
NZ Transport Agency Independent Quality Assurance (IQA) Report

s 9(2)(a)

March 2017

VERSION 1.0

Information Services – National Incident and Event Management System (NIEMS) Project
R:1617:15

1. EXECUTIVE SUMMARY

Incident & event management is a fundamental activity for Traffic Operations Centres (TOCs) and is also undertaken by local authorities. The aim of the National Incident and Events Management System (NIEMS) project is to:

- Introduce a standardised approach to event management across New Zealand, facilitated by a common system and common processes
- Use the resultant data insights to provide a better level of service than at present.

The initial focus is for state highways and implementation in TOCs in Auckland, Wellington and Christchurch (ATOC, WTOC and CTOC). The subsequent goal is to achieve national take-up for arterial and local roads. The project is to purchase and implement a single, national system with an associated change programme. It will provide Incident & Event Management as a Service (aaS) to all Traffic Operations Centres (TOCs) and other stakeholders including local authorities.

Funding of \$6M capex (including \$1M contingency) was approved in July 2016 and the project was planned for completion in June 2017. The project is currently in Implement phase.

The objective of this review was to provide an independent assessment of the completed and planned activities of the project, such that:

- The Sponsor gains independent feedback on the project's performance
- The Transport Agency gains confidence that the project followed good practice and the benefits identified in the business case will be achieved.
- The PMO and the wider Agency gain learnings from the project to date.

The review specifically covers:

- The business case, ensuring we are delivering on outcomes and benefits
- Core project documents and processes
- Interviews with key stakeholders.

The full terms of reference is attached in Appendix One.

1.1 High level conclusion

Benefit realisation

The benefits of this project are at risk at the time of this review, March 2017, because of the coinciding deployment of a similar system into the Auckland TOC (ATOC) by Auckland Transport. The name of this system is TOC Incident and Event Management System (TIEMS). The use of two similar systems by the same TOC raised doubts among several interviewees, including steering committee members, regarding benefit realisation for the NIEMS system. It was cited as the biggest risk to the project by several steering committee members.

The hard benefits for NIEMS are based on estimates of incident duration reduction for crashes and breakdowns on Auckland's state highways. Greater benefits are expected outside of Auckland although baseline data for Auckland and elsewhere was not of sufficient detail for use in the business case.

The impact of AT not deploying or deferring uptake of NIEMS is currently unclear. The business case benefit estimates have been through some refinement however the lack of sound baseline data

means that benefit achievement is at present a matter of opinion. All interviewees saw the value in the soft benefits of having a nationwide system but opinions were mixed on realisation of the hard benefits. The business case benefits for NIEMS need to be reconfirmed and a benefit realisation plan developed which identifies benefit owners and a product owner.

The NIEMS system replaces part of the TREIS system however the business case did not reference future work to complete the TREIS replacement. The future of TREIS should be clarified as it has an effect on benefit realisation and total cost of ownership.

- *Sponsor's comment: 'Any further changes to TREIS will be subject to the future strategic priorities of the agency.'*

Governance

The project did not have a steering committee during the period August 2016 to March 2017. This is very unusual for a \$6M project and the lack of clarity around benefits and risks would probably have been settled earlier if a committee was in place. The new steering committee and project need to address two key risks: Auckland Transport's deployment of its TIEMS system and lack of a benefit realisation plan.

Stakeholder engagement and understanding is varied

The project team and stakeholders do not share a common view of the way forward. Interviewees had very different views regarding benefits, engagement, project purpose and risks. The steering committee and project need to work together to close this gap.

Project management approach

Project reporting and risk management were not of a standard expected for a project of this size although reporting has improved since January 2016. Significant risks were raised during interviews that were not identified in the risk register. This reflected that risk workshops had not taken place.

Resources and budget

The project was funding resources working on another project with the intention that the NIEMS project be re-paid when funding for the other project work was approved. This contravenes financial controls.

Risk Assurance will undertake a review of agency project financial practices and controls in the coming financial year.

Areas of concern	Rating
Assessment of project progress	Moderate
Assessment of project planning	Moderate
Assessment of project costs	High
Assessment of project resourcing	Low
Assessment of project risks	Critical
Assessment of project change management	High
Assessment of project reporting and governance	Moderate
Benefit realisation	Critical
Key	
Major concerns that require urgent attention	Critical
Major concerns that require improvement	High

Concerns that require improvement	Moderate
No major concerns	Low

Recommendations that relate to the NIEMS project are included in this section.

Recommendations	
1	Recommendation: the business case should be re-evaluated with respect to monetary and non-monetary benefit measurement. A benefit realisation plan needs to be developed. Crucial roles which need to be identified are those of benefit owners and a NIEMS product owner. Those roles need to be identified both in the current environment and under the new business model post-June 2017.
	Response:
2	Recommendation: The steering committee and project need to clarify for all stakeholders the project purpose, objectives, benefits and risks.
	Response:
3	Recommendation: the practice of projects funding work on other projects contravenes financial controls and should cease.
	Response:

Section Two of this document presents more detail on the items described above, and Section Three provides recommendations for the wider project management practice within the agency.

