

METRO-LUCENA

A PROPOSED AGRICULTURAL-BASED METROPOLIS

VISION
Metro-Lucena envisions itself as the leading metropolis in agriculture-based export and ecotourism in the Philippines, through adapting sustainable agricultural practices, renewal of transport facilities, and landscape developments.

MISSION
Re-envision cities of Metro-Lucena through a polycentric approach in solving existing problems in the province through the (1) improvement of public transportation accessibility, (2) promotion of different sectors through sustainable tourism, (3) generation of livelihood opportunities using nature-based solutions, and (4) promotion of environmental sustainability.

PROJECT OBJECTIVES

- Provide structural plans for the envisioning of the design project
- Lay out thematic maps of Metro-Lucena
- Map out strategic locations of development
- Analyze the environmental and economic conditions of the province
- Locate potential areas for agriculture-related recreational and educational spaces
- Identify transportation routes in the site
- Locate environmentally critical areas in the metropolis



SAN ANTONIO
Area: 60,996 km²
Known for: Mampuno River
Revenue: ₱121,439,426

CANDELARIA
Area: 129.10 km²
Known for: Dedicated Coconut Capital of the World
Revenue: ₱364,870,208

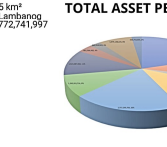
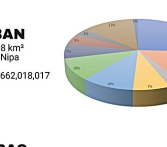
TIAONG
Area: 168.38 km²
Known for: Villa Escondido
Revenue: ₱312,206,179

DOLORES
Area: 62.6 km²
Known for: Agricultural Municipality
Revenue: ₱142,952,933

LUCBAN
Area: 130.46 km²
Known for: The Art Capital of Quezon Province
Revenue: ₱217,723,848

SAMPALOC
Area: 104.78 km²
Known for: Water-based Attractions
Revenue: ₱91,602,878

MAUBAN
Area: 415.98 km²
Known for: Nipa Iambanog
Revenue: ₱662,018,017



SARIAYA
Area: 212.16 km²
Known for: Heritage Capital of Quezon
Revenue: ₱442,096,922

LUCENA
Area: 83.17 km²
Known for: Coconut City of the South
Revenue: ₱1,445,039,347

PAGBILAO
Area: 170.97 km²
Known for: Emerging tourist destination
Revenue: ₱470,916,747

TAYABAS
Area: 230.95 km²
Known for: Lanting
Revenue: ₱772,741,997

11 METRO-LUCENA CITIES

SWOT ANALYSIS

STRENGTHS

HISTORY

- Presence of sites with historical and cultural significance in Mauban, Tayabas, Dolores, Sariaya
- Abundance of agricultural lands in Candelaria, San Antonio, Sariaya, Lucena, and Pagbilao

TERRAIN

- Topographical formations in Mauban
- Water bodies all throughout the metropolis with potential for irrigation, recreation, and potential sources of potable water

ENVIRONMENTAL

- Presence of two protected areas: Mounts Banahaw-San Cristobal Protected Landscape and Quezon Natural Forest Park
- High biodiversity especially in the forested areas of Dolores

TOURISM

- Variety of tourist spots in Tayabas, Lucena, Lucban, Mauban, Sariaya
- Presence of themed farms in Candelaria

TECHNOLOGICAL

- Road widening in Lucban Diversion Road from two to four lanes
- Lucban Bypass Road is being constructed to supplement the existing Lucban Diversion Road to decongest traffic
- On-going construction of South Luzon Expressway Toll Road 4
- Proposal of Quezon-Bicol Expressway

ECONOMY

- Fishing and agriculture as livelihoods
- Upland farming systems in Lucban
- Production of crops and local products for local consumption and export commerce

WEAKNESSES

ENVIRONMENTAL

- Significant decrease in forest areas in all cities
- Conversion of agricultural land to residential and industrial land in Candelaria
- Illegal fishing activities and killing of corals which worsen the effects of climate change

HAZARDS

- Presence of active fault lines traversing the area in Mauban, Tayabas, and Lucena
- Vulnerability of Mauban, Pagbilao, North of Lucban, Candelaria, Sariaya to flooding and landslide

TECHNOLOGICAL

- Lack of properly developed paths in remote areas such as the municipalities of Mauban, Pagbilao, and Sampaloc
- Lack of transportation facilities for delivery of agricultural products Mauban and Pagbilao
- Disconnected road networks in Tayabas, Pagbilao, Mauban, Sampaloc, and Dolores

