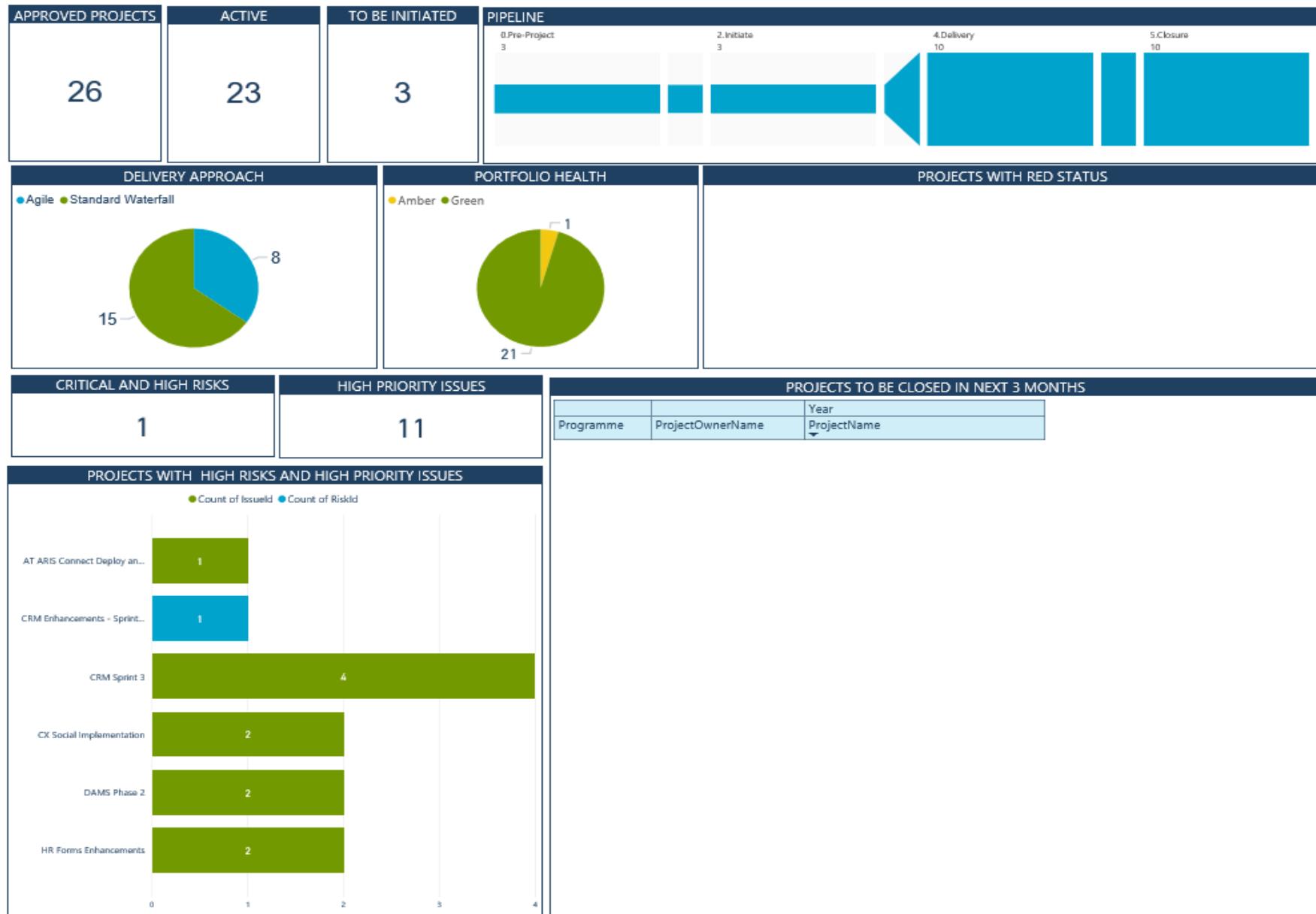
- **Portfolio Tool:** Business case and contract with vendor signed to implement the Edison365 Portfolio Tool. Mobilisation will kick off in September. This is a crucial tool to help capture key project data within the large Capital Infrastructure Programme of works. It uses Project Online and SharePoint which is consistent with the Business Technology programme tool to ensure better data management going forward. Negotiations around requirements and rate card reductions resulted in a saving of \$200,000AUD from original proposal.
- **Azure Stack:** Key workshops held between Microsoft, HPE and AT to fully understand the exact requirements of this cloud solution. Currently finalising the specification as it is needed to proceed with placing an order in early September.

