

meeting, contact M. Monty Ledet, Marine Safety Division, Eighth Coast Guard District, at the number listed in **FOR FURTHER INFORMATION** above, as soon as possible.

Dated: December 15, 1997.

**T.W. Josiah,**

*Rear Admiral, U.S. Coast Guard, Commander, Eighth Coast Guard District.*

[FR Doc. 97-33463 Filed 12-22-97; 8:45 am]

BILLING CODE 4910-14-M

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### Agency Information Collection Activity Under OMB Review

**AGENCY:** Department of Transportation, Federal Aviation Administration (DOT/FAA).

**ACTION:** Notice.

**SUMMARY:** In compliance with the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*) this notice announces that the information collection request described below has been forwarded to the Office of Management and Budget (OMB) for review. The FAA is requesting a clearance in accordance with 5 CFR #1320.10. The following information describes the nature of the information collection and its expected burden.

**DATES:** Submit any comments to OMB and FAA by February 23, 1998.

#### SUPPLEMENTARY INFORMATION:

*Title:* Flight Standards Customer Satisfaction Survey #2.

*Need:* The need is for the Flight Standards Service to survey customers in keeping with our strategic initiative to improve the quality of our service by anticipating customer needs and responding to the public interest. The action of conducting customer satisfaction surveys is consistent with, and mandated by, such executive and federal level issuances as the September 1993 Presidential Executive Order, Vice President Gore's Report of the National Performance Review, and the FAA's Strategic Plan.

The completion of this survey is voluntary. No assurance of confidentiality is provided as the respondents are not asked to reveal information about themselves, except if they wish to do so voluntarily in the comments section. Additionally, we are stating in the questionnaires themselves that any names or identifying information will be redacted by the contractor before a list of comments is turned over to the FAA.

*Respondents:* A combination of approximately 53,625 airmen, air operators, or air agencies are expected to respond.

*Frequency:* Every 18 months.

*Burden:* The Federal burden is approximately \$205,500; the respondent burden is approximately 10,725 hours and \$375,000.

**FOR FURTHER INFORMATION:** or to obtain a copy of the request for clearance submitted to OMB, you may contact Ms. Judith Street at the Federal Aviation Administration, Corporate Information Division, ABC-100, 800 Independence Avenue, SW, Washington, DC 20591.

Comments may be submitted to the agency at the address above and to: Office of Information and Regulatory Affairs, Office of Management and Budget, Room 10202, Attention FAA Desk Officer, 725 17th Street, NW, Washington, DC 20503.

Issued in Washington, DC, on December 17, 1997.

**Steve Hopkins,**

*Manager, Corporate Information Division, ABC-100.*

[FR Doc. 97-33462 Filed 12-22-97; 8:45 am]

BILLING CODE 4910-13-M

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### RTCA Special Committee 165; Minimum Operational Performance Standards for Aeronautical Mobile Satellite Services

Pursuant to section 10(a)(2) of the Federal Advisory Committee Act (P.L. 92-463, 5 U.S.C., Appendix 2), notice is hereby given for Special Committee (SC)-165 meeting to be held January 7, 1998, starting at 9:00 a.m. The meeting will be held at RTCA, 1140 Connecticut Avenue, NW., Suite 1020, Washington, DC 20036.

This plenary meeting will be preceded by a meeting of SC-165 Working Group (WG)-3, AMSS System/Service Criteria, on January 5-6.

The plenary agenda will be as follows:

- (1) Welcome and Introductions;
- (2) Review and Approval of the Summary of the Previous Meeting;
- (3) Chairman's Remarks;
- (4) Overview of New Developments Relevant to AMSS and SC-165:
  - a. Required Communications Performance (SC-169/WG-2);
  - b. AMCP WG-A on AMSS; c. AMS (R)S Spectrum Issues;
  - d. AEEC 741 and 761 Characteristics; e. Industry, Users, Government Comments;
- (5) Review of Working Group Activities:
  - a. WG-1 (AMSS Avionics

- Equipment MOPS); b. WG-3 (System/Service Performance Criteria); c. WG-5 (AMS(R)S Satcom Voice);
- (6) Other Business;
- (7) Date and Place of Next Meeting.

