تقيم كلية الهندسة – القسم المدني

برعاية السيد رئيس الجامعة أ.د عباس فاضل الدليمي المحترم

وبأشراف السيد عميد الكلية ا.د عبد المنعم عباس كريم المحترم

ندوه علميه بعنوان

Enhancement of Traffic Movement in Baqubah City

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Objectives of this symposium

- The improvement of vehicles movement in Baqubah
- Reducing the time of Trip between origin and destination zones
- Reducing delay
- Show the problems in traffic and solve

Traffic studies may be grouped into three main categories

1- Inventories:

Provide a list or graphic display of existing information, such as street widths, parking spaces, transit routes, traffic regulations.

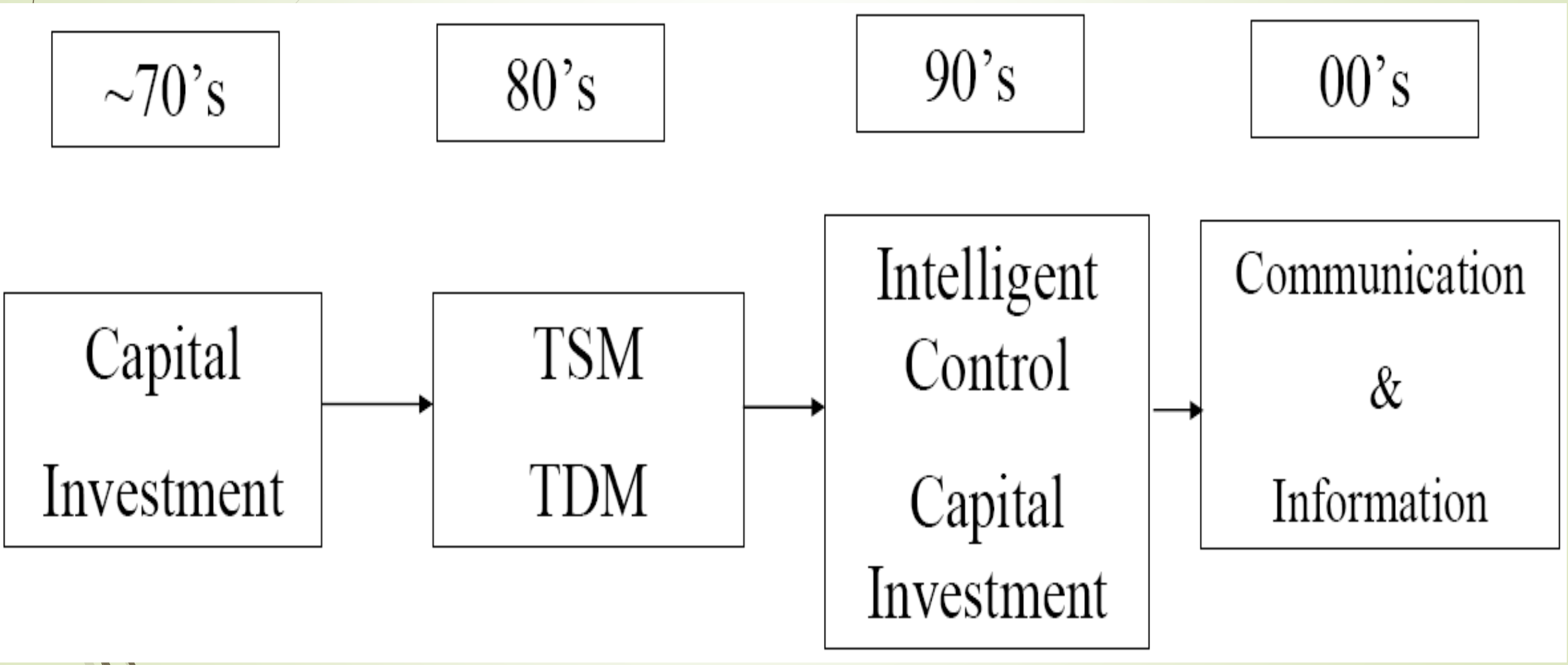
2- Administrative studies:

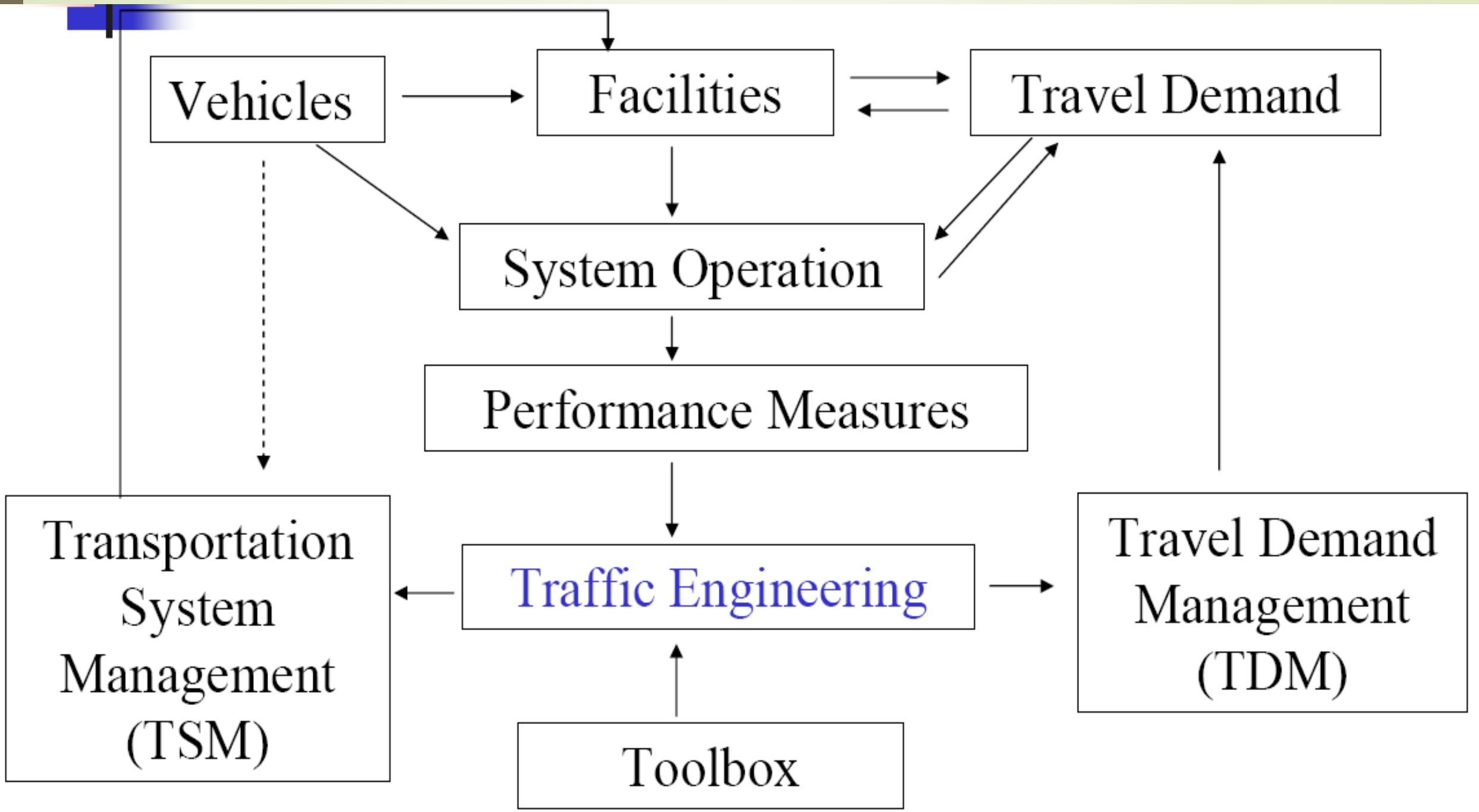
Administrative studies include the results of surveys, which may involve field measurements and/or aerial photography.

