



STRATEGIC PLAN

Metro Naga is a proposed metropolitan area consisting of ten (10) neighboring cities and municipalities connected by the Pan-Philippine Highway running through Bicol Region to other parts in Luzon. With the transit corridors serving as the principal transportation backbone, the development of Metro Naga would spur social, economic, environmental and cultural growth to respective cities and municipalities and eventually the entirety of Bicol Region.

SOCIO-ECONOMIC DATA



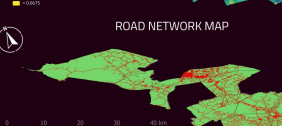
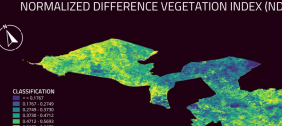
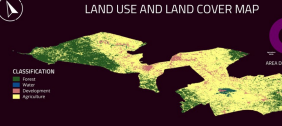
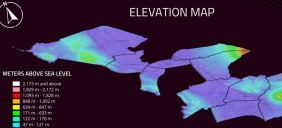
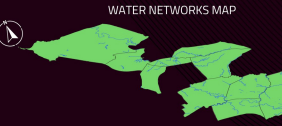
POPULATION
850,354
(in 2020)



ECONOMY
Php 2,605,207,587.64
(total revenue in 2021)
primarily agricultural

SIEVE ANALYSIS

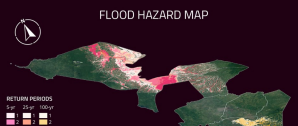
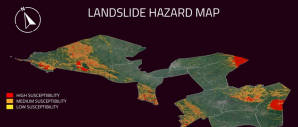
BIOPHYSICAL AND GEOLOGICAL PROFILE



ADMINISTRATIVE MAPS



DISASTER MAPS



CONSTITUENT CITIES AND TOWNS ANNUAL REGULAR REVENUE (2016)

City/Town	Classification	Annual Regular Revenue (2016)
NAGA	Component City (primate)	975,090,393.23
IRIGA	Component City	472,025,392.29
PILI	First Class Municipality	230,657,834.85
LIBMANAN	First Class Municipality	219,476,574.91
NIABUA	First-Class Municipality	178,086,000.83
BULA	Second Class Municipality	148,123,781.66
BAAO	Third Class Municipality	125,738,789.6
PAMPLONA	Fourth Class Municipality	84,807,064.72
MILAOR	Fourth Class Municipality	79,508,887.43
SAN FERNANDO	Fourth Class Municipality	82,249,654.56

AGE DEMOGRAPHICS IN %

	Ages 14 and below	Ages 15 to 64	Ages 65 and Above
NAGA	30.55	64.77	4.68
IRIGA	33.36	61.1	5.54
PILI	36.06	59.81	4.13
LIBMANAN	36.86	57.95	5.19
NIABUA	33.87	59.52	6.61
BULA	38.87	56.14	4.99
BAAO	36.03	58.97	5.00
PAMPLONA	37.3	57.83	4.87
MILAOR	34.76	60.36	4.88
SAN FERNANDO	36.35	58.4	5.25

VISION

We envision an interconnected framework of the metropolis that provides its citizens equal opportunity and access to sustainable, and disaster-resilient urban development.

MISSION

To propose an urban development plan that boasts a robust and efficient transit network, attentive zoning which combats sprawl development, and responsive flood-resilient communities for a safer metropolis.

GOALS AND MEASURES



Upgrade transit

- Evaluate and improve transit networks and infrastructure through multi-modal transportation planning.



Prevent urban sprawl

- Employ strategic zoning for the preservation of public open green space, agricultural land, and historical areas and address community needs

