Appendix C  Structure of the FRAME User Needs

Group 1
General, Generic and Non-Functional

1.1 Architectural Properties
1.2 Data Exchange
1.3 Adaptability
1.4 Constraints
1.5 Continuity
1.6 Cost/Benefit
1.7 Expandability
1.8 Maintainability

1.9 Quality of Data Content
1.10 Robustness
1.11 Safety
1.12 Security
1.13 User Friendliness
1.14 Special Needs
1.15 Privacy
1.16 Communications

Group 6
Travel Guidance and Information

6.1 Pre-trip Information
6.1.0 Objectives
6.1.1 Modal Choice
6.1.2 Information Handling
6.1.3 Traveller Interaction

6.2 On-trip Driver Information
6.2.0 Objectives
6.2.1 Mode Change
6.2.2 Information Handling
6.2.3 Traveller Interaction

6.3 Personal Information Services

6.4 Route Guidance and Navigation
6.4.0 Objectives
6.4.1 Information Handling
6.4.2 Traveller Interaction
Groups 2-5
Group 7
Traffic, Incidents, Demand Management and Cooperative Systems

7.1 Traffic Control
- 7.1.0 Objectives
- 7.1.1 Monitoring
- 7.1.2 Planning
- 7.1.3 Traffic Control Centres
- 7.1.4 Traffic Flow Control
- 7.1.5 Exceptions Management
- 7.1.6 O/D Computations
- 7.1.7 Speed Management
- 7.1.8 Roadside-Vehicle Communications
- 7.1.9 Adaptive Traffic Control
- 7.1.10 Lane Management
- 7.1.11 Parking Management
- 7.1.12 Vulnerable Road Users

7.2 Incident Management
- 7.2.0 Objectives
- 7.2.1 Emergency Services
- 7.2.2 Information Management
- 7.2.3 Reporting
- 7.2.4 Post-Incident Management
- 7.2.5 Pre-Incident Management
- 7.2.6 Hazardous Goods

7.3 Demand Management
- 7.3.0 Objectives
- 7.3.1 Zoning
- 7.3.2 Pricing Management
- 7.3.3 Parking Management
- 7.3.4 Vulnerable Road Users
- 7.3.5 Car Sharing

7.4 Cooperative Systems - Traffic Safety
- See next diagram

7.5 Cooperative systems - Traffic Efficiency
- See next diagram

7.6 Cooperative systems - Valued Added and Other Services
- See next diagram

Group 7a
Group 7
Traffic, Incidents, Demand Management and Cooperative Systems

7.1 Traffic Control
   See previous diagram

7.3 Demand Management
   See previous diagram

7.4 Cooperative Systems - Traffic Safety
   7.4.1 Road Hazard Warning
   7.4.2 Ghost Driver Management
   7.4.3 Lane Utilisation
   7.4.4 Speed Management
   7.4.5 Headway Management
   7.4.6 Collision Warning
   7.4.7 Vulnerable Road User Warning
   7.4.8 Emergency Vehicle Warning

7.2 Incident Management
   See previous diagram

7.5 Cooperative Systems - Traffic Efficiency
   7.5.1 Traffic Flow Optimisation
   7.5.2 Advanced Adaptive Traffic Signals
   7.5.3 Flexible Lane Allocation

7.6 Cooperative Services
   7.6.1 eCall
   7.6.2 Enhanced Route Guidance and Navigation
   7.6.3 Access Control
   7.6.4 Service Continuity

Group 7b
Group 8

Intelligent Vehicle Systems

8.1 Vision Enhancement
   8.1.0 Basic Services

8.2 Automated Vehicle Operation
   8.2.0 Objectives
   8.2.1 Collision Avoidance
   8.2.2 Lane Keeping
   8.2.3 Platooning
   8.2.4 Short Range Communications
   8.2.5 Speed Control
   8.2.6 Supporting Tasks

8.3 Longitudinal Collision Avoidance
   8.3.0 Objectives
   8.3.1 Collision Avoidance
   8.3.2 Supporting Tasks

8.4 Lateral Collision Avoidance
   8.4.0 Objectives
   8.4.1 Collision Avoidance
   8.4.2 Lane Keeping
   8.4.3 Supporting Tasks

8.5 Safety Readiness
   8.5.0 Basic Services
   8.5.1 May Day
   8.5.2 Automatic Parking
   8.5.3 Environmental Monitoring
   8.5.4 Accident Data Recording
   8.5.5 Traffic Information and Signs
   8.5.6 Vehicle Information
   8.5.7 Improper Use

8.6 Pre-crash Restraint Deployment
   8.6.0 Basic Services

Group 8
Group 9
Freight and Fleet Management

9.1 Commercial Vehicle Pre-Clearance
  9.1.0 Basic Services

9.2 Commercial Vehicle Administrative Processes
  9.2.0 Basic Services

9.3 Automated Roadside Safety Inspection
  9.3.0 Basic Services

9.4 Commercial Vehicle On-Board Safety Monitoring
  9.4.0 Basic Services

9.5 Commercial Fleet Management
  9.5.0 Objectives
    9.5.1 Road Freight Management
      9.5.2 Road Freight Fleet Management
        9.5.3 Road Vehicle, Driver, Equipment and Cargo Management
          9.5.4 Freight Distribution
            9.5.5 Inter-Modal Interface
              9.5.6 Hazardous Goods Vehicle Management
                9.5.7 Driver Rest Areas
                  9.5.8 Loading Zone Management
Group 10

Public Transport Management

10.1
Public Transport Management

10.1.0 Objectives
10.1.1 Scheduling
10.1.2 Monitoring
10.1.3 Incident Management
10.1.4 Information Handling
10.1.5 Communications
10.1.6 Priority

10.2
Demand Responsive Public Transport

10.2.0 Objectives
10.2.1 Information Handling
10.2.2 Communications
10.2.3 Route Guidance
10.2.4 Reporting

10.3
Shared Public Transport

10.3.0 Basic Services

10.5
Public Transport Safety

10.5.0 Basic Services

10.4
On-Trip Public Transport Information

10.4.0 Objectives
10.4.1 Information Handling
10.4.2 Traveller Interaction