3- Dynamic traffic studies:

Involve the collection of data under operational conditions and include studies of speed, traffic volume, travel time and delay, parking, and crashes.

Sequence of traffic Improvement procedures for highways




Vehicles
Facilities
Travel Demand
System Operation
Performance Measures
Transportation System Management (TSM)
Traffic Engineering
Travel Demand Management (TDM)
Toolbox

Some Treatment For problem in traffic

Transportation System Management (TSM)

Facility Design

- Add Lanes
- Remove Bottlenecks (Bridges, Tunnel,…)
- Revise Geometrics to Increase Speed
- Vehicle Improvement to Reduce Headways

Traffic Control

- Ramp metering
- Signal Coordination
- Signal Phase Sequence
- Left Turn Treatments
- Parking Restrictions

Transportation Demand Management (TDM)

Reducing Demand

- Telecommuting
- Trip Chaining
- Shorter Work Week
- Residential Relocation
- Alternative Land Use Pattern

Shifting Demand

- Flexible Working Hours
- Staggered Working Hours
- Business Operating Hours

Repacking Demand

- Car & Van Pooling
- Transit

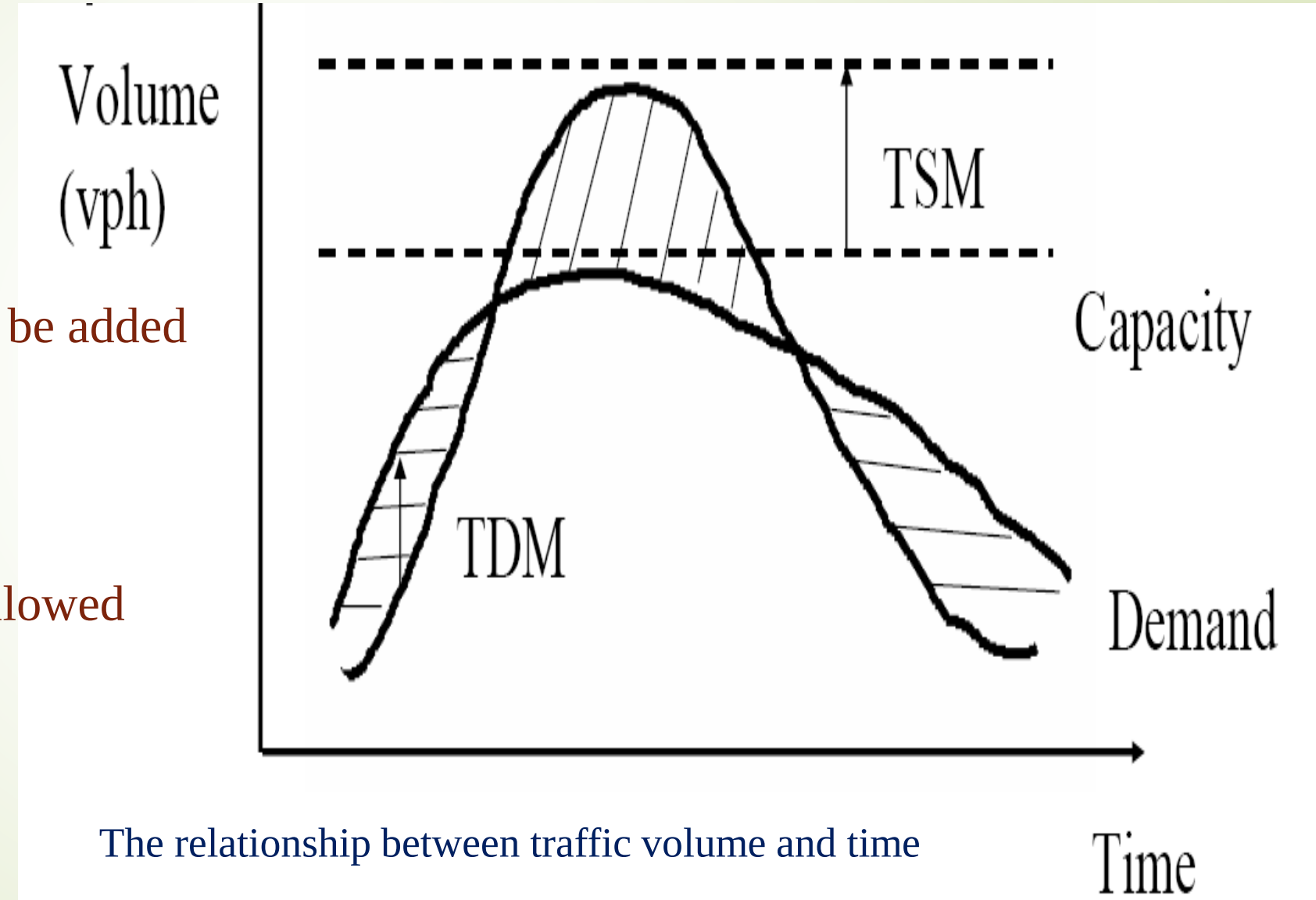
TSM & TDM Treatment Effects

TSM:

