

Innovative Contracting Practices for ITS Task E - Final Report

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1 6. Abstract

This report presents the results of research on procurement-related legal and non-technical issues which may be constraining the deployment of Intelligent Transportation Systems (ITS). The report's focus is on State and local procurement practices when Federal funds are involved. Issues arising in early ITS operational tests were researched, with focus on the following topics: types of contracts, methods of award, combined or coordinated procurements, pricing and cost sharing allowability of costs, cost accounting standards and principles, auditing, intellectual property, organizational conflicts of interest, and liability. The report provides findings on each of the above topics and discusses their effects on implementing ITS. Practical procurement techniques, available under existing law, are provided to remove or mitigate potential barriers to deployment. The report is targeted at program managers, contracting officers, and attorneys, and contains many examples and extensive citations for further research to assist both novice and expert practitioners.

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 - 49 C.F.R. Part 18 - Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments
 - United States Department of Transportation Order No. 4600.17, Grant Management Requirements
 - Los Angeles County Metropolitan Transportation Authority - General Cost Guidelines
- (6) ITS Transactional Documents
- (7) FHWA Chief Counsel Letter Clarifying the Government's Retained License to Inventions and Copyrights, August, 1994

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EXECUTIVE SUMMARY

This Executive Summary presents an overview of the findings and recommendations of the ***“Innovative Contracting Practices for Intelligent Transportation Systems”*** report. This report was prepared under Contract No. DTFH61-94-C-00164, administered by the United States Department of Transportation (U.S. DOT), Federal Highway Administration (FHWA), in cooperation with the Volpe National Transportation Systems Center (Volpe). The views expressed in this report do not necessarily reflect the views of the U.S. Department of Transportation. Persons reading this Executive Summary who desire a copy of the entire report can download a copy by accessing the reading room of U.S. DOT Joint Program office at <http://www.its.dot.gov> or ITS America’s World-Wide Web site at <http://www.itsa.org>.

As part of the Intermodal Surface Transportation Efficiency Act (ISTEA) Institutional Issues evaluation program, U.S. DOT requested that Volpe perform an evaluation of six ITS operational tests and identify institutional barriers to deployment of ITS technologies and systems. The Volpe report identified a lack of flexibility in the procurement practices of State and local transportation agencies as a significant institutional barrier that could constrain the successful deployment of Intelligent Transportation Systems (ITS).

Traditional procurement practices used by State and local transportation agencies were developed to support the design and construction of roads and bridges or to design and construct rail projects. The traditional procurement process for construction of a facility involves the letting of and completion of two separate contracts; one to retain an Architect/Engineer to prepare detailed design specifications for the facility, and, after design is completed, another for construction of the facility. The latter contract is publicly advertised and awarded to the lowest responsive and responsible bidder. This traditional approach utilizing a bifurcated process often lacks the flexibility required when contracting for rapidly evolving technologies and systems such as ITS.

To assist State and local transportation agencies planning to implement ITS projects using federal funds, FHWA contracted with L.S. Gallegos & Associates, Inc. to review State and local contracting rules, regulations, policies and practices, and then to develop a “tool kit” of procurement techniques successfully used by State and local agencies to implement ITS.

Specifically, the objectives of the contract were to:

- Identify and analyze contracting issues which have arisen or are likely to arise in the development and deployment of Intelligent Transportation Systems (ITS) and which may be constraining or hampering the implementation of ITS technologies.
- Develop legally sound, innovative models for contracting for ITS technologies by State and local contracting agencies.

The ultimate objective was to provide streamlined contracting practices that encourage the development and implementation of technologies which meet the goals of the ISTEA for safety, efficiency, enhancement of the environment and United States competitiveness and productivity. Practices developed are directed at obtaining quality ITS products and services which meet the contract requirements at a fair and reasonable price and which protect the public interest in the integrity of the public contracting processes.

In the course of the analysis, ten contracting issues were identified:

- Types of Contracts
- Methods of Award
- Combined or Coordinated Procurements
- Pricing and Cost Sharing
- Allowability of Costs
- Cost Accounting Standards and Principles
- Auditing
- Intellectual Property
- Organizational Conflicts of Interest
- Liability

These contracting issues were thoroughly researched and analyzed based on the workplan developed by FHWA which emphasized interaction with attorneys and other procurement professionals possessing “hands-on” experience gained from initial ITS procurements. The lessons learned in these early applications of ITS provide the foundation and basis for the innovative contracting practices presented in this report.

To research and analyze the contracting issues, the following activities were performed:

- An extensive literature search on each contracting issue
- Interviews with numerous attorneys and ITS procurement professionals
- Review of transactional documents used to implement ITS
- Review of current FHWA & FTA procurement policy

To further the research, a panel of national ITS procurement experts was formed to encourage interactive discussions of these issues. Stakeholders from other organizations and institutions were also solicited for their input.

The panel of experts performed a key role in the analysis by bringing with them many successes which can be repeated in other ITS deployments. They also offered insight regarding costly lessons learned which can be avoided in other procurements of ITS. The panelists, including representatives from both the public and private sectors and academia, met for a two-day Procurement Focus Session in Denver, Colorado. They continued to be involved by reviewing both the draft report and the draft final report presented to FHWA.

DISCUSSION OF ISSUES

A detailed analysis of each contracting issue provided several major findings to consider when developing contracting strategies and practices for development or deployment of ITS projects. By reviewing the following findings, practitioners will increase their knowledge of potential barriers which may arise and understand how those barriers can be avoided or mitigated by using innovative contracting practices.

Types of Contracts & Methods of Award

- The Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments, issued by the Office of Management and Budget (OMB) and codified within most Federal agencies' regulations, establish a "Common Rule" governing grants administration. The Common Rule provides that "States will expend and account for grant funds according to their own laws and procedures." This authority includes planning and management of procurement processes regarding contract type, method of award and pricing methodology.

Types of Contracts & Methods of Award (continued)

- Procurement options available to States and local agencies may be limited by federal or State laws, the terms of a grant, or agency regulations or practices. There are very specific rules to be followed when a procurement is solely for architect/engineering services or for construction. Outside of these areas there is contracting flexibility and many procurement options available to obtain ITS goods and services.
- The most common institutional arrangements in the developmental, pre-deployment phase include “cost sharing”, “partnering”, “cooperative research and development agreements” and bundled contracts providing for system design, fabrication, installation, demonstration testing, and/or evaluation. Institutional arrangements in the operational deployment phase range from purely private approaches such as franchising to purely public models based on 100% taxpayer financing. The numerous and inconsistent labels attached to innovative procurement methodology can cause confusion.
- Each ITS procurement is unique and is most effective when focused on the transaction’s desired end result. Formulating procurement strategies involves the evaluation of the impact of certain “discriminators” which may dictate or eliminate available procurement options. Discriminators include: source(s) of funds, extent of project definition, project phase, and scope of services.

Barrier:	Failure of traditional procurement approaches to be flexible and responsive to the unique deployment needs of ITS. The impact of this barrier is further compounded by the lack of contracting personnel experienced in the nuances of ITS procurements.
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Solutions Identified:

- (1) Utilize flexibility within existing procurement rules, regulations and practices to maximize lifecycle value of ITS goods and services while maintaining the integrity of the contracting process. Improper matching of contract type or award methodology may result in lessened competition or inability to obtain best value in an ITS procurement. Traditional design-bid-build contracting methodologies should be utilized for scopes of work that involve purely design or construction activities. Outside of these areas there is room for innovation so long as competition is maintained and selection criteria are made known in advance and are consistently applied.

Types of Contracts & Methods of Award (continued)

- (2) Critical decisions regarding contract type and award methodology are best made early in the procurement planning process with involvement of the Program Manager, Contracting Officer and, if appropriate, legal counsel. If federal funds are involved, it is desirable for State and local contracting agencies to involve FHWA Division Administrators if innovative contracting practices are contemplated.
- (3) Educate and inform contract professionals as to available procurement options which may provide more flexibility in the procurement of ITS goods and services within existing rules and regulations.

Combined or Coordinated Procurements

- Interagency cooperation is critical to obtaining regional compatibility and interoperability of ITS which will foster greater economy and efficiency. The Common Rule encourages State and local agencies to enter into intergovernmental agreements for procurement or use of common goods and services.
- Agencies may be prevented from entering into combined or coordinated procurements due to lack of authority to permit another agency to commit or spend ITS funds, or by incompatible procurement regulations.
- Multi-jurisdictional procurements require sound management by one of the participating entities, an outside consultant, or Metropolitan Planning Organization (MPO) to ensure procurement objectives are clear and any differences in practices, policies or procedures are reconciled.
- Difficulties associated with planning and implementing combined or coordinated procurements are often due to lack of defined roles and responsibilities rather than legal constraints. State and local agencies have been creative and successful in implementing multi-agency procurements.

Combined or Coordinated Procurements (continued)

Barrier: Concern regarding the authority of one agency to participate in a multi-agency procurement process and have its funds committed by another entity.

Agencies have been very effective at overcoming this barrier if they are committed to working together. The barriers are more often institutional than legal.

Solutions Identified:

- (1) Unless expressly prohibited, construe broadly an agency's power to enter into agreements necessary or incidental to the performance of its duties or incidental to the execution of its powers. Broad grants of power to perform activities "necessary and incidental to" the accomplishment of an agency's mission are often included in agency enabling legislation.
- (2) Include explicit, broad authority to enter into intergovernmental agreements in State agency enabling legislation. Even if authority to enter into multiagency procurements can be implied, an express grant of authority can clarify the availability of the approach, and provide specific directions to be followed. A clear directive granting authority to enter into combined or coordinated procurements establishes legislative intent and may prevent litigation challenging agency authority.
- (3) Invite offerors to make an "irrevocable offer" where delegation of the authority to commit funds is a barrier and other solutions are not available. Even in absence of implied or express grants of authority, agencies can often participate in joint, multi-agency procurements so long as the State has the ultimate power to accept an offer. This is an effective technique where the procurement is conducted by another agency, up to the point of formal acceptance of the offer.

Financial Administration of Grants and Cooperative Agreements

The Common Rule establishes uniform administrative policies for financial administration of federally-funded ITS projects. The rule allows States to account for grant funds in accordance with their own laws and practices. The rule imposes differing grant administration requirements on State agencies as opposed to non-State agencies.

Financial Administration of Grants and Cooperative Agreements (continued)

- Public policy requirements impose allowability-of-cost issues on the private sector in order to exclude certain types of costs from vouchers or invoices requesting reimbursement out of public funds. Grantees are required to establish that they are consistently applying proper accounting standards and are utilizing acceptable cost principles to identify and isolate costs not chargeable to a contract. Applying these principles can be problematic for firms doing business with the public sector for the first time.
- Cost principles come into play when cost is a basis for either contractor selection, for contractor compensation, or for pricing adjustments on an existing contract. The Federal Acquisition Regulation (FAR) establishes cost principles which are utilized on federally funded procurements, but are not directly applicable to State and local procurements. They do, however, often come into play when incorporated into grantee contracts and subcontracts.
- Cost accounting standards refer to how a prospective contractor estimates, accumulates and reports contract costs. Public agencies require strict adherence and consistency in contractors' method of cost accounting from year to year. The private sector, on the other hand, may modify their accounting systems annually to take advantage of tax or accounting rule changes.
- Private sector firms fear disclosure of their propriety information resulting from public agency audits of their records. This can be mitigated by utilizing separate entities to "wall-off" private activities; retaining third party auditors who audit to government standards; or by not accepting public funds.
- As public agencies look to the private sector to supplement and leverage public ITS investments, revenue sharing or cost matching techniques will become more common. New language in the National Highway System Designation Act of 1995 extends and liberalizes rules allowing States to receive and value in kind goods and services. However, these sources of funds may be limited if the public sector utilizes intrusive methods to verify that the contribution was received and properly valued.
- The federal government has significantly reduced grant administration requirements on State and local agencies. State and local agencies are encouraged to work with U.S. DOT to develop alternative cost principles acceptable to the parties which are more responsive to the unique needs of ITS deployment and encourage partnering with the private sector.

Financial Administration of Grants and Cooperative Agreements (continued)

Barrier:	Private sector firms doing business with government entities for the first time may lack knowledge of the concept of unallowable contract costs, or may understand the concepts but lack the accounting systems needed to apply the cost principles,
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There are fundamental differences between Generally Accepted Accounting Principles used by the private sector and Fund Accounting utilized by governmental agencies. There is no equivalent to “unallowable costs” in the private sector and excluding such costs may be difficult for some private sector accounting systems.

Solutions Identified:

- (1) Comply with the requirements of receiving public funds; negotiate on what constitutes compliance, and how compliance will be measured. The Common Rule allows much flexibility in the methods used to identify, value and exclude costs from an invoice or voucher requesting reimbursement from public funds. In addition there are many “off-the-shelf” accounting programs which are designed to comply with government accounting principles.
- (2) Utilize alternative cost principles. Some traditional approaches may be waived by the parties if certain circumstances exist. For example, the existence of a competitive private sector market can establish a market price for supplies or services, allowing use of fixed-price contracts instead of cost-type contracts.
- (3) Utilize partnering relationships between public and private sectors. Sometimes it is easier to coordinate public and private investment without commingling public and private funds. This eliminates the need for the public sector to audit the private entity and reduces the risk that trade secrets will be disclosed.

Financial Administration of Grants and Cooperative Agreements (continued)

Barrier: Private sector firms doing business with public entities for the first time may lack the financial reporting consistency required by public sector cost accounting standards.

Private sector firms often adapt their accounting and reporting practices to take advantage of annual changes in tax law. This may create problems for public entities who require consistent accounting practices from year to year so that costs can be compared on an “apples to apples” basis. Problem areas include accounting for research and development costs and methodologies used to calculate depreciation expense.

Solutions Identified:

- (1) Utilize alternative cost accounting standards. There is much flexibility for the parties to agree in advance as to how public and private cost standards can be reconciled to the satisfaction of both parties.
- (2) Create a new organization or entity to perform the contract and receive public funds. Due to the inherent differences between the public and private sectors, many private firms create a separate entity formed to be more responsive to public sector cost reporting needs. This eliminates the need to modify the private sector’s business practices to accommodate public sector cost standards.

Barrier: Private sector firms may not pursue publicly-funded ITS work due to fear of public disclosure of their proprietary financial information.

Solutions Identified:

- (1) Utilize a third party accounting firm to perform contractor audits to public sector standards. The U.S. DOT has adopted the Single Audit Act encouraging public agencies to utilize a single audit in lieu of performing redundant independent audits by each funding agency.
- (2) Do not permit audit working papers to remain in the public agency’s files. An audit report can identify audit deficiencies and reference source documents. The public agency can access these documents under existing contractual audit rights and copy them if a need arises.

Financial Administration of Grants and Cooperative Agreements (continued)

Barrier:	The private sector cannot be expected to partner with public agencies by sharing costs without receiving sufficient benefits or opportunities to recoup its investment and make a profit.
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Cost sharing requires benefit sharing. To survive in the long run, the private sector must recover its investment and make a profit based on the risk assumed.

Solution Identified:

Establish an environment for success which responds to needs and wants of both the public and private sectors. Public/private partnerships require an understanding of each stakeholder's needs. A shared benefit for a successful outcome and an environment of trust that each party will perform as represented are also essential.

Intellectual Property

- "Intellectual Property" (IP) refers to patentable inventions, copyrights, and trade secrets, as well as compilations of data derived from the operation of ITS technologies, which may or may not be subject to copyright protection. ITS applications raise challenging new questions regarding IP. The allocation of sufficient contractual IP rights to enable the private sector firms to make a profit is critical.
- There is much opportunity for creative procurements involving IP. The private sector is generally in a better position to exploit technological innovations than the public sector. Projects financed in whole or in part by Federal funds require the granting of a limited license to the Federal Government which may constrain exploitation of the IP.
- Institutional issues regarding IP can be an area of tension between the public and private sectors. The opportunity to exclusively apply intellectual property rights over an extended period of time is the private sector's incentive to invest in research and development. The public sector, on the other hand, encourages competition and resists creating monopolies.

Intellectual Property (continued)

Barrier: The private sector and State and local governments broadly interpret standard Federal Government intellectual property contract clauses, chilling the private sector's willingness to bid on contracts and making contract negotiations difficult.

This barrier may prevent the most qualified vendors from proposing on federally funded projects so that their intellectual property is not subjected to mandatory public sector licensing or public disclosure which might impair future marketability of proprietary products.

Solutions Identified:

- (1) With FHWA cooperation, draft contract language to clarify Federal ownership of intellectual property rights. Narrowly construing FHWA's sublicensing rights to specific applications may alleviate private sector concerns.
- (2) With FHWA cooperation, the State grantee should modify the standard IP clauses used in its contracts in order to clarify the scope of the Federal Government's retained IP license. The State should obtain necessary IP rights for its purposes; but attempting to get unnecessary rights through a broad State license may diminish the commercial value of IP to the private sector, discouraging firms from participation in ITS procurements.
- (3) Instruct prospective contractors to describe steps they will take to ensure commercialization of inventions arising under the project, and to describe the steps they will take to make inventions available to State and local governments, thereby alleviating some uncertainty the contractors may have with respect to Federal "March-in Rights." Clarifying the unknowns and licensing limitations at the outset of the project may prevent later disputes regarding interpretation of the IP rights.

Barrier: Potential for future disputes regarding the inventions to which the Federal Government's license rights apply.

Critical terms such as "subject invention", "first actually reduced to practice" and "in the performance of the work under," are critical terms which must be precisely defined.

Intellectual Property (continued)

Solutions Identified:

- (1) If the grantee has adequate information, identify in the contract which of the inventions that the private party is bringing to the project are already “reduced to practice,” and which will be developed under the contract; specify the technologies to which any government funds are being applied.
- (2) Include detailed contract provisions describing any pre-existing IP developed by a party with its own funding (“PARN Intellectual Property”).

Barrier:	Conflict between contractor’s desire to keep intellectual property proprietary and the traditional view that publicly-funded products should reside in public domain.
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The definition of and allocation of IP rights highlight the fundamental differences in mission between public and private entities. Informed decisions and negotiated compromises must be made that are fair and responsive to each others’ needs.

Solutions Identified:

- (1) Allocate to the contractor ownership of rights in copyright materials that are contractor cost responsibilities or shared cost responsibilities. FHWA and State DOTs are fully licensed to use the material.
- (2) Supplement standard contract intellectual property rights clauses to clarify contractor’s rights. Documenting in advance how a public entity plans to construe its license can establish limits acceptable to the private sector.
- (3) States can initially ask for title to intellectual property, but negotiate royalty arrangement in lieu thereof. This arrangement allows the private sector to exploit intellectual property rights while providing the public entity a potential revenue stream to offset future costs and free up revenue for investment elsewhere.
- (4) Negotiate royalty payments to compensate the public agency for its financial contribution to intellectual property development. Ownership can then be ceded to contractor. This is very similar to the previous solution using negotiated royalties to recoup public investment in technology development costs.

Intellectual Property (continued)

- (5) Waive delivery of limited rights data and restricted software; clarify limits on government license. This is consistent with Federal Acquisition Regulation Rights in Data-General Clause.
- (6) Escrow technology. If the public agency is not going to acquire all rights in Intellectual Property in connection with an ITS deployment, the agency needs to protect itself in the event of system failure or contractor's going out of business, in order to provide ongoing operations and maintenance of the system.

Barrier: Lack of legislative authority for transportation agency to accept intellectual property royalties and/or to earmark such funds.

Although often granted broad authority to conduct business, some State and local transportation agencies may have requirements to turn over royalty proceeds to another State entity that determines how the money will be spent.

Solutions Identified:

- (1) Allocate royalties to a participating governmental party with clear authority to accept, retain, and use royalty funds. Some State transportation agencies have utilized State universities to hold and manage intellectual property rights including receipt and reinvestment of royalties.
- (2) Enact legislation expressly permitting State agencies to retain royalty income from intellectual property as an incentive to negotiate such arrangements.
- (3) Form a special purpose entity to retain royalties and reinvest in ITS. Complex multi-stakeholder projects may require new institutional arrangements such as no-stock, no-dividend corporations to receive, invest or disburse royalties among the stakeholders.

Barrier: Private sector concerns regarding data security.

The best techniques for maintaining data security are to not put private information in databases accessible to the public, limit the data furnished to the public sector entity, and control access to the data held by the public sector.

Intellectual Property (continued)

Solutions Identified:

- (1) Hire third party systems integrator to hold and protect data. The third party then can enter into a confidentiality agreement identifying restrictions on transmission and retention of documents.
- (2) Carefully label proprietary and confidential information; parties may expressly commit to use reasonable care to prevent disclosure, and to use information only for limited purpose, that data which is properly labeled. This can limit access to the data by third parties as well as limiting how it may be used by them.
- (3) Require the contractor to place all source code and other proprietary technology necessary to manufacture and operate systems into third party escrow which may be accessed by the public agency only upon contractor default. This keeps proprietary data out of government's possession through this third party escrow, and ensures access to the data to provide continuous operation of the system. When specified conditions occur, the systems operator can access the source code through the escrow agent.

Barrier: Preserving the traveling public's privacy.
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Making personal movement data available to the public may chill the public's acceptance of ITS technologies and their beneficial application due to potential for abuse of this data. Methods to prevent or mitigate privacy concerns should be addressed before collecting personal movement data.

Solution Identified:

Utilize third-party contractors to collect and maintain information to prevent creation of public records. Require parties having access to data to adhere to ITS America Privacy Standards or similar industry standards.

Barrier: Transportation agency fears that early deployment of ITS will result in purchase of obsolete technology or will prevent an integrated system in future.

Traditional contracting approaches to design and construct facilities make it difficult to ensure continuity in contractors or technologies as new technology applications become available.

Intellectual Property (continued)

Solutions Identified:

- (1) Procure intellectual property rights which include “Technology Refreshment” clause allowing upward migration of technology. This provides an incentive for a contractor to reinvest to improve and upgrade operational systems after start-up.
- (2) Create Technology Review Board to assess new developments in ITS technology, and recommend upgrades which the contractor should be required to incorporate into the ITS project. The distinction between developing and commercially available technologies is often blurred. Input from an objective panel of industry experts can be helpful to all parties responsible for making these difficult investment decisions.

Barrier: Combined and coordinated procurements, and Statewide systems with multiple operators have special needs for information sharing, which may not be allowable if proprietary information is involved.

This issue is complicated if proprietary processes are involved.

Solution Identified:

Utilize non-proprietary specifications and standards. This encourages competition and accelerates commercialization of products resulting in industry growth.

Organizational Conflicts of Interest

- Organizational Conflicts of Interest (OCI) rules were created to preserve fair and open competition and enable contracting agencies to obtain impartial advice from consultants. Concern has been raised that application of OCI rules when separate design and construction contracts are planned may limit the extent that companies can be both designers and providers of ITS. This may deter the best qualified contractors from participating in a project’s early stages including system development and design.
- Characterization of a project can impact application of OCI. Different OCI rules may apply to systems engineering contracts, development contracts, evaluation contracts or planning contracts. OCI issues can be avoided through bundling of activities into a single contract such as a design-build contract.

Organizational Conflicts of interest (continued)

- Lack of certainty as to which rules apply and how they will be applied to ITS is a problem, not the rules themselves. It is the public agency Contracting Officer's responsibility to articulate clear guidelines. Making the rules known at the outset of a project creates a level playing field where contractors, consultants, and vendors can compete for and be awarded work based on merit.

Barrier: OCI rules may deter the best qualified firms from participating in a project's early stages, including development and design.

Traditional OCI rules separate the design and construction activities to provide fair and open competition. However, utilizing a bifurcated approach may not necessarily result in the best value in an ITS procurement.

Solutions Identified:

- (1) Prepare specifications in-house with ample opportunity for private industry to comment (for free) on these specifications. Inviting industry to participate in developing a specification makes it more difficult to challenge the specification when issued.
- (2) Involve the ITS design contractor in an oversight role during system implementation. This allows the designer to obtain ongoing fees and provides the contracting agency with continuity as the ITS specifications are implemented.

Barrier: Traditional Federal highway construction contracting rules require separation of the design contract from the construction contract.

Federal-aid highway program statutes generally require States to award separate contracts for highway design and highway construction. The term "highway construction" is defined to include ITS applications. Applying this bifurcation to ITS is impractical, however, because ITS involves deployment of information systems combining hardware and software where no logical separation of design and construction exists.

Solutions Identified:

- (I) Carefully define project roles. A contractor that participates in "planning" (as opposed to "design") may still participate in construction. How a procurement is characterized often dictates whether or not OCI rules apply.

Organizational Conflicts of Interest (continued)

- (2) Award a design/build contract if the public agency is authorized to use this type of contract. Design/build has some desirable characteristics for ITS and has been authorized for use by FHWA under Experimental Project No. 14. Agencies contemplating design/build approaches are cautioned that rules in this area may change and FHWA should be contacted for guidance on design/build approaches for projects utilizing Federal funds.

Barrier: Failure to clearly state guidelines regarding OCI and the division of responsibilities at the outset of a project may threaten the project.

Clarify expectations by making OCI requirements known at the outset of a project to prevent later disputes as to which OCI rules apply.

Solutions Identified:

- (1) Project participants should establish a clear understanding regarding the division of responsibilities and limitations imposed by OCI at the outset of the project. This is the best way to prevent later misunderstandings as to the roles and responsibilities of project stakeholders.
- (2) Expressly state in design contract solicitation that the successful ITS design firm and its affiliates will be excluded from bidding to supply the resulting system. Agencies may retain the services of the original design firm to oversee implementation and installation.

Liability

- Public and private sector participants in ITS deployment are concerned over becoming or being viewed as “deep pocket” sources of funds to cover accident costs (tort liability) due to ITS operations. Designing safety into all aspects of ITS technology and operations is the most effective strategy to mitigate overall tort liability exposure.
- Parties to ITS deployment contracts can agree in advance to allocate particular tort liability costs to the participating party most appropriate to bear those costs using contract clauses such as waivers, disclaimers, indemnities, releases, and liability limitations.

Liability (continued)

Barrier: Tort liability for injuries associated with ITS products; allocation of risk between ITS providers and users.

Solutions Identified:

- (1)
 - (a) Require driver participants to sign informed consent forms.
 - (b) Every time the car's engine is started, the data screen warns driver that the system is experimental and that safety is the driver's responsibility.
 - (c) Each party provides its own insurance for its staff members and for test participants.
- (2) Require test participants to execute waivers containing warranty disclaimers and liability limitations.
- (3) Require transponder customers to execute release and indemnity in order to pay tolls electronically.

Barrier: Allocation of liability among ITS participants; multiple project participants may cause "innocent" governmental party to bear loss if separate disputes with contractors produce inconsistent results.

The governmental party may be responsible for coordinating multiple prime contracts which may result in the government entity being responsible for the timely, coordinated performance of all contractors.

Solutions Identified:

- (1) Project agreement includes express warranty disclaimer. The disclaimer can disclose the conditions of the agreements and specifically disclaim public agency responsibility for the performance of other parties.
- (2)
 - (a) Limit vendor's liability to State or local agencies to the amount of money paid to-date under the contract.
 - (b) Limit period for bringing claims to two years.
 - (c) Mutual waiver of liability for consequential damages.
 - (d) Mutual obligation to notify all parties of any tort claims.

Liability (continued)

These contractual remedies are well established in areas outside of ITS and the solutions should transfer effectively to an ITS context.

- (3) Require all contractors involved in a project to participate in joint dispute resolution to avoid inconsistent allocation of liability. This is often the quickest way to resolve disputes.

Barrier:	Potential liability for patent and copyright infringement and anti-trust violations.
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New applications of technology and the information produced from those technologies will raise some unique issues which create real or perceived risks due to the unknowns associated with ITS deployment.

Solution Identified:

- (1)
 - (a) Agree to mutual indemnification for patent infringement.
 - (b) Have vendor indemnify agency for anti-trust violations.
 - (c) Perform due diligence reviews to identify potential patent issues relating to an element of the proposed system. Parties agree in advance on an alternative substitute technology as a back-up.

Barrier:	Potential liability for monetary loss due to system failure in project with debt service funded by user fees.
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This is a significant concern when deploying electronic toll collection systems. Inaccuracies or system failures can have significant negative financial impact on the owner/operator who relies on tolls to fund operations and debt service.

Solution Identified:

Contractor assumes responsibility for system accuracy regardless of whether or not contractor is the cause of the failure. This has been successfully applied to major toll road projects. The no fault concept assures the owner/operator that virtually all revenue will be realized for vehicles utilizing the automated toll collection facilities.

MAJOR FINDINGS

Throughout the course of the analysis, several findings cut across all issues as being critical to the success of ITS procurements. These “cross-cutting” issues are summarized in the following paragraphs:

- (1) **How A Procurement Is Characterized Is Critical**, Throughout this report the need for ITS procurements to be flexible and adaptable to the facts and circumstances surrounding each procurement has been consistently emphasized. How one classifies an ITS project is important. For example, procurement rules and regulations may provide much more flexibility to procure financial administration systems than to procure ITS design services. It is important to be flexible in the classification of ITS projects early in the procurement planning process in order to preserve a maximum range of procurement options and implementation strategies.
- (2) **Flexible Procurement Practices Work Best If Initiated Early!** Innovative contracting practices can be applied to all phases of an ITS project or program, but work best if applied at the outset to incorporate strategic objectives into the procurement planning process and the terms of the resulting contracts. In most cases institutional or legal barriers which were identified in advance by participants in the early operational tests were eliminated or mitigated by innovative contracting practices. There were no “show stoppers”.
- (3) **ITS Solutions Can Be Implemented At Various Institutional Levels And Project Phases**, State and local transportation agencies implementing federally funded ITS projects or programs have a variety of tools available to them to overcome contracting barriers to ITS. Not all barriers require legislative or regulatory changes; many can be implemented by flexibly restructuring organizational or managerial aspects of a project. The findings and recommendations of this report identify a variety of procurement tools to build in flexibility at various institutional levels, including:
 - Partnering with other public and private sector entities
 - Enacting new or revised legislation
 - Selecting funding sources which allow flexibility
 - Leveraging intellectual property rights
 - Utilizing private sector cost sharing with reasonable compliance requirements
 - Carefully segregating, bundling and drafting contract scopes of work
 - Promoting competition among pre-qualified offerors

- Utilizing evaluation and award criteria which are fair and flexible
- Incorporating expedited dispute resolution practices

(4) **ITS Procurements Present Opportunities For Experienced Procurement Professionals To Innovate Within Existing Legal Framework.** Procurement professionals experienced in utilizing innovative contracting practices can assist in removing institutional barriers to ITS deployment. There is however, a shortage of experienced professionals who are knowledgeable in nontraditional public or private procurement models. As a result, innovative procurement solutions allowable under current rules, regulations and practices go unidentified, unused or underutilized. ITS procurements represent opportunities for experienced, creative procurement professionals to develop creative solutions.

The ITS operational tests have shown that involving experienced procurement professionals early in the planning process enhances a project's chance of success. Unfortunately, the pool of experienced procurement professionals in public agencies is limited. In addition to in-house professional capacity building, agencies deploying ITS should consider contracting for external resources to provide innovative procurement expertise. Having experienced contract professionals involved in a procurement enhances its chances for a successful outcome. As stated in the Volpe case studies, "the organization from which a contract professional is from is less important" than ensuring that a project has access to at least one person who knows the procurement rules, regulations and practices and knows how to proactively apply them.

Section I

INTRODUCTION

Section I

INTRODUCTION

The purpose of this report is to identify, analyze and make recommendations regarding “Innovative Contracting Practices for Intelligent Transportation Systems (ITS).” The report focuses specifically on State and local procurement processes as they relate to contracting for ITS goods and services funded in part by the Federal Government.”

State and local contracting processes developed for existing Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) funded programs have been very successful in creating competition and obtaining successful performance of design and construction activities. Our interstate highway system and operational rail transit projects are testimony to these processes.

The recent introduction of Federally-funded ITS programs and projects requires a review of the existing FHWA and FTA contracting principles and procedures to determine whether they are effective in deploying information technologies, such as ITS. Lack of flexibility in traditional contracting approaches may be a major barrier to ITS deployment. ITS goods and services are technology based. They may utilize hardware or software which can become obsolete in a three to five year time frame. This rapid evolution of technology may not be easily accommodated and deployed by traditional contracting processes.

Traditional Contracting Processes

“Traditional contracting processes” defined for the purposes of this report are: 1) those developed under or formatted after the processes to contract for Architect and Engineering (A/E) services and, 2) processes to contract for construction on U.S. DOT funded projects and programs.*’

^{1/} Intelligent Vehicle Highway System (IVHS) was changed to Intelligent Transportation System (ITS). This change was made to expand the IVHS program to include non-highway modes of transportation. All further references in this report will use ITS and IVHS interchangeably.

^{2/} The traditional contracting process requires fully designed specifications to be completed prior to issuing a separate contract for construction. Significant amounts of time may be spent preparing detailed specifications describing in great specificity the items a transportation agency wants constructed. A construction contract is then advertised for bid and awarded to the lowest responsible bidder, based on the specifications prepared by the A/E.

Contract Objectives

Recognizing the need for a more flexible contracting process at the State and local levels has prompted FHWA to provide this report to assist State and local agencies in developing innovative contracting practices for their ITS projects. The practices developed in this report respond to the need for flexibility and creativity when contracting for ITS. They are based on sound contracting practices and incorporate lessons learned from numerous State and local ITS procurements.

Three specific activities were undertaken by the Gallegos Team in order to accomplish the development of innovative contracting practices:

- Identify and analyze contracting issues which have arisen or are likely to arise in the development and deployment of Intelligent Vehicle Highway Systems (IVHS) and which may be constraining or hampering the implementation of IVHS technologies.
- Develop legally sound, innovative models for contracting for IVHS technologies by State and local contracting agencies.
- Prepare a written report of the research, legal analysis and recommendations developed under this contract and present the results at a briefing.^{3/}

Volpe Case Studies of Institutional Issues

As part of the ITS Institutional Issues Program, the Volpe National Transportation Systems Center (Volpe) evaluated six operational tests under a contract from FHWA to identify institutional issues which may constrain the deployment of ITS.^{4/} The Volpe Center evaluated the following institutional issues:

- Organization and management
- Regulatory and legal
- Human and facilities resources

^{3/} Contract No. DTFH61-94-C-00164 with L.S. Gallegos & Associates, Inc. (LSG&A) at p. 2 of 18

^{4/} FHWA Contract No. DOT-UNTSC-FHWA-94-10, FHWA-5A-94-056, April 1994

- Financial and market security.^{5/}

Because of its broad focus on institutional issues, the Volpe Case Study evaluations did not specifically focus on issues related to the procurement process, but did identify the need for more flexible State and local ITS procurement processes.

The following matrix identifies the contracting issues identified by Volpe which will be further analyzed in this study.

Contracting Issues Matrix

Identification of Contracting Issues Encountered in Volpe Case Studies								
CONTRACTING ISSUES	OPERATIONS TEST							
	TRAVLINK & GENESIS	FAST TRAC	HELP/CRESCENT	TRANSCOM TRANSMIT	ADVANTAGE I-75	WESTCHESTER COMMUTER CTL	TRAVTEK	ADVANCE
TYPES OF CONTRACTS	•	•				•	•	•
METHODS OF AWARD	•			•	•	•	•	•
CONTRACT PRICING ISSUES	•				•		•	
COMBINED/COORDINATED PROCUREMENTS	•	•	•	•	•		•	•
ALLOWABILITY OF COSTS	•			•		•		•
COST ACCOUNTING	•				•		•	•
AUDITS	•	•					•	•
INTELLECTUAL PROPERTY	•	•					•	•
ORGANIZATIONAL CONFLICT OF INTEREST	•	•			•		•	•

Figure 1

^{5/} IVHS Institutional issues and case studies - Analysis and Lessons Learned - Volpe National Transportation Systems Center, April 1994.

Deployment Stakeholders

Because Federal funds flow through to State and local agencies who are responsible for managing the procurement process, the broad audience of ITS contract practitioners and the number of agencies that could potentially benefit from utilizing Innovative Contracting Practices are extensive.

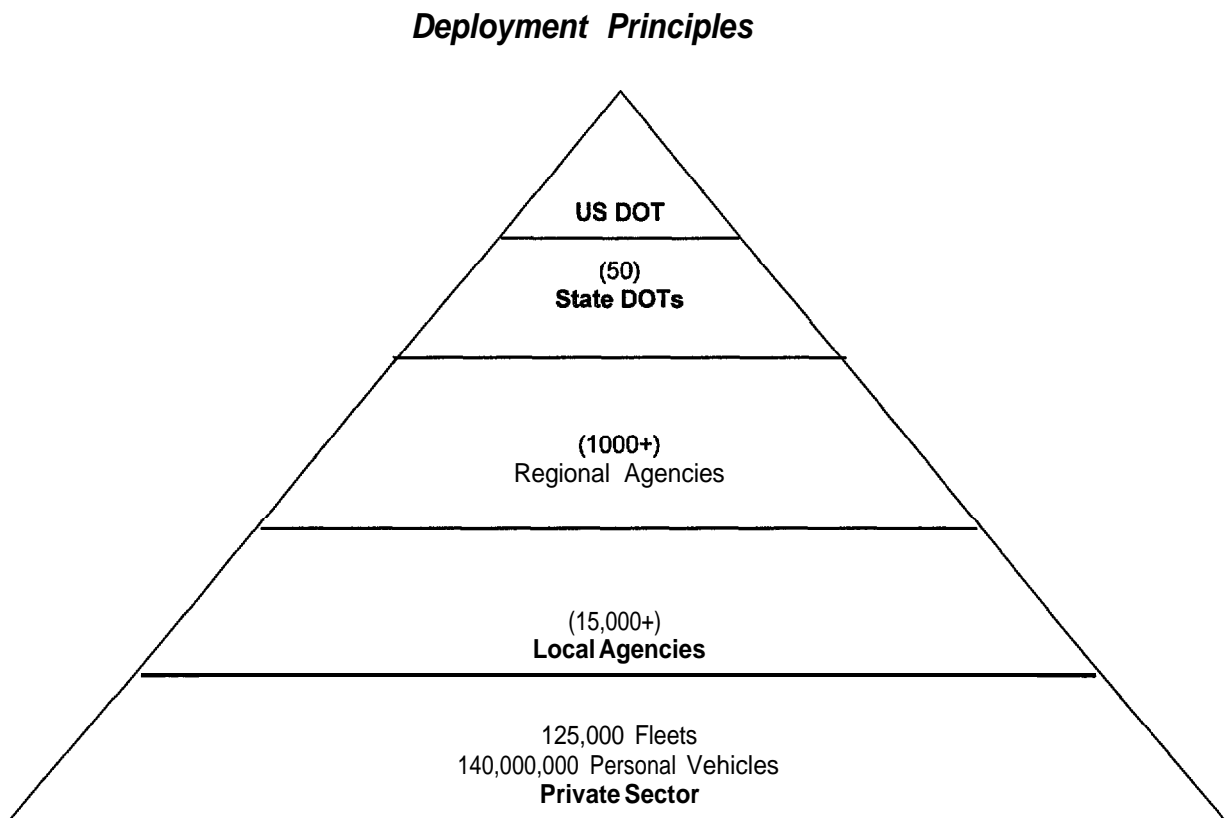


Figure 2

Procurement Tools for Customized Solutions

There is one constant in all ITS procurements . . . one-size does not fit all. Each procurement must be planned and formatted to respond to its specific deployment scenario and funding arrangement. To assist persons responsible for implementing these procurements, this report provides “tools” to assist in formatting effective State or local ITS procurements. These tools include:

1. Brief overviews of major findings for each contracting issue
2. Practical “Innovative Contracting Practices” which serve to remove barriers encountered in procurements of ITS goods and services
3. A decision-making matrix which can be utilized to determine the type of contract and method of award best suited for a planned procurement.
4. Citations and references to other sources of information to assist contract professionals in performing further research on issues discussed in this report.
5. Broad access to the report on FHWA's and ITS America's home pages on the World Wide Web at the the following addresses:
<http://www.its.dot.gov> or <http://www.itsa.org>.

Changing Rules, Regulations and Procedures

Readers and users of this report are cautioned that the rules, regulations and procedures related to procurement of ITS goods and services are constantly evolving. Many changes at the Federal level occurred during the course of the research and writing of the report. To the greatest extent possible changes up to December 31, 1995, have been incorporated. Persons implementing an ITS procurement should carefully review current and applicable rules, regulations and practices to ITS procurements to ensure that the most current information for a given jurisdiction is being utilized.

Section II

BACKGROUND

Section II

BACKGROUND

For the purposes of this report, “Innovative Contracting Practices” are defined as those activities associated with State and local procurement processes resulting in contracts which implement advanced technologies to improve the safety and operation of our Nation’s surface transportation systems. Innovative contracting practices also encompass the objectives of obtaining quality technology products and services which meet operational requirements at a fair and reasonable price and which protect the public interest by maintaining the integrity of public contracting processes. In short, innovative contracting practices include “whatever it takes” to facilitate State and local government procurements of high technology systems or what is termed “Intelligent Transportation Systems” (ITS). This report will highlight the best practices of State and local agencies implementing ITS programs or facilities.

A Brief Primer On Federal Highway Funding

In order to address State and local contracting issues, an understanding of the Federal-aid highway program and funding process is appropriate because this is where the money trail begins (or at least one major segment of it). The first step, and the most crucial in financing the Federal-aid highway program, is authorizing legislation by the U.S. Congress. Authorizing legislation sets broad policy goals and spending caps for programs. The most recent authorizing legislation for the Federal-aid highway program is the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), referred to as ISTEA. (Pub. L. No. 102-240, 105 Stat. 1914.) The ISTEA is significant because of its policy emphasis on an interconnected transportation system encompassing all modes (e.g., rail, transit and highway) and its requirement that the U.S. DOT develop a “list and description of highways proposed to be designated as the National Highway System? Of course, the ISTEA is also important because it authorized a Federal research, development, operational testing, and planning program for Intelligent Transportation Systems.” The ISTEA, like previous highway acts, also amended Title 23 of the United States Code (23 U.S.C.).^{6/}

^{6/} Inter-modal Surface Transportation Efficiency Act of 1991, Pub. L. No. 102-240, 105 Stat. 1914, 1924 (codified at 23 U.S.C. § 103(b)(2)).

^{7/} Intelligent Vehicle-Highway Systems Act, Title VI, Part B of ISTEA, Pub. L. No. 102-240, 105 Stat. 2189 (as amended by the National Highway System Designation Act of 1995, Pub. L. 104-59, 109 Stat. 568).

^{8/} The United States Code contains Federal laws “codified” or arranged systematically. Title 23 is designated for “Highways” and includes most of the laws that govern the Federal-aid highway program.

Programs encompassed within Title 23 (or within authorizing language directly linked to Title 23) and funded by the Highway Trust Fund operate with “contract authority.”^{9/} The term “contract authority” means that sums authorized in authorizing acts such as ISTEA are made available for obligation without the need for further Congressional appropriations action.^{10/} However, the amount set as a “limitation on obligations” in an appropriations act places an overall ceiling on the funds that the Federal Highway Administration can obligate for any given fiscal year. If there happens to be any unused limitation at the close of a fiscal year, it cannot be carried over into the next fiscal year.^{11/}

Although obligations serve as Federal commitments to reimburse the States for the Federal share of a project’s cost, actual cash reimbursements by the Treasury Department cannot be made until funds are appropriated by Congress. Annual appropriations acts provide the cash to liquidate the Federal commitment (i.e., previously made obligations). It should be noted that amounts that have been appropriated but not used during a particular year can be carried over for use in the next fiscal year. An annual appropriations act can also provide additional funding for transportation programs (notably, the ITS program) and can also direct the Secretary of Transportation to designate funds in a particular manner (e.g., for particular projects).

The Highway Trust Fund is the “cash” source to support the Federal-aid highway program. The Trust Fund was set up as a user-supported, pay-as-you-go fund. Simply, the revenues of the Trust Fund were intended for financing highways and transit, with the taxes dedicated to the Fund paid by the users of highways.” There must be enough money in the Highway Trust Fund to make reimbursements to the States to cover the cost of obligated projects. The normal sequence of events for reimbursement is:

^{9/} Most of the Federal-aid highway programs operate with contract authority. However, there are some programs that must obtain their budget authority through the Federal appropriations process. This group is what is termed “appropriated budget authority” meaning that an authorization act is required to create the program and an appropriations act is required to fund the program. There are very few highway programs funded in this manner. Examples of programs funded through “appropriated budget authority” are research programs sponsored by the National Highway Traffic Safety Administration and the Federal Railroad Administration. Federal Highway Administration, Financing Federal-Aid Highways (1992) (Publication No. FH WA-PL-92-O 16), p. 23.

^{10/} “Obligation is a key step in Federal-aid highway financing. An obligation is a commitment of the Federal Government to pay, through reimbursement to the States, the Federal share of a project’s eligible cost. Obligated funds are considered spent, even though no cash is transferred. Incurring an obligation is similar to the use of a credit card. The holder of the card is obligated to reimburse the credit card company when a purchase is made.” *Id.* at 17.

^{11/} *Id.* at 20.

^{12/} *Id.* at 28.

1. Work is done by a contractor,
2. Payments are made to the contractor by the State,
3. Vouchers are sent by the State to the Federal Highway Administration division office (one in each State) for review and approval,
4. The Federal Highway Administration certifying officer certifies the State transportation department's claim for payment,
5. Certified schedules are submitted to the Treasury Department, and
6. The Federal share of the project cost (generally, but not always, 80%) is transferred directly from the Treasury Department to the State's bank account by electronic funds transfer?

The Highway Trust Fund is maintained through Federal taxation of motor fuel (along with a number of other highway-related taxes). In 1993, Federal highway receipts accounted for \$18.2 billion or 20.9% of all funds collected for surface transportation programs.^{14/} These funds are used for Federal-aid highway projects on the Nation's National Highway System (NHS), a roadway network consisting of approximately 160 000 miles.^{15/} The NHS includes those highways designated as part of the Interstate system, other principal arterials and highways (including toll facilities) as designated by the States and the Secretary of the U.S. DOT, and a strategic defense highway network.^{16/} The NHS represents only about 4 percent of the Nation's total public road mileage but carries over 42 percent of the traffic.^{17/} State and local governments collect

^{13/} *Id.* at 19. (It should be noted that steps numbered 3-6 may occur on the same day).

^{14/} Federal Highway Administration, Our Nation's Highways - Selected Facts and Figures (1995) (remaining receipts include \$45.3 billion collected directly by State governments or 51.8%, and \$23.8 billion collected directly by local governments or 27.3%), p. 39.

^{15/} *Id.* at 25. It should be noted that Highway Trust Fund monies are not confined for use on the National Highway System. They are generally eligible for Federal-aid roads which comprise about 25% of the Nation's road mileage. Some funds, however, can be used "off) the Federal-aid road system (e.g., bridges and safety).

^{16/} 23 U.S.C. § 103(b)(2), as revised by the National Highway System Designation Act of 1995, Pub. L. No. 104-59, 109 Stat. 568.

^{17/} Federal Highway Administration, Our Nation's Highways - Selected Facts and Figures (1995), p. 24.

additional highway user fees to maintain other roads under their control.^{18/} Title 23, U.S. Code, and implementing regulations contained in 23 C.F.R. set the requirements for the financial and program relationship between the Federal Government and the *States, only with reference to those funds collected in the Highway Trust Fund to construct, operate and maintain the Federal-aid roadway system (i.e., the National Highway System)* .

ITS and State/Local Transportation Planning

The ISTEA also made significant changes in the U.S. DOT's requirements for State and local transportation planning. The statute promotes comprehensive intermodal transportation planning, and adds a requirement for State-wide transportation planning.”

The planning process is to be carried out at the local level by “Metropolitan Planning Organizations” (MPOs), and at the State-wide level by State Departments of Transportation (DOTs). MPOs are responsible for development of fiscally and environmentally constrained metropolitan transportation plans; DOTs produce State-wide transportation plans which reflect all metropolitan area plans and also include plans for rural areas. With limited exceptions, to be eligible for U.S. DOT funding, all capital and non-capital transportation projects funded either under the Federal Transit Act (49 U.S.C. §§ 5301 ff.) or under 23 U.S.C. must be reflected in these plans.

Administrative Requirements Applicable to DOT Grantees

Consistent with generally applicable Federal law, the U.S. DOT's two significant ITS funding sources, FHWA and FTA, use grants and cooperative agreements to deliver funds to States and local governments. Under Federal law codified at 31 U.S.C. §§ 6301 et seq., Federal agencies are directed to use either a grant or a cooperative agreement when the purpose of the transaction is to transfer funds to a recipient to carry out a public purpose of financial support authorized by Federal law. Grant agreements are used when the Federal granting agency anticipates less Federal supervision and oversight of the recipient's project activities. Cooperative agreements

^{18/} *Id.* at 16. It should be noted that the vast majority (74.9%) of the Nation's roadways are under the jurisdiction of local governments. State governments control and maintain 20.5% of the Nation's roadways including the entire National Highway System. The Federal Government controls only 4.6% of the Nation's roads including those in national forests, parks, other Federal lands, and Indian reservations.

^{19/} The Federal Highway Administration and the Federal Transit Administration jointly issued a coordinated rule implementing the ISTEA's planning requirements in October, 1993. The FHWA's regulations appear at 23 C.F.R. Part 450; the Federal Transit Administration's regulations appear at 49 C.F.R. Part 613. See Federal Transit Administration, “Intermodal Surface Transportation Efficiency Act - Flexible Funding Opportunities for Transit” (1993).

are used when the Federal granting agency anticipates substantial involvement in the recipient's project activities.^{20/}

Establishment of “Common Rule”

To ease the burden on States of complying with Federal agencies' differing rules dealing with the award and management of grants and cooperative agreements, the President directed Executive Branch grant-making agencies in 1987 to issue a common grants management rule containing uniform Government-wide terms and conditions applicable to financial assistance agreements with States and local governments. This Executive Branch guidance was amplified in Office of Management and Budget (OMB) Circular A-1 02, “Grants and Cooperative Agreements with State and Local Governments,” issued March 3, 1988. The U.S. DOT's implementation of this “Common Rule” is contained in 49 C.F.R. Part 18 which is included in the Appendix.

The Common Rule states that it applies to all U.S. DOT grants and cooperative agreements to States and local governments unless a specific statute directs otherwise, or unless an exemption has been granted.^{21/} The Common Rule provides that with respect to procurements using grant funds, States are to expend and account for grant funds, like those in the Highway Trust Fund, according to their own laws and procedures.^{22/} Therefore ITS technologies and services procured directly by a State may be obtained using its own procurement laws. The Common Rule goes on to provide that grantees other than States must employ financial management systems which meet the Rule's requirements in financial reporting, accounting records, internal controls, allocable costs, and other areas.^{23/}

Application of the Common Rule as codified in 49 C.F.R. is complicated because there are certain provisions that do not apply to projects funded under Title 23. For example, 49 C.F.R. § 18.22(c) provides that overhead cost principles governing grants to State

^{20/} DOT Order #4600.17, “Grant Management Requirements” App. A (“Use of Contracts, Grants and Cooperative Agreements”), Sept. 5, 1995. Under the Federal statute, 31 U.S.C. § 6303, Federal agencies are to use procurement contracts when the purpose of the transaction is to obtain supplies or services for the direct benefit or use of the United States Government.

^{21/} 49 C.F.R. § 18.4(a). For example, there is a provision at 23 U.S.C. § 112(b) which requires the States to use competitive bidding requirements for highway construction contracts and to award these contracts to the lowest responsive bidder. The term “construction” is defined elsewhere in Title 23 to include highway improvements “which directly facilitate and improve traffic flow, such as . . . traffic control systems....” 23 U.S.C. § 101(a). This statutory competitive bidding requirement, which overrides the Common Rule, may limit the use of more flexible procurement practices to accomplish ITS deployment. This issue is discussed in more detail in Section III of this report.

^{22/} 49 C.F.R. § 18.20(a).

^{23/} 49 C.F.R. § 18.20(b).

and local governments shall not apply to State highway agencies for FHWA funded grants. Where there is a conflict between the authorizing legislation for the highway program and 49 C.F.R. Part 18, the former prevails.^{24/}

The Federal Role in ITS Research and Operational Testing

The ISTEA anticipates that the deployment of ITS infrastructure will primarily be accomplished by State and local governments, not the Federal Government. However, the statute does authorize the Federal Government to implement an ITS research, development, and operational testing program.^{25/} The ISTEA further mandates that the Federal Government “promote implementation of ITS,” but stops short of placing the responsibility for deployment at the Federal level.^{26/} The research and operational testing programs mandated by the ISTEA are expected to result in “lessons learned,, which will assist the U.S. DOT in promoting ITS deployment. In the operational testing program, in particular, the U.S. DOT encourages the States to use innovative partnering arrangements as a means to implement ITS projects and technologies.^{27/}

ITS research and operational testing activities undertaken by the U.S. DOT are also subject to the above referenced laws governing the use of grants and cooperative agreements. U.S. DOT funded research projects are generally procured through the use of Federal contracts, which are awarded and administered in accordance with the Federal Acquisition Regulation (FAR, 48 C.F.R.) and the U.S. DOT’s supplemental regulations. Operational tests are generally funded through grant agreements between the U.S. DOT and a State or other recipient. The U.S. DOT uses contracts for its research program because these are considered activities undertaken to meet the Federal Government’s needs. Grants and cooperative agreements are used for operational tests because these activities implement the ISTEA’s public purpose of stimulating ITS deployment. A State is generally the signatory for these operational test grant agreements with the U.S. DOT. Like other projects funded under the Highway Trust Fund, the State is then responsible for the progress of the operational test, and uses its own procurement practices to contract with other participants to conduct the project, subject to Federal oversight. Lessons learned from these operational testing

^{24/} 49 C.F.R. § 18.5.

^{25/} Intelligent Transportation Systems Act, Pub. L. No. 102-240, 105 Stat. 2189 (as amended by the National Highway System Designation Act of 1995, Pub. L. 104-59, 109 Stat. 568 (codified at 23 U.S.C. § 307 Note).