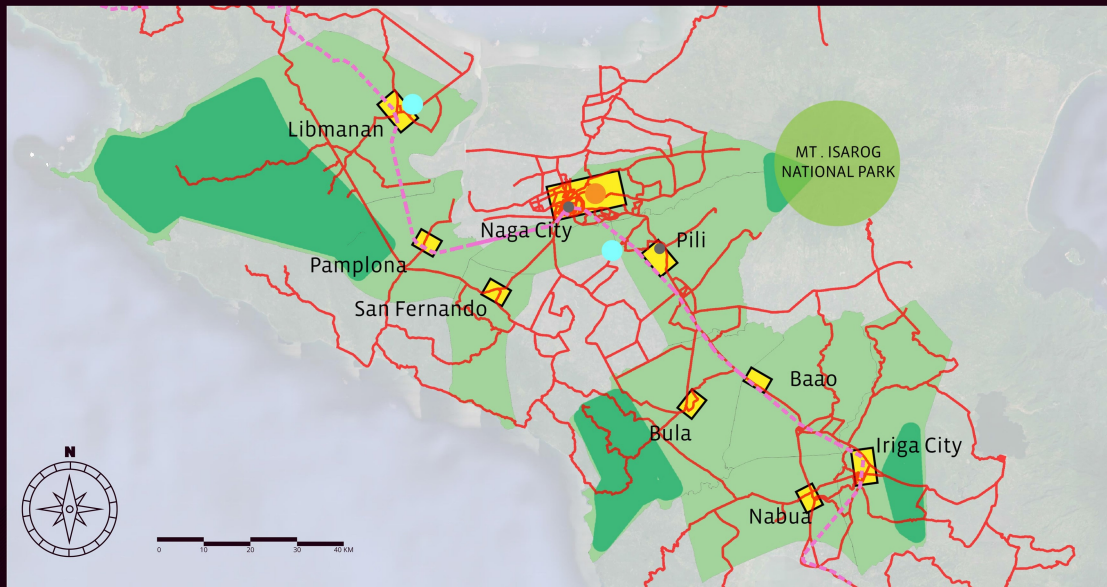


Reduce flood risk

- Revive floodplains.
- Apply ecological infrastructure and water management technologies for river systems and nearby infrastructures.



STRUCTURAL PLAN



LEGEND		AREAS OF INTEREST FOR URBAN DESIGN INTERVENTION	
MAIN URBAN AREA	AGRARIAN AREA	FLOODPLAIN AREA	TRANSIT NODE
PROTECTED AREA	FORESTED AREA	URBAN SPRAWL AREA	
	RAIL LINE		
	ROAD NETWORK		

SWOT ANALYSIS

STRENGTHS

- Ideal topography for metro development
- Agriculture remains cornerstone of metro economy
- Thriving tourism sector with diverse attractions
- Municipalities are sites of historical significance or contain historic assets.
- Generally accessible via land, air, and water transit

WEAKNESSES

- Inefficient road, congested road network
- Riparian areas vulnerable to flood hazards
- Proximity of metro to volcanic hazards
- Agriculture sector vulnerable to natural hazards
- Worsening natural hazards due to climate change
- Linear sprawling along waterways and roads

OPPORTUNITIES

- Metro Naga is connected to surrounding waters
- Biodiversity of Bicol River Basin (456 flora and 351 fauna)
- Connectivity of municipalities via national highway system
- Importance of Metro Naga area as node for Bicol

THREATS

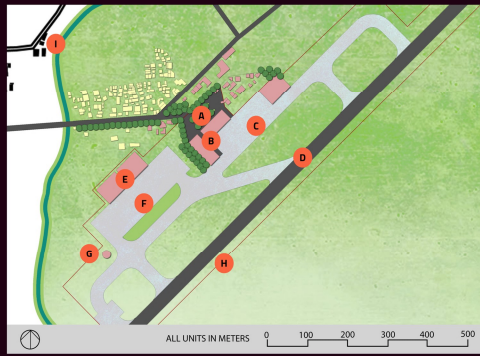
- Presence of active and potentially active volcanoes (Mt. Mayon, Mt. Isarog, and Mt. Malinao)
- Proximity of water bodies namely may be a threat for flooding and hazards related/alike.

METROPOLITAN GROWTH ENVISIONED

We envision that Metro Naga's economic growth will be sustained through urban design interventions guided by the goals and measures of the strategic plan. The backbone of the metropolis is the provision of multi-modal transportation anchored on transit-oriented developments at the identified transit nodes. Urban growth will be prevented from sprawling along transit corridors through in-fill development of residential and commercial zones and the provision of green buffers. Floodplain developments that minimize hazard risk and possible damage ensure that the metropolitan fabric is resilient and safe. The goal of providing a framework for economic growth aimed primarily at strengthening the agricultural economy through the preservation of lands and improvement of connectivity is thus achieved.



NAGA CENTRAL AIRPORT: A REDEVELOPMENT PROJECT IN MODERNIZING AIR TRANSPORTATION



- LEGEND**
- A. Parking
 - B. Naga Airport Terminal
 - C. Taxiway
 - D. Runway
 - E. Hangar
 - F. Ramp
 - G. Control Tower
 - H. Fence
 - I. River
- commercial
 - residential
 - concrete road
 - asphalt road

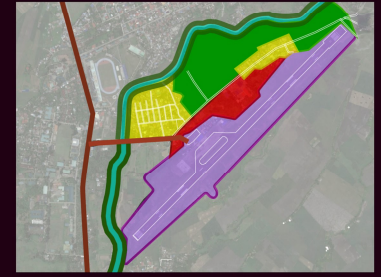
SYNTHESIS

Naga Central Airport is a redevelopment of the old Naga Airport located in the municipality of Pili, southeast of Naga. This project is part of Metro Naga's goal in upgrading the current transit and transportation sector of the metropolitan.

Part of its development is addressing the current road network connection between the airport and the major highway. From here, a new layout of the airport is presented in improving the quality of life (QoL) and overall experience of people going to the airport, therefore encouraging people to use alternative modes of transportation. This includes a bigger terminal station, tighter security, better runway systems, hangars and a control tower capable of giving real-time weather and information.

