

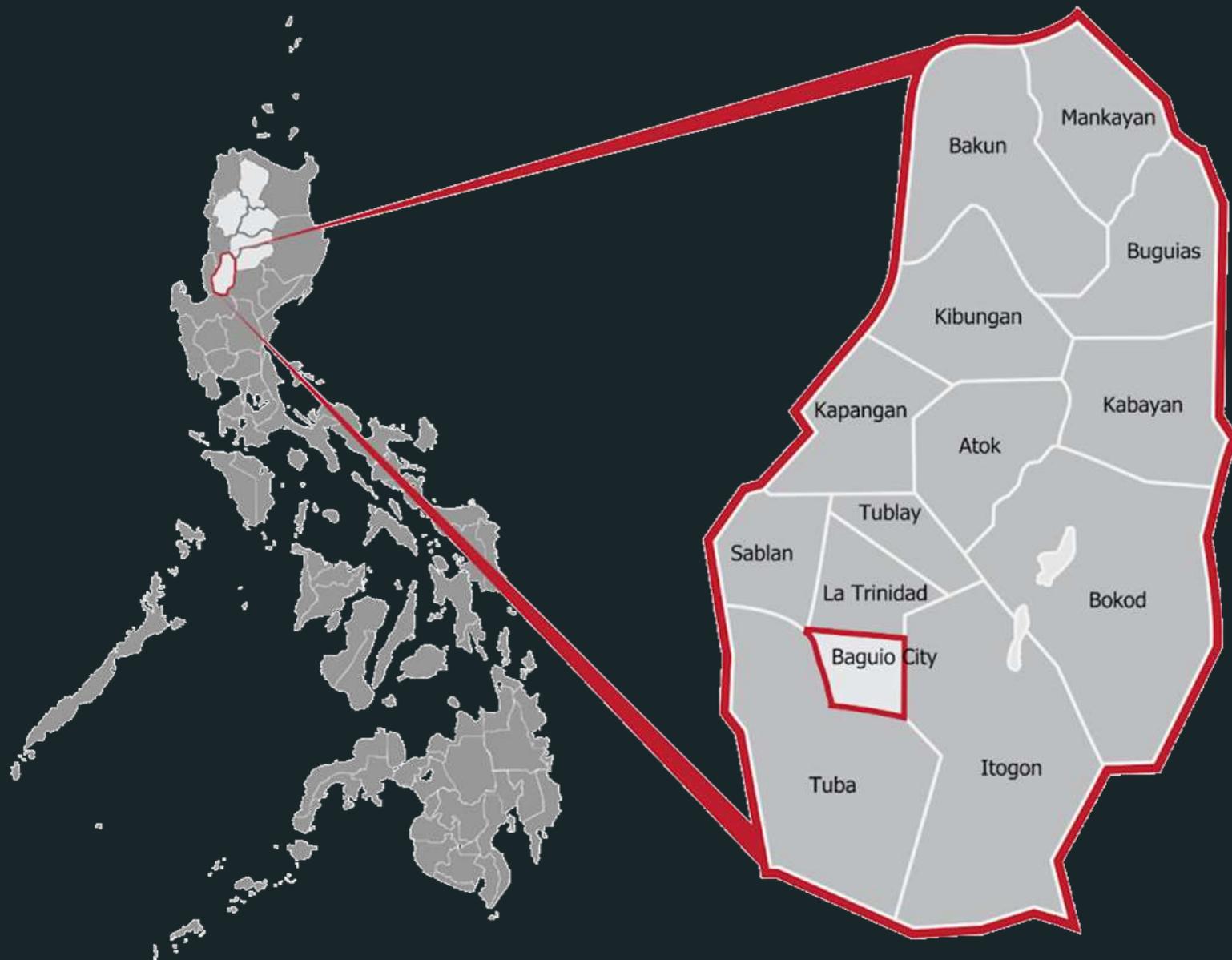


#breathe
BAGUIO

CIRCULAR ECONOMY CURRENT & PLANNED INITIATIVES LGU BAGUIO CITY

JAMES C. COSEP

City Planning, Development, and Sustainability Office
City Government of Baguio
Philippines