^{26/} *Id.* at § 6052(a).

^{27/} The FHWA’s FY 1994 invitation to participate in operational tests began as follows: “The DOT seeks offers from the public and private sectors to form partnerships to conduct operational tests in support of the National Intelligent Transportation System (ITS) program.” 59 F.R. 60035 (Nov. 21, 1994).

activities provide a useful source of data and experience in identifying and analyzing contracting issues impacting ITS deployment.

Federal Role in Deployment

Mainstream Deployment of ITS. As ITS moves out of the operational test phase and becomes integrated into existing FHWA and FTA programs implemented by State and local agencies, lack of procurement flexibility still exists in many State and local procurement agencies. This report compiles the best practices of those agencies which have been effective at streamlining their procurements.

Contracting Issues. The remainder of this report will present analysis and recommend innovative contracting practices to address contracting barriers associated with the following issues:

- Types of Contracts and Methods of Award
- Combined or Coordinated Procurements
- Financial Administration of Grants and Cooperative Agreements
 - Allowability of Costs
 - Cost Principles
 - Cost Accounting Standards
 - Audits
 - Implication of Cost Sharing or Matching Share Requirements
- Organizational Conflicts of Interests
- Intellectual Property
- Liability

Section III

ANALYSIS OF CONTRACTING ISSUES

Issue Overview

TYPES OF CONTRACTS & METHODS OF AWARD

- The Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments, issued by the Office of Management and Budget (OMB) and codified within most Federal agencies' regulations, establish a "Common Rule" governing grants administration. The Common Rule provides that "States will expend and account for grant funds according to their own laws and procedures." This authority includes planning and management of procurement processes regarding contract type, method of award and pricing methodology.
- Procurement options available to States and local agencies may be limited by federal or State laws, the terms of a grant, or agency regulations or practices. There are very specific rules to be followed when a procurement is solely for architect/engineering services or for construction. Outside of these areas there is contracting flexibility and many procurement options available to obtain ITS goods and services.
- The most common institutional arrangements in the developmental, pre-deployment phase include "cost sharing", "partnering", "cooperative research and development agreements" and bundled contracts providing for system design, fabrication, installation, demonstration testing, and/or evaluation. Institutional arrangements in the operational deployment phase range from purely private approaches such as franchising to purely public models based on 100% taxpayer financing. The numerous and inconsistent labels attached to innovative procurement methodology can cause confusion.
- Each ITS procurement is unique and is most effective when focused on the transaction's desired end result. Formulating procurement strategies involves the evaluation of the impact of certain "discriminators" which may dictate or eliminate available procurement options. Discriminators include: source(s) of funds, extent of project definition, project phase, and scope of services.
- The following barrier related to Types of Contracts & Methods of Award issues has been identified as having the potential to constrain or hamper the implementation of ITS:

Issue Overview

Failure of traditional procurement approaches to be flexible and responsive to the unique deployment needs of ITS. The impact of this barrier is further compounded by the alck of contracting personnel experienced in the nuances of ITS procurements. (Page III-A-30)

Section A

TYPES OF CONTRACTS & METHODS OF AWARD

A-1. STATEMENT OF ISSUES

- **Types of Contracts.** Analyze and make recommendations for the most effective types of contracting instrument, including fixed-price, cost-reimbursement, design/build, BTO (Build-Transfer-Operate), BOT (Build-Operate-Transfer) for various phases of ITS deployment.
- **Methods of Award.** Analyze and make recommendations for the most effective methods of awarding ITS contracts for various phases of ITS deployment, including sole-source contracts, competitive bidding, low-bid requirements, negotiations, best-value procurements.

A-2. ANALYSIS

The type of contract instrument chosen for an ITS procurement, and the method of awarding that contract, are closely interrelated issues. In many circumstances, the type of contract to be awarded for an ITS project will dictate the method by which that contract will be awarded. Therefore, the research team has elected to discuss these issues together.

For purposes of analysis, a functional distinction may be drawn between two phases of ITS: (a) pre-deployment, in which case the public and private sectors work both independently, and together, for purposes of technology research and development, planning and design, systems architecture development, demonstration and operational testing;^{28/} and (b) operational deployment.

In each phase, the type of contract that may be awarded can be described in terms of how the consideration or "profit incentive" is calculated (e.g., firm fixed-price, cost reimbursement or incentive contracts), and in terms of the nature of the goods and services to be provided (e.g., research, development, design, demonstration and evaluation, construction, supervision, operation, maintenance, or combinations thereof).

^{28/} The Urban Institute with Miller, Paddock and Stone MTA/EMCI, *Overcoming Barriers to ZVHS -- Lessons From Other Technologies; Draft Task C Report; Models of Public and Private Participation in ATMS/ATIS*, prepared for the Federal Highway Administration under Contract DTFH 61-93-C00025, February 24, 1995, at p. 1.

The public and private sectors can work together in the pre-deployment and deployment of ITS in a myriad of ways. Pre-deployment activities undertaken to date suggest that the most common pre-deployment institutional arrangements include “cost sharing,” “partnering,” “cooperative research and development” and “design-build-operate” agreements?

In the deployment stage, institutional arrangements for ITS may range from purely public provision, where the public agency owns, designs, builds, operates and maintains the ITS, to purely private provision, where a private firm owns, designs, builds, operates and maintains the ITS, with an unlimited variety of arrangements in between these extremes.^{30/} These institutional arrangements may be created with a variety of different types of contracts depending upon the particular circumstances of an ITS project? In most circumstances, the types of contracts available to the procuring agency are limited by applicable Federal, State and local procurement laws and regulations.

The methods by which the appropriate contract type may be awarded typically also are constrained by applicable Federal, State and local procurement laws and regulations. Underlying the methods available for awarding contracts is the public policy goal of

^{29/} “Cost sharing” may be used to refer to any one of several types of arrangements, such as cooperative agreements and memoranda of understanding, that set out cost sharing responsibilities for the public and private sector for pre-deployment activities.

“Partnering” is typically used in the pre-deployment stage to refer to a cooperative arrangement between the public and private sectors in furtherance of pre-deployment goals, but in the context of ITS typically does not refer to a true legal partnership between the public and private sectors.

“Cooperative research and development agreements” are modeled after agreements between national laboratories and private industry that provide incentives for private participation in research and development through the sharing of rights to intellectual property resulting from the research.

“Design-build-operate” contracts can be used for both pre-deployment and deployment activities. Responsibility for designing, building and sometimes in addition, operation and maintenance is given to a single organization, usually a private contractor.

The Urban Institute, supra, at note 1.

^{30/} See, *The Urban Institute, supra*, at note 1, pp. 2-4, for a description of 26 possible institutional arrangements for ITS deployment.

^{31/} It has been projected, however, that there may not be a significant need for public procurements in the deployment phase of Advanced Traffic Information Systems (ATIS), since the public involvement may become limited to regulatory control, rather than contracting for services, as a more mature consumer market develops. The need for public procurements for ITS deployment is likely to be more significant with respect to Advanced Traffic Management Systems (ATMS). See, Volpe National Transportation System Center, *IVHS Institutional Issues and Case Studies: Analysis and Lessons Learned*, Final Report, April 1994.

promoting “full and open competition” in the acquisition process.^{32/} Highway construction contracts traditionally have been awarded by sealed bid, with the contract going to the lowest responsive and responsible bidder. The sealed bid method of award is most desirable in the context of the traditional fixed-price highway construction contract based on 100% design, where sealed bidding has proven effective in promoting competition. However, sealed bidding is less suited to the more innovative types of contracts required in the context of high-technology ITS procurements.

It is difficult to recommend particular “types” of contracts, at different phases of deployment, for different products, in the abstract. Many different models may be suitable for a particular project or set of project types. It may be more productive for the procuring transportation agency to focus on how individual issues should be handled in the contract to meet the needs of a particular situation, than to focus on fitting its procurement into a particular “contract type.” To that end, it is desirable that transportation agencies procuring ITS possess flexibility to mold their contracts and procurement methods to the particular ITS project at hand.

A transportation agency contemplating which type of contract and procurement award methodology to utilize might easily be confused by the array of labels employed today to describe different contracting approaches, and consequently be led to believe that its previous procurement experience is irrelevant for ITS. Terminology, such as “public-private partnership,” “turn-key,” “franchise,” “build-transfer-operate” and “privatization” mean different things to different people, and a common set of definitions and contract forms has yet to be developed. In the research team’s view, it is possible to simplify the task of building and awarding a contract for a particular ITS deployment by focusing less on the labels and more on the actual allocation of the parties’ rights and responsibilities in the project that the contracting parties want the contract to define. With this perspective in mind, the following discussion identifies and defines some of the most commonly used types of contracts and the functions which they serve.^{33/}

A-3. DEFINITIONS

A-3.1 Types of Contracts

A-3.1(a) Types of Contracts Classified By Profit Incentive

^{32/} See, e.g., 48 C.F.R. § 6.003; 49 C.F.R. § 18.36(c).

^{33/} The research team has gathered and reviewed the contract documents listed in the Appendix as precedent, and has also developed a set of decision-making matrices designed to assist transportation agencies in deciding upon the type of contract and procurement method best suited to their particular ITS projects. The manner in which a transportation agency may use these matrices to assist it in approaching a particular ITS contracting problem is discussed later in Section A-5.

The Federal Acquisition Regulation ("FAR", codified in 48 C.F.R.) provides a detailed analysis of the types of contracts that are available to the Federal Government for use in acquiring the large variety and volume of supplies and services required by Federal agencies.^{34/} One of the purposes of the FAR is to provide agencies with needed flexibility in contracting. Therefore, although the FAR does not govern State and local agency procurement activities, the FAR provides an excellent framework for identifying some of the many types of contracting vehicles that may be available to a State or local transportation agency for ITS procurements.

In general, the function of the contract types identified by the FAR is to vary the degree and timing of the contractor's responsibility for the costs of performance, and the profit incentive offered to the contractor for achieving specified standards or goals.^{35/} The FAR groups contract types into two general categories: (a) fixed-price contracts, and (b) cost-reimbursement contracts. In selecting the contract type, the objective is to arrive at a contract document that will result in reasonable contractor risk and provide the contractor with the greatest incentive for efficient and economical performance.^{36/}

(1) Fixed-Price Contracts. Fixed-price contracts may be either "firm" fixed-price contracts, or fixed-price contracts with an economic price adjustment. Highway construction is traditionally associated with fixed-price contracts, and thus "fixed-price" is the type of contract with which transportation agencies are probably most familiar.

- **Firm Fixed-Price Contracts.** This type of contract is used when risk is minimal or can be predicted with a good degree of certainty. In the context of ITS, procurement of a specific quantity of a specific type of equipment, such as transponders for electronic payment of tolls, is a good candidate for a firm fixed-price contract.^{37/} Because ITS technology is evolving, in some circumstances sufficient certainty for a firm fixed-price contract may not exist at the outset of an acquisition program; changing circumstances over the life of a long-term contract however may make a different contract type appropriate in later periods than that used at the outset. For example, if a contractor is being asked to implement a new process in the beginning of an ITS

^{34/} FAR, 48 C.F.R. Part 16.

^{35/} FAR, 48 C.F.R. § 16.101(a).

^{36/} FAR, 48 C.F.R. § 16.103(a).

^{37/} The Washington State Department of Transportation's "Purchase and Maintenance Agreement" with Sentinel Communications Corporation ("SenCom") pursuant to which SenCom agreed to provide, install and maintain 200 SenCom 2-Way Pager Units for the PUSHME Mayday System is a good example of a straight-forward fixed-price contract for ITS goods and services.

project on a cost-reimbursement or time and materials basis, it may be appropriate to switch to a firm fixed-price contract in a later stage of the project once experience provides a basis for firmer pricing.

- **Fixed-Price Contracts With Economic Price Adjustment.** This type of contract is generally suited to situations in which there is doubt concerning the stability of market or labor conditions over an extended period of contract performance, and the contingencies that would otherwise be included in the contract price can be identified and covered separately in the contract. Price adjustments may be based on established prices for specific items, the actual cost of labor or materials, or cost indexes of labor or materials. The FAR provides that fixed-price contracts with economic price adjustments generally should not be used unless necessary to protect the contractor and/or the government from significant fluctuations in labor or material costs, or in the event of changes in the contractor's established prices. A contract to operate an ITS is one circumstance in which a fixed-price contract with economic price adjustment may be appropriate. For example, the long-term toll facilities **Operating Agreement for the Foothill, Eastern and San Joaquin Hills Transportation Corridors in Orange County, California**, provides the contractor with an economic price adjustment in its management fee every year, based on the change in the Consumer Price Index for Urban Wage Earners and Clerical Workers in the project's metropolitan area?'
- A "most favored customer" clause is a way of achieving an economic price adjustment to allow the procuring agency to benefit from declining costs in a long-term, fixed-price contract. For example, in the Irrevocable Offer for the **E-ZPass** Interagency Procurement of Electronic Toll Collection Equipment, the contractor agreed that: "We warrant and represent that for the duration of this Irrevocable Offer and all options exercised by the Agency, your Agency and the Participating Agencies shall maintain their relative price, discount and/or terms and conditions advantage versus that of any of our customer(s) price discount and/or terms and conditions."^{39/} Therefore, if changing market conditions permit the contractor to sell its product at a lower price to

^{38/} Operating Agreement by and between Foothill/Eastern Transportation Corridor Agency, a Joint Powers Agency and San Joaquin Hills Transportation Corridor Agency, a Joint Powers Agency and Lockheed Information Management Services Company, a New York corporation and Lockheed Corporation, a Delaware corporation dated as of February 26, 1993, at page 11.

^{39/} "Irrevocable Offer" for the E-ZPass Interagency Procurement of Electronic Toll Collection Equipment, Section 33.a.

others in the future, the offerees under the Irrevocable Offers will get the benefit of the same price adjustments.

- **Fixed-Price Contracts With Prospective Price Redetermination.** This type of contract provides a firm fixed-price for an initial period, and redetermination of the price at a stated time or times during performance for subsequent periods. The contract may provide for a ceiling price based on an evaluation of the uncertainties involved in performance of the contract. This is an appropriate contract type when it is possible to negotiate a fair and reasonable firm fixed-price for an initial period, but not for subsequent periods of contract performance.
- **Fixed-Ceiling-Price Contracts With Retroactive Price Redetermination.** The FAR suggests that this type of contract is appropriate for relatively small research and development contracts (\$100,000 or less) when a fair and reasonable firm fixed-price cannot be negotiated at the outset, and a short performance period makes the use of any other fixed-price contract with economic price adjustment impracticable.^{40/} The disadvantage of this contract type is that the contractor has no cost control incentive except for the ceiling price.
- **Firm Fixed-Price, Level of Effort Term Contracts.** This type of contract requires the contractor to provide a specified level of effort (e.g., engineering labor-hours) over a stated period of time to perform work that can be stated only in general terms. The contractor is paid a firm fixed-price. This contract type is appropriate for investigation or study in a specific research and development area where the work required cannot be clearly defined, and the contract price is relatively small (e.g., the FAR generally restricts this contract type to contracts of \$100,000 or less).^{41/} Payment is based on the effort expended rather than the results achieved.

(2) **Cost-Reimbursement Contracts.** Cost-reimbursement contracts are suitable when uncertainties involved in contract performance do not permit costs to be estimated with sufficient accuracy for a fixed-price contract. These types of contracts provide for payment of allowable incurred costs up to a ceiling that may not be exceeded without approval of the government contracting officer.

^{40/} FAR, 48 C.F.R. § 16.206-2.

^{41/} FAR, 48 C.F.R. § 16.207-3 (higher level approval required for contracts over \$100,000).

- **Cost Contracts.** In this type of cost reimbursement contract, the contractor does not receive a fee. The FAR indicates that this type of contract is appropriate for research and development work with non-profit organizations.
- **Cost-Sharing Contracts.** In this case, the contractor receives no fee and is reimbursed only for an agreed-upon portion of its allowable costs. Typically this type of contract is used when the contractor is willing to absorb a portion of the costs, usually in the expectation of substantial compensating benefits. The **ADVANCE** and **TravTek** operational tests are examples of cost-sharing contracts.
- **Cost-Plus Fixed-Fee Contracts.** These contracts provide the contractor with a negotiated fee that is fixed at the inception of the contract, and reimbursement of allowable costs up to a stated ceiling. The drawback is that this type of contract provides the contractor only a minimal incentive to control costs. According to the FAR, this type of contract is suitable when the contract is for performance of research or preliminary exploration or study and the level of effort required is unknown, or the contract is for development and testing, and the cost-plus incentive fee contract (discussed below in paragraph (3)) is not practical. The FAR indicates that this type of contract should not be used in development of major systems once preliminary exploration, studies, and risk reduction have indicated a high probability that the development is achievable, and reasonably firm performance objectives and schedules have been established.^{42/} The **Minnesota Guidestar** Program Open Solicitation included this type of contract as one of the options available to proposers.^{43/} Another example is the

^{42/} FAR, 48 C.F.R. § 16.306(b)(2).

^{43/} The Minnesota Guidestar Program Open Solicitation RPPP provided as follows:

“The basis of payment may be one of the following:

Cost Plus Fixed Fee - The cost will be actual salaries plus applicable overhead rates and appropriate direct costs. Payment will be based upon provisional overhead rates subject to final audit. A fixed fee will be negotiated.

Time and Materials - Hourly rates will be specified in the agreement. Payment will be based upon these hourly rates plus appropriate direct costs or may be made as a lump sum negotiated based upon estimated labor hours, estimated salaries, applicable provisional overhead rates, and estimated direct costs; or estimated labor hours, hourly rates, and estimated direct costs with agreement by the Department and the Partner.

The profit level incorporated in the costs will typically be based upon ten (10) percent of the direct salaries plus overhead. The value of contributions shall not include profit.”

1995 Professional Services Consultant Agreement for the **PUSHME** Puget Sound Regional Mayday System Operational Test between the Washington State Department of Transportation and David Evans & Associates, Inc.

(3) **Incentive Contracts.** Incentive contracts are used when a firm fixed-price contract is not appropriate; by relating the amount of profit or fee payable under the contract to the contractor's performance, a lower price or improved delivery or technical performance may be achieved.

- **Fixed-Price Incentive Contracts.** This type of contract provides for adjusting profit and establishing the final contract price by applying a formula based on the relationship of the total final negotiated cost to the total target cost. The final price is subject to a price ceiling negotiated at the outset. This type of contract is appropriate when the contractor's assumption of a degree of cost responsibility will provide a positive profit incentive for effective cost-control and performance.
- **Cost-Reimbursement Incentive Contracts.** These contracts specify a target cost, a target fee, minimum and maximum fees and a fee adjustment formula. The fee may be adjusted up when total allowable costs are less than target costs, and down when total allowable costs exceed target costs. The increase or decrease is intended to incentivize the contractor effectively and economically. This type of contract is appropriate for development and test programs in order to motivate the contractor. A cost-reimbursement incentive may also be based on an award fee that is adjusted periodically based on the contractor's performance.^{44/}
- **Award Fees.** The "award fee" concept, which is often used in defense contracting, builds in a monetary incentive for the contractor to perform certain tasks at highest-quality levels of performance. Theoretically, if the contractor knows that some of its compensation is "discretionary," then it will pay more attention to performance quality. It is considered preferable to pay the contractor extra for complying with contract requirements than to assess deductions for failure to comply with contract requirements. Department of Defense experience indicates that, for purposes of making its bid, the contractor will assume that it will receive almost all of the award fees, resulting in a lower contract price. Award fees are useful in creating commonality of goals between the procuring agency and the contractor.

^{44/} FAR, 48 C.F.R. § 16.404.

(4) **Definite Quantity Contracts.** This type of contract is used when it can be determined in advance that a definite quantity of supplies or services will be required during a contract period, supplies or services are readily available or will be available after a short lead time, but the exact timing and/or quantities of future deliveries is not known at the time of the contract award. This type of contract may be firm fixed-price, or fixed-price with economic price adjustment.

(5) **Requirements Contracts.** In a requirements contract, the government agency agrees to acquire all of its actual requirements for specific supplies or services during a specified contracting period from the contractor; and the contractor is obligated to supply all of the buyer's requirements. Usually, the contract will state a realistic estimated total quantity likely to be purchased over the term, but such statement is not a representation or guaranty that the same will be ordered. A requirements contract may state a maximum limit on the contractor's obligation to deliver. It is an appropriate contract type when the purchaser anticipates recurring requirements but cannot predetermine the precise quantity of supplies or services that it will need during a definite period.^{45/} The Special Terms and Conditions for the Utah Department of Transportation's "Project ADVISE Adverse Visibility Information System Evaluation" also created a "requirements" contract. In that project, "[t]he State does not guarantee to purchase any amount under this contract. Estimated contract amounts are for bidding purposes only and are not to be construed as a guaranty to purchase any service."^{46/}

(6) **Indefinite Quantity Contracts.** In this type of contract, the contractor is required to furnish an indefinite quantity, within stated limits, of specific items during a fixed period. The purchaser is required to order at least a stated minimum quantity, and the orders cannot exceed a stated maximum. This type of contract is appropriate when the purchaser cannot predetermine its needs above a specified minimum during the contract period, and it is inadvisable for the purchaser to commit itself for more than a certain minimum quantity.^{47/}

(7) **Time and Materials Contracts.** This type of contract provides for acquiring supplies or services on the basis of direct labor hours at specified

^{45/} FAR, 48 C.F.R. § 16.504.

^{46/} Request for Proposals for Project ADVISE, May 21, 1994, Utah Department of Transportation Research and Development Divisions Project Number HSR-30-0593-37R-003, Attachment B.

^{47/} FAR, 48 C.F.R. § 16.504(b).

fixed hourly rates that include wages, overhead, general and administrative expenses and profit, and materials at cost. This type of contract is appropriate when it is not possible at the time of placing the contract to estimate accurately the extent or duration of the work or to anticipate costs with a reasonable degree of certainty.^{48/} This type of contract is available to **Minnesota Guidestar** participants in addition to the cost-plus fee contracts described above.^{49/}

(8) **Options Contracts**, Options provide the option holder with a unilateral right, for a specified time, to purchase additional supplies or services, or to extend the term of a contract. Options recognize the purchaser's need in certain service contracts for continuity of operations.^{50/} For example, the “**Operating Agreement**” for the **Foothill, Eastern and San Joaquin Hills Transportation Corridors** provides the Transportation Corridor Agency with several options to extend the Operation's performance. Use of option agreements may be affected by tax considerations since the Internal Revenue Code's private activity limitations for tax-exempt bond financing limit the permissible term of operating agreements for public facilities to five years (and the government owning the facility must have the right to terminate the contract without penalty at the end of any three-year period), as well as the duration of extension options.”

A-3.1(b) Types of Contracts Classified By Scope of Services

As discussed above, one way to group the contract types available to government agencies for acquisition of goods and services is by the contractor's responsibility for the costs of performance, and the nature of the contractor's profit incentive. For purposes of analyzing the most effective types of contracting instruments for ITS at various phases of ITS deployment, the types of contracts identified above also can be grouped on the basis of the types of goods and services the transportation agency is procuring. We have classified six general types of contracts based on the scope of services that may be appropriate for use in ITS procurements at various development and deployment stages. These categories correspond to the vertical columns of the matrices discussed below in Section A-6.

^{48/} FAR, 48 C.F.R. § 16.601(b).

^{49/} See, *supra* note 43.

^{50/} FAR, 48 U.S.C. § 17.202(d).

^{51/} Internal Revenue Code, 26 U.S.C. §141.

(1) **Traditional Contracting.** For purposes of this report, “traditional contracting” refers to a contract where the contractor is paid to perform a specific scope of services for one of the following individual items listed in a scope of work or scope of services clause: design, other professional services, construction, off-the-shelf supplies, custom equipment, or operations. In the traditional contract model, design services and professional services are not included in the same contract as the performance of construction work, the provision of supplies, or the performance of operations. Utilizing separate contracts minimizes the potential for organizational conflicts of interest. Traditional contracts may be evaluated and priced in a variety of ways. Many contract pricing arrangements are suited to traditional research and development and design contracts, including, but not limited to, fixed-price, fixed-price with retroactive price redeterminations, firm fixed-price, level-of-effort term contracts and cost reimbursement contracts. Time and materials and firm fixed-price level-of-effort term contracts are contract types often used for design and other professional services. For construction, a firm fixed-price contract is generally preferred. However, one can envision limited circumstances in which fixed-price incentive and cost-reimbursement incentive contracts would be appropriate for construction. Performance of operations may best be served by a fixed-price incentive or fixed price with economic price readjustment contract.

(2) **Design/Build Contracts.** This type of contract breaks with tradition and combines the design function with the construction or installation function under a single contract. In the ITS arena, this type of contract may also be referred to as a “turnkey” or “public turnkey” contract. In the context of high technology ITS projects, variants of these contracts may also be referred to as “Systems Integration” where one contractor is responsible for performing all integration activities resulting in an operational system, or “systems manager” contracts where one firm oversees the implementation of the system by others. The procurement is for the design and building or installation of the project based upon an initial design and performance specification prepared by the procuring agency. Design/build and design/equip contract forms are most successful when they are structured around a preliminary design completed between 20 and 60 percent. The price may be fixed, or there may be provisions for cost reimbursement up to a fixed ceiling. Accordingly, several of the contract pricing arrangements identified above are suitable for design/build contracts, with the choice among the various types depending upon the specific facts and circumstances of the procurement. The Federal Government has recently authorized two design/build ITS projects under **Special Experimental Project No. 14, Innovative Contracting Practices: The North Carolina Congestion**

Avoidance and Reduction for Automobiles and Travelers (CARAT) project in Charlotte, North Carolina, and the **Michigan ADVANCED Traffic Management and Travelers Information System** project in metropolitan Detroit and Wayne, Oakland and Macomb counties. At least 19 States have legislation authorizing design/build contracts.^{52/}

It has become typical for design/build contracts to incorporate “value engineering” concepts in which the price may be adjusted downward based upon cost-saving innovations that the contractor develops during the course of performance. As an incentive for these innovations, the contractor may be entitled to a share of any cost savings resulting from the value engineering solutions.^{53/}

(3) Design/Build/Operate Contracts. This type of contract differs from the design/build contract discussed above in that it also requires the contractor to operate and maintain the ITS for a specified time period. Design/build/operate contracts are sometimes referred to as “build-operate-transfer” contracts. In any event, the public agency may develop an initial design and performance specification for a system, and then contract with a single organization to complete the design of the system and then build, operate and maintain it. For complex high technology procurements like some ITS projects, the public agency may develop only performance specifications and leave responsibility for most, if not all of the design, with the contractor. Generally, the contractor will have considerable latitude in its approach to implementation of the various phases of deployment. Because of the latitude given the developer, cost reimbursement contracts are generally less desirable than fixed-price contracts?

(4) Build/Transfer/Operate-Franchise. In the context of a government procurement, a franchise is the granting of a special privilege to a private party, which is denied as a common right to all citizens, to make use of public property such as highway right-of-way, public street, public park and the like. As discussed in the matrix at the end of Section A, the build/transfer/operate-franchise type of contract creates an incentive for the contractor to perform, but does not require performance. The private contractor assumes the role of

^{52/} See footnotes 3 17, Section E, discussing “Organizational Conflicts of Interest,” *infra*.

^{53/} See FAR, 48 C.F.R. Part 48, “Value Engineering.”

^{54/} An example is the set of contracts among the Orange County Transportation Corridor Agencies and Lockheed Martin Information Management Systems Company for equipping and operating the Toll Collection and Revenue Management Systems for the Foothill, Eastern and San Joaquin Hills Transportation Corridors in Orange County, California.

project sponsor and, if the private contractor does build the franchised project, the contractor will transfer ownership of the project to the government, but will be entitled to operate the project and retain revenues from such operation up to the contracted-for maximum rate of return on the contractor's investment. Franchises may be exclusive or non-exclusive. Examples of the build/transfer/operate-franchise approach include the private toll lanes built in the median of the **91 Freeway** in Orange County, California, built and operated by California Private Transportation Company, and the contracts negotiated pursuant to the **Washington State Public/Private Partners Initiative**. In these arrangements, the contracting community was asked to submit ideas for projects. The State DOTs then selected projects to be awarded franchise rights. After selection, the winning contractors perform necessary preliminary studies with regard to their proposed projects. In some cases there may be a second State approval process based upon these studies. If the contractor elects to proceed, it may design and build the project. Title to the project will be transferred to the State DOT upon completion. The contractor will operate the projects under a franchise agreement for a period of years until the revenues received from operating the project are sufficient to return to the project developers their investment, plus an agreed upon rate of return on their investment. Essentially then, these contracts are complicated variants of a cost-plus-incentive contract type since the contractor is allowed to keep revenues to reimburse its costs, plus a rate of return that operates as an incentive to efficiently price tolls or other user fees for the project.^{55/}

(5) Grants and Cooperative Agreements. The terms "grants" and "cooperative agreements" are usually used to refer to agreements used by **the United States Government to assist recipients in carrying out a public purpose**. Grants are used when the Federal Government is transferring a thing of value to a grantee for the purpose of carrying out the public purpose contemplated in the grant agreement. Cooperative agreements are used when the Federal Government's involvement in performance is expected to be more substantial than in the context of a grant.^{56/} A cooperative agreement may be based on cost sharing, with each party agreeing to share a specific percentage of the costs, or to fund its own obligations. Cost sharing can be in the form of direct or indirect payment, in money or in kind. The division of responsibilities may be assigned according to the functions or

^{55/} Build/Own/Operate/Transfer is a variant of this type of contract. The contractor retains title to the project during the period of time that it operates the project, and transfers title to the government after it has received its investment.

^{56/} 31 U.S.C. § 6304-5.

roles of the parties, or according to the traditional responsibilities connected with the ownership of property and equipment.^{57/}

The terms “grants” and “cooperative agreements” or “cooperative programs” may also be used in different contexts than Federal-aid projects. For example, the **Minnesota Guidestar** RFPP defined a “cooperative program” as a relationship between **Minnesota Guidestar** and one or more partners to achieve specific program or user service goals and objectives. In the **Minnesota Guidestar** program, the term “Cooperative Program” was intended to refer to deployment, not operational testing. According to the RFPP, a “Cooperative Program” would: Satisfy a public need and generate revenues for the private sector, and possibly the public sector, participant; provide added value and enhance the current transportation system or methods for providing services; and not involve any exchange of money between contracting parties.^{58/} In the “**Minnesota Guidestar**” program, a “Public-Private Cost-Sharing Partnership” was identified as appropriate for both development and deployment of ITS technologies. The purpose of the public/private cost-sharing partnership was stated as being to provide a responder an opportunity for **Minnesota Guidestar** to assist in “pushing” its ITS product to market. The successful proposer would fund 80 percent of project costs and **Minnesota Guidestar** would fund 20 percent. The **Minnesota Guidestar** Federal Operational Test was also a cost-sharing arrangement. However, the private participants’ minimum share of the cost share was the Federally-required 20 percent match.

(6) **Irrevocable Offers and Requirements Contracts.** This group is as described above in the section describing contract types classified by profit incentive.

A-3.2 Methods of Award

As stated in the FAR and the Common Rule, the public policy underlying the methods that may be used to award contracts is the promotion of “full and open competition” in the acquisition process.^{59/} The methods of award that may be available to a transportation agency to ensure full and open competition include the following:

^{57/} The Urban Institute, *supra*, at note 1, at p. 3.

^{58/} Minnesota Guidestar Program Open Solicitation, p. 4.

^{59/} FAR, 48 C.F.R. § 6.003; FAR, 49 C.F.R. § 18.36.

A-3.2(a) Sealed Bids

Sealed (or “competitive”) bidding is the method preferred by the Federal Government and the procurement codes of most States for civil construction and off-the-shelf supply contracts. Sealed bidding requires that contracts be awarded only on a lowest cost, responsive and responsible bidder basis: i.e., the owner is required to award the contract to the responsible, lowest price bidder whose bid meets the minimum standards. The rationale is that this approach maximizes the number of private firms competing against each other solely on the basis of price, and results in the “best buy” for the procuring agency.

Because of its objectivity, the sealed bid method of award is easy to defend in a protest. Sealed bidding is appropriate when a complete, adequate and realistic specification or purchase description is available, there are two or more responsible bidders willing to compete, the procurement lends itself to a firm fixed-price contract, and the selection can be made on the basis of price? Sealed bidding requires prescriptive specifications so as to ensure that the low bidder will not be able to sacrifice the quality of the product to cut costs.

The disadvantages of sealed bidding in the context of ITS are: (a) prescriptive specifications may either be unavailable for the emerging technology, or too difficult or time consuming for the public agency to prepare, (b) it discourages (or precludes) innovation in design and construction or installation methods, (c) it does not allow the owner to consider any factors other than price in selecting the contractor (except at a fairly low responsibility prequalification level), (d) the contractor is likely to feel it left too much money on the table and may try to cut costs during design and construction, adversely affecting quality, and, (e) it does not permit a meaningful dialogue between the owner and individual bidders to work out the most appropriate solution to the transportation agency’s needs.

Competitive sealed bids with high “responsibility” standards are a variant of the traditional low-bid process, in which the procuring agency may gain a certain level of assurance regarding the contractor’s qualifications by setting high threshold standards for technical, management and financial capabilities. Like standard sealed bidding, this approach is easy to defend in a protest, and it permits culling out contractors whose past performance indicates they are likely to produce inferior work.

Prequalification procedures are an excellent tool for overcoming some of the disadvantages of the sealed bidding process. However, for transportation agencies procuring ITS, developing ITS prequalification standards will require departure from the approach used for traditional highway construction, where the focus is on contractor

⁶⁰/ FAR, 49 C.F.R. § 18.36(d).

“capacity” based on physical assets. With a strong prequalification process, the public agency can assure that the contractor has acceptable experience, and adequate resources, to accomplish tasks relevant to the ITS project, such as developing and executing subsystem and system tests, documenting processes and detailed system designs, training personnel in use of the system, marketing the product, and dealing with customers.

Prequalification procedures can be used to assure quality corporate processes, such as ISO 9000 certification or Software Engineering Institute certification. The public agency may require: (a) that resumes of key personnel be included in the prequalification package, (b) that an oral presentation be made, and/or (c) that references be provided.^{61/}

A variation of competitive sealed bidding is “Lifecycle Contracting.” Lifecycle contracting is a competitive procurement inviting the selection of the bid that has the lowest lifecycle cost or that gives considerable weight to lifecycle costs in the award of a contract.

A-3.2(b) Two-Step Sealed Bids

Two-step sealed bidding is a combination of competitive practices designed to obtain the benefits of sealed bidding when adequate specifications are not available. In step one, there is a request for submission, evaluation and discussion of a technical proposal, which does not include any discussion of pricing. Step two involves the submission of fixed priced bids by those who submitted acceptable technical proposals in step one.^{62/} The objective is for the government to be able to make subsequent acquisitions by conventional sealed bidding. An excellent example of how such a process may work, and how the procuring agency may establish and advise bidders of scoring criteria, is provided by the **Michigan Department of Transportation Bureau of Highways “Special Provision for Bidding Instructions”** dated 12-12-94 for the design and installation of 148 miles of ITS, ATMS and ATIS components in Wayne, Oakland and Macomb counties, Project CM84909.

A-3.2(c) Competitive Proposals

Requests for Proposals (“RFP’s”) or Requests for Quotations (“RFQ’s”) are used when contract awards are based on price and other factors. RFPs and RFQs may be used in both pre-deployment and deployment stages, with any number of contract types. For example, **Minnesota Guidestar** used an RFP for its cooperative program.

^{61/} Pearce, Vincent P., *Making the Procurement Process Work For You in ITS*, paper presented to ITS America 1995 Annual Conference, March 15-17, 1995, Washington, D.C.

^{62/} FAR, 48 C.F.R. § 14.501.

The more design work and other professional services an agency elects to “bundle” into a single contract also containing standard construction and equipment supply, the more procurement professionals favor either an RFP/RFQ or “pre-qualification” approach over a sealed bidding approach. Where the elements are particularly complicated, the public agency may hold one or more pre-proposal conferences to brief prospective offerors after a solicitation has been issued, but before offers are submitted.^{63/} Competitive proposals are normally conducted with more than one source submitting an offer, and either a fixed-price or cost reimbursement type contract being awarded. Competitive proposals are generally used when conditions for sealed bidding are not present,^{64/} and allow the owner to consider other factors in addition to price in deciding which offer to accept. Although competitive proposal processes allow for some subjectivity in evaluating the proposals, the process is still capable of review by the courts based on objective standards and (assuming the owner followed its own evaluation requirements) is therefore likely to withstand a protest.

As with sealed bids, the disadvantage of competitive proposals is the inability of the owner to have a meaningful dialog with individual proposers. This means the owner must set a mandatory technical level without knowing what types of ideas the proposers will have, making it difficult to establish appropriate specifications. If the performance specifications allow too much flexibility, the contractor may have a contractual right to implement an innovative idea that is not acceptable to the owner. On the other hand, too detailed a specification will discourage ingenuity on the part of the proposers, since they will not be given an opportunity to describe their ideas in advance to learn whether the owner will consider them to be responsive. This approach also faces potential political and public relations issues if the contract is awarded to someone other than the proposer with the lowest price, particularly when the proposer with the low price has strong political connections, or where the “most advantageous” (but more costly) proposal is provided by a non-U.S. firm. A good example of a “price and other factors” RFP is the Utah Department of Transportation’s RFP for a fully integrated, installed, functional adverse visibility warning and control system for “**Project ADVISE**.”^{65/}

A variation on the competitive proposals approach is an award based on price after discussions and submission of a “best and final offer” (“BAFO”). The procurement process for this approach would be as follows: After receipt of the initial proposals, the owner would discuss with each proposer any deficiencies in its initial proposal, enabling the owner to give all proposers information to enable them to achieve the mandatory technical level. The owner would also have the opportunity to revise the contract

^{63/} See, e.g., FAR, 48 C.F.R. § 15.409.

^{64/} *Id.*

^{65/} Utah Department of Transportation “Request for Proposals for Project ADVISE” dated May 24, 1994, Project Number HSR-30-0593-37R-003, pgs. 5-6.

documents to deal with problems that become apparent based on a review of the initial proposals. The owner then requests BAFO's and awards the contract to the lowest responsible proposer. The advantage of this approach is that it offers the owner a certain amount of flexibility to discuss with offerors any problems that arise during the course of the procurement process. Since award is based on price, it is easy to defend against protests. However, it does not give the owner the right to award the contract to a higher-cost proposer offering a significantly better product.

A third variant on this approach is award based on price and other factors after discussions and BAFO. This approach is like the one above, except it allows award to be made to the proposer with the overall most advantageous proposal. This is the method of award advocated for use by Federal agencies under the new design-build procedures in the Federal Acquisition Reform Act of 1996 (Pub.L. 104-106, Division D), and is also the approach being used by **New Jersey Transit** for its design-build **Hudson-Bergen Light Rail Transit** procurement. This approach has the advantage that it allows both the contractors and the owner a great deal of flexibility; it allows the contractor to propose innovative ideas based on performance specifications and it gives both parties the opportunity to have a dialog (allowing the owner to communicate to the proposers any problems raised by the proposals), and would allow the owner to award a contract to a proposer offering a significantly better product for a higher price.

A-3.2(d) Competitive Negotiations

In competitive negotiations, the procuring agency conducts an RFQ/RFP procurement, and then chooses one or more of the proposers to negotiate an agreement. This is distinguishable from award based on price and other factors after discussions and BAFO in that the procuring agency may negotiate different contract terms with the selected contractor than those bid on by all of the offerors. The U.S. DOT's manual on contracting for vehicle maintenance services recommends competitive negotiations where any of the following criteria are satisfied: (a) there is significant variation in the method that may be used to deliver a specific service; (b) there are attributes other than price that should be included as criteria for accepting a contractor; (c) there is a need for bidders to have the opportunity to revise their work plans after initial evaluation of proposals (including the price of services); (d) the award should be based on comparative evaluations; and, (e) an RFP would result in a more beneficial contract for the agency.^{66/}

^{66/} T.H. Maze, et al., *Manual on Contracting for Vehicle Maintenance Services*, FTA Contract No. IA 1 I-008-921.

A-3.2(e) Sole Source Contracting

Sole source contracting is permitted only in limited circumstances. This method involves selection of a contractor for negotiations based on its reputation or prior relationship with the owner, without first going through a competitive selection process. Generally, sole sourcing should be used only when supplies or services required are available from only one responsible source, and no other source of supplies or services will satisfy the procuring agency's requirements. The FAR provides that supplies or services may be considered to be available from only one source if that source has submitted an unsolicited research proposal that demonstrates a unique and innovative concept, or demonstrates a unique capability to provide particular research services, offers a concept or services not otherwise available to the government, and does not resemble the substance of a pending competitive acquisition.^{67/}

A-3.2(f) Unsolicited Proposals

Unsolicited proposals are a means for government agencies to obtain innovative or unique methods or approaches to accomplishing agency goals. Contracts based on unsolicited proposals may be awarded only where they do not resemble any pending competitive acquisition requirement, and the facts and circumstances preclude competition. The Illinois Department of Transportation's **ADVANCE** project with Motorola is an example of a public/private partnership that evolved from an unsolicited proposal. The Illinois Universities Transportation Research consortium and Motorola approached the Illinois Department of Transportation with the idea for the project. The procurement was structured as a non-competitive bid for consultant services in order to fall within a "sole source" exemption to the Illinois Purchasing Act, and the parties obtained an FHWA grant under a cooperative agreement. In later phases of the project, the **ADVANCE** parties will face an issue regarding procurement methodology that will likely be faced by many transportation agencies as ITS projects move from pre-deployment to deployment activities; that is, technologies that are unique and therefore qualify for sole-sourcing at the inception of a project may not be so unique in the later, more lucrative deployment phase. Will State law permit the deployment contracts to be sole-sourced with the transportation agency's original pre-deployment "partner"?

A-4. RELEVANT LAW GOVERNING TYPES OF CONTRACTS AND METHODS OF AWARD

ITS deployment will occur most often at the State and local levels, but with the mainstreaming of ITS in the National Highway System Act of 1996, it may be anticipated that both pre-deployment and deployment activities for ITS often will have a Federal-aid funding component. Therefore, examination of both Federal and State laws

^{67/} FAR, 48 C.F.R. § 6.302-1.

impacting type of contract and method of award is required in structuring an ITS procurement.

A-4.1 Federal Law Considerations

(1) Overview. As stated earlier, the U.S. DOT's regulations implementing the Common Rule apply to all grants and subgrants to State and local governments, except where such rules are inconsistent with statutes or regulations published in the Federal Register.^{68/}

Pursuant to the Common Rule, when a State receiving Federal-aid seeks to acquire property or services under a grant, the State is required to follow the same policies and procedures it uses for procurements with its non-Federal funds, but the State must ensure that every purchase order or other contract includes any clauses required by Federal statutes, executive orders and their supplementary regulations.

With respect to grant recipients other than a State, such as local transportation authorities and metropolitan planning organizations, the Common Rule requires such grantees and subgrantees to follow applicable State and local laws and regulations, provided the procurement conforms to applicable Federal law and the standards identified in § 18.36 of the Common Rule? With regard to the type of contract and method of award, Section 18.36 provides in pertinent part that:

(b) (8) Grantees and subgrantees will make awards only to responsible contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration will be given to such matters as contractor integrity, compliance with public policy, record of past performance, and financial and technical reasons.

(9) Grantees and subgrantees will maintain records sufficient to detail the significant history of a procurement. These records will include, but are not necessarily limited to the following: Rationale for the method of procurement, selection of contract type, contractor selection or rejection on the basis for the contract price.

(10) Grantees and subgrantees will use time and materials type contracts only (i) after the determination that no other contract is

^{68/} 49 C.F.R. Part 18, § 18.4.

^{69/} 49 C.F.R. § 18.36(b).

suitable, and (ii) if the contract includes a ceiling price that the contractor exceeds at its own risk.

(12) Grantees and subgrantees will have protest procedures to handle unresolved disputes relating to the procurement.

(c) Competition (i) All procurement transactions will be conducted in a manner providing full and open competition consistent with the standards in § 18.36.^{70/}

49 C.F.R. § 18.36(c)(3) prohibits grantees and subgrantees from using statutorily or administratively imposed in-state or local geographic preferences in the evaluation of bids or proposals, except in cases where applicable Federal statutes expressly mandate or encourage geographical preference. However, State licensing laws are not preempted. Grantees are required to have written selection procedures for procurement transactions in order to ensure that all solicitations incorporate a clear and accurate description of the technical requirements for the product or service to be procured, which requirements do not unduly restrict competition.”

Pursuant to the Common Rule, 49 C.F.R. § 18.36(d)(2), “[t]he **sealed bid** method is the preferred method for procuring construction, if the conditions of § 18.36(d)(2)(i) apply.” (Emphasis added.) Section 18.36(d)(2)(i) provides that in order for sealed bidding to be feasible, the following conditions should be present: “(A) a complete, adequate and realistic specification or purchase description is available; (B) two (2) or more responsible bidders are willing and able to compete effectively for the business; and (C) the procurement lends itself to a firm fixed-price contract and the selection of the successful bidder can be made principally on the basis of price.”^{71/}

^{70/} § 18.36(c) identifies the following situations as “restrictive” of competition: (i) placing unreasonable requirements on firms in order for them to qualify to do business, (ii) requiring unnecessary experience and excessive bonding, (iii) non-competitive pricing practices between firms or between affiliated companies, (iv) non-competitive awards to consultants that are on retainer contracts, (v) organizational conflicts of interest, (vi) specifying only a “brand name” product instead of allowing “an equal” product to be offered in describing the performance of other relevant requirements of the procurement, and (vii) any arbitrary acts in the procurement process. 49 C.F.R. § 18.36 (c).

^{71/} 49 C.F.R. § 18.36(c)(3).

^{72/} 49 C.F.R. § 18.36(d)(2)(i).

Procurement by competitive proposals is provided for in the Common Rule, 49 C.F.R. § 18.36(d)(3). That section provides that the technique of competitive proposals is normally conducted with more than one source submitting an offer, and either a fixed-price or a cost-reimbursement type contract being awarded. The method is to be used when conditions are not appropriate for the use of sealed bids. If competitive proposals are used, the following requirements apply: (i) a request for proposals must be publicized which identifies all evaluation factors and their relative importance; (ii) proposals must be solicited from an adequate number of qualified sources; (iii) grantees and subgrantees must have a method for conducting technical evaluations and selecting awardees; (iv) awards are to be made to the responsible firm whose proposal is most advantageous to the program, with price and other factors considered; and (v) grantees and subgrantees may use competitive proposal procedures for qualification-based procurement of architectural/engineering (A/E) professional services, subject to negotiation of fair and reasonable compensation. "The method, where price is not used as a selection factor, can only be used in procurement of A/E professional services. It cannot be used to purchase other types of services though A/E firms are a potential source to perform the proposed effort."^{73/}

Non-competitive proposals may be used only when the award of a contract is not feasible under small purchase procedures, sealed bids or competitive proposals and one of the following circumstances applies: "(A) the item is available only from a single source; (B) the public exigency or emergency for the procurement will not permit a delay resulting from competitive solicitation; (C) the awarding agency authorizes non-competitive proposals; or (D) after solicitation of a number of sources, competition is determined inadequate."^{74/}

Pursuant to 49 C.F.R. § 18.36(e), the grantee and subgrantee are required to take all necessary affirmative steps to assure that minority firms, women's business enterprises, and labor surplus area firms are used when possible.^{75/}

(2) Title 23 U.S.C. Requirements Applicable to FHWA Grantees.

Although the Common Rule provides that State grantees are to use their own procurement procedures reflecting applicable State and local laws, all FHWA Federal-aid grantees are required to comply with the requirements of 23 U.S.C. and 23 C.F.R. concerning the administration of the Federal-aid highway program. 23 U.S.C. § 112(a) directs the U.S. DOT Secretary to

^{73/} 49 C.F.R. § 18.36(d)(3)(v).

^{74/} 49 C.F.R. § 18.36(d)(4).

^{75/} See App. at "Financial Administration"

require recipients of highway construction grants to use bidding methods that are “effective in securing competition.” Construction of projects is required to be performed by contractors awarded their contracts by competitive bidding, unless the State highway department demonstrates to the satisfaction of the DOT Secretary that some other method is more cost-effective or that an emergency exists? Pursuant to 23 U.S.C. § 101, “construction” is defined in pertinent part to include traffic control systems, and “improvements which directly facilitate and control traffic flow, such as . . . traffic control systems . . . [and] capital improvements which directly facilitate an effective vehicle weight enforcement program”^{77/} Title 23 also defines “highway,” in pertinent part, to include signs used in connection with highways. Pursuant to the regulations at 23 C.F.R. § 635.104(a) “Actual construction work shall be performed by contract awarded by competitive bidding; unless as provided in § 635.104(b), the State demonstrates to the satisfaction of the Division Administrator that some other method is more cost-effective or that an emergency exists.”

Approval by the Division Administrator for construction by a method other than competitive bidding shall be requested by the State in accordance with subpart b of 23 C.F.R. part 635.^{78/} Additionally, 23 C.F.R. § 635.114(a) provides that Federal-aid contracts shall be awarded only on the basis of the lowest responsive bid submitted by a bidder meeting the criteria of responsibility as may have been established by the State Highway Administration.

Because the term “construction” as used in 23 U.S.C. § 101 includes “traffic control systems,” and the definition of highways includes “signs,” Title 23 may mandate competitive bidding of fixed-price contracts for the construction of ITS, to the exclusion of competitive negotiations or competitive proposals which are permitted by at least 39 States.^{79/} Additionally, other ITS systems requiring capital improvements, such as weigh-in-motion systems and automatic toll collection facilities, may also fall under Title 23’s competitive bidding requirement where actual construction is performed.^{80/}

^{76/} 23 U.S.C. § 112(b)(l).

^{77/} 23 U.S.C. § 101.

^{78/} 23 C.F.R. § 635.104(b)(b).

^{79/} See, e.g., Williams, Bradley P. & Schott, Stephen C., *ITS Procurement: Analysis and Recommendations*, page 9.

^{80/} *Id.*

State and local agencies trying to determine whether or not the competitive bidding requirements of 23 U.S.C. and 23 C.F.R. apply to their Federal-aid ITS projects are provided little guidance by the statutes and regulations, since the relevant provisions do not clearly distinguish between construction and non-construction activities. In a report entitled “ITS Procurement: Analysis and Recommendations,” prepared for the Virginia Transportation Council, the authors indicated that in an interview with a FHWA Region III representative, they were advised that the FHWA will place emphasis on whether installation takes place in determining whether or not an ITS project constitutes “construction.”^{81/}

Pursuant to 23 U.S.C. § 112(b)(2), contracts for engineering, architectural and other study and design services must be awarded in the same manner as a contract for architectural and engineering services negotiated under Title IX of the Federal Property and Administrative Services Act of 1949 (popularly called the “Brooks Act”), or an equivalent State qualifications-based requirement.^{82/} Thus, by requiring “construction” contracts to be awarded on a competitive-bid basis, and engineering and design services to be awarded in the same manner as a contract for architectural and engineering services negotiated under the Brooks Act, Title 23 arguably has the effect of requiring design and installation services for an ITS project to be awarded in separate contracts, and to two different contractors.^{84/}

(3) **Suggested Solutions to Title 23 Considerations.**

- **Establish an Exemption Procedure.** As noted above, 23 U.S.C. § 112(b) anticipates that a State highway department may demonstrate to the U.S. DOT Secretary that some other method is more cost-effective than competitive bidding for a “construction” procurement. Thus, even under the existing statutory framework, it is conceivable that State highway agencies may apply to the U.S. DOT Secretary for an exemption from the competitive bidding requirements for Federal-aid highway ITS projects. But, there is no procedure set

^{81/} *Id.* at note 5.

^{82/} 23 U.S.C. and 23 C.F.R. impose a laundry list of contract requirements on a state highway agency entering into a construction contract for a Federal-aid highway with any component of Federal funds. Certain additional requirements are imposed by Federal law on all contracts for work on national highways. These requirements are briefly summarized in Appendix #4 to this report.

^{83/} 23 U.S.C. § 112(b)(2).

^{84/} Because of rules and policies against Organizational Conflicts of Interest, recipients of a contract may not be awarded the construction contract. See the discussion under Section E, *infra*.

forth in the law or regulations. FHWA could assist State and local agencies by establishing an expeditious procedure, as well as publishing guidelines describing appropriate circumstances for the issuance of exemptions. This action should provide some relief, but the need to obtain an exemption is cumbersome, and would still foster an environment of uncertainty.

- **Amend statutory definition of “construction” related to ITS.** It would be desirable for the Federal regulations to be revised so that ITS projects may automatically be exempted from the competitive-bidding requirements to the extent that they do not exceed some threshold percentage of construction work. The definition of “construction” in 23 U.S.C. § 101 might be revised by adding the following sentence at the end of the definition of “construction”: “Notwithstanding the foregoing, any procurement for ITS goods and services shall not be deemed to be “construction” unless at least [FHWA to provide appropriate number on a case-by-case basis] _____ percent (___%) of the total cost of the contract is for construction costs associated with installation of the ITS.” This change would, however, require a statutory amendment, which is a more difficult process than that required for the regulatory change suggested above.
- **Create presumption regarding the desirable procurement method for ITS.** Another option would be to revise 23 U.S.C. § 112(b)(1) to insert the following sentence at the end of the first complete sentence: “In the case of a procurement for ITS goods and services, it shall be conclusively deemed to be more cost-effective to conduct such procurement by a method that takes into account price and other factors.”

A corresponding revision would need to be made to 23 C.F.R. § 635.114. Also, both the statute and the regulations would need to include a definition of ITS. To prevent abuse of discretion, regulations should be established requiring the procuring agency to document its reasons for selecting a particular type of contract and method of award. Of course, these changes would also require statutory amendments and therefore would be more difficult to achieve than regulatory changes.

