
# Waste Reduction and Recycling Plan Annual Status Report

## July 2017



Queensland Government

*Cover Image:*

*RoadTek working in partnership with the Endeavour foundation to sort electrical waste for recycling*

## Creative Commons information

# Document control options

## Departmental approvals

Refer to the appropriate Risk Assessment Tool for relevant reviewer and approver

| Date | Name | Position | Action required *(Review/endorse/approve)* | Due |
|---|---|---|---|---|
| 11/08/17 | R.Zietek | Manager (Environment) | Review | 31/8/17 |
| | L Hoffman | Director (Environment) | Approve | 23/10/17 |
| | | | | |

## Risk level

☐ GACC major ☐ GACC minor ☐ High risk (but not GACC) ☒ Medium risk

| | |
|---|---|
| **Prepared by** | Environment, Cultural Heritage and Corridor Management Team<br>Program Management and Delivery (PMD) |
| **Title** | Waste and Recycling Plan Annual Status Report |
| **District & Region** | Department of Transport and Main Roads (TMR) |
| **Branch & Division** | Program Delivery and Operations (PDO) Branch<br>Infrastructure Management and Delivery (IMD) Division |
| **DMS ref. no.** | 430/00152 |

# Contents



# Tables

# 1. Executive Summary

The Department of Transport and Main Roads (TMR) is a large, complex and diverse, decentralised organisation, responsible for the management of different modes of transport encompassing motor vehicles, rail, bus, bike, pedestrian and boating. TMR operations include the construction and maintenance of linear transport infrastructure, transport related and office facilities, general public rest areas and customer service centres all of which generates a wide variety of waste streams, due to the diversity and scale of operations.

The wastes generated from TMR operations have been identified in the *TMR Waste Reduction and Recycling Plan 2016 -2021.*

The *Waste Reduction and Recycling Act 2011* imposes a requirement on each Queensland government department to develop a new waste reduction and recycling plan and to report on waste management achievements under the Department's Waste Reduction and Recycling Plan. Table 1 summarises TMR progress and achievements against the *TMR Waste Reduction and Recycling Plan 2016 -2021* including requirements, progression and achievements for the financial years 2015- 16 and 2016-17.

**Table 1 - Progress and Achievements against the *TMR Waste Reduction and Recycling Plan 2016 -2021***

| Phase | Requirement | Status | Comment |
|---|---|---|---|
| 1 | Publication of *TMR Waste Reduction and Recycling Plan 2016 -2021* on website. | ✓ | The *TMR Waste Reduction and Recycling Plan 2016-2021* was endorsed by the Director General and published on TMR's website at the following link 26 August 2016.<br>http://www.tmr.qld.gov.au/Community-and-environment/Environmental-management/Land/Waste-management |
| 1 | Review the *TMR Waste Reduction and Recycling Plan 2016 -2021* at three year intervals. | ✓ | The review is scheduled for July 2021. |
| 1 | Commencing from mid-2016, report within two months after the end of the financial year to EHP concerning the status of the *TMR Waste Reduction and Recycling Plan 2016 -2021*. | ✓ | This document forms the reporting against the plan required to be supplied to the Department of Environment and Heritage Protection (EHP). |
| 1 | From 2016, EHP reports annually on the number of departments that have a waste plan in place. | ✓ | TMR has a Waste Reduction and Recycling Plan in place. |

| | | | |
|---|---|---|---|
| 2 | Review waste data collected during Phase 1 to identify key waste streams for TMR to target. | In Progress | Baseline data analysis will be conducted in August 2017 to identify key waste streams to be targeted for reduction and recycling campaigns and initiatives within TMR. This timeline is required due to the introduction of construction project reporting, and the requirement is being phased into new contracts. |
| 2 | Each TMR geographic area has a Local Area Waste Plan. | ✓ | Each facility is to provide a Local Area Waste Plan of how they will manage their waste reduction and recycling reporting. 88% of Local Waste Management Plans have been submitted. |
| 2 | Update TMR targets and actions to reduce, reuse, recover and recycle waste. | In Progress | Baseline data analysis will be conducted in order to identify key waste streams to be targeted for reduction and recycling campaigns. |
| 2 | Investigate updates to standard specifications to emphasise waste reuse, recovery and recycling. | ✓ | TMR Construction Specification MRTS51 has been updated to mandate waste reduction, recycling and reporting for projects over $500K and over 3 months duration. |

# 2. Performance and Generation

TMR generates, recycles and disposes of a variety of waste. The *TMR Waste Reduction and Recycling Plan 2016-2021* outlines three phases of implementation. TMR has completed actions as specified in Phase 1 and has commenced Phase 2 in July 2017.

