

BBMP Training by Master Trainers - SWM

In Collaboration with SWMRT and EMPRI



Bruhat Bengaluru
Mahanagara Palike

2016

About

The SWM Master Trainers

Training Cadre

To create a Cadre of SWM Master Trainers- both Citizen and Officers with training capacity

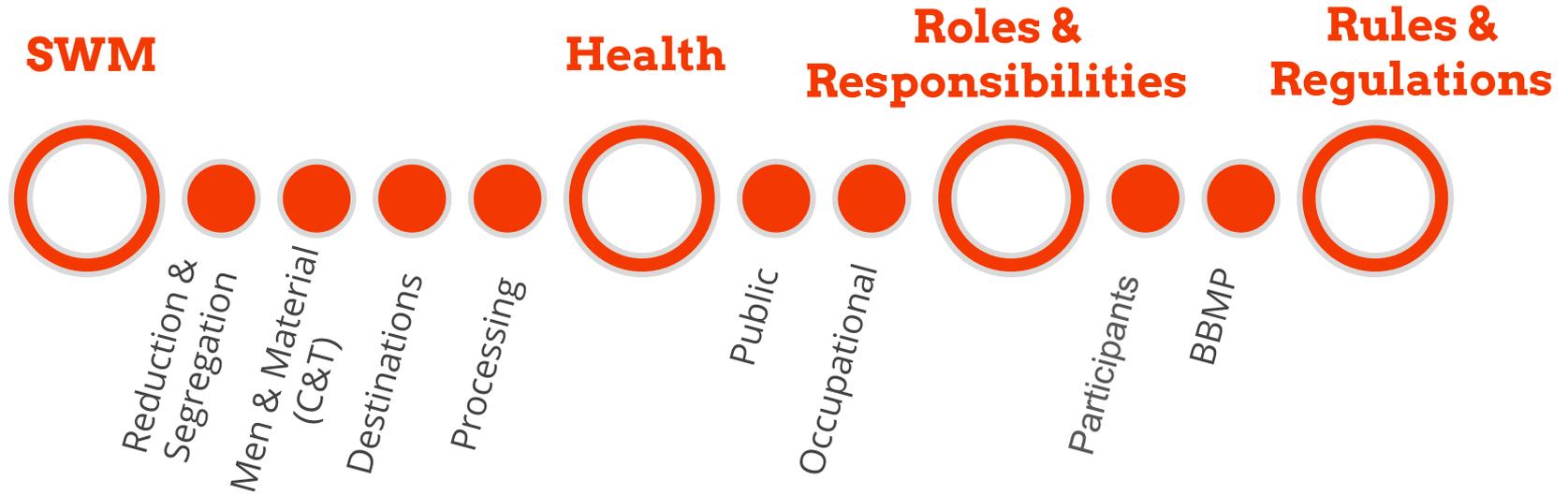
SWM Competence

To enhance the SWM competence through access to SWM material and updated information with citizen participation

Ongoing Training

To provide ongoing Training thus speed up and scale up IEC

Training Objectives



Roles & Responsibilities

The Training Programme

Master Trainers

- Will undergo a TOT
- Will be given a Master Trainer ID
- Provide Training for PKs, Shuchi Mitras, RWAs at the Ward level

BBMP SE, MOH – SHI

- Conduct the Ward Level Training Programme
- Calendar of Training published by BBMP SWM HO
- Identify Location, Provide Training material,
- Ensure attendance of Participants

Training for

Master Trainers to train across 8 Zones
at the Ward level.



