







BEIP-GIS

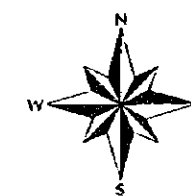
SIMULATION ANALYSIS

PACIFIC CONSULTANTS INTERNATIONAL
SUURI-KEIKAKU CO., LTD.

Traffic Simulation Level of Road Traffic Congestion (Present Demands and Future Supplies)

Legend

-  Provincial Boundary
-  Saturated
-  Heavily Congested
-  Congested
-  Acceptable
-  Under Capacity



SCALE 1:235000



KILOMETERS

THE STUDY
ON
URBAN ENVIRONMENTAL IMPROVEMENT PROGRAM
IN
BANGKOK METROPOLITAN AREA (BEIP)









BANGKOK METROPOLITAN ADMINISTRATION (BMA)
THE GOVERNMENT OF THE KINGDOM OF THAILAND

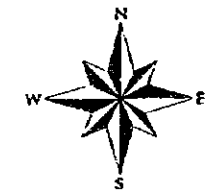


JICA JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Traffic Simulation Level of Road Traffic Congestion (Future Demands and Supplies)

Legend

-  Provincial Boundary
-  Saturated
-  Heavily Congested
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-  Acceptable
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SCALE 1:235000



KILOMETERS

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BANGKOK METROPOLITAN AREA (BEIP)



