



# 3R WASTE MANAGEMENT SYSTEM



# IN BALIKPAPAN CITY INDONESIA

SOURCE SEPARATION OF WASTE





## GENERAL DESCRIPTION

**Area** : 50.330 Ha  
**Population** : 735.850 (2015)  
**Topography** : 85% Hilly  
15% Flat Land



## STRATEGIC POSITION



### International Airport and Seaport

Gate to East and North Kalimantan  
Province

City of Industry, Trade, Services,  
Tourisme, Culture, and Education

# MICE CITY



Center of Oil Refinery, and Gas Companies  
in Eastern Indonesia

Lies in ALKI II Lane  
and Integrated Economic  
Development Region (KAPET)





# VISION **2016 - 2021**

**Creating Livable and Sustainable  
Balikpapan  
Towards Madinatul Iman (Civil Society)**



## MISION



Producing Competitive  
Human Resources



**Creating a Livable and  
Sustainable City**



Providing Satisfactory  
City Infrastructure



Developing a creative,  
Democratic Economy



Establishing  
Good Governance

# ECOLOGICAL CITY CONCEPT



## Foresting The City

Reforesting the City with:

2 Protection Forest  
20 City Forest



## Green Industry

Development of Industrial Area with the concept of

0 Waste  
0 Sediment



## Zero Waste to Landfill

Reducing waste to Landfill with 3R

3 R  
(Reduce, Reuse, Recycle)



## Mitigation & Adaptation

Strengthen City's resilient toward climate change effect

Baseline GRK

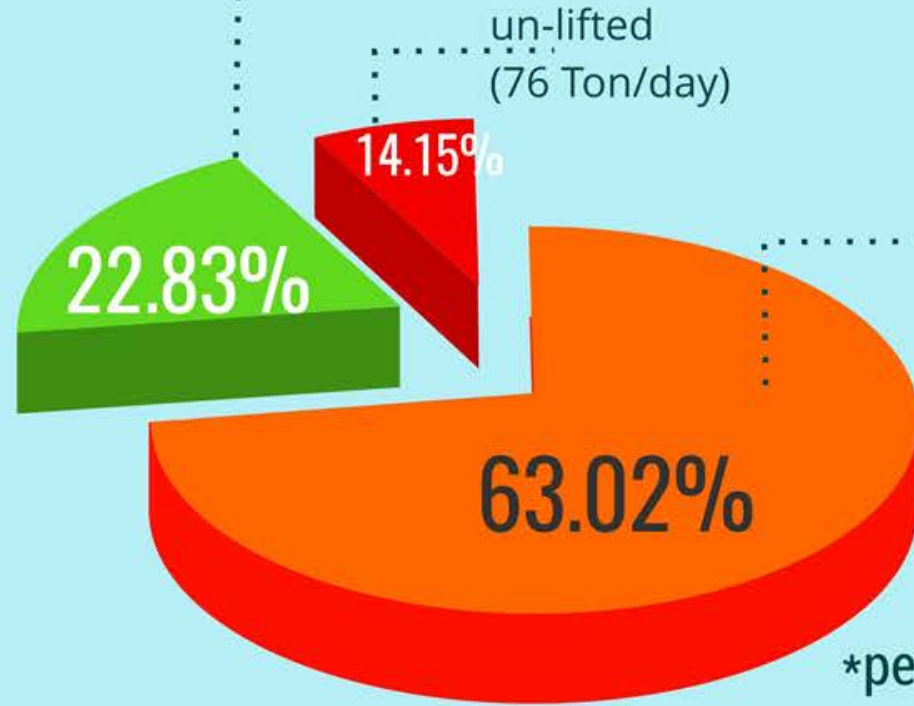




# WASTE MANAGEMENT 2016

## 534 Ton

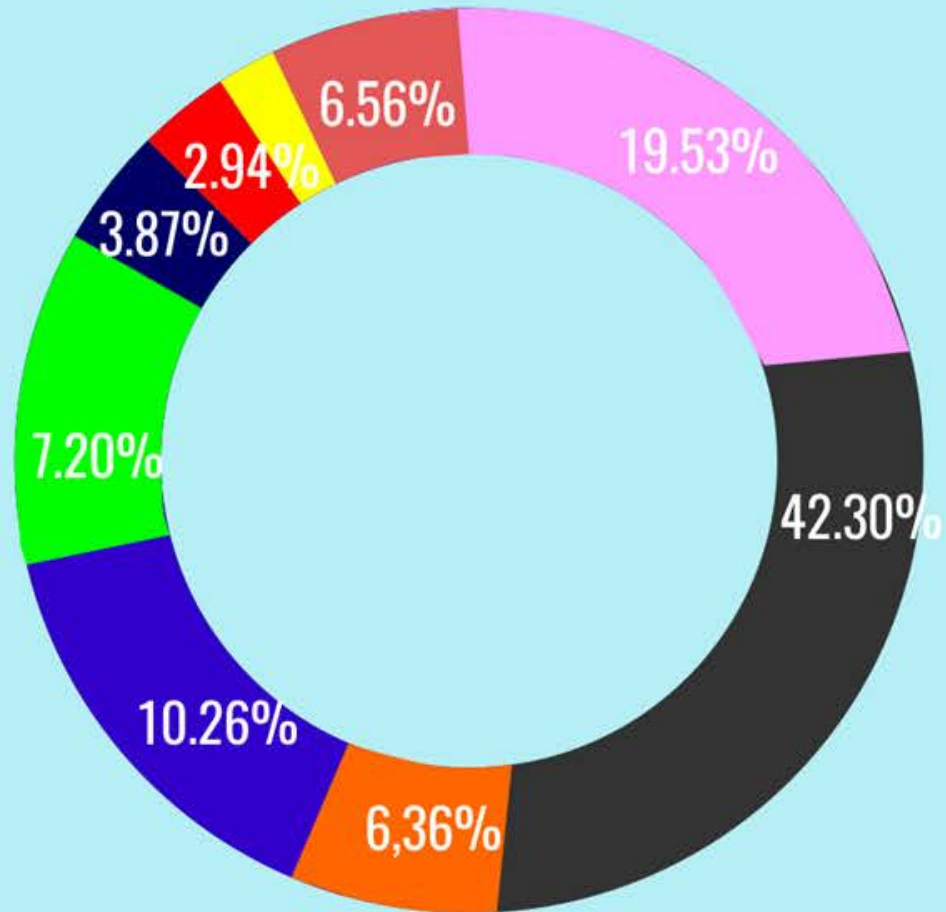
Total Amount of Waste/Day



SOURCE: DLH 2016



# WASTE COMPOSITION

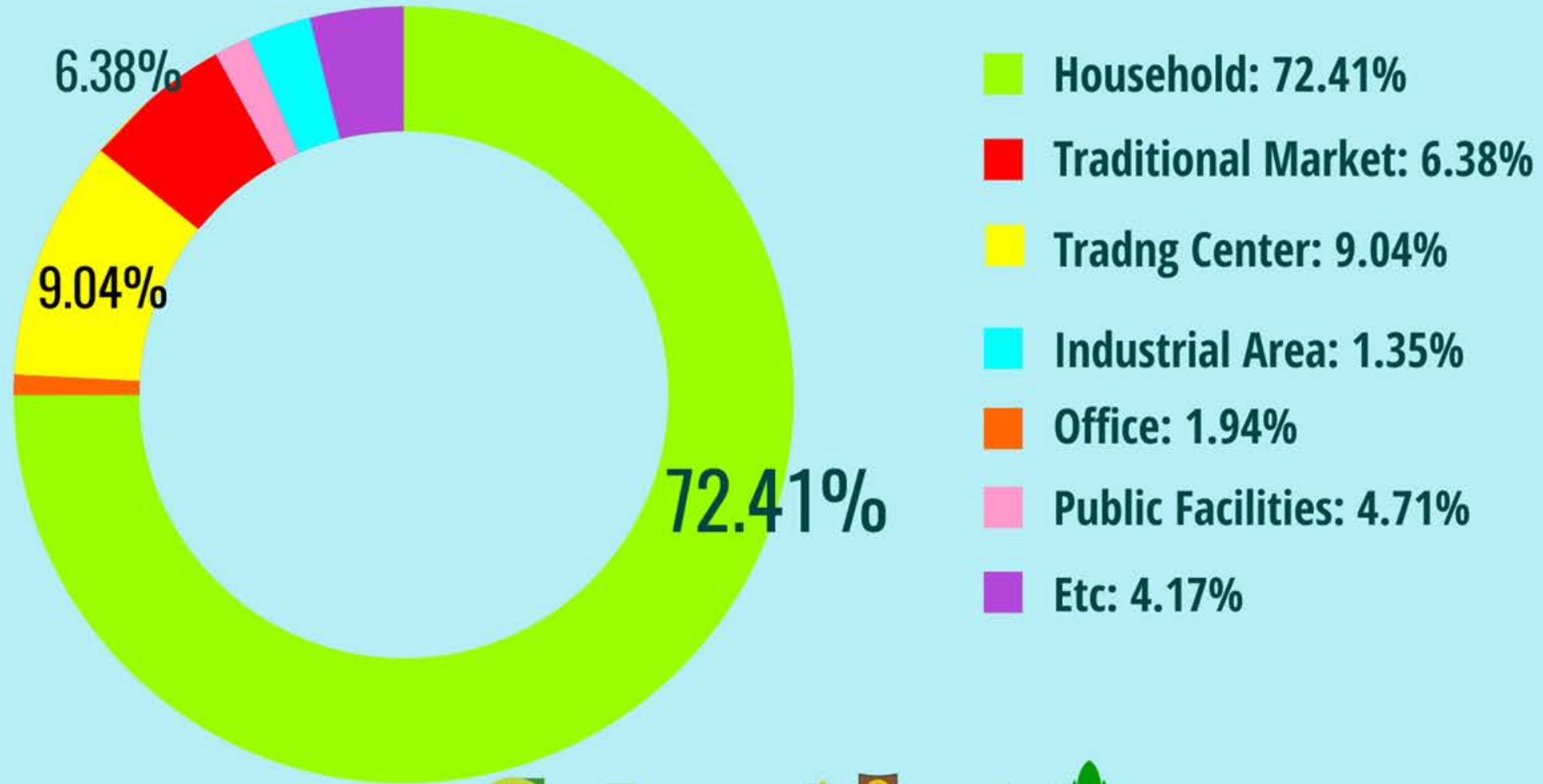


- Leftovers: 42.30%
- Plastics: 7.20%
- Papers: 10.26%
- Metal: 3.87%
- Glass: 6.56%
- Fabrics and Textill: 2.94%
- Rubber and Leather: 0,98%
- Wood, branch and Leaves: 6.36%
- Etc: 19.53%

