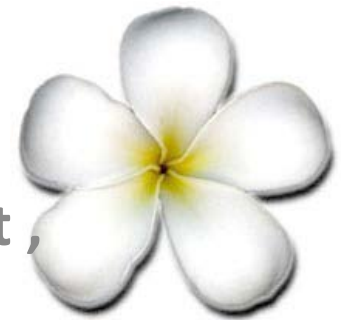




Clean Air for smaller cities in ASEAN Region Nakhon Ratchasima city (KORAT)

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Profile of Nakhon Ratchasima

- Nakhon Ratchasima is located on Korat plateau that is the lower part of Northeastern plateau of Thailand.
- Nakhon Ratchasima city is the capital center of Nakhon Ratchasima province.
- The city has population of 173,117 which makes it the third-biggest city in Thailand.

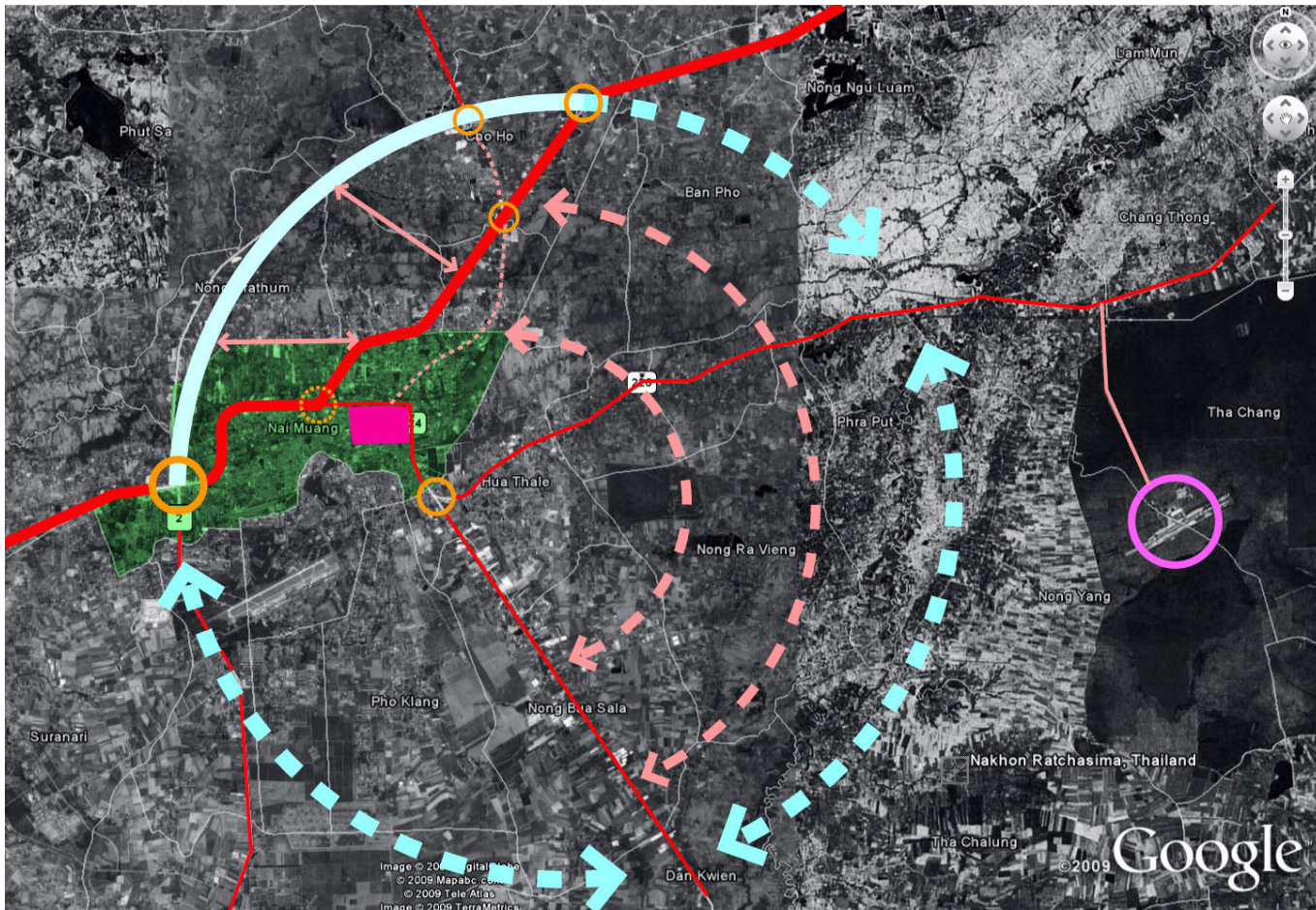


transportation