How much new capacity can be added

TDM:

How much capacity can be allowed

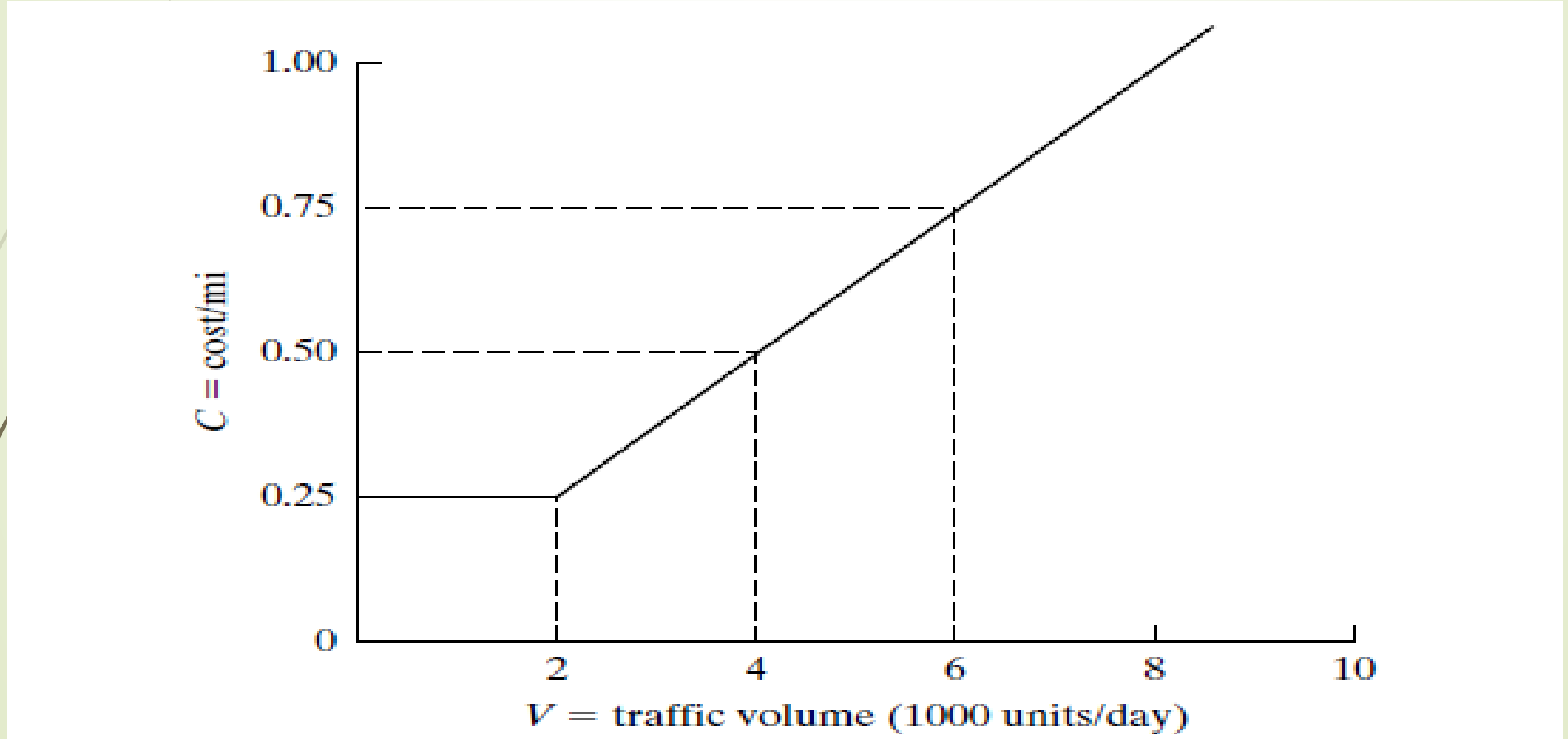


The relationship between traffic volume and time

Delay occur and the travel time increases. Since "time is money," the increased time converted to $/km.

