

METRO BATANGAS PLAN

ARCH 162 BARIA MAJOR PLATE 1 METROPOLIS STRUCTURAL PLAN | AGUIRRE, ALLARDE, CRUZ, DATOR, PINEDA, SUMALNAP, VICENCIO.

A PROPOSAL FOR METRO BATANGAS AS AN INTER-REGIONAL PORT METROPOLIS AND EMERGING AGRO-INDUSTRIAL CENTER

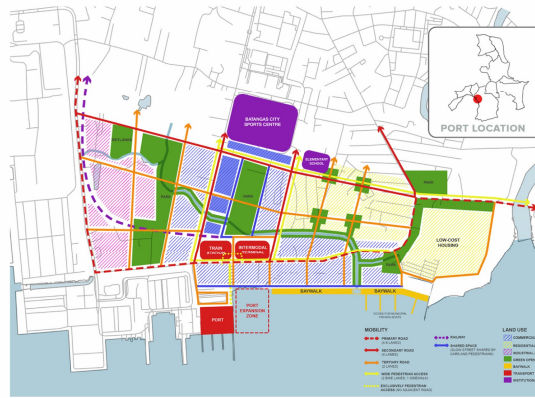
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1 WATERFRONT TRANSIT-ORIENTED DEVELOPMENT BATANGAS CITY PORT

URBAN DESIGN GUIDELINES



Establish a gateway between Metro Batangas and neighboring islands

- Port expansion zone will be allocated so that capacity can increase comfortably
- A train station (preferably a subway) will be built within walking distance from the port
- An intermodal transport station will be built close to the train and port
- The bus and train and one (1) 3m wide car lane. It is also used in conjunction with wide pedestrian access.
- A demand-driven smart stoplight system will be established on the key crosswalks

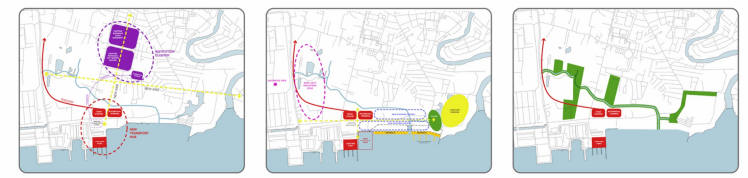
Protect and support fishing communities

- Build docks on the baywalk for municipal fishing boats
- Relocate informal settler families to in-situ low-cost housing developments
- Permit existing fish ponds to operate in protected wetlands, but building new structures on site is prohibited.

Integrate the bodies of water to the urban fabric

- Recreational elements will be strictly enforced. Landscaping will be done to allow pedestrian mobility along the creek
- Baywalk and public beach will be created

DESIGN PROCESS



01 CLUSTERING

An institutional cluster and a transport hub were first established. Their locations are influenced by existing infrastructure in the vicinity. Being the areas that influence the urban character and where people will converge the most, the new urban axes were developed to bring people to these clusters.

02 CONNECTING TO THE SEA

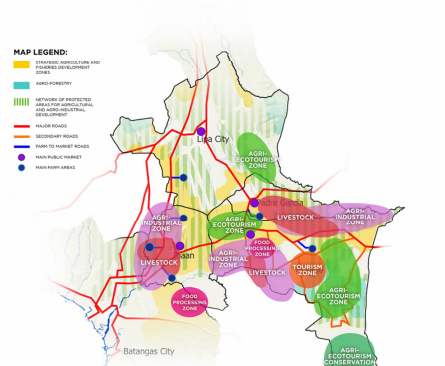
The previously untapped potential of the bay will then be explored. The port will be expanded and a baywalk will be built along the entire coastline next to it. Reclamation may be necessary. The land will then be zoned for commercial establishments to capitalize on the bay view and new public spaces. The pre-existing ISFs will be relocated to a low-cost housing zone, close to their places of work as municipal fishers and as workers in the Batangas City Pier.

03 CREATING A GREENBELT

Essences along the creek will be strictly enforced. The districts parks will also be connected by this body of water to ensure the continuity of infrastructure. Intersecting roads and paths should be elevated to allow flora and fauna safe migration throughout the greenbelt. All other zoning decisions were influenced by their principal policies.