~25,000

Pourakarmikas (PKs), Gangmen, Link
Workers, ASHA workers



~4,000

Shuchi Mitras



~4,500

Resident Welfare Association
Members

Training on such scale being done for the first time



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Section

SWM

- Know your City Waste
- Know your City SWM Policy
- Know the Plastic Ban
- Know your HouseHold Waste
- Know the Men & Material
- Know the SWM Destinations
- Know the Shuchi Mitra
- Know the Waste Picker
- Know the Ward Commitee

Know your **City Waste**

WASTE GENERATION
Per capita - 309.06 gms

COMPOSITION OF
HOUSEHOLD WASTE
Per household - 1.24 kgs

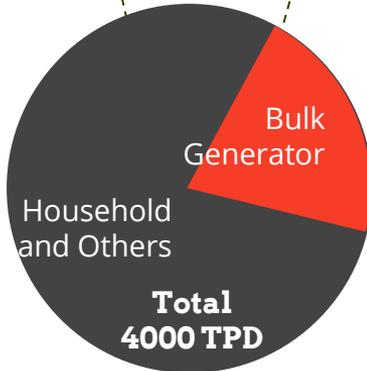
By Generator Type

88%

Household and
other Waste
3500 TPD

12%

Bulk Generators
500 TPD

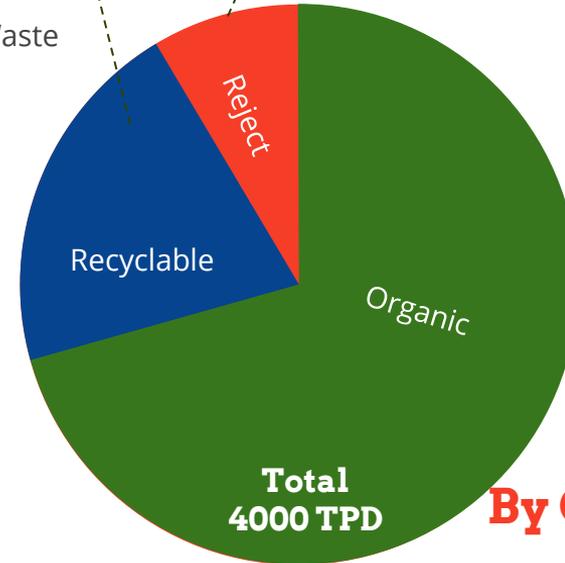


20%

Recyclable Waste
800 TPD

5%

Reject Waste
200 TPD



75%

Organic Waste
3000 TPD

By Composition

Source: BBMP

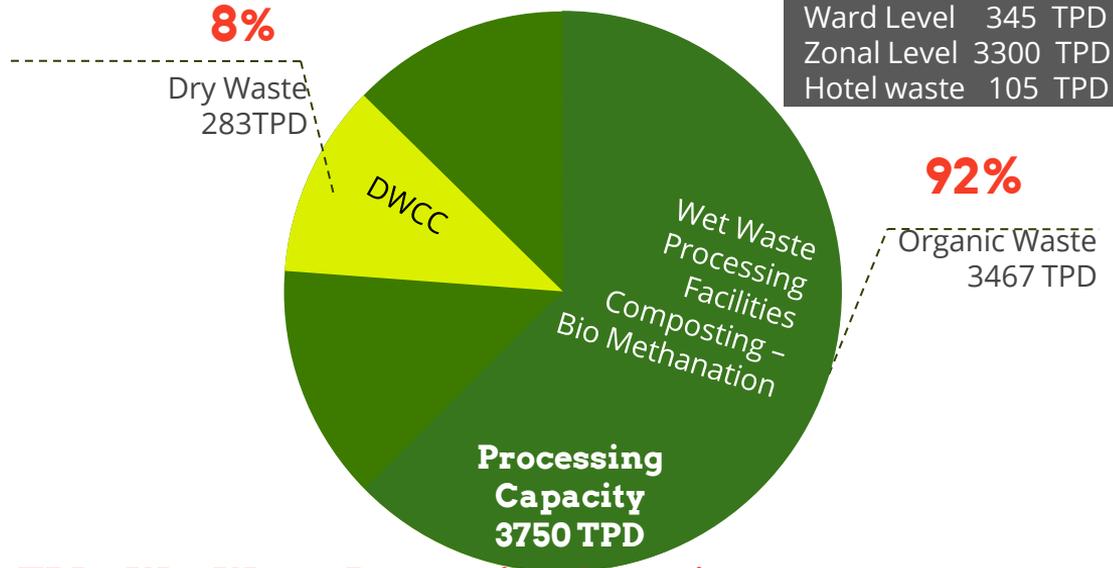
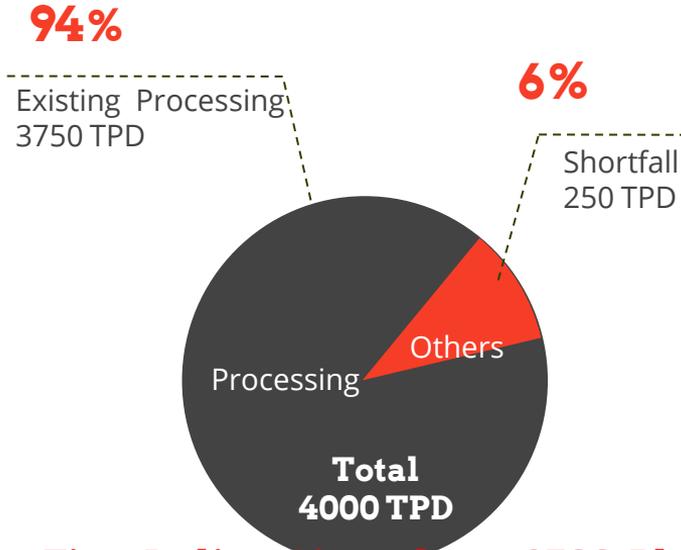