57.52 km²
Land Area

366,358
Population
PSA 2020

6,370
Population
Density
PSA 2020



Tourist



1,042,309

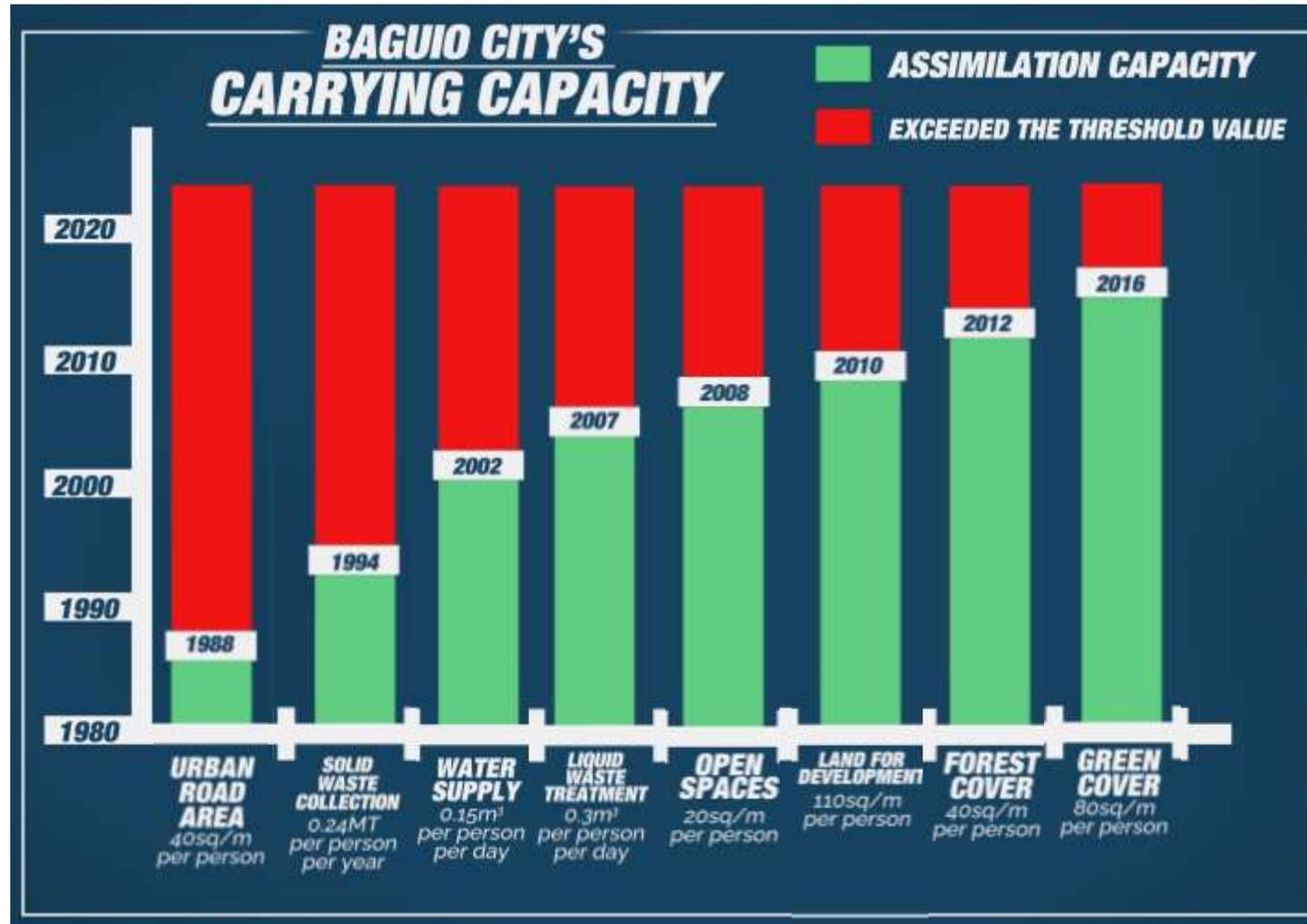
VISITOR POPULATION = 4x

DAYTIME POPULATION = 2x

NIGHTTIME POPULATION = x



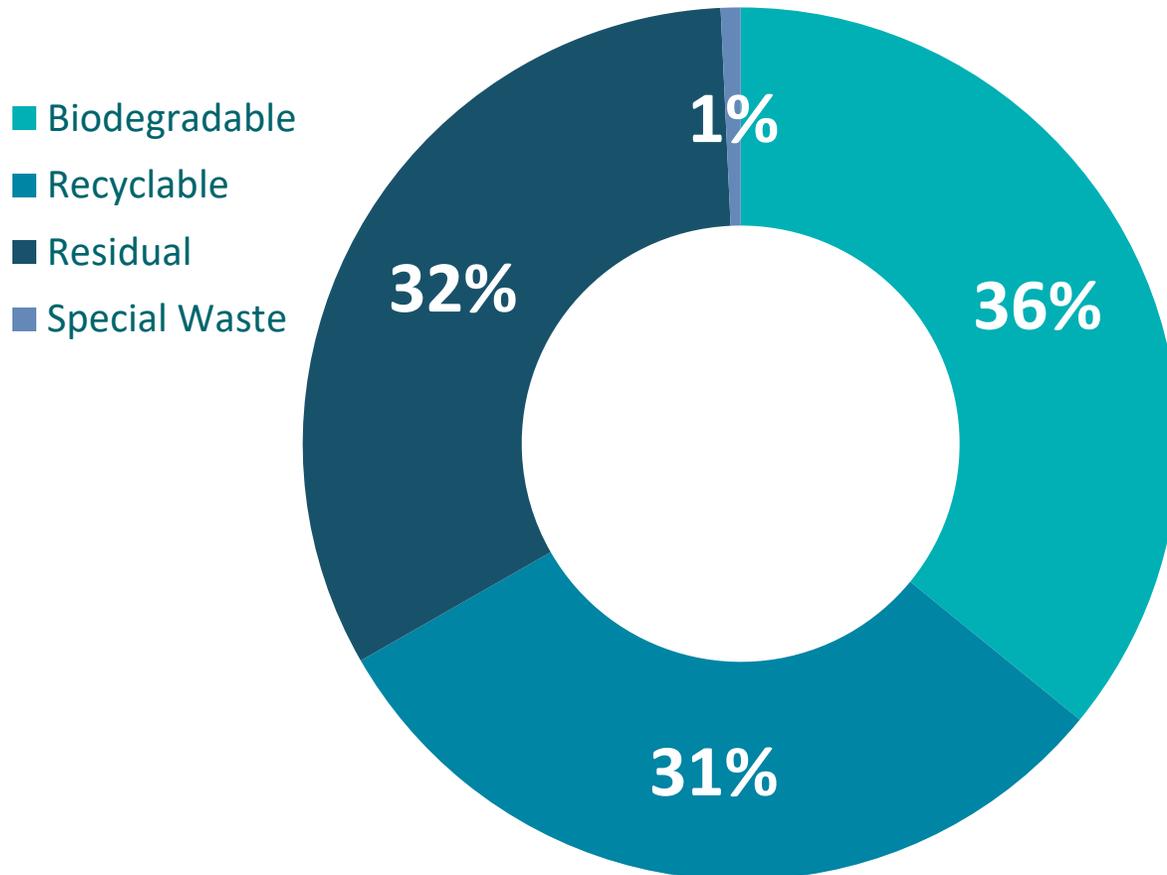
CARRYING CAPACITY



WASTE ANALYSIS CHARACTERIZATION STUDY (WACS)

AT SOURCE & END-OF-PIPE, OCTOBER 2022

Waste Generation, by composition



Classification	Tons/Day	Percentage
Biodegradable	212.73	35.90
Residual	192.91	32.55
Recyclable	182.61	30.82
Special Waste	4.35	0.73
TOTAL	592.60	100.00%

Daily waste generation
400 tons (pre-pandemic)
320 tons (pandemic)
550 tons (post-pandemic)

CENTRAL MRF



The city plans to build a centralized materials recovery facility (MRF) to enhance waste segregation and reduce residual waste.

Key points:

1. Location: Dontogan barangay, on a 1-hectare site;
2. Equipment needed: Glass pulverizer, plastic and cloth shredders;
3. Benefits:
 - Improved waste segregation
 - Job creation
 - Reprocessing of recyclables for higher resale value
4. Complement five existing smaller DENR-sponsored MRFs and expand to a network of barangay MRFs and junk shops;
5. Goal: Reduce disposal costs at externally engineered landfill (currently P190-209 million annually)

PLASTICS

Plastic and Styrofoam-Free Baguio

City Ordinance No. 35-17

All city government offices, businesses, and public and private schools, government-sponsored events not to use single-use plastics

Plastic waste exchange

May Pera sa Plastic

Refuse single-use plastics

Zero-Waste IEC

Mayor meets public market leaders on anti-plastic law

© JULY 7, 2024



Mayor Benjamin Magalong thanked the leaders of the 46 sections at the public market for heeding his call for strict compliance to Ordinance 35-17 or the Plastic and Styrofoam-Free Baguio Ordinance.

The mayor ordered strict implementation of the ordinance starting May 20 beginning in City Hall and the Baguio City Public Market wherein commercial establishments are prohibited from using or providing single use plastic or sando bags in favor of paper bags or containers that are reusable or made of biodegradable materials.

Customers are also encouraged to bring their own containers for wet products such as fish or meat to reduce the volume of single-use plastic waste being generated in the city.