ECONOMIC

- Low farm income due to marketing constraints

SERVICES, FACILITIES, AND FUNDING

- Inadequate social and basic services
- Isolated areas with lack of access to quality facilities and amenities
- Inadequate funds for sustaining conservation efforts and organizing tourism in Tiaong

FOR AGRICULTURAL PLANNING



FOR ECOTOURISM PLANNING



FOR STREETScape REVITALIZATION

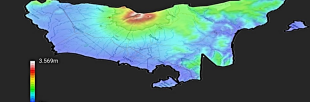


SIEVE ANALYSIS

FOR FLOOD CONTROL & COASTAL DEFENSE



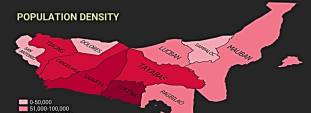
FOR HOUSING DEVELOPMENT



FOR STREETScape REVITALIZATION



FOR HOUSING DEVELOPMENT



FOR STREETScape REVITALIZATION



FOR HOUSING DEVELOPMENT



OPPORTUNITIES

TECHNOLOGICAL

- On-going construction of South Luzon Expressway Toll Road 4
- Proposal of Quezon-Bicol Expressway

ENVIRONMENTAL

- Rehabilitation project by an NDO to reduce threats and improve sustainable management of marine resources in the Tayabas and Pagbilao bays

ECONOMIC

- Proposal of Quezon Techno-Industrial Special Economic Zone (QTISEZ) project, which the Philippine Economic Zone Authority eyes as the biggest economic zone in the Philippines

THREATS

- The deterioration of Tayabas bay due to dynamic and cyanide fishing
- The degradation of mangrove forests along the coastline of Tayabas bay
- Plastic pollution in the water bodies of neighboring municipalities
- Possible eruption of Taal Volcano

METROPOLITAN PLANNING STRATEGIES

AGRICULTURAL PARK
As the leading agricultural-based export and tourism metropolis in the Philippines, an agricultural park will help promote its agricultural practices, products, and technologies. It can offer people sustainable livelihood opportunities and boost the economy of the metropolis.

NATURE PARK
With two protected areas as well as green and mountainous areas found within the metropolis, it has great potential for natural parks and nature trails as part of the ecotourism development. Nature parks can also be educational sites for both locals and tourists that promote biodiversity conservation and protection.

COASTAL DEFENSE
Coastal communities in Metro Lucena are susceptible to flooding. Because of this, rehabilitation of mangrove forests near the coastline are part of the plan. This strategy serves as a natural defense and strengthens coast protection, making the communities safe and resilient from coastal hazards.

TRANSIT-ORIENTED DEVELOPMENT
As the metro cities face problems with mobility and transportation of crops, transit-oriented development can help decrease automobile dependency, increase environmental sustainability, and minimize traffic congestion. It also encourages people to walk and use bicycles; improving air and water quality, and reducing the urban heat island effect.

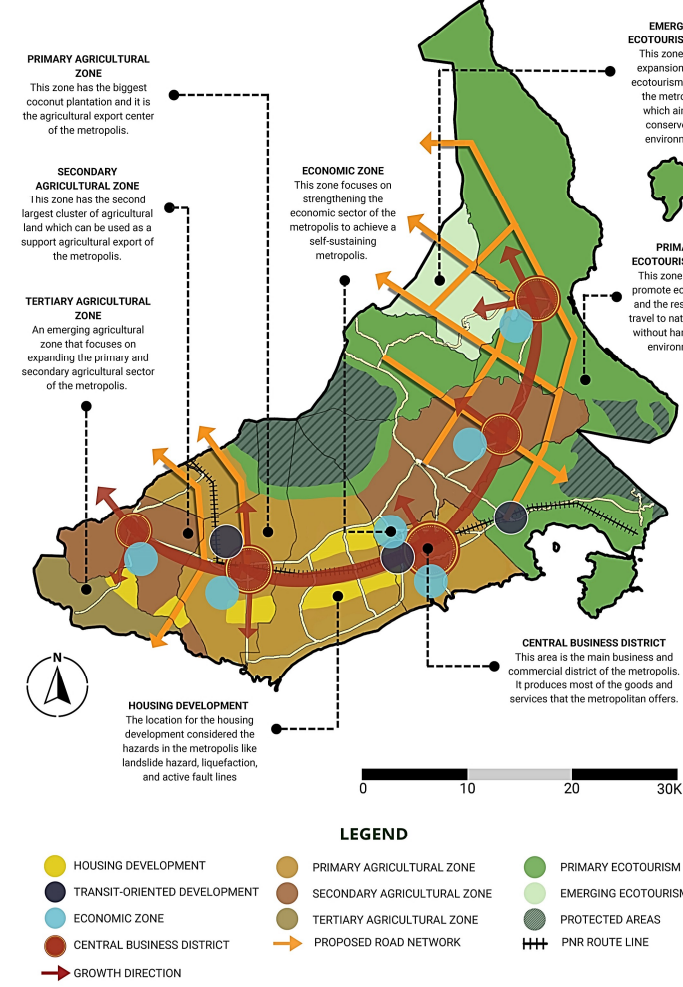
GREEN CORRIDOR
Continuous land conversion and industrialization in the provinces contribute to air and noise pollution in the province. Aside from improved environmental quality, green corridors provide more areas for biodiversity to flourish. Moreover, these corridors promote non-polluting mobility such as bicycles and electric vehicles like scooters.