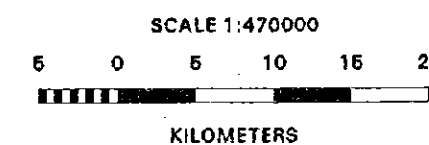
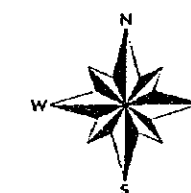
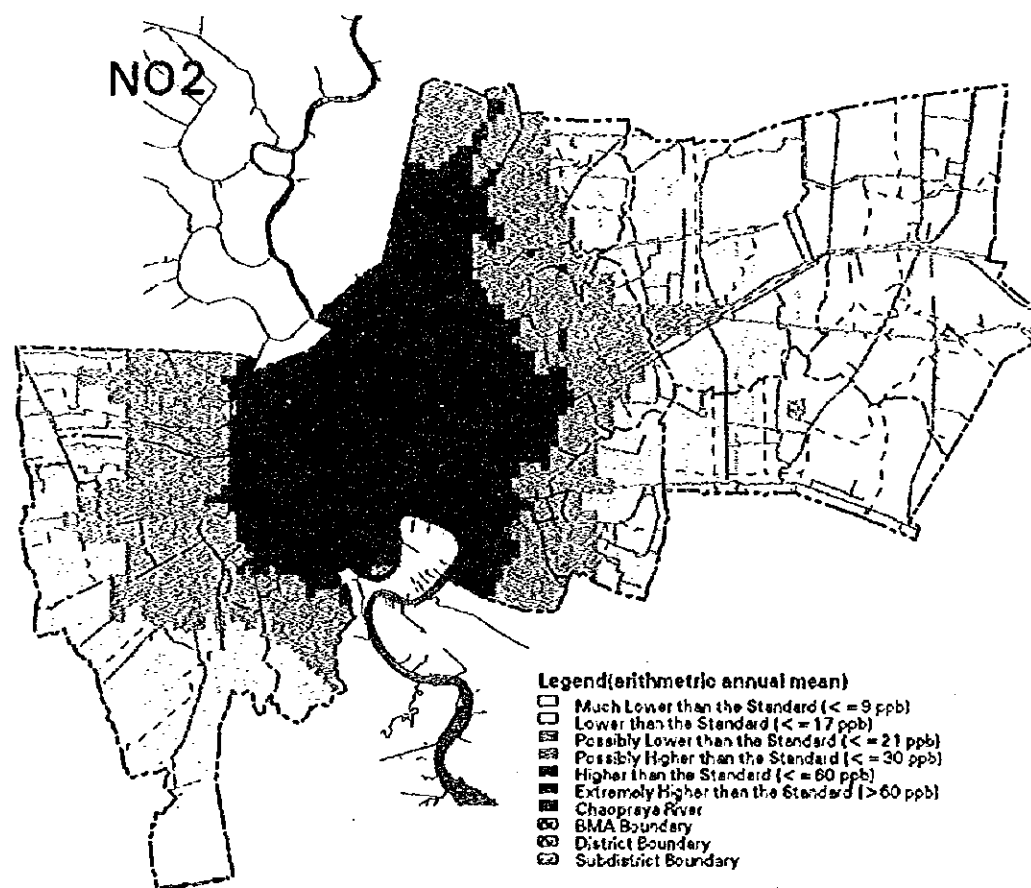
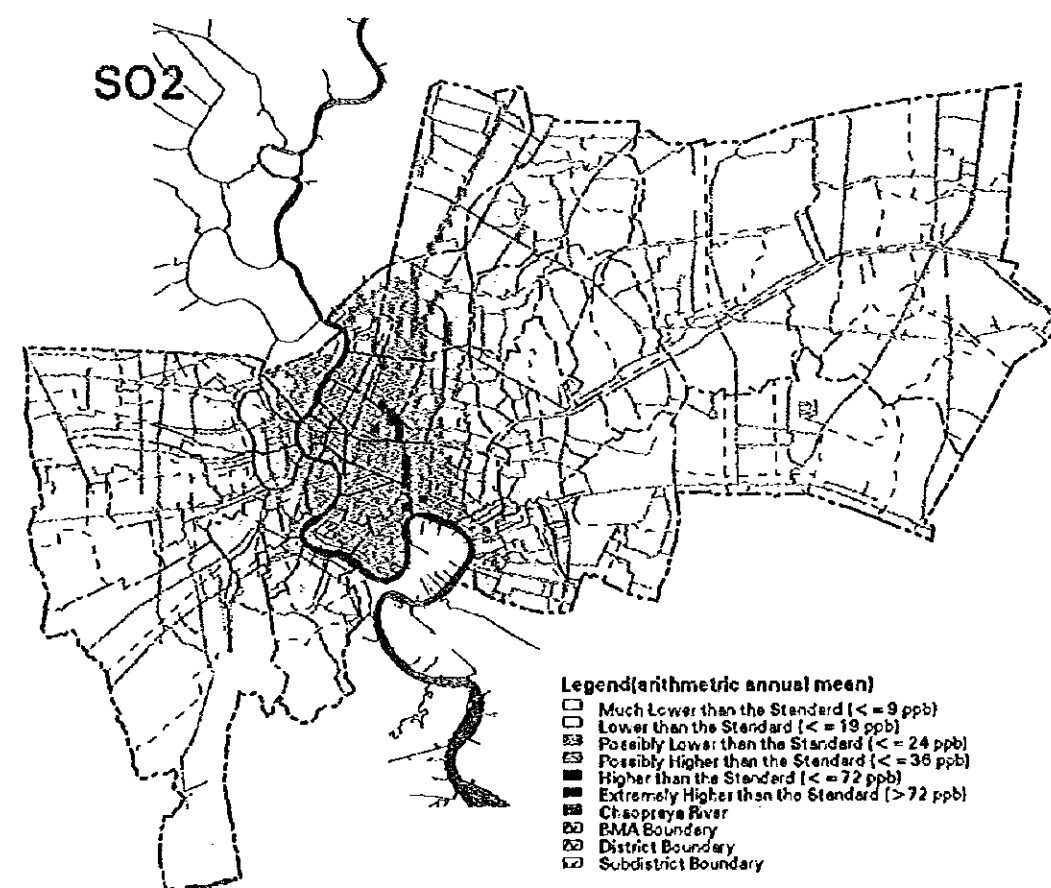
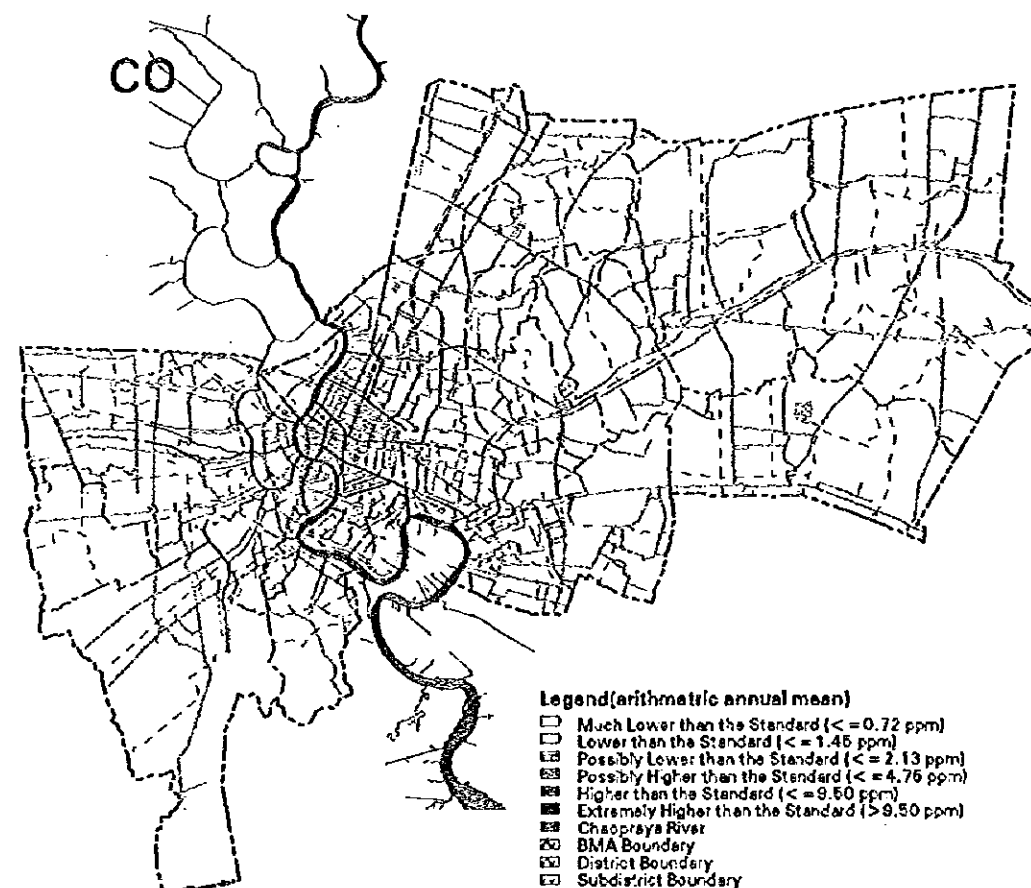
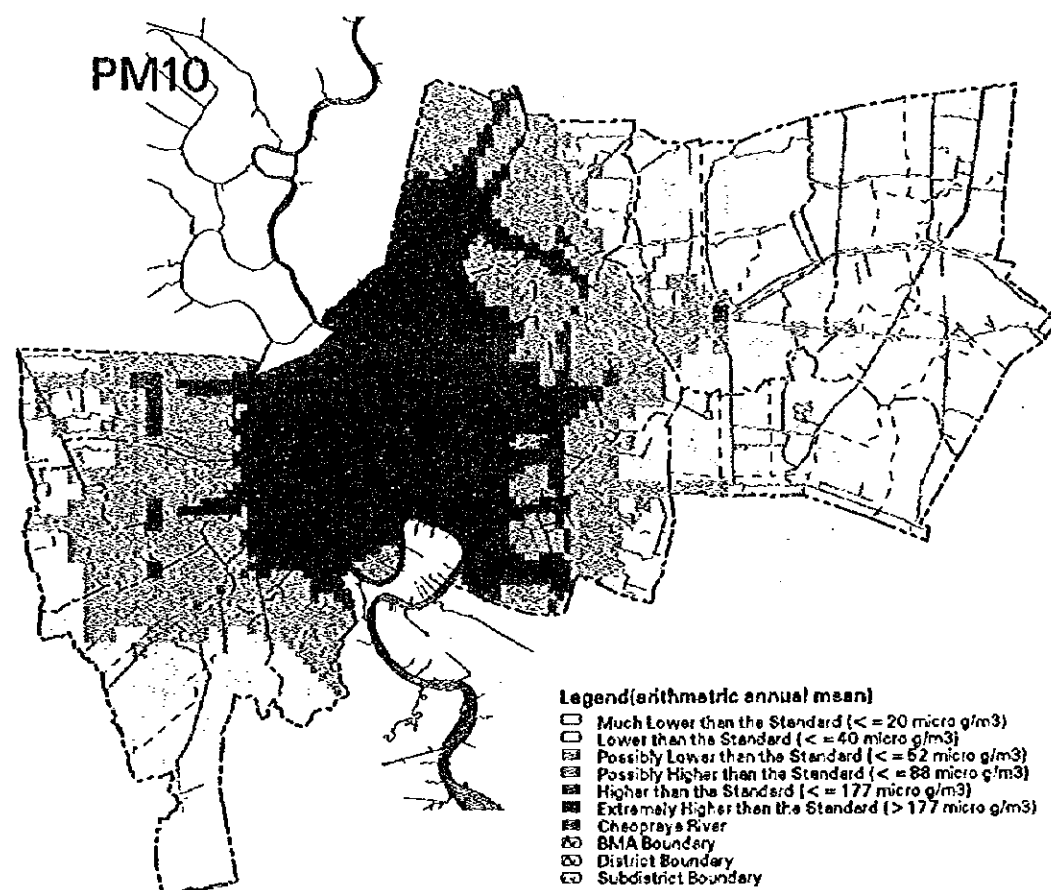
BANGKOK METROPOLITAN ADMINISTRATION (BMA)
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JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Ambient Air Quality Simulation-1

Present Vehicle Emission Factor
 Present Road Network
 Present Mass Transit Network
 Present Transport Demand