A-4.2 State Law Considerations

Literally thousands of State and local public agencies may be called upon to contract for ITS. Each such agency's legal authority is likely to be unique in some respect from

all the others, and review of all such authority is beyond the scope of this report. However, there are several common threads to the legal authority of public agencies likely to procure ITS. The following discussion addresses these commonalities, and the related impact on ITS deployment.

A-4.2(a) State Law Considerations Regarding Method of Award

As previously noted, over the last several decades, many State legislatures have sought to stamp out graft and corruption in public procurement processes by mandating that all construction work and purchases of off-the-shelf supplies be procured only by fixed-price contracts awarded by a sealed competitive low bid process. Utilizing this type of contract and method of award combination makes sense when construction work or standard commercial equipment comprises substantially the entire scope of work, but it is problematic when, as will increasingly be the case for ITS, innovative forms of contracts like design/build, turnkey and design/build/operate are preferable. In many States, competitive negotiations may be used if the procuring agency determines that competitive bidding is not practicable or fiscally advantageous, so long as the project does not involve any Federal funds. The transportation departments of at least 39 States have the ability to competitively negotiate procurements in the absence of Federal funding.⁸⁵

The procurement statutes for the **New Jersey Turnpike Authority (NJTA)**, the **New Jersey Highway Authority (NJHA)** and the **New Jersey Expressway Authority (NJEA)** provide good examples of how State laws can be written to distinguish between contracts that must be competitively bid, and contracts for which the procuring agency has more discretion. The laws applicable to the **NJTA**, the **NJHA** and the **NJEA** were explained by the New Jersey Attorney General's office in a letter dated September 27, 1991, addressed to Christine Johnson, then Assistant Commissioner for Policy and Planning at the New Jersey Department of Transportation, discussing those authorities' ability to participate in the **E-ZPass** procurement. As explained by the Attorney General, generally each of the authorities is required to advertise and competitively bid contracts over a specified dollar amount, with the contract being awarded to the lowest responsible bidder.⁸⁶ Each of the toll authorities has promulgated detailed regulations governing procurement by competitive bid. However, broad exceptions provide that contracts need not be competitively bid when they are: (i) for professional services, (ii) required for the safety or protection of the authorities or other public property, or (iii) for the public convenience. In such cases other procurement methods are available, including competitive proposals with negotiation. The negotiation process for each

^{85/} William, Bradley P. & Schott, Steven C., *supra*, note 79.

^{86/} See, e.g., N.J.A.C. §§ 19:92.1, *et seq.*, N.J.A.C. §§ 19:8-5.1, *et seq.*, and N.J.A.C. §§ 19:2-7.1, *et seq.*

authority is governed by its own internal procedures.^{87/} The Attorney General concluded that the electronic toll collection procurement, which involved the purchasing of a system that required scientific skill and professional knowledge, would fit within the “professional services” exception, but would not fit within the “public convenience exception” without a strong showing of the immediate need for such a system:

The distinction between professional services and other procurement contracts appears to be drawn according to whether the purchase of the skilled services or the purchase of the equipment is the dominant component in the contract. Thus contracts for services which are on the cutting edge of technology, such as solid waste recycling, and which require the rendering of substantial services involving scientific and professional skills are more likely to qualify for this exception than contracts for standard services.^{88/}

In an interview **conducted for this paper, Ann Christine Monica, Assistant Director of Law of the NJTA** contrasted the general language of the law applicable to the NJTA with the competitive bidding requirements for counties and municipalities in New Jersey. Ms. Monica indicated that laws applicable to counties and municipalities typically specify about fifteen different exceptions from the competitive bidding requirements. A broadly drafted statute like the NJTA’s can often be interpreted with more flexibility than more specific laws applicable to counties and municipalities.^{89/}

The **Virginia Public Procurement Act** provides another good example of a State law that prefers sealed competitive low-bid procurement in public contracting, but recognizes the need for competitive negotiations for technical services. The “Virginia Agency Procurement and Surplus Property Manual” provides for competitive sealed bidding in both the traditional one-step process, and a two-step competitive sealed bid process. In two-step competitive sealed bidding in Virginia, an Invitation for Bid is issued requesting technical proposals without prices. Then, bidders are selected on the basis of having acceptable proposals, and pricing information can be obtained from approved bidders.^{90/} For professional services, such as engineering and consulting services, Code of Virginia §§ 11-37 and 11-41 require competitive negotiations through a Request for Proposal process.

^{87/} See, e.g., N.J.A.C. §§ 19:9-2.1, *et seq.*, N.J.A.C. §§ 19:8-5.1, *et seq.*, and N.J.A.C. §§ 19:2-7.1, *et seq.*

^{88/} State of New Jersey “Department of Law and Public Safety Division of Law Memorandum to Christine Johnson” dated September 27, 1991.

^{89/} Telephone conversation with Ann Christine Monica conducted for purposes of this project, April, 1995.

^{90/} Department of General Services, Commonwealth of Virginia, Agency Procurement and Surplus Property Manual (1993).

Some States exempt collaborative research from the competitive procurement laws. One such State is Colorado, which has concluded that by relying on such exemption, partnership arrangements for ITS Operational Tests do not have to be competitively procured.^{91/}

In summary, State procurement laws have been designed to prevent graft and favoritism, and favor award of contracts by sealed competitive low bid. Recognizing that low bid procurements are often not optimal for certain scopes of work, most States provide their transportation authorities with some authority to conduct a competitive proposal process. About 75% of the States permit some form of competitive proposals, which may or may not include negotiations.^{92/} Usually the context in which competitive negotiations is allowed is for procurement of professional and engineering services. However, as is the case in New Jersey and Virginia, competitive proposals with negotiations may be permitted in other contexts when the circumstances justify the abandonment of sealed low bidding. The statutes and regulations permitting such procurement methods take a variety of forms, from very specific to very general. Most if not all States have provisions similar to the Brooks Act for procurement of professional and engineering services.

Additionally, it can be stated that sole-sourcing is typically disfavored, except under limited circumstances. Similarly, unsolicited proposals generally may not be accepted unless justified by criteria similar to those set forth in the CFR.^{93/}

A-4.2(b) State Law Considerations Regarding Type of Contract

Increasingly, design-build is becoming a favored contract type at the State level,^{94/} particularly for projects where time is of the essence. Design-build also seems particularly well-suited to a rapidly evolving ITS industry because transportation agencies often lack the sophistication to develop detailed specifications for ITS, and it may be most advantageous to solicit the contracting community's creativity in solving a problem, rather than specifying a solution based on the transportation agency's limited experience. However, because State "Brooks Act" type laws require the separation of design from construction, in many cases special legislative authority may be required in order for a transportation agency to have the authority to enter into this type of contract, unless the agency can justify it as an information systems integration procurement.

^{91/} April 25, 1995 telephone interview with John Kiljan (Colorado DOT Director of ITS) conducted for this project.

^{92/} Williams, Bradley P. & Schott, Steven C., *supra*, note 79.

^{93/} FAR, 48 C.F.R. § 15.500 §, *et seq.*

^{94/} See, footnote in Section E, Organizational Conflicts of Interest, *infra*, for a list of states with design/build authority.

California Public Utilities Code § 130242, permitting design-build contracting for the **Los Angeles County Metropolitan Transit Authority**, provides a useful template for State and local transportation agencies seeking to revise their enabling legislation to provide authority for design-build, design-build-operate and design-build-operate and maintain contracts, both for construction generally and for ITS. It reads in pertinent part as follows:

- (a) In addition to other powers it possesses, the authority may enter into contracts with private entities, the scope of which may combine within a single contract all or some of the planning, design, permitting, development, joint development, construction, construction management, acquisition, leasing, installation and warranty of all, or components of (1) transit systems, including, without limitation, passenger loading or intermodal station facilities, and (2) facilities on real property owned or to be owned by the authority.
 - (b) The authority may award contracts pursuant to subdivision (a) after a finding, by a two-thirds vote of the members of the authority, that awarding the contract under this section will achieve for the authority, among other things, certain private sector efficiencies in the integration of design, project work and components.
 - (c) A contract awarded pursuant to this section may include operation and maintenance elements, if the inclusion of those elements (1) is necessary, in the reasonable judgment of the authority, to assess vendor representations and warranties, performance guarantees, or lifecycle efficiencies, and (2) does not conflict with collective bargaining agreements to which the authority is a party. . . .
- ***
- (e) A contract under this section shall be let to the lowest responsible bidder whose bid is responsive to the criteria set forth in the invitation for bids

In addition to design-build, other types of contracts designed to attract private capital to the development of public transportation facilities including ITS, may be a major vehicle for the deployment of ITS in the United States. In most States, “public/private” partnership arrangements necessitate the enactment of special legislation. A recent example is Colorado’s “**Public-Private Initiatives Program**,” codified at 43-I -1204 of the Colorado revised statutes. Public-private partnership authorizing legislation has also been enacted in the States of Washington, Minnesota, Virginia, South Carolina, Oregon and California. The first of California’s public-private projects under Assembly Bill 680, which provides for private toll operation of high occupancy vehicle lanes in the median of **California State Route 91**, recently opened to traffic. The programs in any

of these States may be referred to as templates for transportation agencies interested in undertaking such programs.

A-5. BARRIERS AND SOLUTIONS

A-5.4 Lessons Learned and Practical Tips from the Operational Tests and Other Projects

The issue discussed most prominently in the literature and by the industry experts who have participated in this project is the unsuitability of traditional construction contract models based on 100 percent design specifications for ITS projects. ITS is an emerging technology and transportation agency personnel are understandably inexperienced in writing specifications for ITS.

(1) **San Antonio ATMS** When the Texas Department of Transportation (“T DOT”) desired to develop an ATMS for the San Antonio area, T DOT dealt with its lack of experience in writing specifications for ITS by educating its in-house engineers. The engineers developed a preliminary computer system and control systems design based upon their own research regarding ITS. Then, they asked the aerospace and defense industries to comment on their preliminary design, and modified the original design based on those comments. The process was repeated until agreement was reached on final design requirements.^{95/} The T DOT approach obviously required a lengthy learning process. Certainly the speed of deployment would have been increased if the design work were contracted out to specialists. However, T DOT was subject to a restrictive low bid method of contractor selection which did not permit competitive negotiations except under very limited circumstances. T DOT was also required to separate the design work from construction work, and did not want to disqualify potential systems integrators from the bidding process (based on organizational conflict of interest concerns) by engaging them in the design. T DOT’s successful procurement of the ATMS, even if not accomplished as speedily as it might have been otherwise, demonstrates that if a public agency desires to procure ITS, the procurement can be successfully implemented even in a very restrictive contracting regime.^{96/}

(2) **Combining Design and Other Services and Products/Deliverables.** Other transportation agencies that have more flexible procurement rules than T DOT have combined the design and implementation functions. For

^{95/} Bradley P. Williams and Steven C. Schott, *supra*, note 79, pp. 30-31.

^{96/} *Id.*

example, in the pre-deployment phase, transportation agencies have avoided this problem by entering into “partnership” arrangements that arguably did not fall within the competitive procurement laws. The **Colorado Department of Transportation** (“CDOT”) has acted as the lead agency for a number of operational tests structured as “associations,” rather than as procurements. **CDOT** views the operational test partnerships as Federal requests for proposals. Therefore, it concludes there is no need for a State proposal process as well. Instead, the State interprets its legislation permissively, and concludes that there is nothing in State law precluding the formation of partnerships for operational tests, provided that no partner is promised exclusivity.

Other good examples of combining products and services in the deployment phase are (i) the **Orange County California Transportation Corridor Agencies’** contracts with Lockheed Martin Information Management Services Company for an **Integrated Toll Collection and Revenue Management System** for design, implementation and operation of their automated toll collection system, and (ii) the **Michigan ATMS/ATIS** design-build procurement. These documents should be reviewed as precedent by any transportation agency considering its own design-build procurement of such systems.

(3) Exemptions. Some transportation agencies have avoided the constraints of competitive low bid requirements for ITS procurements by working to structure their projects to fit within an exemption to the State’s low bid requirements. For example, in the **ADVANCE** Operational Test, the Illinois Department of Transportation (“IDOT”) treated the first phase of the project, in which it was only going to purchase a few pieces of navigational equipment, as a consultant service contract. However, in the second phase, millions of dollars of equipment were to be procured. Working within existing laws, IDOT labeled the equipment as “experimental equipment,” for which sole sourcing was permitted.

In the **E-ZPass** procurement, the New Jersey Toll Authorities gained comfort with their ability to participate in a negotiated procurement by seeking the advance opinion of the State Attorney General. In other cases, special legislation has been enacted to enable innovative contracting processes.

A-5.2 Additional Lessons Learned and Practical Tips from the Volpe Case Studies

The experiences of the projects studied by the Volpe National Transportation Systems Center in connection with its report on “IVHS Institutional Issues and Case Studies,

Analysis and Lessons Learned,” suggest a variety of lessons that should be kept in mind by parties to future projects:

(1) In the pre-deployment stage, public-private partnerships require a clear understanding of the rules, responsibilities and mutual goals of the parties. The joint agreements need to clearly define “partners” roles and responsibilities, and project agreements should be signed as early in the planning stage as possible. The **TRANSCOM/TRANSMIT** project was the only project among the cases studied that followed this advice, and it experienced the fewest problems as the project progressed.^{97/} For the **MnDOT/TRAVLINK** project, the agreements clarified that the term “partnership” was used as an equivalent of a cooperative agreement, not a joint venture or other separate legal entity. In the **TRANSCOM/TRANSMIT** cooperative agreement, **TRANSCOM** was defined as a clearinghouse for information, and a forum for communications without operating authority. This abated the fear and lack of trust among members of the project, and presents a good model for the initial phase of an operational test. The Scope of Work for the **PUSHME** Puget Sound Regional Mayday System Operational Test Consultant Agreement with David Evans and Associates provides another excellent example of how carefully defining the project participants’ respective roles may enhance the project’s likelihood of success.^{98/}

(2) In addition to the need to clearly define the project and the partners’ roles and responsibilities early in the project, many interviewees complained of mistrust and lack of understanding of each party’s different perspectives given their positions in government, academia and industry, and a lack of flexibility to deal with unanticipated changes to contract schedules and scopes of work. It was suggested that partnership agreements could be improved by building in expedited processes for handling unanticipated changes.” At its simplest, a solution to this problem might be including provisions in the agreements providing for rapid escalation of problems up the project chain of command, so that stand-offs do not fester at the staff level. For example, the parties might provide for a specific period of time for lower level staff members to attempt to solve problems, and a notice process to inform more senior officials of the issues. Then, if the problem is not resolved within the specified period of time, senior project officials are

^{97/} Volpe National Transportation System Center, “IVHS Institutional Issues and Case Studies: Analysis and Lessons Learned” Final Report (April 1994) page S-7.

^{98/} “1995 Professional Services Consultant Agreement Cost Plus Fixed Fee”; Agreement No. 4-6063; PUSHME Puget Sound Regional Mayday System Operational Test, Exhibit B, p. 3.

^{99/} *Id.*, at page I-6.

committed to meeting within a relatively brief period of time, say two to three weeks, to attempt to resolve the issue at a top level. Another, more formal, approach to this problem might be for the parties to be involved in formal partnering at the project's inception and at various phases throughout the project. "Partnering" has proven to be an effective tool for breaking down stereotypes and allowing parties to find common goals among their differing incentives for participating in projects. For example, effective partnering of their toll collection and revenue management system contract helped the **Orange County Transportation Corridor Agencies** to open their first toll road project several months ahead of schedule.

(3) Many participants in the operational test studies by Volpe complained of too much administrative paperwork. For example, in the **ADVANCE** project, the Universities and Motorola complained that the emphasis on free and open competition for component parts necessary for development was too cumbersome. One potential solution to this problem was for the agreements to be structured such that the private parties' matching shares would be allocated to their own procurements. Then, procurements of component parts would not be government procurements at all, and competitive bidding requirements could be avoided.

Participants in the **ADVANCE** tests also commented that there were too many, and duplicative, statutory requirements between the applicable Federal and State laws.^{100/} Participants in the **FAST-TRAC** project suggested that as a solution to this problem, the FHWA should publish guidelines for project participants who haven't previously worked with Federal or State transportation agencies to help them understand the laws, regulations and practices involved covering seven areas: Public-private partnerships, contracting practices, intellectual property rights, auditing practices, funding and fund matching, termination clauses and warranties. If FHWA were to approve multiple phases of a project as a unit, and not on an individual work order basis, it could help streamline the procurement process as well. The E-ZPass project participants took a creative approach to solving this problem by hiring a former FHWA employee to work in-house with them to assist in complying with all of the Federal requirements. According to Ann Christine Monica, this approach worked well, but obviously it would be preferable if the process were simplified through the publication of easily understood guidelines and practices.

^{100/} Intelligent Vehicle Highway Systems Institutional and Legal Issues Program, "Review of the ADVANCE Operational Test," John A. Volpe National Transportation Systems Center (April 1994), page 15.

A-5.3 Additional Observations

In addition to the solutions suggested by the case studies and other projects referenced herein, the following observations are made:

(1) The definition of “construction” in 23 U.S.C. § 112(b), appears to include many elements of ITS. The restrictions on the type of contract and method of award that may be used for Federal-aid highway “construction” projects appear to be a significant barrier to the contracting flexibility that is desirable for ITS. Title 23 requires that highway construction contracts be awarded on a fixed-price, low-bid basis, with the design contract separated from the construction contract. State law may also require a transportation agency to use a competitive sealed bid process, and to award a fixed-price contract for ITS, whether or not Federal funds are involved. Even in the absence of either Federal funding restrictions or State laws specifically requiring fixed-price contracts awarded by sealed bid, a barrier may result from lack of specific authority to enter into innovative contracting processes, a lack of precedents or procedures for other methods of procurement or non-traditional types of contracts within the transportation agency, and general inflexibility and risk avoidance in the public sector.

Techniques that may be employed to overcome the limitations imposed by Federal regulations and the lack of specific authority for innovative contracting practices at the State and local levels include: (i) structuring projects to fit within an exemption to the sealed, low bid requirements, (ii) participating in joint procurements with other agencies to take advantage of the most flexible set of rules applicable to one of the agencies, (iii) submitting the project in advance to FHWA or the State Attorney General (as appropriate) for advice regarding the “construction” nature of the project, and (iv) enacting legislation to accommodate special needs arising in the context of ITS. The definition of “construction” in 23 U.S.C. should be revised to accommodate more flexibility for ITS projects, and the list of circumstances within which a negotiated procurement might be undertaken for projects with ITS “construction” elements should be expanded.

(2) The impact of delays from bid protests may be lessened by the adoption of regulations requiring that any protest based on the content of specifications be made not later than a specified period of time (e.g., 15 days) after the IFB or RFQ/RFP is issued, and in any event prior to the final bid submission date.

- (3) When contemplating design-build (turnkey) projects the procuring agency may wish to consider hiring a systems analyst from a second vendor to provide insight into the contractor's performance and to increase competition.
- (4) The FHWA should consider promoting specific suggested long-term system warranties and guarantees that would be acceptable in Federal-aid highway project agreements as they pertain to ITS systems.
- (5) The ITS industry has not matured to the point where one or a few sets of contract documents can be prepared to cover one or more generalized fact patterns relating to ITS. Indeed, it would be misleading to suggest that a few forms can be generated to cover all the myriad of highly technical project opportunities ITS is creating. Just as ITS itself is bringing great innovation to the traveling public, a public contracting agency will need to be extremely flexible in creating for each new project a contract form best suited to the facts the project presents.
- (6) A contracting agency must endeavor to be as precise as possible in articulating the rights and responsibilities of the parties in light of the facts presented by the ITS project concerned. In the other portions of this report we have sought to provide in-depth guidance on the treatment of critical issues raised by the operational tests to date, by FHWA, by our panel of experts, and by our experience. Reference to those sections should be made in building a contract document.
- (7) The agency should review not only the relevant ITS precedent, but also traditional engineering contracts and construction contracts, less typical design-build and design-equip contracts, and even more comprehensive design-build-operate contracts. As discussed *infra* with respect to particular contract issues, some of the ITS forms utilized for the operational tests to date did not sufficiently define the responsibilities of each of the parties or the schedule for performance, did not adequately describe the remedies to be exercised for failure to perform, and presented other opportunities for improvement. By recognizing the analogy to more familiar documents (used in non-ITS projects) an agency can supplement and enhance the quality and relevance of a form prepared by others for a different ITS project.
- (8) Experience has proven that where there is a desire, public agencies and private entities will find a way to accomplish a project, notwithstanding the relevant regulatory environment. Overcoming lack of experience, bureaucratic inertia and fear of the unproven is likely more important to the development and deployment of ITS than is reinventing the law. The FHWA should consider developing a task force of experienced innovators (much like

that created by the FTA for purposes of educating transit agencies) that could be made available for consultation and assistance to State and local agencies in structuring optimal ITS procurements.

A-6. MATRIX APPROACH TO CHOICE OF TYPE OF CONTRACT AND METHOD OF AWARD

A-6.4 Method of Analysis Using Type of Contract and Method of Award Matrices

As discussed above, it would be misleading to suggest that a “one-size fits all” approach can be taken to address the range of contracting issues presented by ITS projects. Yet, experience teaches that there are a number of common threads shared by most if not all ITS projects, and these threads can be woven into a simple analytical framework that transportation agencies can refer to in making decisions regarding types of contracts and methods of award.

Most, if not all, ITS projects will fit into one of two broad categories:

- (1) Contracts which require that the contractor provide some combination of goods and/or services meeting specified standards and specifications according to an established schedule, which set forth the conditions under which the contractor will receive public funds, and which allocate between the parties certain liabilities; or
- (2) Contracts which grant to the private party certain rights to deploy an ITS project, establish the terms and conditions under which the private party may exercise its rights, allocate between the parties liabilities and risks which may arise, and specify the circumstances, if any, under which the private party may receive public funding or may charge a fee for use of the deployed ITS.

The principal differences between these two categories are: (i) the second contract type does not require the contractor to carry out a specified scope of services, and (ii) the second contract type may not involve direct expenditure of public funds. Rather, the second contract type creates a contractual framework to attract private capital for all or a portion of the ITS services to be provided, to be repaid out of the exploitation of a commercial opportunity. Once the contractor successfully progresses the project to construction and/or manufacturing, from that point on the agreement obligates the contractor to operate the ITS project as though the contract were of the first category. With the distinction between these two broad categories of contracts in mind, the research team has developed a series of matrices designed to aid in selection of the appropriate type of contract and method of award for a particular ITS project.

The first matrix aids a transportation agency in identifying the best type of contract (defined by scope of services) depending upon the level to which the project has been

defined prior to the procurement. The left-hand vertical column lists the range of contract types, while the top horizontal column lists a range of levels to which a project has been defined.

The second matrix aids in identifying the best type of contract depending on the deployment phase of the project. As with the first matrix, the left hand vertical column lists the range of contract options. The top horizontal column lists the various possibilities related to deployment phase, from research and development through long term operation and maintenance. The transportation agency would select the type of contract to use from those in which a “yes” appears in the appropriate box on each matrix.

The third matrix aids in selecting the most desirable procurement method, based upon the scope of services to be included in the contract. The left-hand vertical column identifies the range of procurement options, and the top horizontal column lists the possible services to be acquired. A procurement method is appropriate if a “yes” is in the box intersected by the scope of services required.

A-6.2 Hypothetical Procurements Illustrating Matrix Approach

The following discussion describes three hypothetical procurements, and the approach that a public agency might follow using the matrices attached to this Section A to determine the preferred type of contract and method of procurement for successfully completing the project’s goals:

A-6.2(a) Hypothetical No. 1 - Integrated Toll Collection System Procurement

For purposes of this example, assume that a special district toll authority desires to procure an integrated toll collection system, and wishes the provider of the system to operate and maintain it. The authority has developed performance specifications, but not a detailed design since it does not know the best solution to its needs, and desires to obtain the most beneficial and creative solution from the market. Additionally, the authority’s facility was financed through tax-exempt bond financing, the authority wants a guarantee of system performance, and there is pending State legislation which might dictate specifications that will require the potential for upward migration of the technology.

(1) Contract Type. By reference to the Contract Type By Project Definition (matrix, page III-A-43), the authority can conclude that several contract types are suitable. All of the contract type options listed in the vertical columns may be appropriate for procurements based upon performance specifications. Since the authority wishes the contractor to operate and maintain the toll system, design-build-operate is a preferable method to design-build or traditional contracting. Build-transfer-operate is

inappropriate under the circumstances because the agency needs the toll revenues to repay the tax-exempt financing for the facility, and is not asking for private capital to finance the project. Referring to the next Matrix, Contract Type by Deployment Phase (matrix, page 4)' the authority would look at the columns for commercial deployment and long term operation and maintenance. Again, it appears that design-build-operate is an appropriate option in both of those columns. This will be the desired approach if permitted by law and the authority's regulations. The appropriate profit incentive for the contract can be defined/determined using the considerations as previously described in Section A-3.1 (a).

The experience of the authority in this hypothetical example may be compared with that of the agencies involved in the **E-ZPass** combined and coordinated procurement of an automatic toll collection system. In that project, the procurement regulations of multiple authorities had to be reconciled, and the specifications needed to be drafted to meet multiple and differing needs. Each agency had different timing requirements and required different degrees of technological sophistication. Therefore, in that case an irrevocable offer was determined to be the most appropriate contract vehicle because it separated operations from the system, and permitted each agency to follow its own time frame for deployment.

(2) Choice of Procurement Method Having decided to enter into a design-build-operate contract, the authority should then refer to the ITS Procurement Methods of Award by Scope of Services (matrix, page 111-A-47). The authority would refer to line (C) for each of the options to determine whether it is an appropriate vehicle. The available options (where "Yes" appears in line (C)) include all of the listed methods except for invitation to bid (fixed-price competitive low bid). Then, the authority should refer to the accompanying notes to determine which of the remaining options is preferable. "Call for projects" is inappropriate in this context. Non-competitive sole source is also an inappropriate method since the authority is seeking input from industry to determine the most appropriate solution to its needs, more than one source is available, and the procurement is not an emergency. Among the RFQ/RFP approaches, the most desirable approach would be a negotiated procurement, since this would give the authority the ability to question bidders about their potential solutions. This procurement method meets most, if not all, of the criteria recommended by the FAR for competitive negotiations. Of course, as with the choice of design-build-operate as a type of contract, the authority's choice of this procurement method will obviously depend upon whether or not it is available under the authority's governing statutes and regulations. If this approach were not available, the authority would go to its next best alternative, seek an

exemption, or attempt to enact legislation or administrative rules authorizing its desired approach, as appropriate.

(3) Additional Considerations. A few additional considerations that the authority might address in developing its contract documents include the following:

- To preserve the tax-exempt status of its bonds, the authority will have to limit the term of the operating agreement to five years (with options to extend as permitted by the Internal Revenue Code (IRC)).
- In a design-build-operate contract, inclusion of incentive fee provisions often assists agencies in making a “best value” procurement because contractors will submit low base prices reflecting their belief that they will earn all of the award fees, and the hope of earning award fees encourages high quality performance by the contractor.
- The authority should consider provisions requiring upward migration of the technology to meet the pending State legislation. For a good example of such a provision, the authority may wish to refer to the **Lease Purchase and Installation Agreement among the Foothill/Eastern Transportation Corridor Authority, the San Joaquin Hills Transportation Corridor, Lockheed Information Management Services Company and Lockheed Corporation**, dated February, 1993.
- To the extent that the allocation of intellectual property rights is not constrained by Federal or State law, the authority should refer to Chapter D of this paper concerning intellectual property rights, and consider the appropriate allocation. What legal rights does the authority really need to protect its interest, and how will what it desires affect the willingness of proposers to participate in the procurement, and the contract price?
- How will liability for failure to meet performance specifications be allocated? The authority should refer to Section III-F of this report regarding liability issues in ITS contracting. Since the authority’s ability to repay its bonds depends upon system performance and the collection of all tolls, the authority may wish to refer to other toll agencies’ experiences in connection with negotiating performance guarantees.

A-6.2(b) Hypothetical No. 2 - State Highway Agency Desires to Encourage ITS Innovation

This hypothetical assumes that a State transportation agency wants to encourage ITS innovation within its jurisdiction, but has limited State funding. The agency has a general idea with regard to development of ATMS and ATIS, but there is no consensus as to the particular project that should be undertaken, and the most appropriate site for it. The agency wants the private sector participant to deploy the ITS and operate and maintain it.

(1) **Contract Type.** Review of the matrix for Contract Type Decision Making With Extent of Project Definition as Discriminating Factor,, (Matrix, Page 111-A-44) indicates that build-transfer-operate-franchise and cooperative cost sharing agreements are the most appropriate contract types. However, in this case the State highway agency desires for its “partner” to develop and build the system, and to operate and maintain it on a long-term basis. Therefore, the second chart (Matrix, Page III-A-46), with deployment phase as the discriminating factor, indicates that build-transfer-operate franchise is the preferred contract type. Of course, the State agency’s choice must be available under its authorizing legislation. Reference to the types of contracts classified by profit incentive, above, indicates that a variant of a cost reimbursement incentive contract would be desirable.

(2) **Type of Procurement.** By reference to the third matrix concerning “ITS Procurement Options With Scope of Services as a Discriminating Factor,” a “call for projects” appears to be the most appropriate procurement method, assuming it is available under State law. Although a “Yes” appears in line (C) of the RFQ/RFP cost reimbursement and competitive negotiation options, both of these options would require the State to stipulate the project definition and location. The call for projects, on the other hand, encourages contractor innovation and private capital, which was the State’s intended source of funding.

(3) **Additional Considerations.** In developing a template for the build/operate/franchise transfer agreement, the agency should keep the following important issues in mind.

- It is extremely important to clearly define the ongoing rights and obligations of the parties with respect to any infrastructure provided by either party. The same infrastructure used for one ITS application may have potential for other ITS applications, either funded by the State or implemented through additional projects awarded on a call for projects basis.
- The agency will need to think ahead to ensure that the project awarded will be coordinated with other projects implemented by the State and the State’s overall ITS plans;

- To that end, it will be extremely important to ensure that the State obtains any intellectual property rights necessary to enable it to integrate the franchise project with the transportation agency's overall traffic, management scheme.

A-6.2(c) Hypothetical No. 3 - Remote Testing of Vehicle Emissions

Assume an air quality district desires to test a remote vehicle emissions system. The district is not sure whether an air sensing method, or a Light Detection and Ranging (LIDAR) method, is the best approach. The technology exists in the lab, but no one yet knows whether it will perform on the street. The district's performance specification requires the contractor to identify whether each vehicle passing a certain point on the road is emitting carbon monoxide in excess of Federal and State standards. The district has not developed a technical specification. There is the potential of Federal funding for this project.

(1) **Type of Contract.** The project has been defined by performance specifications. Therefore reference to the "Extent of Project Definition as Discriminating Factor" Decision Making Matrix indicates that most of the listed contract types are available for this project. However, the specifications are not sufficiently well defined for an irrevocable offer or requirements contract, and the project does not fit the build/transfer/operate franchise model. Because the contract will combine more than one service by incorporating design and operation, traditional contracting also appears less appropriate to the project than the design-build contract type or the cooperative agreement contract. Referring to the "Deployment Phase as a Discriminating Factor Matrix," it is apparent that a cooperative/cost-savings agreement is the best vehicle for this project, since cooperative agreements are best utilized in the context of research and development through an operational test. Additionally, because the parties desire to obtain Federal funding, they might chose to model their agreement after a Federal Cooperative Research & Development Agreement (CRADA).

(2) **Method of Procurement.** By reference to the Procurement Options Matrix and accompanying notes, the district would likely conclude that an RFQ/RFP process with negotiations would be the preferable method of procurement. The contract bundles design work and other professional services plus some prototype equipment into one contract. Therefore, the RFQ/RFP process is favored over an invitation to bid. An invitation to bid is also inappropriate because the specifications rely upon performance criteria.

CONTRACT TYPE AND PROCUREMENT METHOD

DECISION MAKING MATRIX

CONTRACT TYPE BY PROJECT DEFINITION

	Preliminary Design	Performance Specifications	Project Identified But No Definition	General Ideas But No Consensus
Traditional Contracting ^{1/}	Yes.	Yes.	Yes.	Yes.
Design/Build Fixed Price, Guaranteed Maximum and/or Cost Reimbursement with Ceiling ^{2/}	Yes.	Under limited circumstances.	Under limited circumstances.	No.
Design/Build/Operate Contract ^{3/}	Yes.	Under limited circumstances.	Under limited circumstances.	No.
Build-Transfer-Operate Franchise ^{4/}	Yes.	Yes.	Yes.	Yes.
Cooperative Agreement ^{5/}	Yes.	Yes.	Yes.	Yes.
Irrevocable Offer and Requirements Contract ^{6/}	Under limited circumstances.	Under limited circumstances.	No.	No.

CONTRACT TYPE BY PROJECT DEFINITION

NOTES

1. Sealed bid procurement resulting in award of a firm fixed-price contract to the lowest price, responsive, responsible bidder.
2. Design-build and design-equip contract forms are most successful when they are structured around preliminary design completed to between 20 and 60%, depending upon the particular project. Research and development projects generally have not reached this point of definition. By their terms these contracts exclude operations. In certain circumstances a design-build contract might be awarded with only performance specifications, so long as performance was clearly articulated and the contracting agency was in a position not to care about the method by which the specifications are met, a position atypical of many transportation agencies historically.
3. Including operations in a contract raises an important funding question. To the extent an ITS project or related infrastructure has been or is anticipated to be funded with bonds the interest on which is exempt from federal taxation, Federal tax law generally restricts the use of related management contracts exceeding five years of duration. If the contracting agency is willing to use taxable debt, the operating term is unaffected by the IRS. An agency considering this approach in the context of tax exempt bond financing should refer to the discussion of this topic in Part C page 1-11, Section 3.h.
4. The build-transfer-operate franchise offers a "carrot" to the private sector rather than a "stick". In other words it seeks to create an incentive to perform without requiring performance. With this understood it can be used at almost any stage in a project's development to authorize a private contractor essentially to assume the role of project proponent so long as the project represents a source of potential revenue to repay the portion of the project costs not publicly funded. Inasmuch as this contract vehicle is appropriate at all phases, it may be used for all levels of project definition.
5. Cooperative cost sharing agreements may be used at any stage of project definition. In fact, a cooperative agreement may even be entered into for the express purpose of defining a project for which there is a general idea, but no consensus as to how to best bring the idea to fruition.
6. Irrevocable offers and requirements contracts are not suitable unless the specifications are sufficiently well defined to enable award based on price or best value.

CONTRACT TYPE BY DEPLOYMENT PHASE

	Research and Development	Operational Test	Commercial Deployment	Long Term Operation/ Maintenance
Traditional Contracting ^{1/}	Yes.	Yes.	Yes.	Yes.
Design/Build Fixed-Price, Guaranteed Maximum and/or Design/Build Cost Reimbursement with Ceiling ^{2/}	No.	Yes.	Yes.	No.
Design/Build Operate Contract ^{3/}	No.	Under limited circumstances.	Yes.	Yes.
Build-Transfer-Operate Franchise ^{4/}	No.	Yes.	Yes.	Yes.
Cooperative Agreement ^{5/}	Yes.	Yes.	Under limited circumstances.	No.
Irrevocable Offer and Requirements Contract ^{6/}	No.	Under limited circumstances.	Yes.	Yes.

CONTRACT TYPE PROJECT DEPLOYMENT PHASE

NOTES

1. Sealed bid procurement resulting in award of a firm fixed-price contract to the lowest price, responsive, responsible bidder.
2. Design-build and design-equip contract forms are most successful when they are structured around preliminary design completed to between 20% and 60%, depending upon the particular project. Research and development projects generally have not reached this point of development. By their terms these contracts exclude operations.
3. Design-build-operate contracts are similar to design-build in the sense that they are prudently used only when agency requirements have been adequately defined. While R&D does not present this opportunity, subsequent phases may, depending on the level of engineering design completed at the time of contracting.
4. The build-transfer-operate franchise offers a "carrot" to the private sector rather than a "stick". In other words it seeks to create an incentive to perform without requiring performance. With this understood it can be used at almost any time in a project's development to authorize a private contractor essentially to assume the role of project proponent so long as the project represents a source of potential revenue to repay the portion of the project costs not publicly funded.
5. Cooperative agreements are best utilized to spur a project concept through R&D and an operational test. A cooperative agreement might involve commercial deployment to the extent that it results in allocation of intellectual property rights for technology developed during the project through the commercial deployment phase.
6. Irrevocable offers and requirements contracts are similar vehicles for allowing the procuring agency to gain comfort that a supplier will be available to meet its needs, without the procuring agency being presently obligated to purchase a specific amount of services or equipment. In a requirements contract, the contractor promises to fill the procuring agency's need for a product, up to a specified amount, over a specified period, and the procuring agency agrees to make all of its purchases of that product from the contractor. A requirements contract may also specify multiple phases over which requirements are to be met. An irrevocable offer may be for an unlimited quantity, or it may specify the exact amount offered, and/or the exact period for accepting the offer. The **EZ-PASS** procurement provides excellent documentation of an irrevocable offer in the context of commercial deployment. The **ADVANCE** Operational Test, which extends to commercial deployment, is a good example of a situation in which phasing the procurement was a wise decision, since if the public agency had been obligated to buy 50,000 units at the outset of the procurement, it would have unnecessarily expended a significant amount of money for equipment it was not yet in a position to use. See the discussion of these projects, *Supra*, pg. III-A-33.

ITS PROCUREMENT METHODS OF AWARD BY SCOPE OF SERVICES

- * (A) = contracts for a scope of work limited to individual goods or services
- * (B) = design/build and design/equip contracts
- * (C) = design-build-operate and design-equip-operate contracts

		Design	Other Professional	Construction	Off-Shelf Supplies	Custom Equipment	Operations
Invitation to Bid (Fixed price low bid)	(A)*	No. 1/	No. 1/	Yes. 2/	Yes. 2/	Under limited circumstances. 2/	Under limited circumstances. 1/ 4/
	(B)*	Under limited circumstances. 3/					
	(C)*	No. 4/					
RFQ/RFP - Fixed Price	(A)	Under limited circumstances. 1/	Under limited circumstances. 1/	Under limited circumstances. 2/	Under limited circumstances. 2/	Yes. 2/	Yes. 1/ 4/
	(B)	Yes. 3/					
	(C)	Yes. 4/					
RFQ/RFP - Cost Reimbursement	(A)	Yes. 1/	Yes. 1/	Under limited circumstances. 5/	No. 2/	Yes. 2/	Yes. 1/ 4/
	(B)	Yes. 3/					
	(C)	Yes. 4/					

ITS PROCUREMENT METHODS OF AWARD BY SCOPE OF SERVICES

NOTES

1. Some members of the expert panel concluded that any fixed-price procurement would be inappropriate for an ITS contract to perform design, operations or other professional services, suggesting that it might reduce product quality or innovation. Our analysis supports this conclusion, except in the circumstance where: (a) the private sector interest in undertaking the scope of work is relatively high, and (b) the parties agree that the agency's cost share is being fixed and the contractor will bear the balance of the costs. Due to the intangibles the agency is seeking to capture such as reputation for quality and innovation in awarding a contract for design or other professional services, an IFB or lowest responsible bidder approach would not be advisable. An RFP/RFQ procurement method resulting in a fixed-price contract or cost reimbursement contract up to a fixed cap, might well be appropriate, however, because private sector motivation is present and capable of evaluation, notwithstanding fixed-price. We have seen these circumstances present in a variety of ITS deployments and expect to see more. For example, Barbara Hayes, the Administrator of Finance Operations Division for the Michigan Attorney General's Office, advises that this approach has worked well for the state's procurement of a design/build contract for installation of an ATIS, ATMS System serving 148 miles in the Detroit area.
2. State/local government agency procurement codes typically require that civil construction and off-the-shelf supply contracts be awarded only on a lowest responsible bidder basis. The rationale is that this approach maximizes the number of private firms competing against each other solely on the basis of price and results in the "best buy" for the procuring agency. The Authors and our panel of experts agree with this rationale, except where the construction or supplies/services being sought are of a unique or specialized type which very few firms can provide. In such a case the "responsibility" criteria that would need to be drafted for the IFB would be so stringent as to constrain the market in the same way pre-qualification or a "price and other factors" evaluation methodology does. Responsibilities in ITS contracts being prepared for procurement should be reviewed carefully for the presence of such circumstances.
3. The more design work and other professional services an agency elects to "bundle" into a contract also containing standard construction and equipment supply, the more procurement professionals favor either an RFP/RFQ or "prequalification" approach over an IFB. The concern is that contractor selection based on minimal qualifications and low price is a high risk method for obtaining such services as engineering, construction management and operations, a conclusion that does not change just because construction is being awarded as well. If concern exists that an agency may not receive the lowest price possible from among well qualified firms, the agency should consider "best value" and price-and-other-factors evaluation approaches and competitive negotiation to address this concern. Alternatively design-build or design-manufacture-install teams should be subject to stringent, carefully articulated prequalification guidelines before fixed-price bids are opened.

4. The “bundling” of operations into a design-build or a design-manufacture-install scope of work is increasingly being considered by agencies for public projects for which they lack staffing or expertise or for which they seek competition based upon life-cycle efficiency. This approach is not amenable, in our view, to an IFB procurement due to the contract’s long-term and the effort’s complexity. The bundling approach would, however, fit well with an RFP/RFQ methodology. Agencies may consider utilizing a fixed-price component to the pricing of the construction and off-the-shelf supply portions of the project, applying cost-reimbursable pricing to the other elements of the work if legal authority exists to do so. It may also be appropriate to incorporate fixed-price costing for the operations component, depending on the complexity of the operating services to be performed and how well the private sector can price them in advance. To the extent there are certain operating costs that can be accurately anticipated and others that cannot, the agency may employ both a fixed and variable component of the operating fee.
5. A cost-reimbursable approach to an ITS contract for construction would be advisable only in certain limited circumstances. Among them might be where design is complete but there remains substantial uncertainty about physical conditions and neither side feels comfortable with the contingency that would need to be built into a fixed-price or relying on an unknown conditions contract provision. Such contracts certainly are used in private sector transactions and we can anticipate ITS deployments that might fall into this category. If they were of sufficient importance that the agency wanted to go forward on such a basis, special contract provisions should be used to ensure disallowance of unnecessary work and agreement to unit pricing in substantial detail.
6. The Authors and the expert panelists agree with the extensive commentary in the academic and industry literature that proposes the use of competitive negotiations as a more appropriate tool than sealed bids for awarding ITS contracts involving high technology items such as communications systems. The Council of State Governments has recommended the use of competitive negotiations when: (a) it is difficult to construct appropriate descriptive specifications for bidders to compete on a common and equal basis; (b) the award will likely be made on the basis of non price-related factors; and (c) it is necessary to conduct discussions with the offerors.^{1/} The Federal Transit Agency’s report on contracting for vehicle maintenance services recommends competitive negotiations wherever any of the following five criteria are satisfied: (a) there is significant variation in the method that may be used to deliver a specific service; (b) there are attributes other than price that should be included as criteria for selecting a contractor; (c) there is a need for bidders to have the opportunity to revise their work plans after initial evaluation of proposals (including the price of services); (d) the award should be based on comparative evaluation; and (e) an RFP would result in a more beneficial contract for the agency.^{2/} Many agencies that are authorized to conduct RFQ/RFP procurements for ITS are not authorized by their enabling legislation to conduct competitive negotiations. The desirability of negotiations has been borne out by those agencies’ ITS contracting experiences. For example, the Colorado Department of Transportation (CDOT) was authorized to conduct an RFP for its fiber optics project, but lacked authority to negotiate with the proposers. Therefore, since each

^{1/} The Council of State Governments, State and Local Government Purchasing (3rd ed. 1988); See, also, John Cibinic, Jr., and Ralph C. Nash, Jr., Formation of Government Contracts 289, 291 (1986).

^{2/} T.H. Maze, *et al.*, “Manual on Contracting for Vehicle Maintenance Services”, FTA Contract No. 1A 11-008-921

proposal was unique, the CDOT was left with comparing apples and oranges. CDOT's ITS Program Manager, John Kiljan, suggests that negotiations in this context would be highly appropriate and desirable. The Michigan DOT has flexibility in designing its procurement approach for ATIS and ATMS systems, but it is not permitted to conduct negotiations. The Michigan DOT uses a two-step process, in which it receives proposals in two parts: (i) technical, and (ii) price. It scores the technical proposals separate from the price. Although the Michigan DOT has been generally satisfied with its two-step proposal process, in which a scored technical proposal is used to weight the bid price, the approach requires the public agency to draft a sufficiently specific RFP to avoid Colorado's "apples vs. oranges" problem.^{3/} A transportation agency may not be equipped to do so without incurring significant additional costs and delay.

7. It is well known that sole sourcing is a disfavored procurement approach, the use of which is limited to very unusual circumstances. The actual circumstances permitting sole sourcing vary widely from jurisdiction to jurisdiction. They might include emergency design and construction consultants or contractors offering demonstrably unique skills and unanticipated time-sensitive staffing requirements. ITS contractors frequently seek from agencies the opportunities to develop and present ideas to public agencies in a way that preserves their "ownership" of the business opportunity. If sole sourcing is unavailable, a similar, but distinct, approach is the unsolicited proposal methodology. This is used to accept private sector proposals where the agency is able to find that: (a) the proposal demonstrates unique and innovative methods, approaches or concepts; (b) the proposal has overall scientific, technical or socioeconomic merit; (c) the proposal will make a potential contribution to the agency's specific mission; (d) the offeror is uniquely capable of achieving the proposal's objectives; and (e) the proposal does not resemble a pending competitive acquisition.^{4/} The "call for projects" procurement methodology is another alternative being used in a manner to offer the private sector source exclusivity protection.
8. While a relatively new methodology for state and local government, agencies at this level that have authority to use calls for projects are finding significant value in the call for projects procurement approach. Many states have enacted special legislation authorizing a call for projects approach. It is suited best to the circumstance in which the agency desires the private sector to identify for the agency the project opportunities the private sector is willing to invest its own resources in whole or in part. Minnesota is among the state DOTs using a call for projects to identify ITS candidates; other states, including California and Washington, have employed it to attract AVI-equipped toll road developers; Missouri has used it to attract fiber optics projects; and several other states are planning to follow Missouri's lead, albeit with some differences. Our panel of experts saw this tool as offering substantial benefits to public agencies and contractors alike under

^{3/} Telephone interviews were conducted with John Kiljan, ITS Program Manager for CDOT, and Barbara Hayes, Administrator of Finance Operations Division for the Michigan Attorney General's Office, as part of this project. Note that our research indicates that Colo. Rev. Stat. 24-103-203 (1995) does provide for competitive sealed proposals with negotiations under circumstances where competitive sealed bidding is neither practicable nor advantageous to the state. Therefore, the prohibition against negotiations in some context may be due to an agency specific regulation.

^{4/} See, e.g., 48 C.F.R. § 15.500, *et seq.*

appropriate circumstances. Several cautions, however, must be kept in mind. First, it is important to discuss with those states that have tried the approach what they felt worked and what did not; there are numerous lessons to be learned for future applications. Second, the more prepared the public agency is to act on the private sector's proposals, the more interest the private sector will have in responding; the private sector wants to know that, if it comes up with a good project, it will get a contract. Third, it is important to recognize that contracts resulting from a call for projects may well include within the scope of the work civil construction and equipment supply -- elements otherwise required to be low bid; special enabling legislation may be necessary as a result. Fourth, drafting a call for projects requires the agency to develop evaluation criteria unlike any others it has used; it must focus on long-term policy goals and resources as the keys for project selection. The approach is not a panacea, however, and should not be used simply to award traditional scopes of work.

TYPE OF CONTRACTS & METHODS OF AWARD

TABLE OF AUTHORITIES

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Issue Overview

COMBINED OR COORDINATED PROCUREMENTS

- Interagency cooperation is critical to obtaining regional compatibility and interoperability of ITS which will foster greater economy and efficiency. The Common Rule encourages State and local agencies to enter into intergovernmental agreements for procurement or use of common goods and services.
- Agencies may be prevented from entering into combined or coordinated procurements due to lack of authority to permit another agency to commit or spend ITS funds, or by incompatible procurement regulations.
- Multi-jurisdictional procurements require sound management by one of the participating entities, an outside consultant, or Metropolitan Planning Organization (MPO) to ensure procurement objectives are clear and any differences in practices, policies or procedures are reconciled.
- Difficulties associated with planning and implementing combined or coordinated procurements are often due to lack of defined roles and responsibilities rather than legal constraints. State and local agencies have been creative and successful in implementing multi-agency procurements.
- The following barrier related to Combined or Coordinated Procurements has been identified as having the potential to constrain or hamper the implementation of ITS:

Concern regarding the authority of one agency to participate in a multi-agency procurement process and have its funds committed by another entity. (Page II-B-11)

Section B

COMBINED OR COORDINATED PROCUREMENTS

B-1. STATEMENT OF ISSUE

Address the extent to which multi-jurisdictional procurements may be used to purchase ITS technologies with region-wide applicability (e.g., electronic toll collection systems, electronic purchase of trucking credentials).

B-2. ANALYSIS

The Common Rule clearly establishes the Federal position on the desirability of combined or coordinated procurements among State and local agencies:

To foster greater economy and efficiency, grantees and subgrantees are encouraged to enter into State and local intergovernmental agreements for procurement or use of common goods and services.^{101/}

^{101/} 49 C.F.R. §18.36(b)(5). The Compact Clause of the U.S. Constitution, Art. I, § 10, cl. 3, provides that “No State shall, without the Consent of Congress, . . . enter into any Agreement or Compact with another State” The U.S. Supreme Court has explained this clause as follows:

“The requirement of congressional consent is at the heart of the Compact Clause. By vesting in Congress the power to grant or withhold consent, or to condition consent on the States’ compliance with specified conditions, the Framers sought to ensure that Congress would maintain ultimate supervisory power over cooperative state action that might otherwise interfere with the full and free exercise of federal authority. [citations omitted] Congressional consent is not required for interstate agreements that fall outside the scope of the Compact Clause. Where an agreement is not ‘directed to the formation of any combination tending to the increase of political power in the States, which may encroach upon or interfere with the just supremacy of the United States,’ it does not fall within the scope of the Clause and will not be invalidated for lack of congressional consent.” *Cuyler v. Adams*, 449 U.S. 443 at 939 (1981).

Detailed analysis of this Constitutional provision is beyond the scope of this report. For a fuller discussion, see, *Libonati*, “*The Law of Intergovernmental Relations: IVHS Opportunities and Constraints*,” 22 *Transp. L. J.* 225 at 244-5 (1994); F. Simmerman and M. Wendell, *The Law and Use of Interstate Compacts* (1961).

Whether or not interstate agreements implementing ITS may be exempt from Congressional scrutiny, it may be advantageous for the participating States to submit such agreements for Congressional approval both to immunize the deal from Constitutional attack and to strengthen the deal - Congressionally-sanctioned compacts have the weight of being recognized as Federal law. *Libonati*, *supra*, at 244. States may also encounter situations where it is advantageous for both the Federal government and the States to include the U.S. DOT as a signatory to the compact. Federal participation may enhance the likelihood of obtaining Congressional consent, provide an advocate for the project at the Federal level, and provide informal access to Federal personnel, equipment and data resources. Federal participation may also benefit Federal interests, for example, by promoting interstate ITS interoperability or by facilitating commercial vehicle operations in interstate commerce.

B-2.1 Types of Combined or Coordinated Procurements

State and local agencies have a variety of models that they can utilize to undertake combined or coordinated procurements. Potential forms of multi-agency collaboration that can be utilized to jointly procure ITS technologies include the following types:

B-2.1(a) Joint Strategic Planning

This approach demands that multiple agencies agree on a common mission and develop combined or coordinated business plans to support the mission of the group.

An example of interagency joint strategic planning can be found in the **E-ZPass InterAgency Group (IAG)** which was one of the earliest and most successful examples of combined or coordinated ITS procurements. **E-ZPass** was formed by several operating toll agencies in response to the virtual mandate from toll road users that if consumers were expected to embrace the use of ITS technologies, Electronic Traffic and Toll Management (ETTM) equipment must be compatible and inter-operable among agencies. Having a different Automated Vehicle Identification (AVI) technology reader for each agency was not a practical or desirable option. The **IAG** is currently comprised of eight toll entities in the tri-state New York metropolitan area.^{102/} Together, these agencies to-date represent almost forty percent of the toll transactions and two-thirds of the total toll revenues in the U.S. To ensure procurement of compatible and interoperable equipment, the IAG collectively undertook a joint procurement to select a vendor for their AVI technology. The combined procurement was effective in utilizing the operating agency's collective leverage to negotiate a favorable irrevocable offer for ETTM.

B-2.1(b) Interagency Contracts for Goods and Services

This is a common activity among public agencies. It involves creation of contractual agreements whereby one agency contracts with another State or local government agency to provide a service to the purchasing agency's citizens, similar to local government contracting with a private firm. Municipalities often contract with neighboring cities for trash pick-up, for example. For a transportation example, consider the arrangement where several municipalities individually contract with an area-wide transportation planning agency to purchase traffic signal management services along a corridor running through all of the municipalities.

^{102/} Initially, the group included seven implementing toll agencies in the New York, New Jersey, and Pennsylvania area, The New Jersey Highway Authority, the New Jersey Turnpike Authority, New York State Thruway Authority, Pennsylvania Turnpike Commission, Port Authority of New York and New Jersey, South Jersey Transportation Authority, and Triborough Bridge and Tunnel Authority. (An eighth agency, Delaware River Port Authority, joined the group after completion of the technology selection process.)

B-2.1(c) Form a Mission-Dedicated Organization or Entity

A separate organization is jointly created which lends its services to aid all jurisdictions that are party to the agreement. An example would be **HELP, Inc.** **HELP, Inc.** was formed as a separate corporate entity by the parties to a previous Federally-funded operational test. The parties which included several State DOTs and private sector stakeholders, desired to continue Commercial Vehicle Operations (CVO) after the operational test funds were expended.^{103/}

B-2.1(d) Utilization of Technical Standards

The emergence of the ITS Architecture and Technical Standards for ITS reduces the need to coordinate procurements for technical compatibility and interoperability as widely accepted industry standards are incorporated into specifications.”