Demand

Supply

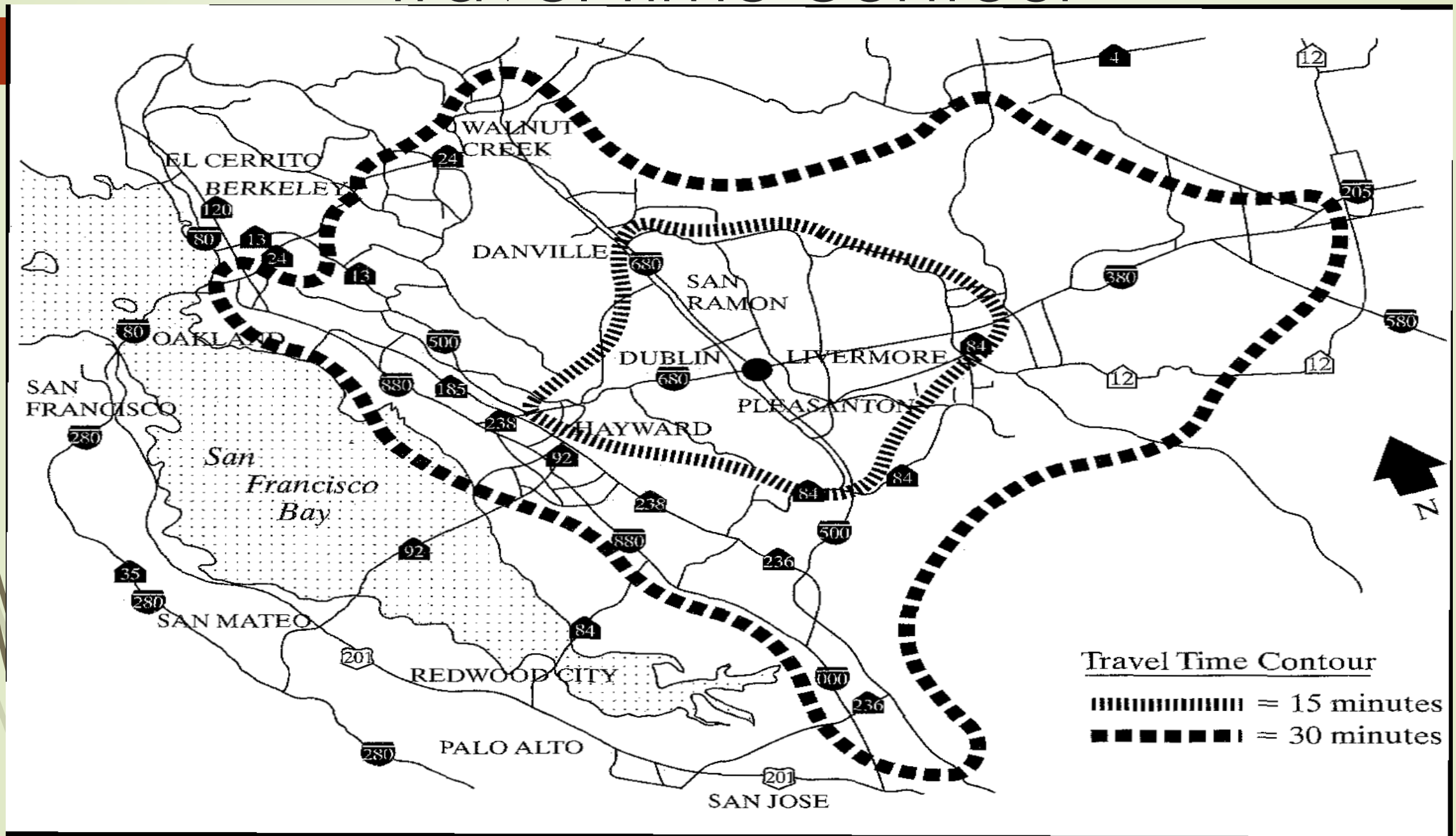


Relationship Between Transportation Supply and Cost

Programmers in Europe, UK, USA and Japan. In supporting the 10-year plan, a number of advantages. These include:

1. Public transport effective
2. Urban Traffic Management and Control (UTMC)
3. Transport Direct
4. Travel Information Highway
5. Active Traffic Management (ATM)
6. ITS Assist

Travel Time contour



Demand Management

planners and engineers, for managing demand for car traffic are:

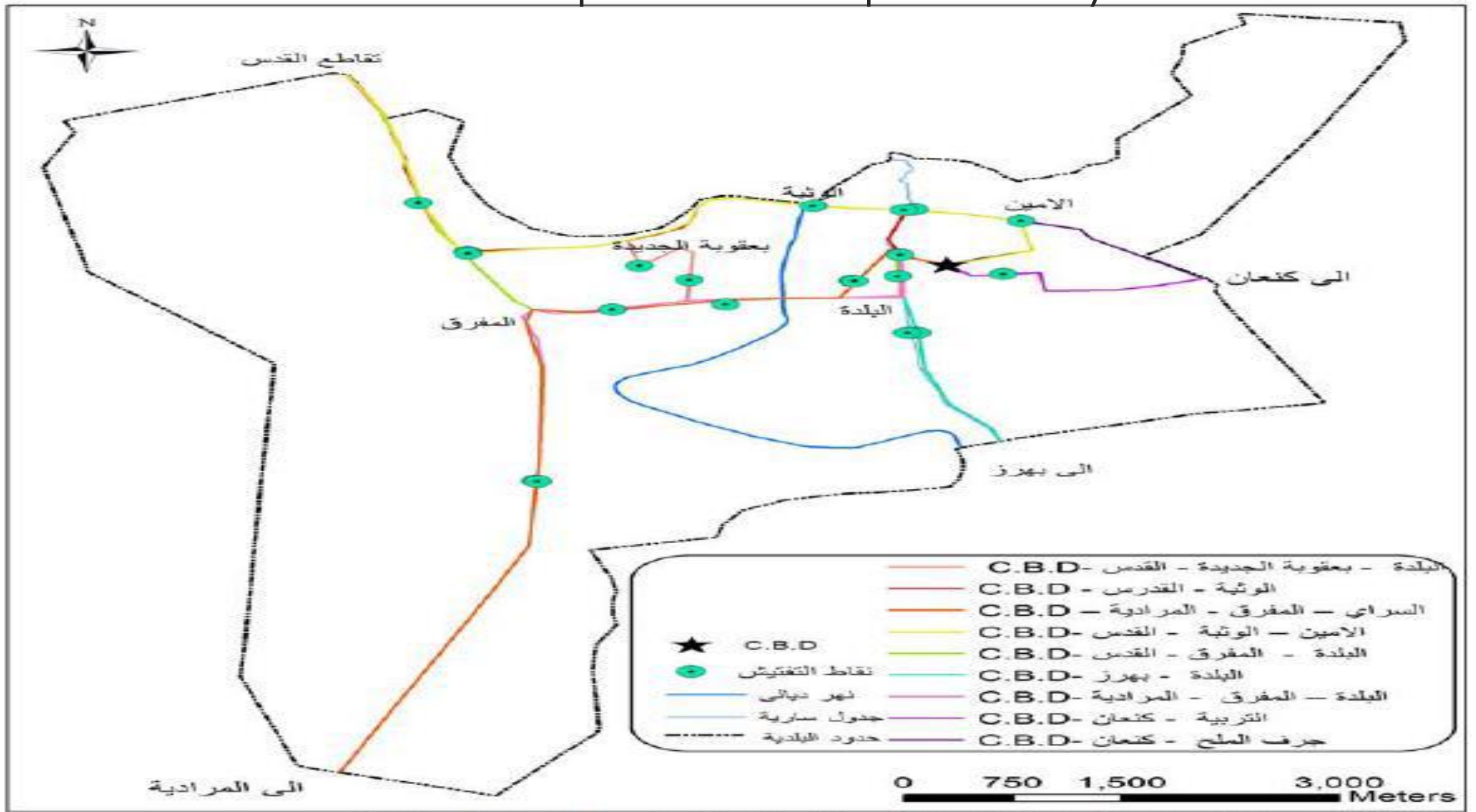
- improve heavy vehicle movement .
- improve bus frequency, reliability and quality of service;
- reduce public transport fares;
- improved facilities for pedestrians and cyclists;
- improved information on public transport services.
- Parking restraint suggests:
- possibly controlling existing private car.
- Congestion would be achieved in city of urban road
- pricing or area licensing by motorway tolling or road pricing.