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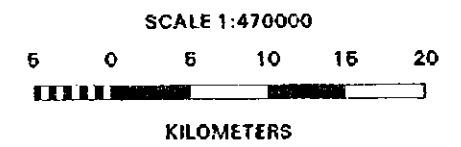
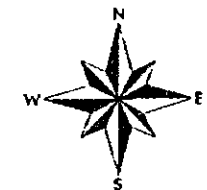
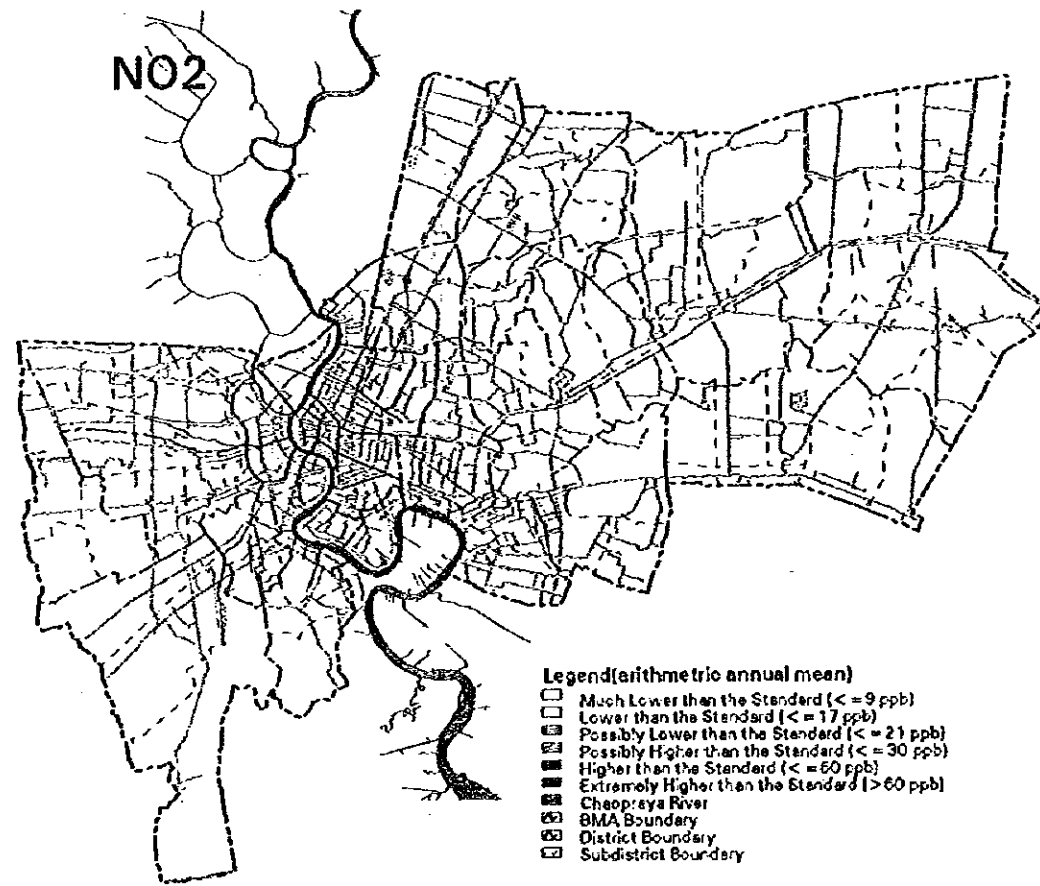
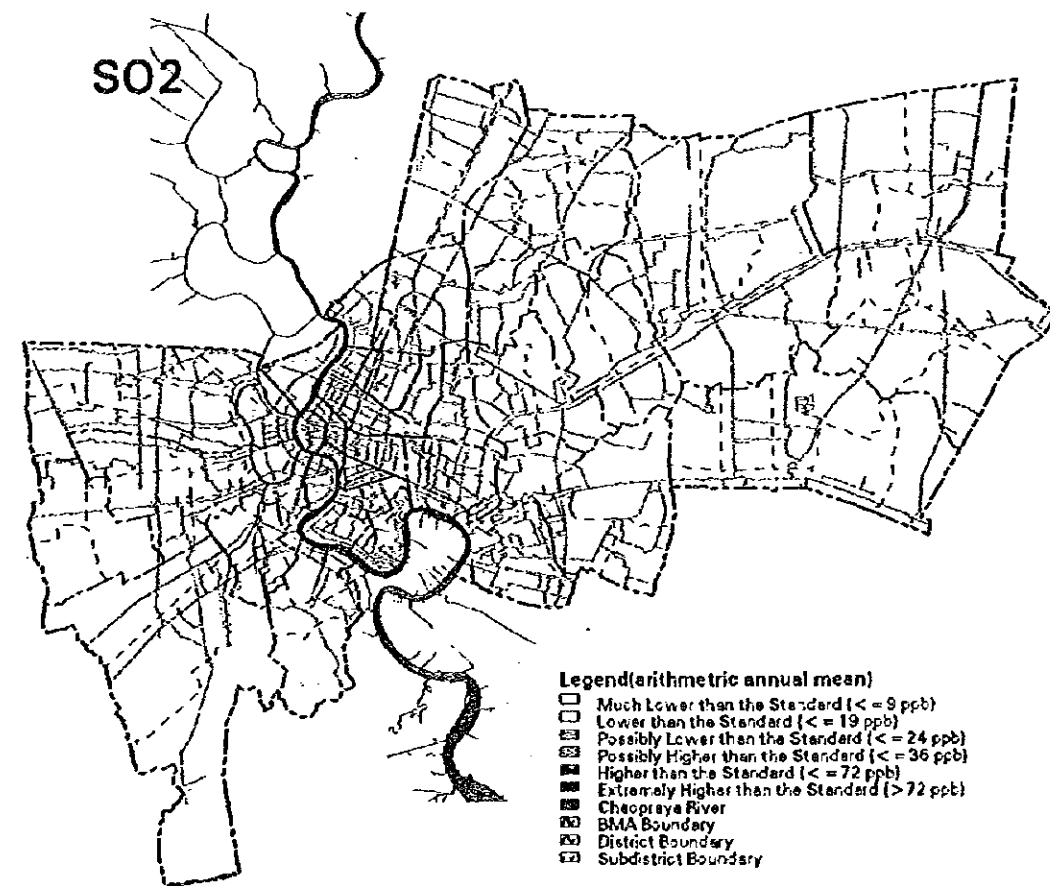
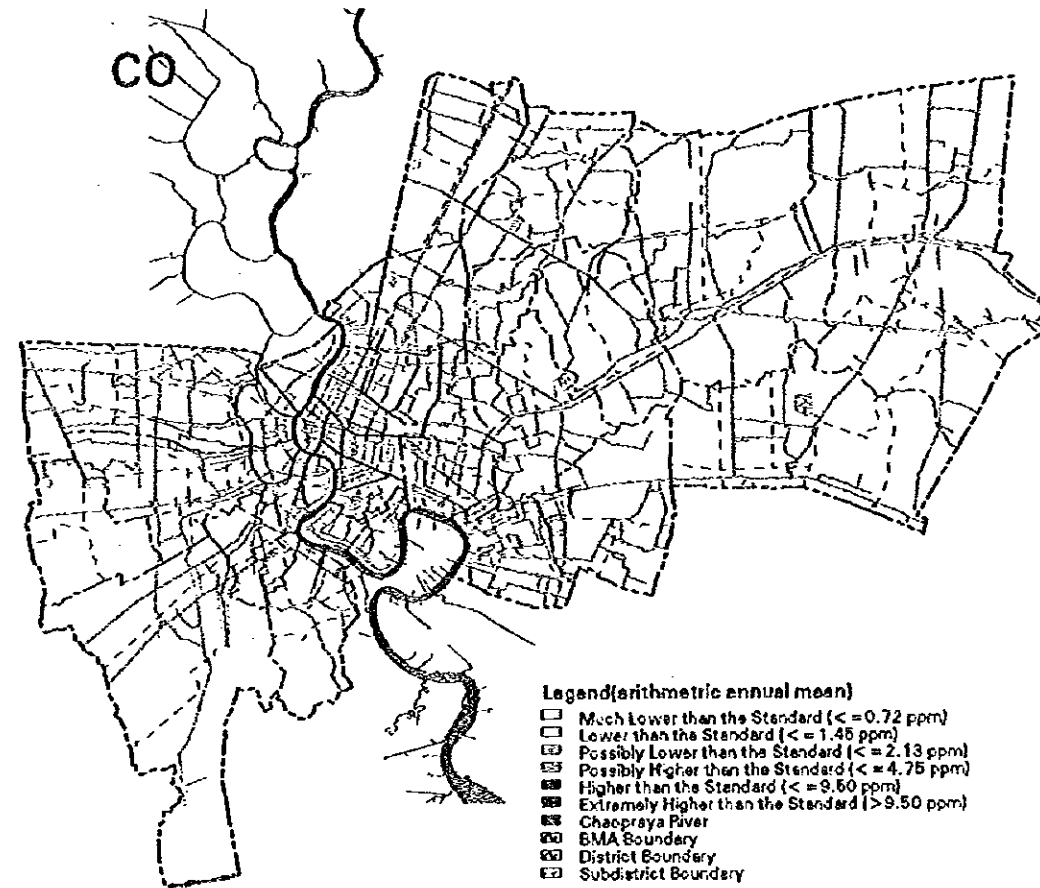
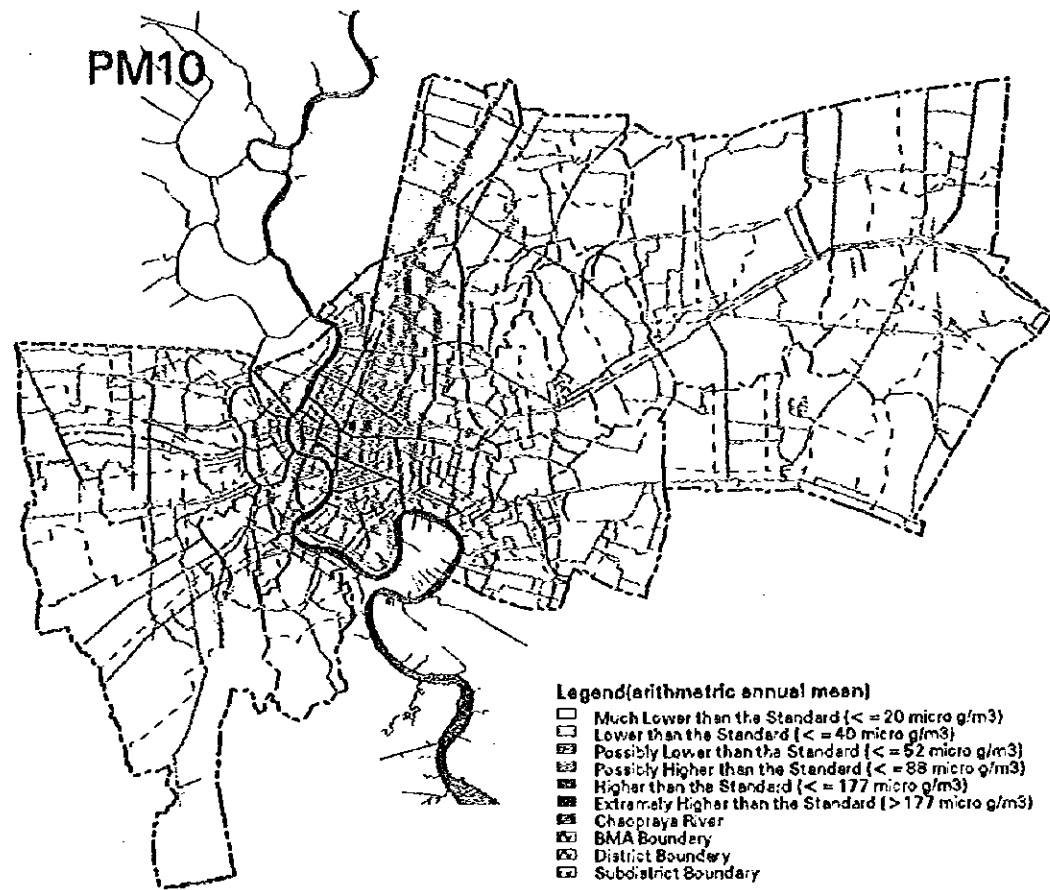
BANGKOK METROPOLITAN ADMINISTRATION (BMA)
 THE GOVERNMENT OF THE KINGDOM OF THAILAND