Know your **SWM Destination Capacity**

SWM Destinations Capacity
Existing 3750 TPD

COMPOSITION OF
PROCESSING CAPACITY

Ward Level 345 TPD
Zonal Level 3300 TPD
Hotel waste 105 TPD



The First Indian City to have 3500 Plus TPD Wet Waste Processing Capacity



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Know your **City SWM Policy**



Know the **Plastic Ban**

GOK under the Environment Protection Act, issued a ban on all non-essential plastics effective March 11th, 2016.

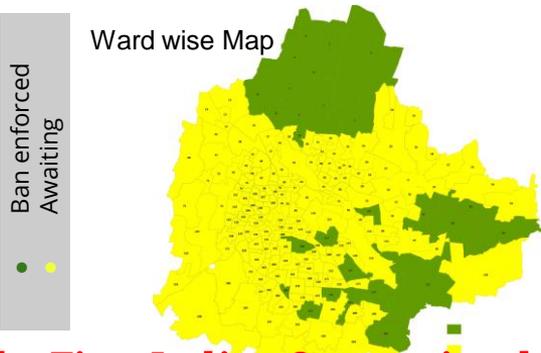


Banned items include:

- Plastic & NWPP carry bags
- Plastic & Flex buntings/flags/banners
- Plastic/Thermocol disposable tableware
- Plastic microbeads

Ban enforced
Awaiting

Ward wise Map



Document - [Ban on Plastic and Penalty impose in BBMP](#)

<http://bbmp.gov.in/en/web/guest/swm-circulars>



The First Indian State to implement a comprehensive Plastic Ban

Know your **HouseHold (HH) Waste**



➤ Mandatory 3 way segregation at source.

➤ Mandatory colour coded bins/reusable bags for storage.

➤ Plastic liners not allowed.

➤ Daily collection of organic, sanitary. Biweekly of recyclables.

Karnataka High Court, on Dec 17, 2015, mandated the **"2 bins and 1 bag"** system be adopted by all waste generators in Bengaluru.

The First Indian City to mandate 3 way segregation

Know the **SWM Men & Material**

Door to Door Collection & Transportation (D2D C&T)

The city has **~23,000** Pourakarmikas (PKs)

Permanent PKs

(Directly employed by BBMP)

~3000

Contract PKs

(Employed by Contractor)

~20,000

Functions of PKs

BBMP D2D Collection

- Daily Collection and Transportation by Auto Tippers ONLY with Driver & Helper
- Push Cart Collection ONLY in Slum Areas



BBMP Street Sweeping

- SCOPE - Sweeping of roads, streets, footpaths and pavements. Cleaning of tertiary road side drains, uprooting of vegetation.
- Pourakarmikas to carry out the street sweeping
- Gangwork for intensive cleaning of public areas like playgrounds, burial grounds etc.