E-WASTE



TREATMENT, STORAGE AND DISPOSAL FACILITY



**BAKAKENG CENTRAL
MRF-TSD FACILITY**
5,155.50 KG E-WASTE COLLECTED

LIQUID WASTE

BAGUIO RESILIENT CITY TOURISM PROJECT

STP UPGRADING AND
SEPTAGE MANAGEMENT



MSMEs



WASTE MANAGEMENT TRAININGS FOR MSMEs



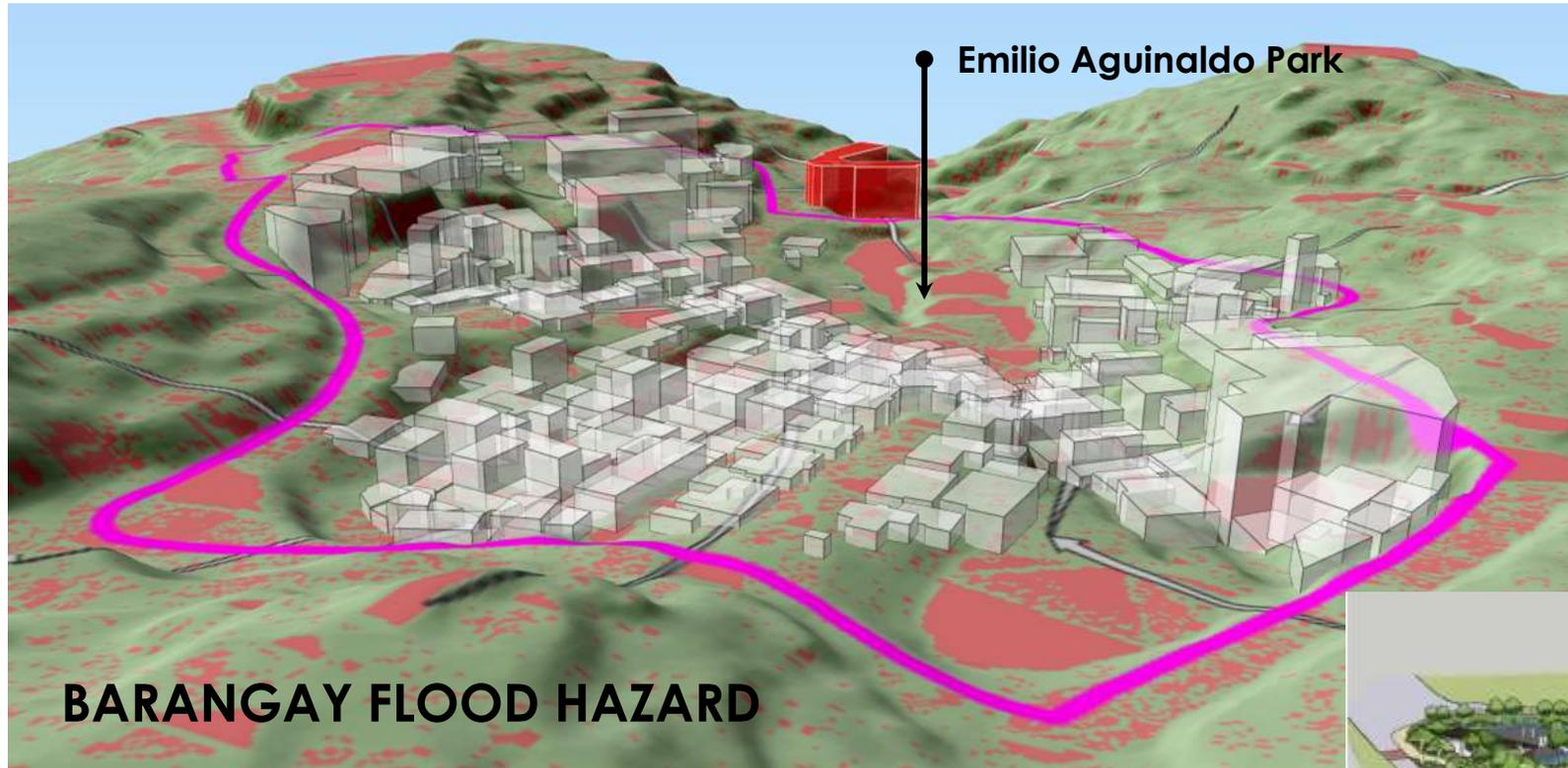
TIENDAAN ZERO WASTE SARI-SARI STORE



ZERO WASTE SARI-SARI STORE

CLIMATE AND DISASTER RISK ASSESSMENT

NATURE-BASED SOLUTIONS



**REDEVELOP AS A
WATER PARK, NET
ZERO ZONE**

FOUR OBJECTIVES:

1. ENVIRONMENTAL HEALTH;
2. SOCIAL HEALTH;
3. PHYSICAL HEALTH;
4. MENTAL HEALTH.



HOUSING AND PERMACULTURE



**LUNA TERRACES
SOCIALIZED HOUSING
AND PERMACULTURE
COMMUNITY**



ENERGY TRANSITION



Republic of the Philippines

PHILIPPINE NEWS AGENCY



HOME NATIONAL PROVINCIAL OPINION BUSINESS FEATURES HEALTH FOREIGN SPORTS TRAVEL ENVIRONMENT SCITECH

Baguio cuts cost with shift to LED streetlight bulbs

By Liza Agoot

 April 4, 2022, 1:00 pm

Share



BAGUIO CITY – The city government has completed an PHP18.7-million project that replaced the traditional high-pressure sodium (HPS) bulbs in its streetlights with light-emitting diode (LED) fixtures to reduce electric consumption and provide better illumination.