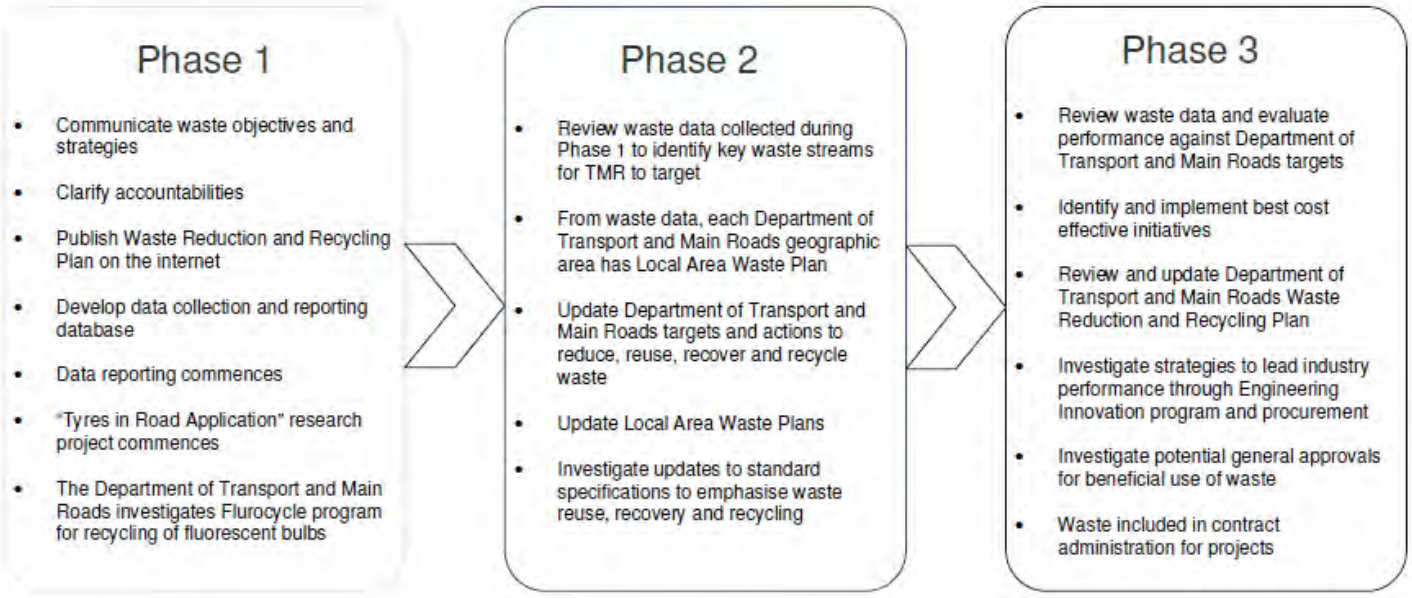



**Figure 1 - TMR Waste and Recycling Plan Phases**

TMR is a diverse organisation consisting of:

- 7,230 full time employees (permanent, part time and casual but excluding contractors) across Queensland;
- 91 TMR owned and managed premises;
- 52 premises leased through Department of Housing and Public Works (DHPW);
- 2 buildings leased through other commercial contracts; and
- Numerous transport infrastructure projects and sites, some with existing service contracts.

Phase 2 of the *TMR Waste Reduction and Recycling Plan 2016-2021* comprises of analysis of baseline data collection and reporting and ensuring Local Area Waste Management Plans are completed from these locations.

# 3. Waste minimisation activities and projects

TMR has a variety of initiatives underway to minimise waste and increase recycling and therefore contribute to the overall state waste reduction targets. The following are some examples of waste reduction and recycling initiatives in the 2016 – 2017 financial year.

## Customer Services, Safety and Regulation (CSSR) Division
### TMR Number Plate Recycling Program

TMR recycles obsolete number plates, in a process where metals are separated, exported and reused for manufacturing. In the 2016 – 2017 financial year, approximately 88 tonnes of number plates were recycled in the program.

This project contributes to the state recycling waste target in the *Queensland Waste Avoidance and Resource Productivity Strategy (2014-2024)*.

## Program Delivery and Operations Branch
### Sustainability and Waste Management Contract Initiatives
### TMR Metropolitan Region, Transurban Queensland and Lead Lease- Gateway Upgrade North Project

The Gateway Upgrade North project (Nudgee to Bracken Ridge) has diverted 90% of inert and non-hazardous construction waste to be beneficially used or recycled. Currently, 87% of waste generated on site is being diverted from landfill.

- Recycling or reclaiming 80% of wastewater.
- Utilising 100% of reinforcing bar and mesh produced through energy reduction processes.

This project contributes to the state construction and demolition waste target in the *Queensland Waste Avoidance and Resource Productivity Strategy (2014-2024)*.

## Program Delivery and Operations Branch
### Reseal program in Downs South West Region

TMR Downs South West Region, used approximately further 2 million litres of crumbed rubber in the 2016-2017 financial year, in resurfacing works. Crumbed rubber is pavement that is comprised of regular asphalt concrete with rubber from recycled tyres. The advantages of this are higher durability, ability to reduce road traffic noise and cost savings in comparison to traditional asphalt in addition to utilising the used tyre waste stream.

This project contributes to the state commercial and industrial waste target in the *Queensland Waste Avoidance and Resource Productivity Strategy (2014-2024)*.

## Program Delivery and Operations Branch
### Rocklea to Darra Ipswich Motorway Upgrade

TMR's second large project to adopt sustainability initiatives is Rocklea to Darra Ipswich Motorway Upgrade. Project specifications include mandated outcomes of achieving high scores in Infrastructure Sustainability Council of Australia (ISCA) sustainably ratings of

- Energy and Carbon
- Water
- Discharges to Air, Land and Water
- Materials

- Stakeholder Participation
- Heritage

This project contributes to the state construction and demolition waste target in the *Queensland Waste Avoidance and Resource Productivity Strategy (2014-2024)*.

# RoadTek Branch
## Resource Efficiency Strategy

During 2016 -2017 RoadTek branch reviewed its Resource Efficiency Strategy and Action Plan (RESAP) and released a 2017 – 2022 version.

In addition, RoadTek installed a 15kW Solar PV system at Winton Depot and an additional 12kW Solar PV to Gold Coast Depot led to annual savings of more than $5,000 whilst generating 25,000kWh of renewable energy and reducing our CO2-e emissions by 18t. This brings RoadTek total Solar PV systems to 204kW, generating 254,000kWh of renewable electricity, and reducing CO2-e by 178t each year.

Installation of potable water treatment systems at Midgee Depot and Bridgewater Depot increased use of non-potable sources located on site, and reduced transport delivery costs and fuel emissions. Reduction of waste has included donating first aid supplies past the due date to a wild life carer to utilise on injured animals.

**Table 2 - Excerpt from *RoadTek Resource Efficiency Strategy and Action Plan 2016/17***

| Waste Streams | YTD Generated (t) | YTD Reused (t) | YTD Recycled (t) | YTD Disposed to Landfill (t) | % reused / recycled |
|---|---|---|---|---|---|
| Asphalt, hot/cold mix, bitumen | 416.24 | 134 | 136 | 146.24 | 65% |
| Batteries (car/truck/machinery) | 7.81 | 0 | 6.54 | 1.27 | 84% |
| Bridge Timbers | 665.53 | 213.53 | 46 | 406 | 39% |
| Concrete | 13,167.65 | 4,401.00 | 2,564.80 | 6,201.85 | 53% |
| Excess earthworks (spoil) | 101,990.43 | 64,664.19 | 24,866.40 | 12,459.84 | 88% |
| General refuse | 2,557.45 | 0 | 5.49 | 2,551.96 | 0.20% |
| Metal | **219.37** | 0 | 192.38 | 26.99 | 88% |
| Oil | 30.68 | 0 | 7.4 | 23.28 | 24% |
| Paper/card board | 111.26 | 0.11 | 96.28 | 14.88 | 87% |
| Profiled materials | 24,856.74 | 19,979.30 | 3,102.15 | 1,775.29 | 93% |
| Regulated waste containers (paint/oil/pesticides etc.) | 12.65 | 0 | 0.2 | 12.45 | 2% |
| Regulated waste: Paint, paint sludge, painty water Chemicals; resins/epoxies, thinners; abrasive blasting waste; emulsion | 374.82 | 0 | 1.37 | 373.45 | 0.40% |
| Sewage/septic | 244.38 | 0 | 0 | 244.38 | 0% |
| Tyres/part tyres (rubber) | 53.67 | 0 | 28.03 | 25.63 | 52% |
| Vegetation (grasses excluded) | 10,249.20 | 5,971.12 | 3,376.16 | 901.92 | 91% |
| **Grand Total** | **154,957.88** | **95,363.24** | **34,429.19** | **25,165.45** | **83.80%** |

