vic roads

Moped and Scooter Identification System Feasibility Report

March, 2009
Final Version 1.0

Document history

Version	Date	Prepared by	Issued to	Changes to previous version
V0.1	Jan 29, 2009	Terra Firma	Nicola Fotheringham, Paul Belliofore, Fergus McDonald	Document creation
V0.2	Jan 30, 2009	Terra Firma	Nicola Fotheringham, Paul Belliofore, Fergus McDonald	Updates from review with Nicola, Paul and Fergus
V0.3	Feb 2, 2009	Terra Firma	IM&T for Costing	Updates with feedback from Nicola, Paul and Fergus
V0.4	Mar 9, 2009	Terra Firma	Nicola Fotheringham	Updated with cost information supplied by IM&T, R&L Operations, and Customer Services
V0.4	Mar 17, 2009	Terra Firma	(For review of costs and options analysis only) Nicola Fotheringham, David Shelton, Linda Ivett, Mario Cattapan, Fergus McDonald, Chris Jones	Updated with feedback from Nicola Fotheringham
V0.5	Mar 19, 2009	Terra Firma	David Shelton, Chris McNally, Linda Ivett, Nicola Fotheringham, Fergus McDonald, Chris Jones, Bill Gouliotidis, John Bouras, Peter Neale, Stuart Hughes	Updated with feedback from Nicola Fotheringham, David Shelton, Linda Ivett, Mario Cattapan, Fergus McDonald, Chris Jones regarding solution options and costs. Refined costs for indexed components
V1.0	Mar 28, 2009	Terra Firma	Nicola Fotheringham	Incorporated feedback from Nicola Fotheringham. Final release.

Document details

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1 Introduction

1.1 Purpose of the document

The purpose of this document is to provide high-level requirements and an indicative budgetary impact of a separate ID system for registered scooters and mopeds.

This document will inform additional policy analysis to be undertaken by Road Safety & Network Access (RS&NA). This additional analysis will determine the most appropriate method of identifying crashes involving scooters and mopeds.

1.2 Scope

The scope of this feasibility study includes:

- Confirmed definition of scooter and moped

- Confirmed business requirements for the identification of scooters and mopeds

- Outline of identified solution options from a business process, systems and business change perspective

1.3 Approach

This feasibility study was undertaken using the following approach:

- Consulted with major stakeholders to gain definition of scooters, mopeds and motorcycles

- Gather and confirm business requirements for the identification of scooters and mopeds in VicRoads' registration systems and determined impacts to business processes, interfaces to other systems (within VicRoads and external), and determine change management needs

- Outline of identified solution options from a business process, systems and business change perspective

- Determined indicative costs for implementation of solution options

2 Background

2.1 Project History

In March, 2008, the Minister for Roads and Ports was briefed by VicRoads via MBN/105048 on 'Preliminary Research Findings – Involvement of Motor Scooters and Mopeds in Crashes in Victoria'. As a result, the Minister's Office requested a briefing on the budgetary impacts of a separate ID system for scooters and mopeds.

In January 2009, the RS&NA division within VicRoads commissioned this project to determine these budgetary impacts.

2.2 Description of Service Need

VicRoads currently registers scooters, mopeds and motorcycles for operation on Victorian Roads. There is provision in the current registration system (VRIS) and the Road Crash Information System (RCIS) to register motorised two-wheeled vehicles as SCOOTR (scooter), MOPED (moped), or SOLO (motorcycle). When registering the scooter, moped or motorcycle, the onus is on the system user (VicRoads Customer Service Centres, certified dealerships and external service providers such as Salmat) to code the registration appropriately.

A recent analysis of the VRIS database revealed that of approximately 134,000 registered motorcycles, the majority of them are coded as 'SOLO', the category for motorcycles. There were less than 200 coded as 'SCOOTR', the designation for a scooter. Further manual integration of this data indicated that there are approximately 8600 registered scooters, though the majority of them were coded as 'SOLO'. It is evident that many scooters and mopeds are being incorrectly coded as motorcycles by users entering the vehicle information.

The study also looked at crashed scooters and mopeds and found that less than 50% were coded correctly in VicRoads' crash database (RCIS).

2.3 Problem Statement

The problem of	Currently, VicRoads are unable to accurately identify all scooters and mopeds in their vehicle registration system (VRIS) or crash database (RCIS).
Has been identified to affect	VicRoads' ability to report on the numbers of registered scooters and mopeds and associated information related to these vehicles.
The impact of which is	Limitation in VicRoads' ability to undertake any analysis of scooters and mopeds and provide significant stakeholders with information required to make decisions related to road safety.
A successful solution would	Allow for the easy identification of scooters and mopeds in the VicRoads' registration systems and allow its users to be able to undertake analysis of scooters and mopeds and provide significant stakeholders with information required to make decisions related to road safety.

3   Terms and Acronyms

Within the Feasibility Report the following terms and acronyms have been utilised:

Terms/ Acronym	Definition
ADR	Australian Design Rule
CM	Change Management
CSC	Customer Service Centre
DoL	Dealer Online
ESD	Electronic Service Delivery
FCIA	Federal Chamber of Automotive Industries
RS&NA	Road Safety and Network Access
R&L	Registration and Licensing
RCIS	Road Crash Information System
SME	Subject Matter Expert
TIS	Traffic Incident System
VRIS	Vehicle Registration Information System
VIN	Vehicle Identification Number

4 Stakeholder Identification

4.1 Stakeholder Segmentation

Project stakeholders have been identified according to their role and interest towards the initiative.

Stakeholder/s	Role	Interest or Impact
Angelo Herft	Manager - R&L Agent Services	Impact on Dealer Online users
Bill Gouliotidis	Manager - Western CSC Customer Services	Impact on Customer Service Centres
Chris McNally	Director – R&L Operations	Impact on R&L Operations
David Shelton	Director – Road User Safety – Road Safety and Network Access	Impact on Road Safety Policy, Responsible Director
Linda Ivett	Manager Vulnerable Road Users - Road Safety and Network Access	Sponsoring Manager
Chris Jones	Senior Vehicle Standards Engineer – Road Safety and Network Access	Impact on R&L Operations
Dale Andrea	Manager - Licensing and Identity Strategy – Road Safety and Network Access	Impact on Road Safety Policy
Fergus McDonald	Manager – Registration Policy – Registration and Licensing Operations	Impact on R&L Operations, Motorcycle SME
John Bouras	Team Leader – Dealer Certification – Registration and Licensing Operations	Impact on Dealers undertaking registration of motorcycles, scooters and mopeds
Nicola Fotheringham	Senior Program Consultant – Road Safety - Road Safety and Network Access	Impact on Road Safety Policy, responsible project business stakeholder
Peter Neale	Business Performance Manager – Customer Services	Impact on Customer Services, Provided anticipated costs to implement in Customer Services area
Steve Paulo	Senior Contracts and Project Officer – R&L Contratcs, R&L Operations	Impact of registration process changes on Salmat costs
Stan Emmanouilidis	Senior Investigations Analyst – People Services and Internal Communications	Impact on Investigations and Anti-corruption
Stuart Hughes	Manager – Program Development – IM&T Projects	Impact on information systems – provided estimated costs for IT changes

