King Fahd University Of Petroleum & Minerals
College OF Environmental Design
Department Of City & Regional Planning

Simplifying Networks Using Arc view Network Analyst.

Presented to
Dr.Baqer Al -Ramadan
by
Mohammed Shafiuddin
(210371)

What is GIS

Geographical information system - A system of hardware, software, data, people, organization and institutional arrangements for collecting, storing, analyzing, and disseminating information about areas of the earth.

Introduction to arc view GIS

Arc View GIS is a desktop geographic information system (GIS) from ESRI.Arc View GIS software lets users see, explore, and analyse spatial data on their desktop. Arc View GIS software's extensible design makes it easy to add new capabilities when needed . The Optionally available *Arc View Network Analyst* extension to Arc View GIS provides additional analytic capabilities.

Introduction To Arc View Network Analyst

Network **:A system of interconnected linear features representing possible paths for the movement of resources from one location to another.**

Network Analyst which is an extension to Arc View,helps to solve the common Network Problems such as finding best route,finding the closest facility or identifying a service area around the site.

Project Objectives

1) Creating a Road Network for Riyadh
2) Attachment of the road attributes like Road type (highways ,major roads,minor roads)
3)To find the shortest distance between two points
4)To find the best route traversing through different points based on the direction,starting from the origin to the destination and returning back to the origin.
5) To find the closest facility near a location such as the best route for an ambulance to reach the nearest hospital.

Methodology Adopted

1)Map of Riyadh containing the road network was obtained

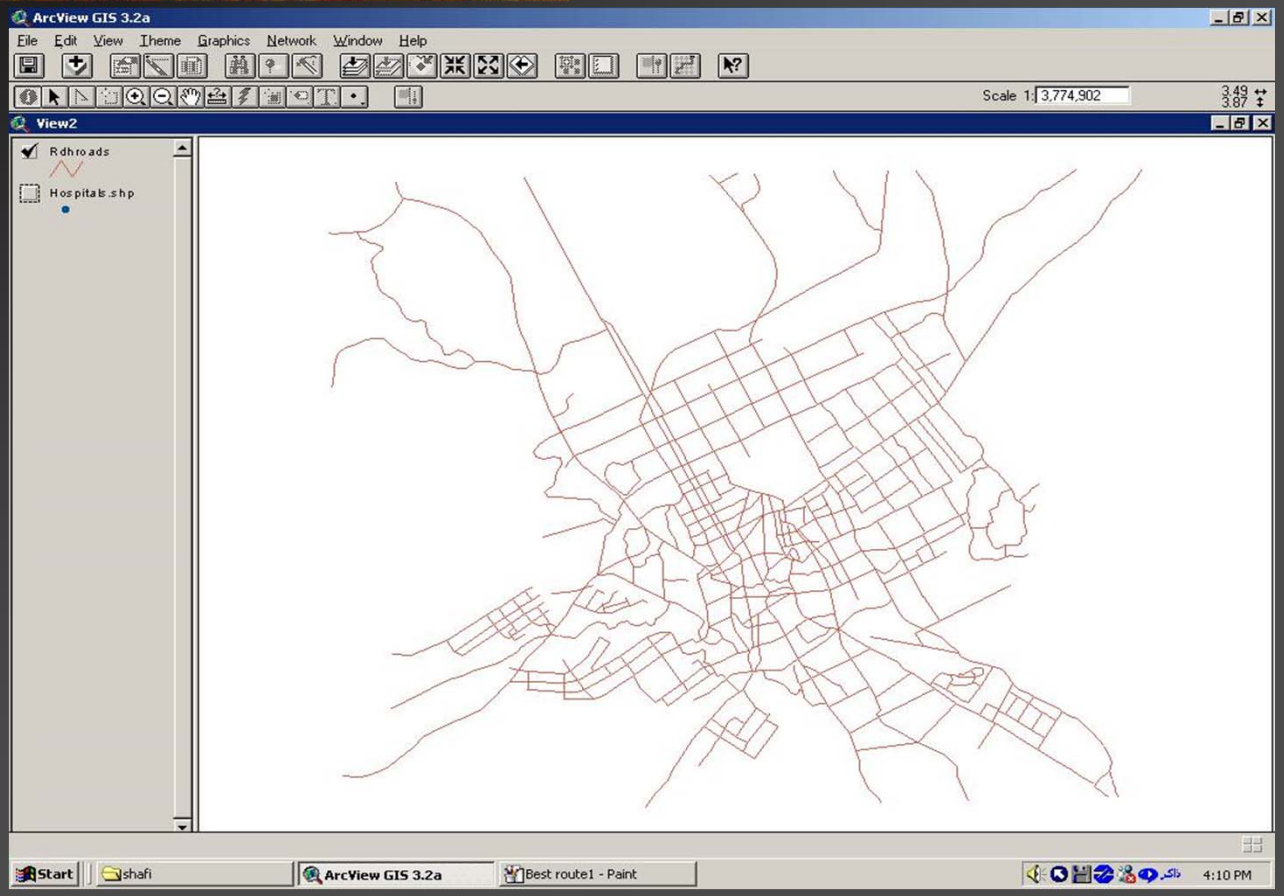
2)The Map was scanned and imported to AutoCAD and was digitized as a drawing file.