Know the **Waste Picker**

Inclusion in Municipal SWM functions

- Direct MOU with Municipality to operate the Dry waste Collection Centres
- Trained for operating bio methanization units at ward level
- Empanelling wastepickers and scrap dealers as legal service providers for bulk generators

Issue of ID cards for 6500 waste pickers
by the Municipality in 2011-12



The First Indian ULB to issue ID cards to Waste Pickers



Know the **Shuchi Mitra**

About Shuchi Mitra

~20 Shuchi Mitras are nominated in every Ward.

1 Shuchi Mitra per Auto Block

Roles & Responsibilities

- Attendance at Muster Point
- Black spot inspection
- Report on number of Vehicles / Pushcarts; visual inspection
- Is Route map of Vehicles followed
- Is waste going to local destinations
- Status of DWCC, Local Processing Facilities

Monthly Sign off on Checklist

Shuchi Mitra ID



Know the **Ward Committee**

About the Ward Committee

- Kar HC Directed on 8 June 2013, it is obligatory on the part of the State to constitute Wards Committee within the Territorial area of the Corporation.
- Ward Committees in all Wards have been formed
- Ward Committee Draft Rules is published by the Govt of Karnataka

Roles and Responsibilities

The Ward Committee chaired by the Corporator of the Ward is responsible and accountable for the SWM function at the Ward Level.

Know the **SWM Destinations**

| | Destination | Existing | Operative Model | Unit Capacity |
|-------|-------------------------------------|--|------------------------------------|---------------|
| Ward | DWCC | 189 of 198 Wards | Public Private Participation (PPP) | 1.5 TPD |
| Ward | Leaf Shredding | Planned for every ward | Operations & Maintenance (O&M) | |
| Ward | Composting Bio Meth | 2 of 198 Wards 12 of 198 Wards | Operations & Maintenance (O&M) | 1TPD 5TPD |
| Ward | Sanitary Waste Collection Center | Planned for every ward | Operations & Maintenance (O&M) | |
| Ward | Integrated Yards | East(1), South(2), Mahadevpura(1) of 198 Wards | Operations & Maintenance (O&M) | |
| Zonal | Coconut to Briquettes | West Zone (1) | Public Private Participation (PPP) | 40TPD |
| Zonal | Composting | 6 Units | | 200TPD |

Know the **SWM Destinations**

| | Destination | Existing | Operative Model | Capacity |
|--------------------|--|---|---|------------------------------------|
| Zonal | Bio Meth | Maltose Nobel Exchange | Public Private Participation (PPP) | 25 TPD 80 TPD |
| Zonal | Composting | MSGP Mavallipura KCDC, Chikkanag | Public Private Participation (PPP) Public Private Participation (PPP) (O&M) | 900 TPD 200 TPD 500 TPD each |
| Centralized | BioMedical Waste Processing | Semb Ramki Maridi Anu Autoclave | Public Private Participation (PPP) | |
| Centralized | Hazardous Waste Landfills | Karanata Waste Proj | Public Private Participation (PPP) | |
| Centralized | Construction & Demolition (C&D) | Rock Crystal (3 Units) | Public Private Participation (PPP) | 1000 TPD |
| Centralized | Animal /Slaughterhouse Waste | Sumanahalli | O&M | 25TPD |
| Centralized | Scientific Landfill | Kannahalli Seegehalli Chikkanagamangala | Planned O&M | 180 TPD |

Know the **SWM Destinations**

Ward
SWM



Zonal
Central
SWM



Know the **New Initiatives**

SWM Destinations

- Opening up of more **Dry waste Collection Centers**/ Upgradation of existing DWCCs.
- Setting up of Decentralized **composting units** :
Organic Waste Converter (OWC) of 5 ton capacity.
BBMP to set up 10 units &
NGO's/RWA's/SHG's. to set up 15 units
- Setting up of Decentralized **Bio-methanisation** plants of 5 ton capacity
- Mobile/ stationary **Shredding and choppers** machines for each sub division 1-2 ton capacity
shredding machine 1- 3ton
- Setting up of 3 Animal incinerators

Know the **New Initiatives**

Men and Material

- **Biometric attendance system** for pourakarmikas attendance monitoring
- Establishment and maintenance of **SMART CONTROL ROOM**, development of GPS S/W & monitoring of GPS etc
- Establishment of 28 **Solid waste Transfer station**.