Aileen Refuerzo, Baguio's chief information officer, said the project was completed last March 25 and was funded under the city's supplemental budget.

The project included the replacement of 7,485 streetlights with LED fixtures along major roads in the central business district.

The project was completed earlier than the April 18 target.



BLUE WALKS, GREEN WALKS



ROAD BARRIERS
CONVERTED TO
PLANT BOX

NATURAL PATHWALKS
AND TRAIL

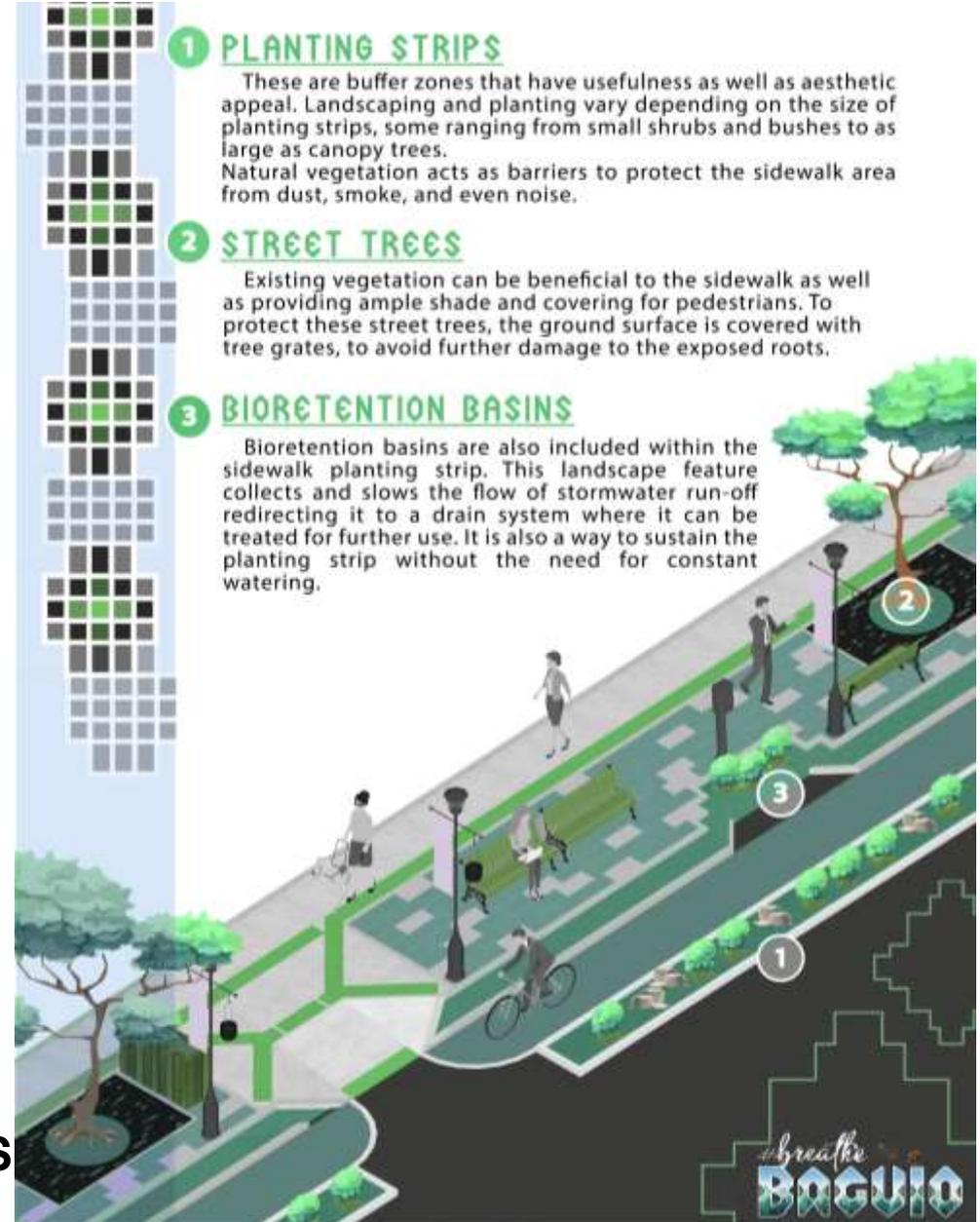
MAIN BRIDGE
ACCESS GOING TO
BUSOL WATERSHED
TRAIL AND BAMBOO
SANCTUARY

WATERWAY RESTORATION



PROPOSED WHIRLPOOL
TURBINE AS ENERGY GENERATING
TURBINE - TO SUPPLY MINOR
LIGHTING AT THE RIVER WALKS
1. SELF-CLEANING SCREEN HOLDS
LARGE DEBRIS OUT OF TURBINE
2. VORTEX POWERS A SPECIALIZED
IMPELLER
4. THEN WATER FLOWS BACK INTO
THE STREAM

GREENING ROADS AND STREETS



1 PLANTING STRIPS

These are buffer zones that have usefulness as well as aesthetic appeal. Landscaping and planting vary depending on the size of planting strips, some ranging from small shrubs and bushes to as large as canopy trees. Natural vegetation acts as barriers to protect the sidewalk area from dust, smoke, and even noise.