3)A workspace was created in Arc Info and the drawing file from AutoCAD was exported to dxf format.

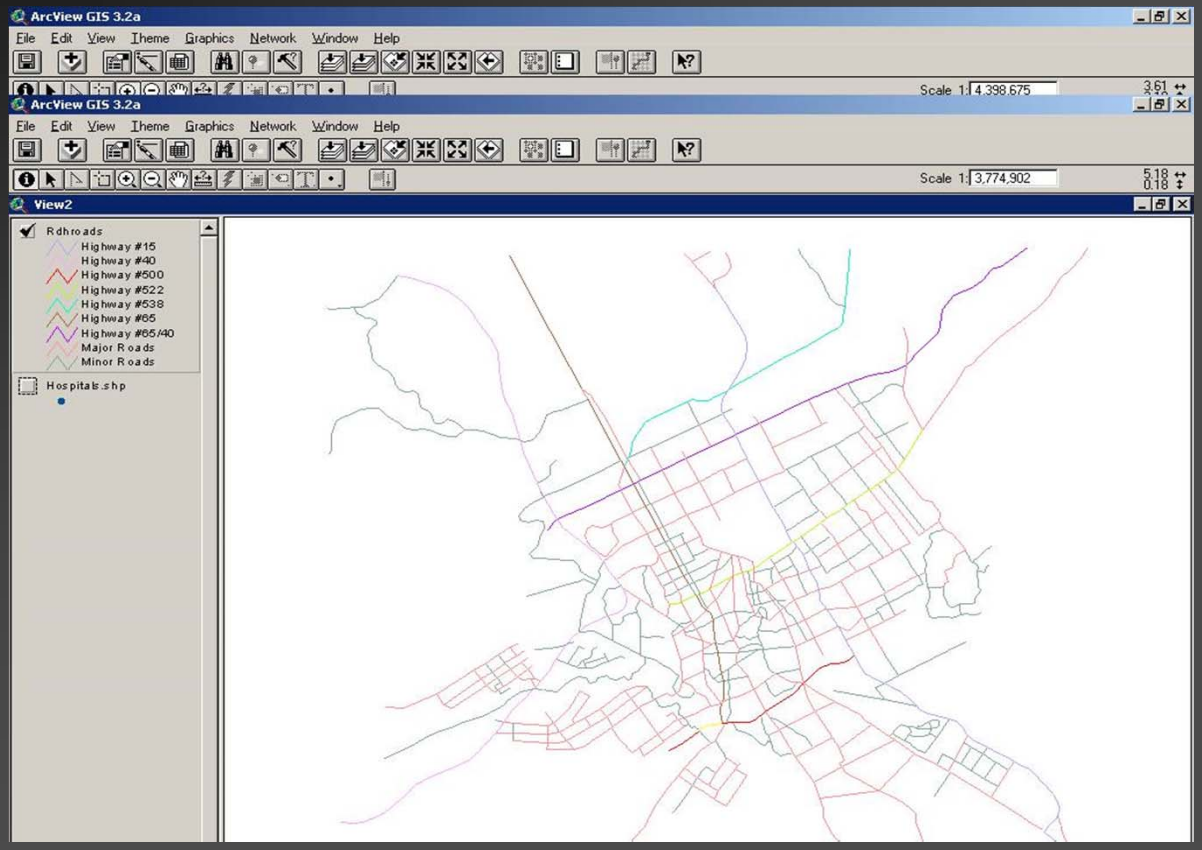
4)A feature class in the form of coverage was built in Arc info and the map was finally taken to arc view.