Men and Material

- Installation of **CCTV cameras** to tackle Large black spots.
- **Scientific bin system** for commercial market areas & Slum areas to streamline the irregular waste collection.
- Placement of **litter bins** for commercial areas/market area/area with high floating population
- **Elimination of Black spots along with beautification** Approximately there are 2000 large black spots About 200 black spots have been removed by BBMP and citizen initiatives. To beautify under PPP mode about 50% can be borne by BBMP and 50 % from the citizen



Section **SWM** **Systems**

Know your

- Door to Door Collection System
- Bulk Generator Management System
- Street Sweeping System

1 Door to Door Collection & Street Sweeping

Tendered Contract

15 Wards

3 Year Contract . Existing Contracts expire in June 2016

Centralized Contract with Successful Bidder

Tender Package of 2-3 Wards

Lump sum Payment for the Tender Amount

Department Work Order

183 Wards

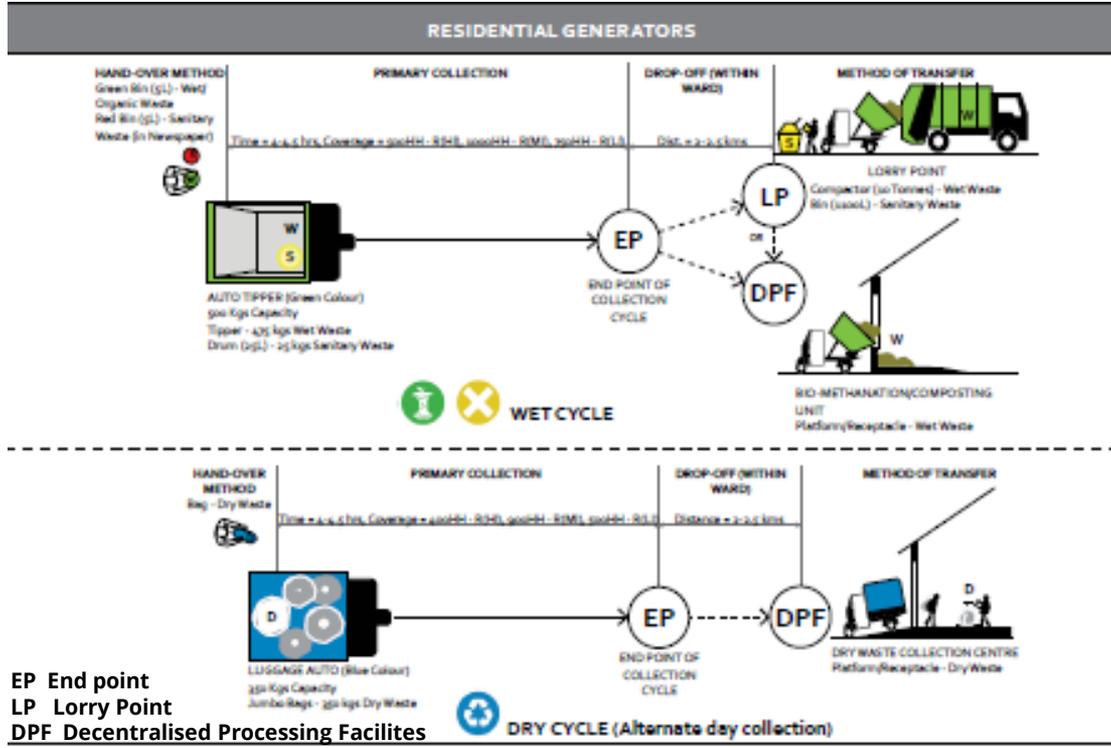
Hire charges of Men and Material

Ward Level Works from Various Contractors

Monthly fixed payment



1 Door to Door Collection System



PRIMARY COLLECTION

Normative Requirements

Auto Block of 750 HouseHolds HH

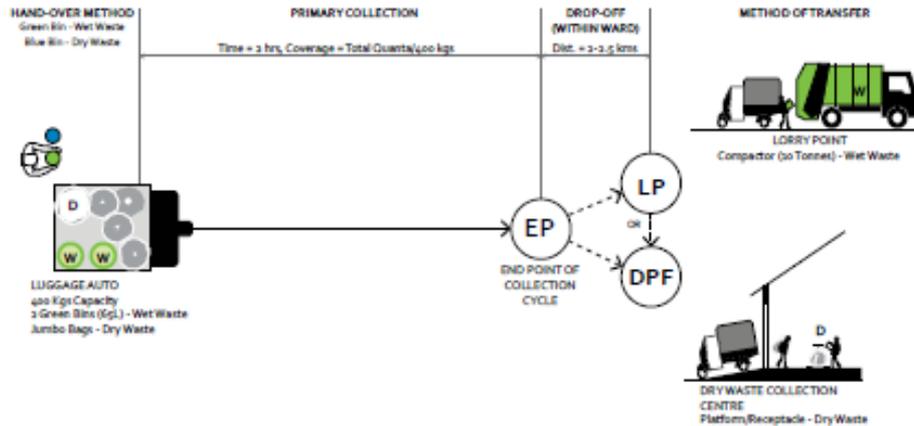
Daily Collection of Wet:Sanitary Waste by Auto Tipper

Bi-Weekly Collection of Dry Waste by Luggage Auto



1 Door to Door Collection System

COMMERCIAL GENERATORS



EP End point
LP Lorry Point

DPF Decentralised Processing Facilities



ALL STREAMS

PRIMARY COLLECTION