RoadTek reused or recycled more than 83% of waste generated in 2016/17.

This project contributes to the state construction and demolition waste target in the *Queensland Waste Avoidance and Resource Productivity Strategy (2014-2024)*.

# Information and Technology Branch

## E Waste Recycling

Information Technology Branch (ITB) within TMR provides electronic and Information Communication Technology (ICT) services to over 8,000 users throughout TMR.

ITB collects unused and faulty mobile phone devices and sends these to 'Mobile Muster'. Mobile Muster is the Australian mobile phone industry's official product stewardship program. From June 2015 to June 2016 ITB collected and disposed of 93kg of phones and accessories.

TMR have also entered into a managed service arrangement with our mobile service provider which will ensure that all devices under the service are disposed of responsibly on an ongoing basis.

In addition, TMR ensures all hardware such as desktops, laptops, tablets, servers and printers are recycled when disposed of through our third party providers.

This project contributes to the state landfill diversion target in the *Queensland Waste Avoidance and Resource Productivity Strategy (2014-2024)*.


**Figure 2 - TMR Throw out your dead Technology poster**

# Transport Regulation Branch

## Local Office Waste Initiative

Transport Regulation employees have been actively seeking ways to reduce waste and increase recycling within their facility. An overview of what has been achieved is:

- Creating informative signage for waste bins around the office to help people put their waste in the right bin.
- Information session at team meetings about waste sorting and recycling at 61 Mary Street.
- Recycling information in the quarterly TRB newsletter.
- TerraCycling stations for post packs, oral products/toothbrushes/toothpaste tubes, beauty products/cosmetics, coffee pods and batteries.

These initiatives contribute to the state landfill diversion target in the *Queensland Waste Avoidance and Resource Productivity Strategy (2014-2024)*.

### Customer Service Safety and Regulation Branch
#### Toowoomba City Customer Service Centre

Toowoomba City Customer Service Centre (CSC) has been chosen to be the first in Queensland to trial a paperless CSC. The trial commenced at Harristown on Monday 5 June then at the City CSC on Thursday 8 June. The trial will run for approximately three months and include the following applications:

- Renew license
- Upgrade license
- Reissue license
- Replace license (for example, lost, stolen, destroyed, name change, add/remove a condition)
- New business – light vehicles

This project contributes to the state landfill diversion target in the *Queensland Waste Avoidance and Resource Productivity Strategy (2014-2024)*.

# 4. TMR Infrastructure Project Waste and Recycling

TMR enters into various contractual arrangements with broad range of service providers whom generate different waste streams when delivering infrastructure construction and maintenance projects.

Phase 2 of *TMR Waste Reduction and Recycling Plan 2016-2021* requires TMR investigating updates to standard construction and maintenance technical specifications to emphasise quantities of waste generated, reused, recycled and disposed to landfill. Waste reporting was mandated in contract specifications from April 2017 with project waste reporting to be included in *TMR's Annual Waste Report* as of August 2018.

Reporting is required for construction or maintenance contracts (not including Principal costs (as either part of preconstruction or contract administration)):

- equal or greater than $500,000, or
- having a contract period equal or greater than 3 months.

During the contract, the Contractor shall record waste data categorised by waste stream and measured by the various waste management hierarchy categories such as waste generated, reused, recycled, and disposed to landfill. At practical completion the Contractor provides TMR's environmental management team the completed Contractor's Waste Register by the date of practical completion. Contractors that do not produce a Contractor's Waste Register as obliged under the standard technical specification will be flagged in the whole of department waste report as non-conforming.

TMR will undertake analysis of the final waste data to identify trend information and learnings in order to determine cost effective initiatives for future waste reduction initiatives with a goal to continuously improve waste management, recycling performance and review waste targets to ensure the department has practical and feasible waste targets.

Below is an example of TMR's Technical Specification MRTS51 Appendix 3 Contractor's Waste Register.