Facilities Building Management Solution: RFI responses received and all have been reviewed. Working alongside procurement to process the preferred vendor for the design phase. This information is critical to give to CRL by November to guide their technology section for their next stage tender documents. In addition, there is a key driver from the Metro Operations division to implement a Central Control System to more effectively manage day-to-day operations.



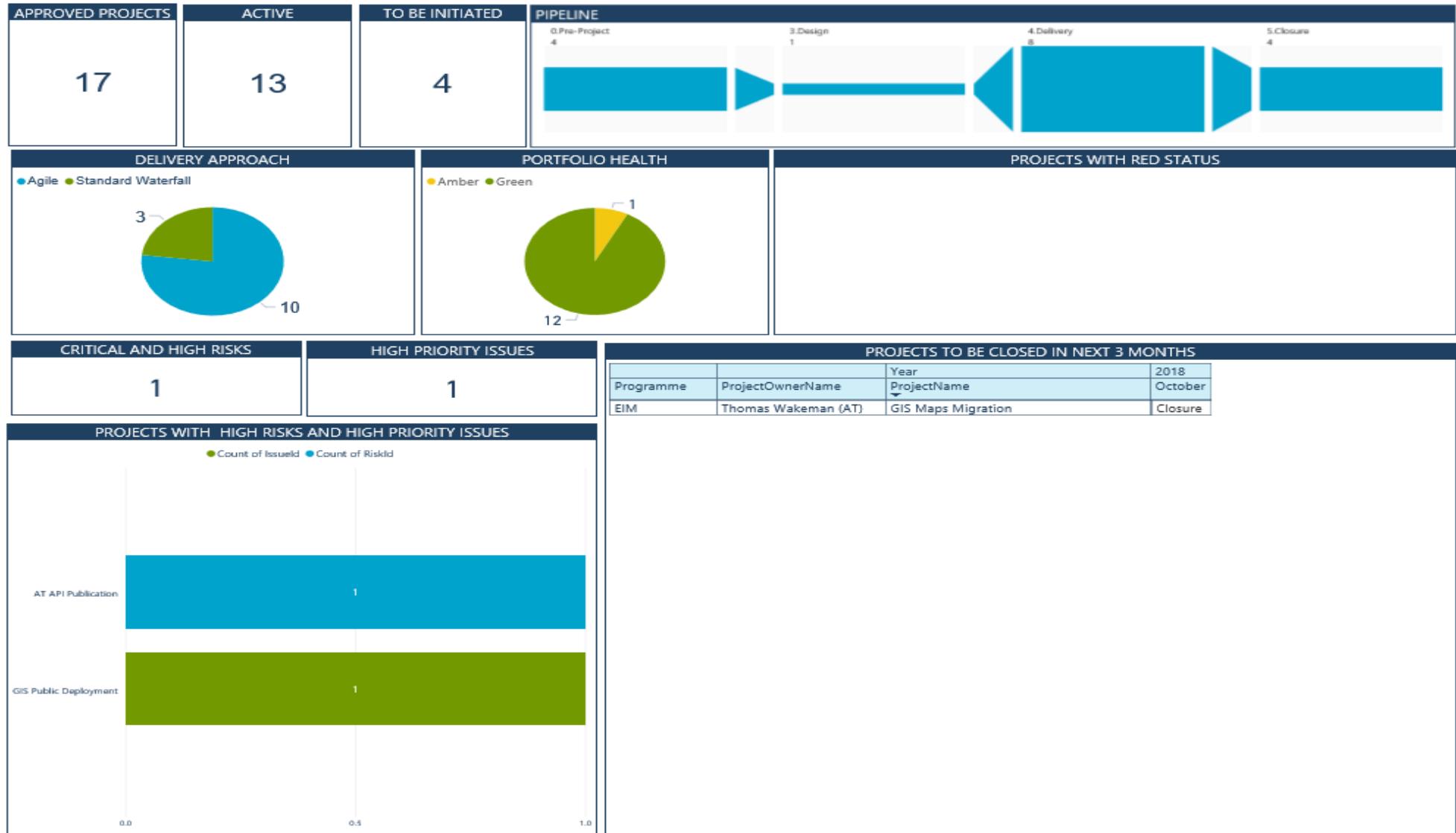
Corporate Programme

- An upgrade of the **AT Web content** management system “Umbraco” is underway, which will enable the AT Web teams to independently update website content more efficiently.
- Preparation is taking place for the addition of the **HOP balance to AT Mobile**. Once Thales have completed the Application Programming Interface (API), final validation of the user experience will be made by a user group. Finally, substantial performance testing will be undertaken to ensure the additional anticipated load from these balance queries will not impact current HOP services.
- Creation of a **new design system** is underway by PurpleShirt, key outcomes of this include a more cohesive user experience when transitioning between apps and the AT website, and a more repeatable method of ensuring that future enhancements and functionality tie into the existing look and feel without a heavy user experience design process for each discrete piece of work.
- **Asset libraries** are under development which tie together the Mobile & Web customer facing systems in a way that allows for future branding changes to easily propagate to individual systems:
- **FAQ (Frequently Asked Questions) BOT (Robot)** after a trial on selected customer facing pages the AT BOT has been rolled out across AT HOP web pages. A working group of representatives from AT HOP, Customer Services and BT has been set up to review the reports and monitor the progress on the BOT to identify the requirements for future development to support and grow this new customer-facing communication channel.