SOURCE: JICA



# SOURCE OF WASTE

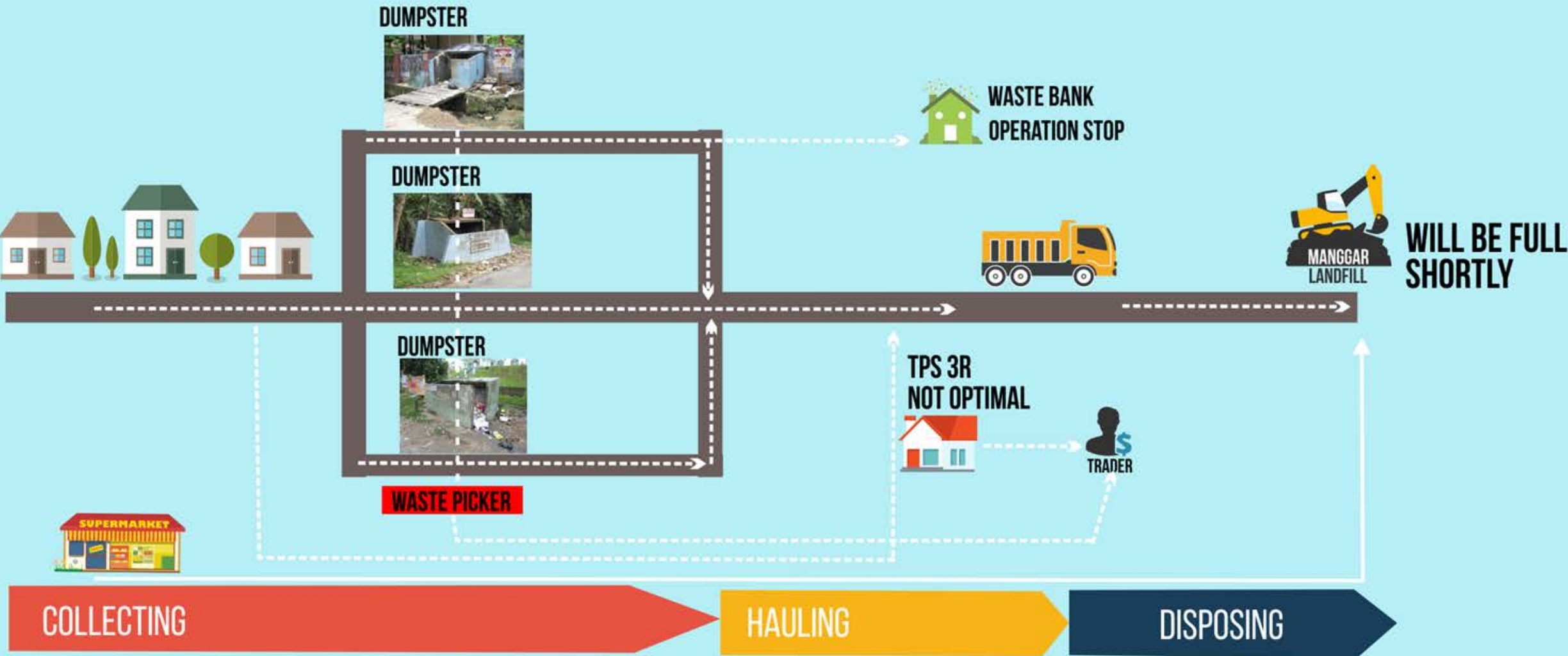


SOURCE: JICA





# WASTE COLLECTION SYSTEM (PRESENT)



SOURCE: JICA



# SOURCE SEPARATION (3R)

## BALIKPAPAN

AND PALEMBANG ARE APPOINTED AS PILOT PROJECT FOR SOURCE SEPARATION OF WASTE (3R)