Effect Factors to Make Bad Transportation in Baqubah

1. Industry and employment moving to the central city
2. Increased suburb-to-suburb commuting through the city
3. Migration of the population from the south to north or east to west through the city center
4. Increased Growth in private vehicle ownership (100000 pc)
5. Higher prices of gasoline
6. Closed most road in the city
7. Find check point in the city center
8. Not found traffic light control in all intersection
9. Poor planning and the geometric design of left turn ,also the parking location

The problems if closed some roads

Check point in Baqubah city



Some problems in management

* problems in management

Problems in behavior of human

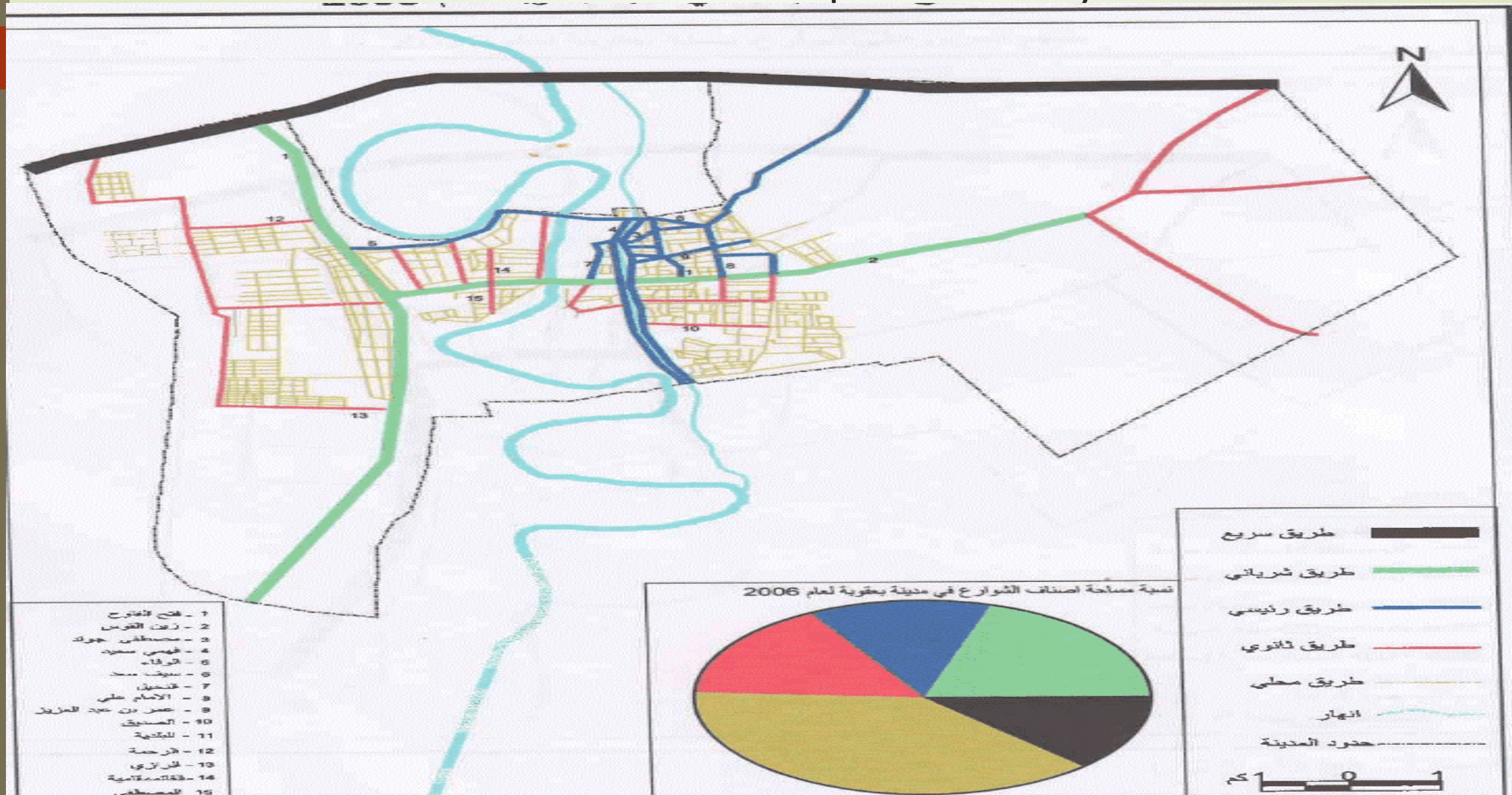
Facilities Design Enhancement

Creating Perimeter Highway (Ring Road)