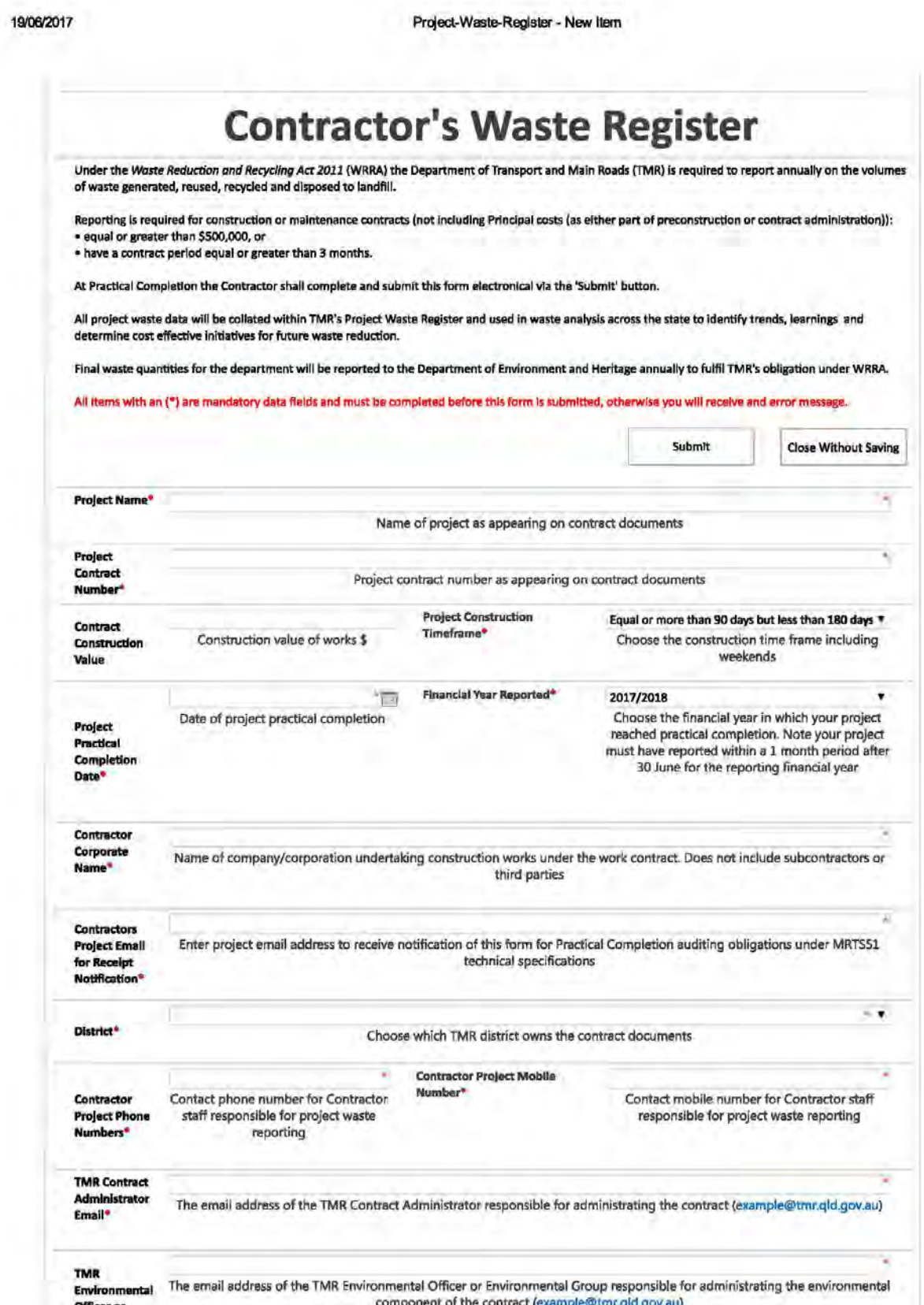
**Table 3 - Form C - Contractor's Waste Register**

(Required to be collated by Contractor and submitted to Administrator where triggered in Clause 11.2 of Annexure MRTS51.1)

| **Project** | | | | | | | | **Month** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Waste** | **Generated** | | | **Reused** | | | **Recycled** | | | **Disposed to landfill** | | | |
| | tonnes | kg | litres | tonnes | kg | litres | tonnes | kg | litres | tonnes | kg | litres | Cost ($) |
| Metal | | | | | | | | | | | | | |
| Paper / card board | | | | | | | | | | | | | |
| Vegetation (grasses excluded) | | | | | | | | | | | | | |
| Bridge Timbers | | | | | | | | | | | | | |
| **General refuse** | | | | | | | | | | | | | |
| Excess earthworks (spoil) | | | | | | | | | | | | | |
| Profiled materials | | | | | | | | | | | | | |
| Concrete | | | | | | | | | | | | | |
| Asphalt, hot / cold mix, bitumen | | | | | | | | | | | | | |
| Oil | | | | | | | | | | | | | |
| Regulated waste Paint, paint sludge, paint water, resins / epoxies, thinners, abrasive blasting waste, emulsion | | | | | | | | | | | | | |
| Tyres/part tyres (rubber) | | | | | | | | | | | | | |
| Regulated waste containers (paint/oil/pesticides etc.) | | | | | | | | | | | | | |
| Batteries (car / truck / machinery) | | | | | | | | | | | | | |
| Third party Illegally dumped refuse and litter removed from Site by Contractor | | | | | | | | | | | | | |

TMR is currently developing an online internet based Project Waste reporting to replace the Technical Specification MRTS51 Appendix 3 Contractor's Waste Register spreadsheet. The new online form will enable TMR Contractors to directly enter their waste stream data with mandatory reporting fields, restricted data entry and standardised measurements (to enable consistent state wide reporting). Once the form is submitted an automatic PDF receipt copy will be emailed to the Contractor, Contract Administrator and Environmental Officer responsible for ensuring project compliance with environmental technical specifications. TMR's Waste database will be automatically updated and used to quickly analyse and collate project waste data for reporting obligations. An example of the beta version of the Contractor's Waste Register is displayed in Figure 3.

**Figure 3 – SharePoint External Web Portal Project Waste Register Form**



19/06/2017 Project-Waste-Register - New Item

# Contractor's Waste Register

Under the *Waste Reduction and Recycling Act 2011* (WRRA) the Department of Transport and Main Roads (TMR) is required to report annually on the volumes of waste generated, reused, recycled and disposed to landfill.

Reporting is required for construction or maintenance contracts (not including Principal costs (as either part of preconstruction or contract administration)):
- equal or greater than $500,000, or
- have a contract period equal or greater than 3 months.

At Practical Completion the Contractor shall complete and submit this form electronical via the 'Submit' button.

All project waste data will be collated within TMR's Project Waste Register and used in waste analysis across the state to identify trends, learnings and determine cost effective initiatives for future waste reduction.

Final waste quantities for the department will be reported to the Department of Environment and Heritage annually to fulfil TMR's obligation under WRRA.

All items with an (*) are mandatory data fields and must be completed before this form is submitted, otherwise you will receive and error message.