Attendance is open to the interested public but limited to space availability. With the approval of the chairman, members of the public may present oral statements at the meeting. Persons wishing to present statements or obtain information should contact the RTCA Secretariat, 1140 Connecticut Avenue, NW., Suite 1020, Washington, DC 20036; (202) 833-9339 (phone); (202) 833-9434 (fax); or <http://www/rtca/org> (web site). Members of the public may present a written statement to the committee at any time.

Issued in Washington, DC, on December 17, 1997.

**Janice L. Peters,**

*Designated Official.*

[FR Doc. 97-33461 Filed 12-22-97; 8:45 am]

BILLING CODE 4910-13-M

## DEPARTMENT OF TRANSPORTATION

### Federal Highway Administration

#### Federal Transit Administration

#### National Highway Traffic Safety Administration

#### Intelligent Vehicle Initiative; Request for Information

**AGENCIES:** Federal Highway Administration (FHWA), Federal Transit Administration (FTA), and National Highway Traffic Safety Administration (NHTSA), DOT.

**ACTION:** Notice; request for information.

**SUMMARY:** The USDOT is seeking comments from all sources (public, private, governmental, academic, professional, public interest groups, and other interested parties) on the Intelligent Vehicle Initiative (IVI). The IVI is being established as a major new component of the Intelligent Transportation Systems (ITS) Program. The intent of the IVI is to improve significantly the safety and efficiency of motor vehicle operations by reducing the probability of motor vehicle crashes. To accomplish this, the IVI will accelerate the development, availability, and use of driving assistance and control intervention systems to reduce deaths, injuries, property damage, and the societal loss that result from motor vehicle crashes. These systems would help drivers process information, make decisions, and operate vehicles more effectively. These systems would

include provisions for warning drivers, recommending control actions, intervening with driver control, and introducing temporary or partial automated control of the vehicle in hazardous situations. The IVI systems also would improve mobility and highway efficiency through the application of selected motorist information services. Sensing, processing, and communications technologies would be installed in passenger vehicles, trucks, and buses, and may be complemented by highway infrastructure technology. These integrated technologies would be linked to automated actuators and controls as well as in-vehicle driver interfaces that adhere to well-founded human factors requirements. The purpose of this document is to solicit comments on the approach, to obtain expressions of interest in the participation, and to request responses to specific questions provided in this document. This is neither a request for proposals nor an invitation for bids.

**DATES:** Comments on this announcement should be submitted on or before January 30, 1998.

**ADDRESSES:** Responses to this announcement must be mailed directly to the Federal Highway Administration, Intelligent Transportation Systems Joint Program Office, HVH-1, Room 3400, Washington D.C. 20590. See Supplementary Information section for electronic access and filing addresses.

**FOR FURTHER INFORMATION CONTACT:** For FHWA: Mr. Ray Resendes, ITS Joint Program Office, (202) 366-2182; Mr. George Ostensen, (703) 285-2021; or Ms. Rose McMurray, (202) 366-2742. For NHTSA: Dr. Joseph Kianianthra, (202) 366-5662. For FTA: Mr. Walter Kulyk, (202) 366-5991. All are located at the United States Department of Transportation, 400 Seventh Street, SW., Washington, DC 20590. Office hours are from 7:45 a.m. to 4:15 p.m., e.t., Monday through Friday, except Federal holidays.

#### **SUPPLEMENTARY INFORMATION:**

##### **Electronic Access and Filing Addresses**

You may submit comments and data by sending electronic mail (E-mail) to: raymond.resendes@fhwa.dot.gov.

E-mail responses are encouraged. Your comments on these important issues are greatly appreciated, but the USDOT will not be able to acknowledge responses.

##### **Background**

Within the ITS Program, the USDOT has conducted research and development to improve driving safety

and efficiency. These include the Driver Vehicle Interface, Collision Avoidance, Automated Highway Systems, and Motor Carrier Research Programs. The IVI will take advantage of these maturing USDOT programs and the synergism inherent in their close coordination. The IVI will unite these programs into a common framework focusing on multi-functional integration of proven systems using autonomous vehicle-based technology complemented by highway-based technologies. The mix of desirable and cost-effective technologies may vary among passenger vehicles, trucks, and buses.

During the past few months, the staffs of the FHWA, the NHTSA, and the FTA have met to review the ongoing and planned research and development programs of these three agencies that may contribute to the IVI. These agencies have identified areas of common interest, synergies among ongoing projects, compatibilities among passenger vehicles, trucks, and buses, and opportunities for joint participation. Following these interagency discussions, the USDOT decided that this progress should be shared with all interested public and private sector stakeholders and comment should be sought.