Normative Requirements

Auto Block of 750 Commercial Units

Daily Collection of Dry Waste by Luggage Auto



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1 Door to Door Collection System

SECONDARY COLLECTION

Table 05: Secondary pick-up & drop-off outside ward

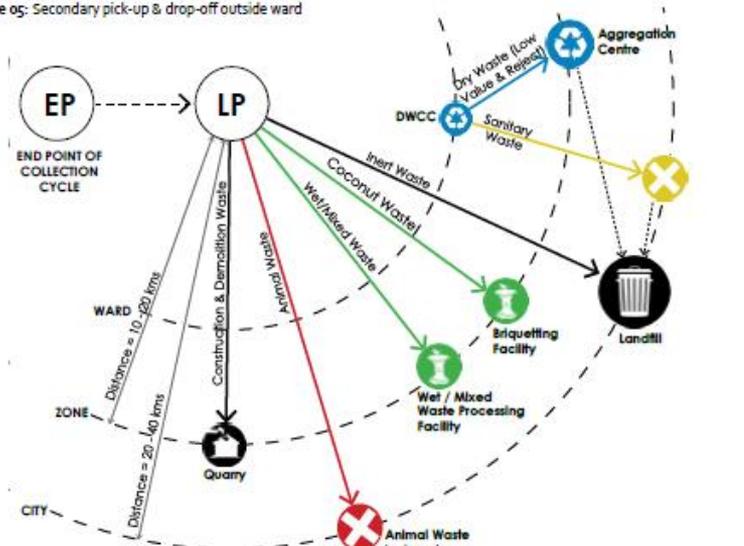


Figure 08: Drop-off destinations at zonal and city level

A BBMP and KUIDFC study

EP End point
LP Lorry Point
DPF Decentralised Processing Facilities

SECONDARY COLLECTION & DROP-OFF - OUTSIDE WARD

| WASTE STREAM | VEHICLE | PICK-UP AT WARD DESTINATION | DROP-OFF DESTINATION OUTSIDE WARD |
|----------------|----------------------------------|--|---|
| WET WASTE | Compactor (10 tonne) | Lorry Point | Composting Facility (Zonal Integrated Yard) |
| DRY WASTE | Compactor (5 tonne) | Dry Waste Collection Centre | Aggregation Centre (Zonal Integrated Yard/ Constituency Yard) |
| SANITARY WASTE | Auto Tipper/ Luggage Auto (Bags) | Dry Waste Collection Centre (Collection point) | Sanitary Waste Processing Facility (City Facility - Private) |
| COCONUT WASTE | Auto / Special Vehicle | Processor pick up / Lorry Point | Briquetting Facility (Constituency Yard) |
| INERT WASTE | Compactor (5 tonne) | Decentralised Processing Facilities to Lorry Point | Landfill (City or Zonal Level) |
| MIXED WASTE | Compactor (5 tonne) | Lorry Point | Composting Facility (Zonal Integrated Yard) |
| ANIMAL WASTE | Compactor / Auto | Collection Point | Dead Animal Incinerator (City Level) |
| DEBRIS | Compactor / Auto | Lorry Point | Quarry (Zonal Level) |