2014

COOPERATION BETWEEN GOVERNMENT OF INDONESIA AND JICA, JAPAN

## GUNUNG BAHAGIA

AS THE FIRST URBAN VILLAGE TO RUN THIS PILOT PROJECT

13 RT ---> 57 RT

BEGIN WITH 13 NEIGHBOURHOOD (RT) WITH 4 ZONES

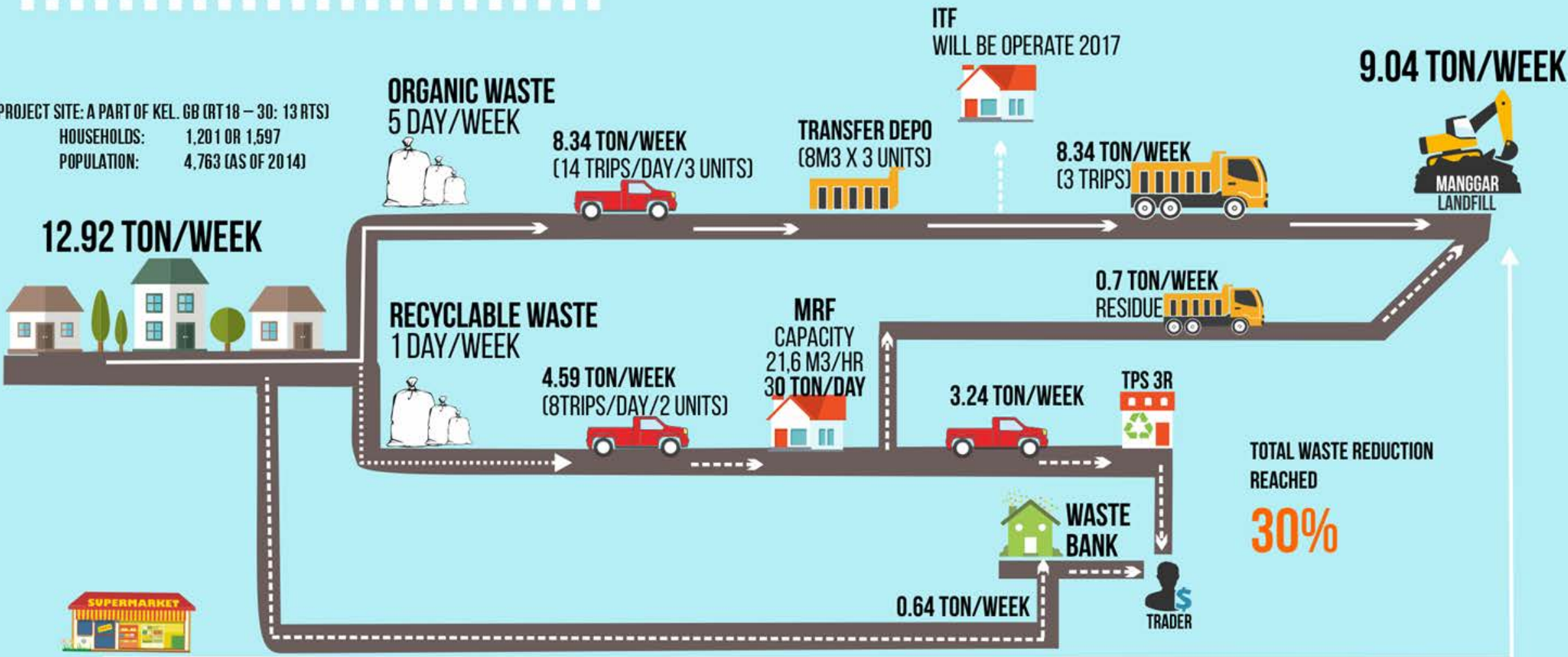
## GOALS

INCREASE PUBLIC AWARENESS FOR WASTE MANAGEMENT WITH 3R IN ATTEMPT TO REDUCE WASTE TO LANDFILL



# WASTE COLLECTION SYSTEM (PILOT PROJECT 3R) GUNUNG BAHAGIA URBAN VILLAGE

PROJECT SITE: A PART OF KEL. GB (RT 18 – 30: 13 RTS)  
 HOUSEHOLDS: 1,201 OR 1,597  
 POPULATION: 4,763 (AS OF 2014)



SOURCE SEPARATION

SEPARATE COLLECTION

TRANSPORTATION



# SOURCE SEPARATION

## 5 CADRES / RT



Socialization and formation of Environmental Cadres in each RT



## SCHEDULE

### ORGANIC WASTE

vegetable residue, fruits, tree waste and leftovers



COLLECTION:  
MONDAY, TUESDAY, WEDNESDAY, FRIDAY,  
SATURDAY  
07.00 -09.00 WITA

### RECYCLABLE WASTE

paper products, duplexes, boxes, plastics, glass, metal (can, iron aluminium)



COLLECTION:  
THURSDAY  
07.00 -09.00 WITA  
OR ACCORDING SCHEDULE OF WASTE BANK

### OTHER WASTE

all waste which are not included both in organic and recyclable waste



COLLECTION:  
THURSDAY  
07.00 -09.00 WITA

## HALTE SAMPAH



activation of Halte Sampah (ex.Gomi station) as replacement of Temporary Cummunal Bins (TPS)



7 Temporary Comunal Bins / Dumster are **CLOSED**