2 AGRI-ECOTOURISM PROJECT MUNICIPALITIES OF IBAAN, ROSARIO & PADRE GARCIA

URBAN SCALE OVERVIEW



FARM-TO-MARKET ROADS AND FOOD PROCESSING

Dominated by agricultural land areas (farm areas, ecological sites, and the like), the first proposed urban planning scale projects for Ibaan, Rosario, and Padre Garcia is the development of farm-to-market roads. The very purpose of this plan is to build an efficient connection between the agricultural farms and public markets. Through this project, several benefits are expected to be obtained by the community such as:

- Increase in local trade and productivity
- Transportation cost reduction
- Minimize post-harvest losses
- Stimulation of agri-tourism
- Acts in household tasks (procuring food, water, and fuel wood)
- Information exchange (market deals)
- Farmer-Farmer and Farmer-Market Communication
- Employment in the areas of construction, road maintenance, and cleaning

Moreover, based on research and observation, there is a need in creating an economic cluster for food processing zones, agricultural farms, and public markets within these areas. Thus, for the second urban planning scale project, implementation of zoning and generating wetland processing zones for Ibaan, Rosario, and Padre Garcia is highly suggested. Through this plan, the lack of interconnectivity between food processing establishments and other agri-industrial areas will be mitigated, consequently aiding in the growth of the new and smaller facilities.

AGRO-ECO TOURISM SITES

Agri-ecotourism involves a participatory approach to tourism that is specifically oriented towards sustainable farming, environmental conservation, and local culture and products.

Particular Advantages:

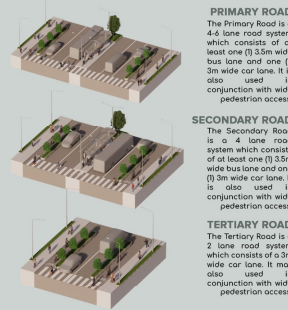
- Economic
 - Increases productivity of underutilized land through the diversification of economic activities and services
 - Provides an avenue for diversifying market niches of related products
 - Increases and improves livelihood opportunities for locals
- Ecology
 - Mitigates urban sprawl by serving as a buffer between protected areas and areas subject to expansion, ensuring the preservation of urban agricultural lands
 - Ensuring local ecology and minimizes impact
- Community
 - Provides public recreation and green space
 - Improves social cohesion and local culture identity by preserving traditional knowledge, practices, and crafts
 - Provides opportunities for citizens through Community Livelihood and Skills Training Programs, contributes to poverty alleviation
 - Supplements farmers' income during off seasons, compensates low return of agri-tourism

CONTENT

- The agricultural centers of Ibaan, Rosario, and Padre Garcia are largely within the Agri-Ecotourism zone.
- Priority areas for Agricultural and Agro-Industrial Development
- Agri-Ecotourism sites are located in various areas in Batangas. These sites double as learning sites accredited by the Department of Tourism and TESDA.
- Reserve as prime location for Agri-Ecotourism
- Formulate the "Rice Granary of the province" and thus assumes the role as the "Food Basket of Batangas" or "Fruits and Vegetables Bowl of Batangas"
- Develop an Eastern Batangas Agri-Industry Sustainable Forest Management, Agri-ecotourism, and Agricultural Production
- Allocate the total land area (129,895 hectares) for agricultural use
- Priority and livestock raising is a good undertaking and of considerable area
- Linkage with Livestock City, Batangas City and Quezon Province is a good venue for market of locally produced products
- Reservoir conceptual and structural plan heavily focus on Agriculture and Livestock, Agri-ecotourism and Forestry.

MOBILITY HIERARCHY

Road and pedestrian systems each with their own purpose in defining the hierarchy of urban spaces.



PRIMARY ROAD

The Primary Road is a 4-6 lane road system which consists of at least one (1) 3.5m wide bus lane and one (1) 3m wide car lane. It is also used in conjunction with wide pedestrian access.

SECONDARY ROAD

The Secondary Road is a 4 lane road system which consists of at least one (1) 3.5m wide bus lane and one (1) 3m wide car lane. It is also used in conjunction with wide pedestrian access.

TERTIARY ROAD

The Tertiary Road is a 2 lane road system which consists of a 3m wide car lane. It may also be used in conjunction with wide pedestrian access.

PEDESTRIAN ACCESS

The Wide Pedestrian Access is a 21m wide bike lane beside a 2.0m wide sidewalk. The Exclusive Pedestrian Access is a 3m wide mixed use sidewalk where bikes, pedestrians, and vendors can be found.