Submit | Close Without Saving

| | | | |
|---|---|---|---|
| **Project Name*** | Name of project as appearing on contract documents | | |
| **Project Contract Number*** | Project contract number as appearing on contract documents | | |
| **Contract Construction Value** | Construction value of works $ | **Project Construction Timeframe*** | Equal or more than 90 days but less than 180 days<br>Choose the construction time frame including weekends |
| **Project Practical Completion Date*** | Date of project practical completion | **Financial Year Reported*** | 2017/2018<br>Choose the financial year in which your project reached practical completion. Note your project must have reported within a 1 month period after 30 June for the reporting financial year |
| **Contractor Corporate Name*** | Name of company/corporation undertaking construction works under the work contract. Does not include subcontractors or third parties | | |
| **Contractors Project Email for Receipt Notification*** | Enter project email address to receive notification of this form for Practical Completion auditing obligations under MRTS51 technical specifications | | |
| **District*** | Choose which TMR district owns the contract documents | | |
| **Contractor Project Phone Numbers*** | Contact phone number for Contractor staff responsible for project waste reporting | **Contractor Project Mobile Number*** | Contact mobile number for Contractor staff responsible for project waste reporting |
| **TMR Contract Administrator Email*** | The email address of the TMR Contract Administrator responsible for administrating the contract (example@tmr.qld.gov.au) | | |
| **TMR Environmental** | The email address of the TMR Environmental Officer or Environmental Group responsible for administrating the environmental component of the contract (example@tmr.qld.gov.au) | | |

**Conversion Calculator** Additional converting various waste stream measures to Kg is also located at the bottom of this form.

| Waste Streams | Generated | | Reused | | Recycled | | Disposed to Landfill | | Disposal Cost ($) | Disposal Location (eg., QLD/NSW waste facility name) |
|---|---|---|---|---|---|---|---|---|---|---|
| **Metal*** | Generate 0.000 (tonnes) | Generate 0.00 (litres) | Reused 0.000 (tonnes) | Reused 0.00 (litres) | Recycled 0.000 (tonnes) | Recycled 0.00 (litres) | Landfill 0.000 (tonnes) | Landfill 0.00 (litres) | Cost $0.00 $ | Location details |
| **Paper/Card Board*** | Generate 0.000 (tonnes) | Generate 0.00 (litres) | Reused 0.000 (tonnes) | Reused 0.00 (litres) | Recycled 0.000 (tonnes) | Recycled 0.00 (litres) | Landfill 0.000 (tonnes) | Landfill 0.00 (litres) | Cost $0.00 $ | Location details |
| **Vegetation*** | Generate 0.000 (tonnes) | Generate 0.00 (litres) | Reused 0.000 (tonnes) | Reused 0.00 (litres) | Recycled 0.000 (tonnes) | Recycled 0.00 (litres) | Landfill 0.000 (tonnes) | Landfill 0.00 (litres) | Cost $0.00 $ | Location details |
| | *grasses excluded* | | | | | | | | | |
| **Bridge Timbers*** | Generate 0.000 (tonnes) | Generate 0.00 (litres) | Reused 0.000 (tonnes) | Reused 0.00 (litres) | Recycled 0.000 (tonnes) | Recycled 0.00 (litres) | Landfill 0.000 (tonnes) | Landfill 0.00 (litres) | Cost $0.00 $ | Location details |
| **General Refuse*** | Generate 0.000 (tonnes) | Generate 0.00 (litres) | Reused 0.000 (tonnes) | Reused 0.00 (litres) | Recycled 0.000 (tonnes) | Recycled 0.00 (litres) | Landfill 0.000 (tonnes) | Landfill 0.00 (litres) | Cost $0.00 $ | Location details |
| **Excess Earthworks*** | Generate 0.000 (tonnes) | Generate 0.00 (litres) | Reused 0.000 (tonnes) | Reused 0.00 (litres) | Recycled 0.000 (tonnes) | Recycled 0.00 (litres) | Landfill 0.000 (tonnes) | Landfill 0.00 (litres) | Cost $0.00 $ | Location details |
| | *(Spoil)* | | | | | | | | | |
| **Profiled Materials*** | Generate 0.000 (tonnes) | Generate 0.00 (litres) | Reused 0.000 (tonnes) | Reused 0.00 (litres) | Recycled 0.000 (tonnes) | Recycled 0.00 (litres) | Landfill 0.000 (tonnes) | Landfill 0.00 (litres) | Cost $0.00 $ | Location details |
| **Concrete*** | Generate 0.000 (tonnes) | Generate 0.00 (litres) | Reused 0.000 (tonnes) | Reused 0.00 (litres) | Recycled 0.000 (tonnes) | Recycled 0.00 (litres) | Landfill 0.000 (tonnes) | Landfill 0.00 (litres) | Cost $0.00 $ | Location details |
| **Asphalt*** | Generate 0.000 (tonnes) | Generate 0.00 (litres) | Reused 0.000 (tonnes) | Reused 0.00 (litres) | Recycled 0.000 (tonnes) | Recycled 0.00 (litres) | Landfill 0.000 (tonnes) | Landfill 0.00 (litres) | Cost $0.00 $ | Location details |
| | *Asphalt, Hot/Cold Mix, Bitumen* | | | | | | | | | |
| **Oil*** | Generate 0.000 (tonnes) | Generate 0.00 (litres) | Reused 0.000 (tonnes) | Reused 0.00 (litres) | Recycled 0.000 (tonnes) | Recycled 0.00 (litres) | Landfill 0.000 (tonnes) | Landfill 0.00 (litres) | Cost $0.00 $ | Location details |
| **Regulated Waste*** | Generate 0.000 (tonnes) | Generate 0.00 (litres) | Reused 0.000 (tonnes) | Reused 0.00 (litres) | Recycled 0.000 (tonnes) | Recycled 0.00 (litres) | Landfill 0.000 (tonnes) | Landfill 0.00 (litres) | Cost $0.00 $ | Location details |
| | *Pain, paint sludge, paint water, resins/epoxies, thinners, abrasive blasting waste & emulsion* | | | | | | | | | |
| **Tyres*** | Generate 0.000 (tonnes) | Generate 0.00 (litres) | Reused 0.000 (tonnes) | Reused 0.00 (litres) | Recycled 0.000 (tonnes) | Recycled 0.00 (litres) | Landfill 0.000 (tonnes) | Landfill 0.00 (litres) | Cost $0.00 $ | Location details |
| | *Tyres/Part Tyres/Rubber* | | | | | | | | | |
| **Regulated Waste Containers*** | Generate 0.000 (tonnes) | Generate 0.00 (litres) | Reused 0.000 (tonnes) | Reused 0.00 (litres) | Recycled 0.000 (tonnes) | Recycled 0.00 (litres) | Landfill 0.000 (tonnes) | Landfill 0.00 (litres) | Cost $0.00 $ | Location details |
| | *Includes: paint/oil/pesticides etc* | | | | | | | | | |
| **Batteries*** | Generate 0.000 (tonnes) | Generate 0.00 (litres) | Reused 0.000 (tonnes) | Reused 0.00 (litres)) | Recycled 0.000 (tonnes) | Recycled 0.00 (litres) | Landfill 0.000 (tonnes) | Landfill 0.00 (litres) | Cost $0.00 $ | Location details |
| | *Car/truck/machinery batteries* | | | | | | | | | |
| **Illegally Dumped Refuse & Litter*** | Generate 0.000 (tonnes) | Generate 0.00 (litres) | Reused 0.000 (tonnes) | Reused 0.00 (litres) | Recycled 0.000 (tonnes) | Recycled 0.00 (litres) | Landfill 0.000 (tonnes) | Landfill 0.00 (litres) | Cost $0.00 $ | Location details |
| | *Third party illegal dumped refused and litter removed from site by the Contractor* | | | | | | | | | |
| **Septic Systems** | Generate 0.000 (tonnes) | Generate 0.00 (litres) | Reused 0.000 (tonnes) | Reused 0.00 (litres) | Recycled 0.000 (tonnes) | Recycled 0.00 (litres) | Disposal 0.000 (tonnes) | Disposal 0.00 (litres) | Cost $0.00 $ | Location details |
| | *Septic systems that are not connected to sewer mains/facilities* | | | | | | | | | |