JICA JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Ambient Air Quality Simulation-2

Future Vehicle Emission Factor
 Future Road Network
 Future Mass Transit Network
 Present Transport Demand



THE STUDY
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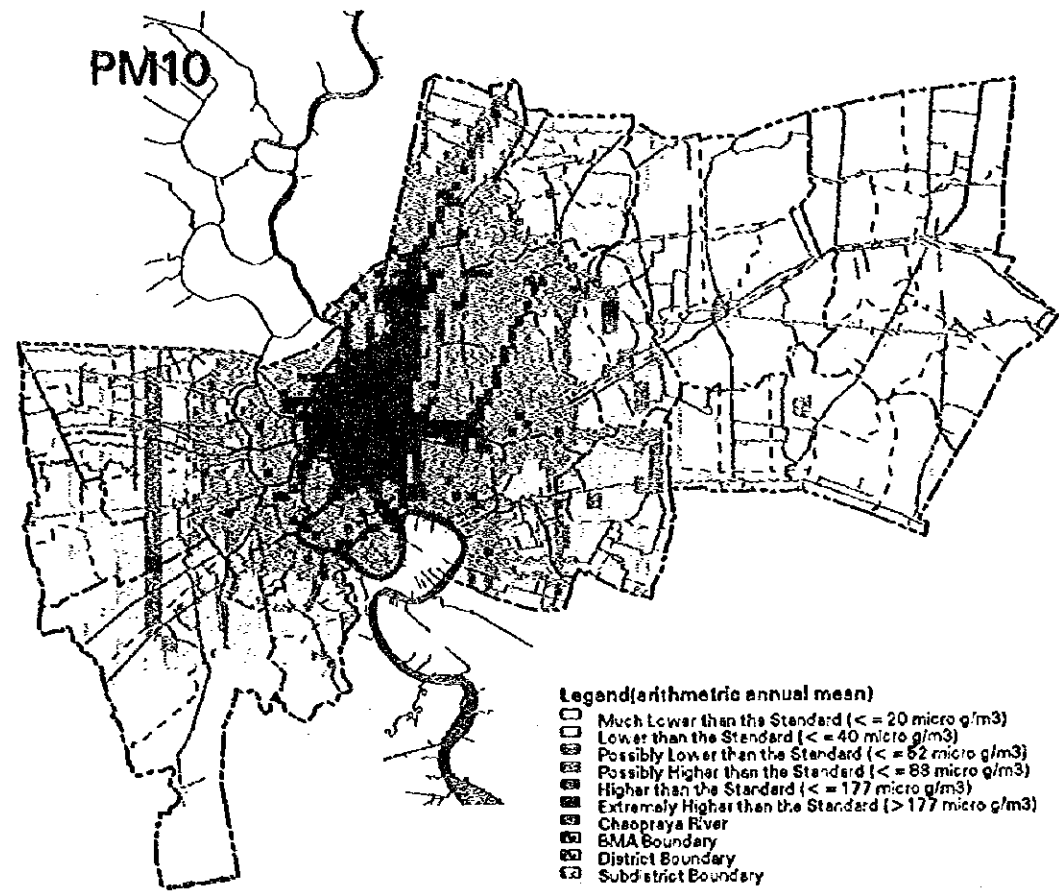
BANGKOK METROPOLITAN ADMINISTRATION (BMA)
 THE GOVERNMENT OF THE KINGDOM OF THAILAND