5 Operational Model

5.1 Current Business Model

Currently all vehicle registrations in Victoria are recorded in VicRoads' VRIS registration system. A number of business process and transactions are supported by the system. These include:

- New vehicle registration

- Vehicle re-registration

- Registration update

- Registration transfer

- Issue of an unregistered vehicle permit

- Registration renewal

- Registration cancellation

- Registration refund

- Write off vehicle

- Change of address

- Apply concession

- Issue defect notice

- Issue duplicate certificate

- Plates management process:
  - o Initial issue
  - o Replacement
  - o Change of plate

Functionality exists in VRIS to perform all of the above transactions. These transactions can be executed in VRIS directly. VicRoads's Electronic Service Delivery (ESD) environment also has a number of applications that interface with VRIS. One in particular, Dealer Online (DoL) allows certified dealers to register new vehicles. DoL allows the entry of vehicle information and registration of the vehicle to a registered operator. DoL interfaces to VRIS to allow this to occur.

Salmat is a third-party contracted to execute a number of transactions for VicRoads. Salmat processes registration transactions for VicRoads directly through the VRIS system.

Presented overleaf is a representation, at a high level of the context for the management of registration details for scooters, mopeds and motorcycles. It shows the interaction from VRIS to other systems both internal and external to VicRoads.
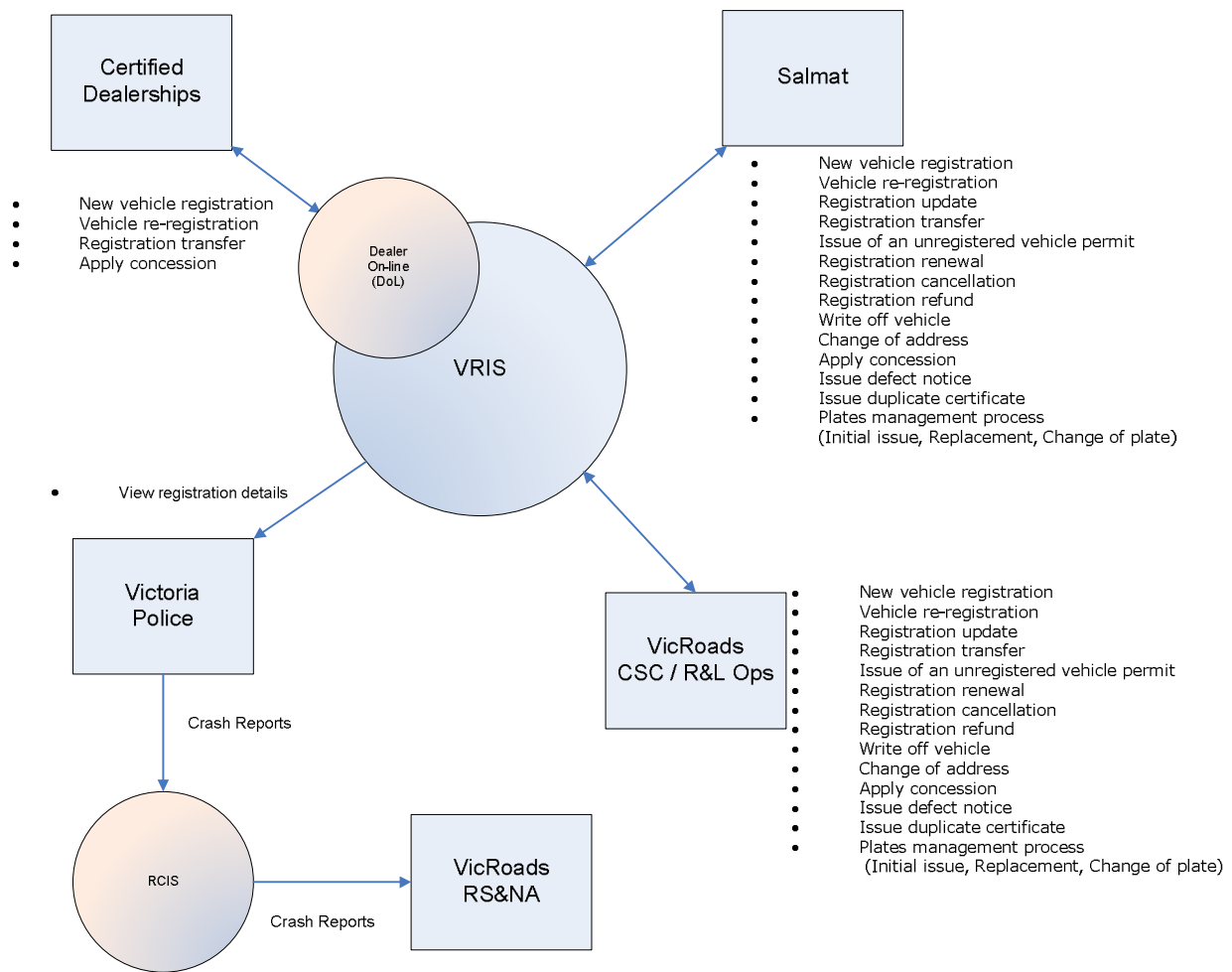
Figure 1 - Operational Overview

5.2 Definition of Scooter, Moped and Motorcycle

In the past, there has been no official definition of a scooter in Victoria. The Federal Chamber of Automotive Industries (FCAI) has no definition for scooters. Currently, the Federal Government's Australian Design Rules (ADR) define a moped as a vehicle with an ADR Category of 'LA'. This category specifies a two-wheeled vehicle as having an engine capacity of 50cc or less and is speed limited to 50km/h. ADR Category 'LC' broadly defines motorcycles. Scooters currently fit into this category.

Integral to the identification of the scooters, mopeds, and motorcycles registered in Victoria is to have a definition for each of these vehicle types. Consultations with VicRoads' RS&NA and R&L Operations produced the following agreed definitions for these vehicle types:

Moped

This vehicle will have an ADR Category of 'LA'. This is usually shown on the vehicle's compliance plate. It will have an engine capacity of 50cc or less and is speed limited to 50km/h.