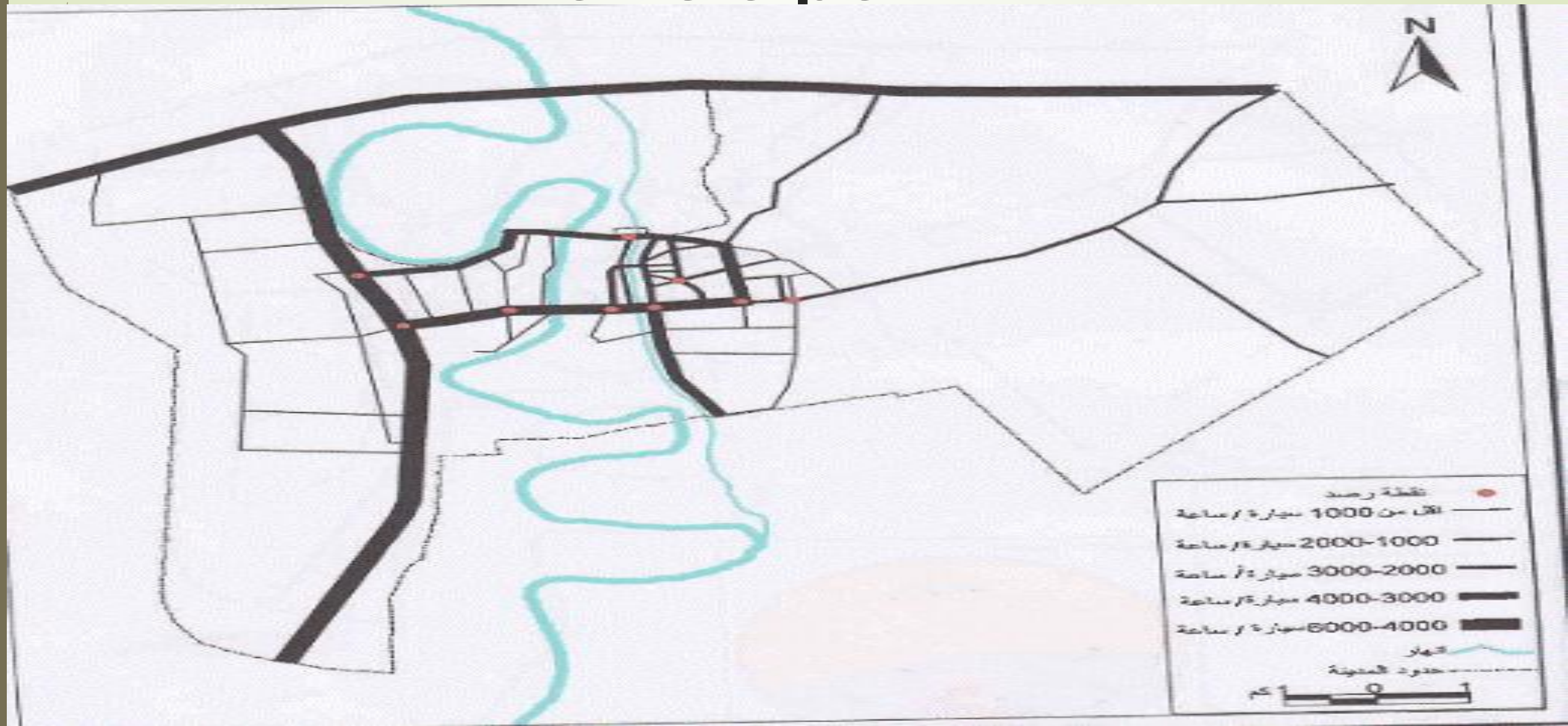
Upgrading Highway Classifications

Adding Grade separated interchange Facilities

Classifications of road for Baqubah city



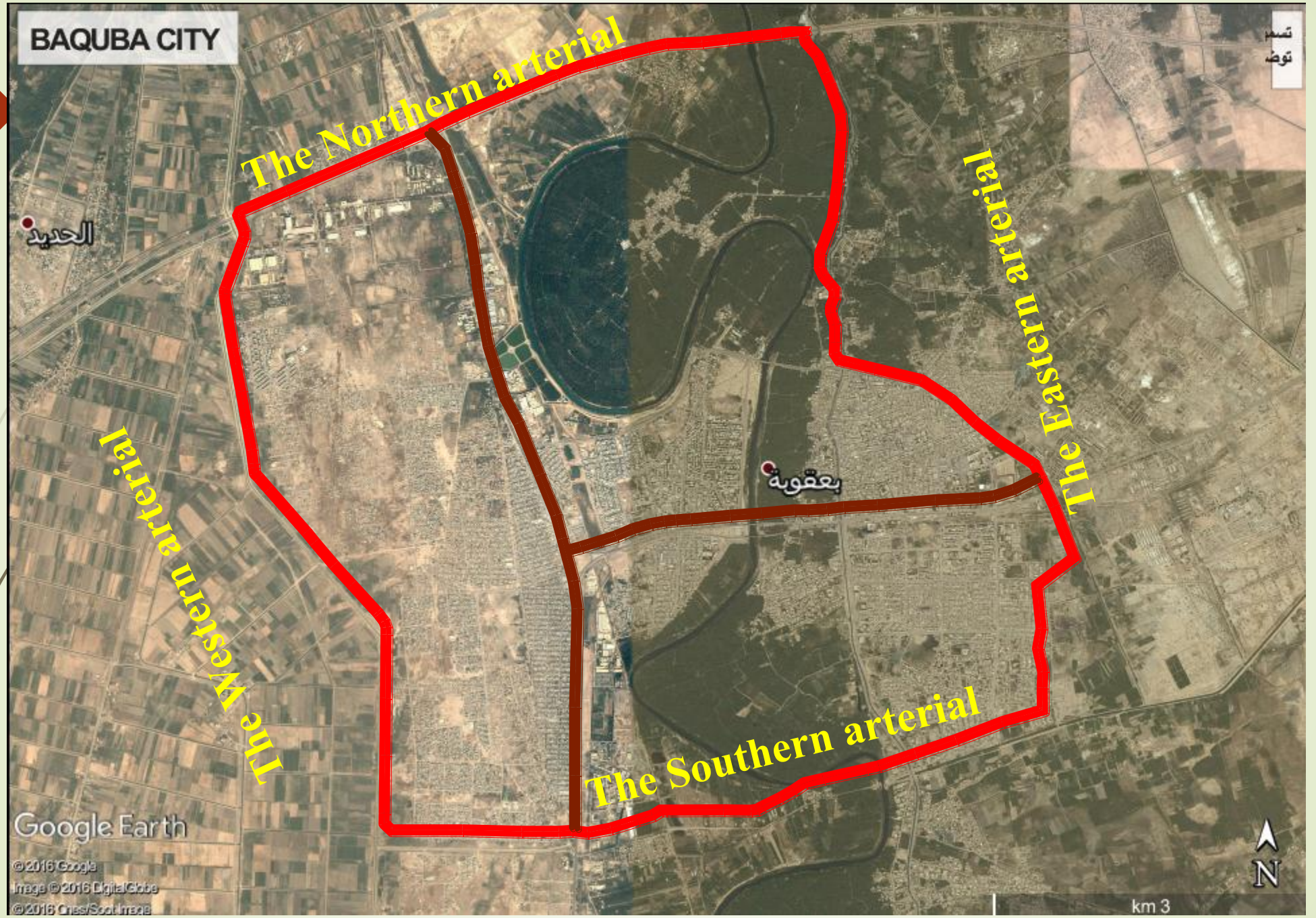
Traffic volume movement in Baqubah City vehicle per hr



Creating Perimeter Highway (Ring Road)

The ring highway is to be created by upgrading many peripheral existing roads, either local, collector or arterial roads into principal arterial surrounding Baqubah City.