Enterprise Information Management Programme (EIM)

- The SharePoint Auto Classification helps staff find documents easier in SharePoint by automatically adding hidden tags / labels to documents. The project successfully started applying some initial categories of tags to documents in SharePoint in the last week of August. The deployment will continue across the different SharePoint environments, starting the Business Technology, until a test search page can be established in September for all AT staff to use and provide feedback.
- **Things That Move (TTM)** a GIS-based ferry prediction ETA service has been produced for the TTM team.
- **Moorings Web Map** on external website is now publically available. The Moorings Map enables boaters to view all moorings available in the Auckland region and search for a specific mooring. All the underlying data for moorings information is updated via an automated processes each night from the source database.
- **Enterprise Power BI Reporting Platform.** The Power BI project developed self-service, automated reporting in August for the Audit and Risk recommendation report, and the initiation of Human Resources reporting.
- **Infrastructure Programme Viewer** is the mapping solution which provides project teams with the capability to identify other infrastructure projects in the same area, has released and undated additional functionality Opportunities identified can now be logged and quantified. Infrastructure Project Managers are now receiving personalised automated emails that notify them about possible opportunities (co-located projects) which ought to be assessed to see if disruption to the public can be minimised and/or money saved by bringing planned work forward or deferring it.
- The **Traffic Overview** project has added additional mapping layers to allow the Network Travel Demand Team to make further comparisons between network priority routes / road network demand.