Scooter

This vehicle will have an ADR Category of 'LC', an automatic transmission (not manual or clutch-less), and a 'step through' construction type.

Motorcycle

This vehicle will have an ADR Category of 'LC', and is not a scooter.

6 Business Requirements

This document contains a list of the current identified and prioritised High Level Requirements identified for a separate ID system for mopeds and scooters.

These requirements were gathered through a series of meetings and interviews with stakeholders.

Details of each workshop, dates, and attendees can be found in 10.2 Appendix B – Meeting / Interview Participant Details

The actual requirements elicited and validated can be found in 10.1 Appendix A – Business Systems Requirements

7 Solution Outline and Options

7.1 Solution Outline

The purpose of this Solution Outline is to provide an overview of VicRoads' vehicle registration capability and how it relates to the identification of registered scooters and mopeds in Victoria.

7.1.1 Contextual View

The following diagram depicts a contextual view of the solution environment and this initiative's significant actors interacting with the VicRoads' Registration capability.
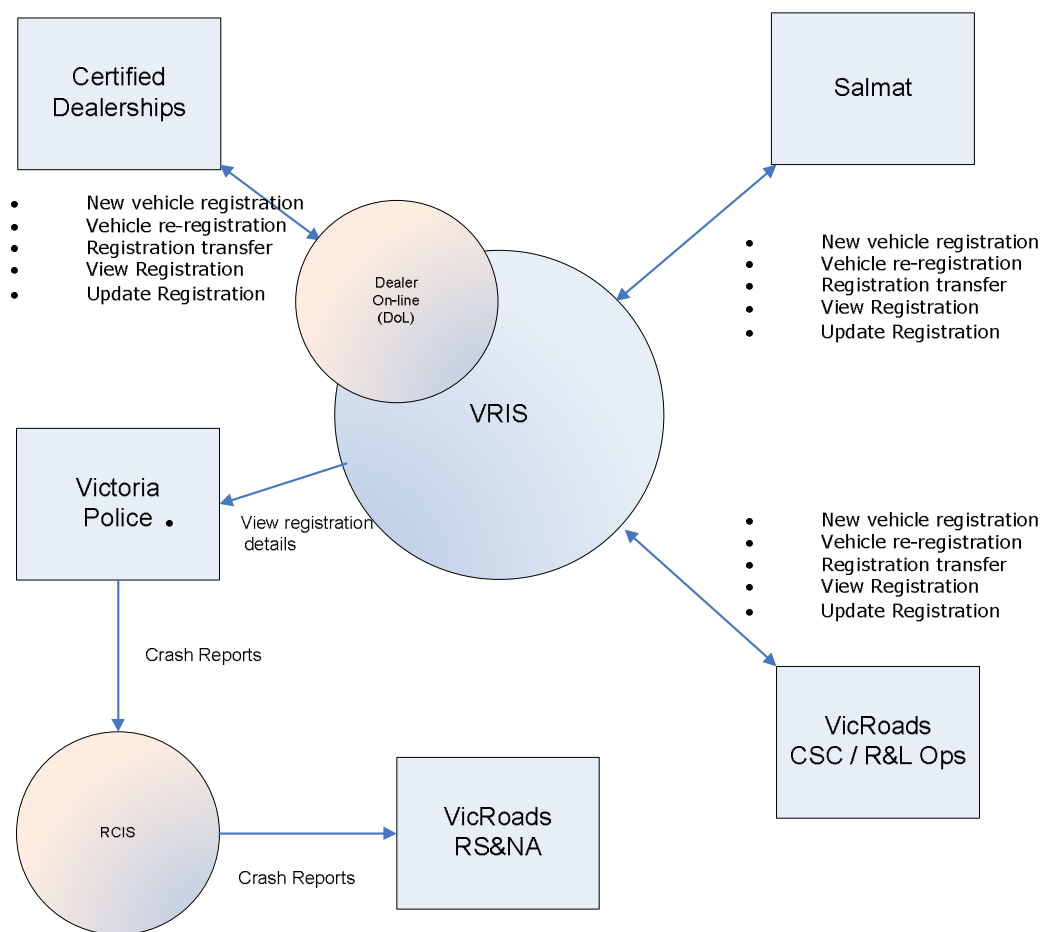

Figure 2 - Registration Overview

At a high-level there are no changes to the number or type of business transactions being executed to meet the need to identify scooters and mopeds.

The solution proposes to change business transactions that capture, update or view vehicle details. These are:

- New vehicle registration

- Vehicle re-registration

- Registration update

- Issue unregistered vehicle permit

- View registration

The changes are to ensure that motorised two-wheeled vehicles are correctly categorised as scooters, mopeds or motorcycles. The solution also calls for additional information to be captured for motorised two-wheeled vehicles. This information includes:

- Construction type (step through or step over)

- Transmission type (automatic, or not automatic)

All other business transactions may use but will not update vehicle details.

As illustrated in Figure 2 - Registration Overview, the major users of the registration systems for the purposes of creating new registrations, updating or viewing the vehicle details of existing registrations are:

- VicRoads' Customer Services

- VicRoads' Registration and Licensing Operations (R&L Ops)

- Salmat, and

- Certified dealerships

- VicRoads RS&NA (Road Safety and Network Access)

- Victoria Police

VicRoads and Salmat use the VRIS user interface, whereas certified dealerships use the DoL application as a front-end interface to VRIS. Another significant user of registration information is the Victoria Police. The police use the information for law enforcement and also in their investigation of crashes.

VicRoads RS&NA are users of the information in the RCIS. This system contains all crash reports produced by Victoria Police in their own Traffic Incident System (TIS). This information is sent to VicRoads where it is loaded into RCIS. RS&NA use this information for road safety analysis.

7.2   The Solution Options

7.2.1 Option 1 – Provide Definitions for Mopeds and Scooters and Use Existing System Functionality

This option would require users of the VRIS and DoL applications to use definitions for mopeds, scooters and motorcycles (outlined in section 5.2 Definition of Scooter, Moped and Motorcycle) to determine the correct Body Type of the vehicle when processing a new registration or an update of an existing registration.

