The image shows the cover of a spiral-bound notebook. The cover is a light beige or tan color with a subtle, repeating pattern of the letters 'e' and 't' in a light brown or gold color. The spiral binding is on the left side, made of a dark metal. The text is centered on the cover.

More and Better Geographic Data for In-vehicle Systems

Michael L. Sena

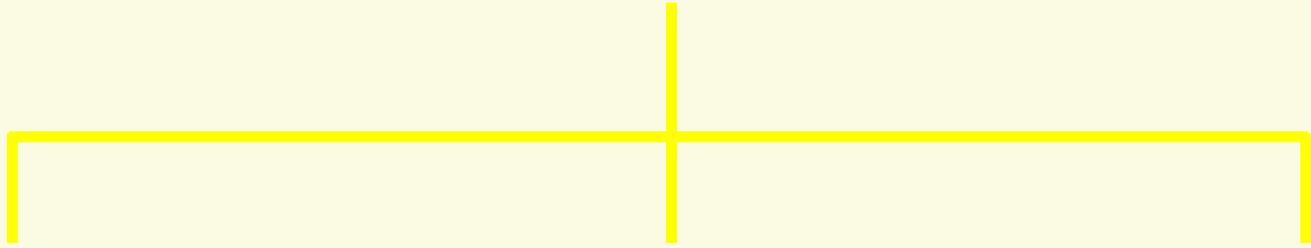
Purpose of Presentation

- ❑ Encourage the collection of more and better data by public authorities
 - National Land Surveys
 - National Road Authorities
 - Regional, County and Municipal Authorities

Geographic Data

- ❑ Driving new in-vehicle applications
- ❑ Current applications include:
 - Autonomous Route Guidance
 - Dynamic Route Guidance
 - Telematics
 - Emergency Assistance
 - Breakdown Assistance
 - Traffic and Travel Information
 - Theft Notification and Stolen Vehicle Tracking