Given the differing interests and priorities of various stakeholders, the USDOT recognizes that to formulate and develop an IVI program, it is desirable to have the joint participation of these groups for information purposes. Therefore, the USDOT proposes the establishment of a working group that would provide information to the USDOT so that the agency can adequately define and implement the IVI program. The working group would be administered by, and report findings to, the Intelligent Transportation Society of America (ITS America).

Motor vehicle crashes and other incidents exact high penalties in fatalities, injuries, and economic costs resulting from emergency and health care, property damage, and highway congestion. The NHTSA estimates that the financial burden of these crashes exceeds \$150 billion per year. If highway safety is to be improved significantly, the number of highway crashes must be cut.

The objectives of the IVI program are to advance the state of availability of in-vehicle systems to: (1) Improve highway safety by reducing the number and severity of crashes, and (2) improve highway efficiency, mobility, and productivity, and environmental quality by increasing traffic throughput, lowering vehicle operating costs, and

achieving more predictable travel times. These objectives would be realized by facilitating and accelerating the early availability, use, and acceptance of effective driving assistance, control intervention, and motorist information capabilities. Achievement of the safety-related benefits is the highest IVI program priority.

It is envisioned that the IVI program would include cooperative efforts with partners from the motor vehicle industry to develop advanced systems, integrate them into vehicles and appropriate infrastructure, and evaluate performance in real-world conditions. The IVI program would also develop and validate performance specifications and design guidelines for systems that would improve significantly the safety of motor vehicle operations.

Jointly with industry and other stakeholders, the USDOT would establish measurable objectives and milestones for IVI systems applicable to passenger vehicles, commercial trucks, and both intercity and transit buses.

The IVI is a multi-agency USDOT research, development, and evaluation program. It is intended that the IVI program would extend and expand current partnerships with the private sector and other stakeholders. It would merge all vehicle-focused ITS activities under one program. The IVI would emphasize the significant and continuing role of the driver in highway safety. It would cover applications for passenger vehicles, light trucks, vans, sport and utility vehicles, commercial trucks, transit and intercity buses, and specialized vehicles, such as, emergency and enforcement vehicles, highway maintenance vehicles and snow plows, on all types of highways.

The IVI safety features would include capabilities to warn drivers of hazardous situations, recommend safe remedial vehicle control actions, assist drivers in avoiding highway collisions, and in some cases, intervene with partial or temporary control. Hazardous situations may arise due to any combination of driver, vehicle, or highway-related problems. The IVI safety features would rely heavily on advanced electronic and communication capability and would supplement the capabilities of motor vehicle drivers to operate vehicles safely. Also, the IVI may include vehicles with selected motorist information, navigation, adverse weather information and traveler assistance features to reduce the complexity of driving and to improve travel mobility. It is expected that the IVI system capabilities would be tailored to specific types of vehicles,

such as passenger vehicles, trucks, and buses.

An effort has been initiated within the USDOT to define and coordinate the Department's ongoing vehicle-related safety research. This effort includes the identification of areas of common interest, synergies among ongoing projects, compatibilities among vehicle types, and opportunities for joint participation. The work associated with the initial effort is nearing completion. During the course of this work, it has become clear that suggestions from the public and private sectors on program content and direction would be helpful. In recognition of this opportunity, the USDOT proposes the establishment of a working group that would offer information so that the agency can adequately define the IVI program.

In order to fulfill the program requirements, the IVI must identify and conduct the necessary research to ensure that the driver warning, driver assistance, driver intervention, and travel information systems work effectively and reliably in both independent and integrated modes, that they operate in a consistent and efficient manner and are easily understood by drivers, and that drivers accept and use the systems.

Ongoing and recently completed work on crash avoidance, in-vehicle information systems, automated highway systems, and motor carrier issues would provide a strong foundation for the IVI research. Research would continue throughout the IVI program. This research would address areas such as human factors, sensor performance, conditions where warnings are needed and conditions where warnings would be a nuisance, modeling, evaluation methods, and other in-vehicle and highway-based technologies. The IVI would include assessment of driver acceptance. A mix of analytic, test track, and on-road research, and testing is anticipated. Following testing in an experimental environment, fleets of equipped vehicles would be evaluated in on-road operational settings at various stages of the program. The USDOT would aggressively pursue partnerships and other cooperative arrangements with the motor vehicle, trucking, and bus industries and their suppliers, States and other government organizations, academic institutions, and other interested parties to fulfill the program requirements.