2. FINDINGS

The following headings are linked to the appropriate lessons learned reference (eg LL1, LL2) in the following section.

Assessment of project progress

Moderate

The project has been delayed due to a dependency on the Waterview project. The PID is to be updated and a change request/impact assessment should be raised to account for the delay.

Assessment of project planning (LL1)

Moderate

Dependencies on internal projects such as the Integrated Test Environment (ITE) were identified in the business case but were not identified in the PID or in Psoda.

The PID was last updated in October 2016 so is overdue to be refreshed and the steering committee has requested its update.

Assessment of project costs

High

There appears to have been a misunderstanding by the project regarding its ability to adjust financial forecasts in Psoda. This resulted in Psoda showing wide variations between forecast and actual costs. Consequently the project's financials were tracked in an Excel spreadsheet however those forecasts also have variations of planned versus actuals of up to 26% / \$76K. This needs to improve. Projects need to provide governance with confidence that financial forecasts are reliable.

Part of the variation in actual costs is due to this project funding work on other projects. This practice

should cease.

Risk Assurance will undertake a review of agency-wide project financial practices and controls in the coming financial year.

Assessment of project resourcing

Low

Resource planning is detailed and comprehensive.

Assessment of project risks (LL2)

Critical

There is only one open risk in Psoda for this \$6M project regarding timing of delivery of the Police data feed. This is despite a question raised at the March 2017 steering committee meeting regarding the project's viability due to the ATOC TIEMS deployment. Several interviewed steering committee members raised the TIEMS deployment as the biggest risk facing the project.

Interviewees identified business change risks for the TOCs which need to be formally recognised and managed.

There is no evidence of risk workshops having taken place. These would have provided the project with a wider perspective.

Assessment of project change management (LL3)

High

Communications and stakeholder engagement needs significant improvement. There was little consistency among interviewees on a range of topics including risks, benefits, viability etc. More work needs to be done by the governance team and project to bring the project team and other stakeholders together.

The change management plan and communications plan within the PID are very high level and lack detail. New plans are in development.

The project has focused on change leadership training for TOC staff. This was widely appreciated and, with the associated networking relationships, was seen as a project benefit.

Assessment of project reporting and governance (LL4)

Moderate

This review's visibility of project progress was unclear for the period from July 2016 to January 2017. The project began to store project status reports from January 2017 following the Information Services PMO process. The project had provided limited update reports to its oversight committee until then because the HNO project process did not require more detailed reporting. The oversight group consisted of operational managers and there are no minutes or reports that indicate that risks, budget etc were discussed at the meetings.

The move to an enterprise Project Management Office as part of the business transformation is expected to result in more consistent reporting, and consolidation of project management tools and practices.

The steering committee now expects project status reports and packs to be tabled for review at their meetings.

Benefit realisation (LL5)

Critical

The project requires a clearer view of its benefits and how they will be assessed. Benefit and product owners also need to be identified and a benefit realisation plan developed.

The monthly health check states that benefits, owners and measures are listed and tracked in Psoda

although this is not the case. More care needs to be taken in this area.

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3. RECOMMENDATIONS FOR THE PMO

Recommendations that relate to the wider project practice are included in this section.

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Reference	What went well	What went not so well	Lesson	PMO / Sponsor comment
<p>Planning</p> <p>LL1</p>		<p>The Project Initiation Document (PID) did not reflect the business case in areas such as dependencies and benefits.</p> <p>This was reflected in the range of views of interviewees as to benefits, project viability etc.</p>	<p>Project control documents should be consistent with each other as they set a common understanding for all stakeholders.</p>	
<p>Risk</p> <p>LL2</p>		<p>There was only 1 open risk in this \$6M project. The risk register did not include the ATOC TIEMS risk which several steering committee members considered a threat to the project. Nor did the register include business change risks for the regions.</p> <p>Regular risk workshops would have uncovered these concerns and allowed them to be better managed or clarified for participants as not being risks.</p>	<p>Risk workshops assist project managers to identify risk by leveraging the wider perspective of participants.</p> <p>Recommendation: Add a reminder to schedule regular risk workshops in the project quality checklist</p>	