PROVISION OF NEW TRANSPORTATION ROUTES
The disconnection and lack of roads in Metro Lucena causes difficulty in going to remote areas and transporting local products. The proposal of new public transportation routes will instigate community mobility and productivity, thus, bringing economic benefits to the metropolis.

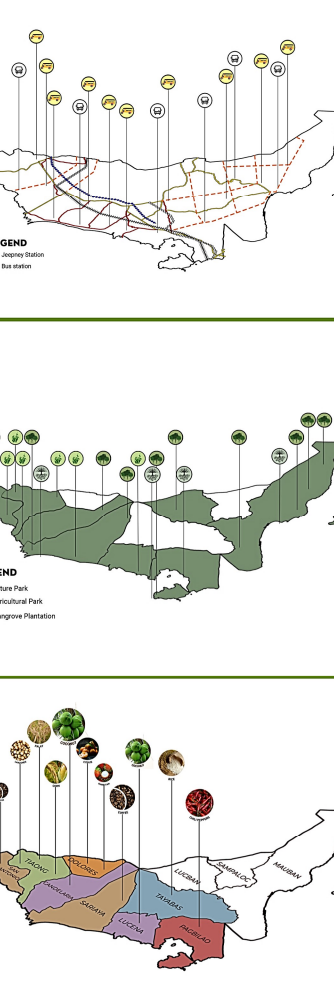
RELOCATION OF HOUSING SETTLEMENTS
Informal settlements near coastal areas pose threats to the environment and residents. The flood hazard map shows that areas near the coast are threatened due to high susceptibility to floods and tsunamis. Through relocation of settlements, deforestation and man-made pollution can be reduced, tourism and livelihood opportunities can be increased, and economic growth can be boosted.

DEVELOPMENT OF METRO-LUCENA AIRPORT
The construction of an Airport in Metro-Lucena will bring multiple benefits to the metropolis such as fast and convenient transportation of passengers and goods, improving the promotion of tourism and the exportation and delivery of agricultural products and in the area.

STRUCTURAL PLAN



SECTORAL PLANNING



TRANSPORT PLANNING

The location for the bus and jeepney stations is strategically placed to promote the use of public transportation in the metropolis. They are designed to connect different cities and municipalities to travel the travel time among the locals and the visitors. The stations are also scattered to remote areas to promote the ease of transport.

ECOTOURISM PLANNING

The ecotourism planning focuses on the promotion of the agricultural parks, nature parks, and mangrove plantations. Agricultural parks are located near the proposed central business districts to highlight and promote the agricultural sector of the metropolis. Nature parks are located within the two protected areas and on the mountainous areas of the metropolis. Mangrove parks and plantations, located on coastlines, serve as protection of the locals against flooding and tsunamis, while also promote ecotourism in the metropolis.

PLANTATION PLANNING

Plantation planning for the metropolis is necessary to achieve its vision to be the leading agriculture-based export and tourism in the country. It highlights certain agricultural products in the different agricultural zones. While the main agricultural product of the metropolis is coconut, other agricultural crops and products per city are also highlighted to expand the opportunities for the agriculture sector.

URBAN DESIGN INTERVENTIONS

AGRICULTURAL PARK

LOCATION: Mayao Castillo, Lucena

The agricultural park highlights the agricultural and tourism sector of the metropolitan by promoting the different local products and practices. This park will feature different species of crops that sustain the livelihood of the local communities and allow tourists to participate with their practices. Furthermore, the park will also provide spaces for recreational and commercial use in order for it to become more functional and beneficial to both the community and the tourists.

SITE CRITERIA

- The site's location is within the proposed primary agricultural zone.
- The site is surrounded by roads, making it accessible to the locals and potential visitors.
- The site is within the central business district, increasing the tourism and economic potential of the agricultural park.