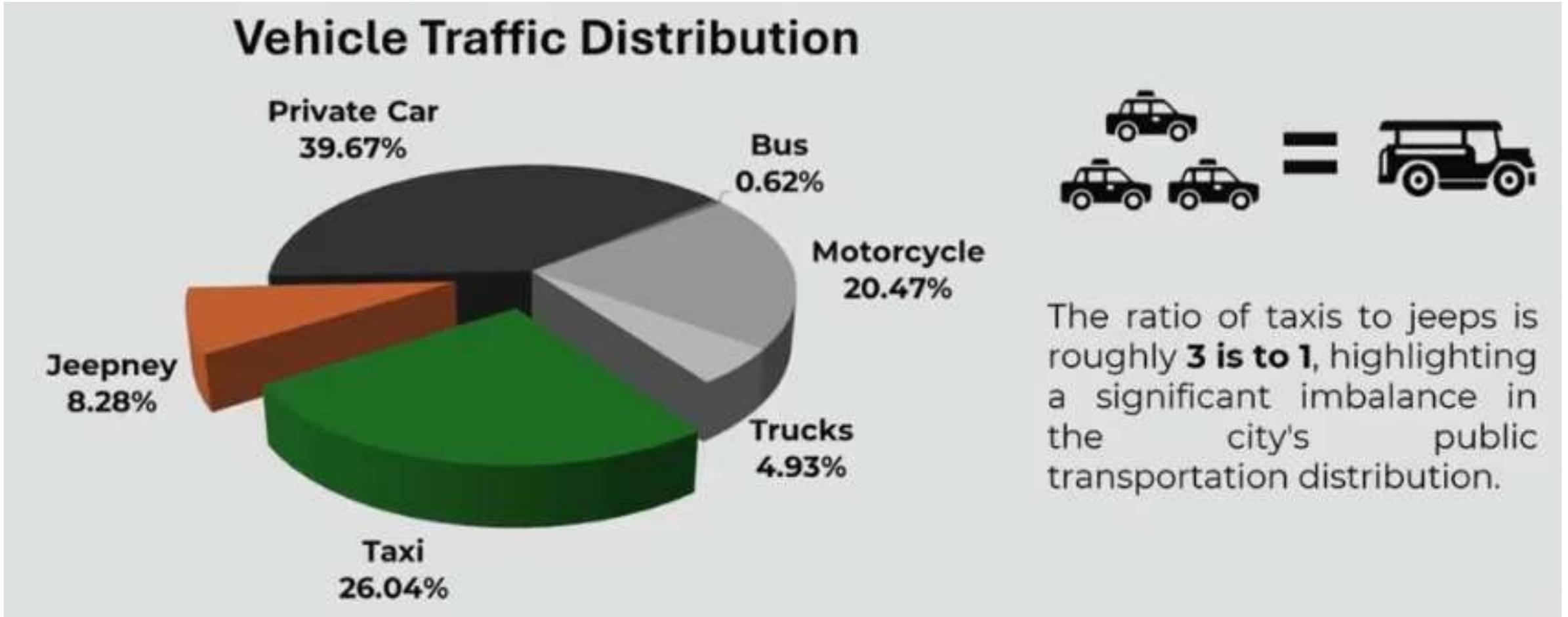
2 STREET TREES

Existing vegetation can be beneficial to the sidewalk as well as providing ample shade and covering for pedestrians. To protect these street trees, the ground surface is covered with tree grates, to avoid further damage to the exposed roots.

3 BIORETENTION BASINS

Bioretention basins are also included within the sidewalk planting strip. This landscape feature collects and slows the flow of stormwater run-off redirecting it to a drain system where it can be treated for further use. It is also a way to sustain the planting strip without the need for constant watering.

SMART CITY – SMART MOBILITY



Baguio's road transport sector stands at over 126,148 tons of CO2 equivalent (tCO2e) or a little over 20% of the city's entire emissions profile in 2018

A Walkable, Cyclable, and Inclusive City



Streets for Children



Public Transport Modernization



Electric vehicle (EV) donated by UNDP was turned over to the Irisan Jeepney Operators and Drivers' Association (IJODA) Transport Cooperative.