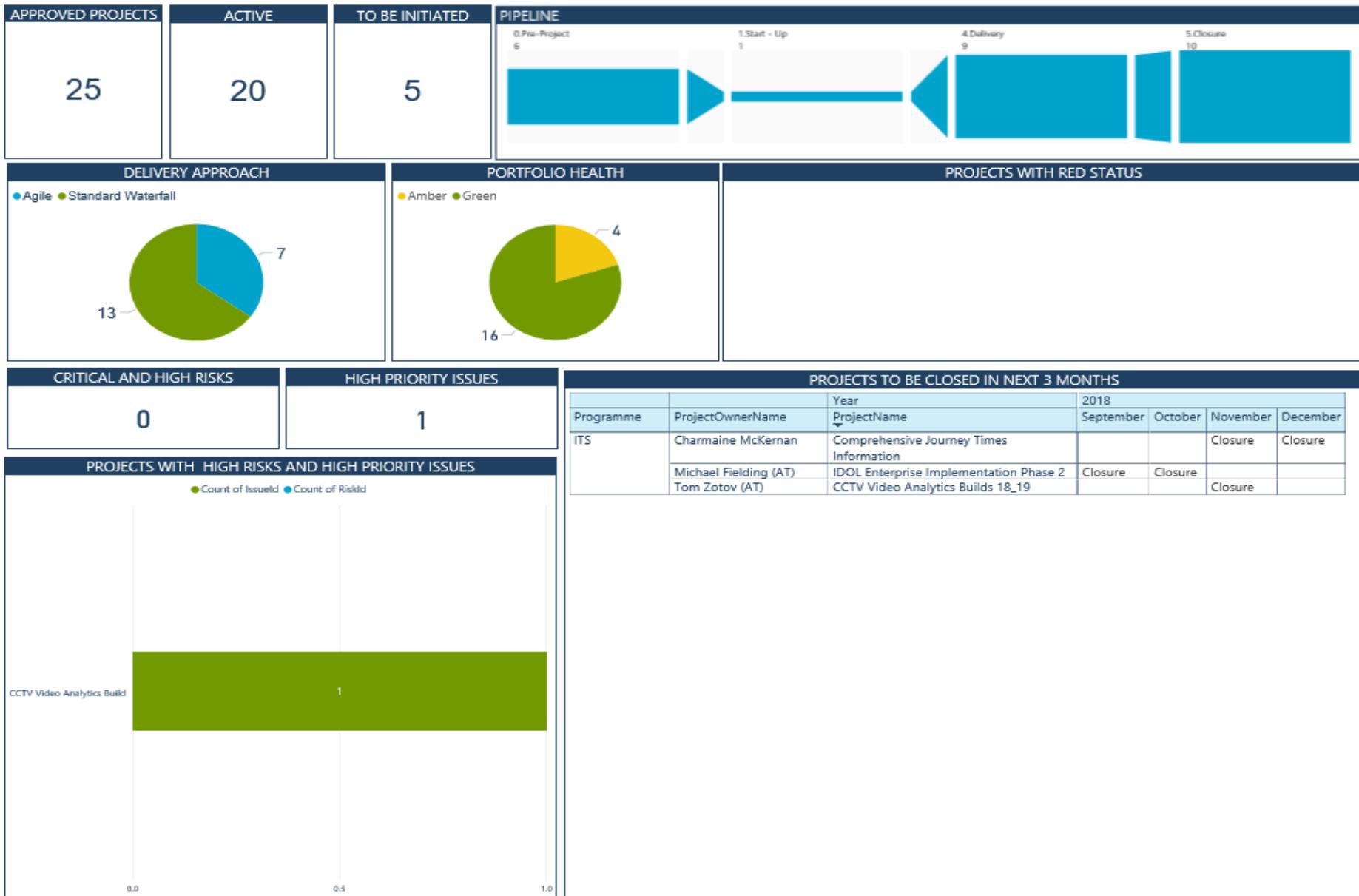
ITS Programme

The ITS Programme overall status is Green.

- The Pro-Vision team has implemented the red-light runners analytics at three more intersections along Albert St. The data has ingested into the new on premise Vertica environment and then presented via a PowerBI dashboard. Just at one site alone at Albert Street, a total of 1608 red light runners have been detected over a period of just one month! The data has been provided to the Safety Team to support their safety driven initiatives. The Pro-Vision team is working very close with the safety and the network optimisation teams on feasibility for deploying the red light runners analytics at a further 20 intersections identified as a high risk.
- Special Vehicle Lane analytics have been built at six zones along the Queen St and productionised on three zones, and enforcement will legally start in the next few weeks. Real time alerts will be generated in Production version of the RiskShield for the Parking operators to process. The data (more than 320,000 ANPR records) has also been migrated into Vertica environment for historical analysis if required.
- The Pro-Vision team has been engaged by the Safety team to address pedestrians safety along the Whangaparaoa Dynamic Lane. Five areas have been highlighted by the Safety team as the most critical ones along this road. The analytics will allow the team not only to count the pedestrians standing on the middle dynamic lane and how long they stay there for, but also to check when a car enters the same zone where the pedestrians are standing.
- The Vehicle Journey Times Analytics has been expanded to the Esmonde Rd corridor where new cameras have been installed. The

Pro-Vision team has built ANPR analytics at four sites with more to follow. The data is being ingested into Vertica and presented in a dashboard format. The team is also working with the Network Management and Safety team on feasibility of deploying the Journey Times analytics at Tamaki Drive.