- The Northern arterial exists already
- The Southern existing roads are the collector in the southwest and the newly created highway leading to the new bridge.
- The Eastern existing collector roads are to be upgraded and enhanced
- The Western existing peripheral road is to be upgraded as well


BAQUBA CITY
The Northern arterial
The Eastern arterial
The Western arterial
The Southern arterial
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km 3

Upgrading Highway Classifications

The upgrading can be achieved through:

- Transforming the minor arterial highways 1, 2 &3 into principal highways
- Transforming the major collector highway 4 into principal highway
- Transforming the collector highways 5-9 into arterial highways
- Creating minor collector highways 10-12


BAQUBA CITY
الحديد
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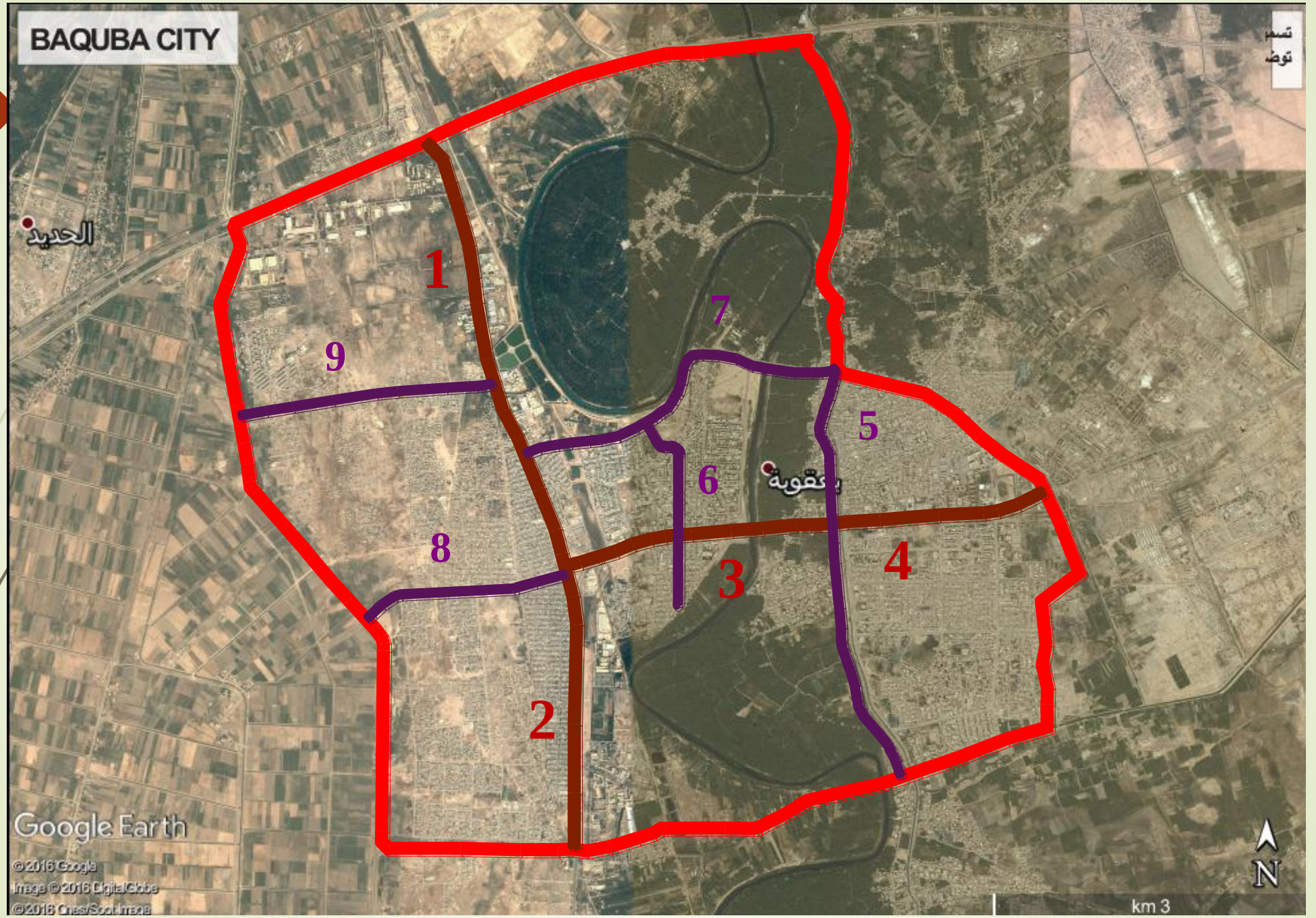
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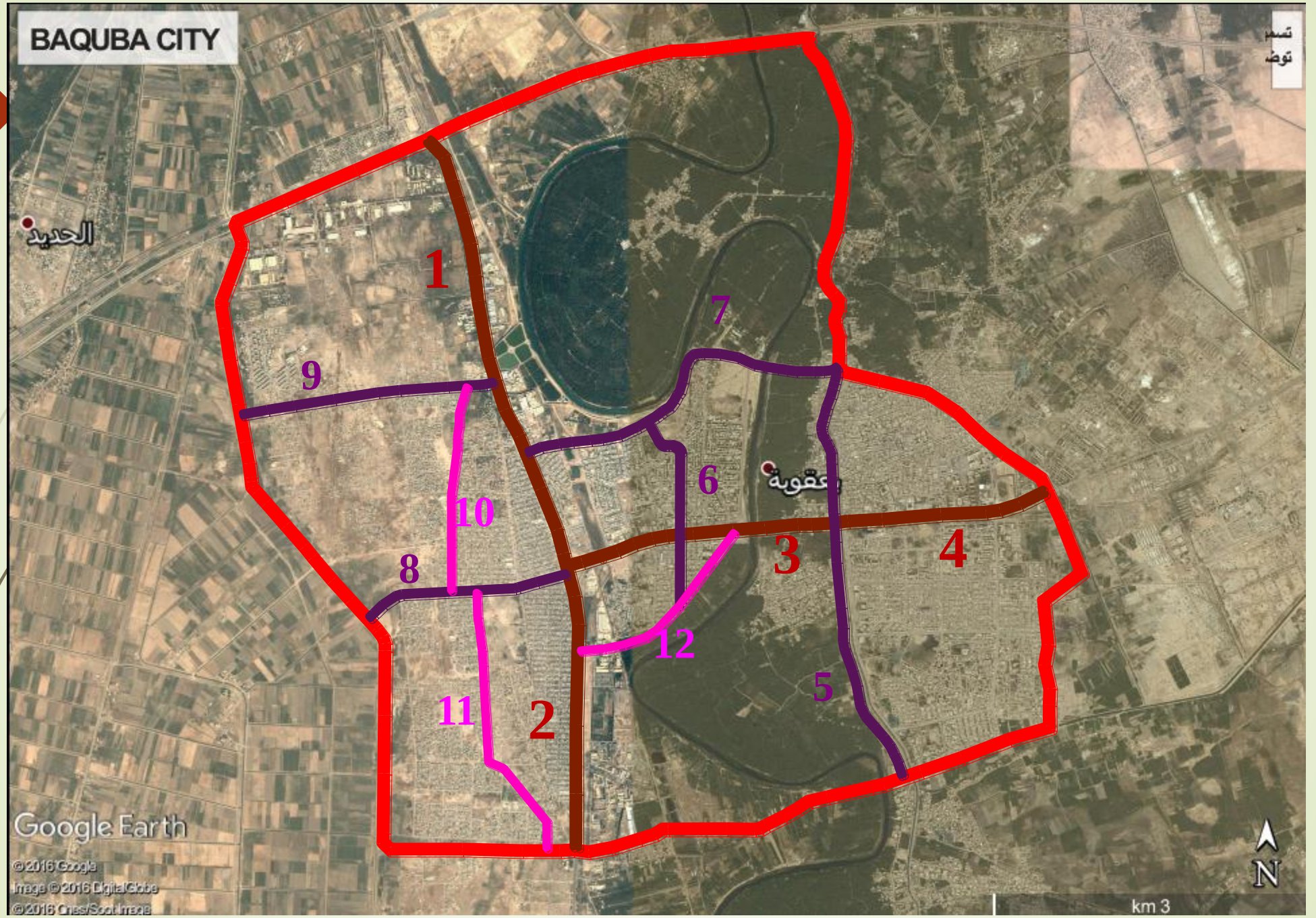
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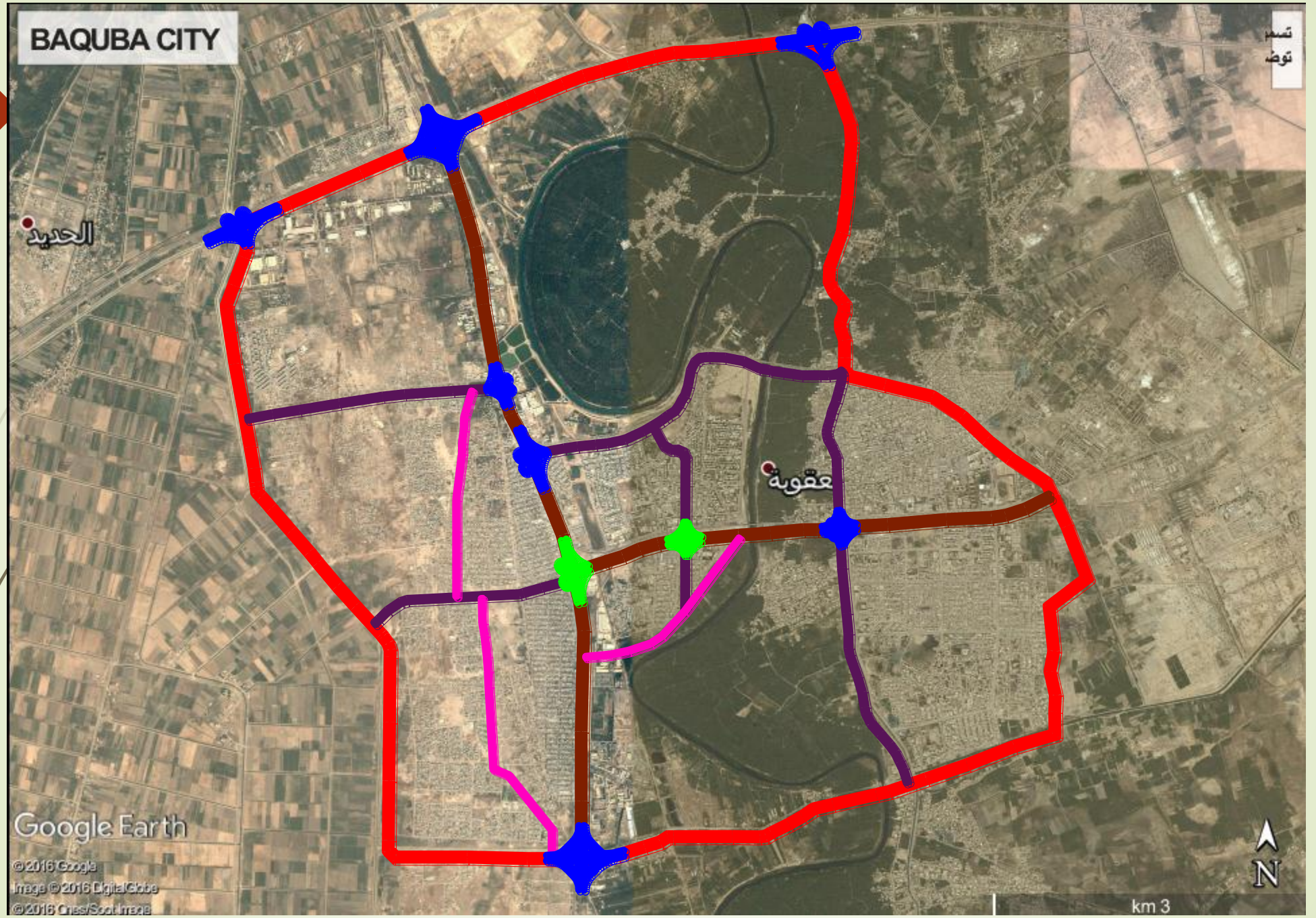
Adding Grade separated interchange Facilities