MANGROVE PARK AND BOARDWALK

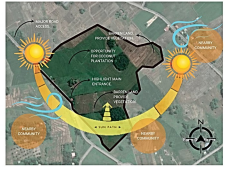
LOCATION: Palsabangon, Pagbilao

The Mangrove Park and Boardwalk is an ecotourism site that promotes the importance of mangrove forests in providing various ecosystem services including their role as natural coastal defenses against effects of flooding and tsunamis. Mangrove parks as a community-based ecotourism provides livelihood and learning opportunities to the locals of Metro Lucena and to its tourists. This design intervention shows how the metropolis embodies environmental and tourism sustainability.

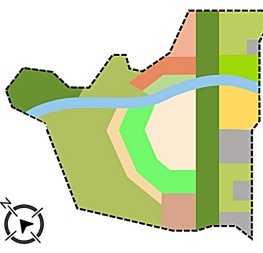
SITE CRITERIA

- The site's location is within existing mangrove forests surrounded by a large expanse of green area
- The site has proximity with other ecotourism sites making the area a potential hotspot for sustainable tourism and environmental conservation area
- Accessible roads are nearby the surrounding area of the site

SITE ANALYSIS



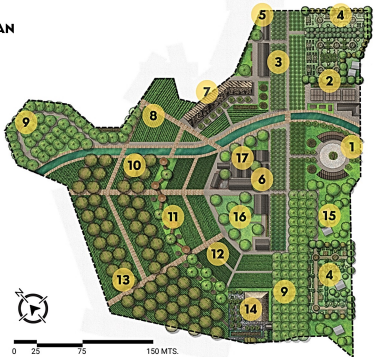
CONCEPTUAL DIAGRAM



- FRUIT ORCHARD
- CROP LAND
- RECREATIONAL SPACE
- LIVESTOCK FARM
- VEGETABLE FARM
- U-PICK FARM
- COCONUT PLANTATION 1
- CREEK
- AGRICULTURAL MARKET
- RESTAURANT
- MAIN ENTRANCE
- COCONUT PLANTATION 2
- MAINTENANCE AND UTILITIES
- RESIDENTIAL AREA
- NURSERY

AGRICULTURAL PARK SITE DEVELOPMENT PLAN

- 1 - MAIN ENTRANCE
- 2 - PLANT NURSERY
- 3 - CALAMANSI PLANTATION
- 4 - COMMUNITY GARDEN
- 5 - MAINTENANCE & UTILITIES
- 6 - COCONUT PLANTATION
- 7 - AGRICULTURAL MARKET
- 8 - U-PICK FARM
- 9 - MANGO PLANTATION
- 10 - ALLEY CROPPING
- 11 - RECREATIONAL AREA
- 12 - VEGETABLE FIELD
- 13 - BOARDWALK
- 14 - RESTAURANT
- 15 - RESIDENTIAL AREA
- 16 - COWSHED
- 17 - LIVESTOCK FARM



SITE ANALYSIS



CONCEPTUAL DIAGRAM



- BUFFER ZONE
- MAIN PARK
- BOARDWALK AREA

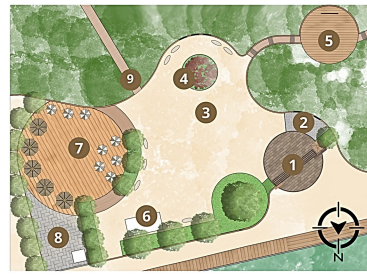


BOARDWALK WELCOME AREA 1 BLOW-UP PLAN



- 1 - BOARDWALK
- 2 - MANGROVES
- 3 - WELCOME AREA

BOARDWALK AREA 1 PLAN



- 1 - ENTRANCE
- 2 - INFORMATION BOARD
- 3 - OPEN AREA
- 4 - FEATURE TREE
- 5 - BRIEFING AREA
- 6 - COMFORT ROOM
- 7 - KIOSKS/PICNIC AREA
- 8 - MAINTENANCE AREA

URBAN DESIGN INTERVENTIONS

TRANSIT ORIENTED DEVELOPMENT

LOCATION: Barangay 10, Lucena

Barangay 10 in Lucena City will be planned using the principles of transit oriented development. Through this, different areas in the site will be connected by providing access routes for pedestrian and vehicles to help people move from one place to another, making the spaces more functional. Furthermore, different transit stations will be distributed so different vehicles will have their own space and avoid disturbing the traffic. The plan will also make the site become more organized and landscape design strategies will be applied on the existing streets.

SITE CRITERIA

- The site is located within the central business district.
- The abandoned Philippine National Railway system and station in the site can be revitalized.
- The site varies in land use, providing different opportunities for the people.