Telematics Services



Personal Safety Services

- SRS Deployment Notification
- Emergency Assistance
- Roadside Assistance

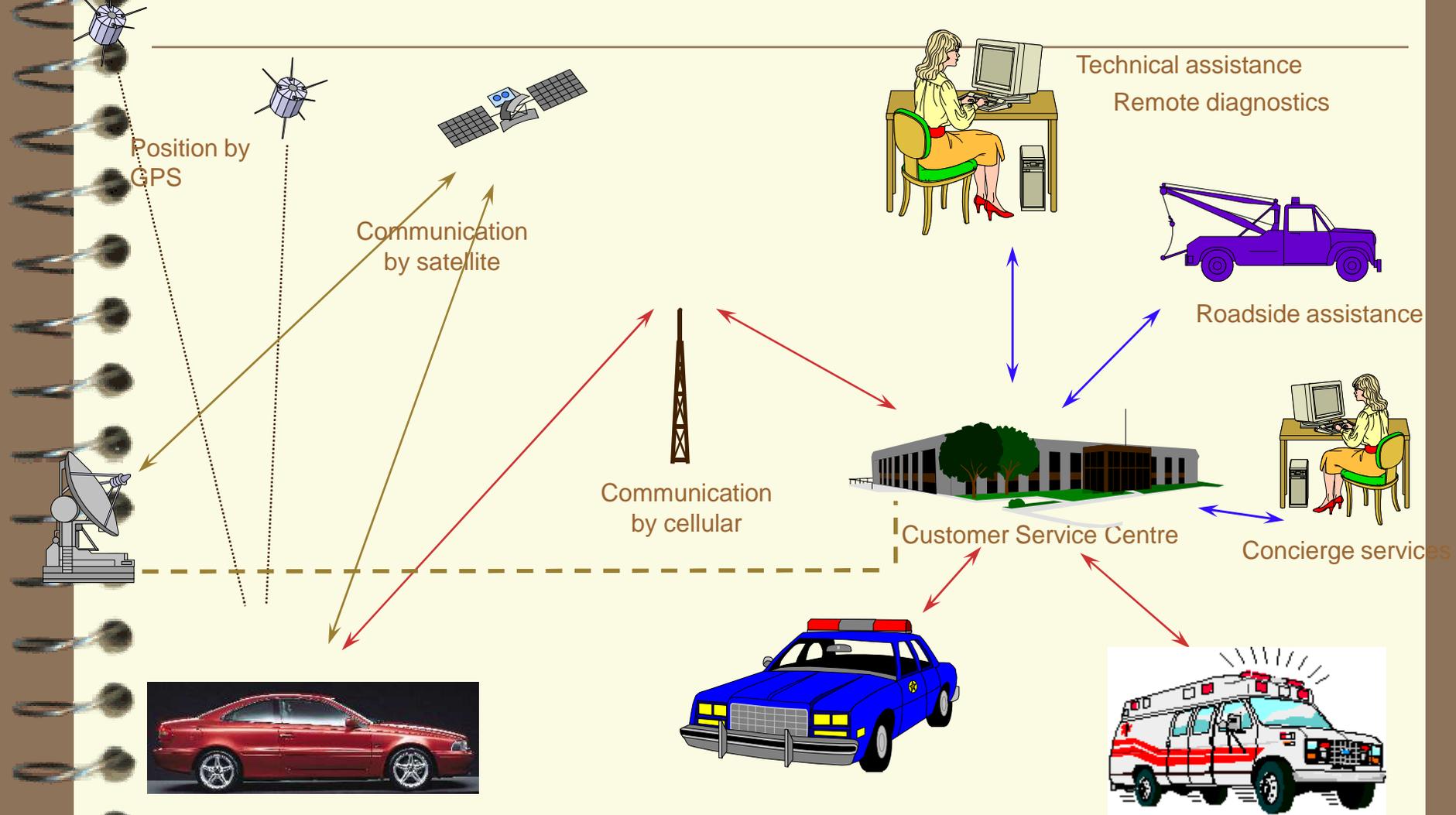
Vehicle Security Services

- Theft Notification
- Stolen Vehicle Tracking

Convenience Services

- Remote Unlock
- Remote Lock
- Other Convenience Services (voice)

Telematics Environment



Advanced Driver Assistance Systems (ADAS)

- Smart Transmission
- Braking Assistance
- Aimable Headlights
- Engine Control
- Traction Control
- Curve Warning
- Optimised Gear Setting

.../...

Advanced Driver Assistance Systems (ADAS)

- Intersection Collision Avoidance
- Obstacle Avoidance
- Lane Departure Warning
- Weather/Surface/Accident Probability
Notification