Business Changes

This option would require the following business changes:

- Writing of business rules and work instructions to reflect the changes

- Implementation of change management, communications and awareness initiatives for Customer Service Centres, Call Centres, Salmat, Certified Dealerships, and Non-certified Dealerships

- Communication with registered operators to advise of any changes to the coding of their registration record. This would consist of a letter mailed to the registered operator explaining the change to the revised coding of their vehicle

- Issuance of new registration labels with corrected vehicle coding for registrations that have been changed by this initiative (2 options – in one batch or with re-issue)

- Changes to the VicRoads website and other communication materials as required

- Creation of an ad hoc report for RS&NA (by R&L Ops), generated ½ yearly or yearly which list all registered motorcycles, scooters and mopeds by:
  - Registrations / renewals
  - Month / year

This report can be produced by R&L operations as a business as usual activity

Data Conversion

Conversion of existing records for registered motorised two-wheeled vehicles where required to ensure that the correct Body Type is associated with the vehicle.

The proposed process for this is the following:

- R&L Operation's motorcycle subject matter expert (SME) to provide IM&T / Production Support with criteria for data conversion. This is to be determined and may consist of criteria related to make, model, engine capacity, VIN etc.

- Production Support to run system conversion activity and provide R&L Operations with a file or report of all registration records for motorised

two-wheeled vehicles that have not been successfully converted by the criteria provided by R&L Operations

- R&L Operation's motorcycle (SME) to manually investigate the non-converted records and determine correct Body Type coding and update the registration record for each using VRIS Production.

Advantages	Disadvantages
• Cheaper to implement	• Likelihood of human error still high
• Less change management through changes to systems	• Lack of additional data such as construction type and transmission type captured to undertake other analysis – i.e. for road safety analysis etc.

7.2.2 Option 2 – Registration Systems Changes to Collect Additional Information and Determine Category

This option consists of changes to existing registration business processes and systems transactions for motorised two-wheeled vehicles that include:

- Create a new vehicle registration

- Re-register a vehicle

- Update an existing vehicle registration

- Issue unregistered vehicle permit

- View registration

System Changes

The option principally makes changes to the VRIS and DoL systems to ensure that the correct Body Type is assigned to the vehicle when registration functions are executed. It does this by incorporating the following changes to these systems:

- 2 new vehicle attributes are captured for motorised two-wheeled vehicles:
  - Construction type (step through or step over)
  - Transmission type (automatic or not automatic)
- Ensure existing attributes are captured:
  - Engine capacity
  - Make
  - Model

Based upon the information captured above, the Body Type (scooter, moped or motorcycle) will be assigned to the registration record by the system. In order to do this, the system will:

- Prompt for the vehicle's Australian Design Rule (ADR) category and if it is 'LA', it will register the vehicle as a moped. If the user enters an Engine Capacity greater that 50cc, the system shall alert the user to the fact that

this does not meet ADR Category 'LA' specifications and ask the user to re-specify the vehicle details.

- If the ADR category is 'LC' and if the vehicle has an automatic transmission and a step through construction, it will register the vehicle as a scooter.

- If the ADR category is 'LC' and the vehicle is a step over construction, it will register it as a motorcycle

Data Conversion

Conversion of existing records for registered motorised two-wheeled vehicles where required to ensure that the correct Body Type is associated with the vehicle.

The proposed process for this is the following:

- R&L Operation's motorcycle subject matter expert (SME) to provide IM&T / Production Support with criteria for data conversion. This is to be determined and may consist of criteria related to make, model, engine capacity, VIN etc.

- Production Support to run system conversion activity and provide R&L Operations with a file or report of all registration records for motorised two-wheeled vehicles that have not been successfully converted by the criteria provided by R&L Operations

- R&L Operation's motorcycle (SME) to manually investigate the non-converted records and determine correct Body Type coding and update the registration record for each using VRIS Production.

Business Changes

In addition to changes to information systems, other changes include:

- Writing of business rules and work instructions to reflect the changes

- Implementation of change management, communications and awareness initiatives for staff at Customer Service Centres, Call Centres, Salmat, and Certified Dealerships and Non-certified Dealerships

- Communication with registered operators to advise of any changes to the coding of their registration record. This would consist of a letter mailed to the registered operator explaining the change to the revised coding of their vehicle

- Changes to forms (registration)

- Issuance of new registration labels with corrected vehicle coding (2 options – in one batch or with re-issue)

- Changes to the VicRoads website and other communication materials as required

- Creation of an ad hoc report for RS&NA (by R&L Ops), generated ½ yearly or yearly which list all registered motorcycles, scooters and mopeds by:

o Registrations / renewals

o Month / year

This report can be produced by R&L operations as a business as usual activity

Advantages	Disadvantages
• Increased likelihood of correct vehicle coding	• More costly than option 1 due to system changes
• Improved additional data captured to undertake other analysis – i.e. road safety etc.	• More change management associated with system changes than option 1

7.2.3 Option 3 – Registration Systems Changes to Maintain a List of Up-to-date Makes and Models and Determine Category

Like option 2, this option consists of changes to existing registration business processes and systems transactions for motorised two-wheeled vehicles.

However, it also introduces an additional organisational responsibility to maintain a current and accurate list of motorised two-wheeled vehicles that are scooters and mopeds. It will require a resource within R&L Operations or Vehicle Safety to maintain this list in the VRIS system and ensure that it contains the appropriate information pertaining to the vehicle. This resource will also be responsible to code the vehicle's Body Type correctly in the list as a scooter or moped. This will require the resource to determine the vehicle's:

• Construction type (step through or step over)

• Transmission type (automatic or not automatic)

• Engine capacity

• Make

• Model

Based upon the information captured, the Body Type (scooter or moped) will be assigned to the registration list record by the R&L Operations resource. In order to do this, the resource will use the following rules:

• If the vehicle's Australian Design Rule (ADR) category and if it is 'LA, it will assign the vehicle as a moped

• If the vehicle's ADR category is 'LC' and if the vehicle has an automatic transmission and a step through construction, it will assign the vehicle as a scooter.

System Changes

Maintaining a List of Scooters and Mopeds

The VRIS and DoL systems will be changed to allow the storage and maintenance of the list of makes and models for motorised two-wheeled vehicles.

The VRIS system will have functionality to allow an R&L Operations resource to assign the following information to the vehicle:

- Construction type (step through or step over)

- Transmission type (automatic or not automatic)

- Engine capacity

- Make

- Model

It will also allow the R&L Operations resource to assign a Body Type to the vehicles in the list as either a scooter, moped, or motorcycle.