5)Road networks of Riyadh were analyzed using Arc View Network Analyst.

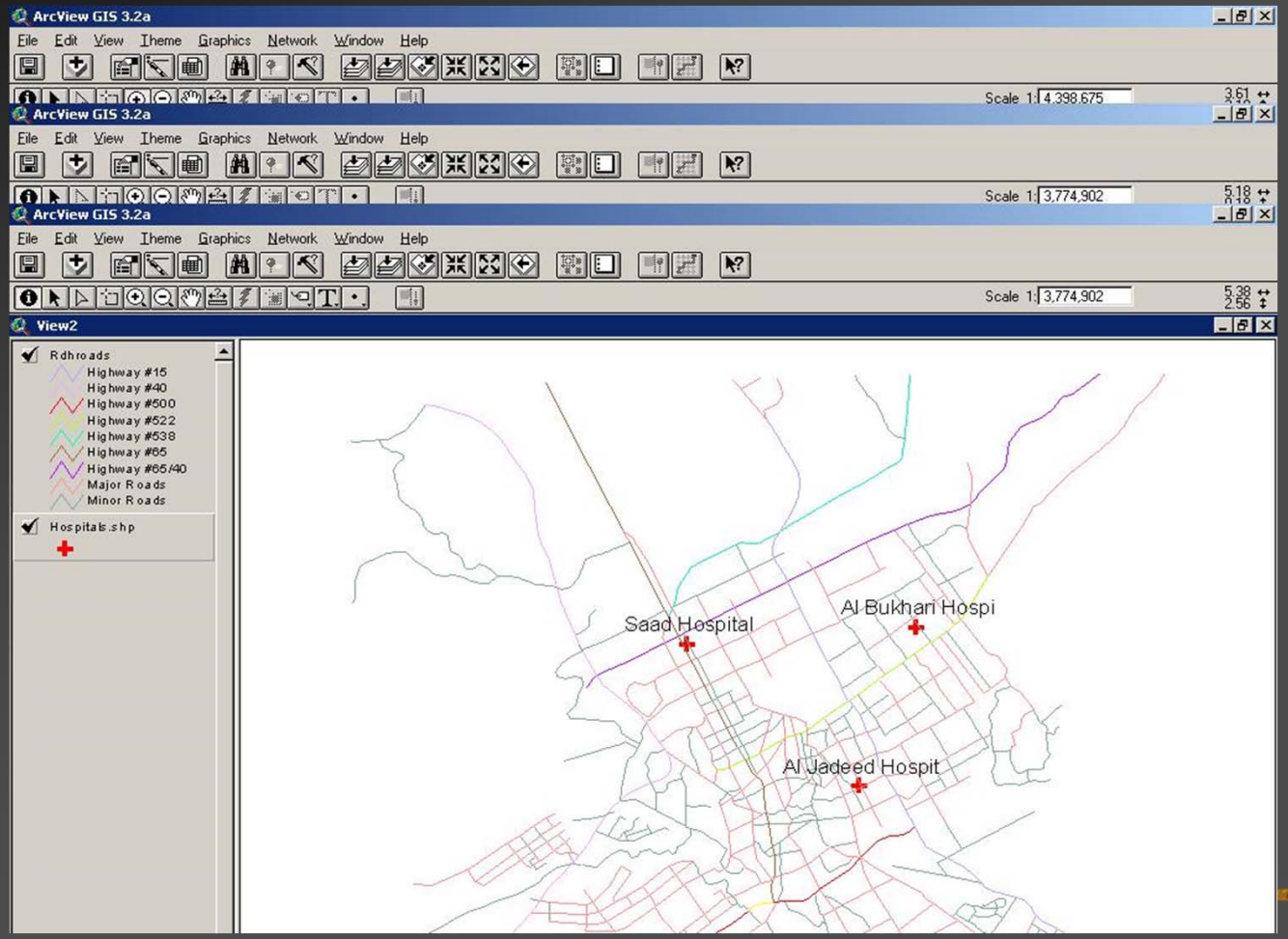
Map Of Riyadh