1 Door to Door Collection System



SECONDARY COLLECTION

Normative Requirements

- 6-10 Auto Tippers in 1 Lorry Point
- 2-3 Compactors
- 1 Sanitary Waste Receptacle
- 1 Supervisor

SECONDARY COLLECTION & DROP-OFF - TRANSFER AT LORRY POINT

Lorry Point Specifications:

- Area - 270 to 300 sq.m.
- Should not be at crossroad or junction/main road area
- Preferably with a roof cover
- No Garbage on Ground
- Only Tipping and/or transfer from bin

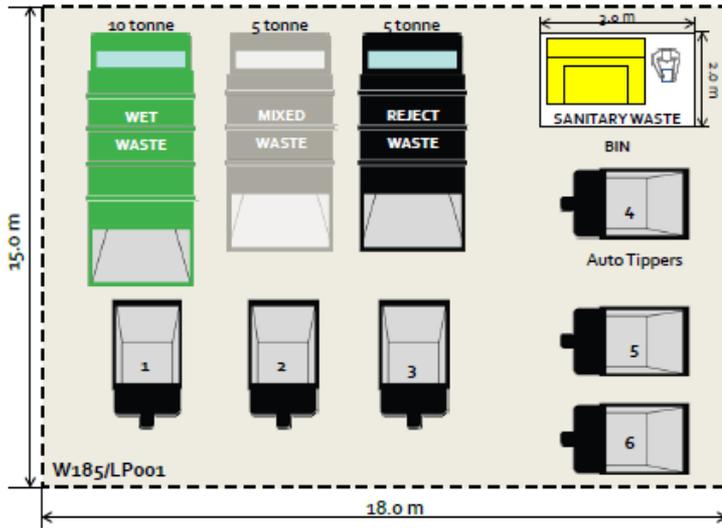


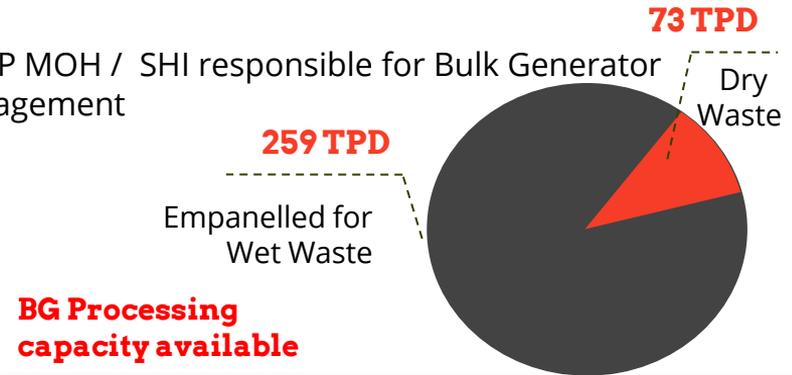
Figure 09: Normative standards for a typical lorry point