**Project**

Initiatives

Has the project undertaken any innovative solutions to eliminate/minimise, reuse and recycle waste as part of the design, through the use of new technologies.

Note: You will not be able to submit form unless all mandatory fields with (*) are completed otherwise you will receive a error message.

Submit | Close Without Saving

This document is also automatically uploaded to TMR's Project Waste SharePoint Register once you have pressed the Submit button.

A copy of this form will be automated email to your email address as provided in this form (for your records), the Contract Administrator as provided in this form (for compliance) and a TMR Environmental Officer or Group email as provided in this form (for District reporting). Email address fields are mandatory and based on the email addresses that have been typed in this form.

Should you have a change or note an processing error in this form and are seeking to make an amendment, please email your request to the TMR Program Management and Delivery (PMD) Environment Team via ProjectWasteRegister@tmr.qld.gov.au.

## Conversion Table

| Waste Stream | Measure | Conversion to Kg |
|---|---|---|
| Tonnes | 1t | 1000kg |
| General refuse | 1kg | 1kg |
| General refuse | $M^3$ | 300kg |
| Oil | 1L | 0.881kg |
| Oil/water | 1L | 0.91kg |
| Sewage | 1L | 0.72kg |
| Thinners | 1L | 0.75kg |
| Paint | 1L | 2.4kg |
| Plastic Container | 20L | 1.5kg |
| Metal Drum | 220L | 15kg |
| Bladder | 250-500L | 25kg |
| Spray can | 375ml | 0.15kg |
| Passenger tyre | 1 | 19kg |
| Light truck tyre | 1 | 38kg |
| Truck tyre | 1 | 95kg |
| Solid tyre | < 0.3m | 57kg |
| Solid tyre | > 0.3m < 0.45m | 95kg |
| Solid tyre | > 0.45m < 0.6m | 133kg |
| Grader tyre | 1 | 285kg |
| Earthmover tyre | < 1m | 190kg |
| Motorcycle batter | 1 | 3kg |
| Passenger vehicle battery | 1 | 14.3kg |
| Light commercial battery | 1 | 15.7kg |
| Rigid truck battery | 1 | 23kg |
| Articulated truck battery | 1 | 31.5kg |
| Non-freight carry truck | 1 | 31.8kg |
| Bus battery | 1 | 31.6kg |

## Bin Size Conversion Table (litres)

| Bin Size (litres) | Dimensions (approx) Width | Height | Depth | How Full? | |
|---|---|---|---|---|---|
|  120 | 480 | 930 | 545 | ¼ | 30 |
| | | | | ½ | 60 |
| | | | | ¾ | 90 |
| | | | | FULL | 120 |
|  240 | 585 | 1060 | 730 | ¼ | 60 |
| | | | | ½ | 120 |
| | | | | ¾ | 180 |
| | | | | FULL | 240 |
|  660 | 1260 | 1200 | 780 | ¼ | 115 |
| | | | | ½ | 330 |
| | | | | ¾ | 445 |
| | | | | FULL | 660 |
| 1100  | 1240 | 1330 | 1070 | ¼ | 275 |
| | | | | ½ | 550 |
| | | | | ¾ | 825 |
| | | | | FULL | 1100 |
| 1500  | 2025 | 1110 | 1300 | ¼ | 375 |
| | | | | ½ | 750 |
| | | | | ¾ | 1125 |
| | | | | FULL | 1500 |
| 3000  | 2040 | 1690 | 1460 | ¼ | 750 |
| | | | | ½ | 1500 |
| | | | | ¾ | 2250 |
| | | | | FULL | 3000 |

# 5. TMR Facilities and RoadTek Waste and Recycling

## 5.1 TMR Owned Facilities and RoadTek

TMR owned facilities and RoadTek generated 160,738.48 tonnes of waste with 130,208.17 reused or recycled equating to an 81% diversion from landfill. The majority of this diverted material came from RoadTek excess earthworks, profiled material, concrete and vegetation.

TMR has the equivalent of approximately 7,230 full time employees (permanent, part time and casual but excluding contractors) that generated approximately 8,051.23 tonnes of general waste equating to 1.11 tonnes per person. The 2024 reduction in per capita generation is 1.8 tonnes per person per year.

The state target for commercial and industrial waste recycling is 55% for 2024 with a baseline of 42%. TMR achieved 27% diversion from landfill rate for this waste stream. Commercial and Industrial waste included oils, solvents, tyres, asphalt, batteries, regulated waste, regulated waste containers and septic water generated. This will be reviewed in the future program to improve reuse and recycling rates.

The state target for construction and demolition waste recycling is 80% for 2024 with a baseline of 61%. TMR achieved a 79% diversion from landfill rate for this waste stream. This is attributed to RoadTek reuse and recycling initiatives. Construction and demolition waste included metal, vegetation, bridge timbers, concrete, excess spoil and profiled material generated.

This information excludes information supplied by the Department of Housing and Public Works and waste generated by TMR construction and maintenance projects, but does include RoadTek waste data.

