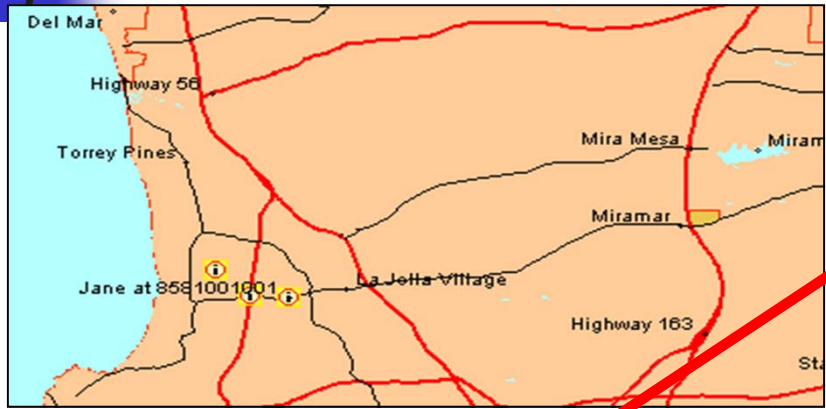
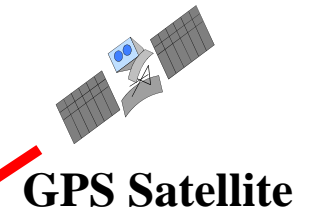


Location Based Services (LBS)

Dr. Baqer Al-Ramadan
City & Regional Planning Department

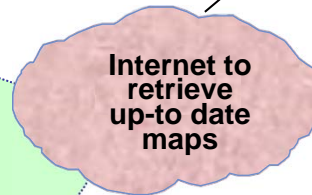
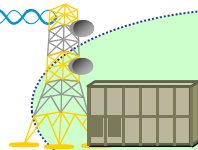


LBS Concept



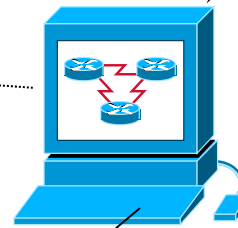
Vehicle or Moving Object with GPS Device

Data Communication to server sending coordinates

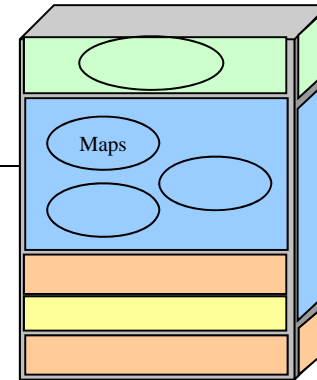


Internet to retrieve up-to date maps

The Control Center



Server



Clients of LBS

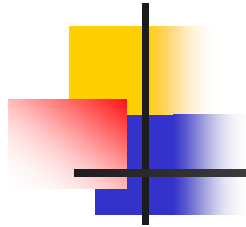
Mobile Phone or any device
with a GPS Chip





LBS Applications

- Tells you where you are
- Tells others where you are (if you give permission)
- Give turn-by-turn driving directions (navigation)