In addition to the existing and the under construction project the following interchanges are planned:

- Two 4-leg interchanges are needed to connect the central arterial with the Northern and the Southern perimeter highways
- Two 3-leg interchanges to connect the Northern arterial with the Eastern and the Western arterials
- Two internal 3-leg interchanges to connect the central with minor transvers arterials
- One internal 4-leg interchange to connect the internal minor arterials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The Recommended Plan

- public transport strategies.
- hierarchy of roads is established which would enable the transport network.
- The design and operation of the new roads schemes should aim to attract the longer distance traffic movements to the primary roads system.
- For intersections , It is recommended to implement the cycle length optimization for all if used.
- Roadway widening which is adding one lane for each arterial direction decreases the delay significantly for all arterials.

The improvement and Recommendation

1. Influencing traveler behavior, in particular modal choice, route choice and the time at which journeys are made.
2. Making travel more efficient (safer, less polluting, cheaper and better informed).
3. Helping drivers find the best route to their destination including providing information on where to park.
4. Reducing the impact of traffic on road.
5. Improving priority for buses and vehicles(for public transport)
6. Providing better facilities for pedestrians, cyclists and other road users.
7. Restraining traffic in sensitive areas.
8. Managing demand and congestion more efficiently.

9. The most important elements could be circulated to all parts connection Network.
10. Change land-use and transport patterns.
11. The location of activities.
12. The timing of activities.
13. The mode of transport used.
14. The route chosen.


Thank you