- Nakhon Ratchasima is connected with the northeastern railway line, connecting Bangkok with Nong Khai and Ubon Ratchathani.
- Thai highway 2 (Mitrapab) passing the city , 256 km from BKK.
- Domestic airport located 20 km. From center of City connect to Bangkok , Chiang mai and Phuket.
- Road network are link Korat to central and Eastern region , which the most important for industrial and logistics .



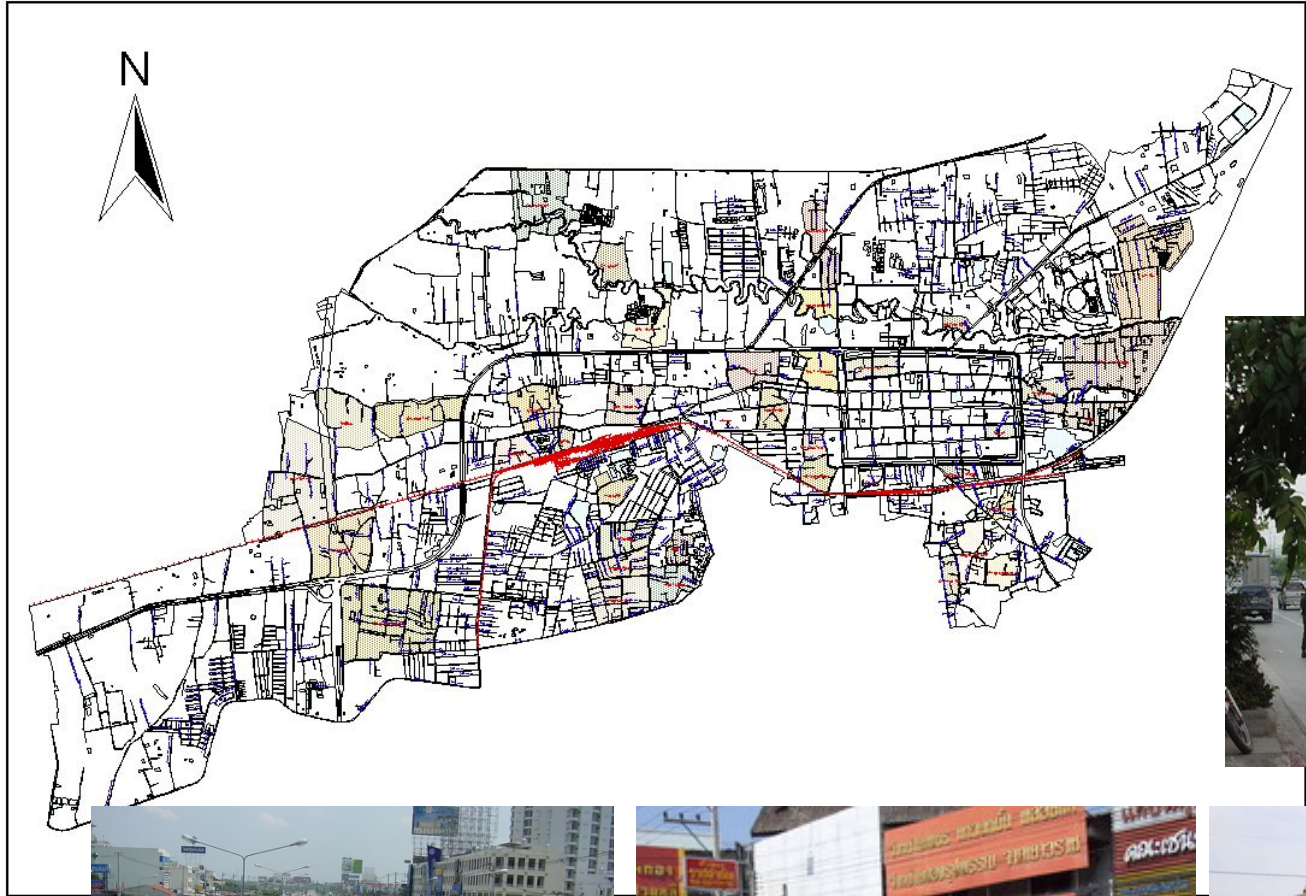
Korat city and vicinity



Area & Population

Profile	City	Province
Area (km ²)	37.5	20,584.16
Population	173,117	2,565,685
Population density(per km ²)	4,616	124.6