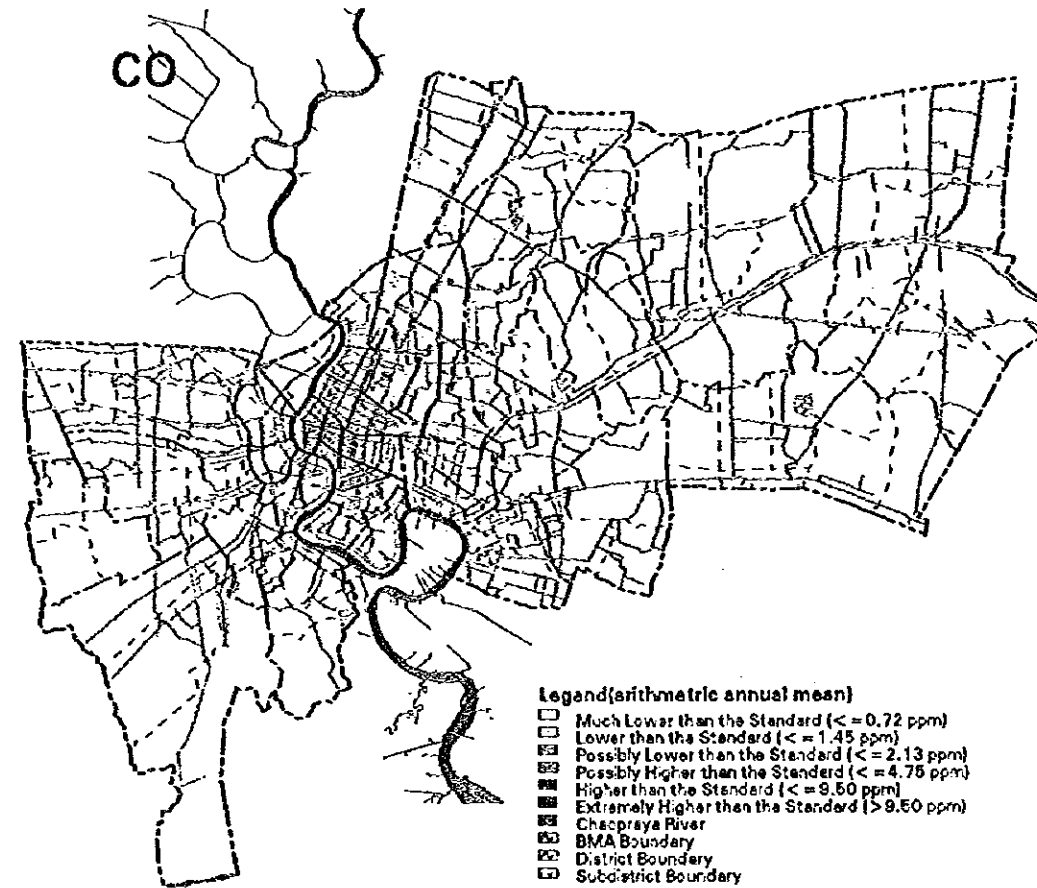
JICA JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Ambient Air Quality Simulation-3

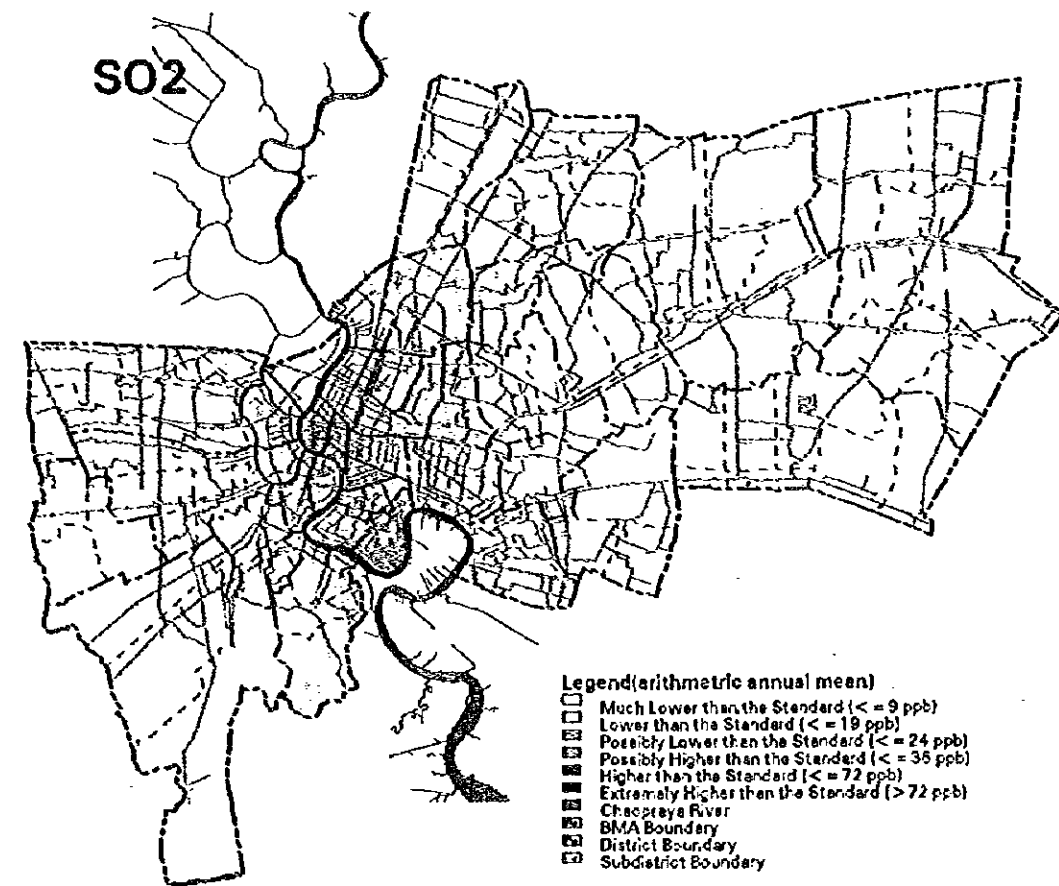
Future Vehicle Emission Factor
 Future Road Network
 Future Mass Transit Network
 Future Transport Demand