The USDOT developed a roadmap of how the IVI program would proceed. A diagram of the roadmap is shown at the end of this document.

This roadmap represents an attempt to illustrate the broad IVI program elements and the sequence in which these program elements would be accomplished. The duration of the IVI program runs from left to right and it is not drawn to scale. The major boxes in the roadmap include the following:

1. Crosscutting activities represent groups of actions that influence and guide all the major program elements. They include such topics as: Architecture and standards development; research, development, and testing in human factors, communications, and technology; acquisition, expansion, and validation of evaluation tools such as simulation models; development and execution of an outreach plan to ensure joint participation of industry and other stakeholders; development and implementation of field operation evaluation plans; and, program planning and administration covering IVI program definition and oversight, and any other crosscutting functions and responsibilities not covered elsewhere. The technical issues for many individual services are expected to be independent of the vehicle platforms and when this occurs such issues would be studied together.

2. Development of services would cover the research, development, testing, and evaluation of individual crash avoidance and efficiency-enhancing systems, such as those listed under the caption "Candidate Services" in this document.

3. Selection of services for integration represents the activities necessary to select specific IVI services (and systems to fulfill those services) and the mix of services that should be included in integrated packages of multiple IVI services. Selection involves extensive work on estimating the benefits and costs, as well as anticipated user acceptance of integrated systems that provide a combination of services.

4. The integrated system design and development step covers the research, development, and prototype testing necessary to fulfill the requirements for fully describing IVI capabilities, as well as system and subsystem specifications for the construction of the vehicles and the infrastructure modifications necessary for field operational tests of integrated systems.

5. The operational tests and evaluations activity, as expected, implements the plans for field tests in real-world settings on actual highways, executes a complete evaluation of the integrated IVI services subjected to the operational tests, develops deployment plans, establishes performance

thresholds based on objective test performance, and develops recommendations.

6. Product deployment refers to the actions by motor vehicle manufacturers and their suppliers to make and offer IVI systems to highway users in production motor vehicles. It is anticipated that the IVI systems, after operational tests demonstrate the benefits of their integrated services, would be adopted by the manufacturers as part of their standard product line. Product development also includes actions by State, regional, and local governments to install infrastructure-based IVI system components on their highway systems. This activity is indicated as the final step and the ultimate objective of the IVI program.

### **Candidate Services**

The USDOT has concluded that the following services are prime candidates for improvement through application of advanced in-vehicle technology. It is expected that during the course of the IVI program, the mix of individual IVI services selected for integration may vary among passenger vehicles, trucks, and buses. Please note that these services include some existing or slightly modified ITS user services. The following categories of advanced technologies are identified as candidate IVI services because they: (1) Improve safety; (2) may impact safety; (3) provide platform-specific functions; or (4) provide supporting capabilities for other future services.

### **Safety Services**

#### *1. Rear End Collision Avoidance*

This feature would sense the presence and speed of vehicles and objects in front of the equipped vehicle and would provide warnings and limited control of the vehicle speed (coasting, downshifting, or braking) to minimize risk of collisions with vehicles and objects in the vehicle's lane of travel. It is expected that the first implementation of this service would be through autonomous in-vehicle systems. These systems would monitor the motion and location of vehicles and other objects in front of the vehicle and would advise the driver, through an appropriate driver-vehicle interface, of imminent rear-end crashes. These systems may share some elements of, and are expected to complement the performance of, adaptive cruise control systems which are expected to precede collision avoidance systems as a commercial product. Later versions of these systems may include automatic braking in the event of an impending

crash. The performance of these systems may be enhanced through future combination with other systems, such as other collision avoidance systems, route guidance-navigation systems with enhanced map data bases, and cooperative communication with the highway infrastructure to set adaptive cruise control systems at safe speeds.