Low Carbon Transport – Electric Public Utility Vehicle



YOUTH INNOVATION

ECO-CONSCIOUSNESS WORKSHOPS



Smart Garbage Bin



UNIVERSITY OF THE BAGUIO



UNIVERSITY OF THE PHILIPPINES - BAGUIO

IRISAN ECOPARK



REDEVELOPMENT OF FORMER DUMPSITE TO AN ECOPARK

URBAN AGRICULTURE



**CONTINUING WITH THE
SUCCESS OF
SURVIVAL GARDENS**

PROPOSED POLICIES

- Promotion of healthy green spaces / net zero zones
- Proposed tax incentives for green buildings and agriculture areas
- Intensified promotion of sustainability practices by reduction of plastic use
- Creation of urban agriculture council to promote urban gardening / organic agriculture
- Inventoried green spaces and waterways to be designated as safeguarded zones

CITY VISION DIMENSIONS

LIVABILITY

INCLUSIVITY

CREATIVITY

CITY DEVELOPMENT SECTORS

ENVIRONMENT

SOCIAL

ECONOMIC

INFRASTRUCTURE

DRR-CCA

INSTITUTIONAL

INVESTMENT THEMES

BIODIVERSITY CONSERVATION
 LAND USE, ZONING, PLACEMAKING
 WATER, SANITATION
 AIR, NOISE, SOIL, LIGHT
 WASTE MANAGEMENT,
 OPEN & GREEN SPACES, SETBACKS
 FORESTS AND WATERWAYS
 RENEWABLE ENERGY, WATER
 ENVIRONMENTAL RISK MGMT
 LAND OWNERSHIP
 URBAN AGRICULTURE/FOOD
 HOME/WORK SAFETY
 BARANGAY LIVABILITY
 UNIVERSAL HEALTH CARE
 NUTRITION
 HOUSING
 SOCIAL SAFETY NETS
 EDUCATION, LIFELONG LEARNING
 SCHOLARSHIP, TALENT RETENTION
 21ST CENTURY SKILLS
 CULTURE AND HERITAGE
 LIVELIHOOD, ENTREPRENEURSHIP
 PEACE & ORDER, SAFETY
 PARTICIPATION, CONSULTATION
 GAD, YOUTH DEVELOPMENT
 JOBS, EMPLOYMENT, INNOVATION
 MSME SUPPORT, STARTUPS
 NEW MARKETS, COMPETITIVENESS
 LOCAL ECONOMIC ENTERPRISES
 CREDIT, BUSINESS CONTINUITY
 MASS TRANSPORTATION
 MOBILITY, COMPLETE STREETS
 WATER, POWER, COMMUNICATIONS
 SOCIAL & CRITICAL INFRASTRUCTURE
 RISK ASSESSMENT, EARLY WARNING
 RESILIENCY
 SMART CITY, DIGITALIZATION
 GOOD GOVERNANCE, SCORECARD

CIRCULARITY

LOCALIZED SDGs



CIRCULAR ECONOMY PARTNERS OF BAGUIO



Funded by the
European Union

NextGenerationEU



ACCOMPLISHMENTS, 2025

Local inception workshop;

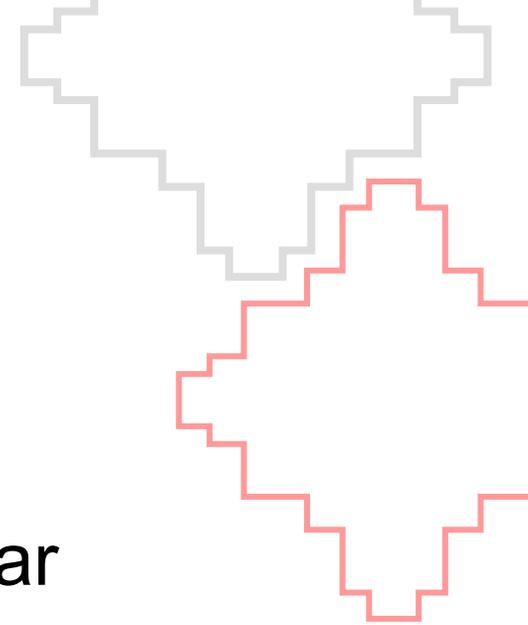
Executive Order creating the Circular Economy Action Team;

CE portfolio prioritization and work planning;

Peer-to-peer learning exchange:
benchmarking of CE projects in Pasig and Quezon City;



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ACCOMPLISHMENTS, 2025

Profiling of CSOs and initial planning session;