B-2.1(e) Partnering

Partnering is a broad term generally used to describe a range of combined or coordinated affiliations which involve multiple parties (Private to Private, Public to Private, Public to Public) teaming to accomplish an objective while sharing resources, benefits or risks. Partnering does not require a legal partnership as any teaming approach to accomplish mutually beneficial goals and objectives can be characterized as partnering. An example of partnering would be any of the ITS operational tests in which FHWA, State and local agencies and private parties entered into cooperative agreements to perform operational tests to prove the technical feasibility and benefits of ITS technologies. FHWA’s proactive role in facilitating these alliances and agreements is a form of partnering.

B-2.2 Advantages of Entering into Multi-Agency Combined or Coordinated Procurements

When faced with a decision whether or not to enter into a combined or coordinated procurement, public agencies must weigh the advantages versus the disadvantages of entering into a collaborative decision-making process. The advantages include:

^{103/} IVHS Institutional Issues and Case Studies - Analysis and Lessons Learned, United States Department of Transportation, Volpe National Transportation Systems Center, April 1994, at page 1-5.

^{104/} FHWA has recently awarded five contracts to five organizations; American Association of State Highway & Transportation Officials (AASHTO), Institute of Electrical and Electronics Engineers, Inc. (IEEE), Institute of Transportation Engineers (ITE), American Society of Transportation Managers (ASTM), and Society of Automotive Engineers (SAE) to develop various technical standards for ITS. Commerce Business Daily (CBD), January 15, 1995, page 27.

B-2.2(a) Ability to Implement Regional Solutions Utilizing ITS Technologies

Examples are the **E-ZPass IAG** implementing a region-wide toll collection system or Metropolitan Planning Organization (MPO) performing regional signalization coordination among multiple municipalities.

B-2.2(b) Ability to Share Resources

Shared resources can be in the form of funds or personnel. If an agency has little experience in performing ITS procurements, affiliation with another more experienced agency may provide savings by avoiding costly errors and providing an opportunity to understudy more experienced ITS contract practitioners.

B-2.246) Ability to Foster Technical Interoperability

Multiple agencies' use of products and services from the same vendor can ensure compatibility. The **E-ZPass** vendor (Mark IV Industries) extended the same irrevocable offer to all member agencies to provide AVI equipment to each agency. The offer which remains open to acceptance for a period of five years assures equipment compatibility including technology upgrades.

B-2.2(d) Ability to Obtain Economies of Scale and Negotiating Leverage with Suppliers

Combining procurement needs creates opportunities for economies of scale. Economies of scale are a proven method to reduce unit costs by spreading overhead costs over more units of production. **E-ZPass'** collective market share of toll collection equipment was a significant inducement to leverage beneficial contract terms and conditions for all member agencies.

B-2.2(e) Ability to Encourage Innovation

When multiple agencies collaborate there is an opportunity to share ideas with people from other agencies who might bring novel solutions or different approaches to problems. Innovative approaches which have been successful in deploying ITS are proven models to be followed.

B-2.3 Disadvantages of Entering into Multi-Agency Combined or Coordinated Procurements

There are several disadvantages associated with participating in combined or coordinated procurements. They are:

B-2.3(a) Added Complexity

Coordinating procurement processes among several agencies often requires new processes which may be complex and time consuming. The parties must first define a joint scope of work or mission and establish an organization and process for group decision-making and administration. This is particularly true when agencies collaborate for the first time without benefit of a prior working relationship. This disadvantage due to administrative complexity can be overcome or mitigated with careful planning. Proven models of collaboration (e.g., **E-ZPass IAG**) should be utilized as a framework to plan and implement other combined or coordinated procurements.

B-2.3(b) Loss of Control

Combined or coordinated procurements require willingness and the ability to compromise by all agencies to reconcile differences in agency procedures, policies, and practices. This may result in agencies fearing or perceiving loss of individual agency prerogative/autonomy. It is important that multi-agency procurements have strong leadership which constantly keeps focus throughout the procurement planning process on the common mission and team benefits shared by each agency as a result of their collaboration.

B-2.4 Elements of Success for Implementing ITS

The efficiencies and other benefits of implementing regional ITS solutions through combined or coordinated procurements can be significant. The administrative and coordination complexity of conducting a multiple agency procurement can be overcome by planning, sound management and leadership.

The following institutional lessons learned identified by the Volpe National Transportation Systems Center provide excellent guidance for agencies anticipating entering into multi-agency combined or coordinated procurements:

- (1) Public or private partnerships require building trust, understanding, commitment, and communications.
- (2) Partners' roles and responsibilities need to be clearly defined early in the planning stage.
- (3) Good leadership and full-time commitment is essential.
- (4) Systems integrators should be brought on-board early.
- (5) An evaluation process should be initiated during the planning phase.
- (6) Complex projects require flexibility by all parties.

- (7) Contracting flexibility is important.
- (8) ITS programs need a buy-in at two management levels: upper and mid-level.
- (9) Interagency cooperation is facilitated by having an advocate in each key agency.
- (10) Demonstrable benefits are critical to participants and participation by all is critical to success.
- (11) Keep the process moving through strong leadership, the right people making the right decisions and establishing an efficient decision-making process.^{105/}

B-2.5 Successful Organizational and Management Models from Operational Tests

Multi-jurisdictional procurements require sound management by one of the participating entities, an outside consultant or Metropolitan Planning Organization (MPO) to ensure procurement objectives are clear and any differences in procedures, policies or practices are reconciled. There is no one organizational or managerial model to guide participants in structuring customized multi-jurisdictional procurements as to the means and methods to attain strategic objectives. Having a common objective and mission was cited by many of the persons implementing successful multi-jurisdictional models utilized by State and local transportation agencies to deploy ITS. Three models, **E-ZPass IAG**, **Minnesota Guidestar**, and **HELP, Inc.**, share this element. Their decision-making process deployed to achieve a common objective and mission are described in more detail below.

B-2.5(a) Committee Driven Process

As previously mentioned, the **E-ZPass Interagency Group** entered into a combined procurement utilizing an irrevocable offer to jointly select a vendor to provide AVI equipment for the member agencies.

E-ZPass shared decision-making through extensive use of committees involving member agencies making decisions for the group. **E-ZPass** committees include:

^{105/} IVHS Institutional Issues and Case Studies, *supra*, note 4 at page III-B-3.

- Executive
- Policy
- Technical
- Procurement
- Finance
- Operations
- Legal
- Marketing and Public Relations

Extensive use of committees for first time ITS procurements may be time consuming as there are many start-up governance and procedural issues to resolve. However, by having all agencies represented, each agency has input and the additional benefit of having its staff learn how other agencies approach ITS procurement policies, procedures, and practices which they take back to their respective agencies.

B-2.5(b) Strategic Planning Model

A very different organization and decision-making approach was employed by the State of Minnesota in the **Guidestar Program**. It is a simple and existing model for deploying ITS in the context of a State Department of Transportation. **Minnesota Guidestar** is a program founded on partnerships encompassing a wide range of constituencies and stakeholders including:

- (Minnesota Department of Transportation (MinnDOT), the University of Minnesota (U of M), numerous local and regional governmental agencies and the Federal Highway Administration (FHWA))
- Private sector
- ITS community
- Citizens of Minnesota

MinnDOT desired to partner with the private sector and other State and local agencies to compete for FHWA and FTA funding for Intelligent Transportation Systems. To expedite the formation of these “partnerships,” MinnDOT issued a Request for Partnership Proposal (RFPP) requesting proposals in three areas:

- Public-Private Cost-Sharing Partnerships^{106/}
- Cooperative Program^{107/}
- Federal Operational Test^{108/}

The overall objective of the solicitation was to seek new and innovative partnership projects and arrangements between MinnDOT and the private sector to further the program and user service goals and objectives of the **Minnesota Guidestar** strategic plan.^{109/}

Proposed projects were evaluated and selected based on the following evaluation criteria which are closely tied to the **Minnesota Guidestar** strategic plan:

^{106/} Minnesota Guidestar Strategic Plan and Request for Partnership Proposals, June 1994 § §

^{107/} **Id. § 6.03.**

^{108/} **Id. § 6.04.**

^{109/} **Id. § 2.0.**

EvaluationCriteria

Appropriateness of Proposed Project or Program (25 points)

- Consistency with the Minnesota Guidestar Strategic Plan;
- Consistency with the intent and requirements of the option being responded to; and,
- Applicability of proposed services to Minnesota Guidestar goals for this RFP.

Feasibility of Proposed Project or Program (25 points)

- o Proposed hardware, software, and/or services are proven;
- o Theoretical basis for project is proven;
- o Clear plan for providing hardware, software, and services; and
- o Detailed, realistic time schedule.

Technical Capabilities (15 points)

- o Personnel qualified for the type of services being provided;
- o Sufficient available tools and computer resources to perform the proposed services; and
- o Location and accessibility to services in Minnesota.

Management Plan (15 points)

- o The number of people to be made available;
- o Capability of managing costs, schedule, and quality; and
- o DBE and TGB provisions.

Cost (10 points)

- o Realistic funding plan; and
- o Cost to the Department

Experience (10 points)

- o Experience in providing the proposed services; and
- o Experience in other government work, including work for the Department.

The **Minnesota Guidestar** model has been very successful and has over sixty partnership arrangements.”

^{110/}

Report by Minnesota State Assistant Attorney General, Don Muetting, Esq. - ITS America Legal Issues Committee, April 17, 1996.

B-2.5(c) Dedicated Entity Model

As multi-jurisdictional projects evolve and a long-term operational need is established, it may be beneficial to form a separate legal entity to perform multi-agency operations. An example of an entity being created to operate a viable system is **HELP, Inc.** which is a 501 (c)(3) nonprofit corporation.^{111/}

HELP Inc. was formed as a separate entity in October 1993 with the intent of facilitating the accomplishment of the **Crescent** operational test vision, mission, goals and objectives. **HELP, Inc.** is controlled by a Board of Directors, to which each participating State appointed a government representative and a motor carrier representative. Furthermore, States have the option to rotate Board membership between different agencies if desired. The Board has the responsibility for electing the Chair, Vice-Chair, and Secretary/Treasurer from the official representatives.

Day-to-day control of **HELP, Inc.** is the responsibility of a full-time Executive Director supported by a full-time Technical Program Management Consultant.

Management of **HELP, Inc.** is conducted in accordance with its bylaws which establish the corporate structure, membership, Board of Directors, committees, Corporate Officers, and the Executive Director. The Executive Director is empowered to make most decisions and is given broad discretion in the bylaws to carry out its responsibility through its prime consultant.

The main advantage that **HELP, Inc.** has over other combined/coordinated procurements is its simple organizational and administrative structure. Participants in **HELP, Inc.** are represented as voting members of the Board of Directors. **HELP, Inc.** is incorporated under laws of the State of Arizona to operate as a nonprofit, no stock, no-dividend corporation.

The **HELP, Inc.** model of using a stand-alone entity to maximize performance and minimize administration costs is highly desirable. However, in the early stages of a project, it may be difficult to initiate as State legislators who often must pass enabling legislation may be reluctant to endorse stand-alone projects with no proven track record of performance. The approach is more easily “sold” to legislators and other policy makers at a later date when the project has established itself as a viable stand-alone entity. At this stage, incorporating a stand-alone entity may be sound business management.

The following section illustrates how participants in the operational tests overcame barriers to implementing successful combined or coordinated procurements.

^{111/} Internal Revenue Code, § 501 (c)(3).

B-3. BARRIERS AND SOLUTIONS

Barrier No. 1	Concern regarding the authority of one agency to participate in a multi-agency procurement process and have its funds committed by another entity
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Solution No. 1(a)	Unless expressly prohibited, construe broadly an agency’s power to enter into agreements necessary or incidental to the performance of its duties or incidental to the execution of its powers
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State and local agencies may be granted broad powers to enter into agreements which are necessary or incidental to the performance of their duties and execution of their powers. The **E-ZPass IAG** Procurement involved several regional tollroad operators. In reviewing the New Jersey member agencies’ ability to enter into the procurement, the New Jersey Attorney General found:

The procurement authority of the New Jersey toll authorities is contained in basically identical statutes. Each authority is authorized to make and enter into all contracts and agreements necessary or incidental to the performance of its duties and execution of its powers.^{112/}

The ability of each agency to enter into agreements with the others can be interpreted to be necessary and incidental to implementing regional solutions to ensure interoperable systems in the absence of an express prohibition at the State or local level prohibiting such partnerships.^{113/}

^{112/} Letter to Christine Johnson, New Jersey Assistant Commissioner for Policy and Planning, from Richard J. Harcar, Deputy Attorney General, dated September 21, 1991. (NJTA - N.J.S.A. 27:23-5(l); NJHA - N.J.S.A. 27:12B-5(0); NJEA - N.J.S.A. 27:12C-1 l(q).

^{113/} Federal support for multi-agency solutions is stated in the Common Rule at 49 C.F.R. § 18.36(b)(5).

Solution No. 1(b)	include explicit, broad authority to enter into inter-governmental agreements in State agency enabling legislation
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Rather than rely on interpretations of existing statutes, some State and local transportation or other contracting agencies have sought express legislative authorization to enter into intergovernmental agreements. Recent examples of express legislative authority being obtained through legislative processes include the following:

Minnesota Guidestar

174.02 COMMISSIONERS POWERS AND DUTIES.

Subd. 6. Agreements, receipts, appropriation. To facilitate the implementation of intergovernmental efficiencies, effectiveness, and cooperation, and to promote and encourage economic and technological development in transportation matters within and between governmental and non-governmental entities:

(a) The commissioner may enter into agreements with other governmental or non-governmental entities for research and experimentation; for sharing facilities, equipment, staff, data, or other means of providing transportation-related services; or for other cooperative programs that promote efficiencies in providing governmental services or that further development of innovation in transportation for the benefit of the citizens of Minnesota.^{114/}

City and County of Los Angeles Charter Amendment No. 1

Another example of express authorization for entering into multi-agency agreements is found in **City and County of Los Angeles** Charter Amendment No. 1, enacted April 11, 1995. This amendment authorized the City and County to enter into:

... cooperative arrangements with other governmental agencies, for the utilization of purchasing contracts of such agencies even though any such agency has not entered into the particular purchase contract through a competitive bid process and as to the utilization of such purchasing contracts any implementation agreement with the other party to the contract.^{115/}

^{114/} Minnesota Statutes, Volume 4, Chapter 174.02, 1993.

^{115/} Charter of the City of Los Angeles, § 11, § 386(a)(7), 1995.

State agencies possessing the authority to commit funds to programs and projects procured by another entity may have some flexibility in choice of procurement rules by proactively choosing which agency takes the lead in contracting. Examples and variations of this technique include:

(1) **Use the Most Restrictive Procurement Practices**, This was the approach of the **E-ZPass IAG**. Utilization of the most restrictive practices was seen as a way to minimize the risk of a successful bid protest from unsuccessful bidders.

(2) **Utilize the State which has Experience and/or Broad Contracting Authority to Apply Innovative Contracting Approaches for ITS**, For example, the I-95 corridor coalition utilized Delaware because of its less restrictive procurement regulations.

(3) **Rotate the Contracting Responsibility Among Participants**, Although an equitable approach from an agency decision-sharing point of view, this approach has two distinct disadvantages:

- Each agency has a new learning curve and may not benefit from the experience gained by the predecessor agency.
- Lack of continuity and differing procurement requirements for each procurement might inhibit the private sector's participation due to the costs of learning and entering into multiple procurement processes among multiple agencies for essentially the same project.

Solution No. 1(c)	Invite offerors to make an “irrevocable offer” where delegation of the authority to commit funds is a barrier and other solutions are not available
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E-ZPass' use of an irrevocable offer made by a single vendor to each member agency avoided issues which may arise when one agency attempts to delegate its contracting authority and its authority to commit funds to another agency. By soliciting a common offer, each member agency benefited from the terms and conditions collectively negotiated by the IAG. Yet each agency was not individually bound until it accepted the irrevocable offer by entering into a separate contract with the successful proposer.

B-4. ADDITIONAL FINDINGS AND RECOMMENDATIONS

Our research of ITS operational tests has consistently reinforced the following major findings regarding combined or coordinated procurements:

- (1) Overcoming the administrative requirements of coordinating multiple public agencies is essential to the deployment of regional ITS solutions. State and local public agencies have been very creative in finding solutions to the administrative difficulties of conducting combined or coordinated procurements. The perceived inability to enter into multi-agency procurements can be resolved early in the procurement process. No other barriers were identified.
- (2) Failure to provide seamless interoperable Intelligent Transportation Systems across jurisdictional boundaries of State and local transportation agencies could severely limit the effectiveness, speed, and degree of ITS deployment. Institutional models to accomplish seamless interagency activities exist but are underutilized.

As proven in **E Z PASS**, **Minnesota Guidestar** and **HELP Inc.**, there is no one way to successfully implement combined or coordinated procurements. The ISTEA, with its focus on intermodal solutions, has put a premium on interagency cooperation.

As established in the VOLPE case studies of institutional issues, it is not the rules, regulations or procedures that lead to a successful multi-agency procurement. It is instead the people from the various entities who must coalesce into a team focused on common mission and shared benefits. Partnering of ideas, resources and benefits is a new paradigm to many State and local agencies. Partnering requires a change in the way agencies have traditionally conducted business with the private sector. Both the public and private sector must take the time to understand each others' needs and wants to function effectively as a team. Key to the understanding is building trust and belief in your partner or teammate's ability to accomplish their role and support the team win.

COMBINED OR COORDINATED PROCUREMENTS

TABLE OF AUTHORITIES

CASES

<u>Cuyler V. Adams</u> 449 U.S. 443 AT 939 (1981)	1
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STATUTES

Minnesota Statutes Volume 4 Chapter 174.02, 1993	12
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OTHER AUTHORITIES

Charter of the City of Los Angeles, Section 11, Section 386(a)(7), 1995	12
IVHS Institutional Issues and Case Studies - Analysis and Lessons Learned, United States Department of Transportation, Volpe National Transportation Systems Center, April 1994 at page I-5	3
Minnesota Guidestar Strategic Plan and Request for Partnership Proposals, June 1994	8

INTERNAL REVENUE CODE

Section 501	10
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U.S. CONSTITUTION

Art. 1, Sec. 10, C1.3	11
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CODE OF FEDERAL REGULATIONS

49 C.F.R. Section 18.36	1, 11
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Issue Overview

FINANCIAL ADMINISTRATION OF GRANTS AND COOPERATIVE AGREEMENTS

- Public policy requirements impose allowability-of-cost issues on the private sector in order to exclude certain types of costs from vouchers or invoices requesting reimbursement out of public funds. Grantees are required to establish that they are consistently applying proper accounting standards and are utilizing acceptable cost principles to identify and isolate costs not chargeable to a contract. Applying these principles can be problematic for firms doing business with the public sector for the first time.
- Cost principles come into play when cost is a basis for either contractor selection, for contractor compensation, or for pricing adjustments on an existing contract. The Federal Acquisition Regulation (FAR) establishes cost principles which are utilized on federally funded procurements, but are not directly applicable to State and local procurements. They do, however, often come into play when incorporated into grantee contracts and subcontracts.
- Cost accounting standards refer to how a prospective contractor estimates, accumulates and reports contract costs. Public agencies require strict adherence and consistency in contractors' method of cost accounting from year to year. The private sector, on the other hand, may modify their accounting systems annually to take advantage of tax or accounting rule changes.
- Private sector firms fear disclosure of their propriety information resulting from public agency audits of their records. This can be mitigated by utilizing separate entities to "wall-off" private activities; retaining third party auditors who audit to government standards; or by not accepting public funds.
- As public agencies look to the private sector to supplement and leverage public ITS investments, revenue sharing or cost matching techniques will become more common. New language in the National Highway System Designation Act of 1995 extends and liberalizes rules allowing States to receive and value in kind goods and services. However, these sources of funds may be limited if the public sector utilizes intrusive methods to verify that the contribution was received and properly valued.

Issue Overview

- The federal government has significantly reduced grant administration requirements on State and local agencies. State and local agencies are encouraged to work with U.S. DOT to develop alternative cost principles acceptable to the parties which are more responsive to the unique needs of ITS deployment and encourage partnering with the private sector.
- The following barriers related to Financial Administration of Grants and Cooperative Agreements have been identified as having the potential to constrain or hamper the implementation of ITS:
 - (1) Private sector firms doing business with governmental entities for the first time may lack knowledge of the concept of unallowable contract costs, or may understand the concepts but lack the accounting systems needed to apply the cost principles. *(Page III-C-78)*
 - (2) Private sector firms doing business with public entities for the first time may lack the financial reporting consistency required by public sector cost accounting standards. *(Page III-C-22)*
 - (3) Private sector firms may not pursue publicly-funded ITS work due to fear of public disclosure of their proprietary financial information. *(Page III-C-24)*
 - (4) The private sector cannot be expected to partner with public agencies by sharing costs without receiving sufficient benefits or opportunities to recoup its investment and make a profit. *(Page III-C-25)*

Section C

FINANCIAL ADMINISTRATION OF GRANTS AND COOPERATIVE AGREEMENTS

C-1. STATEMENT OF ISSUE

Comprehensive cost accounting, cost allowability, and audit requirements apply to State and local government contracts awarded using Federal grant funds. Commercial firms that do not regularly do business with States or other public sector entities find these requirements burdensome and costly to comply with. This section reviews the rules and regulations governing the financial administration of grants and grantee or subgrantee procurements. After summarizing the legal framework, this section addresses the following issues:

- The effect of mandatory application of the cost allowability principles contained in FAR Part 31;
- The availability of alternative cost allowability principles which reduce compliance costs for contractors while still meeting the needs of the Federal government and the grantee;
- The effect of application of Federal cost accounting standards on contractors of Federal grantees;
- The need for pre-award, post-award, and contract closeout audits to establish contractor compliance; the availability of alternatives to reduce the burdens associated with audits performed by grantee personnel;
- The implications of including a cost matching or sharing component as related to verification of and valuation of the cost matching element.

C-2. ANALYSIS

Federal requirements are imposed on State and local grantees to establish that contracts are awarded and administered in accordance with the terms of the grant or other funding instrument, and that Federal funds are expended consistent with Federal law and any grantee requirements. For this discussion it is critical to distinguish between procurements made under grant programs and direct Federal procurements. The Federal Acquisition Regulation (FAR), which governs most direct Federal procurements or acquisitions generally is not directly applicable to grantee procurements. An exception to this principle may be created, however, when a grantee requires its contractor to follow specific FAR requirements, either because Federal regulation directs the grantee to impose FAR compliance, because the terms of the

grant agreement direct FAR compliance, or because the grantee has made a choice to require FAR compliance.

C-2.4 Common Rule

To reduce the burden on grantees of complying with differing Federal agency requirements, in 1971 the Office of Management and Budget (OMB) promulgated Circular A-102, "Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments."^{116/} The last significant revision to Circular A-102 occurred in 1988. This revision directed Federal grant-making agencies to promulgate a standard, "Common Rule" to govern the administration of their grants to State and local governments.

Requirements for State Grantees. For financial administration, the Common Rule at 49 C.F.R. § 18.20(a) distinguishes between State grantees and other government agency grantees. A State must account for grant funds in accordance with State law and procedures governing expenditure and accounting of the State's own funds.

Requirements of Other Grantees. Financial reporting requirements imposed on other grantees at 49 C.F.R. § 18.20(b) are more detailed. These include requirements for financial reports, accounting records, internal controls, budget controls, and cash management. The Common Rule also sets forth certain standard forms to be used in making financial status reports.^{119/}

To date, at least 26 Federal departments or agencies have adopted the "Common Rule" governing their grant programs to State and local governments. The U.S. DOT's implementation of the "Common Rule" appears at Part 18 of 49 C.F.R., Subtitle A, "Uniform Administrative Requirements for Grants and Cooperative Agreements To State and Local Governments," supplemented by DOT Order No. 4600.17. Copies of both regulations have been included as an Appendix to this report.^{119/}

^{116/} Federal Grant Programs to State and Local Governments - David J. Cantelme - Public Contract Law Journal, Volume 25, No. 2, Winter, 1996 at page 335. Since its promulgation, Circular A-102 has gone through several revisions and refinements. A major change occurred in 1979 when Attachment 0, adopting procurement standards for contracts awarded by grantees using Federal grant funds, was added.

^{117/} *Id.* at page 339. While OMB Circular A-102 and the "Common Rule" provide the main architecture of the regulations governing federal grants to State and local governments. The OMB has promulgated two significant supplemental sets of regulations: Accounting Principles for State and Local Grants, and audit requirements. In addition, OMB Circular A-102 section 5 permits-but discourages-agency deviations.

^{118/} *Id.* at 341.

^{119/} A complete copy of 49 C.F.R. Part 18 - Uniform Administrative Requirements for Grants and Cooperative Agreements, is included as an attachment to this Section. In addition to Part 18, the Department of Transportation recently issued DOT Order No. 4600.17, entitled "Grant Management Requirements" (Sept. 5, 1995), which revamped DOT's internal administrative guidance for grantees, their subgrantees and their

The following illustrations provide a broad overview of the flow of funds as they are committed, incurred, and reimbursed through a U.S. DOT program or grant:

Flow of Grant Funds

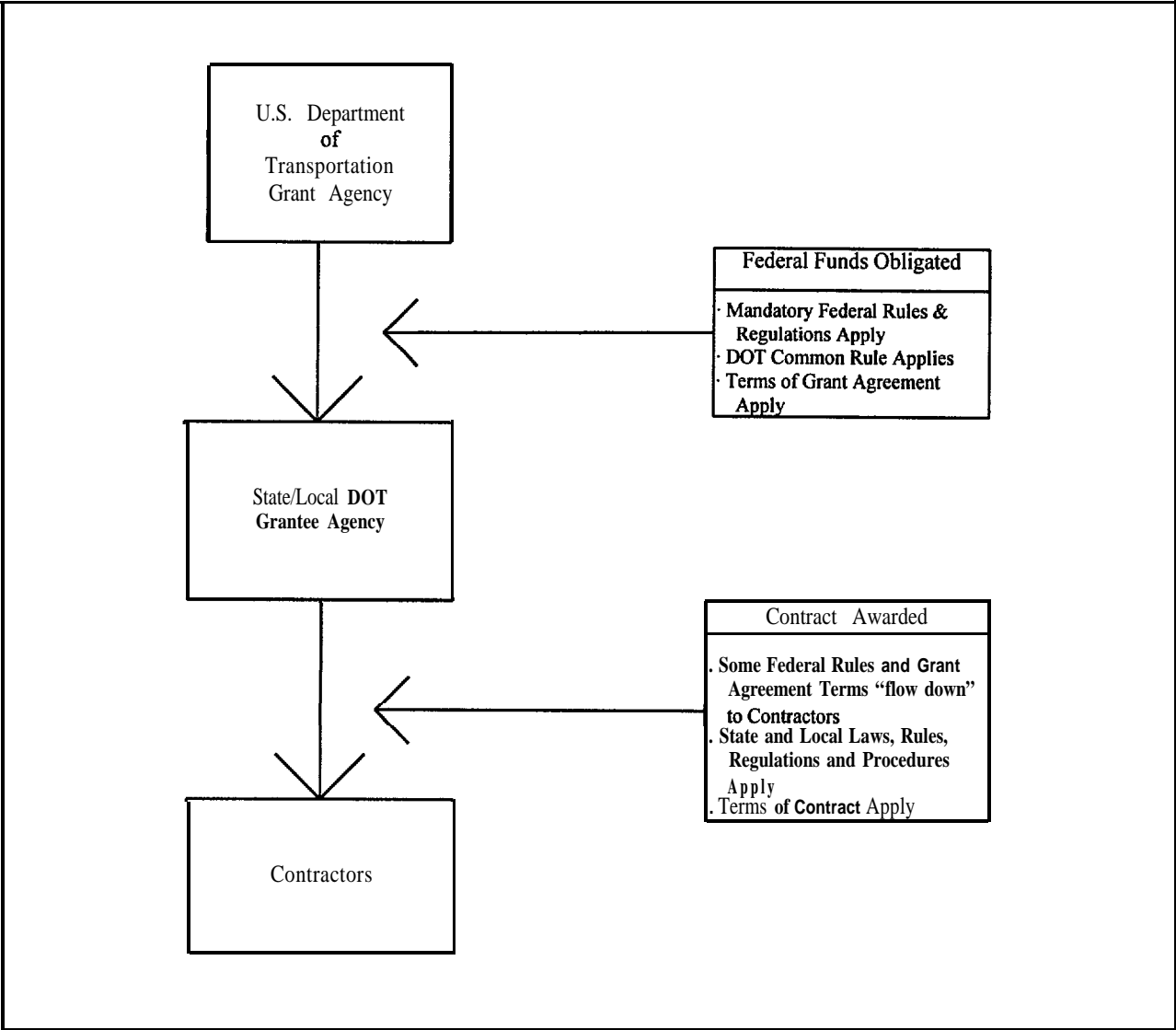


Figure 3

5, 1995), which revamped DOT’s internal administrative guidance for grantees, their subgrantees and their contractors. DOT made the changes in response to Executive Order 12861 (September 12, 1993), which required that all executive branch departments and agencies eliminate at least 50 percent of their internal regulations by September 11, 1996. On October 18, 1993, OMB defined internal regulations to include grant management requirements.

Flow of Reimbursement Requests

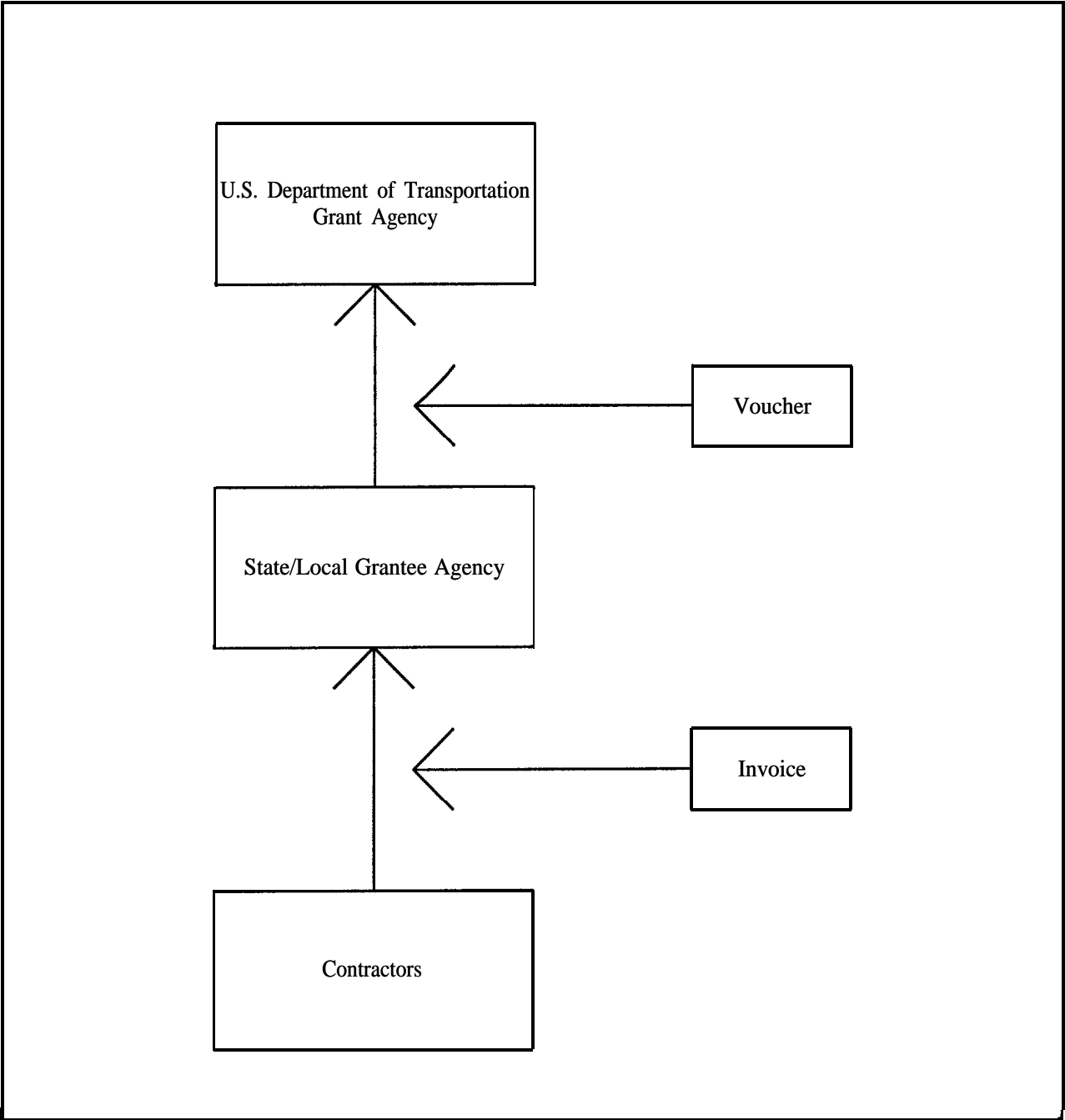


Figure 4

C-2.2 Common Rule Procurement Requirements

In addition to the grant management requirements discussed in the previous section, contracts awarded under funds from grants or cooperative agreements must be administered to ensure that the cost of the work performed has been incurred in accordance with the terms and conditions of the contract awarded. Although contract administration and compliance activities occur after contract award, decisions impacting contract post-award administration and compliance are made during the contract planning and formation process when the type of contract, method of award and pricing terms are established.

The Common Rule contains specific requirements for grantee or sub-grantee procurements. These rules are set forth in 49 C.F.R. § 18.36. Two critical procurement issues impacting financial and contract administration are addressed. Specifically,

- Methods of Procurement¹⁷⁴
- Contract Cost and Price^{121/}

In addition, the Common Rule vests responsibility in a non-State grantee or subgrantee for resolution of source valuation issues, protests, disputes, and claims. The rule specifically prohibits Federal agencies from substituting their judgment for that of the grantee or subgrantee unless the matter is primarily a Federal concern.^{***}

C-2.3 Contracting Issues in Financial Administration

The Common Rule governs the financial administration of grants which includes the management of the procurement process utilized by State and local transportation agencies to obtain ITS goods and services. Financial administration related contracting issues may be encountered during the planning, contract formation, contract administration and contract closeout phases of the procurement process.

It is important that financial administration issues be addressed prior to contract award when some flexibility is available to grantees, subgrantees and contractors at this stage to negotiate more flexible terms and conditions acceptable to both parties. Once the

^{120/} 49 C.F.R. § 18.36(d).

^{121/} 49 C.F.R. § 18.36(f).

^{122/} 49 C.F.R. § 18(a)(11); Federal Grants Programs to State and Local Governments, *supra* note 1, at page 345.

contact or grant is awarded, the parties for the most part, have to live with what was negotiated.^{123/}

Terminology. For a successful negotiation on financial administration issues, it is important for both the public and private participants to understand the purpose and differences among the terms “**allowability of costs**”, “**cost principles**” and “**cost standards**.” These terms are defined in the context of direct Federal Government procurements as follows:

Allowability of costs reflects FAR 31.201-1 which states, with respect to contracts with commercial organizations, “While the total cost of a contract includes all costs allocable to the contract, allowable costs to the government are limited to those costs which are allowable pursuant to FAR Part 31 and applicable agency supplements.”

Cost Principles reflect the requirements (applicable to commercial organizations) of FAR 31.201-2 which states: “Certain cost principles in this subpart incorporate the measurement, assignment, and allocability rules of selected Cost Accounting Standards (CAS) and limit the allowability of costs to the amounts determined using the criteria in those selected standards. Business units that are not otherwise subject to these standards under a CAS clause are subject to the selected standards for the purpose of determining allowability of costs on governments contracts.” (emphasis added)

Cost accounting standards refer to the accounting practices a prospective contractor uses to estimate, accumulate and report contract costs. As a condition to receiving public funds through a contract, contractors must disclose their accounting practices in writing to enable a public agency to (1) establish a clear understanding of the cost accounting practices the contractor intends to follow, (2) define costs charged directly to contracts and disclose methods used to make such allocations, and (3) delineating the contractor’s methods for distinguishing direct costs from indirect costs and the basis for allocating indirect costs to the contract.

^{123/}

It is in the interest of both the grantee and contractor to streamline financial administration of contracts in a manner acceptable to both parties. Each party will enjoy reduced administrative and oversight costs as a result of successful negotiations on these issues.

C-2.3(a) Allowability of Costs

The Common Rule establishes the following limitation on use of funds: "Grant funds may only be used for:

- (1) The allowable costs of grantees, subgrantees and cost-type contractors including allowable costs in the form of payments to fixed-price contractors; and
- (2) Reasonable fees or profit to cost-type contractors but not any fee or profit (or increment above allowable costs) to the grantee or subgrantee."^{124/}

To exclude certain costs from a contractor's invoice submitted to a public transportation agency it is necessary that policies and procedures exist which provide for the identification, capture and exclusion of such unallowable costs. Part 31 of the Federal Acquisition Regulation (FAR) is used in direct Federal procurements to define categories of unallowable costs. The regulation states: "Certain costs are rendered unallowable by provisions of pertinent laws and regulations."

Examples of costs declared expressly unallowable by Federal statute or regulations (including the FAR) are:

- contingent fees^{125/}
- entertainment expenses^{126/}
- fines and penalties^{127/}
- costs of organizing or reorganizing a business enterprise^{128/}
- contributions^{129/}
- interest^{130/}
- losses on other contracts^{131/}
- certain types of advertising and business meetings^{132/}

^{124/} 49 C.F.R. § 18.22.

^{125/} FAR 3 1.205-7.

^{126/} FAR 3 1.205-14.

^{127/} FAR 31.205-15.

^{128/} FAR 3 1.205-27.

^{129/} FAR 3 1.205-g.

^{130/} FAR 3 1.205-20.

^{131/} FAR 3 1.205-23.

^{132/} FAR 3 1.205- 1.

- bad debts^{133/}
- Federal income taxes^{134/}

A description of these and other unallowable contract costs and the criteria for a determination of allowability are provided in FAR Part 31.

In addition to the above categories, other costs may be specifically identified in the contract as being unallowable and the contract terms may also provide specific criteria that must be met before a cost is considered allowable (i.e. after invoice approval) or there may be ceiling limitations on certain types of costs or on total contract costs.^{135/}

C-2.3(b) Applicable Cost Principles

Cost considerations only come into play when cost is a basis for:

- Contractor selection
- Compensation
- Scope changes or claims

The Common Rule states: "For each kind of organization, there is a set of Federal principles for determining allowable costs. Allowable costs will be determined in accordance with the cost principles applicable to the organization incurring the cost".^{136/} For-profit corporations are required to utilize FAR Part 31 cost principles and procedures, or uniform cost principles that comply with cost principles acceptable to the Federal agency.^{137/}

Utilization of FAR by State and Local Contracting Agencies. Although only applicable in direct Federal procurements, the FAR is often adopted by State and local transportation agencies to establish and define allowability standards for their contracts on an individual contract or agency-wide basis. An example of an agency utilizing these standards is **Los Angeles County Metropolitan Transportation Authority's (LACMTA)** guide prepared for use by LACMTA staff contractors, consultants and auditors to determine allowability, allocability and reasonableness of contract costs. The guide specifically states that FAR 31.205 contains cost principles which "are to be

^{133/} FAR 31.205-3.

^{134/} FAR 31.205-4 1.

^{135/} Defense Contract Audit Agency Manual (January 1996), § 5-1009.

^{136/} 49 C.F.R. § 18.22(b).

^{137/} *Id.*

used by both contractors and auditors."^{138/} A matrix cross referencing FAR to categories of allowable and unallowable costs has been included in the Appendix.^{139/}

C-2.3(c) Cost Accounting Standards

In order to receive public funds under a grant or contract, the entity receiving the funds must establish that its financial administration accounting system has integrity and the ability to exclude costs not legally chargeable. Integrity is established by (1) achieving consistency in the cost accounting practices utilized by a contractor in estimating costs for its proposals with those practices used in accumulating and reporting costs during contract performance, and (2) to provide a basis for comparing such costs.^{140/}

(1) **Comparability Requires Consistency.** Cost accounting practices should be applied consistently so that comparable transactions are treated alike. The consistent application of cost accounting practices will facilitate the preparation of reliable cost estimates used in pricing a proposal and the comparison of those cost estimates with the actual costs of contract performance. Such comparisons of estimated and incurred costs provide (1) an important basis for financial control over costs during contract performance, (2) means for establishing accountability for costs in a manner agreed to by both parties at the time of contracting, and (3) an improved basis for evaluating estimating capabilities.^{141/}

(2) **Consistency Between Estimating and Accumulating Costs.** The consistency requirement between estimating and accumulating costs is a two-part requirement. First, the contractor's practices used to estimate costs in pricing proposals must be consistent with practices used in accumulating actual costs. Second, the contractor's practices used in accumulating costs must be consistent with practices used to estimate costs in pricing the related proposal.^{142/}

^{138/} Los Angeles Metropolitan Transportation Authority Contract No. EN027, Amendment No. 1.

^{139/} The matrix appears in the Appendix entitled, "Financial Administration." LACMTA's approach to utilizing FAR to determine allowable costs appears to be in compliance with U.S. DOT Order 4600.17, Appendix C, which requires "The cost principles established by subpart 3 1.2 of the FAR shall be used for for-profit organizations." (emphasis added) This is somewhat in conflict with the Common Rule which requires that grantee's rules, regulations and procedures shall apply unless there is an overriding federal interest. 49 C.F.R. § 18.2.

^{140/} Defense Contract Audit Agency (DCAA) Audit Manual, §S-401. The DCAA conducts audits of Federal Government contractors on behalf of both military and civilian Federal agencies.

^{141/} *Id.*

^{142/} *Id.* § 8-401.1(a).

One of the primary problems involved in the implementation of the consistency standard related to the level of detail provided in estimating contract costs and accumulating contract costs.^{143/} Negotiating broader cost accounting categories which require lesser levels of detail may provide an opportunity to increase grantee flexibility and reduce the administration costs of both the grantee and contractor. However, any negotiated agreement must meet the minimum Federal requirements contained in the Common Rule.^{144/}

(3) Consistency in Reporting Costs. Reporting costs refers to (1) data presented in reports required by the contract such as budget and management reports for cost control purposes, and (2) the data contained on public vouchers or any other request for payment. The primary interest is to ascertain whether the accounting practices used to determine the costs presented in those reports are consistent with the accounting practices used to estimate and accumulate the costs.^{145/}

C.2.3(d) Audits

The fundamental basis establishing the need for audits arises from grantees' responsibility to expend and account for Federal grant funds in accord with their own State and local laws and procedures. The Common Rule provides further definition of this requirement which imposes different rules on State agencies versus non-State agencies.

(1) Requirements for State Systems. State systems must be sufficient to. . .

- Permit preparation of reports required by the [the Common Rule], and the statutes authorizing the grants,
- Permit the tracing of funds to a level of expenditure adequate to establish that the funds have not been used in violation of restrictions and limitations of applicable statutes.^{146/}

(2) Requirements for Other Grantees. "Other grantees" are required to comply with the following requirements:

^{143/} *Id.*

^{144/} 49 C.F.R. § 18.22.

^{145/} § 8-40 1.2, DCAA Audit Manual, *supra*, at note 25.

^{146/} 49 C.F.R. § 18.20(a).

- **Financial Reporting.** Accurate, current, and complete disclosure of the financial results of financially assisted activities must be made in accordance with the financial reporting requirements of the grant or subgrant.
- **Accounting Records.** Grantees and subgrantees must maintain records which adequately identify the source and application of funds. . . .
- **Internal Control.** Effective control and accountability must be maintained for all grant and subgrant cash, real and personal property, and other assets. . . .
- **Budget Control.** Actual expenditures or outlays must be compared with budgeted amounts for each grant or subgrant. . . ,
- **Allowable Cost.** Applicable OMB cost principles, agency program regulations, and the terms of grant and subgrant agreements will be followed in determining the reasonableness, applicability, and allowability of costs.
- **Source Documentation.** Accounting records must be supported by such source documentation as canceled checks, paid bills, payrolls, time and attendance records, contracts, subgrant documents, etc.
- **Cash Management.** Procedures for minimizing the time elapsing between the transfer of funds from the U.S. Treasury and disbursement by grantees and subgrantees must be followed whenever advance payment procedures are used. . . .^{147/}

(3) **Types of Audits.** In order to comply with the above requirements associated with receiving public funds, grantees may require one or more contractor audits based on the verification needs and standards. Typical public sector audits may include the following types:

- **Pre-award Audits.** After receiving an offer from a contractor, the grantee will conduct a preaward evaluation to determine if the offeror's accounting system is adequate to accumulate and segregate costs as detailed in the previous section, and to determine if the proposed costs are reasonable.
- **Interim Audits.** An interim audit is generally performed to ensure that billed costs are supported, and any previous deficiencies have been corrected.

¹⁴⁷¹ 49 C.F.R. § 18.20(a).

- **Annual General Cost Audits.** Performance of long-term contracts normally will cross several contractor fiscal years. Since the contracts provide for provisional overhead billing rates, the overhead must be audited each year, and the actual rates must be compared to the provisional rates. An adjustment is then made to the contract billings to reflect the difference between the actual and provisional rate; and a new provisional rate for the coming year is set. Contractors should perform the audit on a “self determination basis” so as not to (1) harm their cash flow by having a provisional rate which is lower than the actual rate, or (2) build up a liability when the provisional billing rate is larger than the actual rate, which might harm the financial health of the contractor when the liability is paid. Generally, overhead should be audited only once each year for all contracts.
 - **Close-out Audits.** Close-out audits of contracts are performed after project completion. Such audits are performed routinely to determine whether the contract costs claimed are 1) allowable, 2) allocable, 3) reasonable, 4) in compliance with Federal and State laws and regulations, and in compliance with the fiscal provisions required by the contract. Audit tests, and other auditing procedures considered necessary in the circumstances will be made of the contractor’s accounting records. The close-out audit will include an audit of any unaudited overhead years and will determine the payment of final amounts for overhead adjustments and fee withholds.^{148/}
- (4) Single Audit Act.** Audit requirements for State and local grantees are based on the Single Audit Act of 1984.^{149/} These requirements have been implemented in OMB Circular A-128, Audits of State and Local Governments.^{150/}

^{148/} Amendment to Contract No. ENO 27 - Los Angeles County Metropolitan Transportation Commission and Enviro-Rail, April 12, 1996.

^{149/} 31 U.S.C. 7501-7507.

^{150/} Audit requirements have been implemented in U.S. DOT in 49 C.F.R. part 18 and in 49 C.F.R. part 90, Audits of State and Local Governments. Part 90 is merely a re-publication of OMB Circular A-128. The Department has determined that part 90 is unnecessary, and has decided to rescind part 90 and add a reference to OMB Circular A- 128 in § 26, Non-Federal Audits, of part 18.

The Single Audit Act of 1984 established audit requirements for State and local government recipients of Federal financial assistance, and is implemented by OMB Circular A-128.^{151/}

(5) **U.S. DOT Grant Management Requirements.** U.S. DOT Order No. 4600.17 states:

When . . . additional audits are necessary, such audits shall build on the results of independent auditors if the audits meet the criteria contained in OMB Circular A- 128 or A- 133. Recipients receiving less than \$25,000 a year in Federal assistance funds are exempt from audit requirements; however, they must retain appropriate records to document their compliance with the requirements of their Federal assistance awards. Recipients receiving \$25,000 or more but less than \$100,000 who do not obtain audits in accordance with A-128 or A-133 shall follow procedures prescribed by the Operating Administrations (OAs) and Secretarial Offices (SOs) and shall ensure that Federal funds were spent in accordance with applicable laws and regulations governing the program in which they participate.

(6) **Audits Acceptable to Establish Federal Compliance.** The following can be used to determine recipient compliance with Federal requirements:

- Recipient obtained audits made in accordance with “Government Auditing Standards” (GAS) issued by GAO.
- Previous audits of recipient operations.
- Desk reviews by Federal program officials of project documentation.
- Federal/non-Federal audits obtained by recipients.
- Evaluation of recipient operations by Federal program officials.^{152/}

^{151/} OMB Circular A-128 extends the provisions of the Single Audit Act to public hospitals, colleges and universities, but governments may exclude these entities from single audits provided that the audits comply with, and are conducted, in accordance with OMB Circular A-133. OMB Circular A-133 provides audit requirements for institutions of higher education and other nonprofit organizations, and closely parallels the requirements of A-128. The requirements for audit coverage for recipients, not covered under either A-128 or A-133, are included in the Appendix.

^{152/} 31 U.S.C. 7501-7507.

The final U.S. DOT rule adopting the Single Audit Act was published in the Federal Register on May 10, 1996, effective June 10, 1996.

The rule states:

(d) Governmental recipients and sub-recipients are subject to the Single Audit Act of 1984, and OMB Circular A-128, "Audits of State and Local Governments."^{153/}

As a result, U.S. DOT has formally adopted the Common Rule position regarding the Single Audit Act.

C-2.3(e) Implications of Cost Sharing or Matching Share Requirements

Definitions

Cost sharing or matching means the value of the third-party in-kind contributions and the portion of the costs of a Federally-assisted project or program not borne by the Federal Government.^{154/}

Third party in-kind contributions mean property or services which benefit a Federally-assisted project or program and which are contributed by non-Federal third parties without change to the grantee or a cost-type contractor under the grant agreement.^{155/}

Issues Raised by Cost Sharing. The introduction of third-party cost matching into public funded ITS projects and programs may give rise to the following issues regarding methods of valuation, authority to receive funds, and need for a public purpose.

(1) Methods of Valuation. The Federal rules regarding grants and cooperative agreements set forth clear guidelines for State and local agencies regarding the valuation and satisfaction of cost sharing or matching share requirements. The rule states:

Costs and contribution acceptable. With the qualifications and exceptions listed in paragraph (b) of this section, a matching or cost sharing requirement may be satisfied by either or both of the following:

^{153/} 49 C.F.R. 18.26(d).

^{154/} 49 C.F.R. § 18.3.

^{155/} *Id.*

(1) Allowable costs incurred by the grantee, subgrantee or a cost type contractor under the assistance agreement. This includes allowable costs borne by non-Federal grants or by other cash donations from non-Federal third parties.

(2) The value of third party in-kind contributions applicable to the period to which the cost sharing or matching requirements applies.^{156/}

In Kind Contributions. The Common Rule presents special standards for third party in-kind contributions for the following situations:

- Contributions count only if the contribution would be an allowable cost under a grant or contract
- Fixed price contract valuation can be utilized if there is an increase in service or decrease in cost
- All other third party contributions shall be valued to be a fair and reasonable value^{157/}
- **NHS Expands Eligibility for In-Kind Contributions.** Valuation of cost sharing or matching share contributions for Title 23 deployment was recently expanded by the National Highway System (NHS) Designation Act of 1995. Section 323 of Title 23 U.S.C., entitled *Donations*, addresses procedures for property being acquired and credit for donated lands.^{158/}

The NHS added the following language to expand and modify § 323 to include:

“(c) Credit for Donations of Funds, Materials, or Services.— Nothing in this title or any other law shall prevent a person from offering to donate funds, materials, or services in connection with a project eligible for assistance under this title. In the case of such a project with respect to which the Federal Government and the State share in paying the cost, any donated funds, or the fair market value of any donated materials or services, that are accepted and incorporated into the project by

^{156/} 49 C.F.R. § 18.24.

^{157/} 49 C.F.R. § 18.24(7).

^{158/} 23 U.S.C. § 323(a),(b).

the State highway department shall be credited against the State share.^{159/}

(2) **Authority to Receive Funds.** - In addition to valuation issues, another common problem encountered by agencies adopting innovative contracting techniques involving cost sharing is the inability to apply any funds received from other transportation projects in the cost sharing arrangement to the public contract. In many cases, funds received are payable only to the State treasury and subject to reappropriation by the State legislature. In addition, State transportation agencies may not have the authority or staff with adequate internal controls to receive and reinvest funds received from cost matching/sharing agreements.

Some State agencies have resolved this issue by including in their contracts an express reference to the agency's statutory authority to accept third-party matches. For example, **Minnesota Guidestar** included the following declaration:

WHEREAS, MinnDOT, pursuant to Minnesota Statutes 174.02, Subdivision 5, is empowered to accept gifts, grants, or contributions pertaining to the activities of the Department.^{160/}

(3) **Need for Public Purpose.** Critical to the ability to cost share funds with private industry is the requirement that public funds being matched be spent for a public purpose. The public sector cannot make a gift of public funds and in some instances, may not lend the State's credit for private purposes. For example, there is little benefit for the public sector to fund activities to develop a technology which only serves to provide one firm with an unfair advantage over another. Additionally, it is not the role of the public sector to engage in commercial exploitation of a product or service in direct competition with the private sector.

The public purpose doctrine has been established through State court decisions over the years. An example of its application to municipal corporations is described as follows:

It is generally held, in some cases under express constitutional or statutory provisions, that public funds can be appropriated and expended by a municipal corporation only for public purposes (and) a

^{159/} PL 104-59, § 322 - Donations of Funds, Materials or Services for Federally Assisted Projects, November 28, 1995.

^{160/} Contract between Minnesota and Westinghouse, see Contract No. M-8124, November 1994.

municipal corporation cannot expend or be authorized to expend its public funds for private purposes.^{161/}

There has been considerable litigation centering on what activities can be considered to have public purposes.^{162/}

- **Legislative Solutions.** To avert such litigation, it is possible for a State to include in a statute enabling an agency to commit public funds for a specific activity a clear statement regarding expected public benefits of the cost sharing arrangements for a public/private partnership.

In an ITS context, **Minnesota Guidestar** has had included in its legislative grant of authority to the Commissioner of the Department of Transportation the following powers which include public purposes:

- To facilitate the implementation of intergovernmental efficiencies, effectiveness, and cooperation
- To promote and encourage economic and technological development in transportation matters within and between governmental and non-governmental entities
- For sharing facilities, equipment, staff, data, or other means of providing transportation-related services
- For other cooperative programs that promote efficiencies in providing governmental services or that further development of innovation in transportation for the benefit of the citizens of Minnesota.^{163/}

This statutory listing assures that these items constitute legitimate government functions conveying public benefit.

