



## RTA Standards for Paramics

### Why use standards?



- To help verify model input
- To provide consistency between models
- To provide 'sanity checks' to users
- **Standards are NOT used to restrict the modeller or model development process**

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## Benefits of using standards



- **Easier to identify differences between models**
- **Provides some guidance/direction to users and**
- **Provides the potential to more easily combine models**

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## How are RTA standards applied?



- **Some input files (parameters) are identified as having major influence on simulation results**
- **RTA provide suggested parameter values**
- **Users can adopt these values **OR****
- **Apply their own values but must explain why non standard values are used**

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## History of standards - Part 1 Paramics V3



- RTA identified 3 main input files for standardisation namely 'configuration', 'categories' and 'vehicles'
- Available source data for vehicle size, fleet composition was analysed
- Tests models were run with various parameter values
- Standard values suggested for 3 files and circulated for comment
- After a consultation process standards files were adopted

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## History of standards - Part 2 Paramics V5



- RTA are in the process of reviewing standards for following reasons:
  1. To reflect changes in simulation core software between V3 and V5 (eg. use of acceleration profiles, new options in 'configuration' file)
  2. To react to general comments from users of V3 standards (specifically concerning vehicle characteristics and road category descriptions)
  3. To extend the list of standard files (parameters) to include other issues such as basic reporting requirements and displays
  4. To recognise that plugin software is widely used by the RTA to enhance simulation capabilities

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## 1. Core software changes



- Identify the parameter changed from V3 to V5
- Test these parameters and their effect on simulation results
- Report on sensitivity of results
- Provide suggested parameter values and circulate for comment
- Provide standard values for adoption by RTA and their consultants

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## 2. Review of vehicle characteristics



- Data sources: Vehicle population data - RTA DRIVES, Vehicle dimension data - DOTARS RVD
- Data capture: Extract of selected fields from RTA DRIVES database, Includes geographic and vehicle dimension related fields, Selection of RVDs from DOTARS database, Includes detailed dimensional information
- Data processing: Light vehicle records selected from DRIVES (sufficient information content, range checks), RVD database from DOTARS
- Data analysis: Use DOTARS data to produce relationships between vehicle dimensions, Merge DOTARS data into DRIVES database, Produce frequency count distributions
- Further work involves: Additional data testing, Sensitivity testing, Validation testing, Exploration of different dimensions of the data

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## Preliminary Representative Light Vehicle Lengths by Vehicle Length Class



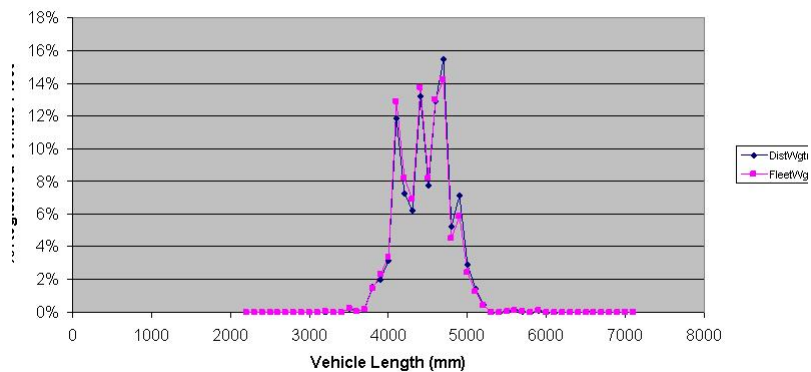
Size Class	Length	Static Fleet		Dynamic Fleet	
		Avg Length	Fleet %	Avg Length	Fleet %
Small	<4200mm	4018	17%	4017	19%
Medium	4200 to <4700mm	4420	53%	4427	47%
Large	>=4700mm	4837	31%	4835	33%
<b>All Light Vehicles</b>		<b>4481</b>	<b>100%</b>	<b>4485</b>	<b>100%</b>

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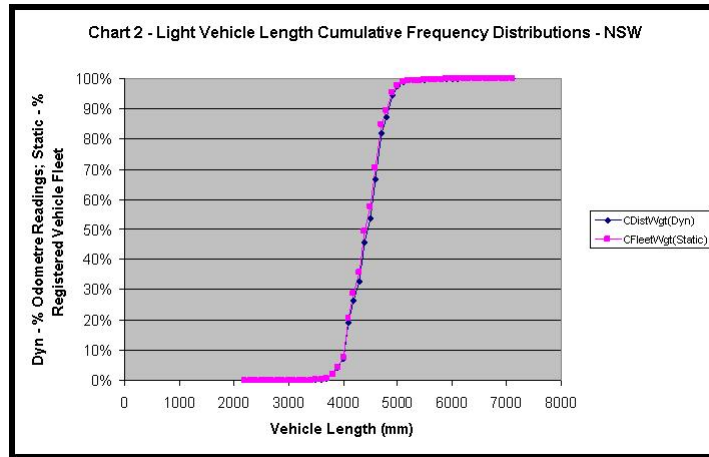


Chart 1 - Light Vehicle Length Frequency Distributions - NSW



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## Preliminary Representative Light Vehicle Lengths by Vehicle Length Class



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## 3. Paramics V5 files considered for Standardisation



FILENAME	TYPE OF STANDARDISATION
acceleration-profiles	Full
annotation	Naming
behaviour	Full
busroutes*	Naming
busstops	Naming
categories	Full
configuration	Full
detectors	Naming
environment	Full (display)
linktypes	Full
measurements	Partial
options	Partial
pmxmodels	Full (display)
programming	Partial
vehicles*	Full

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## Type of Standardisation



- **Full** – all parameters and values in these files may be set for RTA use (includes some displays such as ‘pmxmodels’)
- **Partial** – some values could be set such as ‘always report vehicle release numbers’
- **Naming conventions** – for example, all bus routes should be identified using a standard naming convention

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## 4. Plugin software



- **Paramics Plugin software** is widely used by the RTA and by consultants on behalf of the RTA.
- Reflected in the specification of special RTA pack (R-Bundle).
- R-Bundle includes Validator, Economic Evaluation, and Level of Service
- These reporting plugins should be considered as standard model output

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- **Standards are NOT used to restrict the modeller or model development process**
- **Mainly there to provide 'sanity checks' to users but also**
- **Are useful for consistency between models**