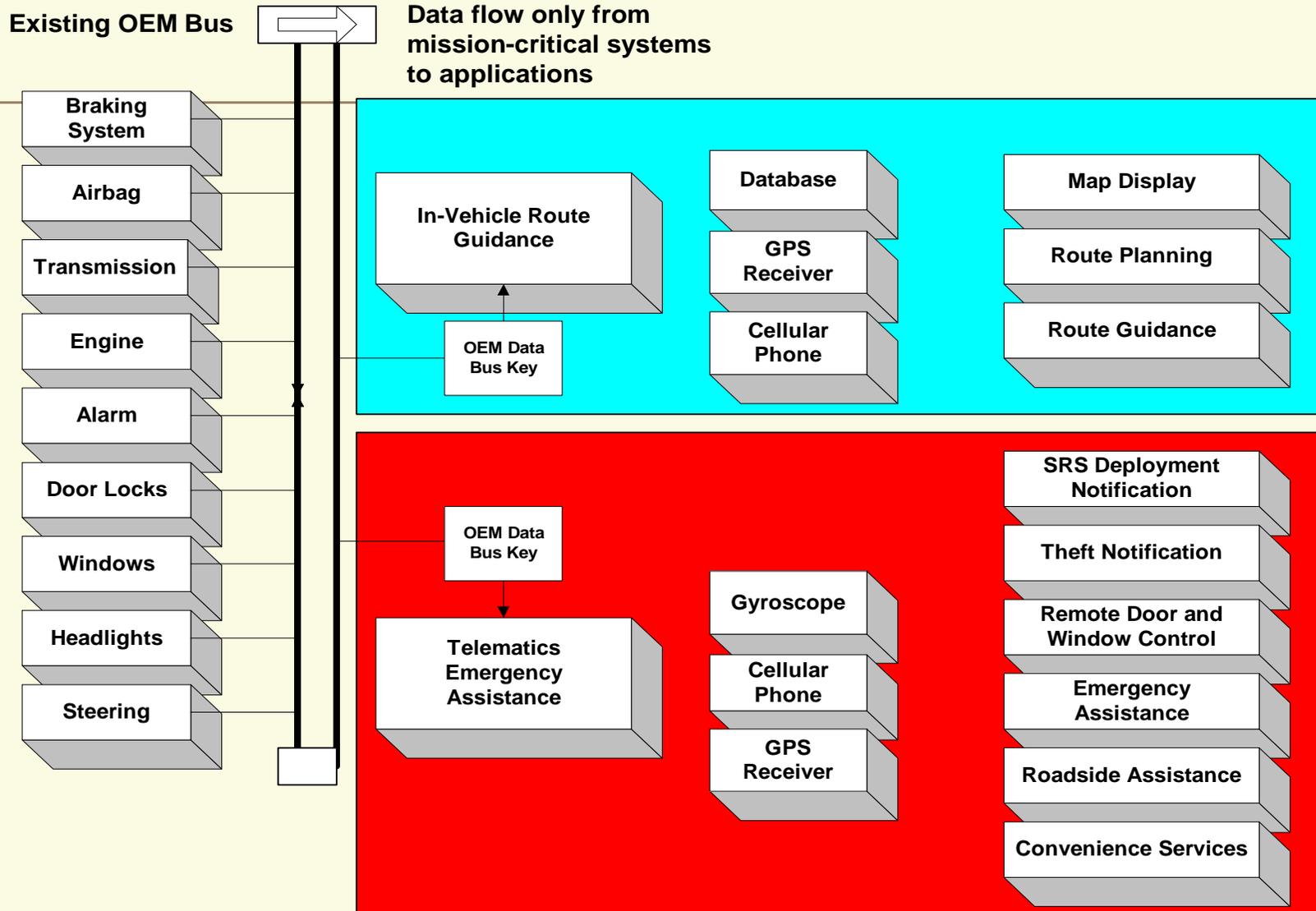
Current Data Requirements

- Positional Accuracy - 10-20 meters
- Centreline data for carriageways on divided highways
- One-way's and junction turn restrictions
- Physical and functional classifications
- Intersection ramp detail
- Road name and number and address ranges
- Place and Landmark search

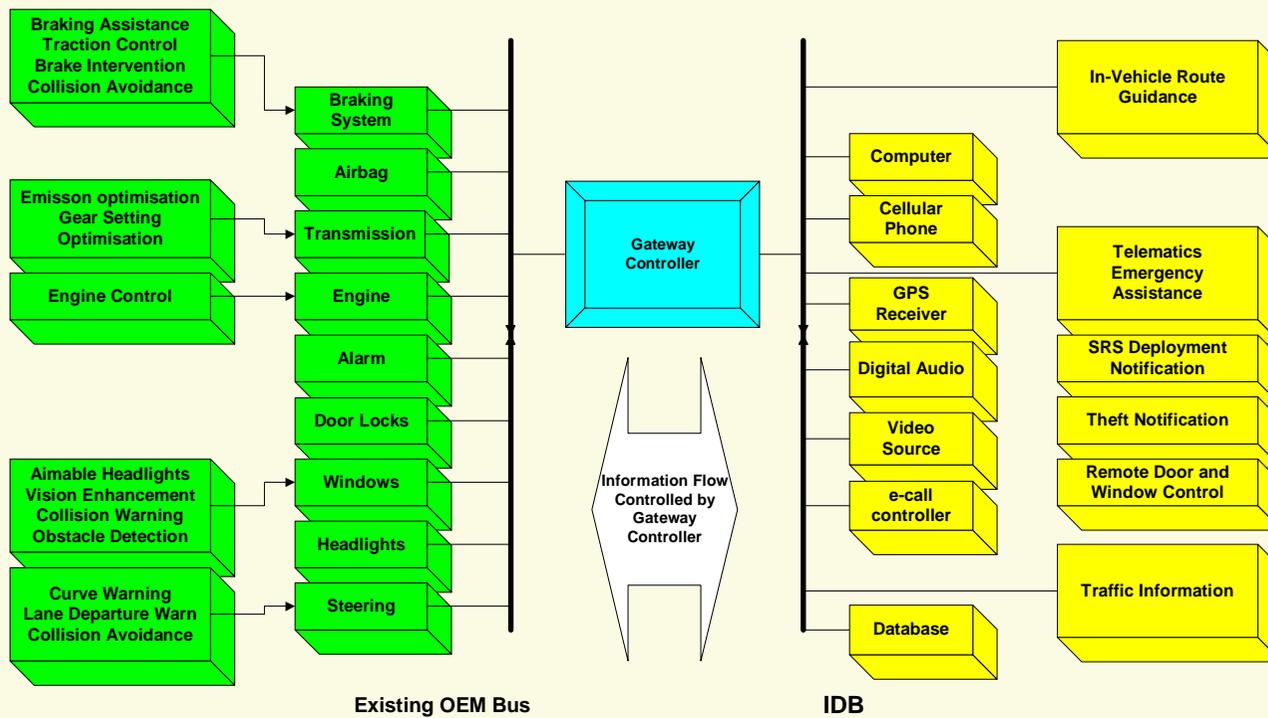
Emerging Data Requirements

- Precise road geometry - 1 meter or better
- Lane information - number and width
- Roadside objects - signs, lightpoles, walls
- Road curvature and banking
- Road grade and altitude
- Road surface
- Weather/Surface/Accident Statistics

Existing OEM Bus



Intelligent Transportation Systems Data Bus (IDB)



Data Requirements for Advanced Driver Assistance Systems (ADAS)