Bulk Generator System

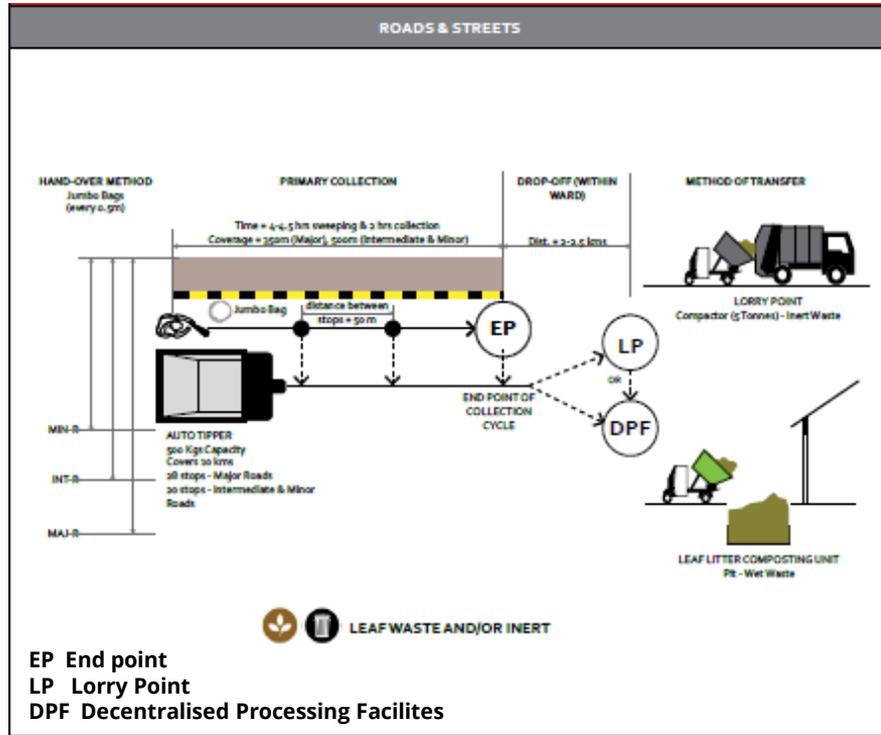


BBMP has empanelled service providers , through the KASA VILAVAARI SEVA DARARU initiative Processors/Recyclers who can collect, transport & process/ recycle (End to End) different kind of wastes

- All Bulk Generators to sign up with Empanelled Vendors
- Nobel Exchange is a dedicated Facility for Processing Hotel Waste
- BBMP MOH / SHI responsible for Bulk Generator Management



3 Street Sweeping System



STREET SWEEPING PROCESS

Leaf Waste and / Or Inert

- PK with 1 Jumbo Bag
- Make mounds every 50 M
- Auto Tipper to Collect from PK
- Auto Tipper to transfer inert waste at LP
- Auto Tipper to transport leaf waste at Ward Level leaf composting Point

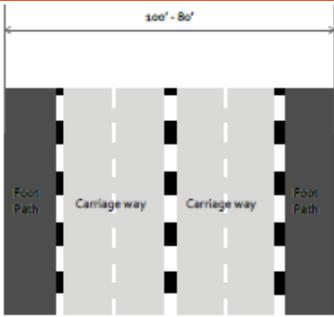
NORMATIVE

1 Auto Tipper every 10Kms

3 Street Sweeping System

Tender Requirements

MAJOR ROADS
100 ft – 80 ft roads
Carraigeway \geq 40ft with
Median and Footpath
NORMATIVE
350 MTRS/PK Daily Sweeping



MAJ-R



INT-R

INTERMEDIATE ROADS
60ft – 40ft roads
Carraigeway $<$ 40ft with or
without Median and Footpath
NORMATIVE
500 MTRS / PK Daily Sweeping

MINOR ROADS
Less than 40ft Roads
Carraigeway $<$ 20ft , without
Median , with or without Footpath
NORMATIVE
500 MTRS/PK Alternative Day



MIN-R

Section

Rules and Regulations

Highlight of the various
Public Notices, Circulars ,
Office Orders and Inter
Office Circulars

Detail of all of the above can be found in the
BBMP website, SWM Section



Highlight of Circulars – Rules and Regulations

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Please refer to Index in the Trainers Manual. Complete Document available on the BBMP website



Section

Roles and Responsibilities

Highlight of the various
Public Notices, Circulars ,
Office Orders and Inter
Office Circulars

Detail of all of the above can be found in the
BBMP website, SWM Section



Highlight of Circulars- Roles and Responsibilities

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Nodal Officers for each BBMP Ward

Please refer to Index in the Trainers Manual. Complete Document available on the BBMP website



Contact **Info**

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and Queries

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BBMPSWM



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Thank You !



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