## **2. Road Departure Collision Avoidance**

This feature would provide warning and control assistance to the driver through lane or road edge tracking and by determining the safe speed for road geometry in front of the vehicle. It is expected that the first implementation of this service would be through autonomous in-vehicle systems. These systems would monitor the lane position, motion relative to the road edge, and vehicle speed relative to road geometry and road conditions and would advise the driver, through an appropriate driver-vehicle interface, of imminent unintentional road departure. Later versions of these systems may include cooperative communication with the highway infrastructure to automatically provide safe speeds for upcoming road geometry and conditions. The performance of these systems may be enhanced through future combination with other systems; such as other collision avoidance systems, drowsy driver advisory systems, and route guidance-navigation systems with enhanced map data bases.

## **3. Lane Change and Merge Collision Avoidance**

It is expected that the first implementation of this service would be through in-vehicle systems which may be augmented with vehicle-to-vehicle communications. These systems would monitor the lane position, relative speed and position of vehicles, including motorcycles, beside and to the rear of the vehicle and would advise the driver during the decision-phase of a lane-change maneuver, through an appropriate driver-vehicle interface, of the potential for a collision. Later versions of these systems may provide additional advice of an imminent crash to the driver during the action-phase of the lane change or entry-exit maneuver. The performance of these systems may be enhanced through future combination with other systems; such as other collision avoidance systems and roadside communication and sensing systems.

## **4. Intersection Collision Avoidance**

It is expected that the first implementation of this service would be through in-vehicle systems which are

augmented by information from enhanced map data bases or from cooperative communication with the highway infrastructure. These systems would monitor position relative to intersection geometry, relative speed and position of other vehicles in the vicinity of the intersection and would advise the driver, through an appropriate driver-vehicle interface, of appropriate action to avoid a violation of right-of-way or to avoid an impending collision. Complexities of providing this service include the need to sense the position and motion of vehicles and determining the intent of these vehicles to turn, slow down, stop, or violate right-of-way. A fully autonomous in-vehicle system would probably not be capable of providing this service.

## **5. Railroad Crossing Collision Avoidance**

This feature would provide in vehicle warnings to drivers when they approach a railroad crossing that is unsafe to enter due to approaching or present rail traffic. Initial implementation of this feature is anticipated for buses and trucks carrying hazardous cargo. This service, which would share many onboard vehicle components with intersection collision avoidance systems, is dependent on communications and the deployment of infrastructure components.

## **6. Vision Enhancement**

It is expected that the first implementation of this service would be through autonomous in-vehicle systems. These systems would use infrared radiation from pedestrians and roadside features to provide the driver with an enhanced view of the road-ahead. Later versions of these systems may include additional information from improvements in the highway infrastructure, such as infrared reflective lane edge markings.

## **7. Location-Specific Alert and Warning**

This feature would provide intelligent in-vehicle warning information by integrating vehicle speed and pertinent vehicle dynamics information with knowledge of road geometry (from a map database or beacon input). Later versions would include information about environmental and road surface conditions to provide the driver with warnings, such as excessive speed for curves or alerts on upcoming traffic signs and signalized intersections. This feature may include the ability, at unusually complex and hazardous highway locations, to provide in-vehicle warnings which replicate one or more types of roadside signs. These

capabilities would be integrated with other in-vehicle navigation and route guidance features with collision avoidance warning.

## **8. Automatic Collision Notification**

It is expected that the first implementation of this service would be through in-vehicle systems which are augmented by communication links to Public Safety Answering Points (PSAP). These systems would monitor position of the vehicle and severity of the crash. This information would be transmitted automatically to the appropriate PSAP for the location of the crash. These systems may also be combined with manually activated systems for requesting roadside assistance.

## **9. Smart Restraints and Occupant Protection Systems**

This feature would provide advance warning of impending (forward or side) crashes and would pre-deploy the appropriate occupant protection systems in a vehicle prior to the impact to obtain maximum protection for the vehicle occupants. If reliable under all potential impact situations, this might permit slower deployment speeds for the air bags, allow pre-tensioned or load limited belt systems or smart head protection systems and ultimately more protection for the vehicle occupants.

## **Safety Impacting Services**

### **10. Navigation/Routing**

This feature would provide location and route guidance input to the driver and would support the various collision avoidance capabilities with road geometry and location data. It would also provide the necessary capability to filter traffic information to select those messages that are applicable to the vehicle location and route of travel. It would also offer the capability to recommend optimal routing based on driver preferences. More advanced versions of this service may integrate real-time traffic conditions into the calculations of optimal routes. For paratransit applications this would assist passenger demand and record keeping.