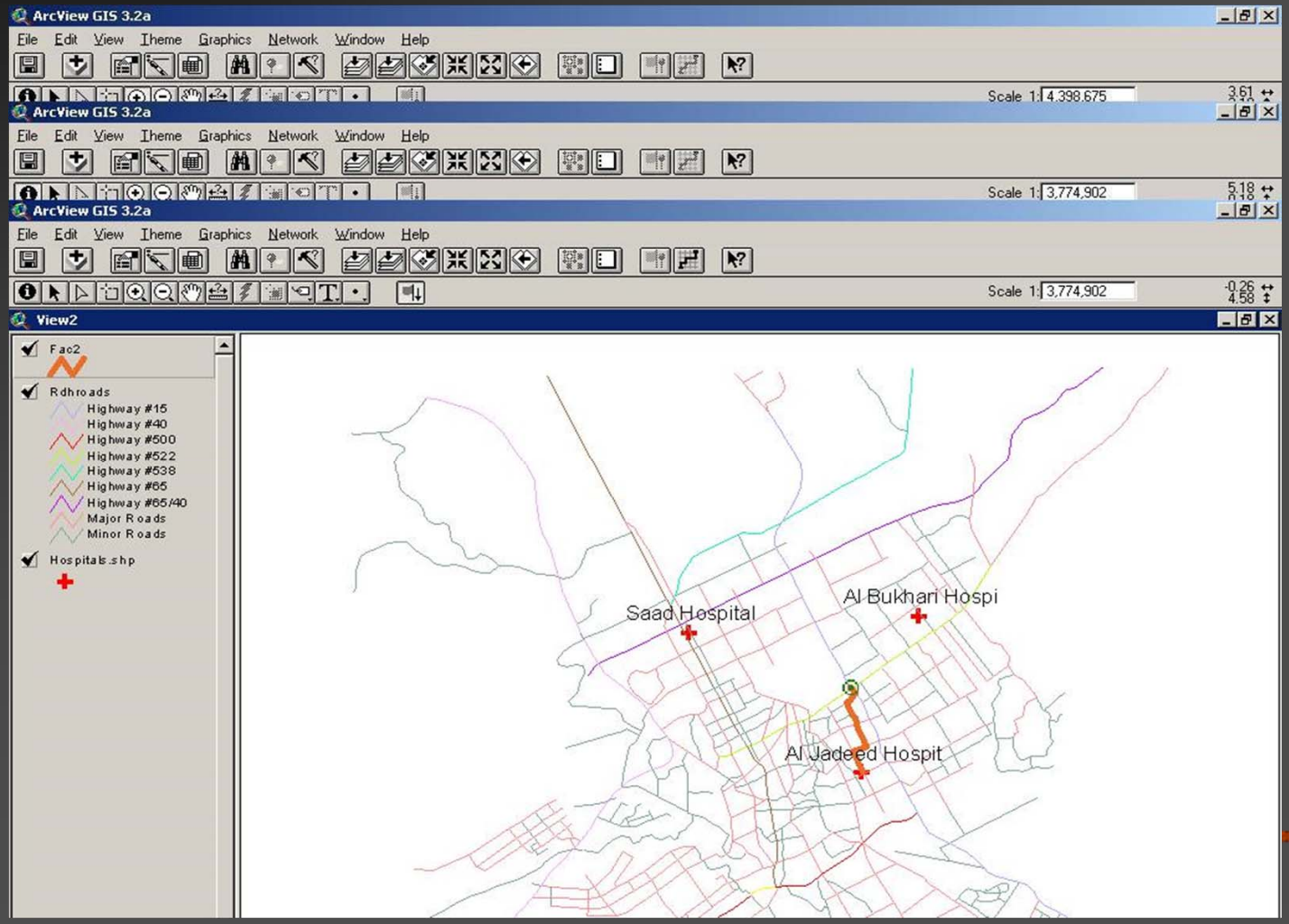
Roads Classification



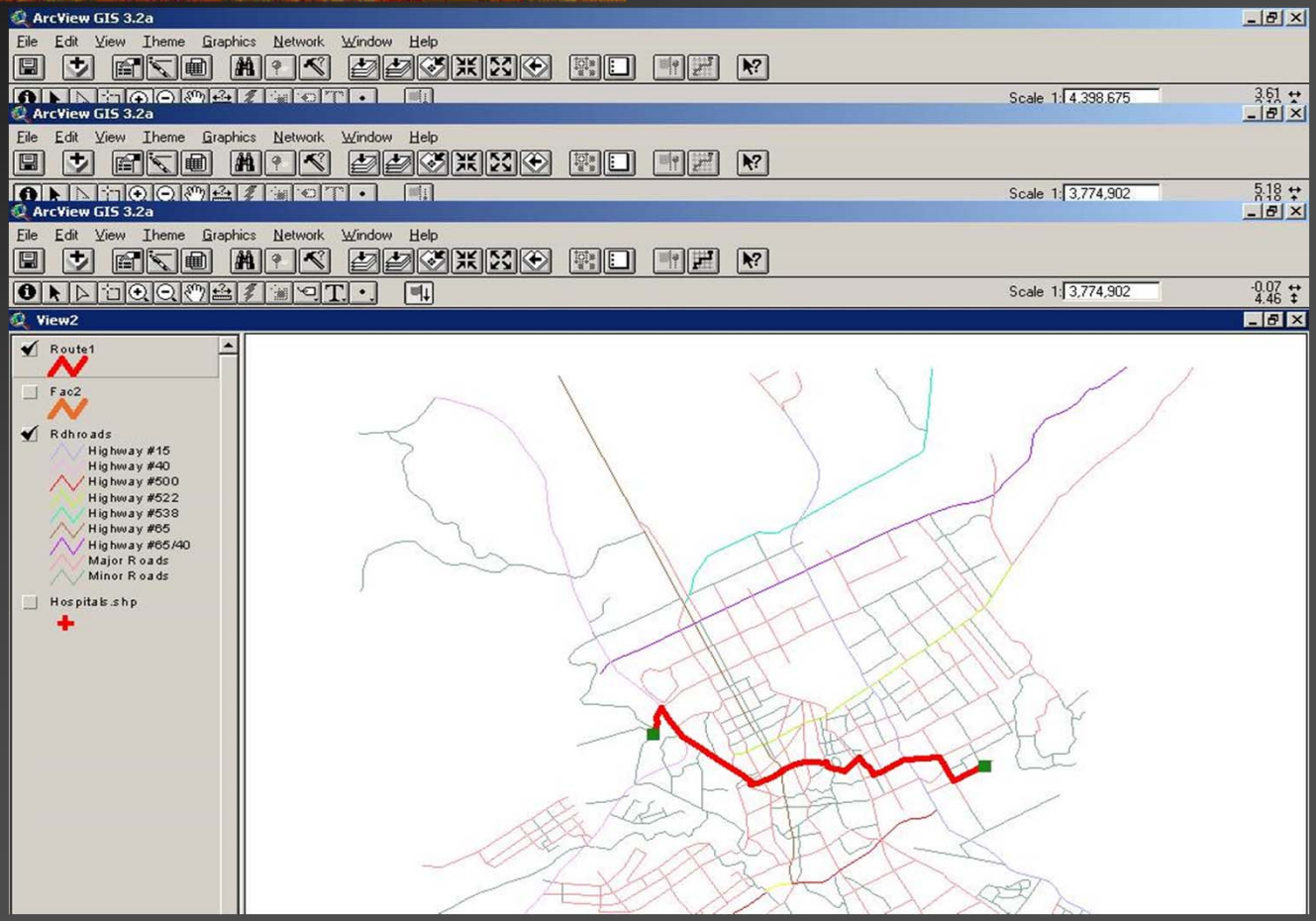
Location Of Hospitals