- **Contractual Declarations.** A clear declaration of public purpose can also be asserted in contractual declarations, as reflected in the **Seattle**

^{161/} 64 C.J.S. Municipal Corporations Sec. 1835 (1955).

^{162/} Katz v. Brandon, 245 A.2d 579, 156 Conn. 521 (1968), Port Authority of City of St. Paul v. Fisher, 145 N.W.2d 560, 275 Minn. 157 (1966), Ferch v. Housing Authority of Cass County, 59 N.W.2d 849, 79 N.D. 764 (1953).

^{163/} Minn. Rev. Statutes 174.02 Subd. 6a effective July 1, 1993.

Wide-Area Information for Travelers (SWIFT) Agreement between the State of Washington and the project participants:

The Parties expect the project will provide to Washington State and the U.S. Federal Highway Administration (the “FHWA”) useful information of local and national significance.^{164/}

The above example illustrates that establishing a public purpose by contract reduces the significance of this barrier to State operational tests of ITS, provided a bona fide public purpose does in fact exist.

C-3, BARRIERS AND SOLUTIONS

Barrier No. 1	Private sector firms doing business with government entities for the first time may lack knowledge of the concept of unallowable contract costs, or may understand the concepts but lack the accounting systems needed to apply the cost principles
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This barrier was encountered in early operational tests. Private sector firms doing business with the public sector for the first time sometimes lacked the accounting systems to exclude unallowable costs from their invoices and vouchers submitted for reimbursement out of public funds. These costs were otherwise legitimately incurred as a cost of performing the contract scope of work. To revamp their corporate accounting system for a single public sector contract would have been costly, disruptive, and hard to justify to corporate management. Additionally, private sector firms may fear that allowing the public sector to verify compliance with the governments cost allowability principles could put the confidential cost and profit structure of their commercial products in the public domain where competitors might obtain access to this proprietary information.

164/

Agreement for the Seattle Wide-Area Information for Travelers (SWIFT) Project between the following parties: State of Washington, acting through the Washington Department of Transportation and the Secretary of Transportation; King County, acting through its Department of Metropolitan Services; SEIKO Communications Systems, Inc.; Metro Traffic Control, Inc.; International Business Machines Corporation, acting through its Thomas J. Watson Research Center; Delco Electronics Corp.; Etak, Inc., dated December 20, 1994.

Solution No. I(a)	Comply with the requirements of receiving public funds; negotiate on what constitutes compliance, and how compliance will be measured
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There is much flexibility in the existing rules and regulations for the parties to mutually agree as to what constitutes compliance. Agencies may differ on what constitutes compliance in these areas. Expectations between the parties must be clarified at the outset. As previously discussed, the Common Rule allows much flexibility in the methods used to identify, value and exclude costs from an invoice or voucher requesting reimbursement from public funds. It may not be practical to review all of a corporation's accounting system and accumulated costs if the publicly-funded contracts represent an insignificant portion of the company's operations.

In lieu of reviewing all of the company's operations to exclude unallowable costs, the parties can agree in advance that unallowable costs will be individually identified as they are incurred on the government contract and excluded from the cost centers where those costs are captured. The public agency can still verify that the system is working with integrity by identifying the fact that such costs are being systematically excluded. Once this process is established and verified, the public agency no longer has need to go through the company's entire accounting system looking for instances where unallowable costs might have been charged to government entities as it can rely on the integrity of the contractor's system and the final closeout audit.

Another method to build in flexibility without sacrificing compliance is to negotiate on the level of detail required to meet the government agency's objectives. The utilization of market- or competition-based pricing to establish fully-loaded rates which are fair and reasonable can avoid the intrusiveness associated with the public sector's attempt to verify separate elements of direct costs, overhead multipliers and profit. This solution however may be restricted when A/E services are being procured under a qualifications-based requirement. Qualifications based awards may not be required when the true intent of a contract is to plan . . . not design.

Another method of complying with the public sector's need to verify that unallowable costs are not being charged to a contract is for the private sector to form a new organization or entity solely to receive and perform publicly-funded contracts. This concept is often referred to as "walling off" or "double breasting" because there are now two separate entities. One is set up to be responsive to the contract compliance needs of public funding agencies; the other entity is purely private in that it does not accept public funds and is therefore not subject to compliance verification or audit by a governmental contracting agency.

Solution No. 1(b)	Utilize alternative cost principles
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An example of utilizing alternative cost principles acceptable to the parties can be found in the **SWIFT** operational test between the State of Washington (WSDOT) and several private sector entities. The parties acknowledged that traditional public accounting practices would not be appropriate for their contract in which the parties were sharing risk and costs. In order to remove the barrier created by these traditional practices the parties agreed that the following alternative cost principles would be acceptable:

- Waive the requirement for pre-award audits. For billing purposes parties will: 1) use overhead amounts based on an existing FAR-based audit; 2) in lieu of the above, use a provisional overhead rate of 165 percent.
- WSDOT will suspend our 165 percent overhead cap policy. Profit (fee) is disallowed on these projects. Due to the nature of the public-private projects, we will not impose overhead limits on parties to the agreement (however, in no event will the maximum amount payable be exceeded.)
- Allow pre-contract expenses. Pursuant to 48 C.F.R. 31.205-32 and the project Memorandum of Understanding, expenses incurred in the pre-contracting phase (from the effective date of WSDOT's Cooperative Agreement with FHWA, August 4, 1994, through to execution of the Agreement by all parties) may be counted by a party as part of its contribution amount. Parties will ensure that records are maintained for those amounts and that the same expenses do not also appear in their overhead.
- No Certification of Current Cost and Pricing Data. In lieu of the certification, parties to the agreement will commit to delete FAR-disallowable costs from their overhead for the purposes of this agreement.
- Invoices will be submitted on Standard Form 270. No detail of hours, rates or other direct non-salary reimbursable will be provided with quarterly invoices. A separate monthly project status report will be provided by each party. General categories of information will be provided, including hours expended and direct non-salary expenses charged to the project (a breakdown of direct non-salary details and/or wage rates may not be provided.) WSDOT expects to receive enough

information in status reports or under separate cover to generally verify that invoices are reasonable (including overhead rates).

- Direct and indirect costs inconsistent with 48 C.F.R. 31. Parties are seeking an exception to the allowable costs for travel, recruiting and employee relocation. These would be submitted using the Party's standard commercial practice.
- Fair Market Rates will be allowed. Hardware/software or services contributed or loaned by parties to the project will be valued as part of a party's contribution at the "fair market rate" for such. Such rates may contain an established "mark-up." In advance of crediting the contribution, the State will require parties to provide details regarding the method used to establish the rate. The methodology will be subject to WSDOT approval.^{165/}

These alternative cost principles allowed the parties to comply with the Common Rule while minimizing the intrusion associated with the application of traditional cost principles utilized on projects funded with public funds. However, this approach may conflict with U.S. DOT Order No. 4600.17 which mandates use of the FAR's cost principles for Federally-funded projects implemented by State and local transportation agencies. As previously discussed, U.S. DOT Order No. 4600.17 appears to conflict with the Common Rule, in that the Order directs commercial firms to use the FAR's cost allowability principles (FAR Part 31), while § 18.22(b) of the Common Rule allows use of FAR Part 31 cost principles "or uniform cost accounting standards that comply with cost principles acceptable to the Federal agency." This is an open issue which should be addressed with the SWIFT funding and contracting participants (i.e. FHWA & WSDOT) prior to issuing Requests for Proposals which require private sector cost and risk sharing.

^{165/}

Letter from S.A. Moon, Deputy Secretary of Operations, WSDOT, to H.R. Bennetts, FHWA Acting Division Administrator, December 12, 1994.

Solution No. 1(c)	Utilize partnering relationships between public and private sectors
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As discussed in the section on Combined or Coordinated Procurements, “partnering” means different things to different people. For the purposes of this analysis “partnering” refers to a sharing of costs or risks among the public and private sectors to achieve a shared benefit without establishing a formal legal partnership or the comingling of public and private funds under a contract let by the public sector.

The key to the success of partnering in this context is to prevent the private sector firm from receiving public funds. The public/private benefit is accomplished by coordinating the separate expenditures of the public and private sectors to be mutually supportive. The **ADVANCE** operational test between FHWA, the State of Illinois and Motorola Corporation, utilized this methodology when Motorola objected to disclosing its proprietary costs data to the public agency as a result of receiving public funds. The parties agreed to a coordinated investment approach. Motorola continued to internally fund the hardware and software development which would be compatible with infrastructure development funded by FHWA and Illinois DOT. As a result of partnering, compatibility between Motorola’s hardware and the highway infrastructure was assured without public funds being utilized by Motorola for its private development effort. This partnering or shared benefit approach will work only if there are separate and distinct public and private benefits to justify the respective investments of public and private sector funds. In this case, the application of ITS to potentially reduce traffic congestion on public roads sufficed to justify the public sectors investment, and the prospect of potential hardware/software sales apparently justified Motorola’s investment.

Barrier No. 2	Private sector firms doing business with public entities for the first time may lack the financial reporting consistency required by public sector cost accounting standards
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When private sector organizations adopt cost accounting standards they may be constrained from changing accounting practices at a later date because governmental agencies may require that once such standards are implemented, the standards cannot be changed without prior approval of the government contracting agency. This prior approval requirement limits the flexibility otherwise available to private sector firms

under Generally Accepted Accounting Principles (GAAP). Problems are most often encountered when cost accounting standards are introduced through application of the FAR in the areas of accounting for research and development costs^{166/} and depreciation methodology.^{167/}

Solution No. 2(a)	Utilize alternative cost accounting standards
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The solutions to provide more flexibility in Cost Accounting Standards are similar to those discussed above in the **SWIFT** operational test regarding allowability of costs and cost principles utilized to account for unallowable costs.

Solution No. 2(b)	Create a new organization or entity to perform the contract and receive public funds
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Should a new participant to public sector contracting anticipate continuing business with the public sector for an extended period of time, the private sector firm may want to consider forming a permanent entity which is created specifically to comply with government cost accounting standards and which maintains the consistency required by applying these standards in the same manner over an extended period of time. Again, the concept is to keep public funds out of the private sector organization or entity which may have different accounting methodology. This method of segregating organizational units, sometimes is referred to as “walling off” the private sector organization. This can be accomplished in several ways:

(1) By proactively selecting or creating new funding sources which do not require FAR compliance. Utilization of techniques such as franchising allows the private sector entity to receive and reinvest non-Federal project revenues per the terms and conditions of the franchise agreement. This technique has been utilized in telecommunications and in attempts to privately fund high speed rail projects. It is most successful when there is a self-sustaining business which can operate profitably out of project revenues, without public sector operating subsidies. This is usually not the case for transportation projects but may be the case for select projects involving information systems.

^{166/} FAR § 3 1.205-18(b)

^{167/} FAR§ 31.205-11(n)

(2) By creating a separate legal entity which complies with government cost accounting standards. Many large domestic corporations create separate companies to pursue work in the Federal sector and account for public contract funds in a manner acceptable to the public entity. New legal entities can also be used to accept funds from multiple sources. **HELP, Inc.** is a good example of this technique. A nonprofit 501(C)(3) corporation was formed to accept funds from multiple States and the private sector. The formation of a 501(C)(3) corporation may be an effective tool to provide “seamless boundaries” when implementing regional ITS solutions.

(3) By implementing coordinated activities without co-mingling funds. The **ADVANCE** operational test discussed in Barrier No. 2 is a good example of this technique.

Barrier No. 3	Private sector firms may not pursue publicly-funded ITS work due to fear of public disclosure of their proprietary financial information.
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Private sector firms in high-tech industries are very protective of their proprietary financial information including their cost structure and profitability. Substantial investments must be recouped from products which might only be state-of-the-art for a few years. These products often have rates of return that are orders of magnitude beyond those allowed in public contracting (usually between 5-15%). These high rates of return may be normal and often are necessary for financial survival in the private sector. Even a perception of excessive profits can heighten lack of trust between the public and private sectors. Even worse, private sector firms fear that their proprietary cost information may, through public sector compliance or close-out audits, be discoverable by their competitors through Freedom of Information Act requests or through bid protest procedures.

Solution No. 3(a)	Utilize a third party accounting firm to perform contractor audits to public sector standards
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^{168/} Organizations described in I.R.C. § 501(C)(3) are exempt from Federal income taxation.

To avoid public sector auditors bringing proprietary information into the public domain the parties may agree to utilize third party auditors **auditing to government standards**. These auditors can be retained by either party under a nondisclosure agreement. The public agency can approve the audit program in advance to ensure its purposes are met. If noncompliance is identified in the audit report, further actions can be taken to address each instance on noncompliance to the public agency's satisfaction- The Single Audit Act adopted by U.S. DOT in Order No. 4600.17 encourages all public agencies to utilize a single audit in lieu of each agency performing its own audit. Utilization of a third party auditor agreeable to the parties is extremely helpful in reducing the risks of disclosure and the costs associated with performing multiple audits of the same issues (i.e. allowability of costs, cost accounting principles and cost accounting standards) when there are multiple funding sources. This is a beneficial technique, since ITS technologies must often be implemented by multiple jurisdictions in order to address regional problems.

Solution No. 3(b)**Do not permit audit working papers to remain in the public agency's files**

Regardless of who performs the audit, it is the audit report and any instances of noncompliance documented in the report that is important. Without restricting the scope of the audit, auditors can utilize contractor records to perform their analysis and form their objective opinions. As long as public sector auditors do not take contractor documents or notes back to their files, the risk of detrimental disclosure to the private sector is significantly reduced. Keep in mind that not taking copies or working documents back to the auditor's office or files in no way affects the auditor's or funding agency's right to have access to those records at a later date as the contractor is usually obligated under the terms and conditions of the contract to retain its records for a period of time even after the contract is closed.

Barrier No. 4**The private sector cannot be expected to partner with public agencies by sharing costs without receiving sufficient benefits or opportunities to recoup its investment and make a profit**

As discussed in this section, the public and private sectors have very different motivators in financial administration. The private sector must be profitable in the long run. The public sector is accountable for funds and fairness of the procurement process.

In the past, the private sector has had little incentive to enter into cost matching/sharing relationships. Deviations from traditional practices can be seen as a perceived risk.

Solution No. 4	Establish an environment for success which responds to needs and wants of both the public and private sectors
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This environment is more a function of people interacting than a function of procurement. **E-ZPass**, **Guidestar**, and **HELP, Inc.** all used different approaches. All were successful in implementing new rules and roles for the public and private sector working together. Activities to support a partnering policy would include:

- a clear statement in the law allowing agencies to retain and reinvest funds^{169/}
- a clear statement of public benefit
- a clear statement of public purpose

C-4. ADDITIONAL FINDINGS AND RECOMMENDATIONS

The Common Rule provides for extensive flexibility for the parties to a grant or contract to negotiate flexible financial administration terms and conditions which are acceptable to the parties and which do not compromise the public sector's objectives. Many of these institutional solutions are available under current rules, regulations and procedures but must be developed early in the grant negotiation and contract formation process. Once a contract is awarded, it is difficult to change its terms and conditions as material changes might impact the consistency and therefore the integrity of the financial administration of the grant or contract. Material contract changes after award may also raise questions as to the fairness of the contract award process.

^{169/} States should familiarize themselves with ISTEA and National Highway System Designation Act of 1995 (NHS). In a pilot program of State Infrastructure Banks (SIB) which established clear rules and regulations allowing State DOTs to receive and reinvest loan repayments and which "defederalizes" § 350 funds once repaid through the SIB (Public Law 104-59, November 28, 1995).

c-4.1 Involve Experienced Contract Professionals

As discussed throughout this report, it is important to involve contract professionals early in the process who have extensive knowledge of the applicable rules, regulations and procedures associated with public sector funding and procurement. In today's environment of strained public sector resources, reducing the costs of compliance for both the public and private sector parties will free up additional funds for investment in additional ITS goods and services. Blindly following traditional public sector financial administration practices designed for construction of roads and bridges may not be a prudent use of public funds when applied to the acquisition of ITS goods and services.

c-4.2 Other Recommendations

Other recommendations to reduce the administrative costs of financial administration for grants, subgrants, and procurements without sacrificing accountability include:

- (1) State and non-State public agencies may want to review and revise their rules, regulations, and procedures to reduce administrative procedures which do not support the basic principles contained in the Common Rule without compromising internal controls. Review procedures which add costs and exceed Federal requirements.
- (2) Utilize the contracting officer to control cost and scheduled deliverables in lieu of adding additional staff to control cost and schedule activities. The contract is an effective tool for cost and schedule control activities; utilization of the contract to establish enforceable reasonable milestones is much more cost effective than staff performing that function through a separate reporting mechanism.
- (3) The cost of compliance with government accounting requirements has been greatly reduced by the ease and cost effectiveness of off-the-shelf accounting programs which are capable of performing activities necessary to meet government cost accounting standards. The cost of complying with reasonable government requirements should not be a barrier to new participants entering into public contracts.
- (4) Throughout this report and repeated in the financial administration analysis, recruitment and training of contract professionals knowledgeable in financial administration activities to negotiate more effective terms for grants and contracts is essential to implement innovative streamlined contracting procedures for ITS. Due to travel restrictions on State and local agencies, U.S. DOT or FHWA/FTA should initiate professional training workshops to be presented at State and local agencies for both public and private sector entities to educate and train staff. To expedite delivery of the education and training programs, existing organizations and entities should be utilized to the greatest extent to access experienced attorneys, program managers and contract professionals.

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Issue Overview

INTELLECTUAL PROPERTY

- “Intellectual Property” (IP) refers to patentable inventions, copyrights, and trade secrets, as well as compilations of data derived from the operation of ITS technologies, which may or may not be subject to copyright protection. ITS applications raise challenging new questions regarding IP. The allocation of sufficient contractual IP rights to enable the private sector firms to make a profit is critical.
- There is much opportunity for creative procurements involving IP. The private sector is generally in a better position to exploit technological innovations than the public sector. Projects financed in whole or in part by Federal funds require the granting of a limited license to the Federal Government which may constrain exploitation of the IP.
- Institutional issues regarding IP can be an area of tension between the public and private sectors. The opportunity to exclusively apply intellectual property rights over an extended period of time is the private sector’s incentive to invest in research and development. The public sector, on the other hand, encourages competition and resists creating monopolies.
- The following barriers related to Intellectual Property have been identified as having the potential to constrain or hamper the implementation of ITS:
 - (1) The private sector and State and local governments broadly interpret standard Federal Government IP contract clauses, chilling the private sector’s willingness to bid on contracts and making contract negotiations difficult. *(Page II-D-18)*
 - (2) Potential for future disputes regarding the inventions to which the Federal Government’s license rights apply. *(Page III-D-25)*
 - (3) Conflict between contractor’s desire to keep IP proprietary and the traditional view that publicly-funded products should reside in public domain. *(Page III-D-30)*

Issue Overview

- (4) Lack of legislative authority for transportation agency to accept IP royalties and/or to earmark such funds. *(Page III-D-34)*
- (5) Private sector concerns regarding data security. *(Page III-D-37)*
- (6) Preserving the traveling public's privacy. *(Page III-D-47)*
- (7) Transportation agency fears that early deployment of ITS will result in purchase of obsolete technology or will prevent an integrated system in future. *(Page III-D-43)*
- (8) Combined and coordinated procurements, and Statewide systems with multiple operators have special needs for information sharing, which may not be allowable if proprietary information is involved. *(Page III-D-45)*

Section D

INTELLECTUAL PROPERTY

D-1. STATEMENT OF ISSUE

Analyze contractual issues associated with the allocation of Intellectual Property (IP) rights among contracting parties.

D-2. ANALYSIS

For purposes of this report, “intellectual property” refers to patentable inventions, copyrights, and trade secrets, as well as compilations of data derived from the operation of ITS technologies, which may or may not be subject to copyright protection.

IP issues are of particular importance in contracts dealing with emerging technologies such as ITS. Perhaps no other institutional barrier more clearly illustrates the tension between public sector interests and private sector interests in the development and deployment of ITS. Private sector firms must invest heavily in research and development, without the expectation that their investment will be recouped with a single contract. Firms therefore are reluctant to have their technology disclosed. These firms fear that a lack of public sector recognition of the private sector’s need to protect its IP will cause them to lose their IP, which may, in turn, be a disincentive to the achievement of the stated national public policy goals of rapid development and deployment of ITS. On the other hand, the public sector wishes to avoid taxpayer financing of the development of new technology by a selected firm resulting in a monopoly in the technology, to the disadvantage of both the public sector and the marketplace as a whole.

When State and local transportation agencies implement ITS projects with a Federal funds component, Federal patent law and the Common Rule require the reservation to the United States of certain rights in IP arising from the project. Uncertainty in the application of Federal law pertaining to IP developed in Federally funded research and development projects and operational tests has been a barrier to private sector participation in these projects and has required additional negotiation to clarify the requirements, thereby slowing down the contracting process. The Federal patent policy deals with experimental development and research work. It is not yet clear how the policy will carry over to development of ITS. Where the Federal rules are not applicable, a lack of State or local statutory or regulatory guidance may cause State and local governments to rely on standard IP language used in Federal contracts for ITS research, development and deployment, whether or not such language is optimal for the State or local project at hand. By formally adopting a policy clarifying the scope

of its retained licenses in IP arising from ITS projects, the FHWA may reduce this barrier. Such a policy would address the scope of the Federal license, and help State and local agencies to clarify or develop their own policies and procedures.

Bidding on and performing ITS contracts may require a contractor to disclose its trade secrets to the procuring public transportation agency. Uncertainty in the application of laws protecting trade secrets from disclosure, including freedom of information laws, has been a barrier in the ITS contracting process. Although the Federal Acquisition Regulation ("FAR") is generally applicable only to Federal procurements, its provisions offer some guidance to State and local agencies procuring ITS. Additionally, the operational tests and case studies suggest that various innovative contract practices may help alleviate private sector concerns over loss of trade secrets.

The deployment of ITS technology will result in the creation of whole new bodies of IP over and above the actual technological innovations -- that is, the traffic and customer data generated from operating CVO, ATIS and other ITS technologies. Private sector developers or vendors of ITS products and services may anticipate realizing significant commercial value from the sale of such data.

D-2.1 Definition of Intellectual Property

D-2.1 (a) Patents

Any invention may be patented only if it fits within one of the statutory classes of eligible subject matters, which include: "Any new and useful process, machine, manufacture or composition of matter or any new and useful improvement thereof . . ." ^{170/} Computer software is eligible for patent protection, but not programs that embody only mathematical algorithms. ^{171/} The computer software patent protects the actual process performed by the computer using the software, as opposed to the expression of that process in computer source code or screen display. The patent protection for a particular piece of software is distinct from copyright protection. ^{172/}

^{170/} 35 U.S.C. § 101.

^{171/} Arrhythmia Research Technology, Inc. v. Corazonix Corp., 958 F.2d 1053, 1058-59 (Fed. Cir. 1992).

^{172/} See, Atari Games Corp. v. Nintendo of America, Inc., 975 F.2d 832 (Fed. Cir. 1992).

D-2.1(b) Copyright

A Federal copyright may be obtained for “original works of authorship fixed in any tangible medium of expression. . . .”^{173/} It can be expected that ITS research and development will result in many “literary works” of authorship eligible for copyright protection. “Literary works” encompass all original expressions of ideas in writing, including technical papers and computer programs.^{174/} Copyright protection does not extend to the ideas, procedures, methods of operation, systems, processes, concepts, principles or discoveries expressed in a work of authorship, but only to the expression itself.^{175/} The exclusive right to reproduce the copyrighted work, prepare derivative works based on the copyrighted work and distribute copies of the copyrighted work by sales or transfers attaches to ownership of a copyright^{176/} for a period extending 50 years after the death of the author.^{177/} Presumably, databases collected by the deployment of ITS technology are subject to copyright protection.

D-2.1(c) Trade Secrets

A trade secret may consist of any formula, pattern, device or compilation of information which is used in one’s business and which gives the owner an opportunity to obtain an advantage over competitors who do not know or use it.^{178/} In order to maintain the right to claim a trade secret, the owner of a trade secret is required to take reasonable precautions to preserve the secret.”” Trade secret status is forfeited by the unprotected disclosure of a trade secret.

D-2.2 Federal Laws and Regulations Related to Allocation of Intellectual Property Rights

The allocation of IP rights in an ITS project depends in part on the source and purpose of the funding for the ITS project. The IVHS Act authorizes the Secretary of Transportation to use several different mechanisms to finance IVHS research, development and implementation, including procurement contracts, grants and

^{173/} 17 U.S.C. § 102(a).

^{174/} 17 U.S.C. § 101.

^{175/} 17 U.S.C. § 102(b).

^{176/} 17 U.S.C. §§ 101-118, et seq.

^{177/} 17 U.S.C. § 302(b).

^{178/} Rest. Torts (1st) § 757, comment (b).

^{179/} 1 R. Milgrim, Milgrim on Trade Secrets § 2.04 (1993).

cooperative agreements.^{180/} Whichever mechanism is used, the allocation of IP rights in ITS projects financed in whole or in part by Federal funds is constrained by Federal policy.

In the absence of Federal funding, State and local procurement policies are generally more flexible than Federal policies with regard to acquisition and disposition of IP rights. However, the availability of funding for ITS deployment from the National Highway System Trust Fund^{181/} requires that State and local transportation agencies be familiar with the constraints that Federal policy imposes on the allocation of IP rights.

D-2.2(a) Federal Patent Policy

The FHWA's activities, including both direct Federal procurements and grants and cooperative agreements, are subject to the Federal statutory policy governing rights to inventions created in the course of any funding agreement for the performance of experimental, developmental or research work funded in whole or in part by the Federal government. This policy is set forth in Chapter 18 of Title 35, U.S.C. ("Patent Rights In Inventions Made With Federal Assistance").^{182/} It is Federal policy that non-Federal participants in Federally-funded projects retain title to "subject inventions" (hereinafter defined) as an incentive to develop technological innovations.^{183/} For purposes of Chapter 18, "Funding agreement" refers to any "contract, grant, or cooperative agreement for performance of experimental, developmental or research work" and "any assignment, substitution of parties, or subcontract" for such work.^{184/} Under Chapter 18, at a minimum, "all funding agreements. . . shall include the requirements established in paragraph 202(c)(4) and § 203 of [Chapter 18]."^{185/} The term "invention" includes any discovery that may be patentable or protectable under Title 35, and the term "subject invention" refers to "any invention of the contractor conceived or first actually reduced to practice in the performance of work under a funding agreement."^{186/}

^{180/} See 35 U.S.C. Ch.63.

^{181/} The National Highway System Designation Act of 1995 amended 23 U.S.C. 103(i) by adding "[c]apital and operating costs for traffic monitoring, management and control facilities and programs" to the list of projects eligible for Federal-aid from the National Highway System Trust Fund. Pub.L. 104-106, Section 301(a).

^{182/} 35 U.S.C. §§ 200 et seq.

^{183/} J.Dingle, "Intellectual Property Rights in FHWA - Funded IVHS Projects," Prepared for the Workshop on IVHS and Intellectual Property, January 25, 1994, at p.10.

^{184/} 35 U.S.C. § 201(b).

^{185/} 35 U.S.C. § 210(c).

^{186/} 35 U.S.C. §201(d)-(e).

Pursuant to paragraph 202(c)(4), if a contractor elects to retain ownership of a subject invention, “the Federal agency shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world. . . .”^{187/} Paragraph 202(c)(4) further provides that if provided in the funding agreement, the agency may have additional rights to sublicense any foreign government or international organization pursuant to existing or future treaty or agreement.

In addition to its retained license, the Federal agency under whose funding agreement a subject invention was made has “March-in rights” under Section 203 of Chapter 18. These rights permit the Federal agency to require the recipient of Federal funds to grant a license to a responsible applicant upon terms reasonable under the circumstances.^{188/}

Additional procedural requirements include invention disclosure procedures, time limits with respect to elections to retain title to a subject invention, and periodic reporting on the realization of rights to retained inventions, limitations on the power to assign rights to an invention without agency approval, and restrictions on the power to license inventions to non-U.S. manufacturers.^{189/} A contractor’s failure to comply with these requirements can result in the funding agency obtaining title to the subject invention.^{190/} Upon making a determination of exceptional circumstances, a Federal agency is

^{187/} 35 U.S.C. § 202(c)(4).

^{188/} 35 U.S.C. § 203(a) authorizes the Federal agency “[t]o require the contractor, an assignee or exclusive licensee of a subject invention to grant a non-exclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the contractor, assignee or exclusive licensee refuses such requests, to grant such license itself, if the Federal agency determines that --

- (a) [A]ction is necessary because the contractor or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use;
- (b) [A]ction is necessary to alleviate health or safety needs which are not reasonably satisfied by the contractor, assignee, or their licensees;
- (c) [A]ction is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the contractor, assignee, or licensees; or
- (d) [A]ction is not necessary because the agreement required by § 204 has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of its agreement obtained pursuant to § 204.”

^{189/} 35 U.S.C. § 202(c).

^{190/} 35 U.S.C. § 202(c)(2)-(3).

permitted to restrict the right of the contractor to retain title to any subject invention in order to better promote policies and objectives of 35 U.S.C. Ch. 18.^{191/}

The regulations implementing 35 U.S.C. Chapter 18 are at 37 C.F.R. Part 401 (Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts, and Cooperative Agreements). The regulations provide that an invention will not be subject to the ownership provisions if it is made in the performance of a “non-government sponsored project” which “although closely related, falls outside the planned and committed activities of a government-funded project and does not diminish or distract from the performance of such activities. . . .”¹⁹² The “time relationship” between the two projects and the “use of new fundamental knowledge from one in the performance of the other are not important determinants” in deciding whether an invention was made “in the performance of the Federally-supported project.”^{193/}

The implementing regulations also contain a standard patent rights clause granting the Federal Government an irrevocable, non-exclusive license. The standard clause requires the recipient of Federal funds to include the clause, suitably modified, in all subcontracts for experimental, developmental or research work.^{194/}

The Federal Acquisition Regulation (FAR) contains similar implementing regulations with respect to rights in inventions developed under Federal procurement contracts.^{195/} “Acquisition” refers to acquiring contract supplies or services by and for the use of the Federal Government through purchase or lease, whether the supplies or services are already in existence or must be created, developed, demonstrated, and evaluated.^{196/} The term “contract” does not include grants or cooperative agreements.^{197/}

The FAR applies only to direct Federal procurements. However, most ITS will be procured by State and local government recipients of Federal grant money under grants and cooperative agreements. Pursuant to the Common Rule set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and local

^{191/} 35 U.S.C. §202(a)(ii).

^{192/} 37 C.F.R. § 401.1(a)(I).

^{193/} *Id.*

^{194/} 37 C.F.R §401.14(a).

^{195/} 48 C.F.R. Part 27.

^{196/} *Id.* §2.101.

^{197/} *Id.* § 2.101.

governments,”^{198/} grantees and subgrantees other than States (e.g., local transportation authorities) are required to include in their contracts notice of the Federal granting agency’s requirements and regulations pertaining to patent rights with respect to any discovery or invention which arises or is developed in the course of or under such contract.

There is a significant body of case law interpreting the scope and effect of the retained Federal patent license in Federal government contracts. While an analysis of all the relevant case law interpreting the standard patent rights clause is beyond the scope of this paper, Stern et al. has provided such analysis in their manuscript, *Intellectual Property Rights In The National ITS Program*.^{199/} The source of most of the disputes that have arisen with regard to the standard patent rights clause (and that can be expected to arise in the context of ITS) is the meaning of the phrases “subject invention,”^{200/} “first actually reduced to practice,”^{201/} and “in the performance of work under”.^{202/}

D-2.2(b) Federal Policy Pertaining to Copyrights and Data

(1) Copyrights Under the Common Rule. Pursuant to the Common Rule set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments,^{203/} whenever a State or local government procures property or services under “an award of financial assistance, including cooperative agreements” from a Federal agency, the Federal awarding agency reserves a royalty-free non-exclusive and irrevocable license to reproduce, publish or otherwise use, and to authorize others to use, for Federal government purposes: (a) the copyright

^{198/} 49 C.F.R. Part 18 (the “Common Rule”) controls grants and cooperative agreements to State and local governments for the implementation of ITS.

^{199/} Claude Stern et al., *Intellectual Property Rights International ITS Program* (Dec. 1, 1993) (unpublished manuscript prepared for the Workshop on ITS Intellectual Property co-sponsored by ITS America and the FHWA).

^{200/} 3 D. Chisum § 10.03, “Conception”; 3 D. Chisum § 10.04; Amgen Inc. v. Chugai Pharmaceutical Co., 927 F.2d 1200, 1206 (Fed. Cir. 1991), cert. denied 502 U.S. 856, 112 S.Ct. 169, 116 L.Ed.2d 132 (1991); Filmtec Corporation v. Hydranautics, 982 F.2d 1546 (Fed. Cir. 1992).

^{201/} Farrand Optical Co. v. United States, 325 F.2d 328 (2d Cir. N.Y. 1963); Bendix Corp. v. United States, 600 F.2d 1364 (Ct. Cl. 1979); Eastern Rotorcraft Corp. v. United States 384 F.2d 429 (Ct. Cl. 1967); McDonnell Douglas Corp. v. United States, 670 F.2d 156,163 (1982).

^{202/} Mine Safety Appliances Co. v. United States, 364 F.2d 385 (Ct. Cl. 1966); Lockheed Aircraft Corp. v. United States, 553 F.2d 69 (Ct. Cl. 1977).

^{203/} 49 C.F.R. Part 18 (the “Common Rule”, note 29, *supra*).

in any work developed under a grant, subgrant, or contract under a grant or subgrant; and (b) any rights of copyright to which a grantee, subgrantee or a contractor under a grant purchases ownership with grant support.^{204/} Pursuant to § 18.34 of the Common Rule, a State or local government grantee from the U.S. DOT must provide for the Federal license in its procurement contracts. Section 18.36(i) further specifically provides that a local agency grantee must include in its contracts “[a]warding agency requirements and regulations pertaining to copyrights and rights in data.”^{205/} The scope of the Federal Government’s rights under its retained license to copyrighted works depends on the interpretation of the terms “developed under” and “purchases ownership with grant support.”

The Common Rule does not contain data rights provisions. “Presumably data rights provisions for data that are not copyrighted may be negotiated on a case-by-case basis taking into account particular program or project needs.”^{206/}

(2) Copyrights and Data Under the FAR. Federal acquisition policy respecting rights retained by the Federal Government in data developed under Federal contracts, whether or not copyrighted, is set forth in Subpart 27.4 of the FAR, and applies to all executive agencies including the U.S. DOT.^{207/} As used in the FAR, the term “data” refers to all recorded information, including technical data, computer software, computer databases and related documentation.^{208/} Subpart 27.4 provides that “the government recognizes that its contractors may have a legitimate property interest . . . in data resulting from private investment,” that “[p]rotection of such data from unauthorized use and disclosure is necessary in order to prevent the compromise of such property right or economic interest,” and that protection of contractors’ rights in data is “necessary to encourage qualified contractors to participate in government programs and apply innovative concepts to such programs.”^{209/}

^{204/} 49 C.F.R. § 18.34.

^{205/} 49 C.F.R. § 18.36(i)(9).

^{206/} J. Dingle, “Intellectual Property Rights in FHWA - Funded IVHS Projects” (Unpublished manuscript prepared for Workshop on IVHS and Intellectual Property, January 25, 1994.)

^{207/} The Department of Defense is exempt from certain specific provisions under this subpart. See, 48 C.F.R. § 27.400(a).

^{208/} 48 C.F.R. § 27.401.

^{209/} 48 C.F.R. § 27.402(b).

Subpart 27.4 defines three basic levels of rights to data produced under a government contract: “limited rights,” “restricted rights,” and “unlimited rights.” There are two alternative definitions of “limited rights data” that agencies may adopt. Under the broader definition, the term includes any “data developed at private expense that embody trade secrets or are commercial or financial and confidential or privileged [citation omitted].”^{210/} Computer software is excluded from the narrower definition.^{211/} “Restricted computer software” is defined as software that is: (A) developed at private expense and is a trade secret; (B) is commercial or financial and confidential or privileged; or (C) is published and copyrighted.^{212/} The term “unlimited rights” is defined as “the rights of the government to use, disclose, reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, in any manner and for any purpose, and to have or permit others to do so.”^{213/}

The respective rights and obligations of the government and the contractor must be delineated in any Federal agency contract requiring data to be produced, furnished, acquired or used.^{214/} Pursuant to the basic FAR rights in data clause, in general the government acquires unlimited rights in data first produced in the performance of a Federal Government contract.^{215/} However, by obtaining the prior written approval of the government agency’s contracting officer, the contractor may under certain conditions claim a copyright in data first produced under the contract.^{216/} The government and others acting on its behalf are granted a paid-up, non-exclusive, irrevocable, worldwide license in any computer software produced in performance of the contract to reproduce, prepare derivative works and perform publicly and display publicly.^{217/}

210/ 48 C.F.R. § 27.401.

211/ *Id.*

212/ *Id.*

213/ *Id.*

214/ 48 C.F.R. § 27.403.

215/ 48 C.F.R. § 52.227-14; 48 C.F.R. § 27.404(a).

216/ 48 C.F.R. § 52.227-14(c)(l).

217/ *Id.*

Under specified conditions, the basic FAR rights in data clause may be modified by contracting officers by using one or more of the alternate provisions provided at 48 C.F.R. § 52.227-14. Pursuant to alternate 2, the government can require a contractor to affix a “limited rights notice” to data.^{218/}

Under alternate 3, the contractor may affix a “restricted rights notice” to any data meeting the definition of “restricted computer software.” This notice states that the software may only be used with the computer or computers for which it was acquired and for other internal government uses.^{219/}

Where a contractor has developed technology to a point of “workability” prior to receiving any funds under its Federal contract, the Federal Government will not be entitled to obtain more than “limited rights” to the data and drawings revealing the trade secret. The test is based on physical and economic reality, not contract language.^{220/}

Agencies may also adopt alternatives to the basic rights in data clause for contracts involving “cosponsored research and development.”^{221/} The agency may acquire less than unlimited rights where the contractor’s and the government’s respective contributions are “not readily severable.”^{222/} Where the contributions of each party are readily severable, data produced under the contract may be treated by the agency as “limited rights data” or “restricted computer software,” or the agency may adopt other provisions consistent with provisions of the contract.^{223/}

^{218/} The limited rights notice reads as follows:

“These data may be reproduced and used by the Government with the express limitation that they will not, without written permission of the Contractor, be used for purposes of manufacture nor disclosed outside the Government; except that the Government may disclose these data outside the Government for the following purposes, if any, provided that the Government makes such disclosures subject to prohibition against further use or disclosure: [List of permitted uses specified by the agency].”

^{219/} 48 C.F.R. § 52.227-14(g)(3)(I).

^{220/} Dowty Decoto, Inc. v. Dept. of the Navy 883 F.2d 774 (9th Cir. Wash. 1989). “. . . [O]ur review of the record must focus on the realities of do invested the money that transformed the holdback bar (the technology at issue) from an uncertain idea into a workable device for its intended application.” Id. at 779.

^{221/} 48 C.F.R. §27.408.

^{222/} *Id.*

^{223/} 48 C.F.R. § 27.408(b).

(3) The Federal Freedom of Information Act and the Federal Trade Secrets Act

- **Freedom of Information.** Pursuant to the Freedom of Information Act, Federal agencies must disclose their records, but there is an exemption for trade secrets and privileged or confidential commercial or financial information obtained from a person.^{224/}
- **Withholding of Information.** Under 35 U.S.C. § 205, Federal agencies are authorized to withhold information disclosing any invention in which the Federal Government owns or may own a right, title or interest, including a non-exclusive license, for a reasonable time in order for a patent application to be filed. Federal agencies are also authorized under 35 U.S.C. § 205 to withhold any document which is part of a patent application filed in the United States or abroad.^{225/}
- **Trade Secrets.** Pursuant to the Trade Secrets Act,^{226/} unauthorized disclosure of any confidential information submitted to the government, including information that relates to “trade secrets, processes, operations, style of work, or apparatus” is punishable by fine and imprisonment.^{227/} It has been held that the Trade Secrets Act and the trade secrets exemption under the Freedom of Information Act are complementary, so the release of information exempted from disclosure under the Federal Freedom of Information Act is a violation of the Federal Trade Secrets Act.^{228/}
- **Organizational Conflicts of Interest and Proprietary Information Under the FAR.** The FAR contains some specific exclusions regarding proprietary information in its subpart on organizational and

^{224/} 5 U.S.C. § 552(b)(4).

^{225/} The Department of Transportation’s regulations implementing the Freedom of Information Act are at 49 C.F.R. Part 7.

^{226/} 18 U.S.C. § 1905.

^{227/} “Inventions or works that a creator or owner cannot (or does not wish to) patent or copyright may be protected as trade secrets. Generally, an invention or work loses its status as a ‘trade secret’ when the mandatory public disclosures required by the Patent Act and the Copyright Act are made. It should be noted, however, that copyright registration of computer software does not require the entire source code associated with the work to be submitted.” Stem, et al., *supra*, at note, p. 32.

^{228/} AT&T Information Systems, Inc. v. General Services Administration 627 F.Supp. 1396, 1401 (D.D.C. 1986), rev’d on other grounds, 810 F.2d 1233 (D.C. Cir. 1987).

consultant conflicts of interest at 48 C.F.R. Chapter 1, subpart 9.5. Section 9.5054 acknowledges that when a contractor requires proprietary information from others to perform a government contract and can use the leverage of the contract to obtain it, the contractor may gain an unfair competitive advantage. Therefore, the FAR imposes certain restrictions on the contractor's uses of the proprietary information in order to protect the information and encourage other companies to provide the data when necessary. Pursuant to § 9.505-4(b), a contractor that gains access to proprietary information of other companies in performing advisory and assistance services for the Federal Government must protect the information from unauthorized use or disclosure. A contractor obtaining the proprietary information of another company must refrain from using the information for any purpose other than that for which it was furnished. Additionally, § 9.505-4(c) requires the contractor to ensure that any marketing consultant providing it with services does not provide an unfair competitive advantage by improperly using proprietary and confidential information.^{229/}

(4) The Impact of Federal Funding for ITS Projects

Federal Government Procurement Contracts. When the FHWA directly procures^{230/} research and development for ITS, such as pursuant to the IVHS Systems Architecture development program, the FHWA uses the basic patent and data clauses of the FAR.^{231/} As stated above, rights in data, whether or not copyrighted, are subject to the basic FAR rights in data clause at 48 C.F.R. 52.227-14.

ITS Projects through Federal Grants or Cooperative Agreements. When the FHWA is not acquiring ITS goods or services for the direct benefit of the United States Government, it may finance ITS projects through the use of grants and cooperative agreements. Both grants and cooperative agreements are used to provide financial assistance to recipients to carry out a public purpose, but the Federal awarding

^{229/} 48 C.F.R. § 9.505-4(c).

^{230/} 31 U.S.C. Chapter 63 provides that a procurement contract will be used "as the legal instrument reflecting a relationship between the United States government" and a contractor when the principle purpose of the contract is to acquire property or services for the direct benefit or use of the United States government, or when an agency decides in a specific instance that the use of a procurement contract is appropriate. 31 U.S.C. §6303.

^{231/} J.Dingle, *supra*, at note 37, pp. 8-9.

benefit of the United States Government, it may finance ITS projects through the use of grants and cooperative agreements. Both grants and cooperative agreements are used to provide financial assistance to recipients to carry out a public purpose, but the Federal awarding agency is more involved in the funded activity when a cooperative agreement is used than when a grant is used as the funding mechanism.^{232/}

ITS projects in whole or in part funded by FHWA through the use of grants and cooperative agreements, such as the ITS operational tests, are subject to the Common Rule. As described in § C.2(b)(i), above, § 18.34 of the Common Rule provides for the reservation to the Federal awarding agency of a nonexclusive license in copyrights. With regard to patents, § 18.36 of the Common Rule requires a State to ensure that every purchase order or other contract that it enters into with grant or cooperative agreement funds “includes any clauses required by Federal statutes and executive orders and their implementing regulations.”^{233/} Thus, all ITS projects that are Federally-funded in whole or in part through grants or cooperative agreements, including the operational tests, are subject to the Federal Patent Policy set forth in 35 U.S.C. Chapter 18, and must, at a minimum, include a provision for retention by the FHWA of a license to practice any “subject invention” arising under the Agreement.

The FHWA's practice for ITS operational test agreements, where the recipient of Federal funds is usually a State transportation agency, has been to incorporate by reference the standard patent rights clause implementing the Federal Patent Policy at 37 C.F.R. § 401.14(a), with a modification applying the clause to all subcontractors.^{234/} The FHWA has narrowly construed the scope of its retained license to include use of the subject invention for “(1) Research and development and support services performed under a Federal procurement

^{232/} 31 U.S.C. § 6304 provides that a grant agreement shall be used by an executive agency when the principle purpose of the relationship between the Federal government and the grantee is to transfer a thing of value to the recipient “to carry out a public purpose of support or stimulation authorized by the law of the United States’ and “substantial involvement is not expected between the executive agency and the state, local government, or other recipient when carrying out the activity contemplated in the agreement.” A cooperative agreement is to be used when substantial involvement is expected between the executive agency and the state, local government, or other recipient. 31 U.S.C. §6305.

^{233/} 49 C.F.R. § 18.36.

^{234/} J. Dingle, *supra*, at note 37, at p. 10.

contract,” and “(2) [u]se of the subject invention on a Federally-owned road.”^{235/} The FHWA has not construed its license to include sublicensing the technology to a non-Federal Government or private entity for uses unrelated to (1) and (2) above.^{236/}

- An interesting issue will arise for the first time as a result of the fact that the National Highway System Designation Act of 1995 (“1995 Act”) adds ITS deployment projects to the list of projects eligible for funding from the Highway Trust Fund as part of the Federal-Aid National Highways System. It appears that, as a result of the 1995 Act, ITS deployment projects have been brought under the umbrella of Federally-assisted construction, even though they most certainly will include significant non-construction developmental components. The FHWA’s project agreement form for Federal-aid construction projects at 23 C.F.R. Part 630, Subpart C, “Project Agreement,” Appendix C (form PA-2), does not provide for the reservation to the FHWA of intellectual property rights, presumably because such issues historically have not arisen in the context of highway construction. Because the same public policies regarding intellectual property rights in Federally-funded projects should apply regardless of whether the intellectual property is developed under a “construction” project or a “research and development” project, it appears that the Federal regulations should be revised so that language implementing the Federal patent and data rights clauses are included in contracts for Federally-assisted ITS deployment. At the time of this writing FHWA had not yet processed any State program applications for ITS deployment projects through the State’s allocation of Title 23 Federal-aid construction funds^{237/} and therefore it remains to be seen how the Federal policies with respect to intellectual property will be implemented in connection with Federal aid ITS deployments by State and local agencies under Title 23.

- In contrast, the requirements set forth in 23 C.F.R. Part 420 for State activities undertaken with FHWA planning and research funds do include provisions for reservation of the Federal patent and copyright licenses.^{238/}

^{235/} *Id.*

^{236/} *Id.*

^{237/} Telephone conference with Beverly Russell, Attorney Advisor FHWA General Law Branch, 2/19/96.

^{238/} 23 C.F.R. Part 420, § 420.12 l(f) and (j).

D-2.3 State Laws, Regulations and Practices Related to Intellectual Property Rights

D-2.3(a) Laws Governing Allocation of Intellectual Property Rights

There is a relative lack of State statutory guidance or decisional law with regard to intellectual property rights under State contracts, and our research has not revealed any State statutory or regulatory scheme comparable to the Federal Government's respecting treatment of intellectual property rights. Some States grant State-run institutions of higher learning the right to obtain intellectual property rights and retain income therefrom.^{239/} Further, in some States individual quasi-governmental State agencies have the power to obtain and exploit intellectual property rights.^{240/} In some States, the power to secure and exploit State-owned intellectual property rests in specific State agencies,^{241/} and a few States recognize expressly that State and local agencies have the power to secure intellectual property rights in computer software.^{242/}

While the lack of legal authority in most States may suggest that, where an ITS project does not have a Federal-funding component, the States are free to cede all intellectual property rights to a private contractor, this approach could be viewed as resulting in a "gift" of public funds to the contractor. Therefore, the laws and policies of individual States or State agencies must be examined at an early stage of project development to determine the degree of flexibility available to the agency.^{243/}

Where an ITS-related research, development or procurement contract requires the private party to submit trade secret information to State or local governmental authorities, at least 37 States have enacted some version of the Uniform Trade Secrets

^{239/} See, e.g., Ill. Ann. Stat. Chapter 30 § 105/6(d); N.D. Cent. Code § 47-28-01; Ohio Rev. Code Ann. § 3345.14; Tex. Ed. Code Ann. § 5.1.680.

^{240/} See, e.g., Haw. Rev. Stat. § 206(N-34); Kan. Stat. Ann. § 74-8104; Mass. Ann. Laws Chapter 40(k) § 1.

^{241/} See, e.g., Fla. Stat. Ann. § 286.031; Mich. Stat. Ann. § 3.407(l).

^{242/} See, e.g., Haw. Rev. Stat. § 206(N-34(c)); Minn. Stat. Ann. § 13.03(5).

^{243/} Compare *California School Employees Association v. Sunnyvale Elementary School Dist.*, 36 Cal.App.3d 46, 111 Cal.Rptr. 433 (1973) [upholding research and development contract between State agency and private company in which private party retained all intellectual property rights arising thereunder] and *S-P Drug Co., Inc. et al. v. Smith, et al.*, 409 N.Y.S.2d 161, 96 Misc.2d 305 (1978) [striking down agreement by State agency granting a private company the exclusive right to distribute information gathered by the State as a 'bargaining away of public property without proper compensation'].

Act that preserves the confidentiality of that information.^{244/} Additionally, State “freedom of information” or “public records” acts generally exempt trade secret information from mandatory disclosure.^{245/}

D-2.3(b) Impact of State Disclosure Laws

The impact of State disclosure laws on ITS may become more significant as the trends toward privatization and public-private partnerships in ITS continues. Increasingly, States are welcoming unsolicited proposals for ITS projects, and soliciting creative solutions to their transportation problems through “calls for projects,” which permit the private development community to suggest innovative solutions without being constrained by detailed specifications provided by the agencies. However, to the extent that information included in such proposals may be made publicly available under disclosure laws, there is a disincentive for firms to take the risk. For example, in Krull v. Washington Department of Transportation^{246/} the petitioner sought disclosure of the DOT’s Technical Evaluation Reports prepared for the 14 proposals submitted in connection with the Washington DOT’s Public Private Initiative. The DOT claimed an exemption from the requirement that it disclose the reports based upon trade secret protection for the private entity participants. The DOT argued that if it were required to disclose the evaluation reports, private entities would be discouraged from participating in the Public Private Initiative and similar future DOT projects. Nonetheless, the court ordered disclosure, subject to the court’s redaction of what it determined to be protected trade secrets.

D-2.3(c) Ability to Retain and/or Earmark Funds

If the State or local transportation agency is prohibited by law from retaining any income it derives from exploitation of intellectual property rights in ITS for its own purposes, it lacks incentive to negotiate to obtain such rights. In some cases State and local transportation agencies are not expressly prohibited by law from retaining or earmarking income, but their authority is nonetheless unclear. This lack of clarity in statutory authority is often functionally equivalent to a prohibition, since it discourages such transportation agencies from negotiating to obtain the right to exploit intellectual property.

^{244/} See, e.g., Calif. Civil Code §§ 3426, et seq.

^{245/} See, e.g., Calif. Government Code § 6254; Col. Rev. Stat. §24-72-204.

^{246/} Krull v. Washington Department of Transportation. Unpublished opinion No. 94-2-02764-3 of the Superior Court of Washington in and for Thurston County (12/29/94).

Our research suggests that a State agency's ability to receive or earmark compensation is principally dependent on the enabling legislation of the particular agency involved. In the context of ITS, the likely State agency players can be separated into (i) special purpose transportation agencies (e.g., turnpike authorities), and (ii) State highway departments. Typically, turnpike or toll road agencies receive compensation for the use of their facilities for transportation, and control the use of the funds received from tolls or other sources for operations or debt repayment. Such self-financed agencies are given wide latitude to retain almost any type of revenue available to support their public purposes. Revenue retention authority is typically built into the organic statutes of special purpose transportation agencies and is often quite broad. For example, the statute establishing the Ohio Turnpike Commission authorizes it to:

“[f]ix, revise, change, and collect tolls for each turnpike project, and contract in the manner provided by this section with any person desiring the use of any part thereof, including the right-of-way adjoining the paved portion, for placing thereon telephone, electric light, or power lines, service facilities, or for any other purpose, and fix the terms, conditions, rents, and rates of charge for such use . . .”^{247/}

Arguably, payments received for use of ITS intellectual property would be for use of “part” of a turnpike project. The Turnpike Commission has authority to retain and earmark any revenue it receives.^{248/} Similarly, in California, the Orange County Transportation Corridor Agencies have broad revenue retention authority.^{249/} In Maryland, the State DOT includes both the traditional State Highway Agency, and the Maryland Transportation Authority, which, like the Ohio Turnpike Commission, has toll collection authority and the related authority to retain revenue it receives by charging for the use of its facilities.^{250/}

Unlike special purpose transportation agencies such as turnpikes and toll authorities, State DOTs are generally more limited in their authority to retain revenues. Even when compensation can be accepted, the compensation so received may enter the State's general fund accounts unrelated to the project producing the revenue.

^{247/} Ohio Rev. Code AM. § 5537.13(A). This provision goes on to prohibit the imposition of a toll, charge, or rental for the installation of purely public utility equipment or facilities.

^{248/} Ohio Rev. Code Ann. § 5537.04. “Revenues” include, among other sources, rentals and all other monies coming into the possession of the Turnpike Commission except bonds and state tax monies. (Revised Code Annotated, § 5537.01(E)).