City Road Network



Air Quality Concern

- Increase of transportation demand in province. New register vehicle
 - year 2000 = 32,561
 - year 2009 = 61,183
- Inadequate Infrastructure supply :- road , traffic sign, parking lot.
- Traffic congestion with high risk traffic accidents
- Traffic noise and air pollution.
- There were complained from citizens about air pollution and odors from traffic , factories, constructions, crematoriums and open burning.



Air Pollution Concerned

- Korat city concerned with air pollution problem and started to cooperate with SUT to monitor PM10 and TPM since 2003.
- PCD had introduced air pollution activities to the city :- Green garage , vehicle and crematorium black smoke inspection.
- Civil Society group was discussed about the environmental problem included air quality and environmental friendly transport in the city.
- Due to the upcoming air pollution problem, in 2009 Korat city applied for Clean Air in Smaller cities in ASEAN region Project.



Nakhon Ratchasima Clean Air Activities

1. First step: Korat city conducted first meeting and public hearing for Clean Air Project on 9 September 2009.
2. Road map for Clean Air Plan was developed and submit to the Mayor since December 2009.
3. GTZ expert visited city to study and collected baseline information on emission inventory , public transportation and air quality monitoring.
4. Set up technical team to support the Clean Air activities from stakeholder

Stakeholder for Clean Air Promotion :-

1. Provincial Natural Resources and Environment Office.
2. Regional Environmental Office 11.
3. Suranaree University of Technology.
4. Regional Health Office 5.
5. Local Information Center for Development , Nakhon Ratchasima Rachabhat University.

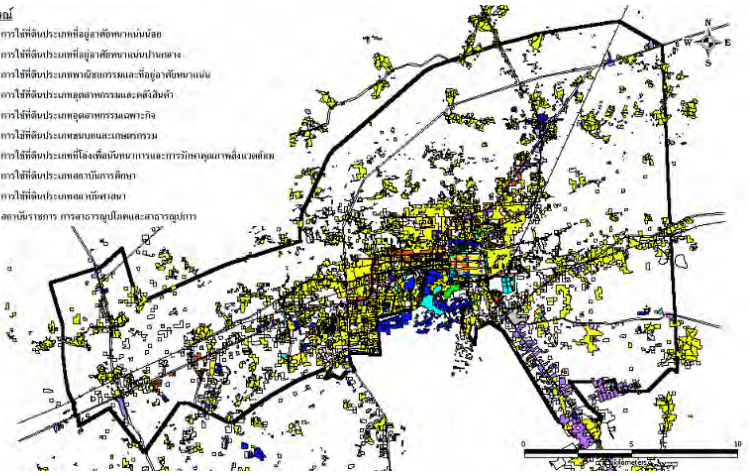


Road Map for Korat Clean Air Plan

1. Effective Administrative arrangement:-Stake holder & public participation.
2. Vision&Goals workshop.
3. Air quality monitoring network.
4. Emission Inventory development for point , area and mobile sources
5. Review of urban development and public transportation analysis.

สัญลักษณ์

- การใช้ที่ดินประเภทที่อยู่อาศัยหนาแน่นน้อย
- การใช้ที่ดินประเภทที่อยู่อาศัยหนาแน่นปานกลาง
- การใช้ที่ดินประเภทพาณิชยกรรมและที่อยู่อาศัยหนาแน่น
- การใช้ที่ดินประเภทอุตสาหกรรมและคลังสินค้า
- การใช้ที่ดินประเภทอุตสาหกรรมและพาณิชยกรรม
- การใช้ที่ดินประเภทเกษตรกรรมและปศุสัตว์
- การใช้ที่ดินประเภทสวนสาธารณะและนันทนาการ
- การใช้ที่ดินประเภทราชการ
- การใช้ที่ดินประเภทอื่น
- ถนนสายหลัก การจราจรหนาแน่นและการจราจรแออัด