### **11. Real Time Traffic and Traveler Information**

These IVI systems would have capabilities to access in-vehicle databases and receive travel-related information from the infrastructure (roadside or wide-area transmissions). Information categories would include items, such as vehicle location and route guidance instructions, motorist and traveler services information, safety and advisory information, and other

real-time updates on conditions, such as congestion, work zones, environmental, and road surface conditions. This feature would provide an integrated approach to the presentation of information to the driver for safety warnings and other advisories related to the driving task. More advanced system capabilities would include the ability to react to dynamic information on environmental and road condition thereby augmenting information contained in the static map databases.

#### *12. Driver Comfort and Convenience*

This service is included in the IVI program to ensure that the increasing number of comfort and convenience features in vehicles, such as cellular telephones and fax machines, do not distract the driver or increase the complexity of the driving task. This service would integrate these features into the driver vehicle interface to permit prioritization of information sources and reduce distractions. Real-time dispatching for fleet operations is included in this category.

#### **Platform Specific Services—Commercial Vehicle**

##### *13. Vehicle Stability Warning and Assistance*

An early version of this service would assist drivers in maintaining safe speeds on curves by measuring the rollover stability properties of a typical heavy vehicle as it is operated on the roadway, and by providing the driver with a graphical depiction of the vehicle's loading condition relative to its rollover propensity. More advanced services would employ an active brake control system coupled with electronic brake system technology and infrastructure provided information to selectively apply brakes to stabilize the vehicle and, thus, reduce the incidence of rear trailer rollover in double- and triple-trailer combination vehicles during crash avoidance or other emergency steering maneuvers.

##### *14. Driver Condition Warning*

This service would provide a driver monitoring and warning capability to alert the driver to problems, such as drowsiness or other types of impairments. It is expected that the first implementation of this service would be on commercial and transit vehicles.

##### *15. Vehicle Diagnostics*

The vehicle diagnostic information service would be an extension of current vehicle monitoring and self-diagnostic capabilities, such as oil pressure and coolant temperature gauges. This service would monitor vehicle safety-related

functions. Examples of conditions monitored include braking system integrity, tire pressure, sensor and actuator performance, and the communication system. This information is intended to be useful to the driver, as well as to assist and support fleet maintenance and management functions.

##### *16. Cargo Identification*

This service would focus on heavy vehicle operations, especially hazardous material transportation. This feature would identify and monitor key safety parameters of the cargo, such as temperature, and pressure. The driver would be warned if any unsafe conditions existed.

##### *17. Automated Transactions*

This feature would implement capabilities for electronic transactions, such as electronic toll collection, parking fee payment, transit fare payment and additional commercial vehicle-related functions, such as credentials and permit verification, using such technology as transponders and "smart cards."

##### *18. Safety Event Recorder*

This feature would record selected driver and vehicle parameters to support the reconstruction of conditions leading to a critical safety event. Data from this recorder could provide input to the crash notification subsystem for transmission of collision data to the emergency service provider.

#### **Platform Specific Services—Transit Vehicles**

##### *19. Obstacle/Pedestrian Detection*

This service would warn the driver when pedestrians, vehicles, or obstacles are in close proximity to the driver's intended path. This could be accomplished with on-board sensors or infrastructure-based sensors communicating to vehicles.

##### *20. Tight Maneuver/Precision Docking*

This service would position the bus or commercial vehicle very precisely relative to the curb or loading platform. The driver would maneuver the bus into the loading area and then turn it over to automation. Sensors would continually determine the lateral distance to the curb, front and rear, and the longitudinal distance to the end of the vehicle loading area. The driver would be able to override at any time by operating brakes or steering, and would be expected to monitor the situation and take emergency action if necessary (for example, if a pedestrian steps in front of the vehicle). When the vehicle is

properly docked, it would stop and revert to manual control. In freight or bus terminals this service could increase facility throughput as well as safety.

##### *21. Transit Passenger Monitoring*

This service would assist the driver in detecting any passenger activities that may affect the safety or security of the vehicle's operation.

##### *22. Transit Passenger Information*

This service would provide transit passengers with real-time transit network information during travel. The emphasis within the IVI program would be to reduce the non-driving task workload of the driver by providing alternative means for passengers to access location and transit service information.