**Table 4 - TMR Owned Facilities and RoadTek combined waste data *2016/17***

| Waste Streams | YTD Total Waste Facilites/RoadTek (Tonnes) | YTD Facilities Totals Annual (Tonnes) | YTD RoadTek Annual (Tonnes) |
|---|---|---|---|
| General Refuse Generated | 8,051.23 | 5,493.78 | 2,557.45 |
| General Refuse Reused/Recycled | 5.49 | 0.00 | 5.49 |
| Furniture Generated | 40.00 | 40.00 | 0.00 |
| Office Paper Disposed | 0.38 | 0.38 | 0.00 |
| Office Paper Reused/Recycled | 26.88 | 26.88 | 0.00 |
| Cardboard Generated | 215.23 | 103.97 | 111.26 |
| Cardboard Reused/Recycled | 367.49 | 271.10 | 96.39 |
| Metal Generated | 219.37 | 0.00 | 219.37 |
| Metal Reused/Recycled | 310.12 | 117.74 | 192.38 |
| Oils Generated | 38.78 | 8.10 | 30.68 |
| Oils Reused/Recycled | 7.40 | 0.00 | 7.40 |
| Vegetation Generated | 10,253.87 | 4.67 | 10,249.20 |
| Vegetation Reused/Recycled | 9,347.28 | 0.00 | 9,347.28 |
| Solvents Disposed | 0.00 | 0.00 | 0.00 |
| Tyres Items Generated | 57.67 | 4.00 | 53.67 |
| Tyres Items Reused/Recycled | 28.03 | 0.00 | 28.03 |
| Toner Cartridges items Generated | 62.00 | 62.00 | 0.00 |
| Computers and IT items Generated | 61.00 | 61.00 | 0.00 |
| Waste Water Generated | 2.96 | 2.96 | 0.00 |
| Plastic Generated | 0.12 | 0.12 | 0.00 |
| Asphalt Generated | 416.24 | 0.00 | 416.24 |
| Asphalt Reused/Recycled | 270.00 | 0.00 | 270.00 |
| All Batteries + Vehicles | 7.81 | 0.00 | 7.81 |
| All Batteries + Vehicle Reused/Recycled | 6.54 | 0.00 | 6.54 |
| Bridge Timber Generated | 665.53 | 0.00 | 665.53 |
| Bridge Timbers Reused/Recycled | 259.53 | 0.00 | 259.53 |
| Concrete Generated | 13,167.65 | 0.00 | 13,167.65 |
| Concrete Recycled and Reused | 6,965.80 | 0.00 | 6,965.80 |
| Excess Spoil Generated | 101,990.43 | 0.00 | 101,990.43 |
| Excess Spoil Reused/Recycled | 89,530.59 | 0.00 | 89,530.59 |
| Profiled Materials Generated | 24,856.74 | 0.00 | 24,856.74 |
| Profiled Materials Reused/Recycled | 23,081.45 | 0.00 | 23,081.45 |
| Regulated Waste Containers Generated | 12.65 | 0.00 | 12.65 |
| Regulated Waste Containers Reused/Recycled | 0.20 | 0.00 | 0.20 |
| Regulated Waste Generated | 374.82 | 0.00 | 374.82 |
| Regulated Waste Reused/Recycled | 1.37 | 0.00 | 1.37 |
| Septic Generated | 244.38 | 0.00 | 244.38 |
| | | | |
| **TOTAL GENERATED** | 160,738.48 | 5,780.60 | 154,957.88 |
| | | | |
| **TOTAL REUSED/RECYCLED** | 130,208.17 | 415.72 | 129,792.45 |
| | | | |
| **PERCENTAGE REUSED/RECYCLED** | 81% | 7% | 84% |

TMR's diversion from landfill was approximately 81% of waste generated in 2016/17, 84% diversion by RoadTek and 7% diversion by TMR Facilities/Building. 95% of TMR Facilities/Building waste was general refuse.

TMR is currently updating the TMR owned Facility/Building waste reporting form to replace the old method of waste data collection using spreadsheets. The new form is accessible to departmental staff only and is an Intranet SharePoint form with mandatory reporting fields, restricted data entry and standardised measurements (cells are locked for certain attributes) to enable consistent state wide reporting.

**Table 5 – SharePoint Form for Local Area / Facilities / Building Waste Reporting**

## TMR Local Area / Facilities / Building Waste Report

| | |
|---|---|
| Suburb | |
| Address | |
| Floors | |
| Type of facility | |
| Ownership | |
| Contact Name | |
| Contact Phone Number | |
| Email Address | |
| Number of Hours Working On Waste | |
| Financial Year Reported | 2017/2018 |

| Waste Streams | Origin | Generated | Reused | Recycled | Disposed | Destination |
|---|---|---|---|---|---|---|
| | Identify the activities and / or products that produce the waste. For instance, solvent waste is generated from TMR laboratory operations, office cleaning tasks and from TMR workshops. | Quantity of material or products that enter a waste stream before composting, incinerating, landfilling, or recycling. | Quantity of waste material reused before replacing (eg, update computer rather than get rid of. Reusing without further manufacturing). | Quantity of waste material that is recovered and used as an input or resource product. (eg, item or components are put to some similar or new purpose). | Quantity of discarded or discharged material/waste that has been disposed of at landfill facilities in accordance to prescribed legislation. | Identify the final waste destination such as waste handling facility permitted to take general or regulated waste in QLD, NSW etc. |
| GENERAL WASTE[1] | | | | | | |
| General Refuse (tonnes) | | 0.000 | 0.000 | 0.000 | 0.000 | |
| Office Furniture (per item) | | 0 | 0 | 0 | 0 | |
| Office Paper (tonnes) | | 0.000 | 0.000 | 0.000 | 0.000 | |
| Cardboard (tonnes) | | 0.000 | 0.000 | 0.000 | 0.000 | |
| Metal (tonnes) | | 0.000 | 0.000 | 0.000 | 0.000 | |
| Computer & IT Equipment (per item) | | 0 | 0 | 0 | 0 | |
| Green Waste (tonnes) | | 0.000 | 0.000 | 0.000 | 0.000 | |

[1] Classification of Waste - Under the *Environmental Protection Act 1994*, waste is classified as general or regulated waste. Regulated waste has greater requirements for management and restrictions on disposal.