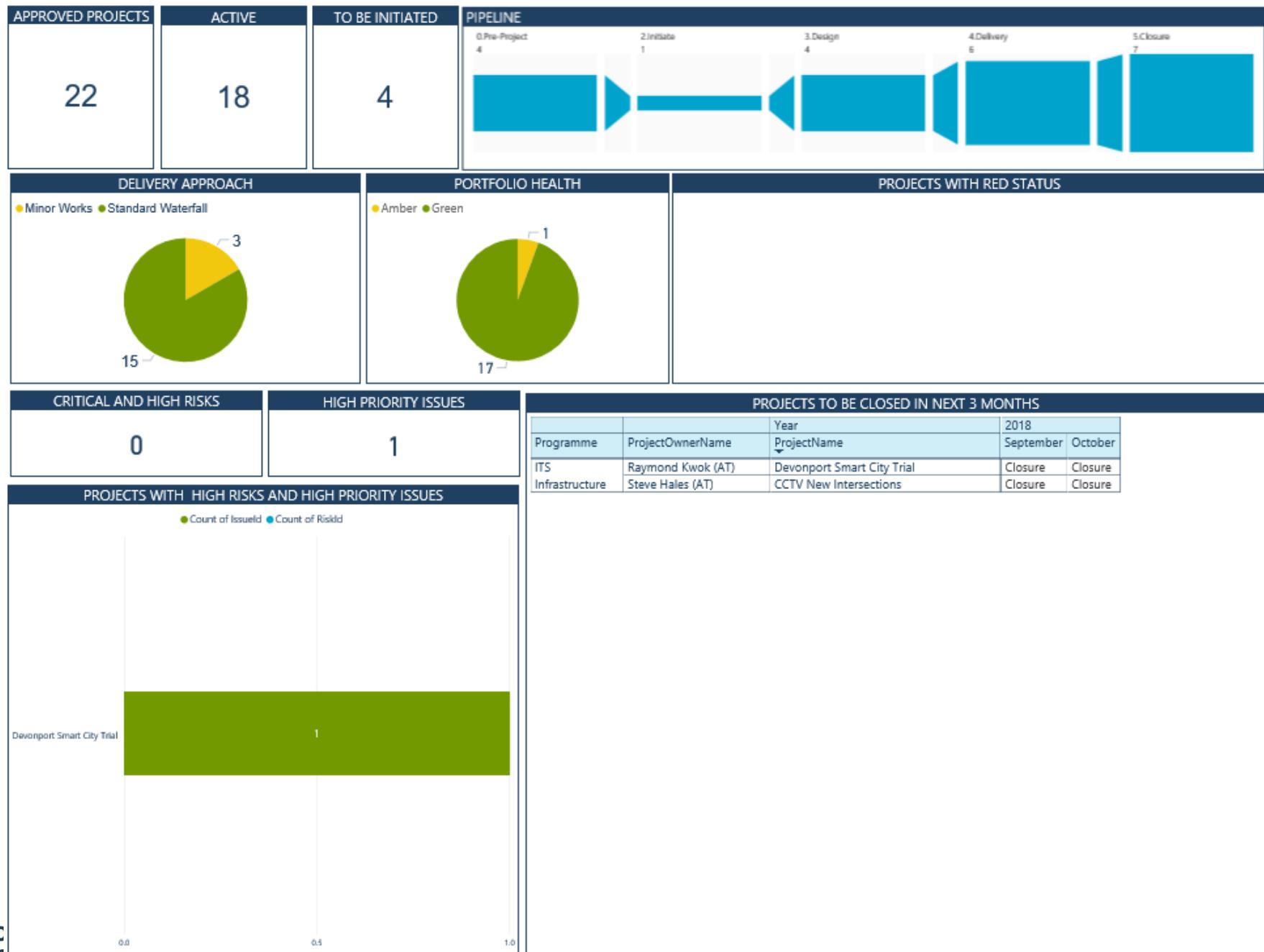
- Good progress on development of the actions plans for the ATOCs. This delivery plus new functionality in VidSys 2018 R1.2 will bring efficiencies to the operations. The project team will work with the VidSys users in regards how to effectively introduce and integrate the technology to the operators. The project team is also looking at ways to empower the ATOCs to administer their own assets and also have the development capability in house rather rely on Vendors.
- Achievements for the project in August include:
 - Vidsys training for Level 2 admin and Level 3 Developer training completed for 10 AT members. Day of Operation Incident management Situations user interface tested (UI) and will be deployed to production on 4 September.
 - ATOC Smales Dynamic Incident management Situations UI have been reviewed by the business. Testing to be completed mid-September
 - Completed Vidsys Release 2018 r1.2 first round of functional testing. UAT testing is to start on 5/9. Targeting to have the deployment of 1.2 completed in early October
 - ATOC safety and security action plans delivered into production.