#### **Platform Specific Services—Special Vehicle**

##### *23. Fully Automated Control at Certain Facilities*

This service would enhance efficiency and productivity by providing automated movement of vehicles in dedicated facilities. Initial applications may include automated bus movement in maintenance areas and automated container movement within a terminal area. The transit bus application could be a preliminary use of automation in a low-speed, controlled environment. The automated container movement application would consist of using vehicle automation technologies to move containers within rail-, truck-, or ship-yards or other centralized facilities.

#### **Supporting Services**

##### *24. Low Friction Warning and Control Assist*

This service would initially warn the driver of reduced traction, but in advanced configuration, would also provide control assist capabilities to assist the driver in regaining control of the vehicle. Sensors on-board the vehicle would detect when the tire-to-road surface coefficient of friction is reduced due to water, ice, or road surface condition.

##### *25. Longitudinal Control*

Longitudinal control would range from normal cruise control to advanced cooperative cruise control and applications which permit full automatic braking. Intelligent cruise control senses the presence and relative velocity of moving vehicles ahead of the equipped vehicle, and adjusts the speed of travel to maintain a safe separation between vehicles. Vehicle speed is adjusted either by allowing the vehicle

to coast or by transmission downshifting. More advanced longitudinal control systems would be capable of detecting a vehicle ahead in the same lane, which may be traveling at any speed or may be fully stopped. A full range of braking capability and operating speeds would be available to the equipped vehicle, including stop-and-go traffic operations. This service can be provided by autonomous in-vehicle systems or with assistance from vehicle-to-vehicle and vehicle-infrastructure cooperation.

#### 26. Lateral Control

This service would sense the center of the lane and continually actuate the steering to keep the vehicle in the center of its lane. For the service to dependably detect the lane boundaries, some infrastructure cooperation may be required, such as accurately painted lane marker stripes, embedded magnetic nails, or radar-reflective stripes. The driver would be able to assume control at any time.

#### Purpose of Comment Solicitation

This document solicits comments on the IVI, expressions of interest to participate with a proposed working group to provide the USDOT with information so that the agency can adequately define and implement the IVI program, and comments on other questions or issues regarding this topic. It must be emphasized that the working group is being established for the purpose of providing information to ITS

America so the USDOT can formulate the IVI program. The USDOT could potentially enter into partnerships with members of the working group.

#### IVI Issues

Important issues related to the IVI are facing the USDOT and others, in both the public and private sectors. Responses to the following questions are requested to help the DOT as it finalizes the organization of the IVI program. As appropriate, please reference experiences you may have had that address the issues.

1. Would you or your organization be interested in participating in the working group, or in cooperative research and development for the IVI program? If yes, in what way? If not, what would encourage you to participate?

2. (a) Does the sequence of steps outlined in the roadmap provide a meaningful description of the system integration process? Are there other elements that need to be added to the roadmap? What criteria should be used in the selection of systems to be integrated? What steps need to be taken to ensure compatible deployment timetables for the infrastructure and in-vehicle parts of cooperative systems?

(b) Each of the listed services is currently the subject of a development program within the USDOT, or is already a fully developed service. Are there services that should be added or deleted from this list?

(c) The USDOT believes that it is feasible to develop systems to provide the listed services in the near term. Are there other longer-term services that the USDOT should be considering?

3. What new areas of research and development would be required to support the IVI program?

4. What are the critical issues that need to be addressed and the activities that should be initiated to hasten the deployment of advanced technology systems for providing each of the listed services?

5. What data are currently available to quantify the expected benefits, user acceptance, and costs of systems that can provide the listed services? What approaches can be used to obtain new estimates of those benefits, user acceptance, and costs?

(23 U.S.C. 307 note and 315; secs. 6051–6059, Pub. L. 102–240, 105 Stat. 1914, 2189 as amended by sec. 404, Pub. L. 102–388, 106 Stat. 1564, and sec. 338, Pub. L. 104–59, 109 Stat. 603, 604; and 49 CFR 1.48)

Issued: December 11, 1997.

**Ricardo Martinez,**

*Administrator for National Highway Traffic Safety Administration.*

Issued: December 11, 1997.

**Gordon J. Linton,**

*Federal Transit Administrator.*

Issued: December 11, 1997.

**Kenneth R. Wykle,**

*Federal Highway Administrator.*

BILLING CODE 4910–24–P

# PRELIMINARY HIGH LEVEL ROADMAP FOR IVI