^{249/} First Amended and Restated Joint Exercise of Powers Agreement Creating the Foothill/Eastern Transportation Corridor Agency, Section 2.2.

^{250/} Maryland Transportation Code AM. §4-3 12.

D-3. BARRIERS AND SOLUTIONS

Barrier No. 1	The private sector and State and local governments broadly interpret standard Federal Government intellectual property contract clauses, chilling the private sector's willingness to bid on contracts and making contract negotiations difficult
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Private parties may perceive even the minimum rights retained by the Federal Government under the standard patent rights clause as a threat to their profitable exploitation of IP rights in ITS, and therefore may avoid involvement in Federally-funded research and development, operational testing and deployment agreements. Unfortunately, although Federal policy promotes the retention of ownership rights by private inventors working under government funding agreements, there appears to be a perception in private industry and among State and local governments that certain conditions and restrictions imposed under the standard patent (and data rights clauses as well) are more severe than is actually intended by the Federal Government.

For example, it has been reported that in the **TRAVLINK** and **GENESIS** Operational Tests, conflicts over IP rights threatened agreements and made memoranda of understanding difficult to write. "This issue was particularly acute for the **GENESIS** project in which disputes over the [personal communications devices] PCD software rights threatened to paralyze the project."^{251/}

Similarly, because Federal funds were earmarked for the E-ZPass Interjurisdictional Toll Collection Project, the standard Federal government contract clauses for the allocation of intellectual property rights were required, and they became a significant issue in that project. The State agencies involved in the procurement felt that the standard Federal government contract clauses were too broad, and that the rights provided to the Federal government were too extensive and would limit the potential vendors' ability and willingness to bid on the procurement.^{252/} In fact, it has been reported that in a letter to a project participant in an ITS Operational Test, the FHWA

^{251/} Intelligent Vehicle-Highway Systems Institutional and Legal Issues Program, "Review of the TRAVLINK & GENESIS Operational Tests," John A. Volpe National Transportation Systems Center, Page 13 (June 1994).

^{252/} Telephone interview with Ann Christine Monica, Acting Director of Law, New Jersey Turnpike Authority.

Chief Counsel clarified the FHWA's policy regarding the government retained license to inventions developed under an IVHS Partnership Agreement for an Operational Test. In that letter, the FHWA Chief Counsel stated that the FHWA construes the scope of its license under paragraph 202(c)(4) and § 203 of 35 U.S.C., Chapter 18, to include the following: (i) research and development and support services performed under a Federal procurement contract, and (ii) use of the subject invention on Federally-owned land:

FHWA does not construe the scope of its license to include sublicensing the technology to a State or local government, bridge, tunnel or turnpike authority, or private entity for uses unrelated to the two described above Consistent with the Federal patent policy, private sector participants in operational tests retain title to the subject inventions as an incentive to develop technological innovations. FHWA retains the minimum license necessary to meet FHWA's needs, leaving contractors with the rights necessary to encourage private sector investment in the development of commercial applications.^{253/}

Given this explication of FHWA's policy regarding its retained license to patented inventions, private sector firms' reluctance to participate in FHWA-funded projects may be due more to their perception of overreaching by the Federal Government rather than to reality. It would help to dispel such misplaced fears if the policy stated in the Chief Counsel's letter was disseminated more widely as a published FHWA regulation.

Additionally, confusion, or at least anxiety, over how to determine whether an invention was made "in the performance of the Federally-supported project," or whether it preceded the project and can be retained by the private party, is reportedly the source of some difficulty in ITS contracting. There is also concern that the Federal government might interpret its "March-in" rights broadly to usurp a contractor's invention before it has had adequate opportunity to exploit it. The meanings of the phrases "subject invention," "first actually reduced to practice" and "in the performance of work under" also raise concern. It appears that the private sector may, out of necessity, interpret these phrases more broadly than the Federal Government intends. However, as reported by Stern, et al. in their analysis of Intellectual Property Rights *and the National IVHS Program*, the concern may be based more on institutional memory of past disputes with regard to military research and procurement contracts, than on current Federal policy with regard to these provisions.^{254/}

^{253/} "IVHS Legal Issues - Newsletter of the IVHS America Legal Issues Committee," Volume 2, November 1, Page 8 (Winter 1994). A copy of the FHWA Chief Counsel's letter has been supplied by FHWA, and is included in the Appendix.

^{254/} Stern, et al, *supra*, at note 30.

Interestingly, even though there has been much comment that the Federal clauses allocating intellectual property rights are (or are at least perceived to be) too restrictive, given the apparent dearth of State law concerning allocation of intellectual property rights in government contracts where Federal clauses do not apply, some of the problems related to intellectual property may be caused by the lack of State and local statutory guidance. As a result, State and local agencies have a tendency to fall back on the Federal clauses even if they are not optimal for the particular ITS project. The Assistant Chief Counsel to the Illinois Department of Transportation, John A. Milano, reported in an interview conducted as part of this project that where there is a lack of State law on a contracting issue, even if there is no Federal funding for a project, the State of Illinois tends to fall back on FAR provisions.^{255/} Similarly, John Kiljan, the ITS Program Manager for the Colorado Department of Transportation, reports that Colorado also relies on the FAR provisions (though, according to Mr. Killan, this has never raised much concern or been an issue challenged by contractors).^{256/} The fall back position is easy for the State to justify since there is such extensive development history behind the Federal provisions, and since the State might desire to obtain Federal funding for its project in the future.

Solution No. 1(a)	With FHWA cooperation, draft contract language to clarify Federal ownership of intellectual property rights
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In the **GENESIS** project, the FHWA ultimately proposed wording that specified the ownership of intellectual property rights in a manner acceptable to all parties. The wording made the parties more comfortable without, in FHWA's view, changing the meaning.

^{255/} Telephone interview with John A. Milano, Assistant Attorney General, Illinois Department of Transportation, Winter 1995.

^{256/} Telephone interview with John Kiljan, ITS Program Manager, Colorado Department of Transportation.

Solution No. 1(b)	With FHWA cooperation, the State grantee should modify the standard IP clauses used in its contracts in order to clarify the scope of the Federal Government's retained IP license
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The **E-ZPass** parties felt that they needed to revise the standard government contract clauses to clarify that the Federal Government does not retain a license in patentable technology if that technology is fully developed at the contractor's private expense. According to Ann Christine Monica, the Acting Director of Law at the New Jersey Turnpike Authority, it was not difficult to gain the FHWA's cooperation in supplementing standard IP clauses to clarify the scope of the Federal retained license to meet the **E-ZPass** agencies' concern. The FHWA was apparently willing to accept these clarifications because it maintained that the **E-ZPass** agencies were reading the language of FHWA's standard Federal grant agreement clauses too broadly. This approach would also enable a grantee to respond to its contractor's concerns regarding the intent and scope of the Federal Government's retained IP licenses.

Thereafter the **E-ZPass** agencies modified their contract clauses as follows:

19. Proprietary Rights

- a) We hereby acknowledge and agree that your Agency retains all right, title and interest in and to all data, documentation and copies thereof furnished by your Agency hereunder, including all copyright and other proprietary rights therein, which documents ourselves as well as our employees, agents, subcontractors and suppliers may use only in connection with the work. We shall not, without the prior written consent of your Agency, use such documentation on any other project in which we or our employees, agents, subcontractors or suppliers are or may become engaged. Submission or distribution by us to meet official regulatory requirements or for other purposes in connection with the work shall not be construed as publication in derogation of your Agency's copyrights or other proprietary rights.
- b) Your Agency and the Participating Agencies shall also obtain all right, title and interest in and to certain security-related inventions, ideas, designs and methods developed by ourselves and subcontractors specifically for your Agency and the Participating Agencies in the event your Agency purchases Equipment and/or Software. ("Agency/Participating Agencies Owned Inventions"). Such Agency/Participating Agencies Owned Inventions, shall include all specifications and other documentation related thereto.

- c) With respect to Agency/Participating Agency Owned Inventions, your Agency in conjunction with the Participating Agencies shall acquire all patent, copyright, trade secret and other proprietary rights in such developments. Accordingly, neither ourselves nor our employees, agents, subcontractors or suppliers shall have any proprietary interest in such Agency/Participating Agency Owned Inventions. The Agency/Participating Agency Owned Inventions may not be utilized, reproduced or distributed by or on behalf of ourselves, or any employee, agent, subcontractor or supplier thereof, without the prior written consent of both your Agency and the Participating Agencies, except as required for our performance hereunder.
- d) Except as otherwise provided in subsections (a), (b) and (c) above, or elsewhere herein, we and our subcontractors and suppliers hereunder shall retain all proprietary rights in and to all Equipment and Licensed Software provided hereunder, that have not been customized to satisfy the performance criteria set forth in the Technical Specifications and our Proposal dated _____. Notwithstanding the foregoing, we hereby grant, and shall require that our subcontractors and suppliers grant, to your Agency a perpetual irrevocable and unrestricted right and license to use, duplicate, disclose and/or permit any other person(s) or entity(ies) to use all such equipment and Licensed Software and the associated specifications, technical data and other documentation for the operations of your Agency or entries controlling, controlled by, under common control with, or affiliated with your Agency, or organizations which may hereafter be formed by or become affiliated with your Agency, as well as for such parties' future development. Such license specifically includes, but is not limited to, the right of your Agency to use and/or disclose, in whole or in part, the technical documentation and Software, including source code provided hereunder, to any person or entity outside your Agency for such person's or entity's use in manufacturing and furnishing any and/or all of the deliverable provided hereunder exclusively for your Agency or entities controlling, controlled by, under common control with, or affiliated with your Agency, or organizations which may hereafter be formed by or become affiliated with your Agency. No such Equipment, Licensed Software, specifications, data, documentation or related information shall be deemed to have been given in confidence and any statement or legend to the contrary shall be void and of no effect.
- e) Notwithstanding our ownership of certain proprietary rights in the Equipment, your Agency shall own all Equipment, excluding the Imbedded Software for which such parties shall have a perpetual, irrevocable license pursuant to paragraph 4 herein, and shall have the right to use such

Equipment and Imbedded Software for any purpose and at any time without compensation other than as specifically provided herein.

- f) Nothing in this Irrevocable Offer shall preclude your Agency from providing to any other person(s) or entity(ies), nor any such person(s) or entity(ies) from using, any of the Equipment and/or Software provided hereunder, and the associated specifications, technical data and other documentation relating thereto, in connection with providing goods or services to your Agency.

20. Confidentiality

- a) All Agency/Participating Agency Owned Inventions and other materials, data, documentation, inventions, ideas, designs and methods in which your Agency and/or the Participating Agency holds the proprietary rights, including but not limited to the tag Encoding Methodology used by your Agency, constitute Confidential Information and may not, without the prior written consent of both the Participating Agencies and your Agency, be used by us or our employees, agents, subcontractors or suppliers for any purpose other than for the benefit of the Participating Agencies and your Agency. Neither ourselves nor our employees, agents, subcontractors or suppliers may sell, transfer, publish, disclose, display, license or otherwise make available to others any part of such Confidential Information without the prior written consent of both the Participating Agencies and your Agency.
- b) We shall advise each of our employees, agents, subcontractors and suppliers who may be exposed to such Confidential Information of their obligation to keep such information confidential and shall promptly advise your Agency in writing if it learns of any unauthorized use or disclosure of the Confidential Information by any of our employees or agents, or subcontractor's or supplier's employees, present or former. In addition, we agree to cooperate fully and provide any assistance necessary to ensure the confidentiality of the Confidential Information.
- c) It is understood and agreed that in the event of a breach of paragraph 20 and 21, damages may not be an adequate remedy and your Agency shall be entitled to injunctive relief to restrain any such breach or threatened breach. Unless otherwise requested by the Participating Agencies or your Agency, upon the completion of the services to be performed hereunder, we shall immediately turn over to the Participating Agencies and your Agency all such Confidential Information existing in tangible form, and no copies thereof shall be retained by ourselves or our employees, agents, subcontractors or suppliers without the prior written consent of the

Participating Agencies and your Agency. A certificate evidencing compliance with this provision and signed by an officer of our company shall accompany such materials.

- d) We agree to be bound by the provisions of the New York State Personal Privacy Act with respect to any data created under this Irrevocable Offer where applicable and the applicable laws of the State of New Jersey. Accordingly, we agree that the provisions of the Personal Privacy Protection Act are incorporated by reference into this Irrevocable Offer and the applicable laws of the State of New Jersey.

In the Washington State Department of Transportation’s **SWIFT** Project, the parties followed the same approach as **E-ZPass**. With FHWA’s consent, the WSDOT’s **SWIFT** contract with its contractor included language clarifying that the Federal Government’s right to use the technology would be “solely for non-commercial use.”^{257/}

Solution No. 1(c)	Instruct prospective contractors to describe steps they will take to ensure commercialization of inventions arising under the project, and to describe the steps they will take to make inventions available to State and local governments, thereby alleviating some uncertainty the contractors may have with respect to Federal “March-in Rights”
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The FHWA’s procurement to develop a prototype for the Automated Highway System was subject to the Federal Patent Policy. The FHWA overcame the private sector’s apprehension over the possibility that the FHWA might unreasonably exercise its “March-in Rights” by asking applicants to help refine the circumstances in which such event might occur. In its Request for Applications, FHWA instructed applicants to describe the steps they will take to ensure public use of the inventions, and steps the applicants will take to make inventions available to State and local governments.^{258/} Since the FHWA implicitly approved the successful applicant’s description of its plan of action, the successful applicant thus had some assurance with regard to how the FHWA will construe these intellectual property rights.

^{257/} Agreement for Cooperative Demonstration Project to Design, Develop, Implement and Evaluate an Intelligent Vehicle Highway System Known as Seattle Wide-Area Information for Travelers (“SWIFT”), FHWA Project No.: IVHS-9453 (94E-2), State Agreement No.: UC3147, Section 9.3, Page 19.

^{258/} J.Dingle, *supra*, note 37.

Barrier No. 2	Potential for future disputes regarding the inventions to which the Federal Government's license rights apply
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As discussed above in the Section on Federal Patent Policy, most of the concerns that have arisen with regard to the language of the standard Federal patent rights clause relate to the meaning of the phrases “subject invention,” “first actually reduced to practice,” and “in the performance of work under.” In the context of ITS, often much of the development of a project may occur in the private sector, and the government financial involvement may be limited to providing a formula for testing. Thus, with significant up-front investment by private industry, lack of certainty regarding the government’s interpretation of these clauses may impede contracting.

Solution No. 2(a)	If the grantee has adequate information, identify in the contract which of the inventions that the private party is bringing to the project are already “reduced to practice,” and which will be developed under the contract; specify the technologies to which any government funds are being applied
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In the **E-ZPass** project, the contracts between the grantee and its contractor carefully detailed which of the inventions that the private party was bringing to the project had already been “reduced to practice,” and which would be developed under the contract. A grantee should not, of course, agree precipitously with its contractor that the contractor has previously reduced an invention to practice prior to the parties’ contract. “Reduction to practice” is a complicated question of both patent law and specific facts, and the grantee may not have adequate information during pre-contract negotiations to determine whether a particular invention qualifies. Hasty agreement could result in the grantee’s loss of a potentially valuable interest in the technology if it is eventually marketed commercially. Also, the effect which such an advance agreement between a grantee and its contractor would have on the Federal Government’s retained license rights has not been determined.

On the other hand, the parties’ advance agreement as to the technologies to be developed with government funds will avoid later debates as to the government’s

interest in these technologies. The E-ZPass contract identified the technologies to which government funds were being applied and kept them separate.

Solution No. 2(b)	Include detailed contract provisions describing any pre-existing IP developed by a party with its own funding (“PARTY Intellectual Property”)
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In the ADVANCE operational test, the parties developed detailed contract provisions defining “PARTY Intellectual Property.”

The ADVANCE Operational Test agreement is a good example of the type of detailed provisions that can result when intellectual property issues are addressed early on. It has been suggested that the ADVANCE agreement could be readily used in other projects as a starting template for addressing intellectual property issues.^{259/} The ADVANCE agreement does several things right:

In the recitals, the ADVANCE agreement takes steps to recognize that the individual parties are bringing preexisting proprietary information to the project without intending to lose their rights therein:

WHEREAS, the PARTIES understand that **ADVANCE** contains proprietary information of individual PARTIES or suppliers of individual PARTIES, and this Agreement shall not be construed to transfer any of such proprietary information to the other PARTIES.

The Agreement requires that the Parties label information that they intend to identify as preexisting “Party Intellectual Property,” and anticipates that the parties will continue to evaluate and modify Party Intellectual Property with their own funding during the course of the Agreement without losing their rights in the Party Intellectual Project.

PARTY Intellectual Property consists of copyrights, patents, trade secrets and any other forms of intellectual property rights covering any data bases, products, software, inventions or other proprietary information of any form or medium developed by any one or more of the PARTIES to this Agreement under their own funding, including any separate evaluations funded by a PARTY or PARTIES with respect to such information and any modifications to any of the foregoing.

^{259/} *Id.*

Information identified as PARTY Intellectual Property shall be the property of that PARTY and shall be so labeled by that PARTY. This Agreement does not purport to transfer any PARTY Intellectual Property to any of the other PARTIES to this Agreement.

The Agreement specifically provides for each party to retain all rights to any inventions that are “Privately Funded Developments” during the course of the Agreement. It would have been useful if the Agreement had provided for an ongoing list of such matters so that records could be kept during the course of the Agreement and methods or provisions for expanding upon the list;

The Agreement contains an additional paragraph obligating all of the PARTIES to use reasonable care to prevent the disclosure of written information that is clearly labeled “PARTY Intellectual Property” or “PARTY Confidential,” and to use this information only in fulfillment of its obligations per the Agreement.

Additional Solutions to Barriers 1 and 2

As noted above, and as experienced in the Federally-funded **ADVANCE** Operational Test and the **E-ZPass** project, the perceived problems raised by standard Federal government contract clauses regarding intellectual property may be more a function of a lack of certainty within the private sector and State agencies regarding how broadly the Federal government will interpret these provisions, than it is a lack of flexibility in the law or over-zealousness of the Federal government. Despite this perception, it appears that the reasonable expectations of most private participants in government-funded ITS projects can be accommodated within current Federal patent policy. Generally, current Federal patent policy promotes private inventors’ retention of ownership rights working under government funding agreements. While an inventor may lose title to rights through inadvertence or neglect, such as by failing to timely disclose inventions or file patent applications, these consequences stem from a long standing public policy to encourage thorough and timely disclosure of new inventions in exchange for a limited patent “monopoly.” When appropriate in an ITS project where the Federal intellectual property clauses will be required or form the basis for the agreement, a private participant can take affirmative steps to avoid the unintended application of conditions and restrictions imposed under the standard patent rights clause. In this regard, private sector parties to ITS contracts should take the following steps:

- (a) Thoroughly document the conception and reduction to practice of the inventions made prior to contract award.

(b) Wherever practical, file patent applications for any pre-existing inventions and register copyrights for pre-existing works before entering into contracts on government-funded projects;

(c) In negotiating a contract on government-funded projects, the parties should expressly except from the scope of the contract's patent rights clause any invention that the parties can knowledgeably agree has been "heretofore actually reduced to practice."^{260/} Works which the grantee knows to have been prepared in the course of non-government funded projects may also be excluded. It would be helpful to the parties' negotiations for the private party to include detailed exhibits listing inventions that the private party is bringing to the table, along with the funding history of each invention;

(d) The scope of work for government-funded projects should be carefully drafted so as to exclude any of a company's ongoing, independent research activities that may be related to the subject matter of the government-funded project but which are not being governmentally funded;

(e) Personnel, funding and other resources devoted to government funded projects should be segregated as best as possible from those devoted to the private party's privately funded ITS projects. By taking these precautions, the private party can ensure that potentially patentable technology and data can be demonstrated to have been produced at "private expense," and that subject works are "limited rights data" or "restricted computer software" (if the FAR's standard data rights clause is used in the agreement);

(f) The scope of the government's retained license should be more precisely defined in the contract than simply "a non-exclusive, non-transferable license to practice or have practiced any subject invention for or on behalf of the United States." Concerns that this license might allow the government to compete with the private sector may be addressed by clarifying the term "for or on behalf of the United States,, in individual contracts under which a license is retained by the government. The FHWA Chief Counsel's letter (reproduced in the Appendix to this section) provides a good beginning for such a clarification;

(g) Another solution would be for the scope of the Federal government's retained license in patents to be more precisely defined by statute, regulation

^{260/}

See *Bendix v. United States*, *supra*, 600 F.2d at 1364, 1371-1372.

or publication of an administrative bulletin. FHWA should consider publishing its position set forth in the above-referenced Chief Counsel's letter^{261/} in a statement of more general application;

(h) Under the FAR, for works "first produced in the performance of Federally supported research and development projects, Federal agencies have flexibility to allocate rights in data and copyrights in a manner broadly consistent with project goals. The Federal government may require the proprietary data and software to be advanced to it subject to the appropriate limited rights notice or restricted rights notice as the case may be.^{262/} If appropriate, the Federal procuring agency may require delivery of only "form, fit, and function data." Therefore, where concerns about data rights allocation appear to limit the private sector's willingness to participate in a State or local ITS project, the parties should consider whether delivery of proprietary data is absolutely necessary or whether form, fit and function data (perhaps with an appropriate escrow of proprietary data) would be sufficient;

(i) If Federal funds are not involved in a project, the State or local agencies should not simply "fall-back,, on the Federal patent and copyright clauses. Instead, they should draft language based on their precise needs and desires, on a case-by-case basis. In other words, it may take flexibility on the part of all of the parties to achieve acceptable working agreements;

(j) With regard to protecting trade secrets, private participants in ITS projects should carefully document the status of any pre-existing or independently developed trade secrets prior to entering into the project, and should carefully mark all proprietary information in order to protect that data; and

(k) Intellectual property issues need to be addressed very early in the contracting process. The more specific and detailed contract provisions are with regard to intellectual property, the more likely that future disputes can be avoided. As expressed by one of the expert panelists at the focus group meeting, "My IP lawyers always tell me to say 'I'm not competent to discuss it.'^{263/} In other words, the issues need to be taken seriously, and competent legal counsel must be included in the process as early as possible. Public contracting agencies considering entering into advance agreement that

^{261/} See Appendix.

^{262/} 48 C.F.R. §63.337-14 *et seq.*

^{263/} FHWA Contract No. DTFH6 1-94-C-00 164, Transcript of meeting of Expert Panelists on March 28, 1995.

specific technologies have been “reduced to practice” by the private sector contractor prior to the contract under negotiation are particularly cautioned to obtain legal input. “To avoid potential misunderstandings in the Deployment Phase, it is recommended that aspects of partnership agreements that concern intellectual property and proprietary rights be periodically reviewed and changed as necessary. This review process could be included as part of the Agreement.” ^{264/}

Barrier No. 3	Conflict between contractor's desire to keep intellectual property proprietary and the traditional view that publicly-funded products should reside in public domain
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There are four important public policies underlying the public sector position:

- (a) The government should own what it pays for;
- (b) Where the government has financed a particular firm's development of technology, it is inappropriate for that firm to obtain a monopoly on such technology to the disadvantage of others as a result of the government's sponsorship;
- (c) Without access to the intellectual property resulting from the contract, the government runs the risk of being in a position where it must sole source any future contracts for the maintenance or enhancement of the underlying technology; the government is also at risk that it may have to pay monopoly prices for needed support or start all over again if the original firm goes bankrupt, ceases to operate its business, or dissolves; and
- (d) If a government agency has financed the development of technology, it should be able to pass on that technology to the benefit of other government agencies so that the public does not pay to develop the same technology more than once.

The private sector has several legitimate concerns with regard to the impact of these public policies:

^{264/}

IVHS Institutional Issues and Case Studies, Analysis and Lessons Learned, Volpe National Transportation Systems Center, Final Report, April 1994.

(a) Private sector firms believe that even though public funds may pay for the development of a technology, it is the private sector's accumulated background and experience, plus its ingenuity and creativeness, that produces the tangible result - a useful product embodying new technology; the public sector is entitled to the product (e.g., pieces of equipment), but not to the underlying intellectual property rights in that product;

(b) Even to the extent that the standard clauses vest in the government intellectual property rights to which all can agree it is entitled, "trade secrets" and other proprietary information developed from research efforts give a private company its business advantage; public record disclosure laws may force the dissemination of contract-related records that would dilute the value of the technology privately developed by the private entity;

(c) The private sector does not trust a public agency to adequately protect its proprietary information even if the public agency has agreed to do so.

Solution No. 3(a)	Allocate to the contractor ownership of rights in copyright materials that are contractor cost responsibilities or shared cost responsibilities. FHWA and State DOTs are fully licensed to use the material
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In the **GENESIS** operational test, the parties overcame this barrier by analyzing what each party was contributing, identifying each party's real needs, and crafting language to allocate the intellectual property rights accordingly. Ultimately, the State of Minnesota assigned to the contractor all ownership rights in copyright materials that were contractor cost responsibilities or shared cost responsibilities. FHWA and MinnDOT were licensed to use the material.

Solution No. 3(b)	Supplement standard contract intellectual property rights clauses to clarify contractor's rights
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A similar approach was taken in the **FAST-TMC** Operational Test. Because the parties interpreted the FAR differently, some participants did not realize that private

parties would, under federal law, actually retain ownership of intellectual property and gain from it. Therefore, the FAR clauses were supplemented to describe the parties' rights in clearer terms. (The parties indicated that in future contract negotiations, intellectual property rights will be used as a bargaining tool.)

Solution No. 3(e)	States can initially ask for title to intellectual property, but negotiate royalty arrangement in lieu thereof
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In Minnesota, existing State statutes and regulations do not require the State or its agencies to retain title or licenses to intellectual property developed under State contracts, but nonetheless the State typically asks for such rights in the course of contract negotiations. Then, if a contractor prefers to retain title to the intellectual property, generally it can negotiate a royalty arrangement, license agreement or comparable arrangement whereby the State receives fair compensation for its contributions toward the creation of such intellectual property.^{265/}

Solution No, 3(d)	Negotiate royalty payments to compensate the public agency for its financial contribution to intellectual property development, Ownership can then be ceded to contractor
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Similarly, when the **Orange County Transportation Corridor Agencies** were negotiating to procure an automatic toll collection system for three new toll roads in Orange County, California, they recognized that their projects would be the first to deploy AVI technology consistent with the new California specifications for AVI technology set forth in Chapter 16 of Title 23 of the California Administrative Code. As a result, it was clear to the Agencies that they would necessarily be funding in part the development of new technology. Rather than insisting on owning all of the rights in the new technology, the Corridor Agencies negotiated licenses that provided them with sufficient rights to meet their needs, and fully relinquished to their contractor the right to

^{265/} Telephone interview with Minnesota Assistant Attorney General Michael Norton (Nov. 30, 1995, as reported in Stem, et al, *supra* at note 30, at p. 34.

exploit the technology in return for a royalty on that future exploitation by the contractor.^{266/}

Solution No. 3(e)	Waive delivery of limited rights data and restricted software; clarify limits on government license
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The FHWA balanced needs by making data developed under the agreement subject to the FAR Rights in Data-General clause permitting recipient to withhold from delivery to the government limited rights data or restricted computer software, and to deliver form, fit and function data in lieu thereof. The federal government could inspect data at the contractor's facility. In addition, the FHWA can clarify in the grant agreement, in a letter from FHWA to the contractor that it does not intend to license "subject inventions" to State or local governments.

Solution No. 3(f)	Escrow tvechnology
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If the public agency is not going to acquire all rights in intellectual property in connection with an ITS deployment, then it needs a way to protect itself in the event of system failure, or the contractor's going out of business and resultant unavailability of maintenance or spare parts. The **E-ZPass** agency solved this problem by requiring the ndor to escrow all technology necessary to manufacture and operate the system. It has been suggested by the expert panelists that it is often difficult to find a qualified escrow holder for technology, and that therefore public agencies might be forced to forego this protection in order to consummate transactions. It might be advisable for **ITS America** to assemble a list of qualified technology escrow holders and make that list available to the State and local transportation agencies, as well as to provide a template for a model ITS technology escrow agreement.

^{266/} "TCARMS Installation and Lease Purchase Agreement, *supra* at note 27.

Barrier No. 4	Lack of legislative authority for transportation agency to accept intellectual property royalties and/or to earmark such funds
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Participants in the focus group panel of experts for this project, as well as the industry experts interviewed for this project, generally agreed that the private sector is in the better position to market intellectual property developed during the course of any cooperative ITS research and development or operational testing projects. In their view, where the government gains ownership of technology, it tends to grow obsolete on a shelf, rather than being put to its best use. However, focus group members indicated concerns that negotiating to obtain less than all intellectual property rights for patentable inventions or data created with public funds might appear to be a gift of valuable public rights. They also indicated that a lack of guidance with regard to the public agency's ability to accept royalties in return for allocating intellectual property rights to the private party may impede the logical allocation of intellectual property rights to the private party. Additionally, there was disagreement with regard to the propriety of one government agency obtaining a profit from the sale of a product to other governmental units.^{267/}

Even if the State or local transportation agency is secure in its ability to receive a royalty, lack of guidance with regard to the earmarking of royalty revenues is a disincentive to negotiating royalties.

It was reported in the review of the TRAVLINK and GENESIS Operational Tests that the parties had difficulty handling royalty rights because MinnDOT lacked specific authority to receive royalties, no formal or informal guidelines existed for the receipt of royalties, and there was no system to track royalties.^{268/}

^{267/} Intelligent Vehicle-Highway Systems Institutional and Legal Issues Program, "Review of the TRAVLINK & GENESIS Operational Tests," John A. Volpe National Transportation Systems Center, Page 13 (June 1994).

^{268/} *Id.* at page 14.

Solution No. 4(a)	Allocate royalties to a participating governmental party with clear authority to accept, retain, and use royalty funds
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In the **GENESIS** operational test, the parties addressed MinnDOT's difficulty in retaining royalties actually received by having the royalties for the **AUTOSCOPE** camera dedicated directly to the University of Minnesota. The University was required to agree, as a condition to the dedication, that royalty revenues would be spent only on transportation-related research.

Potential solutions to State agencies' lack of certainty regarding the boundaries of their ability to negotiate compensation in return for intellectual property rights was discussed previously in this section. As noted, many States have specific legislation granting State-run institutions of higher learning and individual quasi-governmental State agencies the power to obtain and exploit intellectual property rights, including generating and retaining income therefrom. For example, Chapter 30 of the Illinois State Finance Act provides that the University of Illinois may retain in its own treasury "funds received in connection with the retention, receipt, assignment, license, sale or transfer of interests in, rights to, or income from discoveries, inventions, patents, or copyrightable works. . .^{269/} The State of Kansas has created the Kansas Technology Enterprise Corporation, which has the following express power to:

Negotiate royalty payments to the corporation on patents and licenses for innovations or inventions arising in the course of research sponsored by the corporation at educational institutions under the jurisdiction of the Kansas board of regents; such negotiated royalty arrangements should reflect an appropriate sharing of legal risk as well as financial return between the corporation and educational institution; such patents and licenses shall be in keeping with the patent policies of the Kansas board of regents.^{270/}

In Hawaii, the Hawaii Software Service Center is expressly authorized to receive revenues from the license and sale or distribution of copyrighted software, but such

^{269/} 30 ILCS 105/6D(2).

^{270/} Kan. Stat. Ann. § 74-8104(a)(22). Interestingly, the statute also provides that the corporation is not subject to purchasing laws.

revenues must be deposited into the general fund unless otherwise stipulated in a licensing agreement.^{271/}

Solution No. 4(b)	Enact legislation expressly permitting State agencies to retain royalty income from intellectual property as an incentive to negotiate such arrangements
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It is unrealistic to expect that, in States where transportation departments are precluded from earmarking funds, legislation can be easily revised with regard to the transportation departments' general powers. However, enacting legislation expressly authorizing the receipt and earmarking of royalties is a direct approach that at least **MinnDOT** intends to take. It has been reported that the Attorney General of Minnesota intends to draft legislation that will further define the powers of State agencies to negotiate for intellectual property rights under State contracts and will incentivize these agencies by permitting them to retain some or all of the income derived from the exploitation of these rights.^{272/}

Solution No. 4(c)	Form a special purpose entity to retain royalties and reinvest in ITS
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It was suggested by the panel of experts for this project that special purpose entities could be formed for the purpose of conducting and coordinating all ITS procurements. The rationale behind such a suggestion was that the special purpose entity could be granted broader discretion in its procurement methodologies than the State DOTs, and that the entity could also be granted the ability to receive royalties and earmark funds. Many members of the expert panel thought that this idea was theoretically attractive and interesting, but unlikely to be adopted, particularly in an era of government cutbacks.

^{271/} Haw. Rev. Stat. § 206M-34.

^{272/} Minnesota Revised Statutes § 174.02(b), 1993.

Barrier No. 5**Private sector concerns regarding data security**

Concern over the loss of proprietary data and trade secrets due to the impact of State public record disclosure laws has been a significant concern in operational testing of ITS. For instance, in the **TravTek** Operational Tests, the parties were constrained by the fact that the Florida Freedom of Information Law required that any document in a public official's file is part of the public record and must be available for public access. Therefore, the parties were constrained to set up their procedures to try to avoid the impact of this law on records containing proprietary information.^{273/}

Solution No. 5(a)

Hire third party systems integrator to hold and protect data

The parties' solution in the **TravTek** project was to keep the data library developed during the project out of the State's possession. This necessitated drafting tight contract procedures regarding the transmission and retention of documents.^{274/}

Solution No. 5(b)

Carefully label proprietary and confidential information; parties may expressly commit to use reasonable care to prevent disclosure, and to use information only for limited purpose, that data which is properly labeled

Similarly, it has been reported that concerns with regard to the general public's ability to obtain documents also created barriers in connection with the **ADVANCE** Operational Test. In that case, Motorola wanted to ensure that its investment was not jeopardized

^{273/} IVHS Institutional Issues and Case Studies, Analysis and Lessons Learned, Volpe National Transportation Systems Center, Final Report (April 1994), page 2-57.

^{274/} "IVHS Institutional Issues and Case Studies: Travtek Case Study," Volpe National Transportation Systems Center, Final Report, April 1994.

by having proprietary data regarding hardware and software made publicly available. This issue was significant.^{275/}

Solution No. 5(c)	Require the contractor to place all source code and other proprietary technology necessary to manufacture and operate systems into third party escrow which may be accessed by the public agency only upon contractor default
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It has been reported that inability to find qualified escrow holders for technology source code has operated as a barrier to the successful deployment of ITS.^{276/}

Handling public records requests may be particularly problematic in the case of combined or coordinated procurements, such as the **E-ZPass** toll collection technology procurement. In that case, the members of the **E-ZPass** project were being subjected to multiple requests for public records disclosures. Each agency had its own files, but the Triborough Bridge and Tunnel Authority had the most information in its files because it had two individuals heading different committees. Therefore, the **E-ZPass** agencies handled the post-procurement public records and disclosure issues by directing all requests to the Triborough Bridge and Tunnel Authority. The Authority handled all such requests under New York law. This approach deterred persons seeking public records information from “agency shopping” for information.

In a procurement situation, bidders or proposers, as the case may be, should be advised that it is their responsibility to clearly identify any information they consider proprietary or a trade secret, but that such designation is not determinative under State law, and the procuring agency will be forced to follow State law in case of a public records request. In the event of a request for information that the bidder/proposer has marked as proprietary, or that a party to an ITS contract has marked as proprietary, the procurement rules, or the contract provisions, should identify the procedure that the transportation agency will follow in determining whether or not to release the information. An approach that will give all parties some certainty and sense of control is for the agency to advise the bidder/proposer that there has been a public records request, and then to give that party an opportunity to advise the agency precisely what

^{275/} *Id.*, at page 2-56.

^{276/} Interview with John Kiljan, *supra*.

it considers to be proprietary, and to explain why.^{277/} The U.S. DOT's regulations implementing the Freedom of Information Act take this approach. ^{278/} The practices

^{277/}

Such a provision might read as follows:

Section ____- State Public Records.

(a) Any copies of work product prepared by Private Party, its agents, contractors or consultants that are delivered to State DOT, any work product State DOT owns pursuant to Section ____ and any document of which State DOT obtains a copy pursuant to Section ____, may be considered public records under the state public records law, and as such may be subject to public disclosure. DOT recognizes that certain work product State DOT owns pursuant to Section ____ and certain documents of which State DOT obtains a copy pursuant to Section ____ may contain "proprietary information" as defined in state law and may include confidential information which is otherwise subject to protection from misappropriation or disclosure. Should such records become the subject of a request for public disclosure, the following provisions shall apply:

(i) State DOT shall use its best efforts to immediately notify Private Party of such request and the date by which it anticipates responding.

(ii) Private Party must then assert in writing to State DOT any claim that such records contain proprietary information that is exempt from disclosure under state law provision or is subject to protection pursuant to state law provision or other state law so that State DOT may consider such assertion in responding to the requester.

(iii) If Private Party failure to make such assertion within ____ days after the date State DOT notifies Private Party of its intended response, State DOT shall make such disclosure.

(iv) If Private Party makes a timely assertion and State DOT in its sole discretion believes Private party has a valid claim that records contain proprietary information, trade secrets or confidential information, State DOT will deny the request for disclosure of such records or, upon consultation with Private Party to agree upon a reasonable effort and legal cost, at Private Party's expense, seek judicial declaration of the rights of the parties.

(v) If State DOT's denial of a request for disclosure of records is challenged in court and DOT agrees to a Private Party request to defend its position, Private Party agrees that it will both assist State DOT in its defense and shall indemnify State DOT for any and all damages assessed and costs (including the fees and costs of State DOT's attorneys) State DOT incurs in such defense, including any attorneys' fees assessed against State DOT under state law.

(vi) If prior to, during or after judicial consideration State DOT, in its sole discretion believes Private Party does not have a valid claim, it shall so notify Private Party no less than ____ days prior to the date State DOT intends to make the disclosure to allow Private Party to take such action as it deems appropriate prior to disclosure.

(b) In the event Private Party believes that any Work Product subject to transmittal to or review by State DOT under the terms of this Agreement, and any work product State DOT owns pursuant to Section ____, contains proprietary or confidential information or trade secrets that are exempt or protectable from disclosure pursuant to state law, Private Party shall use its best efforts to identify such information prior to such transmittal or review and Private party and State DOT shall confer on appropriate means of ensuring compliance with applicable laws prior to transmittal or review. Upon the written request of either party, Private Party and State DOT shall mutually develop a protocol for the transmittal, review and disclosure of Work Product or other information secured by Private Party so as to avoid violations of State Law Provisions ____-

established by the bid process or the contract should provide adequate time for the submitter of the data to attempt to enjoin the release of the information should the public agency determine that it is required to release the information notwithstanding the submitter's claim that the information is exempt from disclosure.

Earlier in this project, the focus group of experts was asked to comment on draft model code provisions relating to public access to procurement information.^{278/} The focus group was asked to make suggestions regarding the best way to protect the public's interest in receiving information, while providing an environment that encouraged participation in projects by the most technologically innovative firms. Our draft model code suggested that procurement information be classified as "public record" except to the extent provided in Section (b), which would list exceptions. The expert panelists generally agreed that a specific rule would be appropriate in order to encourage unsolicited proposals and cooperative arrangements for development of innovative technologies and projects, and that transportation agencies need some ability to keep unsolicited information concerning innovations out of the public domain, at least until an agreement to implement the project is actually reached. Some of the suggestions were as follows:

(a) In partnering arrangements, governmental agency employees need to be thoroughly trained and briefed on steps necessary to maintain the security of information, or data should be held with third party escrow agents. The contract should contain explicit provisions on handling information.

(b) Information concerning ITS procurements and/or unsolicited bids should be available to the public to the extent necessary for the public to determine that the agency has followed its guidelines and statutes in carrying out the selection process. However, State law and agency policies should clearly express that proprietary information is excludable from the information available to the public. The agency should develop express language, such as that set forth in the FAR regarding unsolicited proposals, that potential ITS providers may use to protect their proprietary data to the greatest extent possible. It would also be helpful to define the circumstances in which

^{278/} 49 C.F.R. § 7.57.

^{279/} § 1-30 1. Public Access to Procurement Information.

a) Procurement information is public record to the extent provided in (applicable State statute), except as provided in (b).

b) List exceptions.

evaluation reports written by an agency may be withheld from public view.^{280/} As privatization projects become more prevalent, this issue will take on increasing importance.

(c) It would be helpful to include, either by statute or administrative rule making (if the transportation agency has authority to make such a policy), a policy stating that no information with regard to procurements or proposals will be made available for at least a certain minimum amount of time or until the proposer has been selected and contract has been executed.

Contract provisions should be carefully drafted requiring the participants to agree in advance upon the nature and type of data that may be disclosed and protected (subject to the limitations on the agency's authority), and they should specify the time period of the protection.

Barrier No. 6

Preserving the traveling public's privacy

Many ITS products and services will collect data that could compromise the traveling public's privacy. Privacy concerns have been expressed with regard to the fact that statutes governing public access to government documentation may provide general access to databases of information that may be compiled with regard to "historical information," such as information concerning where someone has been or what someone has purchased, and "surveillance information" concerning where someone is and where he or she will be going on a "real-time" and "future time" basis. Private sector developers and operators of ITS technology may perceive significant commercial value in the historical and surveillance information, while the public sector may feel an obligation to protect individuals' privacy.

The public sector could use some of this data for law enforcement and other public purposes. Individual consumers of the technology may have significant fears that exploitation of the data derived from ITS technologies will compromise their rights to privacy. The operational tests and case studies suggest that these concerns should be addressed early in the contracting process by the adoption and implementation of

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See, *Knill v. Washington Department of Transportation* *supra*, at note 77, for an example of how a state public records law may be broadly interpreted by a court to make available technical evaluations reports that the agency would have previously assumed would be protected.

privacy policies and the precise contractual allocation of rights and duties with respect to data operated by ITS operations.

Solution No. 6(a)	Utilize third-party contractors to collect and maintain information to prevent creation of public records
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A good approach is for the State agency to be granted third party audit rights to the data that is held outside the State’s files. The State might further require that the data be held subject to well-defined disclosure restrictions by an independent escrow. This approach was taken by the **State of Washington** in its Public Private Partners Initiative.

As discussed above, the Federal Freedom of Information Act, and many State laws concerning the disclosure of public records, provide exemptions for “trade secrets” and “proprietary data.” To obtain the best protection possible under these exemptions, it is suggested that the parties follow the suggestions regarding clearly identifying proprietary work product suggested under Solutions to Barrier 2, above. This may be particularly important in the context of unsolicited proposals and responses to calls for projects. The FAR’s provisions on Unsolicited Proposals provide some good suggestions on language for this purpose.^{281/}

With regard to protecting the traveling public’s privacy interest in historical and surveillance information, a variety of contract approaches may be taken. First, the parties may wish to provide that to the extent reasonably possible, such data should be kept out of the government’s hands so that it is not subject to the public records request. Additionally, restrictions on the private parties’ ability to exploit that data should be negotiated by the parties and included in the contract documents. One approach would be to preclude the commercial exploitation of any data whatsoever received from operating an ITS system by any project participant. Another option might be to delineate certain uses that would be permitted, but to require anonymity with regard to the actual identification of vehicles or persons from which or whom the information was collected. For example, in an electronic toll project, the transportation agency might be authorized to share certain aggregated traffic data with local radio stations for use in connection with traffic information broadcasts.

^{281/} 48 C.F.R. §§ 15.500, *et seq.*

To address privacy concerns in a consistent and systematic way, an agency responsible for implementing ITS should consider adopting express policy statements with regard to the protection of privacy interests, for use as guidelines in negotiating agreements. This action would demonstrate to the public the transportation agency's concern, and perhaps improve public acceptance of the ITS technologies. ITS America Legal Issues Committee has prepared privacy principles which make recommendations as to how privacy issues should be addressed when deploying ITS.^{282/}

Barrier No. 7	Transportation agency fears that early deployment of ITS will result in purchase of obsolete technology or will prevent an integrated system in future
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An issue related to intellectual property that is faced in the deployment phase is the public agency's interest in protecting itself in light of expected upward migration of ITS technologies.

Solution No. 7(a)	Procure intellectual property rights which include "Technology Refreshment" clause allowing upward migration of technology
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Transportation agencies should negotiate intellectual property rights adequate to enable them to accommodate potential upward migration. The **E-ZPass** agency solved this problem by providing for technology with upgrade migration ("technology refreshment clauses") possibilities to accommodate participating agencies' respective needs. This approach provided the flexibility to consider various levels of technology (read-only versus read-write capabilities) while expressing a strong preference for the most advanced capabilities.^{283/} This was presented as a solution allowing the group to function with members from seven agencies in three States, each with a different time table for implementation, procurement processes and operating environments.

^{282/} Draft Privacy Principles, ITS America 1996.

^{283/} I-95 Corridor Coalition Case Study No. 2 - E-ZPass System Development Presentation by Linda M. Spock, Page 19.

Solution No. 7(b)	Create Technology Review Board to assess new developments in ITS technology, and recommend upgrades which the contractor should be required to incorporate into the ITS project
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Orange County Transportation Corridor Agencies reached another solution to this problem in their procurement of a toll collection system. The Agencies provided in their contracts for a technology review board to meet periodically to assess developments in the industry. The Board was authorized to require the contractor, within reasonable bounds, to implement “state-of-the-art,, technology during the course of the contract. The contract provides guidance on the parties’ respective cost responsibilities under various circumstances.^{284/}

Another solution to this issue would be to include a “most favored customer” clause in the contract, whereby the contractor agrees to provide the public agency with upgrades and updates to its system as they are implemented elsewhere, on terms no less favorable than those offered to other customers of the contractor.

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The “TCARMS Installation and Lease Purchase Agreement among Foothill/Eastern Transportation Corridor Agency, a joint powers agency and San Joaquin Hills Transportation Corridor Agency, a joint powers agency and Lockheed Information Management Services Company, a New York corporation and Lockheed Corporation, a Delaware corporation,” dated as of February 26, 1993, provides in pertinent part as follows:

11.2.2 Agency agrees that it will not require Contractor to supply updates and upgrades for which the costs significantly outweigh the benefits. In this regard, any upgrade or update which does not have a material impact on customer service or satisfaction or on the cost of operating the system shall generally not be required unless it can be provided at relatively little expense to Contractor.

11.2.3 The parties shall establish a six-person panel to review technological developments at least once per year, commencing one year from the date hereof, and determine whether they are required to be provided by Contractor hereunder. Either party may call for a meeting of the panel at any time. Agency and Contractor shall each appoint a three-person team to the technical panel. Each team shall include at least one financial and one technical representative. Each team shall bear its own expenses. In the event the panel is unable to agree upon required updates and upgrades, the matter shall be submitted to the Disputes Board established under the Operating Agreement. The Disputes Board shall have authority to make a final determination in the event of a challenge regardless of the cost involved.

Barrier No. 8	Combined and coordinated procurements, and Statewide systems with multiple operators have special needs for information sharing, which may not be allowable if proprietary information is involved
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In the **E-ZPass** procurement, the parties determined it best to use a proprietary specification for off-the-shelf technology. In contrast, a non-proprietary specification was selected for the California AVI specification. There are pros and cons associated with each method. A non-proprietary specification should encourage competition, while a proprietary specification may assure the procuring agency of the availability of existing off the shelf technology.

Solution No, 8	Utilize nonproprietary specifications and standards
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Transportation agencies whose projects will need to interface with other agencies' projects need to be careful to obtain adequate intellectual property rights for this purpose. In States where a specification has not been adopted, in order to save time and money, procurement agencies might consider incorporating, by reference, the specifications that have been adopted elsewhere.

D-4. ADDITIONAL FINDINGS AND RECOMMENDATIONS

Where State or local agencies are not constrained by statutory or regulatory requirements regarding intellectual property, they should keep in mind that the private sector generally is in a better position to exploit technological innovations, even if public funds contributed to their development. Therefore, instead of insisting on being allocated rights broader than are necessary for their purposes, State and local agencies should consider negotiating an allocation of intellectual property rights that meets the agency's operational needs, perhaps with royalty payments to appropriately compensate the agency for its contribution to the development of the technology.

In situations where the State or local transportation agency believes that retaining government licenses like those required by the Federal patent policy and the FAR's data provisions is best even when not required, it would be useful for such transportation agency to adopt policies affirmatively stating the rules or guidelines it will

follow in applying these clauses. This would at least provide some guidance to industry and those working within the transportation agency.

By working closely with the technical staff in the State Department of Transportation's traffic management department, it should be possible to craft very precise and explicit definitions of license requirements that meet the transportation agency's needs while protecting the private entity's ability to exploit its technologies. In doing so it is important to have qualified public agency staff members who can look beyond the current procurement and forecast how the technology involved in the current procurement might come into play in future expansions of the State's transportation management systems and ITS generally. Negotiated provisions should contemplate these future needs, while not being confiscatory of private investment. It is anticipated that the intellectual property licensing provisions that will be drafted in connection with some of the new public/private transportation initiatives being undertaken across the country in places such as Washington, Virginia, Minnesota, Delaware, Colorado and the like will set a new standard for creative and careful approaches to this issue. Unfortunately, at the time of this writing, the documents created for any of those programs are not yet available for public dissemination. However, it is suggested that upon consummation those transactions may be reviewed for further guidance with regard to handling these issues.

D-4.1 Suggested Approach

A State or local transportation agency planning contemplating an ITS project should consider intellectual property issues early in the process. The following steps might be followed to assist the agency in focusing on intellectual property issues:

- (1) Form a core team of "technology experts" within the agency to address intellectual property issues. A legal consultant should be included in the team.
- (2) The team should inventory the intellectual property likely to be associated with the project, and whether it will be "brought to the table" by the contractor or the transportation agency, or whether it will be created as part of the ITS project.
- (3) Legal counsel should assist the team in identifying the applicable statutory and regulatory constraints on the transportation agency's ability to negotiate the allocation of rights in the various items of intellectual property associated with the project.

- Is there a Federal funding component? If so, any concerns regarding reserved Federal licenses should be discussed with FHWA as soon as possible.
- If the lead transportation agency for the project is subject to unworkable restrictions, consider bringing in other governmental “partners” that may have greater flexibility.

Within the constraints imposed by applicable law, the team should analyze agency needs with regard to the various items of intellectual property associated with the project.

- (1) What intellectual property is the transportation agency bringing to the project? Does it possess sufficient rights in that intellectual property to accomplish the project, or does it need to expand its existing license rights?
- (2) What are the minimum rights the transportation agency needs in the intellectual property that the contractor will bring to the project?
 - Will other departments or agencies within the State or local jurisdiction need to use, or have an interest in using, the intellectual property, either now or in the future as part of the long-term ITS deployment plan? Consider including “technology expert” representatives from these agencies in preliminary planning discussions as appropriate.
 - What are the minimum rights in this project’s intellectual property that will be necessary to accomplish the long-term ITS deployment plan, (e.g., for technology maintenance and repair, upgrades, to accomplish interfaces with other systems) and can these rights be obtained now?
 - Will the technology need to interface with other systems, and who will be responsible for accomplishing the interface?
 - Will the contractor agree to cooperate in future integration of its system with other ITS projects, including participating, as requested, on a technology committee to deal with these issues, and what, if any, additional compensation will be required?
- (3) What precedents are available to help the transportation agency formulate its proposed intellectual property contract provisions?

What will be the parties’ relative technical and financial contributions to any intellectual property created by the project?

(1) Do these contributions suggest an equitable distribution of the intellectual property rights?

(2) Is there a future market for the inventions? If so, which party is in the best position to exploit that market, and does the transportation agency have authority to negotiate allocation of the intellectual property rights to achieve market exploitation?

- May the transportation agency receive royalties?

- May the transportation agency earmark funds it receives from the contractor, or from ITS operations?

To the extent the transportation agency does not obtain intellectual property rights now, how will the transportation agency protect itself against future performance problems?

(1) What technologies should be escrowed?

(2) Can provisions for upward migration of technology be obtained?

(3) Is a “most favored customer” clause appropriate?

(4) What kind of training will the transportation agency need to be able to use the technology, and will the training require additional intellectual property rights?

What data will the technology generate during project performance and which parties should own and control the data?

Should some data be held by a third party to keep it out of the public domain?

With respect to data generated by the operation of the ITS, what privacy concerns are raised, and what are the transportation agency’s policies with respect thereto?

(1) If the transportation agency does not already have one, it should consider adopting an ITS privacy policy to address public concerns.

(2) The contractor should be required to provide mechanisms protecting personal data to ensure the privacy policy will be maintained.

Approached in a strategic and organized manner, the intellectual property issues arising from an ITS contract may present an opportunity, rather than a barrier, to

efficiently deploy a regional, Statewide or nationally integrated ITS system. Intellectual property issues may require State and local transportation agencies to form a network of experts within different departments to examine near and long-term needs and goals for an integrated ITS system, and to determine how the contract at hand fits within those goals? With an understanding of how the ITS contract will fit within the broader goals for an integrated ITS system, the transportation agency may best evaluate the optimal allocation of intellectual property rights arising from the ITS contract.

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For example, in the State of Washington's public/private partners initiative, the Department of Transportation ("WSDOT") established a Project Review Board to rank proposals utilizing evaluation criteria which prioritizes projects to be selected based on how effectively the proposed projects meet the State's goals and program requirements.