ITS Infrastructure

The status of the ITS Infrastructure programme is Green.

- **Smart Streets:** AT want to trial a 'Digital Street' to define, measure and assess the benefits that current and future technology solutions can deliver to the public, AT and other agencies. Smart Streets uses connected technology across the following segments; Energy, Transportation, Data, Infrastructure and IoT. Data from all segments is analysed, and patterns are derived from the collected data, which is then used to manage assets and resources efficiently.
 - Met with representatives from Google to gain an understanding on what they have done in other countries and what value they can deliver for AT.
 - Discussed the draft technologies scope at the August ITS meeting to determine if the proposed scope hit the mark with Chris Martin. Feedback was positive with no new items raised.
 - Business case now underway to request the capital funding and initiate the design work.
- **Manurewa Car Park CCTV:** This project is to deliver increased security within the Station Road car park. CSLI have installed lighting poles, 13 x CCTV cameras and Wi-Fi links back to the station fibre cabinet.
 - Infrastructure has been installed and is now being tested and commissioned prior to BAU handover.
- **Albany Office Fit-out:** Staff moved in from 29 August and the office is fully functional with the same look and feel as 20 Viaduct. From a technology perspective we have the same setup as 20 Viaduct with AT building access cards, Follow-Me printing, Wi-Fi, digital signage, EV chargers, work settings and meeting room technology. This site supports full staff mobility between this and other AT offices and enhanced collaboration with Skype for Business. The following teams (or parts of them that were based in Orewa, Takapuna and 20 Viaduct) have moved in:
 - Parking
 - Transport Operations
 - Infrastructure
 - Road Corridor Delivery
- **Northern Busway Security System:** The Bosch software and associated hardware that is used in the Northern Busway stations is out of date and no longer supported by the vendor. This project will replace the Bosch system with the AT Gallagher system across five stations.
 - Business case complete and funding drawn down.
 - Supplier recommendation made and endorsed by commercial and procurement.
 - SSR and Contract Requests created and approved.
 - Awaiting contract creation and purchase order to be raised so the supplier can commence work.
 - Work now expected to commence in September.
- **Devonport Smart City Trial:** Trial smart poles, EV chargers, adaptive lighting, parking sensors, Wi-Fi, people movement and environmental sensors at the Devonport Ferry Terminal carpark.
- The supplier is working through the compliance certification process for the smart poles with Work Safe and EECA. This process is expected to complete in early December 2018.