EXCLUSIVE PEDESTRIAN ACCESS

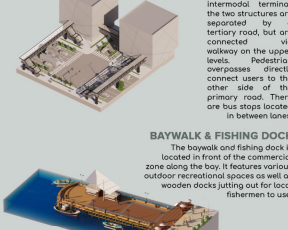
The Exclusive Pedestrian Access is a 3m wide mixed use sidewalk where bikes, pedestrians, and vendors can be found.

TERMINAL INTERSECTION

The intersection between the train station and intermodal terminal, the two structures are separated by a tertiary road, but are connected via walkway on the upper levels. Pedestrian overpasses directly connect users to the other side of the primary road. There are bus stops located in between lanes.

BAYWALK & FISHING DOCK

The baywalk and fishing dock is located in front of the commercial zone along the bay. It features various outdoor recreational spaces as well as wooden docks jutting out for local fishermen to use.



URBAN DESIGN GUIDELINES

Agriculture

- Dedicate farmlands to a variety of crops, with particular focus on major products and primary exports of the area
- Employ a systematic approach in plotting farmlands, with specific consideration of complementary crops for companion planting
- Provide efficient irrigation systems with a compact layout
- Employ sustainable irrigation techniques, e.g. drip irrigation
- Utilize orchards and tree nurseries in defining site boundaries and/or dividing different zones within the site
- From the collection of farmlands, provide demo farms for facilitating workshops and training programs
- Locate these close to the agricultural or other related nodes of the site
- Recycle biowaste through vermicomposting for farm use and to be sold as a product
- Locate Vermicomposting facilities adjacent to farmlands for ease of distribution and convenience of hands-on demos

Livestock

- Pursue organic livestock and poultry raising
- Provide open fields for grazing and organic livestock raising immediate or easily accessible to farms and coops
- Provide pens and areas for farm tourists to interact with animals and participate in farm raising activities
- Locate these close to the livestock or other related nodes of the site
- Provide biogas system and/or water treatment facilities immediate to animal shelters to manage farm waste
- Recycle biowaste through Black Soldier Flies to produce animal feed for poultry
- Provide livestock disinfection and checkpoint areas with convenient access to major roads

Environment

- Preserve defining natural features of the site by orienting ecotourism activities around them
 - > Offer trekking and hiking for hills, mountains, and uplands
 - > Offer kayaking, paddle boarding, swimming, and similar activities for water bodies
 - > Offer ziplines, climbing, and sky cycling for areas with views
 - > Offer paintball, mountain biking, and other similar activities with suitable terrain
- Maintain and cultivate native flora and fauna through native gardens and park areas
- Showcase natural flora and fauna through nature treks, bird watching and similar activities

Education

- Interperse Livelihood and Training Centers in the development to serve as Agri-ecotourism nodes
 - > Offer Livelihood and Training Center to a specialized course or activity
 - e.g. Vermicomposting, Biowaste to Feed Production, Organic Livestock Raising, Organic Farming, Artisan Crafts, etc.
 - Provide Livelihood and Training Centers with immediate or easy access to related farmland spaces through defined interactive zones
 - e.g. Farm Animal Interactive Area, Organic Farming Learning Zone, Demo Farm

OVERVIEW

Commerce and Industry

The city center is an important area in any city for its dominating role in creating the city's architectural characteristics and supporting its economic/commercial and social functions. It forms high-value urban hearts of the city, where needs and services are provided through an environment that is conducive to the successful operation of industries.

Strategic Location

The urban design development is located in San Pascual, a town known for its oil refinery, chemical plants, various subdivisions and housing projects, and other industrial and commercial establishments. Its proximity to Basun (commercial area) and the international port makes the location suitable for the development of an industrial park city-center.

Goals and Objectives

- INDUSTRIAL INFRASTRUCTURE**
 - Development of integrated transportation infrastructure (on-site and off-site)
 - Development of power/energy infrastructure
 - Development of logistics hub
 - Development of communication infrastructure
 - Development of integrated utilities infrastructure
- ENVIRONMENTAL INFRASTRUCTURE**
 - Development of solid waste collection, transport and treatment facilities
 - Development of an industrial waste collection, sorting, transport, and management system
 - Development of wastewater treatment and recycling
 - Renewable energy infrastructure development
 - Development of cogeneration plants
 - Provision of pollutant and toxicity testing facilities and laboratories
- SOCIAL INFRASTRUCTURE**
 - Development of industrial zone with compatible social infrastructure
 - Integrated industrial, commercial, and institutional and social development
 - Development of knowledge, training and research support
 - Provision of emergency services