Registering Motorised Two-wheeled Vehicles

The system will also be changed for the following transactions:

- Create a new vehicle registration

- Re-register a vehicle

- Update an existing vehicle registration

- Issue unregistered vehicle permit

- View registration

For these transactions, it will prompt the user to enter the following information for the vehicle to be registered:

- Make

- Model

- Construction type (step through or step over)

- Transmission type (automatic or not automatic)

- Engine capacity

- Body Type (scooter, moped or motorcycle)

If the user enters: Construction Type = step through AND/OR Transmission Type = automatic AND/OR Body Type = MOPED OR SCOOTR, the system will validate all of the above information against the list and if correctly entered, will record the registration.

If any of the rest of the vehicle information is not valid against the list, the solution will present the list of valid scooters and mopeds and prompt the user to pick a vehicle.

If the user selects a vehicle, its information is automatically populated into the registration record from the list. If the user does not elect to select from the list it takes the user back to start the process again.

Note that if the user cannot find the appropriate vehicle in the list and they still wish to specify the characteristics of a scooter or moped: this is an exception to the process. Further analysis needs to be undertaken to determine what this exception process is. Possible solutions are:

- Allow the user to register the vehicle as a 'SOLO' and have a notification sent to R&L Ops to investigate further and perhaps re-assess the list or

- Have the user call VicRoads to get assistance

If the user enters: Construction Type = step over AND Body Type = 'SOLO' the system will not present the list to the user and process as it does at present.

If the user enters any other valid Body Type, the system will not present the list to the user and process as it does at present.

Once all the information is confirmed by the user, the registration record is written to the system.

Data Conversion

Conversion of existing records for registered motorised two-wheeled vehicles where required to ensure that the correct Body Type is associated with the vehicle.

The proposed process for this is the following:

- R&L Operation's motorcycle subject matter expert (SME) to provide IM&T / Production Support with criteria for data conversion. This is to be determined and may consist of criteria related to make, model, engine capacity, VIN etc.

- Production Support to run system conversion activity and provide R&L Operations with a file or report of all registration records for motorised two-wheeled vehicles that have not been successfully converted by the criteria provided by R&L Operations

- R&L Operation's motorcycle (SME) to manually investigate the non-converted records and determine correct Body Type coding and update the registration record for each using VRIS Production.

Business Changes

In addition to changes to information systems, other changes include:

- Writing of business rules and work instructions to reflect the changes

- Implementation of change management, communications and awareness initiatives for Customer Service Centres, Call Centres, Salmat, and Certified Dealerships and Non-certified Dealerships

- Communication with registered operators to advise of any changes to the coding of their registration record. This would consist of a letter mailed to the registered operator explaining the change to the revised coding of their vehicle

- Changes to forms (registration)

- Issuance of new registration labels with corrected coding (2 options – in one batch or with re-issue)

- Changes to the VicRoads website and other communication materials as required

- Creation of an ad hoc report for RS&NA (by R&L Ops), generated ½ yearly or yearly which list all registered motorcycles, scooters and mopeds by:

  o Registrations / renewals

  o Month / year

This report can be produced by R&L operations as a business as usual activity

Advantages	Disadvantages
• Most likely of all options to code vehicle registrations correctly	• More costly than options 1 and 2 due to system changes and a need to use a resource to maintain make and model lists
• Improved additional data captured to undertake other analysis – i.e. road safety etc.	• More change management associated with system changes than option 1 and slightly more than option 2
	• Requires ongoing business resources to be funded to maintain the list of scooters and mopeds

7.3 Assessment of Options

Each of the options is assessed, in the following summary table, with respect to its ability to address the project objectives and deliver the benefits.

Project Objectives and Benefits	Option 1 –	Option 2 –	Option 3 -
More accurate information in the registration system related to registered scooters and mopeds enabling better decision making related to road safety	◔	◕	●
Ease of implementation	●	◕	◐
Ease of ongoing operation	●	◕	◐
Cost to implement and operate	●	◕	◐

Legend

○	Does not deliver value	◔	Minimally delivers value	◑	Partially delivers value
◕	Mostly delivers value	●	Fully delivers value		

1.   Indicative Project Costs

7.4   Estimated Project Costs

7.4.1 Option 1 - Provide Definitions for Mopeds and Scooters and Use Existing System Functionality

Business Costs

	Estimated Cost ($)
Additional costs for Call Centre enquiries as a result of changes to current registrations[1]	20,640
Costs for CSC Staff training for changes to business processes[1]	2,000
Cost for issuance of registration labels – distribution by Leigh Mardon[2]	10,828
Total Business Cost	**33,468**

Business Costs of Data Migration

	Estimated Cost ($)
Estimated cost for an R&L Operations SME to manually adjust non-converted registration records – those not converted by the automated data conversion process. Up to 8 weeks of full time R&L Operations SME time.[3]	22,000
Total Business Cost of Data Migration	**22,000**

IT Costs – Including Automated Data Migration Costs

	Estimated Cost ($)
System Development Costs & Overheads[4] (Includes cost of generating letters to customers explaining changes to their registration)	106,000
Project Management[4]	59,500
Business Analyst[4]	7,250
Total IT Costs	**172,750**

Total Estimated Cost of Option 1

	Total Estimated Cost ($)
TEC includes all business, migration, IT and change management costs.	**228,218**

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[1] Cost breakdown for changes at CSCs received from Thomas Birch, Customer Services
[2] Distribution of approximately 10,700 labels to converted vehicles – cost $1.012 per label
[3] Received from R&L Operations based upon standard staff loaded cost of $143,000 per annum
[4] Costing Alternatives Moped and Scooter Identification V1.1 – IM&T

7.4.2 Option 2 - Registration Systems Changes to Collect Additional Information and Determine Category

Business Costs

	Estimated Cost ($)
Additional costs for Call Centre enquiries as a result of changes to current registrations[1]	20,640
Costs for CSC Staff training for changes to business processes[1]	2,000
Ongoing costs of implementation of business process changes at CSCs[5]	84,494
Ongoing costs of implementing changes to business process changes at Salmat[6]	10,561
Cost for issuance of registration labels – distribution by Leigh Mardon[2]	10,828
Cost for new registration forms and recovery of old registration forms[7]	11,000
Total Business Cost	**139,523**

Business Costs of Data Migration

	Estimated Cost ($)
Estimated cost for an R&L Operations SME to manually adjust non-converted registration records – those not converted by the automated data conversion process. Up to 8 weeks of full time R&L Operations SME time.[8]	22,000
Total Business Cost of Data Migration	**22,000**

IT Costs – Including Automated Data Migration Costs

	Estimated Cost ($)
System Development Costs & Overheads[9] (Includes cost of generating letters to customers explaining changes to their registration)	505,000
Project Management – excluding CM[9]	118,800
Business Analyst – excluding CM[9]	15,000
Change Management (including communication and training)[9]	41,200
Total IT Costs	**680,000**