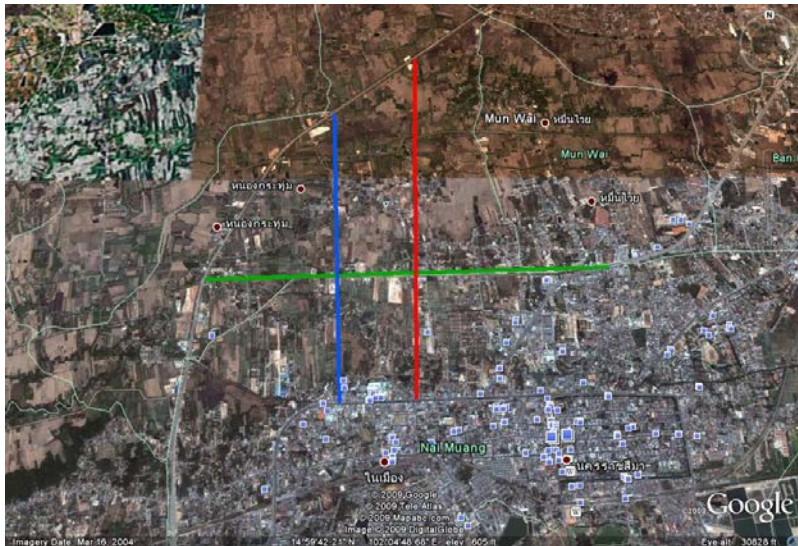
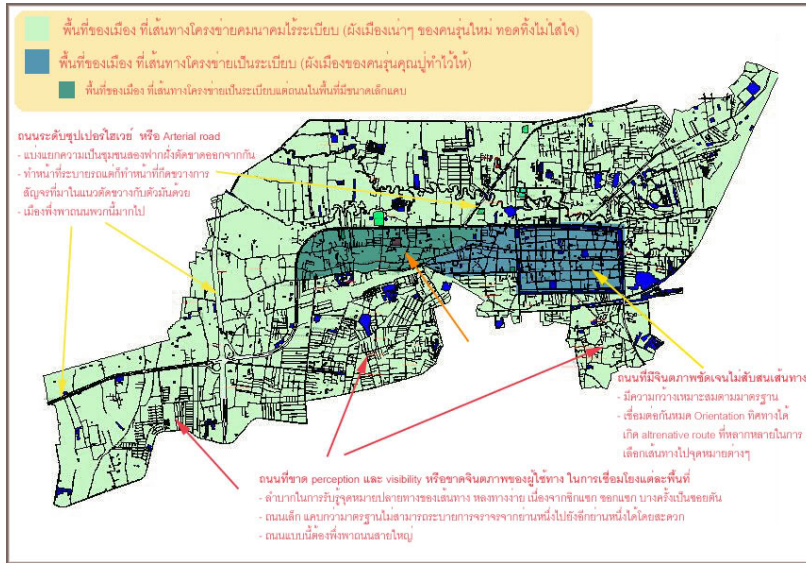
Nakhon Ratchasima Clean Air Activities

1. Conduct Clean Air Vision workshop on 13 July 2010 by LICD . Output from workshop :- “Korat clean air city by public participation in environment promotion for happy life.”
2. Development of emission inventory.
 - SUT by the department of Environmental health prepare and study for emission inventory.
3. Air quality Monitoring
 - PCD moved the old continuous air quality monitoring station to the new site locate at the central of city.
 - Review of air monitoring network by GTZ expert.
4. Review of public transportation and urban development by SUT and GTZ expert. – Report and recommendation.



Public transport Opportunities

- City and Land use Planning.
- Road network and transportation planning.
- BRT or other mode of transport :- elevated way bus .



The next activities

- Set up clean air board
- Set up steering committee.
- Presentation of the Clean Air Project activities and plan.
- Conduct the meeting for Goals for clean air plan.
- Emission inventory surveys ,data processing and report.
- Air quality monitoring program :- roadside monitoring.
- Supporting activities :- Public dissemination, Raising public awareness , Public participation ,
- Law enforcement.
- Others activities

City's Constraint

Money

- Annual budget allocated.
- Due to the money crisis, last year central government shorted the tax transfer for local government.
- The shortage of investment cost and limited of budget sources.
- City invested in large scale project :- water supply , wastewater&waste treatment.

Man&Management

- Decentralized policy but lack of proper manpower planned.
- Organization not proper to new task.
- Less of technical officials available for environmental management in the city.
- Air pollution are invisible burden that have chronic effect than acute effect to daily life.

Thank you for attention!