URBAN DESIGN GUIDELINES

Support the local industrial and commercial sector of Batangas

- Establish a city center within the industrial park for local sellers
- Provide an outdoor market on parks to increase the social activity of the park as well
- Provide a diverse lot sizes and uses to accommodate the needs of users

Develop a sustainable and an environmentally friendly industrial park

- Provide public parks and open spaces
- Encourage the use of non-motorized vehicles by providing safe and accessible pedestrian facilities
- Operate rainwater harvesting through fountains and bioswales
- Use of permeable surfaces to reduce water runoff
- Provide on-site sewage treatment plant, and recycle stormwater runoff for non-potable uses
- Utilize solar-powered light for public realm
- Strict implementation of proper waste management and waste disposal

Community and Culture

- Provide Farmer's markets to promote locally made goods and products
- Integrate artisan and craftsman shops that showcase traditional knowledge, practices, skills, and crafts
- Incorporate local crafts and/or art in public spaces and along walkways to serve as points of interests
- Offer local cuisine and specialty dishes in restaurants and eateries within determined food district/s
- Establish Farm-to-table restaurants that promote the primary products of the on-site farm

Tourism

- Employ "Glamping" as an approach to lodging, minimizing impact on site while maximizing agri-ecotourism experience
- Locate these away from major roads and within eco-park zones
- Utilize ecopark grounds as a buffer between glamping sites and incompatible land uses
- Locate Farmer's Markets and Food Districts along major roads to mark outer public zone and benefit from tourist traffic
- Provide varied recreational spaces to accommodate families, teens, and people of all ages
- If any, incorporate heritage sites or elements of cultural significance within the tourism zone

Buildings and Facilities

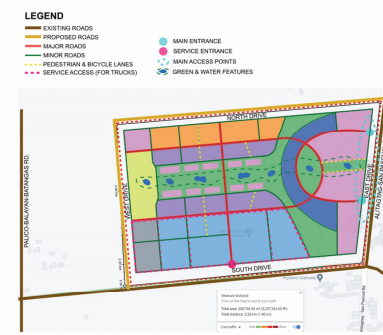
- Limit development to low-rise buildings, with mostly one to two story buildings
- Maximize use of open-air structures for public areas such as workshop and seminar halls, event places, restaurants, and the like
- Utilize light frame construction techniques (tensile structures, bamboo or wooden pavilions, etc.) for structures wherever applicable
- Limit the number and maximum floor area of buildings at the periphery, preserving views of the farm from outside the site
- Locate facilities dealing with hazardous substances, noisy machinery, and full-smelling byproducts away from public and communal spaces

Circulation

- Connect Agri-ecotourism nodes through pedestrianized paths and avenues
- Employ elevated walkways and avenues whenever possible to preserve farm land
- Use pedestrian paths and avenues to provide strong directionality and easy wayfinding within the large site
- Utilize pedestrian paths and avenues as a way to divide major sections of farmland and land use zones
- Offer bicycles and other non-motorized modes of travel for rent to Agri-tourists in getting around the site
- Allow parking areas along or close to the main road with grass pavers to allow natural percolation
- Facilitate entry of private vehicles within the site and limit access to main farm route
- Optimize local transport modes (trikes, mini jeeps, etc.) to facilitate short distance travel within the site

3 INDUSTRIAL PARK SAN PASCUAL, BATANGAS

ROAD NETWORK & ZONING



LEGEND

- Existing Road
- Proposed Roads
- Major Roads
- Minor Roads
- Pedestrian & Bicycle Lanes
- Service Access (For Trucks)

LEGEND

- Main Entrance
- Service Entrance
- Main Access Points
- Green & Water Features

Zoning

Industrial zones for targeted sectors - include industrial plants, factory shells, and integrated industrial units for non-polluting or medium-polluting industries

also include logistics zones covering loading and unloading yards, parking lots, packaging facilities, cargo-handling centers, raw material collection, storage depots, and goods storage warehouses

B. Mixed-use (commercial and institutional) zones

cover information centers, training centers, R&D facilities, administrative buildings, schools and daycare centers

C. Utilities zones

cover electrical substations, waste collection centers, renewable energy

D. Residential zones

include multi-format housing, guesthouses, and hotels

E. Green zones

cover parks and buffer zones along the park's boundaries, towns, parks and water features, internal walkways between zones, etc.

PERSPECTIVES



VISUALIZATION