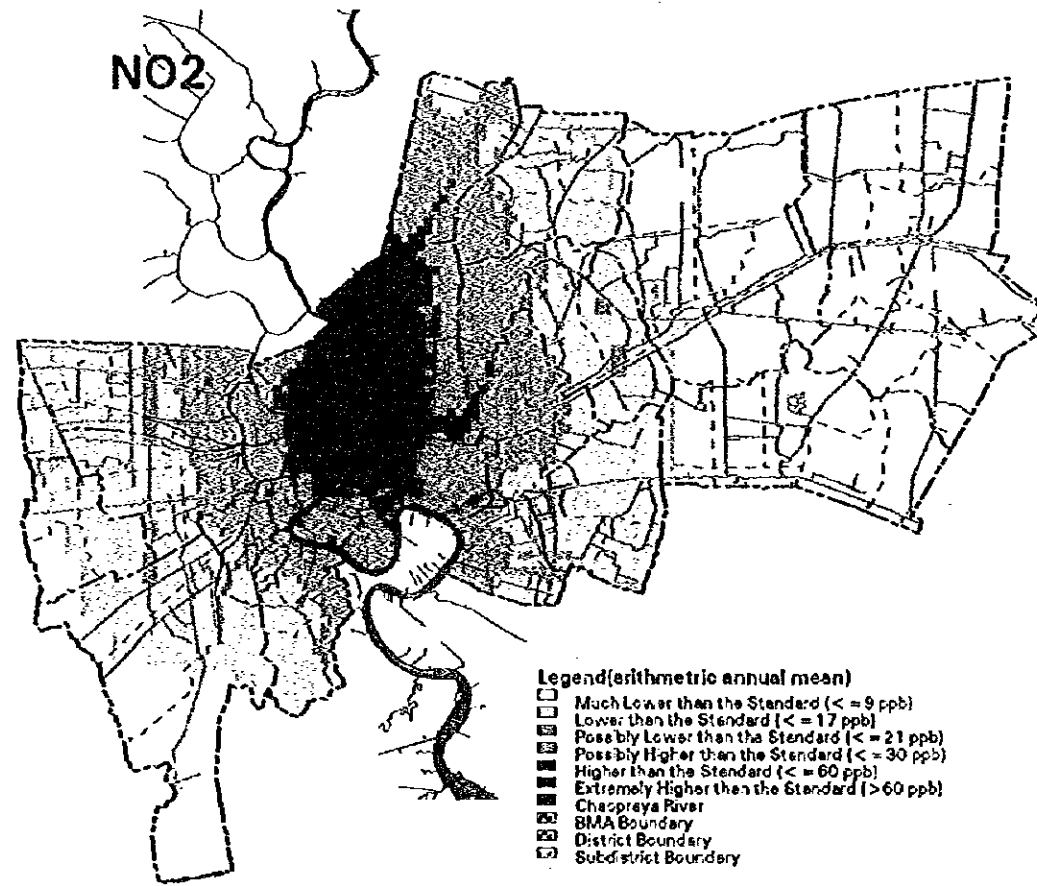
- Legend(arithmetic annual mean)**
- ☐ Much Lower than the Standard (<= 20 micro g/m³)
 - ▤ Lower than the Standard (<= 40 micro g/m³)
 - ▥ Possibly Lower than the Standard (<= 62 micro g/m³)
 - ▦ Possibly Higher than the Standard (<= 88 micro g/m³)
 - ▧ Higher than the Standard (<= 177 micro g/m³)
 - ▨ Extremely Higher than the Standard (> 177 micro g/m³)
 - ▩ Chaopraya River
 - BMA Boundary
 - District Boundary
 - ▬ Subdistrict Boundary



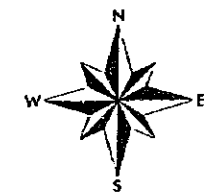
- Legend(arithmetic annual mean)**
- ☐ Much Lower than the Standard (<= 0.72 ppm)
 - ▤ Lower than the Standard (<= 1.45 ppm)
 - ▥ Possibly Lower than the Standard (<= 2.13 ppm)
 - ▦ Possibly Higher than the Standard (<= 4.75 ppm)
 - ▧ Higher than the Standard (<= 9.50 ppm)
 - ▨ Extremely Higher than the Standard (> 9.50 ppm)
 - ▩ Chaopraya River
 - BMA Boundary
 - District Boundary
 - ▬ Subdistrict Boundary



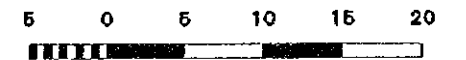
- Legend(arithmetic annual mean)**
- ☐ Much Lower than the Standard (<= 9 ppb)
 - ▤ Lower than the Standard (<= 19 ppb)
 - ▥ Possibly Lower than the Standard (<= 24 ppb)
 - ▦ Possibly Higher than the Standard (<= 35 ppb)
 - ▧ Higher than the Standard (<= 72 ppb)
 - ▨ Extremely Higher than the Standard (> 72 ppb)
 - ▩ Chaopraya River
 - BMA Boundary
 - District Boundary
 - ▬ Subdistrict Boundary



- Legend(arithmetic annual mean)**
- ☐ Much Lower than the Standard (<= 9 ppb)
 - ▤ Lower than the Standard (<= 17 ppb)
 - ▥ Possibly Lower than the Standard (<= 21 ppb)
 - ▦ Possibly Higher than the Standard (<= 30 ppb)
 - ▧ Higher than the Standard (<= 60 ppb)
 - ▨ Extremely Higher than the Standard (> 60 ppb)
 - ▩ Chaopraya River
 - BMA Boundary
 - District Boundary
 - ▬ Subdistrict Boundary