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Reference	What went well	What went not so well	Lesson	PMO / Sponsor comment
<p>Stakeholder management and communications</p> <p>LL3</p>		<p>The project team and stakeholders did not have a cohesive view of its way forward.</p> <p>Mixed messages were received from a wide range of interviewees on topics such as benefits, project viability, solution fitness for purpose etc.</p>	<p>Projects benefit by establishing for stakeholders and team members a vision of what the project is trying to achieve and a clear view of its benefits.</p> <p>Communication plans need to include all stakeholders, stakeholder technical groups and suppliers. Once developed they need to be executed and regularly reviewed that they are fit for purpose.</p>	
<p>Governance</p> <p>LL4</p>		<p>The project ran for some months without a steering committee or similar regular formal challenge of its risks, progress or budget.</p>	<p>Steering committees support projects by providing challenge as well as guidance. Holding projects to account for their business cases, benefits, issues, risks and planning is an essential role of governance.</p> <p>Projects and programmes without diverse and strong steering committees run the risk of failure.</p>	

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Reference	What went well	What went not so well	Lesson	PMO / Sponsor comment
LL5		The project's oversight group was not a steering committee and did not require the project to provide project status reports or updated planning documents.	Projects need to provide evidence of good practice whether required by the project's governance team or not.	
Benefit realisation LL5		Benefits of the project, and its viability, have become a matter of opinion because benefits, their measures and baselines were not identified in the business case and PID.	Recommendation: Business and project planning need to become more familiar with identification of monetary and non-monetary benefit measures and their owners. They also need to base-line the services that will be affected by the change.	

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APPENDIX ONE: TERMS OF REFERENCE

RISK ASSURANCE

TERMS OF REFERENCE

March 2017

Project Name

National Incident and Event Management System (NIEMS) Project

Background and Purpose

The aim of the NIEMS project is to purchase and implement a single, national system to provide Incident & Event Management as a Service (aaS) to all Traffic Operations Centres (TOCs) and other stakeholders (including local authorities).

Funding of \$6M capex was approved in July 2016 and the project was planned for completion in June 2017. The project is currently in Implement phase.

Incident & event management is a fundamental activity for TOCs, and is also undertaken by various local authorities across the country. The current approach has a number of features that are incompatible with NZTA’s strategic direction, including:

- Each TOC takes a different approach and has different processes and standards
- The toolsets used across the TOCs are varied and unique
- Current processes are highly manual
- Data inputs are inconsistent and often incomplete
- Reporting requires considerable manipulation of data from multiple systems
- The traveller experience is fragmented and variable across the country

This approach does not facilitate the gathering of the sort of insights and evidence that will support root cause analysis and enable/justify improvements to both network performance and safety. Insights provided by the current data sets require much manual intervention and interpretation, and are at best rudimentary. Given that generating such insights and evidence is a primary role of the TOCs, this constitutes both a serious issue and a significant opportunity to improve network/safety outcomes.

The NIEMS is a key component of the technology platform that will provide ITS As A Service to the various consumers across the country. This approach will encourage consistency of operational responses and (perhaps most importantly), consistency of relevant operational data. This consistency will

underpin the planned future for transport operations, which is founded upon a predictive, proactive network management capability. This approach is consistent with, and supports, NZTA strategic drivers and MoT imperatives.

Review Scope and Objectives

The objective of this health check review is to provide an independent assessment of the completed and planned activities of the National Incident and Event Management System (NIEMS) project, such that:

- The Sponsor gains independent feedback on the project's performance
- The Transport Agency gains confidence that the project followed good practice and the benefits identified in the business case will be achieved.
- The PMO and the wider Agency gain learnings from the project to date.

Scope

The review specifically covers:

- The business case, ensuring we are delivering on outcomes and benefits
- Core project documents and processes
- Interviews with key stakeholders.

Risks

The following key risks were identified during the planning phase. These will be reviewed and updated during the course of the review:

- No key risks were identified in the planning phase.

Approach

The review will take the following approach:

- Review of the business case
- Review of core project documentation and controls as appropriate for a combination waterfall / Agile project
- Interviews with a selection of key project stakeholders
- Analysis of findings and development of recommendations
- Delivery of draft report for comment to the PMO
- Delivery of final report to the Sponsor / Business Owner and PMO.

Previous Issues Identified

No previous issues identified.

Review Sponsor

s 9(2)(a) Sponsor
National Journey Manager, Auckland, Highways and Network Operations

PMO Manager

s 9(2)(a)

PMO Manager, Information Services

Review Team

s 9(2)(a)

Senior Risk Assurance Advisor

s 9(2)(a)

Assurance Manager

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APPENDIX TWO: INTERVIEWEES

Interviewee	Project Role
s 9(2)(a)	Sponsor
	GG member CIO
	GG member, ITS Owner
	Project Working Group chair, ATOC manager
	PWG member WTOC Project Director
	PWG member CTOC Manager
	ITS Programme Manager
	Project Manager
	QualIT, Test Capability Manager
	Supplier PM and Co-Principal, software development, Castle Rock
	Co-Principal, Castle Rock
	Business Analyst
	Change Manager
	Business Analyst
Architect	

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