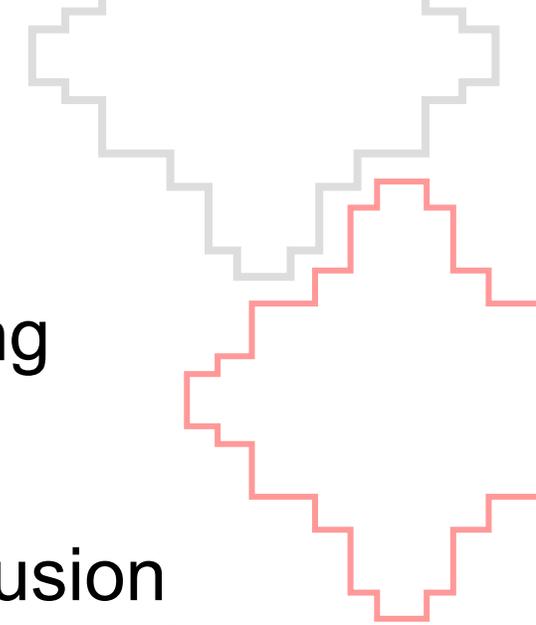
Youth and academic institution inclusion in CE project co-design (food waste truck hackathon);

Baselining of barangay MRS (Consultative sessions with pilot barangays); and

Gender, disability and socially inclusive MRS Co-Design workshop



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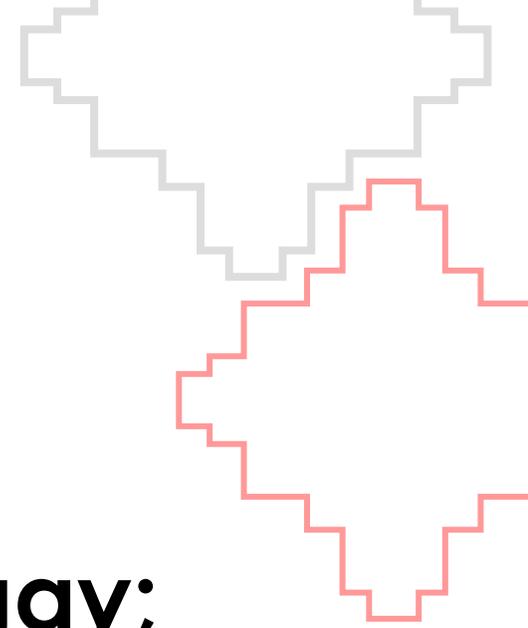
ACCOMPLISHMENTS, 2025

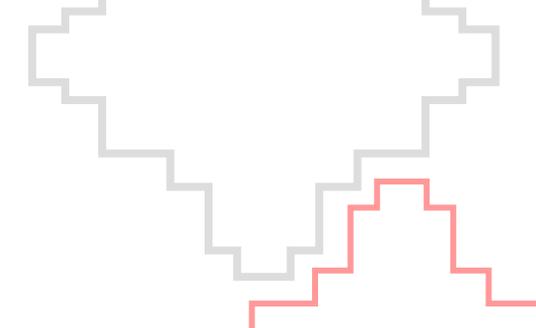
Drafting of an Ordinance Adopting and Establishing the “Pansa-nOpen Tayo” Circular Economy Framework to Guide Sustainable Resource and Recovery Management, Barangay Governance, and Inclusive Development in the City of Baguio;



5 PILOT BARANGAYS

1. **Irisan Barangay;**
2. **Dominican-Mirador Barangay;**
3. **Bakakeng Central Barangay;**
4. **Gibraltar Barangay; and**
5. **Guisad Central Barangay.**





PORTFOLIO 1	PORTFOLIO 2	PORTFOLIO 3
BIDA BARANGAY	CIRCULAR TOURISM ENTERPRISES	GREEN EDUCATION



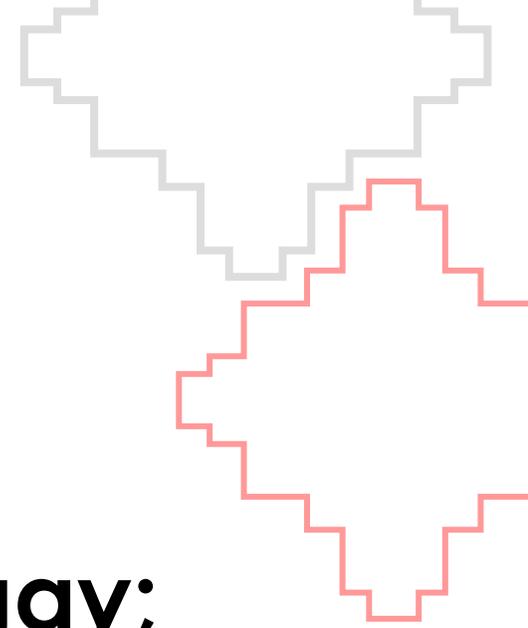
INNOVAT

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Pansa-nopen tayo!



...a work in progress

Thank You

