A Study on Chiang Mai Public Transport Master Plan

Boonsong SATAYOPAS Assoc. Prof.
Chiang Mai Province

- Chiang Mai Province is located at 720 km North of Bangkok
  - The 2nd Most Important city after Bangkok

- The Center of Economic, Education and Tourism of Northern Region

- Population of 1.7 millions with Gross Provincial Product, around 6 billions USD

- 9 million tourists with revenue around 2.3 billion USD (Year 2015)
Basic Info. of Chiang Mai City

- An Area of 430 sq.km., Encompasses Chiang Mai and Surrounding District Municipalities
- Population Around 800,000
- 9 Million Tourist/year with 13 % Annual Growth
- The Municipality, ~ 40 sq.km. Houses 80 % of City Activity
- Only Road-Based Transport with 90% uses of Private Vehicle
Basic Info. of Chiang Mai Province and City

- Vehicle Registration, 1.3 million (2016)
- Predicted to be 2.6 million in 2026

Private Vehicles amount to 98%

- Motorcycle 60%
- Car, Pickup, Van 37.9%
- Bus 0.5%
- Truck 1.3%
- Pedal Tricycle 0.1%
- Others 0.3%
Basic Info. of Chiang Mai Province and City

POTENTIAL

- GPP 6 billions USD, Per capital GPP 3,300 USD
- Among Top Ranks for World Tourist Destination
- Good Connectivity to BKK and Surrounding Provinces by Road, Rail and Air
- 7 Universities, Public and Private
- Having Good Standard Hospitals and Well Recognized Faculty of Medicine
- Center of Lanna Culture
Vision

“Chiang Mai, City of Life and Prosperity”

Positioning:
- Center for Tourism
- MICE City
- Northern Land-port (Transportation Center)
- Education Hub
- Medical Hub
- Livable City with Eco-town and Eco-village
- World Heritage City
Population Settlement and Activities Area

Changes in Population Settlement, year 2000 (left) and 2010 (right)
Information on Road Traffic

Traffic flow predicted on Chiang Mai road network

20 year
Chiang mai Road-Based Public Transport

- Major Systems are 2 Mini-bus Systems
- Red Minibus Operate as Para-Transit in Town Area
- White and Yellow, a Fix Route Operate into-out off town area
- Others: Taxi, tuktuk Municipal Bus (small number)
Major Travel is from Surrounding District to Town Area, Mostly by Private Vehicle

-2.3 million Person trip/day in City Area

-90% Private Vehicle Mode Share (Car, Pickup and Motorcycle)
Chiang Mai City Road Network

- Road Network is a mix type of Grid, Radial and Ring Pattern
- Roads in Town Area are mostly 2 lanes
- Radial Roads are 4 Lanes
- 6 Lanes Road are on Inner Ring and Middle Ring Roads
- Outer Ring Road is being Expanded to 4 and 6 Lanes
Chiang Mai Public Transport Problem

Problem Cycle

- Low Service Quality Public Transport
- More Use of Private Vehicle
- High Traffic Congestion
- A Need of Good Public Transport

New Public Transport System

Chiang Mai Public Transport
Basic Course of Traffic Problems

Unbalance between Travel Demand and Transport Supply

Roadway Congestion

- Higher Cost on Vehicle Operation
- Longer Travel Time
- Impact on Area Economy, Livability and Environment
OUTCOME of Demand - Supply Unbalance

Congestion Level on Network

Traffic Flow Condition

Highly Congested
Moderately Congested
Not Congested
PRESENT DAY ROADWAY CONGESTION
The Office of Transportation Planning and Traffic Management (OTP), which Looks After the Country Policy on Transportation and Traffic Matters

Recognizes the Urgent Need to Tackle Chiang Mai Travel Problem

Request Chiang Mai University for a Study on Chiang Mai Public Transport Master Plan
Can be Summarized in 3 Questions

- **What Type of Public Transport System Meeting the Need of People Traveling**

- **How to Finance the System Installation (Civil Work and Vehicles)**

- **How to Manage and Finance the System Operation**
OUR STUDY RESULTS

• The Overall System that Serves Daily Travel of the City Residents Consists of 3 Integrated Systems

  - The Main System Covers the City Inner Area up to The 2nd Ring Road, It is to be of High Service Quality and Capacity (LRT)

  - The Major Feeder System Linking Surrounding Suburb Districts to the Main System Terminal (BUS)

  - The Minor Feeder which fills up the Area inaccessible to the Main System by Non-motorized Transport. (Walking and Pedaling) (BUS)
Chiang Mai Public Transport System
(CONCEPTUAL)

3 Systems Covering City Area

• Main System, providing high service quality, operating in city core area

• Major Feeder, linking suburb area to Main system terminal

• Minor Feeder, connecting remote city area to the Main System
The Main System Consists of 3 Light Rail Transit Lines (LRT), the **RED**, **BLUE**, **GREEN**

- Run on Dedicated Track (ROW-A)
- Will be on Ground outside the Municipal Area and Underground Inside.
- Linking all Major Attraction Zone, (ie. School, University, Commercial, Hospital, Government Office, Work Places)
- Providing Modal Linkage, Airport, Railway and Bus Terminal.
EXPECTED PROJECT OUTCOME

- Reduce Vehicle Emission (Low Carbon Mobility)
- Good Environment
- Fast, Reliable and Comfortable Travel
- Enhance Economic Growth Potential
- Leading to Sustainable Development of Chiang Mai City
End of Presentation

Thank you for your attention