| REGULATED WASTE[1] | | | | | | |
|---|---|---|---|---|---|---|
| | Origin | Generated | Reused | Recycled | Disposed | Destination |
| Batteries (tonnes) | | 0.000 | 0.000 | 0.000 | 0.000 | |
| Acids (litres) | | 0 | 0 | 0 | 0 | |
| Oils (litres) | | 0 | 0 | 0 | 0 | |
| Solvents (litres) | | 0 | 0 | 0 | 0 | |
| Tyres from TMR use (tonnes) | | 0.000 | 0.000 | 0.000 | 0.000 | |
| Septic System Sewage that are not connected to sewer mains (litres) | | 0 | 0 | 0 | 0 | |
| Agricultural Chemical Containers - empty containers (per item) | | 0 | 0 | 0 | 0 | |
| TRADE WASTE | | | | | | |
| Waste Water / Grey Water (litres) | Origin | Generated | Reused | Recycled | Disposed | Destination |
| | | 0 | 0 | 0 | 0 | |
| OTHER WASTE STREAMS | | | | | | |
| Please Specify | Origin | Generated | Reused | Recycled | Disposed | Destination |
| (tonnes) | | 0.000 | 0.000 | 0.000 | 0.000 | |
| Additional waste minimisation initiatives undertaken by the local Area / Facility / Building | | | | | | |

## 5.2 TMR Leased Facilities

The Department of Housing and Public Works (DHPW) are service providers to numerous agencies through the provision of accommodation services, including cleaning services and waste collection, in buildings that the Department both owns and leases on behalf of other agencies. As such, DHPW has provided TMR with the data attained from the *DHPW's Annual Agency Waste Report 2017* for TMR leased premises

TMR occupies 52 leased buildings through DHPW, data in *DHPW's Annual Agency Waste Report 2017* is restricted to reporting on Brisbane CBD buildings and select Brisbane suburban buildings. DHPW intends to widen the scope of waste data collection in future years and therefore TMR data will be updated to reflect this.

TMR is a large agency with staff in multiple buildings and has been significantly impacted by relocations and consolidations throughout the last financial year which have flowed into the current year.

TMR is in the process of consolidating a number of spaces into 61 Mary Street, with moves out of Transport House and Terrica Place. An existing tenancy at 313 Adelaide Street, which has an existing zonal system and a diversion ratio of 23% will be retained. 61 Mary Street has a zonal waste management system with a diversion ratio of 60% based on partial occupation from Feb 2017.

It is probable that the low diversion rate at 313 Adelaide Street may be due to mixing of office waste with waste from a ground floor retail food outlet. Unfortunately the private and public sector waste streams cannot be separately monitored.

61 Mary Street data from June to January has been excluded due to the probable contamination by construction waste. The February to June results are promising for TMR going forward as the agency further consolidates at that address.

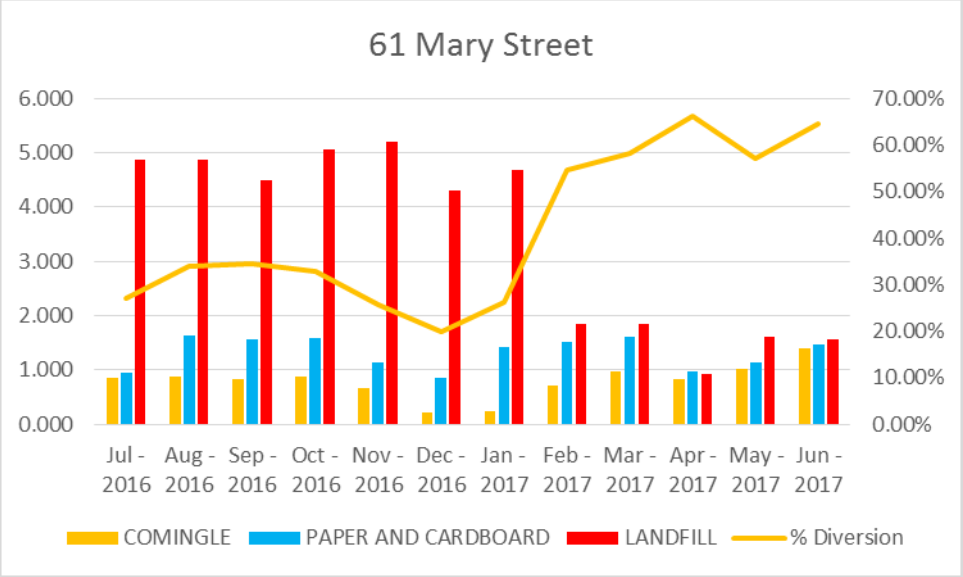



**Figure 3 - 61 Mary Street Waste Chart 2016-2017**

**Table 6 - DHPW leased building data for TMR facilities *2016 - 2017***

| | Agency | Whole of Government |
|---|---|---|
| 2016 % Diverted from Landfill | 24.9% | 22.3% |
| 2017 % Diverted from Landfill | 29.4% | 32.8% |

| | Agency | Whole of Government |
|---|---|---|
| Annual Co-mingle Waste (Tonnes) | 13.27 | |
| Annual Paper/cardboard Confidential Waste (Tonnes) | 35.4 | |
| Annual Landfill Waste (Tonnes) | 146.05 | |
| Annual Kilograms per square metre | | |
| - Recyclable | 1.13 | 1.17 |
| - Landfill | 2.71 | 2.40 |

Assuming similar quantities of waste were produced in the 2015 sample period and the 2016-2017 sample period, savings of $7,000 can be identified.

**Table 7 - DHPW leased building data for TMR facilities *2016 - 2017***

| | Comingle | Paper/Cardboard | Landfill | TOTAL |
|---|---|---|---|---|
| 2015 Split (tonnes) | 173 | 449 | 2,168 | 2,790 |
| 2016/7 Split | 475 | 421 | 1,894 | 2,790 |
| Variation in weight | 302 | -28 | -273 | 0 |
| Variation in Cost | $31,095 | -$1,195 | -$36,911 | -$7,013 |

# 6. Litter waste data

While waste generated outside of TMR operations such as public litter is out of scope in the *TMR Waste Reduction and Recycling Plan (2016-2021)* this data is still collected and has been reported.

For the 2016/2017 financial year, TMR collected approximately 2,636,301m$^3$ at a cost of approximately $4,759,677. Note illegal dumping is included in litter collection data.