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[5] Calculated for 5 years of operation – based upon costs received from Thomas Birch Customer Services and indexed for 4% growth in transactions.
[6] Cost calculated using Customer Services' estimated number of new registrations / re-registrations per annum (13,000) indexed at 4% over 5 years as suggested by RS&NA (70,441) multiplied by Salmat's quoted additional cost per transaction ($0.15).
[7] Costs received from R&L Operations
[8] Received from R&L Operations based upon standard staff loaded cost of $143,000 per annum
[9] Costing Alternatives Moped and Scooter Identification V1.1 – IM&T

Total Estimated Cost of Option 2

	Total Estimated Cost ($)
TEC includes all business, migration, IT and change management costs.	**841,523**

7.4.3 Option 3 - Registration Systems Changes to Maintain a List of Up-to-date Makes and Models and Determine Category

Business Costs

	Estimated Cost ($)
Additional costs for Call Centre enquiries as a result of changes to current registrations[1]	20,640
Costs for CSC Staff training for changes to business processes[1]	2,000
Ongoing costs of implementation of business process changes at CSCs[1]	84,494
Ongoing costs of implementing changes to business process changes at Salmat[6]	10,561
Cost for issuance of registration labels – distribution by Leigh Mardon[2]	10,828
Cost for new registration forms and recovery of old registration forms [7]	11,000
Cost for 1/6th FTE to maintain the list of scooters and mopeds[10]	23,833
Total Business Cost	**163,356**

Business Costs of Data Migration

	Estimated Cost ($)
Estimated cost for an R&L Operations SME to manually adjust non-converted registration records – those not converted by the automated data conversion process. Up to 8 weeks of full time R&L Operations SME time.[10]	22,000
Total Business Cost of Data Migration	**22,000**

IT Costs – Including Automated Data Migration Costs

	Estimated Cost ($)
System Development Costs & Overheads[4] (Includes cost of generating letters to customers explaining changes to their registration)	645,000
Project Management[4]	118,800
Business Analyst[4]	15,000
Change Management (including communication and training)[4]	41,200

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[10] Received from R&L Operations based upon standard staff loaded cost of $143,000 per annum

Total IT Costs	820,000

Total Estimated Cost of Option 3

	Total Estimated Cost ($)
TEC includes all business, migration, IT and change management costs.	**1,005,356**

7.4.4 Comparison of Business, Change, Data Migration, and IT Costs.

Based on the system functionality, the project need for business analysis and project management, the overall estimated cost is:

	Option 1	Option 2	Option 3
Business Costs	33,468	139,523	163,356
Business Data Migration Costs	22,000	22,000	22,000
IT Costs – Including Automated Data Migration	172,750	680,000	820,000
Total Estimated Cost	**228,218**	**841,523**	**1,005,356**

The costs presented here are provided to establish an 'order of magnitude' only.

7.4.5 Issuing Updated Registration Labels for Converted Registrations.

All of the solution options presented include the provision for issuing new registration labels for vehicles that have had their Body Type changed. All of the solution options propose issuing replacement labels at the time of conversion as opposed to issuing labels at renewal.

The cost of issuing labels at time of conversion is calculated at approximately $20,828 – $25,828. This range consists of the following cost breakdown:

- Distribution of labels by Leigh Mardon – $10,828[2]

- IM&T Costs to generate registration information required by Leigh Mardon - $10,000 - $15,000[11]

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[11] Provided via email from IM&T

8 Critical Assumptions and Constraints

8.1 Assumptions

Victoria Police do not require the additional registration information that maybe required as part of the solutions outlines in this document, namely Construction Type and Transmission Type. As long as the Body Type is correctly assigned to each registration record, VicRoads' RCIS records received from Victoria Police will contain the correct Body Type.

8.1.1 Estimated Number of Scooters and Mopeds in Victoria

In mid-2007, VicRoads RS&NA commissioned RCSC Services to investigate the profile of scooter crashes in Victoria. In June 2008, this report was presented to VicRoads. It contained as estimate of how many scooters are registered in Victoria. In August 2007, it was estimated that there were 8,632 registered scooters (including mopeds) in Victoria. This represented 6.4% of the total registered motorised two-wheel vehicles at that time (134,938).

In calendar year 2008, there were 151,825[12] registered motorised two-wheeled vehicles. In order to determine the estimated number of registered scooters and mopeds in 2009, a 10% growth[13] in registrations has been applied to the 2008 number resulting in an estimated 167,007 registered motorised two-wheeled vehicles.

In order to determine the estimated number of registered scooters and mopeds in 2009, the same proportion of scooters and mopeds as contained in RCSC's report (6.4%) was used. Accordingly, the estimated number of registered scooters and mopeds in Victoria in 2009 is 10,688.

8.2 Constraints

None known.

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[12] Based on VicRoads registration figures (supplied by VicRoads' Finance)
[13] Based on recent annual motorcycles sales growth figures (supplied by FCAI)

9   Signoff

This document has been endorsed by the following groups and/or persons.

DRAFTS

Name	Department / Division	Date

FINAL

Approved by:	Department / Division	Date

10   Appendices

10.1 Appendix A – Business Systems Requirements

10.1.1   Solution Option 1 – Business Requirements

ID	Requirement	Priority
	There are not any requirements to change systems in Option 1	N/A

10.1.2   Solution Option 2 – Business Systems Requirements

ID	Requirement	Priority
001	The solution (VRIS and DoL) shall prompt the user to specify the ADR Category for the motorcycle to be registered. Valid values are 'LC' and 'LA'. If the user specifies 'LA', the system shall assign the Body Type as 'MOPED'. If the user enters an Engine Capacity > 50cc the system shall alert the user to the fact that this does not meet ADR Category 'LA' specifications and ask the user to re-specify the vehicle details. If the user specifies 'LC', the system shall determine the Body Type by evaluating other information entered by the user.	1
002	The solution shall capture the additional mandatory attribute 'Construction Type'. It shall have single character valid values for 'Step through' or 'Step over' (stored value to be determined). It shall default to a blank value and prompt the user to enter a value. This field shall be added to the following VRIS screens: • VRI032 (Re-registration Motor Cycle Details) • VRI036 (New Registration Motor Cycle Details) • VRI101 (Motor Cycle Enquiry) • VRI106 (Motor Cycle Update) This field shall be added to the following DoL screen: • Motor Cycle Registration This field must be mandatory for all transactions. Help screens shall be created for this field on all screens mentioned above Any change performed to this field in screen VRI106 is required to be written to history and to appear on screen VRI005 (full history) This attribute is required to be downloaded to Business Objects (TB8001)	1
003	The solution shall capture the additional mandatory attribute 'Transmission Type'. It shall have single character values for 'Automatic' or 'Not Automatic' (stored value to be determined). It shall default to a blank value and prompt the user to enter a value. This field shall be added to the following VRIS screens: • VRI032 (Re-registration Motor Cycle Details) • VRI036 (New Registration Motor Cycle Details) • VRI101 (Motor Cycle Enquiry) • VRI106 (Motor Cycle Update) This field shall be added to the following DoL screen: • Motor Cycle Registration This field must be mandatory for all transactions. Help screens shall be created for this field an all screens mentioned above noting that 'Not	1