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Issue Overview

ORGANIZATIONAL CONFLICTS OF INTEREST

- Organizational Conflicts of Interest (OCI) rules were created to preserve fair and open competition and enable contracting agencies to obtain impartial advice from consultants. Concern has been raised that application of OCI rules when separate design and construction contracts are planned may limit the extent that companies can be both designers and providers of ITS. This may deter the best qualified contractors from participating in a project's early stages including system development and design.
- Characterization of a project can impact application of OCI. Different OCI rules may apply to systems engineering contracts, development contracts, evaluation contracts or planning contracts. OCI issues can be avoided through bundling of activities into a single contract such as a design-build contract.
- Lack of certainty as to which rules apply and how they will be applied to ITS is a problem, not the rules themselves. It is the public agency Contracting Officer's responsibility to articulate clear guidelines. Making the rules known at the outset of a project creates a level playing field where contractors, consultants, and vendors can compete for and be awarded work based on merit.
- The following barriers related to Organizational Conflicts of Interest have been identified as having the potential to constrain or hamper the implementation of ITS:
 - (1) OCI rules may deter the best qualified firms from participating in a project's early stages, including development and design. *(Page E-10)*
 - (2) Traditional Federal highway construction contracting rules require separation of the design contract from the construction contract.
(Page E-14)
 - (3) Failure to clearly state guidelines regarding OCI and the division of responsibilities at the outset of a project may threaten the project.
(Page E- 16)

Section E

ORGANIZATIONAL CONFLICTS OF INTEREST

E-1. STATEMENT OF ISSUE

Address the extent to which organizational conflict of interest rules may prevent ITS designers from eligibility for award of contracts to supply, construct, install, maintain or operate those systems.

E-2. ANALYSIS

ITS America has identified Organizational Conflict of Interest ("OCI") rules as one of the nine problem areas that the ITS community associates with traditional procurement practices.^{286/} The concern is that inflexible application of OCI rules will: (i) limit the extent to which companies can be both designers and providers of ITS systems; and (ii) the Federal rules pertaining to OCI will limit the ability of manufacturers and designers providing design services to the Federal Government to both participate in the national ITS architecture program and provide ITS products to State and local governments.

Traditional rules against OCI were designed to preserve fair and open competition and to enable contracting agencies to obtain impartial advice from consultants. Theoretically, if an organization that designs a project is able to bid on the construction or operation of the project, that organization has an incentive to recommend a design that favors its products, and either shuts out competition entirely, or limits the pool of potential bidders, interfering with that organization's ability to provide objective advice to the contracting agency. The OCI problem became highly visible when the rapid growth of military technology in the 1960's required the government to turn to private contractors not only for things, but for systems engineering and technical direction in addition to products, "which amounted to giving the contractor a large say in what the ultimate customer -- the government -- was going to buy."^{287/}

The most comprehensive and detailed OCI rules identified in an electronic search of the codes of all 50 States in the United States are set forth in the Federal Acquisition Regulation (the "FAR"). The FAR uses the term OCI to refer to situations where, because of other activities or relationships with other persons: (i) "a person is unable or potentially unable to render impartial assistance or advice to the Government, or the person's objectivity in performing the contract work is or might be otherwise impaired,"

^{286/} Letter from James Costantino to Frederico Pena, Secretary of Transportation (October 22, 1993), (submitting *Procurement Issues in IVHS Development and Deployment*).

^{287/} Yarmolinsky, Adams, *Organizational Conflicts of Interest*, 24 Fed.B.J. 309 (1964).

or (ii) “a person has an unfair competitive advantage.”^{288/} While the types of acquisitions that are subject to OCI limitations are not specified in the FAR, the FAR does identify management support services, consultant or other professional services, contract or performance of or assistance in technical evaluations, systems engineering and technical direction work as the situations in which OCI are most likely to occur.^{289/} The FAR’s provisions generally will not be applicable to ITS deployment, which is expected to be procured primarily by State and local governments.

In the context of a traditional highway construction project, the OCI problem is dealt with easily by separating the design function from the construction function. However, ITS projects are often a hybrid both of elements that are typically thought of as “construction,” and elements of sophisticated research, development and systems integration. Application of traditional highway construction OCI rules in the context of ITS may discourage the most qualified firms from participating in early design and development. They fear that the ITS project will be characterized as “highway construction,” and that by participating in the design, they will be precluded from “construction,” or from sale of ITS end-products to State and local governments.

Complicating the OCI issue is the fact that often entities in the forefront of ITS research and development are under the corporate umbrella of other companies that manufacture and supply ITS services and products. The FHWA’s conflict of interest provisions, and State and local rules, often simply provide that no engineer or other person performing services in connection with a project shall have, “directly or indirectly,” a financial or other personal interest in any contract or any subcontract in connection with such project.”^{290/} No further guidance is provided regarding the degree of common ownership affiliated entities must share in order to fall under the OCI restriction. Could the fact that a multi-national conglomerate owns 5% of a laboratory that participates, in some small respect, in a research and development project concerning an ITS system, preclude a distantly-related entity, under the same corporate umbrella, from contracting to provide the ultimate ITS system or product?

It appears that a lack of certainty in the contracting community regarding the application of OCI rules in the context of ITS, rather than OCI rules themselves, is a major source of the problem. The FAR’s OCI provisions are very specific, but they do not apply to State and local government procurements. The OCI provisions set forth in 23 C.F.R. 1.33, which do apply to State and local recipients of Federal-aid highway grant monies, are not sufficiently detailed to provide much guidance in the context of ITS. Similarly, in those cases where State and local governments actually have statutory or regulatory

^{288/} FAR 48 C.F.R. § 9.501.

^{289/} FAR 48 C.F.R. § 9.502.

^{290/} 23 C.F.R. § 1.33.

provisions pertaining to OCI, the provisions are not specific enough to deal with the complex issues raised by ITS. This uncertainty may also contribute to bid protests that delay projects.

E-2.1 Federal Law Regarding OCI

E-2.1 (a) Federal-aid Highways

Section 1.33 of Title 23 of the Code of Federal Regulations (C.F.R.) sets forth the conflict of interest provisions relating to administration of the Federal-aid highway program. That section provides in pertinent part as follows:

. . . No engineer, attorney, appraiser, inspector or other person performing services for a State or a governmental instrumentality in connection with a project shall have, directly or indirectly, a financial or other personal interest, other than his employment or retention by a State or other governmental instrumentality, in any contract or subcontract in connection with such project.

A 'project' is defined as an undertaking by a State highway department of highway construction, including preliminary engineering, acquisition of rights-of-way and actual construction, or for highway planning and research, or for any other work of activity to carry out the provisions of the Federal laws for the administration of Federal-aid for highways.^{291/}

The regulations set forth in Title 23 of the C.F.R. do not provide any additional guidance on the application of this rule in the context of OCI or with respect to ITS.

(1) Procurement Rules. Although they are not technically OCI rules, the FHWA's procurement rules also impact the OCI issue. Section 112(a) of 23 U.S.C. requires that in all cases where construction is to be performed by the State Highway Department or under its supervision, the contract for construction of the project may be awarded only on the basis of the lowest responsible bid submitted by a bidder meeting established criteria of responsibility. "Construction" means "the supervising, inspecting, actual building and all expenses incidental to the construction or reconstruction of a highway, including . . . improvements which directly facilitate and control traffic flow, such as traffic control systems" "Highway" is defined to include " . . . roads, streets, and parkways, and also includes rights-of-way,

^{291/} 23 C.F.R. §§ 1.33, 1.2.

bridges, railroad-highway crossings, tunnels, drainage structures, signs, guardrails, and protective structures, in connection with highways."^{292/}

Further, 23 U.S.C. § 112(b) requires that contracts for engineering and design services be awarded on the basis of qualifications. Because the definitions of “construction” and “highway” appear to include certain elements of ITS, these provisions may effectively require that the design contract be separated from the “construction” contract in the context of an ITS project, in which case 23 C.F.R. § 1.33 arguably prohibits the same contractor from performing both functions.

The Common Rule has an organizational conflicts of interest rule of sorts that applies to all grantees and subgrantees other than States. 49 C.F.R. § 18.36(c) requires that all procurement transactions be conducted by grantees and subgrantees in a manner providing for full and open competition. Subsection (c)(v) provides simply that an organizational conflict of interest is a situation that is considered to be restrictive of competition.^{293/}

E-2.1(b) Federal Acquisition Regulations Regarding OCI

The ‘OCI rules set forth in the FAR^{294/} provide much greater detail than does either 23 C.F.R. 1.33, or the Common Rule. Pursuant to the Common Rule, the FAR’s OCI limitations do not apply to State and local transportation agencies procuring ITS goods and services under grants or cooperative agreements from the Federal Government. However, the principles and policies evidenced in the FAR may be useful in interpreting 23 C.F.R. 1.33. The relevant provisions of FAR’s OCI rules are briefly summarized below.

The FAR’s OCI rules are found at 48 C.F.R. Subpart 9.5. Section 9.502(c) provides that an OCI may result when factors create an actual or potential conflict of interest in the instant contract, or when the nature of the work to be performed on the instant contract creates an actual or potential conflict of interest on a future acquisition.

(1) FAR Regulations Regarding OCI Waivers. Pursuant to FAR § 9.503, agency heads or designees are given the power to waive any general rules or practices set

^{292/} 23 U.S.C. § 101(a).

^{293/} 49 C.F.R. § 18.36(c)(v).

^{294/} 48 C.F.R. Subpart 9.5

forth in Subpart 9.5 by determining that their application in a particular situation is not in the government's interest. Requests for waivers are to be made in writing, and require the approval of the agency head or a designee.

Role of Contracting Officer. Section 9.504 charges Federal agency contracting officers with the responsibility of identifying and evaluating potential OCI as soon as possible in the acquisition process, and avoiding, neutralizing or mitigating significant potential conflicts before contract award.^{295/} Contracting officers are also directed to obtain the advice of counsel and technical specialists in evaluating potential conflicts and developing necessary solicitation provisions and contract clauses. The contracting officer is directed to award the contract to the apparent successful bidder unless an OCI is determined to exist that cannot be avoided or mitigated. In such case, the contracting officer is required to give the contractor notice and an opportunity to respond. Additionally, if the contracting officer feels that it is in the best interest of the government to award the contract notwithstanding the conflict, he or she may request a waiver.^{296/}

Special Contracting Situations. Section 9.505 of 48 C.F.R. explains that each individual contracting situation should be examined on the basis of its particular facts and the nature of the proposed contract in light of two underlying principles: “(a) Preventing the existence of conflicting roles that might bias a contractor's judgment; and (b) Preventing unfair competitive advantage.,, An unfair competitive advantage is said to exist where a contractor competing for award of any Federal contract possesses: (1) proprietary information that was obtained from a government official without proper authorization; or (2) source selection information that is relevant to the contract but not available to all contractors.^{297/}

Sections 9.505-1 through 9.505-4 of 48 C.F.R. prescribe certain limitations on contracting as a means of avoiding, neutralizing or mitigating OCI. These strategies may be summarized as follows:

(1) Systems Engineering. Section 9.505-1 provides that when a contractor provides systems engineering and technical direction for a system but does not have overall contractual responsibility for its development, integration, assembly and checkout or production, that contractor may not be awarded a contract to supply the system or any of its major components, or be a subcontractor or consultant to a supplier of the system or any of its major components. “Systems

^{295/} 48 C.F.R. § 9.504(a).

^{296/} 48 C.F.R. §9.504(e).

^{297/} 48 C.F.R. § 9.505(b)(1)-(2).

Engineering” is defined to include a combination of substantially all of the following activities: Determining specifications, identifying and resolving interface problems, developing test requirements, evaluating test data, and supervising the design. “Technical Direction” is defined to include a combination of substantially all of the following activities: Developing work statements, determining parameters, directing other contractors’ operations, and resolving technical controversies.

(2) Specifications for Non-Developmental Items. Pursuant to § 9.5052, if a contractor prepares and furnishes complete specifications covering non-developmental items to be used in a competitive acquisition, that contractor shall not be allowed to furnish these items for a reasonable period of time including at least the duration of the initial production contract. This rule does not apply to a contractor furnishing specifications that the government requests regarding products the contractor manufactures, or situations in which the contractor is acting as an industry representative to help the government agency prepare, refine or coordinate specifications, provided that the assistance is supervised and controlled by government representatives. The purpose of these rules is to avoid situations in which a contractor could draw specifications favoring its own products or capabilities.

(3) Development Contracts. Significantly, the FAR’s OCI rule does not apply to “development,, contractors. 48 C.F.R. 9.505-2(a)(3) explains that in development work it is normal to select firms that have engaged in the most advanced work in a field, and which can be expected to design and develop around their own prior knowledge. Selection of a development contractor promotes speed and quality of production. “Thus, while the development contractor has a competitive advantage, it is an unavoidable one that is not considered unfair; hence no prohibition should be imposed.”^{298/}

When a contractor prepares, or assists in preparing, a work statement to be used in competitively acquiring a system or services, that contractor may not supply the system or major components or services related thereto, unless: (i) it is the sole source; (ii) it has participated in the development and design work; or (iii) more than one contractor has been involved in preparing the work statement.^{299/} For the same reasons set forth in § 9.505-2(a)(3), no prohibitions are imposed on development and design contractors for systems or services.^{300/}

^{298/} 48 C.F.R. § 9.505-2(a)(3).

^{299/} 48 C.F.R. § 9.505-2(b)(1).

^{300/} 48 C.F.R. § 9.505-2(b)(3).

While the FAR's OCI rules provide an exception for "development work," the term "development work" is not defined in Subpart 9.5. A definition of "development" is set forth in part 35 of the FAR regarding research and development contracting, but the applicability of the definition is limited to part 35. Nonetheless, the definition of "development" in part 35 may be useful for guidance regarding the meaning of "development" in the context of Subpart 9.5 regarding OCI. 48 C.F.R. 35.001 defines "development" as "the systematic use of scientific and technical knowledge in the design, development, testing or evaluation of a potential new product or service (or of an improvement in an existing product or service) to meet specific performance requirements or objectives. It includes the functions of design engineering, prototyping, and engineering testing; it excludes subcontracted technical efforts that have been used for the sole purpose of developing an additional source for an existing product.

(4) Evaluation Contracts. Contracts involving technical evaluation of other contractors' offers or products are generally not to be awarded to a contractor that would evaluate or advise the government concerning its own products or activities, or those of a competitor, without proper safeguards to ensure objectivity.^{301/} Additionally, contractors are required to agree to protect other companies' information from unauthorized use or disclosure for so long as it remains proprietary, and to refrain from using the information for any purpose other than that for which it was furnished.^{302/}

Where significant potential of organizational conflicts of interest are determined to exist, affected solicitations are required to contain provisions calling attention to the OCI rules, stating the nature of the proposed restraint on future contractor activities, and whether the terms are subject to negotiation. Furthermore, the contractor's contract must contain a clause regarding the nature and duration of the proposed restraints.^{303/}

E-2.2 State Laws, Regulations and Practices Governing OCI

OCI rules applicable to procurements at the State and local levels appear in a variety of forms, and application of OCI rules at the State and local levels is as often a matter of policy or an agency's general sensitivity to the OCI issue, as it is a response to express State or local statutes or regulations.

^{301/} 48 C.F.R. § 9.505-3.

^{302/} 48 C.F.R. § 9.505-4.

^{303/} 48 C.F.R. § 9.507-1-9.507-2.

(1) **Impact of Federal Funds.** If a State agency procures ITS goods or services with Federal-aid, the Common Rule requires the transportation agency to use its own contracting practices, except that it must include any clauses required by Federal statutes and executive orders in their implementing regulations. Thus, the provisions of 23 C.F.R. § 1.33 apply to ITS procurements by State and local agencies. As discussed above, these provisions are not particularly detailed. And, while the FAR provisions are not applicable to State and local agency procurements with Federal aid funds, the FAR provisions may be referred to for guidance in interpreting 23 C.F.R. § 1.33. Additionally, it should be noted that while State and local agencies are required to enforce the requirements of 23 C.F.R. §1.33, it does not appear that these provisions preempt any State or local requirements with regard to OCI.

(2) **Overview of Statutory and Case Law.** Research of the statutory and case law of all 50 States uncovered relatively few references to OCI, and no provisions were discovered that even closely approximated the detail afforded by the FAR's OCI provisions:

- Section 11.41 .1 of Title 11 of the **Code of Virginia** provides a good example of a State OCI provision. That section provides that “[a] person or firm who has been engaged as an architect or engineer for the same project under a separate contract shall not be able to bid on or submit a proposal for any such contract or to have the contract awarded to him.” Additionally, applicable regulations provide that “[a]n independent contractor employed by a State agency to design a project, develop a scope of work, write specifications or otherwise define contract requirements is not eligible to compete for or receive the resulting contracts. In addition, the contractor may not be a subcontractor or supplier for the entity which is awarded the contract or any of that entity’s subcontracts, however far removed.”^{304/}
- In an interesting twist on the Virginia statute, the **State of Nevada** authorizes the award of construction contracts to a contractor that has assisted the architect in the design of a project of capital improvements, provided that such contractor’s work under the contract

^{304/}

Dept. of General Services, Commonwealth of Virginia, Agency Procurement and Surplus Property Manual (1993) [hereinafter “VDOT Agency Manual”].

for services assisting the architect was satisfactory, and the contractor guaranteed the final costs for the project.”^{305/}

- **The Illinois Vehicle Code** provides an example of the relative dearth of guidance available regarding OCI at the State and local levels. That code provides that, in preparing its proposals for bidding by potential contractors, the procuring agency shall endeavor to include provisions relating to “(7) Avoidance of personal and organizational conflicts of interest prohibited under Federal, State, or local law.”^{306/}

(3) **Review of Operational Tests**, From our review of the Operational Tests, our discussions with the expert panelists assembled for this contract, and interviews with other professionals involved in the procurement of ITS goods and services, it is apparent that State and local agencies’ conduct with respect to OCI “rules” is as much a result of their general awareness of the Federal rules and a sensitivity to OCI issues, as it is a result of specific statutory requirements applying to such State and local agencies. In a telephone interview, **John Milano, Esq.**, an Assistant Attorney General for the State of Illinois, suggested that States tend to look to the language of the FAR and adopt the FAR’s provisions into State contracts. This approach is viewed by State and local agencies as the safest alternative, since most major projects ultimately will include Federal funding of some sort, and if Federal funding is not currently available for the project, the State may wish to obtain a Federal grant in the future. **Melanie Morgan, Esq.**, Assistant General Counsel to the Bay Area Metropolitan Transportation Commission in Oakland, California, concurred with Mr. Milano. She advised that although her agency has no express OCI provisions like those set forth in the FAR, the Metropolitan Transportation Commission is extremely sensitive to the issues raised by OCI, and approaches all OCI in a fashion similar to that suggested by Mr. Milano.

(4) **Open Issues in OCI**, An interesting OCI issue will arise in the context of a purely State or local procurement of an ITS for which the design or specifications were created in a Federally-funded research and development project or operational test. If the Federal Government were directly procuring the system, arguably the contractor that developed the design or specifications under the Federally-funded project would be precluded from contracting to provide the product to the Federal Government for a period of time, unless the contractor had performed a “development” function.

^{305/} Nev. Rev. Stat. Ann. § 341.161 (1993).

^{306/} 625 ILCS 5/13 B-45.

However, a local transportation agency that is procuring the product exclusively with its own funds is not governed by the Federal OCI rules. Should OCI come into play in these situations at all? What about procurements at the State and local level based on systems developed as part of the national architecture?

E-3. BARRIERS AND SOLUTIONS

Relatively few innovative approaches to OCI were identified in the review of operational tests and case studies conducted for this report. In addition to the operational tests and case studies, the available literature concerning OCI and the FAR suggest some innovative contracting practices. These are discussed below.

Barrier No. 1	OCI rules may deter the best qualified firms from participating in a project's early stages, including development and design
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As explained by the FAR, OCI rules are designed to provide fair and open competition. OCI rules protect the government's interest by restricting an entity that designs a system from obtaining a contract to construct or operate that system, as a disincentive to designing a system that only that entity, or a limited pool of competitors, would be qualified to build.^{307/} Because inflexible application of OCI rules would limit the extent to which companies can be both the designer and builder of an ITS, firms that have already invested heavily in development of ITS, and which have the most expertise in systems engineering and design for ITS systems, may be discouraged from participating in the design phase of an ITS project because they fear that such participation will preclude them from future ITS hardware and software sales. As discussed above, the lack of specificity in the FHWA's conflict of interest rule at 23 C.F.R. 1.33, and in State and local OCI rules, may contribute to this problem being somewhat blown out of proportion.

Reference to the FAR's OCI rules helps to put the issue in context. As explained above, at §§ 9.505(a)(2) and (3), the FAR provides that the OCI prohibition should not

^{307/} Russell, Beverly, *Organizational Conflict of Interest Rules and Design/Build: The Federal Prospective*, *ITS Legal Issues*, vol. 3, no. 1, p. 2 (Fall 1994).

be imposed in a context of “development” work. Arguably, the design elements of the national architecture program could be appropriately characterized as “developmental” and would thereby be exempted from OCI prohibitions. In fact, until the ITS industry matures, it is likely that much of the work on early phases of ITS deployments also may be characterized appropriately as “developmental.” Thus, it appears that much of the concern over OCI could be mitigated by a clear policy statement from the FHWA indicating that it will refer to policies set forth in the FAR in applying 23 C.F.R. § 1.33. State and local agencies could be expected to follow the FHWA's lead.

Solution No. 1(a)	Prepare specifications in-house with ample opportunity for private industry to comment (for free) on these specifications
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A transportation agency may attempt to avoid this barrier by taking on the design obligation itself, notwithstanding the high technology nature of an ITS procurement. When the **Texas Department of Transportation (T DOT)** wanted to procure an Advanced Traffic Management System for the San Antonio area, the agency's in-house engineers learned all that they could about ITS in order to develop the design, and then distributed the design to the aerospace defense industry, with a request for comments. Based upon the comments received from industry, the in-house engineers modified the original design and repeated the process until a final design was determined. Although the in-house engineers received advice from industry, because they had avoided conducting a procurement for the design portion of the project, they avoided creating an OCI barrier with regard to the ultimate procurement of the ATMS.^{308/}

While the Texas solution avoided OCI problems, in most circumstances this solution probably would not meet the goals of streamlining the ITS procurement process and encouraging deployment. The educational learning curve for in-house engineers necessarily lengthened the design phase. While the solution would seem to protect the public's interest in the integrity of the public contracting process, and it appears that quality goods and services were obtained at a fair and reasonable price, it is unclear as to whether or not the process was more advantageous than having design work performed by outside consultants. Furthermore, this solution is probably not practicable or expedient for the more sophisticated ITS applications. Texas has been lauded for

^{308/} Williams & Schott, *ITS Procurement: Analysis and Recommendations*, Virginia Transportation Research Council, pp. 30-31 (Nov. 1993).

having obtained industry advice at no direct cost, but query, what was the true in-house cost of taking engineers inexperienced in the technology and bringing them up to a level at which they were able to design the specification?

Solution No. 1 (b)	Involve the ITS design contractor in an oversight role during system implementation
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Solicitations for research, development and design may be structured to make the early phases more attractive to certain types of firms by providing that the firm selected as design contractor will be retained as consultants and evaluators or inspectors throughout the life of the project, or at least through all phases of the procurement. Making the initial contract more desirable operates to keep those contractors off of the deployment teams. This solution was successfully used by the **Bay Area Metropolitan Transportation Commission** in connection with its procurement of a regional telephone information system. In that project, the consultant that was hired to develop the design specifications was kept on board to provide advice and consultation during the implementation phase. In the Letter of Invitation for the design contract, the **Bay Area Metropolitan Transportation Commission** expressly stated that firms or individuals having a financial interest in companies that manufacture and provide telecommunications hardware, software or information services were excluded from participating in the project. This imposed a de facto “hardware ban” on the design contract.^{309/} According to the **Bay Area Metropolitan Transportation Commission’s** Associate General Counsel, this solution both encouraged qualified firms to participate in the design function and prevented OCI from becoming a problem. No dissatisfaction with the situation was visible from industry, and it was apparent that the members of the contracting community generally felt they were more suited to one contract or the other. It was the Associate Counsel’s feeling, however, that had the design consultant’s role terminated at completion of the design, without the consultant/evaluator role continuing through later phases of the project, the design contract would have been much less attractive, and industry response would have diminished.

The **Bay Area Metropolitan Transportation Commission’s** solution streamlined the ITS procurement process by providing continuity of input from start to finish. It also met the goals of the ISTEA by enhancing competitiveness and productivity, and protecting

^{309/} Bay Area Metropolitan Transportation Commission, Request for Proposal to Design a Regional Telephone System, dated June 8, 1994.

the public's interest in the integrity of the contracting process. By providing the design contractor with an on-going role in the project, but precluding designers from participating in the implementation contract, the disincentive to participate in the design was mitigated, and designers were not incentivized to create a design favoring their own services or products.

FAR Solutions to OCI. The FAR suggests some additional solutions to Barrier No. 1. As suggested above, for innovative projects, the procuring agency could carefully craft the scope of work so that it fits within the definition of "developmental" work. Then, by taking a flexible approach to application of its OCI rules (if, in fact, the agency actually has formal OCI rules), the agency may permit the development contractor to participate in later stages of the project based upon the analysis set forth in the FAR.

- **Separate Contracts.** To the extent that the entire early phase of the project may not appropriately be exempted from OCI on the basis that it is "developmental," a transportation agency may limit the impact of OCI by providing separate contracts for discrete portions of the development and design elements of an ITS project. The FAR provides the following example of how this might work: Assume that Company 1 agrees to provide technical direction and systems engineering for the Navy on the power plant for a group of submarines. The FAR states that Company 1 should not be allowed to supply any power plant components. However, Company 1 can supply components of the submarine unrelated to the power plant, such as fire control, navigation and the like. In the FAR's example, the contractor designed only the power plant system, not the entire submarine, and the ban on supplying components is limited to those for the system only.^{310/}
- **Utilizing Government Personnel.** Transportation agencies may engage representatives of the ITS industry to work under government supervision and control to refine specifications or clarify the requirements of a specific acquisition. In the FAR's example, employees of two companies representing the American Tool Institute work under government supervision and control to refine specifications and clarify the requirements of a specific acquisition. These companies are permitted to supply the item.^{311/}

^{310/} 48 C.F.R. § 9.508(a).

^{311/} 48 C.F.R. § 9.508(d).

If it is determined to be in the government's best interest, the transportation agency may waive the OCI. Please see the discussion under Section E-4, Additional Findings and Recommendations, below.

Barrier No. 2	Traditional Federal highway construction contracting rules require separation of the design contract from the construction contract
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OCI "rules" generally suggest that where separate contracts are awarded for design and implementation or construction, a single contractor may not participate in both phases of a project. OCI rules protect the government's interest by restricting a contractor that designs a system from having the opportunity to bid on the construction of that system. Further complicating this barrier is the fact that the definition of "highway construction" in the FHWA's statutory contracting procedures for Federal-aid highways is broad enough to encompass many ITS projects, and those procedures dictate that construction contracts must be procured on a competitive low-bid basis.^{312/} Yet, ITS AMERICA has argued that the better method for ITS high technology procurements is the use of system performance criteria, rather than the separation of the design contract from the implementation contract.^{313/}

Solution No. 2(a)	Carefully define project roles. A contractor that participates in "planning" (as opposed to "design") may still participate in construction
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By carefully framing the contractor's role at each stage of the project, participation may be permitted in later phases of the project. For example, in response to a request by the **Virginia Department of Transportation**, the Director of the Department of General Services determined that a contract for systems integration services can provide for "planning" of the project without preventing the contractor from competing for further design or construction contracts. If the **COMPARE** project were classified as a

^{312/} 23 U.S.C. § 112(b).

^{313/} See also, Russell, Beverly, *supra* at note 17, at p. 3.

planning effort, then the contractor for the “planning stage” could bid on later phases of the project.^{314/} In the **COMPARE** project, it was determined that the contractor’s role in the initial stage of the project had not been sufficiently limited to “planning.” However, following this experience, the **Virginia DOT** was later able to structure a procurement such that it characterized the initial phase of the **North Virginia Early Deployment Study** to fit within a “planning” concept, thereby permitting the Attorney General to determine that the project was exempted from the Virginia OCI, quoted above in Section E-2.2.

Classifying ITS Projects. Where there are no Federal funds involved in a project, State and local transportation agencies may be able to classify ITS projects as something other than “highway construction” because they are not constrained by the definition in 23 U.S.C. 101. Often the procurement requirements for the use, purchase or installation of data processing equipment, software or services and telecommunications equipment may be less restrictive than for highway construction, and may not implicate OCI and competitive selection procedures.^{315/}

Solution No. 2(b)	Award a design/build contract if the public agency is authorized to use this type of contract
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Another solution, and the one that will perhaps become the most widely used in the context of ITS, is to contract for ITS systems on a design/build basis. Design/build contracting is based on the use of performance criteria. The procuring agency identifies the required end results, and minimum design criteria. Design/build contracting affords the contractor an opportunity to optimize its work force, equipment and scheduling, but also requires that the contractor assume greater responsibility. Often design/build contracts include extended liability insurance and warranty clauses. By combining design and build under a single contract, the OCI issue is avoided entirely.

Design/build has many desirable characteristics. It is generally accepted that high technology procurements are better suited to bidding based on performance criteria, rather than bidding based on a single design prepared by the buyer. Design/build should also reduce claims for design errors or construction delays due to re-design.

^{314/} Williams &Schott, *supra*, note 19, at p. 30.

^{315/} See, e.g., the Illinois Purchasing Act, 30 ILCS 505/6.

At least two design/build projects have been authorized by the FHWA under Special Experimental Project No. 14, Innovative Contracting Practices: The **North Carolina Congestion Avoidance and Reduction for Automobiles and Trucks (CARAT)** project in Charlotte, North Carolina, and the **Michigan Advanced Traffic Management and Traveler Information System** project in Metropolitan Detroit.^{316/} At least 19 States also presently authorize contracting on a design/build basis.^{317/}

Section 4105 et seq. of the Federal Acquisition Reform Act of 1996^{318/} recently added design-build selection procedures to the FAR. The new provision permits the contracting officer to determine that a two-phase selection procedure for a negotiated design-build contract is appropriate in certain circumstances. However, this provision only applies to direct Federal procurements, not State and local Federal-aid contracts.

The design/build process is not a panacea. Concerns expressed with regard to the process include: (a) smaller firms do not have sufficient resources to make the initial commitment required to bid on a design/build/warranty project; (b) the process requires a large up-front investment of resources in order to submit a bid; (c) the process is a means of avoiding the Brooks Act requirement that engineering services be awarded based on qualifications; and (d) the warranty provisions of design/build contracts raise liability and insurability problems for the design community.^{319/}

Barrier No. 3	Failure to clearly state guidelines regarding OCI and the division of responsibilities at the outset of a project may threaten the project
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Barriers 1 and 2 concern disincentives to a contractor's involvement in the early stages of an ITS project when it is unclear how OCI rules will be applied. Barrier 3 reflects not so much a disincentive to a contractor's participating in the project, but the issues that may arise in implementing a project when OCI guidelines are not clearly stated from the

^{316/} Russell, Beverly, *supra*, at note 17, at p. 4.

^{317/} See, e.g., Ala. Code § 41-16-2; 41-16-27; 41-16-57; Alaska Stat. § 36.30.200; Ariz. Rev. Stat. § 28-3051; Cal. St. & H. Code § 143; Colorado H.D. 95-1267, enacted 1995; Conn. Gen. Stat. Ann. §§ 4b-24; 4b-51 et seq.; Fla. Stat. Ann. § 287.055; Haw. Rev. Stat. § 103D-304; Idaho Code §§ 67-5711A; Kan. Stat. Ann. § 68-2001 et seq.; Mass. Gen. Laws AM. Ch. 7, §§ 42B; Ch. 29, § 7E; Ch. 149, § 44A; Mont. Code Ann. § 60-2-112; Nev. Rev. Stat. § 341.171; N.H. Rev. Stat. Ann. § 228:4(l)(f); *Marina v. Town of Ramapo*, 326 N.R.S.2d 162; 1993 NC. Sess. Laws 1993, C.321, s.162; Ohio Stat. dated August 24, 1995; 1995 Or. Laws S.B. 626; S.C. Code Ann. § 57-3-200; Va. Code Ann. §§ 1-41 et seq.; Wash. Rev. Code Ann. § 47.46.010; Wis. Stat. Ann. §§ 13.48(19) and 16.855.

^{318/} Pub.L. 104-106, Division D (Feb. 10, 1996).

^{319/} Russell, Beverly, *supra*, at note 17, at p. 6.

project's inception. For example, in the **FAST-TRAC** Operational Test, the University of Michigan's evaluation contract was placed at risk because the limitations placed on the University due to OCI were not clearly identified at the inception of the project. The University was awarded the evaluation contract by the Road Commission of Oakland County in November 1992. At the time of that award, it was not affirmatively stated that by entering into the evaluation contract, the University would be precluded from performing any contracts for design work for the projects. By waiting to address the problem until after the project was underway, the project was slowed and the evaluation contract was threatened.^{320/}

Failure to deal explicitly with OCI issues at the outset of a project may also result in costly delay and expense due to bid protests based on OCI. The **Virginia Department of Transportation** experienced this problem in connection with its procurement of an electronic toll collection system.^{321/}

Solution No. 3(a)	Project participants should establish a clear understanding regarding the division of responsibilities and limitations imposed by OCI at the outset of the project
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In the **FAST-TRAC** project, the participants learned that for future projects, a commitment should be obtained from all stakeholders regarding the division of responsibilities and the limitations imposed by OCI at the outset of the project. In that case, the issue was ultimately resolved when an internal decision was made stating that the **University of Michigan's** staff members would not perform design work. The principal investigator obtained agreements from other University staff members preventing them from engaging in design work for the project.^{322/}

^{320/} Intelligent Vehicle-Highway Systems Institutional and Legal Issues Program, *Review of the FAST-TRAC Operational Tests*, John A. Volpe National Transportation Systems Center, p. 52 (June 1994).

^{321/} Williams & Schott, *supra*, at note 19, at p. 32.

^{322/} *Review of the FAST-TRAC Operational Tests*, John A. Volpe National Transportation Systems Center, *supra* at note 30, at p. 52.

Solution No. 3(b)

Expressly state in design contract solicitation that the successful ITS design firm and its affiliates will be excluded from bidding to supply the resulting system

The **Bay Area Metropolitan Transportation Commission** avoided future OCI problems in connection with its telephone information system procurement by affirmatively prohibiting firms having a financial interest in companies that manufacture and provide telecommunications hardware, software, or information services from participating in the design phase of the project. Thus, the **Bay Area Metropolitan Transportation Commission** imposed a de facto “hardware ban” on the design contract. The **Bay Area Metropolitan Transportation Commission’s** Associate General Counsel reports that this approach was effective.^{323/}

E-4. ADDITIONAL FINDINGS AND RECOMMENDATIONS

In the context of Federally-funded projects, the FHWA should consider whether it would be appropriate to reconsider the definitions of “highway” and “construction.” It would be helpful if relevant statutes and regulations, particularly 23 U.S.C. 112(b) and applicable definitions, were revised to adapt to the concept of advanced technologies being developed on highways. Then the circumstances in which ITS projects will be subject to the requirement that design and construction be separated, and that construction be awarded on a low-bid basis, could be explored in more detail and appropriate exceptions could be provided.

Participants in the expert panel conducted for this project generally agreed that in the early stages of research, development, and operational testing, it is appropriate to have flexible OCI rules permitting the public agency to make a case-by-case determination as to whether or not OCI concerns are significant, and to retain flexibility in mitigating the impact of OCI rules. For example, a transportation agency may adopt an

^{323/}

Bay Area Metropolitan Transportation Commission, Request for Proposal to Design a Regional Telephone System, dated June 8, 1994; interview with Bay Area Metropolitan Transportation Commission Assistant General Counsel, Melanie Morgan, Esq., conducted for purposes of this project in September, 1995.

administrative waiver process such as that contemplated by § 9.503 of the FAR. The waiver procedure should have the following characteristics:

- Require that potential OCI be identified as early in the contracting process as possible;
- Require that requests for waivers be in writing, set forth the extent of the conflict, and require approval by an agency head or designee with a high level of authority;
- Require that steps be taken to avoid, neutralize or mitigate the potential conflict to the extent reasonably possible. For example, where a desirable design firm is under a corporate umbrella with a desirable supply firm, the public agency may require the design firm to institute “Chinese wall” procedures, and to permit the public agency to audit compliance with such procedures;
- Require the rationale for the decision justifying waiver of OCI to be memorialized in writing.

To avoid delay from disgruntled bidders who are not awarded a contract, the public agency might consider implementing an administrative requirement that bid protests based on OCI be brought within a very short period of time from bid award. To the extent feasible, if it is anticipated that OCI will be an issue and the public agency desires to maintain great flexibility with regard to OCI, the public agency should publish its intention to waive OCI rules early in the solicitation process. Contractors would be put on notice of the transportation agency’s intent. The transportation agency’s regulations might provide that failure to bring a protest regarding the public agency’s statement of how it will treat OCI prior to the deadline for submission of bids would result in a waiver of claims based on OCI. Admittedly, OCI is fact-specific, and this solution contemplates making decisions regarding OCI in a somewhat general fashion. However, in the context of ITS the pool of potential bidders is likely fairly well known early in the process, and therefore it should not be prejudicial for the transportation agency to make generic determinations regarding its treatment of OCI. A suggested administrative rule might read as follows:

- **Agency Discretion.** The procuring agency has discretion to determine whether or not a firm or its related entities’ participation in development of specifications or advisory contracts with the agency regarding a project should preclude it from competing in the procurement itself.

- **Clarification** of Rules. The procuring agency shall make clear at the outset of a procurement the rules that shall pertain to organizational conflicts of interest in the development of the procurement.
- **Bid Protest Based on Organizational Conflicts of Interest.** Provided that the procuring agency has made it clear prior to submission of the bid that it will allow the participants in the development of the procurement to bid on the procurement, anyone desiring to make a bid protest based upon the perceived organizational conflict of interest shall be required to make such protest prior to the due date for submission of bids.
- **FAR Provisions.** Contract provisions contained in the FAR can be used as templates to address OCI, and to expressly define the restrictions placed on a contractor because of OCI.^{324/}

4.1 Suggested Approach

From the foregoing analysis, the following steps should be followed by a State or local transportation agency in focusing on organizational conflict of interest issues:

- Identify the basis of the transportation agency's policies regarding OCI. Is the transportation agency actually constrained by State law or agency-specific regulation with regard to OCI, or has the assumption that all pre-construction contractors must be precluded from actual implementation of a project been based on custom?
- Having inventoried applicable OCI rules, analyze how the procurement at hand might be structured so as to minimize the impacts of OCI. Can certain aspects of the project be separated out to constitute "planning" or "development," rather than specific system design? If the project is "developmental," does the public agency have the discretion to treat the procurement in the manner suggested by the FAR, and would such approach be desirable?
- Does the agency have the discretion to award a design/build contract, and would that be desirable?

^{324/}

See, e.g., 48 C.F.R. 52-209-T Organizational Conflicts of Interest Certificate -- Marketing Constraints; and 48 C.F.R. 52.20943 Organizational Conflicts of Interest Certificate -- Advertising and Assistance Services.

- Does the transportation agency possess the expertise to develop a system design in-house, thereby avoiding OCI?
- As soon as the preferred approach has been decided upon, issue an OCI policy statement clearly delineating the transportation agency's intended course of action with regard to OCI for the particular ITS project.
- Seek the advice of the FHWA as early as possible whenever Federal funds are involved.

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48 C.F.R. § 9.508	13, 14
48 C.F.R. § 9.507-1-9.507-2	7
48 C.F.R. Subpart 9.5	4
48 C.F.R. § 9.505-2	6, 7
49 C.F.R. § 18.36	4

FEDERAL STATUTES

23 U.S.C. § 112	3, 4, 14, 19
23 U.S.C. § 101	4, 15
Pub. L 104-106 § 4105 et seq. of the Federal Acquisition Reform Act of 1996	16

Issue Overview

LIABILITY

- Public and private sector participants in ITS deployment are concerned over becoming or being viewed as “deep pocket” sources of funds to cover accident costs (tort liability) due to ITS operations. Designing safety into all aspects of ITS technology and operations is the most effective strategy to mitigate overall tort liability exposure.
- Parties to ITS deployment contracts can agree in advance to allocate particular tort liability costs to the participating party most appropriate to bear those costs using contract clauses such as waivers, disclaimers, indemnities, releases, and liability limitations.
- The following barriers related to Liability have been identified as having the potential to constrain or hamper the implementation of ITS:
 - (1) Tort liability for injuries associated with ITS products; allocation of risk between ITS providers and users. (page F-11)
 - (2) Allocation of liability among ITS providers; multiple project participants may cause “innocent” governmental party to bear loss if separate disputes with contractors produce inconsistent results. (Page F-15)
 - (3) Potential liability for patent and copyright infringement and anti-trust violations. (Page F-18)
 - (4) Potential liability for monetary loss due to system failure in project with debt service funded by user fees. (Page F-19)

Section F

LIABILITY

F-1. STATEMENT OF ISSUE

Discuss the liabilities (real or perceived) associated with the private sector's participation in contracts to deploy ITS goods and services. Discuss additional liability concerns that are specific to the public transportation agencies.

F-2. ANALYSIS

Although one of the goals of ITS is improving the safety of travelers, the use of ITS technologies may hold greater potential liability for those involved in design, deployment, and operation of ITS **systems than highway and vehicle management** traditionally have presented. Contractual agreements represent a means to allocate liability risks among ITS participants.

F-2.1 Definitions

Tort liability may arise under a number of theories. The most likely theories of liability are listed below, but it should be noted that the precise definition of each theory depends upon the jurisdiction in which the claim is brought:

- (1) Negligence. Failure to exercise due care;^{325/}
- (2) Strict Liability. Manufacturer, seller and distributor are strictly liable for defective product, regardless of due care;^{326/}
- (3) Breach of Express Warranty. Product does not conform to promise made by the manufacturer or seller that was part of the basis of the bargain;^{327/}
- (4) Breach of Implied Warranty. Buyer's reasonable expectation that goods purchased will be free of significant defects and will perform in the way such goods should perform for the particular purpose intended;^{328/}

^{325/} See, Rest. Torts 2d § 95, comment (d).

^{326/} *Id.* at § 402A, comment 1.

^{327/} U.C.C. § 2-3 13(l)(a).

^{328/} See, e.g., Peterson v. Bendix Home Systems, Inc., 318 N.W.2d 50 (Minn. 1982).

(5) False or Negligent Advertising. Advertisements that are deemed to be false or misleading;^{329/}

(6) Fraud or Misrepresentation. Manufacturer or seller makes a fraudulent representation of the condition or safety of the product, or conceals its dangers;^{330/}

(7) Negligent Misrepresentation, Provider or manufacturer of product breaches duty to give correct information, knowing that the consumer will rely on information given, and defendant does not exercise reasonable care in making sure statements are true;^{331/}

(8) Conversion. A wrongful deprivation of one who has a right to immediate possession of an object unlawfully held, most likely to occur in the case of overcharges by electronic technology to collect tolls and weighing fees for commercial vehicles.^{332/}

F-2.2 Federal Law, Regulations, and Procedures Governing Tort Liability of Federal Government

Potential tort liability is not likely to be a significant barrier to the Federal Government's participation in ITS since its role in design, manufacturing, deployment and operations will be limited principally to providing funding. To the extent the Federal Government does have a more active role in certain limited situations, it may be held liable for personal injuries or property damage under the Federal Tort Claims Act (the "FTCA"). The FTCA holds the United States liable to the same extent as a private individual under similar circumstances. However, under the FTCA, the Federal Government is immune from punitive damage awards.^{333/} The FTCA also provides sovereign immunity for property damage or personal injury claims based on strict liability.^{334/}

^{329/} See, e.g., Ebers v. General Chemical Co., 310 Mich. 261, 17 N.W.2d 176 (1945).

^{330/} See, e.g., Toole v. Richardson-Merrell, Inc., 25 Cal.App.2d 689, 706-707, 60 Cal. Rptr. 398 (1967).

^{331/} See, e.g., Walker v. Decora, Inc., 225 Tenn. 504, 471 S.W.2d 778 (1971).

^{332/} See, e.g., In re Thebus, 108 Ill.2d 255, 91 Dec 623, 625, 483 N.E.2d 1258, 1260 (1985). .III.

³³³ 28 U.S.C. § 2674.

^{334/} Dalehite v. United States, 346 U.S. 15, 73 S.Ct. 956, 97 L.Ed. 1427 (1953).

Under the FTCA, the Federal Government is liable for its negligence unless its actions fall within the discretionary function exemption of the FTCA.^{335/} The purpose of the discretionary function exemption is to immunize government employees while they are formulating public policy, and courts look to the conduct of the government to determine whether the mistake of judgment occurred in the course of significant policy and political decisions.^{336/} The discretionary function exemption, however, does not immunize all regulatory actions. Thus, where the government issues a license without receiving the data required by Federal regulations, no discretionary function is involved and no immunity from suit arises.^{337/} Moreover, while the Federal government is not liable for an inadequate warning, liability may attach if the government fails to issue any warning whatsoever of a known hazard.^{338/}

The recent case of Rothrock v. United States^{339/} discusses the applicability of the discretionary function exemption in the context of the Federal-aid highway program. In that case, the plaintiff was injured when his car rolled off a steep embankment on Interstate 65. The plaintiff alleged the accident was caused by the absence of a guardrail, and that the United States was responsible because it had failed to ensure, as a condition of its funding decision, that the design met certain safety standards. The Circuit Court held that the “discretionary function” exemption precluded recovery, because of the “substantial discretion afforded to the Government agents in deciding whether to enforce its safety standards in funding” under the Federal-Aid Highway Act.^{340/}

The Federal Government is immune from suit for deceit or intentional or negligent misrepresentation, provided that the gravamen of the complaint is not the negligent performance of operational tasks.^{341/}

^{335/} 28 U.S.C. § 2680(a). In addition to the Federal Government’s liability exemption for discretionary functions, the FTCA contains several other tort liability exemptions, e.g., assault, slander, misrepresentation.

^{336/} United States v. S.A. Varig Airlines, 467 U.S. 797, 814, 104 S.Ct. 2755, 81 L.Ed.2d 660 (1984).

^{337/} Berkovitz v. United States, 486 U.S. 531, 542-543, 108 S.Ct. 1954, 100 L.Ed.2d 531 (1988).

^{338/} Mandel v. United State 793 F.2d 964, 967 (8th Cir. 1986) (non-immunity where park service failed to provide warning about submerged rocks in river).

^{339/} Rothrock v. United States, 62 F.3d 196 (1995).

^{340/} *Id.*

^{341/} 28 U.S.C. § 2680(h).

F-2.3 State Law, Regulations, and Procedures Governing Tort Liability of State and Municipal Entities, and of Private Sector Participants

Where States are not immune from suit (as discussed in Section 2.3(a), below, regarding sovereign immunity), they will be liable to the extent they act as manufacturers, sellers, distributors, designers, or operators of ITS products, on the same theories faced by private sector participants. This section provides a brief discussion of these theories of tort liability as they relate to ITS.

F-2.3(a) Sovereign Immunity

There are two types of sovereign immunity. First, procedural sovereign immunity is the freedom of the government from being sued. Most states have given up their sovereign right not to be sued. Nonetheless, they still may be immune from liability for certain types of acts in certain types of circumstances under the second type of sovereign immunity -- substantive sovereign immunity.^{342/}

To one degree or another, all states have lost their procedural sovereign immunity through either judicial development of common law, or waiver and constitutional enactment or statute. However, all States still have procedural sovereign immunity under the Eleventh Amendment to the United States Constitution which refuses to extend the Federal judicial power “to any suit in law or equity, commenced or prosecuted against one of the United States by citizens of another State, or by citizens or subjects of any foreign State.” Therefore, “if a citizen of Minnesota were injured as a result of a defective IVHS operated by the State of Florida, that individual would be limited to suit under the tort claims statutes of Florida.”^{343/} Because local government agencies are not the “State,” the Eleventh Amendment may not bar suits against local governments engaging in ITS work unless they are clearly acting as a branch of State government.^{344/} As a general rule, traditionally State highway departments, commissions, authorities and similar bodies have been found entitled to sovereign immunity as agencies of the State in the absence of a waiver of such immunity.^{345/}

With respect to substantive sovereign immunity, States vary widely in the degree to which their laws grant immunity to, or exclude from the general immunity various

^{342/} Roberts, Stephen N., Hightower, Allison S., *Intelligent Vehicle Highway Systems and State Sovereign Immunity for Torts*, paper presented to Federal Highway Administration (Dec. 1, 1993).

^{343/} *Id.* at p. 9.

^{344/} Owen v. City of Independence, 445 U.S.622,100 S.Ct. 1398, 63 L.Ed.2d 673 (1980).

^{345/} See, e.g., Bettencourt v. California Toll Bridge Authority, 123 Cal.App.2d 943,266 P.2d 205 (1954).

government agencies and types of government activities. The States' constitutions and tort claims statutes generally identify those specific items for which immunity has been preserved. A broad discussion of the scope of such immunities, and the jurisdictions in which they are available, is beyond the scope of this paper. Suffice it to say, however, that, in many States, sovereign immunity may lessen the significance of the liability barrier to ITS. For a more comprehensive discussion of the protection afforded by the sovereign immunity laws in the 50 States, see *Intelligent Vehicle Highway Systems and State Sovereign Immunity for Torts*, paper prepared for the Federal Highway Administration dated December 1, 1993, by Nossaman, Guthner, Knox & Elliott. Where sovereign immunity is not available presently for ITS-type claims, to the extent that liability concerns prove to be a significant ITS barrier, an amendment to a State's existing constitutional and procedural sovereign immunity rules may be warranted.

F-2.3(b) Negligence

The manufacturer, designer, distributor and operator of ITS products each has a duty to exercise the appropriate level of due care to ensure that a product or service does not subject a user to unreasonable risk.^{346/} To recover damages, the victim must demonstrate breach of this duty, that this breach was the proximate cause of her injuries, and that she incurred damages. The duty of care is commensurate with the risk of danger involved, and requires the balancing of the likelihood of and gravity of possible harm against the burden of effective precautions.^{347/} All entities involved in providing ITS goods and services will owe a duty of care to all foreseeable users of those services. Those selling ITS products will owe a duty of ordinary care to ascertain through inspections and tests that the product is safe,^{348/} although typically they will not be required to determine the safety of the design itself or to discover latent defects.^{349/}

Public and private operators of ITS will be responsible for maintaining these systems in good working order. In Keyworth v. State^{350/} New York State was held liable when an accident occurred while a traffic signal displayed a green light on all four sides of an intersection; although the state had known about the problem, it had failed to remedy it. Similar scenarios are easily envisioned in the ITS context particularly with regard to ATMS.

^{346/} *Rest. Torts 2d* § 282.

^{347/} *Id.* at § 395, comment(d).

^{348/} Cassels v. Ford Motor Co., 10 N.C.App. 5 1, 178 S.E.2d 12, 15 (1970).

^{349/} Wagner v. Larson, 257 Iowa 1202, 136 N.W.2d 312, 325 (1965); General Motors Corp. v. Davis, 141 Ga.App. 495, 233 S.E.2d 825, 828-29 (1977); *Rest. Torts 2d* § 482.

^{350/} Keyworth v. State, Key 20 App.Div.2d 836, 247 N.Y.S.2d 897 (1964).

The promulgation of Federal or State statutes or regulations dealing with ITS standards and specifications may heavily influence the standard of care required of ITS providers. Although compliance with such standards will not necessarily exonerate an ITS provider from tort liability, in some states compliance with applicable laws or generally recognized standards provides a rebuttable presumption that a product is not defective or the defendant was not negligent.^{351/}

In some states, an ITS provider will have an absolute defense where its product was in compliance with mandatory government contract specifications.^{352/} However, this defense probably will not be a significant factor until the ITS industry is much more mature; for the present, it is likely that most deployments will be on the basis of government-provided performance specifications, rather than design specifications. Other defenses to negligence claims may include contributory and comparative negligence, assumption of the risk and last clear chance.^{353/}

The prospect of joint and several liability may also act as a barrier to ITS. The manufacturers, distributors, and sellers of ITS goods and services may be jointly and severally liable for damage caused by their respective negligence. Hence, if one party is unable to pay, the others may be required to compensate the victim fully unless such rules are altered by statute.

F-2.3(c) Strict Liability

As opposed to negligence, strict liability focuses on the defectiveness of the product, rather than the conduct of the defendant. State and local governments (to the extent not protected by procedural or substantive sovereign immunity) and private entities may be exposed to strict liability.

Strict liability applies to products, not services.^{354/} Because many ITS technologies, particularly those in the ATMS category, can be described as services rather than products, this liability theory may have more limited application than negligence theories. On the other hand, automatic vehicle identification devices, electronic toll paying devices, in-vehicle information screens, and many Advanced Vehicle Control

^{351/} *E.g.*, Kan. Stat. Ann. § 60-3304(a); Ky. 385 Rev. Stat. Ann. § 411.310(2); M.V. Cent. Code § 28-01.1-05(3); Utah Code Ann. § 78-15-6(3).

^{352/} *E.g.*, Kan. Stat. Ann. § 60-3304(c); Wash. Rev. Code § 7.72.050(2).

^{353/} For a more detailed discussion of these theories, see, Roberts, Stephen N., Hightower, Allison S., et *al.* *Advanced Traffic Management Systems Tort Liability Issues*, paper presented to Federal Highway Administration (Dec. 1, 1993).

^{354/} Van Iderstine v. Lane Pine Corp., 89 A.D. 2d 459,455 N.Y.S.2d 450,452 (1982).

Systems items will probably be considered to be products. Case law demonstrates that the dividing line is difficult to establish. Public roads and associated guard-rails and bridges generally have been considered to be services rather than products.^{355/} Research of case law has not identified any cases in which the provider of traffic information or weather conditions has been held strictly liable for providing inaccurate information; such matters would probably constitute services rather than products. Courts probably will consider the traffic regulation systems, parking management, and construction management envisioned as part of ATMS to be services, and permit liability only for negligence. At least one state, however, has considered signal control devices to be products. In that jurisdiction if an accident were proximately caused by a malfunctioning traffic control device, strict liability could be an issue.^{356/}

A plaintiff must prove that a product was defective to recover on a strict liability theory, and most states have adopted the Restatement approach, requiring the plaintiff to prove that the product created an unreasonably dangerous condition which proximately caused the plaintiffs injuries.^{357/} In order to prove a product defective, the plaintiff must show manufacturing defects, a failure to warn or a design defect. As stated above, in some states compliance with industry-wide standards, industry custom or government standards is admissible to show that a product is not unreasonably dangerous.^{358/}

Manufacturers and distributors can issue warnings to attempt to avoid foreseeable accidents, but warnings are of little use for manufacturing defects, and little predictability exists across the country to determine the proper location and content of a warning for it to be valid. There is no duty to warn sophisticated users of a danger of which they ought to be aware.^{359/} Therefore, in the context of ITS, while commercial vehicle drivers using ITS might be so “sophisticated” that warnings are unnecessary, ITS manufacturers and operators will probably have a duty to warn ordinary consumers of the risks associated with ITS products.