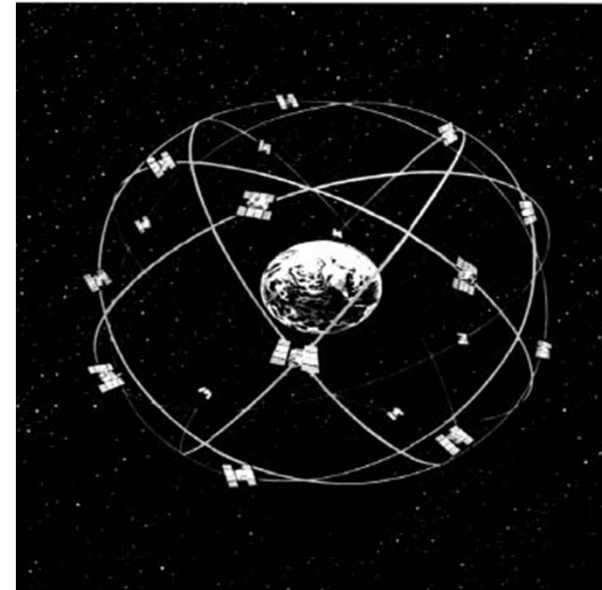


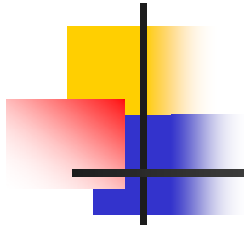
- Find Points of Interest

- ATMS
- Banks
- Hotels
- Shopping malls
- Gas stations
- Restaurants

LBS and GPS

- All Location Based Services depends on: GPS & Internet





A Typical LBS Application

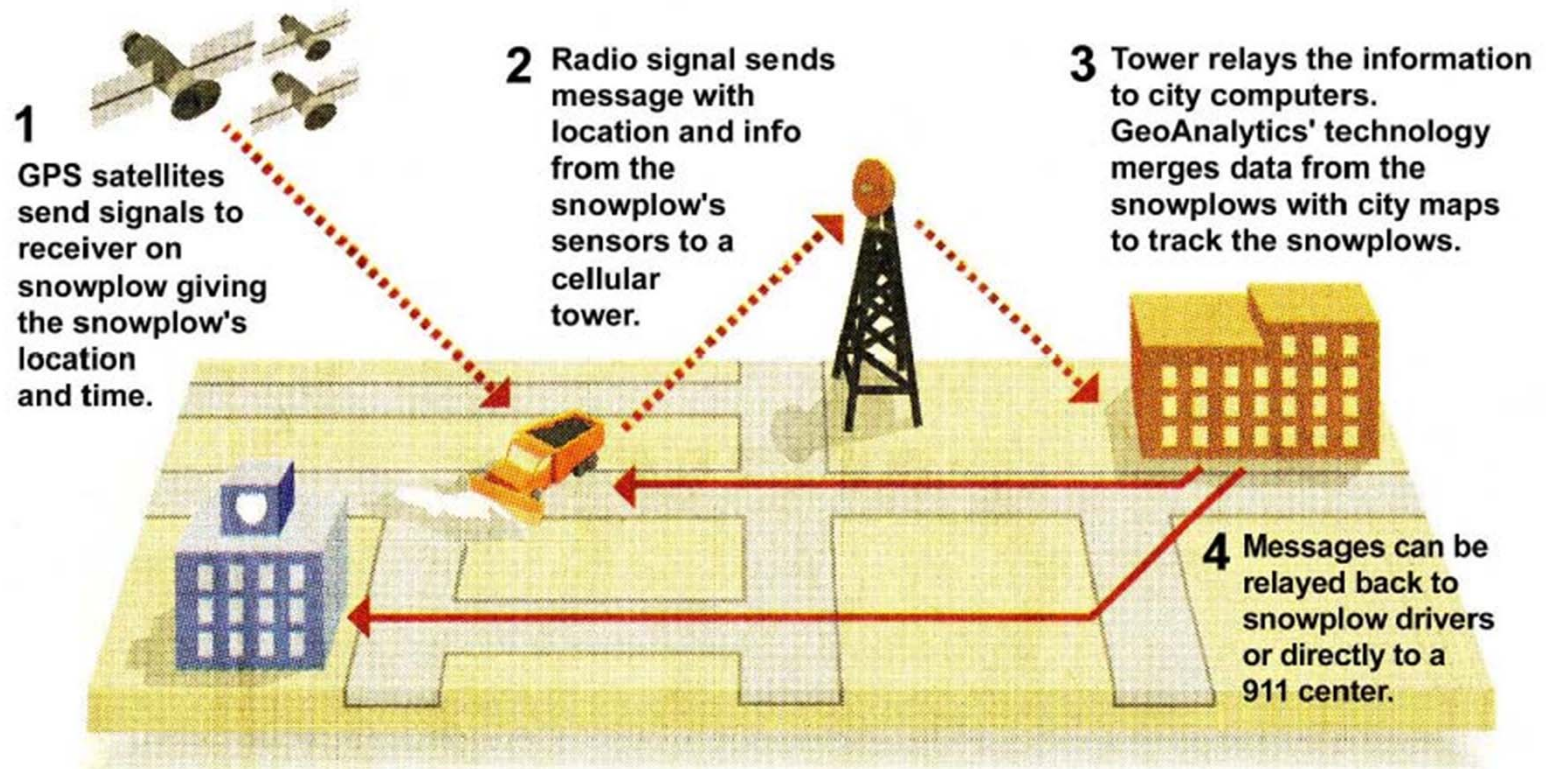
Automated Vehicle Location (AVL) for Fleet Management

AVL for Fleet Management

Fleet of Snow Plowers



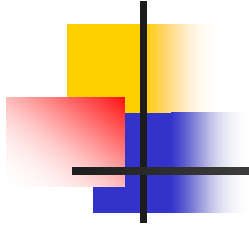
AVL Concept





Why do AVL?

- Insure that vehicles operate in a safe and efficient manner
- Monitor drivers' behavior, speed etc.
- Insure that vehicles operate on routes or within the limited area of operation
- Have a historical record of vehicle operations when needed



Thanks for Listening