ID	Requirement	Priority
	Automatic' transmissions include manual and clutch less transmissions.	
	Any change performed to this field in screen VRI106 is required to be written to history and to appear on screen VRI005 (full history)	
	This attribute is required to be downloaded to Business Objects (TB8001)	
004	If the user specifies the ADR Category value as 'LC', the system (VRIS and DoL) shall determine the category by evaluating the Transmission Type and Construction Type entered by the user through the following logic:	1
	If the Transmission Type is 'Automatic' and Construction Type = 'Step Through', the system shall assign the Body Type as 'SCOOTR'	
	If not the system shall assign the Body Type as entered.	

10.1.3   Solution Option 3 – Business Systems Requirements

ID	Requirement	Priority
001	The solution (VRIS and DoL) will contain a table/list of motorcycle makes and models. The solution will allow the maintenance of this table/list by a resource within VicRoads. The list shall contain for each make and model the following information: • Transmission Type (single character values for 'Automatic' or 'Not Automatic' – to be determined) • Construction Type (single character values for 'Step through' or 'Step over' – to be determined) • Make • Model • Engine capacity • Body Type (values - SCOOTR, MOPED, SOLO)	1
002	The solution will allow the user to maintain the table/list by adding, updating and deleting the entries	1
003	The solution shall capture the additional mandatory attribute 'Construction Type'. It shall have single character valid values for 'Step through' or 'Step over' (stored value to be determined). It shall default to a blank value and prompt the user to enter a value. This field shall be added to the following VRIS screens: • VRI032 (Re-registration Motor Cycle Details) • VRI036 (New Registration Motor Cycle Details) • VRI101 (Motor Cycle Enquiry) • VRI106 (Motor Cycle Update) This field shall be added to the following DoL screen: • Motor Cycle Registration This field must be mandatory for all transactions. Help screens shall be created for this field an all screens mentioned above Any validated change performed to this field in screen VRI106 is required to be written to history and to appear on screen VRI005 (full history) This attribute is required to be downloaded to Business Objects (TB8001)	1
004	The solution shall capture the additional mandatory attribute 'Transmission Type'. It shall have single character values for 'Automatic' or 'Not Automatic' (stored value to be determined). It shall default to a blank value and prompt the user to enter a value. This field shall be added to the following VRIS screens: • VRI032 (Re-registration Motor Cycle Details) • VRI036 (New Registration Motor Cycle Details) • VRI101 (Motor Cycle Enquiry) • VRI106 (Motor Cycle Update)	1

ID	Requirement	Priority
	This field shall be added to the following DoL screen: • Motor Cycle Registration This field must be mandatory for all transactions. Help screens shall be created for this field an all screens mentioned above noting that 'Not Automatic' transmissions include manual and clutch less transmissions. Any validated change performed to this field in screen VRI106 is required to be written to history and to appear on screen VRI005 (full history) This attribute is required to be downloaded to Business Objects (TB8001)	
005	For a new registration or re-registration of a motorised two-wheeled vehicle, or the update of a registration record, the systems (VRIS and DoL) shall validate the following information against the established list/table: • Transmission Type (single character values for 'Automatic' or 'Not Automatic' – to be determined) • Construction Type (single character values for 'Step through' or 'Step over' – to be determined) • Make • Model • Engine capacity • Body Type Screens affected: • VRI032 (Re-registration Motor Cycle Details) • VRI036 (New Registration Motor Cycle Details) • VRI106 (Motor Cycle Update) • Motor Cycle Registration (DoL) If the user enters: Construction Type = 'step through' AND/OR Transmission Type = automatic AND/OR Body Type = 'MOPED' OR 'SCOOTR', the system will validate all of the above information against the list and if correctly entered, will record the registration. If any of the rest of the vehicle information is not valid against the list, the solution will present the list of valid scooters and mopeds and prompt the user to pick a vehicle. If the user selects a vehicle, its information is automatically populated into the registration record from the list. If the user does not elect to select from the list it takes the user back to start the process again. Note that if the user cannot find the appropriate vehicle in the list and they still wish to specify the characteristics of a scooter or moped: this is an exception to the process. Further analysis needs to be undertaken to determine what this exception process is. Possible solutions are: • Allow the user to register the vehicle as a 'SOLO' and have a notification sent to R&L Ops to investigate further and perhaps re-assess the list or • Have the user call VicRoads to get assistance. If the user enters: Construction Type = 'step over' AND Body Type = 'SOLO' the system will not present the list to the user and process as it does at present. If the user enters any other valid Body Type, the system will not present the list to the user and process as it does at present. Once all the information is confirmed by the user, the registration record is written to the system.	1
006	For the following screens: • VRI032 (Re-registration Motor Cycle Details) • VRI036 (New Registration Motor Cycle Details) • VRI106 (Motor Cycle Update) • Motor Cycle Registration (DoL)	1

ID	Requirement	Priority
	The following existing fields must be mandatory: • Engine capacity • Make • Model	

10.1.4 Registration Records Data Conversion – All Options

ID	Requirement	Priority
001	R&L Operation's motorcycle subject matter expert (SME) to provide IM&T / Production Support with criteria for data conversion. This is to be determined, but may consist of criteria related to make, model, engine capacity, VIN etc. Production Support to run conversion activity and write the changes to history and be available on screen VRI005 (full history). Production Support to provide R&L Operations with a file or report of all registration records for motorised two-wheeled vehicles that have not been successfully converted by the criteria provided by R&L Operations.	1

10.1.5 Generation of New Registration Labels –All Options

ID	Requirement	Priority
001	For all registration records for the motorised two-wheeled vehicles that have been have their Body Type converted, generate and distribute new registration labels. The estimated number of labels is approximately 10,688[14]	1

10.1.6 Generation of Correspondence Letters for Registration Change – All Options

ID	Requirement	Priority
001	For all registration records for the motorised two-wheeled vehicles that have been have their Body Type converted, generate letters to registered owners explaining the change to their vehicle's Body Type. The estimated number of letters is approximately 10,688[14]	1

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[14] Estimated in section 8.1.1 Estimated Number of Scooters and Mopeds in Victoria

10.2 Appendix B – Meeting / Interview Participant Details

The following details of significant stakeholder meetings and interviews that were conducted during this initiative.