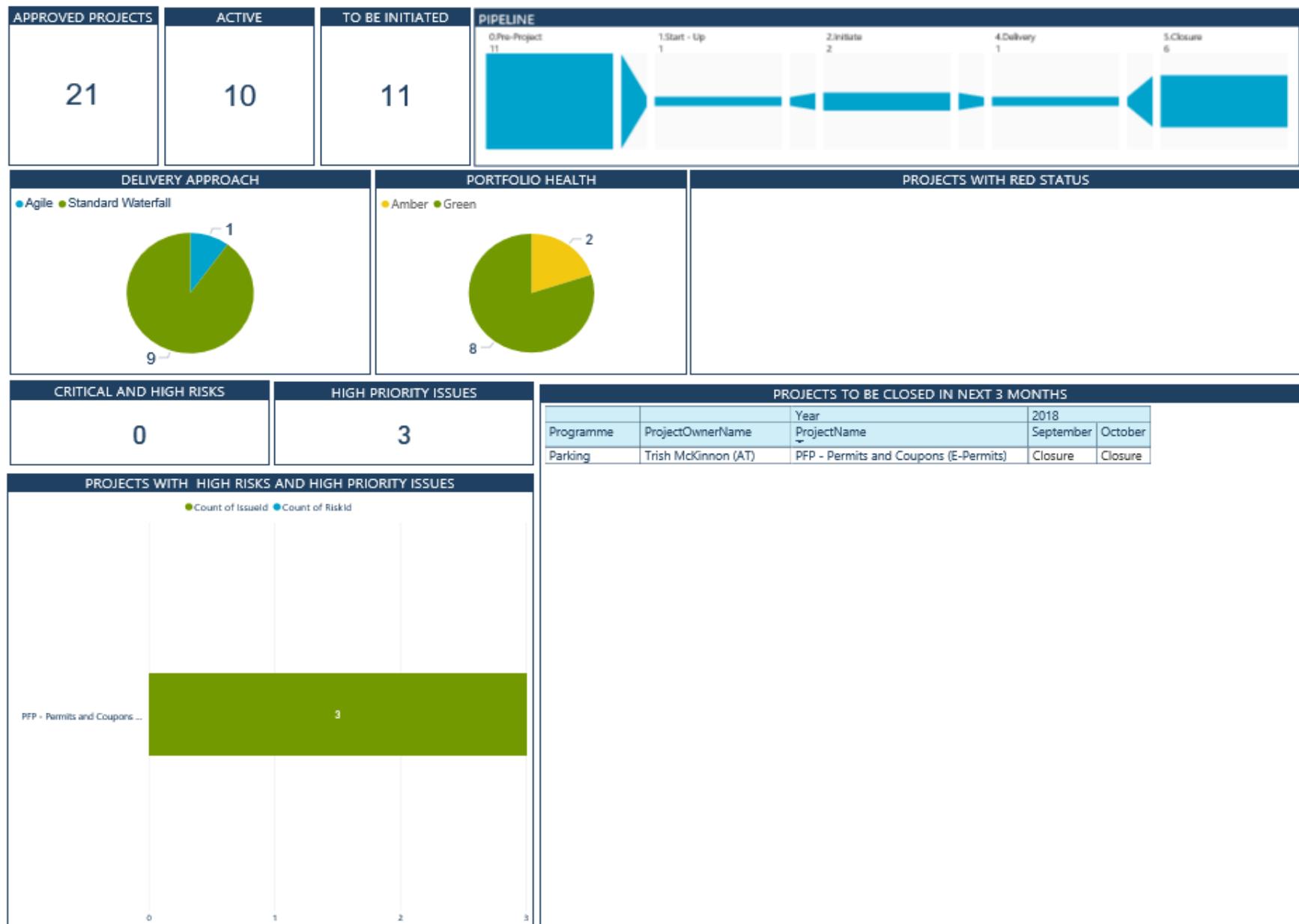


Parking Programme

The Parking Programme overall status is tracking Green

- The ePermits Project has successfully gone live, with over 150 permit applications received from St Mary's Bay residents, and Mt Eden now open for applications as well. Customers are easily managing the new process. There are a couple of minor issues in Production, which have workarounds pending a fix from the vendor DCA. Handover to BT BAU Support is planned by 14 September. Handover to BT BAU for future ePermits Product release management has been agreed and actioned.
- The Business Case for the RFP for Off Street Licence Plate Recognition (LPR) has been approved by all stakeholders. The project has been put on hold due to a review of the BT Capital Budget for 18/19. All parties within AT are still keen for this to go ahead as it adds significant value to Parking Services. We expect to have a decision on the funding issue by mid to end of October.
- The RFP for the Mobile Enforcement project is in final stages of tender evaluation. Risk around technical capabilities of shortlisted vendors is being assessed. Then due diligence will commence.
- The Special Vehicle Lane Enforcement project:
 - Queen St (6 zones): 3 zones have been completed and deployed to production. The remaining 3 have video analytics build in progress.