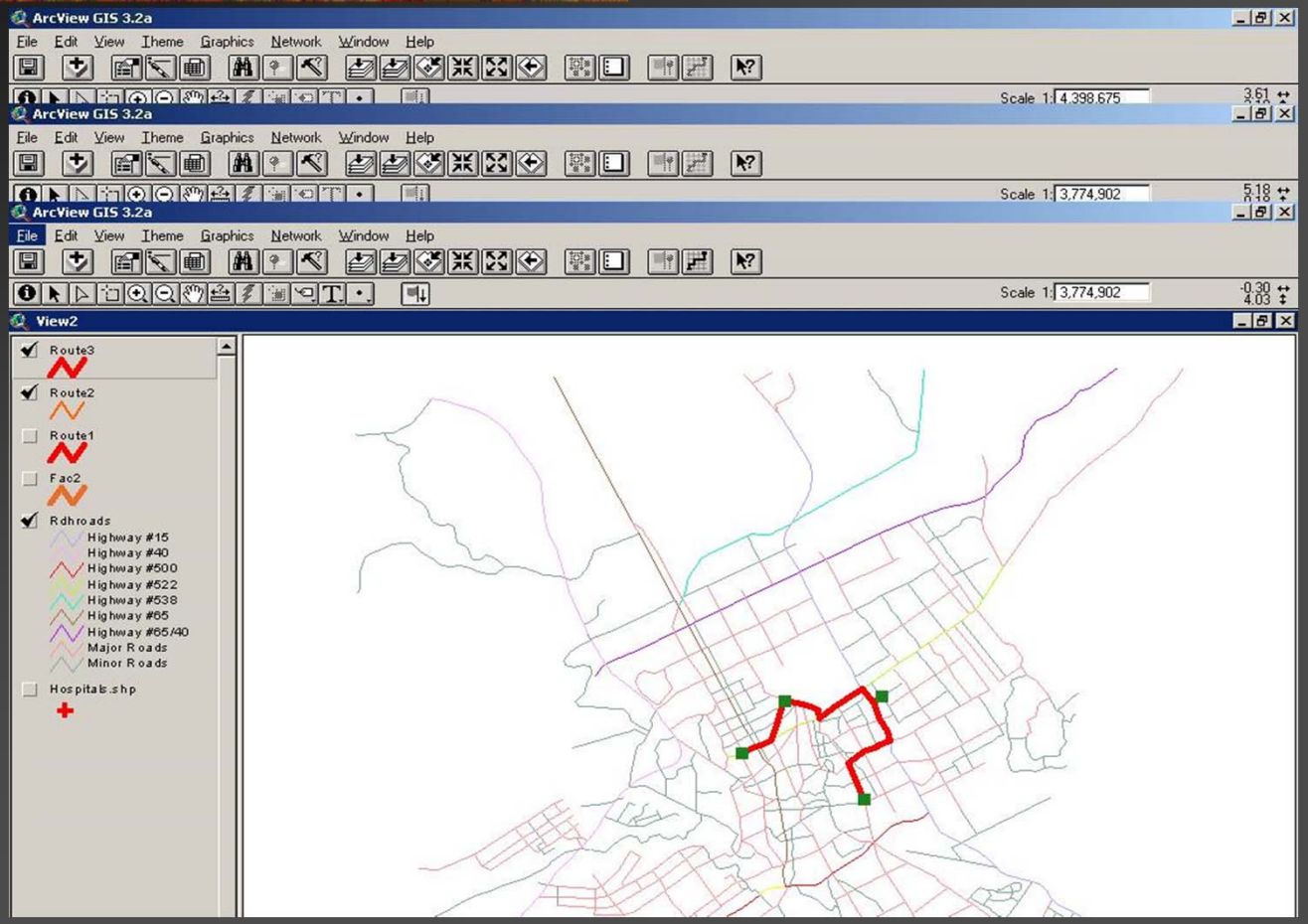
To Find The Closest Facility



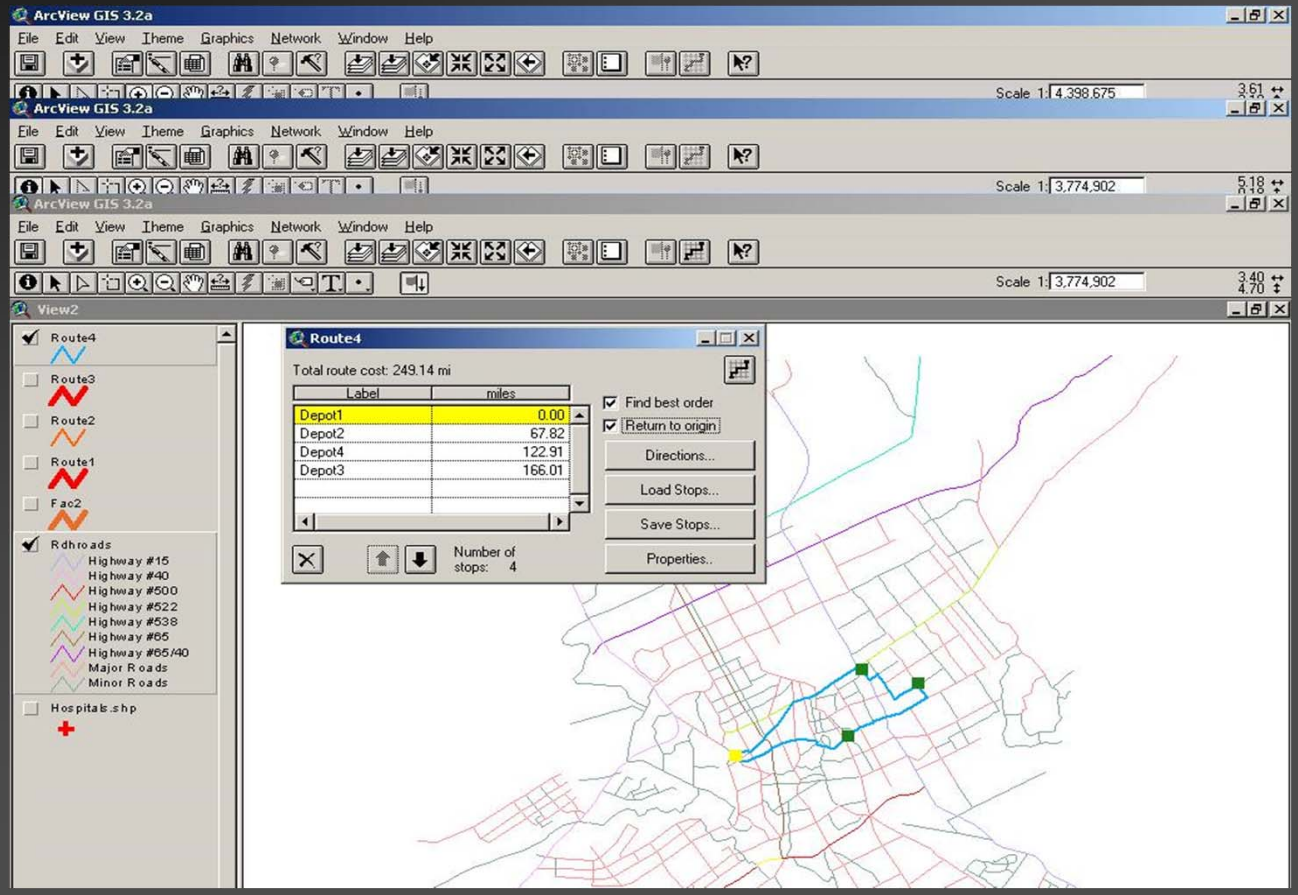