Date	Purpose	Attendees
13th January, 2009	Discuss scope of engagement and definition of scooter with invitees.	Dale Andrea Nicola Fotheringham Chris Brennan Chris Jones (Vehicle Safety) Mark Shottle
13th January, 2009	Discuss scope of engagement and to gain understanding of the RCIS (Road Crash Information System) and how is gets populated with crash report data	Nadya Shatska Mark Shottle
14th January, 2009	Discuss which business processes may be affected by any changes to the data fields used to register 2-wheeled vehicles.	Chris Turnley Carmel Scilini Mark Shottle
14th January, 2009	Discuss the overall initiative and determine if there are any impacts for or requirements from the Investigations and Anti-corruption team	Stan Emmanualidis Mark Shottle
14th January, 2009	Brief discussion with Chris on what this initiative is to achieve and the involvement of his teams to gather requirements, constraints and dependencies.	Chris McNally Mark Shottle
14th January, 2009	Discuss with Wayne his needs in providing the project with appropriate costs.	Wayne Shaw Mark Shottle
15th January, 2009	Discuss with Stuart his needs in providing the project with appropriate costs.	Stuart Hughes (Phone) Mark Shottle
15th January, 2009	Discuss the overall initiative and gain Geoff's input to the proposed way forward.	Geoff Engell Mark Shottle
15th January, 2009	Discuss the overall initiative and gain the group's perspective on possible solutions, and other considerations for the project such as: - What interfaces from / to VRIS need to be taken into consideration - Data conversion of existing registration of scooters, mopeds, and motorcycles - Definition of a scooter / moped	Fergus McDonald Tom Todaro Nicola Fotheringham Paul Bellofiore Mark Shottle
16th January, 2009	Understand Fergus's views on what impacts this initiative could have on operations and his experience in the implementation of LAMS	Fergus McDonald Mark Shottle
16th January, 2009	Brief follow-up meeting with Paul as he wished to cover off previous day's meeting	Paul Bellofiore Mark Shottle
16th January, 2009	Discuss the initiative with Bill and gain his views in what the impacts are for Customer Services	Bill Gouliotidis (Manager Western CSC – Customer Services) Mark Shottle
16th January, 2009	Discuss the initiative with Angelo and gain his views in what the impacts are for Dealer Online (DoL)	Angelo Herft Mark Shottle
16th January, 2009	Discuss the initiative with Chad and Tony to try and gain an understanding of the systems integration issues regarding adding extra data elements to VRIS.	Chad Nash & Tony Puah (RandL Foundation) Mark Shottle
19th January, 2009	Discuss the initiative with Hidaye and her views in implementing an initiative such as this. Hidaye project managed the GLS implementation and has some insight into LAMS.	Hidaye Ozeral Mark Shottle

Date	Purpose	Attendees
19th January, 2009	To gain an industry view (FCAI) of the definition of scooters and mopeds.	Ray Newland (FCAI) Nicola Fotheringham Mark Shottle
20th January, 2009	Follow-up conversation with Fergus.	Fergus McDonald Mark Shottle
20th January, 2009	Follow-up conversation with Paul about Salmat using systems.	Paul Bellofiore Mark Shottle
20th January, 2009	Discuss the overall initiative and gain any input Helen and John have to the proposed way forward, especially the impact on interfaces to other systems.	Helen Tzikos John Caracoglia Mark Shottle
21st January, 2009	Discuss the overall initiative and gain any input Tracee has to the proposed way forward.	Tracee Piper Mark Shottle
21st January, 2009	Discuss the overall initiative and to find out from John what change management and training activities may be required for dealerships as a result.	John Bouras Mark Shottle
21st January, 2009	Discuss the overall initiative and gain any input Peter has to the proposed way forward, especially the impact on Customer Services and their ability to absorb increases in transaction needs	Peter Neale Mark Shottle
23rd January, 2009	- To gain agreement on definition of mopeds, scooters and motorcycles - Gain agreement on possible solution options - Gain agreement on preferred solution	Chris McNally David Shelton Paul Belliofore Nicola Fotheringham Chris Jones Jonathan Roberton Mark Shottle
28th January, 2009	Follow-up conversation with Fergus to discuss the results of the workshop with David Shelton, Chris McNally etc. the previous Friday.	Fergus McDonald Mark Shottle
28th January, 2009	Discuss the overall initiative and gain understanding from Kim on what might be required for data conversion for scooter and moped registration records. Kim has had experience with GLS in the past and Fergus McDonald recommended we talk to her	Kim Pho Mark Shottle
29th January, 2009	Follow-up conversation with Fergus to discuss how the conversion of existing registration records with correct body types.	Fergus McDonald Mark Shottle
29th January, 2009	Gave an overview to all in attendance and showed what had been produced to-date in terms of requirements. Looking to gain agreement on the level of detail required for costings from IM&T and EDS.	Stuart Hughes David Symmonds Norm Smith Mark Shottle
30th January, 2009	Phone conversation with Neil about VicPol needs in terms of data transfer to VicPol's TIS system	Neil Richardson (VicPol), Mark Shottle
30th January, 2009	To discuss the data conversion process	Fergus McDonald Mark Shottle
30th January, 2009	To discuss interface to other systems from VRIS	Bill Grigoriadis Mark Shottle
30th January, 2009	To discuss Salmat Costs	Steve Paulo Mark Shottle
30th January, 2009	To discuss costs of form changes	Rebecca Soloman Mark Shottle
2nd February, 2009	Discussed with Violet the impact to registration forms with a change to the information captured.	Violet Lee Mark Shottle
2nd February, 2009	Further discussion and clarification of requirements for this initiative and discussion of transaction volumes.	Peter Neale Thomas Birch Mark Shottle
2nd February, 2009	Clarification of what cost estimates would be provided by IM&T	Stuart Hughes David Symmonds Mark Shottle
18th March, 2009	Review of solution options and costs and direction on next steps	Nicola Fotheringham, David Shelton, Linda Ivett, Mario Cattapan Fergus McDonald, Chris Jones
19th March, 2009	Confirmation of training and change costs for solution option 1	Peter Neale