- Hobson St (1 zone): All cameras installed and analytics have been built and successfully completed UAT. Solution has been deployed to production.
- Khyber Pass (3 zones): The video analytics UAT for zone 1 has been completed successfully. The intermittent connection issue has been improved, this will migrate to production by the end of the month. New street light poles are required to install the cameras on in the remaining 2 zones. Work in progress with field services contractors to resolve pole structure due to underground foundations being an issue at this location.
- Body worn camera trial for SAFE Team: The SAFE team will trial 15 body worn cameras. AT will leverage the existing Auckland Council contract with a preferred vendor. The business case and trial evaluation criteria are being drafted. Targeting to commence the trial in October.
- The AT Park security issue discovered in relation to credit card payments last month has had a risk review completed. The outcome of this review is that the risk is now considered low. Longer term a re-design option identified for AT Park payment process. Business case has been drafted and is in review



Glossary



ALM	Application Lifecycle Management	CCC	Customer Contract Centre
ANPR	Automatic Number Plate Recognition	CCTV	Closed Circuit Television
API	Application Programming Interface	CICD	Continuous Integration and Continuous Deployment
APC Data	Electrical equipment Vendor	CMDB	Configuration Management Database
AT	Auckland Transport	CMOP	Contract Management Operator Payments
ATOC	Auckland Transport Operations Centre	CRLL	City Rail Link Limited
Azure	Azure Hybrid Cloud platform	CRM	Customer Relationship Management
BC	Business Case	DAMS	Digital Asset Management System
BI	Business Intelligence	DRB	Design Review Board
BT	Business Technology	EAM	Enterprise Asset Management
BTS	Business Technology Solutions	EDW	Enterprise Data Warehouse
CASB	Cloud Application Security Broker	EIM	Enterprise Information Management

Esri GIS	Esri Geospatial Information System platform	ProAction	Property Acquisition
EMU	Electric Multiple Unit	PTAG	Public Transport Accessibility Group
FAQ-BOT	Frequently Asked Questions Robot	PTOM	Public Transport Operators Manual
FME	Feature Manipulation Engine	RAMM	Roading Asset Management
GIS	Geospatial Information System	RFI	Request for Information
HPE	Hewlett Packard Enterprise	RFP	Request for Proposal
HPMV	High Performance Motor Vehicle	R9K	Kiwi Rail signalling feed
HRC	Human Rights Commission	SaaS	Software as a Service
IPV	Infrastructure Programme Viewer to visualise infrastructure projects on a map	SaFE Pathway	Security and Fare Evasion - Transport Officer Infringement system
LCD	Liquid Crystal Display	SAP	SAP Financial management system
LGOIMA	Local Government Official Information Management Act	SCADA	Supervisory Control and Data Acquisition
LPR	License Plate Recognition	ServiceNow	Work request and service management tool
MFA	Multi Factor Authentication	SkiData	Off-street carpark management system
Microsoft Dynamics 365	Supports CRM, assigns the case to the right team to resolve.	SLA	Service Level Agreement
Microsoft Dynamics CRM	Microsoft Dynamics CRM	SVL	Special Vehicle Lane
MoU	Memorandum of Understanding	TFA	Two Factor Authentication
MSM	Modern Service Management	Think Tank	Learning Management System
ORE'S	Operator Requested Exemptions	TTM	Things That Move
PID	Passenger Information Display	UAT	User Acceptance Testing
PoV	Proof of Value	UPS	Uninterruptable power supply
Power BI	Power BI reporting visualisation tool	VJT	Vehicle Journey Times
PRA	Public Records Act	VSTS	Visual Studio Team Services
		WDL	Whangaparaoa Dynamic Lanes