Shortest Distance Between Two Stops



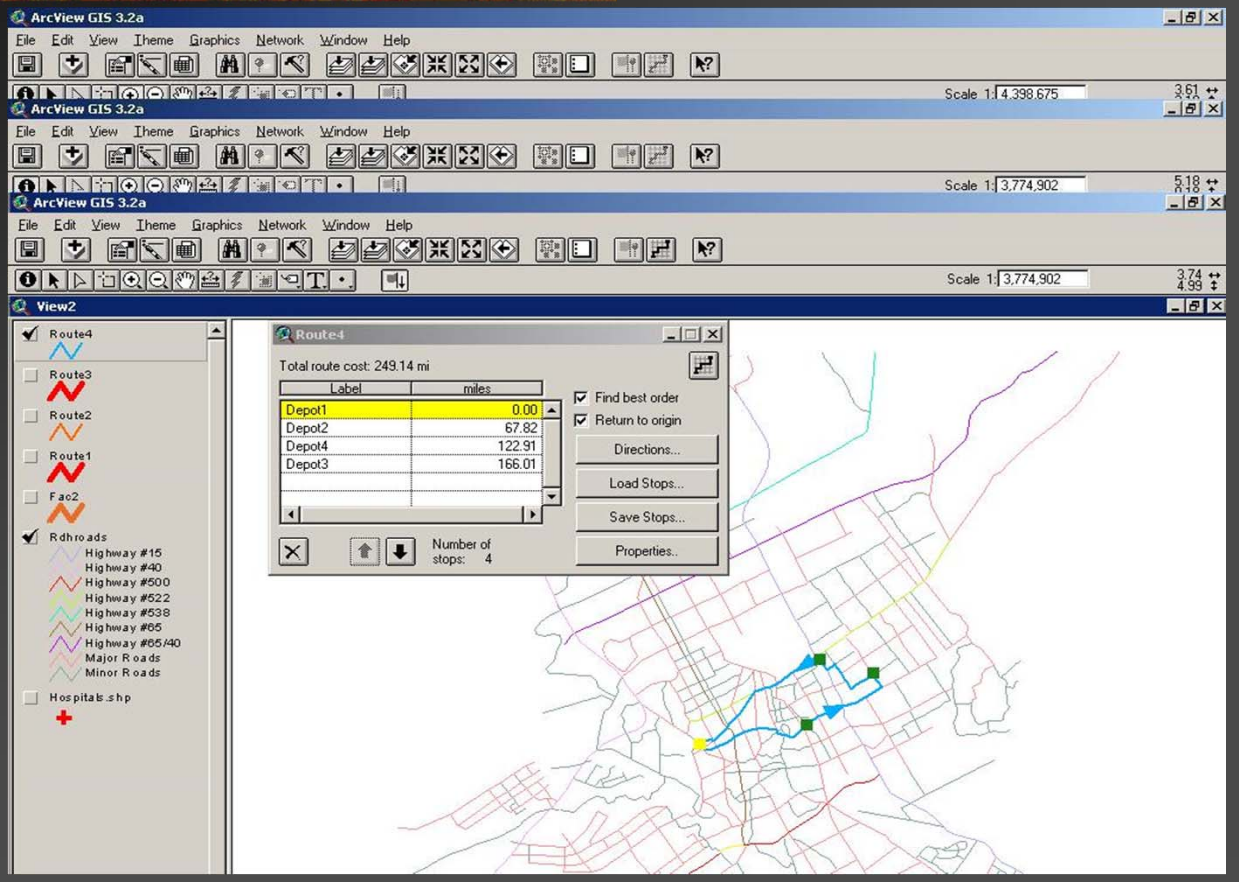
Best Route Without Return



Best Route Back To Origin



Best Route Back To Origin With Direction



References

- www.esri.com
- www.gis.com
- www.campus.esri.com/
- Getting to know desktop Arc View
- Arc View Network Analyst

Acknowledgement

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Thank You