# SEPARATE COLLECTION



## MATERIAL RECOVERY FACILITIES

- Inaugurated of February 2016
- Located at Gn. Bahagia Village
- aims to separate recyclable waste as follow up of waste separation from household
- processing capacity: 30 Ton/day



# SEPARATE COLLECTION



## INTERMEDIATE TREATMENT FACILITIES

- Will be operate in June 2017
- Located at Perum Kota Hijau
- aims to produce compost from organic waste household and market waste for greenery
- processing capacity 10 Ton/day





# SEPARATE COLLECTION



## WASTE BANK

- The place used to receiving inorganic waste has economic value
- public waste collected, then calculated and paid by the waste bank
- there are 105 Waste Bank has operated in Balikpapan





# TRANSPORTATION



- Organic Waste:

→ Waste Collection on Halte Sampah is picked by 3 pick-up trucks transfer collected waste to container(8 m<sup>3</sup>) to landfill



- Recyclable Waste:

- → Waste Collection on Halte Sampah is picked by 2 pick-up trucks transfer collected waste to container(8 m<sup>3</sup>)
- Deliver dried waste to MRF



# BENEFITS

**Before**



**After**



**Improvement of Env Quality**

by activation Halte Sampah and shutting down 7 communal bins, there is no more unpleasant odor and scattered waste

**Waste Collection Efficiency**

Increasing work condition for waste collection

**Waste Reduction to Landfill**

waste reduction to landfill drop until 30%





THANK YOU