METRO-LUCENA AIRPORT

LOCATION: Border of Sariaya near Lucena

The construction and development of a new airport in Metro Lucena, one that is capable of handling and maintaining domestic flights, will bring benefit to the metropolis by providing an alternative, fast, and convenient form of transportation which can easily move passengers and goods in and out of the metropolis. This will greatly improve the promotion of tourism in the area as well as the exportation and delivery of agricultural produce and other local products. It may also be used for smaller scale flying like for crop dusting applications in agriculture.

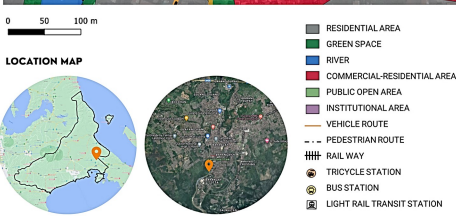
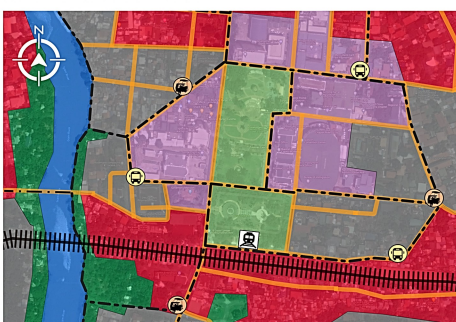
SITE CRITERIA

- The site must be sufficiently large to accommodate a runway and other airport facilities.
- The site must be in an area free of air-space obstructions like tall buildings and mountains.
- The site should be sufficiently close to population centers and urban centers (CBDs and TODs) to be deemed accessible for users, but far enough that noise levels and other unfavorable effects are at an acceptable level.
- The site should be easily accessible to major roads for ease of loading, unloading, shipments, and delivery of products.
- The site should be able to accommodate proper runway orientation wherein planes can take off against the wind direction.

PRINCIPLES OF TOD

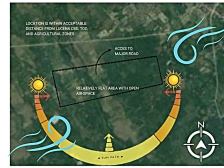


CONCEPTUAL DIAGRAM

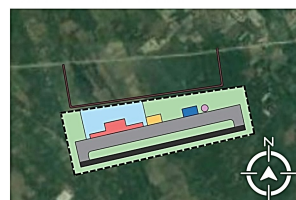


- RESIDENTIAL AREA
- GREEN SPACE
- RIVER
- COMMERCIAL-RESIDENTIAL AREA
- PUBLIC OPEN AREA
- INSTITUTIONAL AREA
- VEHICLE ROUTE
- PEDESTRIAN ROUTE
- RAIL WAY
- TRICYCLE STATION
- BUS STATION
- LIGHT RAIL TRANSIT STATION

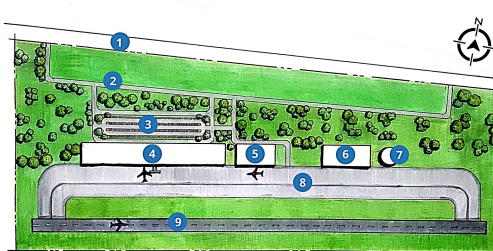
SITE ANALYSIS



CONCEPTUAL DIAGRAM



METRO-LUCENA AIRPORT SITE DEVELOPMENT PLAN



- 1 - SARIAYA BYPASS ROAD
- 2 - AIRPORT ROAD
- 3 - PARKING AREA
- 4 - AIRPORT TERMINAL/AIRLINE SERVICES/ MAINTENANCE FACILITY
- 5 - FREIGHT/CARGO
- 6 - HANGAR
- 7 - FUEL DEPOT
- 8 - TAXIWAY
- 9 - RUNWAY/LANDING STRIP

SPOT PERSPECTIVES



CONCLUSION AND RECOMMENDATIONS

Metro-Lucena serves as a self-sustaining metropolis that highlights its agriculture and ecotourism sectors which contribute to the progress and development of the whole region. The proposed plan is polycentric in approach, where each central business district consists of mixed-use amenities, facilities, and services catering to the local communities and tourists in Metro-Lucena. Major zones such as agricultural, economic, and ecotourism were identified based on the site analysis to achieve the vision for the metropolis. With these zones as the major pillars for the advancement of the metropolitan area in Southern Luzon, along with the integration of transit-oriented development in its cities, Metro-Lucena will be the leading metropolis in agriculture and ecotourism in the Philippines. To attain a more accurate analysis and solution, we recommend the use of other advanced GIS software and satellite data, and to conduct on-site inspection and interviews from the local community to gather primary information on the existing urban issues and problems and how they envision the development of the metropolis.