SITE ANALYSIS AND ZONING

- LEGEND**
- Residential
 - Commercial
 - Transportation
 - Agricultural
 - River
 - Floodplain



LIBMANAN TRAIN STATION REVIVAL: ACHIEVING TRANSIT-ORIENTED AND FLOOD-SENSITIVE CENTRAL BUSINESS DISTRICT



- LEGEND**
- A. Libmanan Trainstation
 - B. Bus Station
 - C. Tricycle station
 - D. Libmanan Public Library
 - E. 3-meter wide streets with retaining planter buffers
 - F. St. James the Apostle Cathedral
- commercial
 - mixed-use
 - government
 - residential

SYNTHESIS

Libmanan Train Station is part of the transit oriented development meant to revitalise the municipality's urban core. In addition to streamlining the area's public transport system, the development also employs flood resilient measures to address the area's acute flooding issue.

Surrounding the transit centre are mix used areas and improved streetscape design to increase the CBD's walkability, and social and economic growth. The stations also connect to the esplanade via a green corridor that further encourage activity. The esplanade and its adjacent green spaces double as recreational spaces and flood control areas.

SITE ANALYSIS AND ZONING

- LEGEND**
- Residential
 - Commercial
 - Mix use
 - Institutional
 - Libmanan River
 - Transit centres
 - Agricultural
 - Green space
 - Esplanade
 - PNR Rail line
 - Major road
 - Green corridor
 - Non-motorised transport



NAGA GRAND CENTRAL: A TRANSIT-ORIENTED DEVELOPMENT SERVING CENTRAL BUSINESS DISTRICTS URBAN CORE



- LEGEND**
- A. Naga Grand Central Railway Station
 - B. Housing Redevelopment
 - C. Park
 - D. SM Naga
 - E. Naga Grand Central Bus Terminal
 - F. Bicol Access Health Centrum Hospital
- commercial
 - mixed-use
 - residential
 - transit
 - road
 - elevated railway
 - waterway

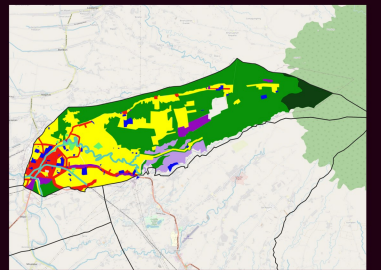
SYNTHESIS

Naga Grand Central is a transit-oriented development located on the site and greater vicinity of the Naga PNR station, bordering CBD II. The development addresses the need for effective and efficient multi-modal transit while addressing sprawl development along transit corridors.

The once-disconnected and underutilized train station and bus terminal are now integrated through a network of walkways and green spaces. The redeveloped rail line is envisioned as an elevated railway, reconnecting the city below and recovering lost space as green buffers. Alongside this is the in-fill housing redevelopment, serving primarily residents and workers from former sprawl areas. The goal of high-density development served by high-capacity transit is thus achieved, ensuring the financial and social success of the CBD for years to come.

SITE ANALYSIS AND ZONING

- LEGEND**
- Residential
 - Commercial
 - Mix use
 - Industrial
 - Agri Industrial
 - Institutional
 - Agricultural
 - Forest Reserve
 - Cemetery Memorial Zone
 - River



TYPOLOGIES OF URBAN DESIGN INTERVENTIONS AS SOLUTIONS

The proposed redevelopment areas, which includes the sprawl development area, and flood plain development area, areas that are susceptible to flooding and are emerging sprawl districts were identified. Sprawl development and redevelopment areas within important nodes in the region were introduced to the proposed design. As the majority of Metro Bicol experiences flooding, the frequent flooding events in the site served as a guide for planning. This way, the metropolis's dynamic flooding can harbor a rich regional ecology, and as well as to create a unique user and living experience within the area. Through our guiding principle, which is to create a sustainable, and disaster-resilient interconnected framework of the metropolis, we can achieve a robust and livable city that supports both its citizenry and local ecology.



Floodplain Development **Multi-modal Transit** **Sprawl Redevelopment** **Riverside Esplanades** **Improved Streetscapes** **Town Centers**

CONCLUSION AND RECOMMENDATIONS

Metropolitan planning is a rigorous, inter-disciplinary, and meticulous process. However, its effects are long-term and impactful to many lives. It improves the quality of life for many generations especially when done right. Thus, knowing the municipalities' demographics, economy, problems, goals and the likes is crucial. This helps planners to reach a clearer goal and analyze what to improve. For instance, we discovered how many of the municipalities are affected by flooding. But later found out how riversides and streetscapes are treated in a way that there are too many concrete surfaces. Furthermore, we also found out how transportation is inefficient and later learned of the greater potential of the train station and airport. Through our vision and mission, we were appropriately guided on which intervention to integrate like better zoning around transportation terminals and esplanade in dense city for better water permeability.

Upon experiencing how to plan for Metro Naga, we recommend to conduct key informant interviews and surveys to the general population to find out more effective design interventions. Their own insights and experiences in their resident cities help planners better analyze and find out the problems that general maps and data cannot show.