SCALE 1:470000



KILOMETERS

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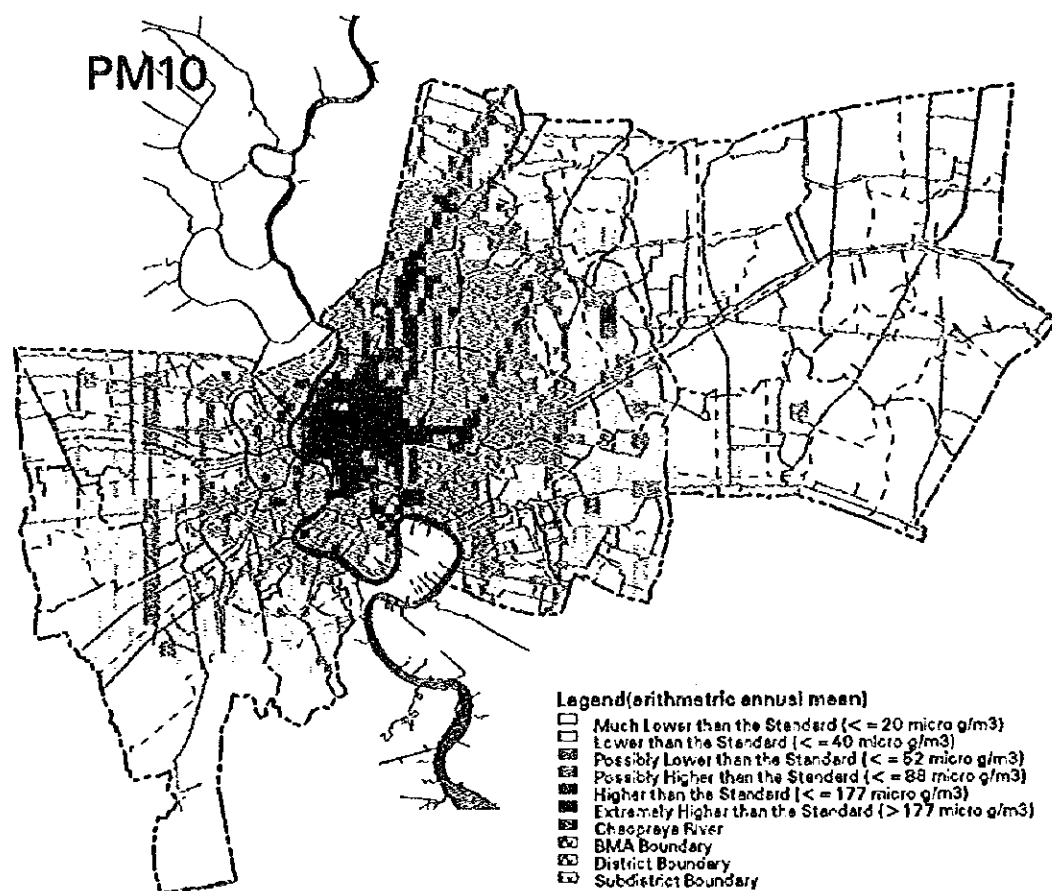
BANGKOK METROPOLITAN ADMINISTRATION (BMA)
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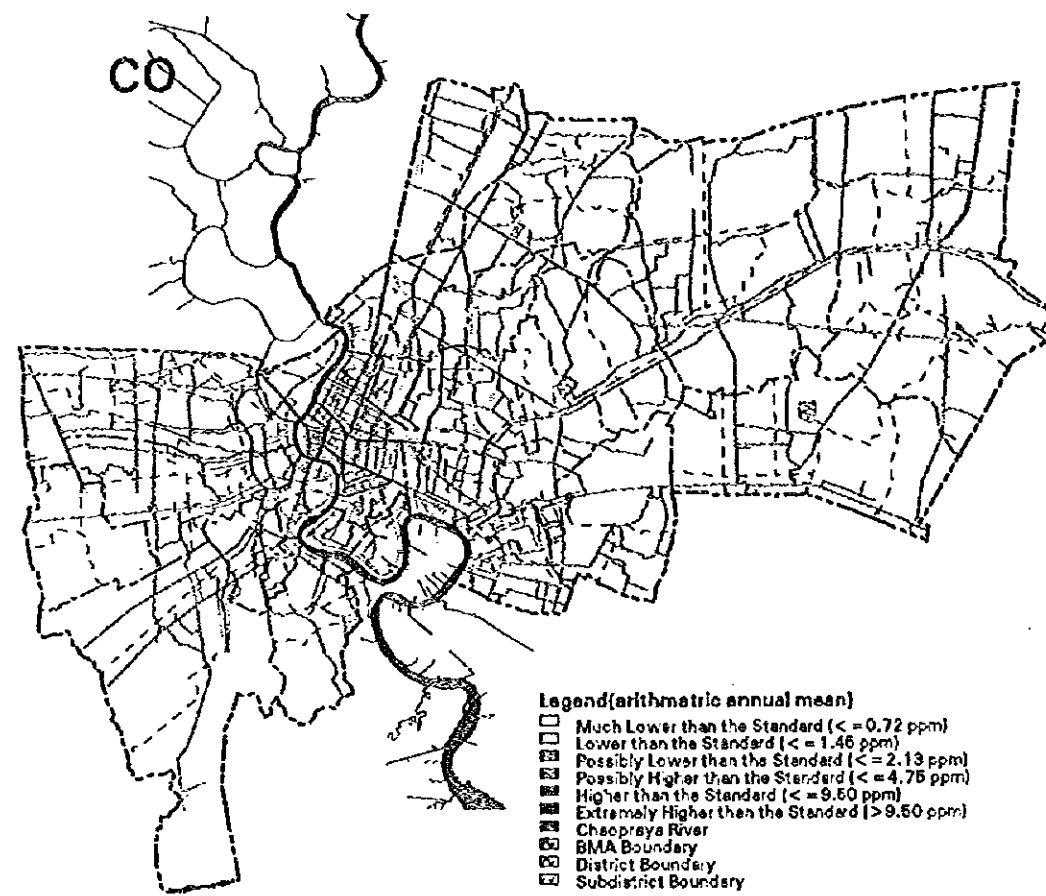
JICA JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Ambient Air Quality Simulation-4

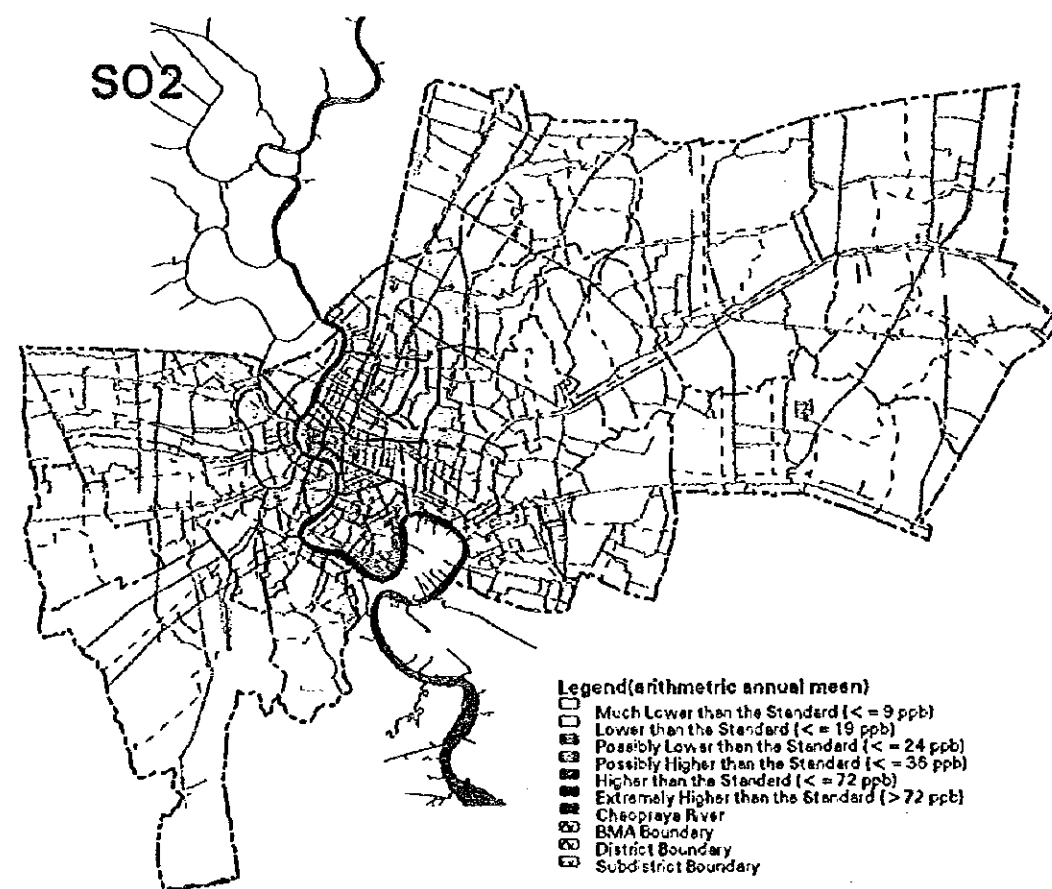
Future Vehicle Emission Factor
 Future Road Network
 Future Mass Transit Network
 Future Transport Demand with
 Sub Center Development



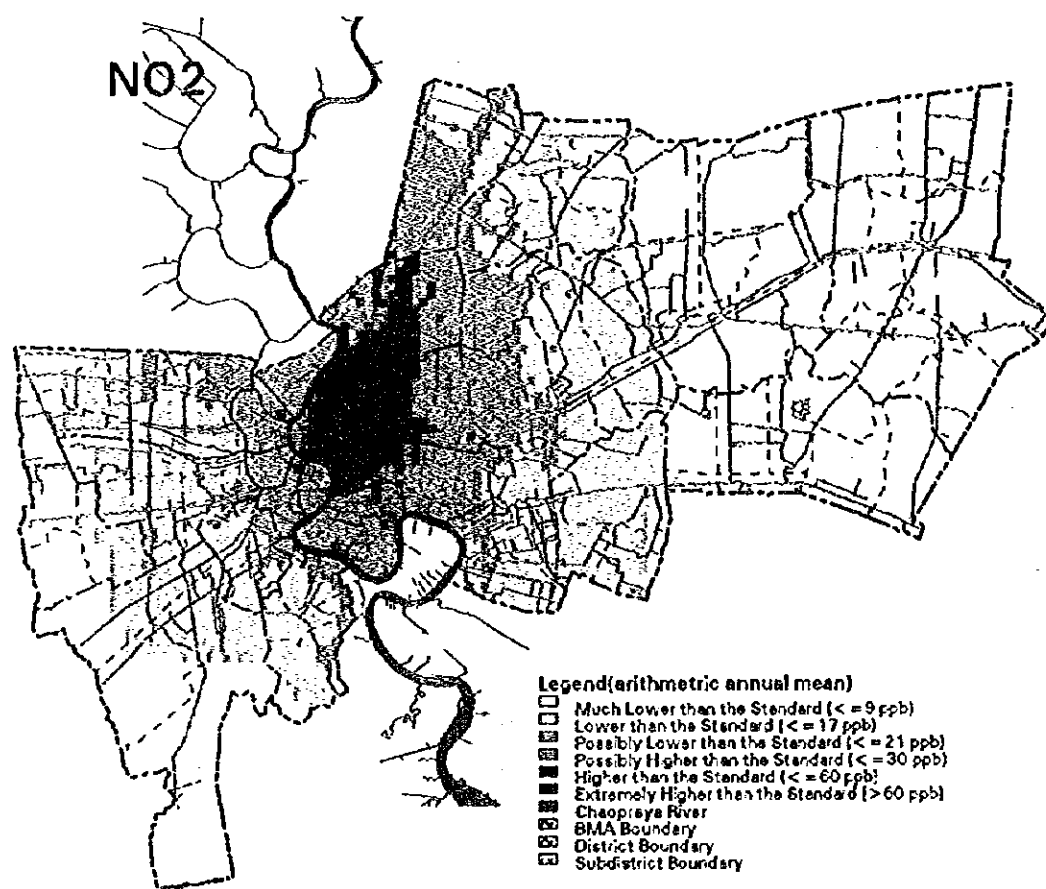
- Legend(arithmetic annual mean)**
- ☐ Much Lower than the Standard (<= 20 micro g/m3)
 - ▤ Lower than the Standard (<= 40 micro g/m3)
 - ▥ Possibly Lower than the Standard (<= 62 micro g/m3)
 - ▦ Possibly Higher than the Standard (<= 88 micro g/m3)
 - ▧ Higher than the Standard (<= 177 micro g/m3)
 - ▨ Extremely Higher than the Standard (> 177 micro g/m3)
 - ▩ Chaopraya River
 - BMA Boundary
 - District Boundary
 - ▬ Subdistrict Boundary



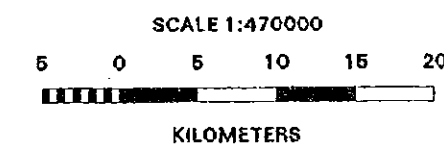
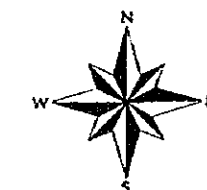
- Legend(arithmetic annual mean)**
- ☐ Much Lower than the Standard (<= 0.72 ppm)
 - ▤ Lower than the Standard (<= 1.46 ppm)
 - ▥ Possibly Lower than the Standard (<= 2.13 ppm)
 - ▦ Possibly Higher than the Standard (<= 4.75 ppm)
 - ▧ Higher than the Standard (<= 9.60 ppm)
 - ▨ Extremely Higher than the Standard (> 9.60 ppm)
 - ▩ Chaopraya River
 - BMA Boundary
 - District Boundary
 - ▬ Subdistrict Boundary



- Legend(arithmetic annual mean)**
- ☐ Much Lower than the Standard (<= 9 ppb)
 - ▤ Lower than the Standard (<= 19 ppb)
 - ▥ Possibly Lower than the Standard (<= 24 ppb)
 - ▦ Possibly Higher than the Standard (<= 36 ppb)
 - ▧ Higher than the Standard (<= 72 ppb)
 - ▨ Extremely Higher than the Standard (> 72 ppb)
 - ▩ Chaopraya River
 - BMA Boundary
 - District Boundary
 - ▬ Subdistrict Boundary



- Legend(arithmetic annual mean)**
- ☐ Much Lower than the Standard (<= 9 ppb)
 - ▤ Lower than the Standard (<= 17 ppb)
 - ▥ Possibly Lower than the Standard (<= 21 ppb)
 - ▦ Possibly Higher than the Standard (<= 30 ppb)
 - ▧ Higher than the Standard (<= 60 ppb)
 - ▨ Extremely Higher than the Standard (> 60 ppb)
 - ▩ Chaopraya River
 - BMA Boundary
 - District Boundary
 - ▬ Subdistrict Boundary



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