Defenses to strict liability are similar to defenses to negligence claims. For example, comparative and contributory negligence, and assumption of the risk are available as defenses. In the ITS context, these defenses could arise frequently, such as where a defect in an Advanced Traffic Management System (ATMS) ramp metering light is

^{355/} Edward M. Chadbourne, Inc. v. Vaughn, 491 So.2d 551,553 (Fla. 1986).

^{356/} See, Percle v. Oubre, 564 So.2d 352 (La. App. 1990).

^{357/} ***Rest. Torts 2d §482(A).***

^{358/} See, e.g., Schwartz v. American Honda Co, 710 F.2d 378,383 (7th Cir. 1983).

³⁵⁹ The defense has been applied to bar strict liability and negligence claims. Nozeke v. International Paper Co, 933 F.2d 1293, 1297 (5th Cir. 1991).

blamed for an accident. In such case, there is probably at least some negligence on the part of the driver since the driver should have seen the other vehicle and could have braked, swerved or taken other actions to avoid an accident. In the ATMS context, comparative negligence should be a good defense except in cases of total system breakdown. Assumption of the risk is also a defense applicable in the ATMS context, such as where a user modifies or misuses the ITS product.^{360/}

F-2.3(d) Breach of Express Warranty

Of all the theories of tort liability for ITS, breach of express warranty is probably the least likely to operate as a barrier to ITS. An express warranty is an oral or written promise made by the manufacturer or seller of the goods that the goods conform to an affirmation or promise which is a part of the basis of the bargain for the sale.^{361/} Affirmation of the safety of a product is an express warranty that may subject the manufacturer or seller to an action for breach of that warranty.^{362/} However, breach of express warranty is not a theory of liability which is likely to inhibit the development of ITS because providers of ITS goods and services can control the warranties they make, and thus, can avoid making warranties that they are likely to breach.

F-2.3(e) Breach of Implied Warranty

Theories of breach of implied warranty of merchantability and breach of implied warranty of fitness for a particular purpose are available to most victims in most jurisdictions, regardless of privity of contract. The implied warranty of merchantability covers the buyer's reasonable expectation that goods purchased from a merchant will be free of significant defects and will perform in the way goods of that kind should perform. The warranty is breached if the product is defective to a normal buyer making ordinary use of the product.^{363/} The warranty of merchantability may be disclaimed if the manufacturer or merchant does so at the time of sale and the disclaimer is sufficiently conspicuous. Thus, this theory is not likely to constitute a significant barrier to ITS in states where the manufacturers and sellers can disclaim warranties by informing the buyers of their disclaimer in capital letters and bold face type, and possibly by requiring buyers to sign or initial that they read the disclaimer.^{364/}

^{360/} See, Muniga v. Motors, General 102 Mich.App. 755, 762, 302 N.W.2d 565 (1980).

^{361/} U.C.C. § 2-3 13(1)(A).

^{362/} Hauter v. Zogarts, 14 Cal.3d 104, 115, 120 Cal.Rptr. 681, 534 P.2d 377 (1975).

^{303/} E.g., Peterson v. Bendix Home Systems, Inc., 318 N.W.2d 50 (Minn. 1982).

^{364/} Roberts, Stephen N., Hightower, Allison S., *supru* at note 18, p. 18.

The implied warranty of fitness for a particular purpose requires proof that the seller was informed of the purpose for which the article was purchased, the buyer relied on the seller's skill and judgment, the goods sold were defective and unfit for that purpose, and the defect proximately caused the plaintiffs damage.^{365/} This theory should also be of limited application to ITS products, which generally will be purchased for their ordinary use. It is difficult to envision how an ITS product would be sold for a purpose to which it is not capable.

F-2.3(f) False or Negligent Advertising

Manufacturers and sellers of ITS products (but not services) may be liable in tort for false or misleading advertisement.^{366/} Mere puffing does not present actionable negligent or fraudulent advertising. Rather, statements must actually be misleading or false, the buyer must rely on the advertisement, and the advertisement must proximately cause the claims of injury. This theory is not likely to be a significant barrier to ITS -- it is a theory with which sophisticated developers of ITS systems are already well versed in connection with other products they manufacture.

F-2.3(g) Fraud and Misrepresentation

Similarly, fraud and misrepresentation are not likely to constitute significant barriers to the deployment of ITS. The manufacturer or seller of defective products may be liable for fraudulent representations of the condition or safety of the product, or for concealing its dangers.^{367/} Intentional fraud is more difficult to prove than negligence or strict liability since proof must be obtained of the defendant's knowledge of the falsity of the statement in question, or at least reckless disregard of the truth. Typically, there is no obligation to disclose all material facts, and thus liability for concealment is generally limited to instances where the buyer requests information which is then not truthfully given. Since this type of action is within the control of manufacturers and developers of ITS, it is not likely to significantly deter development of ITS. Governmental entities procuring ITS from private sector manufacturers and developers can minimize their exposure to this theory by obtaining complete indemnities from their vendors (partners).

^{365/} Eg., E.I. DuPont de Nemours & Co. v. Dillaha, 280 Ark. 477, 659 S.W.2d 756 (1983).

^{366/} For a discussion of false advertising claims that could be brought by competitors for unfair competition, or a competitor's injury resulting from false advertising, see, e.g., Lanham Trademark Act of 1946, §43(a), 15 U.S.C. § 1125(a).

^{367/} Toole v. Richardson-Merrell, Inc., 25 1 Cal.App.2d 689, 706-707, 60 Cal.Rptr. 398 (1967).

F-2.3(h) Negligent Misrepresentation

As with intentional misrepresentation, this cause of action is not likely to deter ITS development; entities involved in a project may, to a large extent, determine what representations are made about the ITS products they sell or market.

F-2.3(i) Conversion

As explained earlier in the definitions section, conversion occurs when there is a wrongful deprivation of an object from one who has a right to immediate possession of the object unlawfully held. The most likely circumstance for this claim to arise in ITS is in the context of electronic technology to collect tolls, and to collect weighing fees from commercial vehicles. Use of automatic payment systems may result in overcharges or unjustified charges, raising the possible claim of conversion of the customer's money. However, in these circumstances this claim is not likely to be significant. As a practical matter, conversion suits are not likely to be many in number, as most companies and individuals will seek refunds, and in any event, the amount at risk will be small.

F-3. BARRIERS AND SOLUTIONS

The list of specific liability concerns potentially raised by ITS is probably inexhaustible. Liability issues raised by the operational field tests and case studies include the following:

- Who will insure vehicles for collision and liability;
- Who will insure against project liability for errors such as wrong way directions;
- In the case of an Advanced Traffic Information System (ATIS) device located on the inside of the vehicle, on what theories may a person sue because of compromised safety due to distraction because of the screen, and who is exposed to liability;
- In the case of devices that are "add-on units," where improper installation or maintenance may result in the device becoming a potential projectile or interfering with air bags, how can the proper installation and use of such devices be ensured; and
- What steps can be taken to assure that drivers participating in operational tests are good driving risks?

As discussed below, each of these issues may, to at least some extent, be addressed by contract.

Additional concerns will arise as new technologies are developed, and as commercial deployment of ITS technologies extends beyond the operational testing phase. These concerns may include the following:

- As ITS products are commercially deployed, vendors of the products and providers of the services will have increasingly less control over the quality of the driver population using the products, and thus less ability to manage risks by limiting use of the products to drivers with good driving records;
- The broader the market and the further removed the consumer of the technology is from the vendor/provider, the more the vendor/provider must be concerned about the effectiveness of any “informed consent” obtained as a requirement to the purchase or use of the product or service. Additionally, if the product or service is actually required to be used on certain roads, informed consent may be meaningless. ITS providers will also need to be concerned with how strong a waiver they may require for use of the ITS technology without severely restricting the marketability of their products and services;
- It will be increasingly difficult to control quality as technologies are used across multiple jurisdictions because products will be integrated with other technologies and used under increasingly variant circumstances; and
- Where multiple systems are available on the market and integrated so as to be used concurrently, it may be difficult to sort out the respective liabilities of ITS component providers.

Barrier No. 1	Tort liability for injuries associated with ITS products; allocation of risk between ITS providers and users
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As described above, the many theories under which tort liability may be imposed, a lack of certainty with regard to which ITS technologies will be considered “products” and therefore create exposure for strict liability, the potential for punitive damages awards, and lack of uniformity in the statutory and case laws, rules, and regulations of different

jurisdictions, all operate as potential barriers to ITS deployment. The problems are exacerbated by the fact that applications of ITS technologies, by their inherent nature, are intended to cross jurisdictional boundaries.

Solution 1(a)	<p>(a) Require driver participants to sign informed consent forms</p> <p>(b) Every time the car's engine is started, the data screen warns driver that the system is experimental and that safety is the driver's responsibility</p> <p>(c) Each party provides its own insurance for its staff members and for test participants</p>
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Designing safety into the system in the first place is the most obvious mitigation strategy for liability concerns. In the **TravTek** project, General Motors' design of the ATIS display interface precluded the driver from manipulating the data screen while the vehicle was in motion. Whenever the car's engine is started the display has a disclaimer reminding the driver that it is an experimental system, and that safe driving is the driver's responsibility. This approach would provide a defense to strict liability on the grounds that the driver has been adequately warned.

Requiring that driver participants sign an informed consent form is another solution developed by the **TravTek** partners. As reported by the Volpe case studies, no known recruits for the **TravTek** project refused to sign the informed consent and waiver. Therefore, the waiver does not appear to have been a significant barrier to obtaining participation in the project. However, only time will tell how effective such waivers are when dealing with a high technology project. It may be that a court would conclude that consumers are not sufficiently sophisticated to waive any rights associated with the technologies, and that such waivers have limited enforceability.

The **TravTek** participants mitigated some of their liability concerns by imposition of detailed insurance requirements. In **TravTek**, each partner provided its own insurance for its own staff members and test participants. The evaluation contractor obtained liability insurance as a reimbursable cost under the contract.

The **TravTek** partners also made a thorough prequalification check of all test participants' driving records. This type of due diligence should help to mitigate liability concerns. However, as explained above, in later stages of commercial deployment this type of prequalification check may become unwieldy and unrealistic.

Similarly, in the **ADVANCE** case study, participants were required to sign an informed consent statement identifying the possible risks of participation in the study. The **ADVANCE** participants wisely dealt with the liability issue at the inception of the project through a contractual provision detailing the driver participation requirements. Participants in the test were required to provide their own insurance meeting certain minimum standards.

B. The driver recruitment procedures shall include provisions for reasonable assurance that recruited drivers are properly licensed to drive the motor vehicles in which navigation systems are installed and that they have and maintain adequate insurance during the period of their participation in the project. An informed consent agreement between the ADVANCE program and participating drivers shall be drafted and approved by the Steering Committee prior to its use in driver recruitment.^{368/}

Solution 4 (b)	Require test participants to execute waivers containing warranty disclaimers and liability limitations
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The **Washington State Department of Transportation’s SWIFT** project provides good examples of how the parties in ITS projects may use contracts to limit their exposure for tort liability to users of the ITS technology. The **SWIFT** project agreement includes the following provision:^{369/}

11.3 Waivers. The State will cause all participants in the Test to execute waivers containing (i) warranty disclaimers equivalent to those in Section 11.2 and (ii) limitations of liability substantially as follows: “THE PARTICIPANT UNDERSTANDS AND AGREES THAT IN NO EVENT SHALL ANY PARTY IN THE SWIFT PROJECT BE LIABLE TO THE PARTICIPANT FOR ANY DAMAGES, CLAIM, OR LOSS (INCLUDING WITHOUT LIMITATION, COMPENSATORY, INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES, LOST PROFITS, LOST SALES OR BUSINESS, OR LOSS OF ANY GOODWILL) ARISING OUT OF THE SWIFT PROJECT IRRESPECTIVE OF WHETHER THE PARTY HAD BEEN INFORMED OR KNEW OF OR SHOULD HAVE KNOWN OF THE LIKELIHOOD OF SUCH DAMAGES, CLAIM OR

^{368/} *Id.* at note 5.

^{369/} Agreement for Seattle wide-area information for travelers, *supra*, at note 49. [Note that the waiver is in bold face capital letters.]

LOSS. THIS LIMITATION APPLIES REGARDLESS OF WHETHER SUCH DAMAGES, CLAIM OR LOSS ARE SOUGHT BASED ON BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE, STRICT LIABILITY, MISREPRESENTATION, OR ANY OTHER LEGAL OR EQUITABLE THEORY.”

Solution 1(c)	Require transponder customers to execute release and indemnity in order to pay tolls electronically
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In the license agreement that customers are required to sign in order to obtain a transponder so that they may electronically pay tolls on the new **Orange County Transportation Corridors**, the licensee (customer) must specifically agree as follows:

Release and Indemnity: We hereby release TCA from all loss, damage, or injury whatsoever, known or unknown, arising out of or in any manner connected with the use or performance of the Transponder. Neither TCA nor its agents shall have any obligation or liability to you with respect to your use or the performance of the Transponder. Your sole and exclusive remedy from TCA and its agents shall be replacement of any defective Transponder. You agree to indemnify, protect and hold harmless TCA and its agents from all liability for any loss, damage or injury to persons or property arising from or related to the Transponder.^{370/}

It must be stressed, however, that when waiver and indemnity provisions are included as boilerplate in purchase, lease or license agreements, and are conditions precedent to obtaining the use of required technology, it is difficult at this point to predict whether or not, and the extent to which, such provisions will be enforceable. Furthermore, the enforceability of such provisions is likely to differ depending greatly upon the jurisdiction in which a claim is brought.

^{370/} Lease, Purchase and Installation Agreement among the Foothill/Eastern Transportation Corridor Authority, the San Joaquin Hills Transportation Corridor, Lockheed Information Management Services Company and Lockheed Corporation, dated February, 1993.

Barrier No. 2

Allocation of liability among ITS participants; multiple project participants may cause “innocent” governmental party to bear loss if separate disputes with contractors produce inconsistent results

Where multiple parties are entering into a project to provide an ITS service or product to the public, the parties may allocate various potential liabilities by contract in order to make it commercially reasonable for the parties to enter into the arrangement. For example, the project may not be feasible if parties are exposed as “partners” to liabilities for the negligence of other parties, unless the parties agree to indemnify one another for their respective negligent acts, and there is adequate insurance or other assets to support the indemnity obligations. Additionally, the threat of liability for unforeseen consequential damages may be a barrier to ITS. Therefore, it is typical to find limitations on liability for consequential damages in the contracts between parties to an ITS project.

The fact that ITS projects may call for a complex integration of the efforts of multiple contractors raises additional problems. The procuring transportation agency is exposed to a risk of loss for which it may not be compensated in the event of inconsistent outcomes in litigation with different contractors. For example, suppose that the transportation agency is sued as a “deep pocket” in case a consumer is injured as a result of an ITS system on the public agency’s road, and the public agency is held liable. Suppose further that the injury resulted from a failure in the system, and it is unclear whether the failure was in a product supplied by one contractor, or resulted from an operational error of another contractor. If the transportation agency has to seek indemnity recovery from its respective contractors in separate dispute resolution proceedings, it runs a risk of inconsistent results. It is possible that in a dispute with Contractor A, it will be adjudicated that Contractor B was at fault, and in a dispute resolution proceeding with Contractor B, it will be determined that Contractor A was at fault. Thus, the only thing that is clear is that the transportation agency should be indemnified by at least one of the Contractors, yet the transportation agency may not prevail in its action for indemnity from either contractor.

Solution 2(a)	Project agreement includes express warranty disclaimer
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The project agreement may include express warranty disclaimers, such as those set forth in the agreement for Cooperative Demonstration project to design, develop, implement and evaluate an Intelligent Vehicle Highway System known as Seattle Wide-Area Information for Travelers (**“SWIFT”**):

11.2 Warranty Disclaimers. Any deliverable hereunder of a Party’s standard commercial product (for example, SCS’s wristwatches, IBM’s portable computers and Delco’s car radios) shall be delivered to the Project with such Party’s standard commercial product warranty (including all the warranty disclaimers therein). Except for such standard commercial product warranties, no Party makes any warranty regarding any deliverable hereunder (including without limitation, any data, information, system, product or equipment), whether express or implied, and all warranties of merchantability and fitness for any particular purpose are expressly excluded. Without limiting the foregoing, no Party makes any warranty that: (i) any data that is provided to others will be provided in an uninterrupted manner or that the data will be free of errors, or (ii) any data that it receives from others will be processed and transmitted by it in an uninterrupted manner or that the data processed and transmitted will be free of errors. Except for the standard commercial product warranties for standard commercial products described in the first sentence of this Section 11.2, deliverables will be delivered on an “AS IS,” “AS AVAILABLE,” and “WITH ALL FAULTS” basis. Data will be provided, processed and transmitted on an “AS IS,” “AS AVAILABLE,” and “WITH ALL FAULTS” basis. No Party shall have any liability to any other Party under tort, contract or any other legal or equitable theory arising from the “AS IS,” “AS AVAILABLE,” and “WITH ALL FAULTS” basis described in the previous two sentences. Notwithstanding the above warranty disclaimers, with respect to non-standard products (other than data) for which standard commercial product warranties do not apply, each non-State Party agrees that it shall use reasonable efforts to support and maintain such non-standard products to work toward the goals and objectives of the Project.

Solution 2(b)	<p>(a) Limit vendor's liability to State or local agencies to the amount of money paid to-date under the contract</p> <p>(b) limit period for bringing claims to two years</p> <p>(c) Mutual waiver of liability for consequential damages</p> <p>(d) Mutual obligation to notify all parties of any tort claims</p>
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Many operational test participants have attempted to limit their liability by including in their project agreements provisions expressly limiting the parties' respective liabilities to one another. In the **TRAVLINK** project, Motorola's liability to the Minnesota Department of Transportation (MinnDOT) is limited to the amount of money that MinnDOT has actually paid to Motorola, and the period of limitations for bringing claims is limited to two years. These limitations are fairly typical in systems integration agreements. The agreement also provides that neither party is liable to the other for consequential damages, also a typical systems integration agreement provision. Similarly, in the **ADVANCE** project, the parties have expressly provided that they shall not be liable to one another for consequential damages resulting from their efforts under the demonstration project.

Keeping the partners well informed of potential sources of liability is another way the **ADVANCE** partners alleviated concerns regarding tort liability. Section XII.A. of the **ADVANCE** agreement specifically provides as follows:

If any claim is made or action commenced for death, personal injury, or property damage resulting from the condition, use or operation of demonstration vehicles, copies of every demand, notice, summons, process and pleading received in connection therewith shall be shared with all PARTIES.

Solution 2(c)	Require all contractors involved in a project to participate in joint dispute resolution to avoid inconsistent allocation of liability
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In the **Orange County Transportation Corridor** Agencies' procurement of a toll systems contract, the agencies avoided the possibility of inconsistent results that might result from separate tort liability proceedings with its construction contractor, on the one hand, and its toll systems contractor, on the other hand, by requiring both contractors to participate in a joint dispute resolution board proceeding in the event of an accident potentially involving both contractors.

Barrier No. 3	Potential liability for patent and copyright infringement and anti-trust violations
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Solution 3	<p>(a) Agree to mutual indemnification for patent infringement</p> <p>(b) Have vendor indemnify agency for anti-trust violations</p> <p>(c) Perform due diligence reviews to identify potential patent issues relating to an element of the proposed system. Parties agree in advance on an alternative substitute technology as a back-up</p>
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Typically, the parties to an ITS contract will allocate this type of liability through indemnification provisions in the agreements. For example, in the **TRAVLINK** operational test, the parties indemnified one another for patent infringement and the vendor indemnified MinnDOT for anti-trust violations.

In the case of the **Orange County Transportation Corridor**, when due diligence during the negotiation process indicated the possibility of a patent problem with one of the system components, the parties expressly addressed the issue in the contract. In the contract the parties agreed in advance on the replacement technology should the patent issue interfere with delivery of the system as proposed.

Barrier No. 4	Potential liability for monetary loss due to system failure in project with debt service funded by user fees
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This issue becomes increasingly important as transportation agencies enter into public/private partnerships for the development of new infrastructure. Typically, such infrastructure is financed, at least in significant part, by debt to be repaid from user fees for the infrastructure. Electronic systems employed on such projects to collect the user fees must be held to a high level of accuracy in order to provide the financing community with confidence that user fees will be collected and available to pay debt service.

Solution 4	Contractor assumes responsibility for system accuracy regardless of whether or not contractor is the cause of the failure
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The agreements for the electronic toll collection system for the **Orange County Transportation Corridors** demonstrate the high level of importance that lenders place on avoiding risk that the ITS will be unable to collect the user fees, for any reason. In order to obtain the lending communities' confidence in the projects, the Transportation Corridor Agencies were required to set a high performance threshold in the toll collection contract. Additionally, the circumstances in which the contractor would be excused from performance were required to be extremely limited. In that contract, the contractor guaranteed system accuracy to 99.7%, regardless of whether or not the contractor was the cause of any failure to collect the user fee.^{371/}

^{371/} See Toll Collection and Revenue Management System Installation and Lease Purchase Agreement among Foothill/Eastern Transportation Corridor Agency, a joint powers agency, and San Joaquin Hills Transportation Corridor Agency, a joint powers agency, and Lockheed Information Management Services Company, a New York corporation, and Lockheed Corporation, a Delaware corporation, dated as of February 26, 1993, page 22.

F-4. ADDITIONAL FINDINGS AND RECOMMENDATIONS

(1) Standardization of electronic specifications and procedures will need to be achieved to obtain seamless interoperability of systems across jurisdictions. The burgeoning of new technologies will undoubtedly engender litigation concerning liability for patent infringement and associated disputes regarding intellectual property rights. These liabilities can be adequately anticipated and allocated by contract, and the risk of exposure, while maybe not insignificant, is at least sufficiently predictable so as not to be a serious disincentive to participation in the ITS industry.

(2) High-stakes tort liability has been the focus of the most concern regarding liability. Potential “deep pockets” include the entire ITS community: Federal, State and local governments, educational facilities, consultants and industry. Different aspects of ITS present varying degrees of risk that may be allocated by contract to some extent:

- **Advanced Traffic Management Systems (“ATMS”)** have perhaps the least potential for injury to motorists, but are not without risk. In ATMS systems, traffic managers make decisions intended to influence drivers’ travel route decisions. One may expect claims that, in case of an accident, a malfunction in the design, manufacture or operation of the ATMS was at least one cause of a motorist’s injuries, such as a claim by a motorist who has driven into a dangerous traffic condition that his choice was affected by the ATMS.^{372/} Designers, manufacturers and operators of ATMS may allocate liability among themselves by contract with indemnity provisions, and to some extent may manage risk with detailed insurance specifications, and requirements that users execute waiver and release forms as a condition to obtaining the products, among other techniques.
- **Advanced Traveler Information Systems (“ATIS”)** provide drivers with access to continuous advice about traffic and related conditions, with the intent of enhancing the driver’s ability to determine the quickest and safest route to a given destination. ATIS informs drivers of existing conditions based upon input received from the ATMS.^{373/}

^{372/} Roberts, Stephen N., Hightower, Allison S., *et al.*, *Intelligent Vehicle Highway Systems and State Sovereign Immunity for Torts*, paper prepared for the Federal Highway Administration (Dec. 1, 1993).

^{373/} IVHS AMERICA, *Strategic Plan for Intelligent Vehicle Highway Systems*, at III-21, November 1994; P. Rothberg, *Intelligent Vehicle Highway Systems (IVHS): Challenges, Constraints, and Federal Programs*;

Since drivers using ATIS will make decisions based upon information supplied by the system's operators, drivers might claim that a design, manufacture or operational defect resulted in data that caused them to have an accident. Additionally, since ATIS needs a means of delivering information, such as a display screen within the vehicle, lack of attention to driving conditions while dealing with the ATIS device could cause accidents. Designers, manufacturers and operators of ATIS may employ certain contracting procedures like those used in ATMS to manage and alleviate risks.

- **Advanced Vehicle Control Systems ("AVCS")** present the most obvious risk of liability. At the technologically most advanced end of innovation, AVCS may even result in completely automated highways with total control of the vehicle.^{374/} The private sector will be primarily responsible for developing AVCS services. Performance specifications will be developed by the Department of Transportation, and State and local governments will contract with private entities for the provision of AVCS infrastructure equipment.^{375/} "One need only imagine the ultimate scenario of the driver ceding total control of his or her car to AVCS technology to identify the targets of lawsuits if something goes wrong. Since the driver had no control over the car, the liable party in that injured person's view will necessarily be someone who designed, manufactured or operated the AVCS."^{376/} As with ATMS and ATIS, designers, manufacturers and operators of AVCS may allocate liability among themselves by contract. They may also attempt to obtain waivers and releases from consumers as a condition to use of the product.

(3) Apart from questions of tort liability, ITS systems that are responsible for collection of revenue raise another entirely separate, but significant, liability issue, particularly in light of increasing fiscal constraints, and the trend towards public/private infrastructure finance. Who is liable for an ITS

M. Cheslaw and S. Hatcher, *Area Comparative Evaluation of Alternative ATMS/ATIS Architectures for Intelligent Vehicle Highway Systems* (1993).

^{374/} Transportation Research Board, *Special Report 232 Advanced Vehicle and Highway Technologies* (1991).

^{375/} Additional information on contemplated programs may be found in the *National Program Plan for Intelligent Vehicle-Highway Systems (IVHS)*, Oct. 15, 1993 Draft, prepared by the Federal Highway Administration.

^{376/} Roberts, Stephen N., Hightower, Allison S., *et al.*, *Intelligent Vehicle Highway Systems and State Immunity for Torts*, paper prepared for the Federal Highway Administration (Dec. 1, 1993).

system's failure to collect a user fee, and in what circumstances? This issue is further complicated in the case of interoperable multi-jurisdiction systems, such as **E-ZPass**.

(4) Many ITS projects involve multiple parties and multiple agreements. Often an ITS system will require a transportation agency to contract separately with many different contractors. When something goes wrong, it may be clear that it is not the transportation agency's fault, but each contractor's respective share of liability may not be readily apparent. If the transportation agency is held liable to a third party, or in the case of project delay, is damaged with change orders by one or more of its contractors, it runs the risk of inability to recover for its loss unless it can force the contractors to join in a single dispute. Without that ability, the public agency may seek recovery from Contractor A, only to have the trier of fact determine that Contractor B is responsible, and visa versa.

F-4.1 **Suggested Approach**

(1) Address liability issues early. Contract provisions can be structured to allocate liability among the most appropriate parties, and to provide indemnities as appropriate.

(2) Customers should be provided adequate notice of the potential risks associated with using ITS technologies, and wherever possible, carefully drafted informed consents and waivers should be obtained.

(3) Adequate insurance provisions should be required in all partnering arrangements. Risk management consultants should be consulted early in the procurement process.

(4) The parties' respective roles and responsibilities should be stated as precisely as possible in their agreements.

LIABILITY

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Table of Acronyms and Abbreviations

TABLE OF ACRONYMS AND ABBREVIATIONS

1995 Act	National Highway System Designation Act of 1995
AASHTO	American Association of State Highway and Transportation Officials
A/E	Architect and Engineering
ASTM	American Society of Transportation Managers
ATIS	Advanced Traffic Information Systems
ATMS	Advanced Traffic Management Systems
AVC	Automatic Vehicle Classification
AVI	Automated Vehicle Identification
BAFO	Best and Final Offer
BOT	Build-Operate-Transfer
Brooks Act	Federal Property and Administrative Services Act of 1949
CARAT	(North Carolina) Congestion Avoidance and Reduction for Automobiles and Trucks
CBD	Commerce Business Daily
CDOT	Colorado Department of Transportation
C.F.R.	Code of Federal Regulations
CRADA	Cooperative Research and Development Agreement
c v o	Commercial Vehicle Operations
DOT	Department of Transportation
ETTM	Electronic Traffic and Toll Management
EPA	Environmental Protection Agency
FAR	Federal Acquisition Regulation
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GAAP	Generally Accepted Accounting Principles
GAO	General Accounting Office

Table of Acronyms and Abbreviations (continued)

GAS	Government Auditing Standards
IAG	Interagency Group
IEEE	Institute of Electrical and Electronics Engineers, Inc.
IP	Intellectual Property
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
ITS	Intelligent Transportation Systems
ITS America	Intelligent Transportation Society of America
IVHS	Intelligent Vehicle Highway Systems
LACMTA	Los Angeles County Metropolitan Transportation Authority
LIDAR	Light Detection and Ranging Air Sensing Method
MinnDOT	Minnesota Department of Transportation
MPO	Metropolitan Planning Organization
NHS	National Highway System
NCDOT	North Carolina Department of Transportation
NJEA	New Jersey Expressway Authority
NJHA	New Jersey Highway Authority
NJTA	New Jersey Turnpike Authority
OA	Operating Administration
OCI	Organizational Conflicts of Interest
OMB	Office of Management and Budget
PCD	Personal Communications Devices
RFP	Request for Proposal
RFPP	Request for Partnership Proposal
Rule	Common Rule

Table of Acronyms and Abbreviations (continued)

SAE	Society of Automotive Engineers
SHA	State Highway Agencies
s o	Secretarial Office
T DOT	Texas Department of Transportation
U of M	University of Minnesota
U.S.C.	United States Code
U.S. DOT	United States Department of Transportation
WIM	Weigh-In-Motion
WSDOT	Washington Department of Transportation
Volpe	Volpe National Transportation Systems Center

Table of Projects

TABLE OF PROJECTS

ADVANCE	Advanced Driver and Vehicle Advisory Navigational Concept (ADVANCE) is a cooperative effort to evaluate the performance of a large-scale dynamic route guidance system in the United States. Three thousand private, commercial, and public agency vehicles in the northwestern suburbs of Chicago were initially scheduled to be equipped with in-vehicle navigation and route guidance systems.
California State Route 91	California's first public/private project under Bill 680 providing private toll operation of high occupancy vehicle lanes in the median.
CARAT	Congestion Avoidance and Reduction for Automobiles and Trucks (CARAT) project is proposed by NCDOT as a long-range, comprehensive implementation of a congestion management program for freeways and connected arterials in the Charlotte urban area. The ITS project focuses on the development of valuable products based on the unique features of the CARAT project, especially the design/build/warrant (D/B/W) procurement process.
Colorado Public/Private Initiatives Program	AB1267, 1995 session codified at 43-I-1204 of Colorado Revised Statutes, Special legislation authorizing public/private partnerships for transportation projects.
COMPARE	Virginia Department of Transportation Systems Integration Services contract.
Crescent	The test phase of HELP (reference page 3) was known as the Crescent Project. The Crescent Project included approximately 40 equipped sites ranging from British Columbia southward along I-5 to California and then eastward along I-10 to Texas, branching onto I-20. Data gathered from the WIM, AVI, and AVC was processed by a central computer, and then used by the state government for credential checking, weight enforcement, and planning information, and by the motor carrier industry for fleet management purposes.

Table of Projects (continued)

E-ZPass

An interagency procurement involving several operating toll agencies. The agencies solicited an irrevocable offer from ETTM vendors which gave one vendor the exclusive right to provide equipment to each of the member agencies based on separate contracts entered into with each agency.

FAST-TMC

University of Michigan Operational Test utilizing ATIS and ATMS applications. FAST-TRAC (Faster and Safer Travel Through Traffic Routing and Advanced Controls) will combine Advanced Traffic Management Systems (ATMS) and Advanced Traveler Information Systems (ATIS) technologies in Oakland County, Michigan. A Traffic Operations Center has been established, not only as the heart of FAST-TRAC systems, but also as the focus for systems integration.

Foothill/Eastern Transportation Corridor Agency

In 1986 the County and several cities within the County executed two Joint Exercise of Powers Agreements (JPAs) creating TCAs to oversee the Corridor's design, finance, and construction. Each city agreed to implement the Fee Program within its own jurisdictional boundaries. As legal entities separate and apart from their members, TCA's enjoy broad powers, but the member agencies are not individually liable for TCA's obligations. Foothill/Eastern is one of TCA's corridor.

In 1987, the State law was amended to give TCA's certain special powers, including the power to finance corridor construction (but not maintenance) with tolls. On completion the corridors will be owned and maintained by the Caltrans, but TCAs retain the right to operate the toll system, with revenues used to pay operations and construction financing costs. The State law further provides that the projects must include electronic toll collection technology.

The transportation Corridor Agencies are building a network of toll roads, the Foothill, San Joaquin, and Eastern Corridors, in Orange County, California. Foothill opened to traffic in late 1993, and the first 7.5 miles of the 15-mile San Joaquin opened July 24, 1996.

Table of Projects (continued)

Genesis	Genesis is an Advanced Traveler Information System (ATIS) that uses Personal Communication Devices (PCDs) to distribute information. Timely delivery means gathering the data in real-time and distributing the data to travelers when they need it, where they need it, and how they need it. Genesis is an element in the Minnesota Guidestar ITS program. With transit and traffic data, Genesis is able to provide the urban traveler with current data relevant to a chosen trip mode and route. The Genesis PCD is portable and transit information is fully accessible to the user.
HELP, Inc.	HELP (Heavy Vehicle Electronic License Plate Program) was a multi-state, multi-national research effort to design and test an integrated heavy vehicle monitoring system that uses Automatic Vehicle Identification (AVI), Automatic Vehicle Classification (AVC), and Weigh-In-Motion (WIM) technology. HELP's ultimate goal was to have a system in which a legal truck can drive through the entire network without having to stop at weigh stations or ports-of-entry.
Hudson-Bergan Light Rail Transit	New Jersey Transit design-build procurement for rail transit.
Los Angeles County Metropolitan Transit Authority	The LACMTA is responsible for implementing a multi-year rail program to build and operate heavy and light rail lines in the Los Angeles metropolitan region.
Minnesota Guidestar	Minnesota Guidestar provides overall direction to the MinnDOT's ITS program by providing a focus for strategic planning, project identification, project initiation, project management, and evaluation. Minnesota Guidestar also provides coordination with other State and local agencies in Minnesota, such as the University of Minnesota, which have an interest and role in ITS.
New Jersey Turnpike Authority (NJTA)	A toll-road operating agency in New Jersey.
Project ADVISE	Utah Department of Transportation's Adverse Visibility Information System Evaluation.

Table of Projects (continued)

PUSHME

The primary objective of the Puget Sound Help Me (PUSHME) Mayday System is to assess operational, institutional, and technology requirements for implementing a regional mayday system that would allow a driver to send an immediate notification of an incident, its location, and need for assistance to a response center.

San Antonio ATMS

The Texas DOT installed a state-of-the-technology advanced traffic management system (TransGuide) in San Antonio. The Phase 2 project resulted in a three-story control center and twenty-five miles of the one hundred ninety mile proposed ATMS. This Operational test will document the San Antonio TransGuide system design rationale and goals, evaluate the system's success in meeting the design goals, and evaluate the digital communication network for cost effectiveness and benefits versus "traditional" transportation data communication systems. An additional element of this Operational Test is the on-line evaluation and comparison of several incident detection algorithms.

SWIFT

The Seattle Wide-Area Information for Travelers (SWIFT) will test the delivery of traveler information via three devices: the Seiko Receptor Message Watch, an in-vehicle FM subcarrier radio, and a palm-top computer. This project will also expand current service currently available under the Bellevue Smart Traveller project.

TravTe k

A real time ATMS traffic management Center in Orlando, Florida. TravTek (Travel Technology) provided traffic congestion information, motorist services, ("yellow pages") information, tourist information, and route guidance to operators of 100 test vehicles, rested through AVIS, that were equipped with in-vehicle TravTek devices. Route guidance reflected real-time traffic conditions in the TravTek traffic Network. A Traffic Management Center obtained traffic congestion information from various sources and provided this integrated information, via digital data radio broadcasts, to the test vehicles and the data sources. TravTek rental operation began in March 1992. The operations phases ended March 1993.

Summaries of Volpe Case Studies by Klick, Kent & Allen

**Source: Klick, Kent & Allen, Inc.
625 Slaters Lane
Alexandria, VA 22314**

“Partnerships in the Implementation of ITS”

***Prepared for U.S. DOT
Federal Highway Administration
Contract No. DTFH61 -94-C-00116
1994***

Case Study: ADVANCE

I. What and where is ADVANCE?

A. Description

ADVANCE (Advanced Driver and Vehicle Advisory Navigation Concept) is an Advanced Traveler Information System (ATIS) in the northwestern suburbs of Chicago designed to provide real-time information that allows travelers to avoid congestion causing incidents, such as accidents and construction. The ADVANCE field test will be conducted in an approximately 300 square mile region in the northwestern suburbs of Chicago which are typical of modern suburban developments and have significant congestion problems. The ADVANCE field test will equip up to 5000 private and commercial vehicles with a special Motorist Navigation Aid to provide navigational and route guidance assistance. These vehicles will serve as probes, providing real-time traffic information to a Traffic Information Center (TIC), which will process and then transmit the information to equipped vehicles in the form of dynamic routing instructions. The field test is expected to last for up to five years and will cost between \$40 and \$45 million, which will be shared by the public and private sector partners. The intention is that total project funding will be split approximately 50% from federal sources, 25 % from state sources, and the remaining 25% from Motorola, IUTRC, and other private sources. The in-vehicle hardware funding will be split 1/3 federal, 1/3 state, and 1/3 Motorola, IUTRC, and other private sources.

B. How ADVANCE works

The ADVANCE in-vehicle navigation and route guidance system will consist of a video screen, a microcomputer, a data communications radio, and a global positioning satellite (GPS) receiver. The system will use the GPS receiver to determine the vehicle's location. The driver can access navigational information by entering his or her destination, or by viewing a list of services or points of interest in the immediate area. Route guidance information will be displayed on the video screen and audibly by voice instructions. Route guidance information is available with the addition of current traffic information. This information is gathered and transmitted by ADVANCE probe vehicles over a dedicated radio frequency communications system. Computers in the Traffic Information Center (TIC) will collect, process and distribute the information.

C. Goals

The ADVANCE project is designed to provide information pertaining to traffic and road conditions to travelers in hopes of alleviating congestion and enhancing the effectiveness of the existing transportation network. Once deployed, evaluation of the ADVANCE program will provide information about the behavior and perception of travelers, the extent to which congestion can be reduced, and the effectiveness of using vehicles as probes.

II. How did ADVANCE originate? Who is involved?

A. The history of ADVANCE

ADVANCE evolved from a Motorola initiative to develop an advanced route guidance system. In 1989, Motorola, the Illinois Universities Transportation Research Consortium (IUTRC), and the Illinois Department of Transportation (IDOT), decided to cost share a feasibility study equally, 33-33-33, with IDOT providing \$50,000 and Motorola and IUTRC providing in-kind services. IUTRC was responsible for developing the concept of a Traffic Information Center (TIC), while Motorola was responsible for developing the communications and navigation components. IDOT served as a project manager, monitoring activities, insuring compatibility among systems, and using an advisory committee to foster communications among all parties involved.

B. The Partners

Design and development of ADVANCE began in July 1991 with the signing of a formal IVHS Agreement between the partners. The partners involved with ADVANCE are: Federal Highway Administration (FHWA), the Illinois Department of Transportation (IDOT), the Illinois Universities Transportation Research Consortium (IUTRC), and Motorola. The program plan was created in late 1991/Early 1992. Design and technical testing has been ongoing ever since. Implementation of the operational field test and evaluation is expected to start in 1994 and last through 1997.

Under the partnership agreement, the FHWA provides funding and technical assistance and IDOT provides funding, management, operating and technical assistance. The IUTRC combines the research capabilities of four major academic institutions in Illinois, two of which are directly involved in ADVANCE, Northwestern University and the University of Illinois at Chicago. These universities are responsible for the design and implementation of: the hardware and software of the TIC; procedures for monitoring and assessing system performance; the dynamic route guidance system; the procedures for recruiting and training private and commercial vehicle operators. Motorola offers private sector support in the form of technical expertise. Motorola is responsible for designing, manufacturing, installing, and maintaining in-vehicle navigation and route guidance systems.

In addition to the partners, ADVANCE has a number of other participants in the operational test. To encourage the involvement of a diverse set of institutions and organizations, the non-partner participants are categorized into one of four Categories based on their levels of commitment to the project. The four categories are:

MEMBER: A “member” of ADVANCE is expected to undertake major responsibility for achievement of the broad objectives of the ADVANCE program.

Members are invited to participate on the Steering Committee and are included in all task force meetings. New members are expected to make a contribution of case, equipment, staff time, or services with a value to the program of at least \$1 million.

ASSOCIATES: An “associate” of ADVANCE is invited to attend task force meetings. The rights and responsibilities of associates are dependent of their contribution and expertise. The minimum contribution expected from new associates is \$100,000 in cash, equipment, or services that prove beneficial to the program.

SPONSOR: A “sponsor” is required to make a contribution of cash, equipment, or services with a value to the ADVANCE program of at least \$25,000. Sponsors are recognized in ADVANCE collateral material including the annual report.

CONTRIBUTOR: A “contributor” of the ADVANCE program is required to make a contribution of at least \$5,000 in the form of cash, equipment, or services. Contributors are listed in the annual report.

III. Risks and Benefits for Partners

A. FHWA

With its involvement in the ADVANCE program, FHWA risked its reputation and credibility should ADVANCE turn out to be a failure. If ADVANCE failed, the FHWA would be perceived as recklessly spending taxpayers money which would, in turn, cause negative publicity for the National IVHS Program. In contrast, the success of ADVANCE would be met with positive media exposure, public acceptance, potential for more private involvement, and further deployment of ATIS systems.

B. IDOT

IDOT, much like FHWA, would suffer from the failure of ADVANCE. As a co-funder of the project, IDOT risked accusation of squandering tax dollars and risked the wrath of local politicians whose careers would be jeopardized by the failure of ADVANCE. Oppositely, IDOT had the potential benefit of being associated with relieving congestion in Chicago, and as a result would receive positive press, public acceptance, and an enhanced transportation system.

C. IUTRC

The IUTRC risks its reputation, technological future with transportation projects, and ability to attract high quality researchers and gifted students. On the other hand, the IUTRC’s reputation would benefit from the success of ADVANCE, which would draw more funding, more researchers, and more gifted students.

D. Motorola

Risks Motorola face include loss of investment, either by project failure, producing an

unsafe product, or by other companies capitalizing on their hard work and development of navigation technologies. In addition, Motorola risks partnering with the government, especially the potential of the government pulling-out of the project. However, the success of ADVANCE would prove beneficial to Motorola. It would be ahead of its competition in navigational projects and would receive positive publicity, both of which would contribute to an increase in sales.

IV. Burdensome issues associated with ADVANCE

There are a number of issues which, unattended, could impede the progress and success of ADVANCE.

A. Regulatory/Legal Issues

- Unclear Government Accounting Requirements
- Difficulty securing intellectual property/proprietary rights agreements
- Burdensome administrative requirements

B. Organizational Issues

- Cultural differences among the public and private sectors
- Ambiguous terminology
- Resistance to change
- Fear of using unproven technology
- Lack of leadership

C. Financial Issues

- Differences in costing and accounting
- Difficulties in identifying liabilities and obtaining insurance

D. Human Resource Issues

- Insufficient resources
- Part-time management
- Lack of expertise

E. Other Issues

- Threat to privacy

Case Study: Advantage I-75

I. What is Advantage I-75?

A. Description

The Advantage I-75 project was established as an international public\private partnership to provide a testbed for deploying advanced IVHS technologies designed to increase transport efficiency, improve safety, and enhance mobility along the 2,200 mile Interstate 75 spanning from Ontario, Canada to Florida. The project facilitates motor-carrier operations along the I-75 corridor by using the Mainline Automated Clearance System (MACS). Using MACS, trucks equipped with transponders and proper documentation are able to travel any segment along the Ontario-Florida corridor at mainline speeds with no more than one stop at an enforcement station.

B. How Advantage I-75 works

The Mainline Automated Clearance System (MACS) is the first project of Advantage I-75. The technology involved includes automatic vehicle identification (AVI), static and weigh-in-motion (WIM) scales, automatic vehicle classification (AVC), driver pre-clearance notification, computer and communications networking, database management, weigh station interfaces, and truck driver compliance verification. Thirty of the thirty-six weigh stations along the I-75 corridor will be equipped with MACS.

C. Goals

Initially, Advantage I-75 was designed to improve the efficiency of movement of trucks operating in the I-75 corridor. The original goal was to allow transponder-equipped and properly documented trucks to travel any segment along the entire length on I-75 at mainline speeds with no more than a single stop at a weigh/inspection station. The intention was to use technology which is already developed and readily available to facilitate immediate implementation. Ideally there would be no changes in state laws.

II. Who is involved in Advantage I-75?

A. The Partners

Government participants in the Advantage I-75 project include Florida, Georgia, Tennessee, Ohio, and Michigan. In addition, the Kentucky Transportation Cabinet, the province of Ontario, Canada, the Federal Highway Administration (FHWA) and Transport Canada are governmental participants.

Private sector participants in Advantage I-75 are typically trucking associations. The trucking associations participating are: the American Trucking Associations, the

National Private Truck Council, the National Automobile Transporters Association, the Ontario Trucking Association, state trucking associations, and individual carriers who travel along the corridor. Currently, the National Private Truck Council and the United Parcel Service (UPS) are the private sector participants with the highest level of involvement.

The Kentucky Transportation Center at the University of Kentucky is the program's academic participant serving as its research and operational center.

B. Leadership/Management

Advantage I-75 is managed by a Policy Committee which is made up of 23 members from the partner organizations. Task forces are created within the committee to deal with specific issue. Staff support is provided by the Kentucky Transportation Center under the auspices of the lead agency, the Kentucky Transportation Cabinet. A specific task force, the Kentucky Task Group, was established to serve as the day-to-day manager of the project and its contractors.

III. Risks and Benefits for Partners

A. FHWA

The FHWA risks its reputation should Advantage I-75 prove unsuccessful. In this case, states might be discouraged from future participation and the motor carrier industry might be alienated by the project. On the other hand, the potential benefits are substantial, including the opportunity to demonstrate its ability to solve existing infrastructure problems with technology while, at the same time, achieving the national IVHS goals of increasing safety and mobility.

B. States

States participating in Advantage I-75 risk losing resources invested in the project. Perhaps the biggest risk is that one state could pull-out of the project and leave a gap. Benefits directly applied the states are a reduction in weigh station congestion, improved safety and productivity, lower enforcement and administrative costs, and experience with technology which will help with future transportation investment decision.

C. The Motor Carriers

Motor carriers risk more regulation, but have the potential to greatly increase productivity. Some trucking associations risk losing members who boycott the support of a project which may backfire and cause increased regulations. Again, the potential for increased productivity and decreased costs due to less lost man-hours and fuel associated with the stops is great.

D. The Kentucky Transportation Center

The Kentucky Transportation Center risks its reputation and risks being ridiculed for its involvement in a project outside its region. It also risks wasting the staff resources devoted to the project. On the other hand, it stands to benefit greatly by a successful project, adding to its credibility and reputation.

Case Study: HELP

I. What and where is HELP?

A. Description

HELP (Heavy Vehicle Electronic License Plate Program) is a project to assess the feasibility of applying advanced technologies to commercial vehicle operations (CVO). It is a multi-state, multi-national effort to design and test an integrated heavy vehicle monitoring system that uses Automatic Vehicle-Identification (AVI), Automatic Vehicle Classification (AVC), and Weigh-In-Motion (WIM) technology. The operational field test phase of HELP is known as the Crescent Project. The Crescent Project includes approximately 40 equipped sites ranging from British Columbia southward along I-5 to California and then eastward along I-10 to Texas, branching onto I-20. Data gathered from the WIM, AVI and AVC technologies is processed by a central computer and then used by the state governments for credential checking, weight enforcement, and planning information, and by the motor carrier industry for fleet management purposes.

B. Goals

HELP's ultimate goal is to have a system in which a legal truck can drive through the entire network without having to stop at weigh stations or ports-of-entry. HELP originated as a project to test the feasibility of combining WIM and AVI technologies. The goals of the feasibility study were to improve institutional arrangements, assess the viability of technology on highways, measure the efficiency of any productivity changes, and to identify potential future applications.

II. How did HELP originate? Who is involved?

A. The History of HELP

HELP formally began in 1983 with a two year feasibility study. Testing and development took place from 1985-1988, followed by the Crescent demonstration from 1988 to 1993. HELP has had support from the Federal Government, state governments, trucking companies, manufacturers of equipment, and system integrators.

B. The Partners

The four primary partners of HELP/Crescent are: the Federal Highway Administration (FHWA), the Arizona Department of Transportation, other State governments, and representatives of Motor Carriers. FHWA provides funding, technical assistance, and coordination HELP with the national IVHS program. Arizona serves as the lead state, with its Department of Transportation coordinating and recruiting involvement from other states. The other states whose departments of transportation are involved are: California, New Mexico, Oregon, Texas, and Washington. Sponsoring states include Nevada, Utah, Minnesota, Iowa, Pennsylvania, Alaska, Virginia, Idaho, and the Port Authorities of New York and

New Jersey A partnership exists between the FHWA and the Arizona Department of Transportation in which Arizona, as the lead state, is responsible for the expenditure of the federal funds. Each participating state is responsible for funding HELP within their state. The states also implement, operate, and maintain HELP technologies. The motor carrier industry uses the technology and is responsible for ensuring that the technology meets user needs.

C. Leadership/Management

Originally, HELP was managed by a Policy Committee and an Executive Committee, with a number of subcommittees created to deal with specific issues. The Policy Committee was responsible for developing the budget, program, and appointing the Executive Committee. The Executive Committee approved proposals, contracts, contractors, and consultants.

In 1989, the Crescent Implementation Group (CIG) was formed to manage the Crescent operational field test phase of HELP. Although Arizona was the lead state for KERP, California became the lead state for the Crescent phase of the project. The Arizona Department of Transportation was solely responsible for administrative, contractual, and budget issues.

In October 1993, HELP, Inc. was formed to oversee the accomplishment of the Crescent goals and is funded primarily by the participating states. HELP, Inc. is controlled by a Board of Directors, in which each participating state and motor carrier is represented. Day-today control of HELP, Inc. is the responsibility of a full-time Executive Director supported by a full-time technical program manager and part-time administrative, legal, and financial support. Maintenance and operation of the Crescent network is the responsibility of a single, prime contractor, working under contract to HELP, Inc.

III. Risks and Benefits for Partners

A. FHWA

The risks to the **FHWA** were minimal, with the most obvious being negative publicity and association with a failed project. On the other hand, the **FXWA** stood to benefit from accurate and timely commercial vehicle data.

B. Participating States

The reduction of administrative burden is the primary benefit to the participating states. In addition, streamlining and standardizing the inspection and enforcement process had the potential to more efficiently collect fees and taxes, reduce congestion at weigh stations, and increase safety. The risks stem from the benefits, as law enforcement agencies are leery of trusting automated inspections and truckers abhor the potential for more regulation and taxation.

C. Motor Carriers

Aside from the risk of more regulation, the trucking industry would see an increase in productivity and efficiency. Lost time and fuel associated with long waits at weigh/inspection stations would be minimized, if not eliminated.

Case Study: TRANSCOM/TRANSMIT

I. What is TRANSCOM?

TRANSCOM (Transportation Operations Coordinating Committee) is a consortium of 15 transportation and public safety agencies in the New York, New Jersey, and Connecticut metropolitan areas whose goal is to establish regional cooperative support for transportation management and to improve inter-agency response to traffic incidents. TRANSCOM has initiated region-wide coordination of deployment and operation of variable message signs (VMS), highway advisory radio (HAR), and enhanced traffic monitoring including closed circuit television (CCTV) to enhance transportation management. In addition to TRANSCOM's transportation management, a sub-program for managing incidents, TRANSMIT, was developed.

A. TRANSCOM's Goals

TRANSCOM's goals are twofold. First, TRANSCOM facilitates regional information coordination, and second it develops, implements, and tests new technology. TRANSCOM was designed to provide a means for establishing a regional cooperative approach to transportation management and improve inter-agency response to transportation incidents.

B. TRANSCOM's Organizational Structure

Overall direction and policy decisions for TRANSCOM are provided by an Executive Committee which has 15 members who are the CEO's of major transportation and transit agencies and the state police from New York and New Jersey. A Technology and Operations Committee makes recommendations to the Executive Committee on budget, technology, and operating issues. The Technology and Operations Committee consists of top management personnel from the 15 member agencies. Subcommittees are created, as needed, to deal with specific issues. Day-to-day management is the responsibility of the General Manager.

C. TRANSCOM's 15 Member Agencies

TRANSCOM has 15 member agencies which provide staffing and funding:

- Connecticut D.O.T.
- New Jersey D.O.T.
- New Jersey State Police
- New Jersey Turnpike Authority
- New York State D.O.T.
- New York State Police
- Metropolitan Transportation Authority
- New Jersey Highway Authority
- New Jersey Transit Corporation
- New York City D.O.T.
- New York State Thruway Authority
- Palisades Interstate Park Commission
- Port Authority of New York and New Jersey (PA)
- Port Authority Trans-Hudson Corporation
- Triborough Bridge and Tunnel Authority

II. What is TRANSMIT?

TRANSMIT (TRANSCOM's System for Managing Incidents and Traffic) is a FEWA sponsored operational field test to evaluate the use of Electronic Toll and Traffic Management (ETTM) technologies, such as automatic vehicle identification (AVI), for incident management. The electronic toll collection (ETC) system used is E-ZPass. With E-ZPass, AVI badge readers allow vehicles equipped with transponders to serve as traffic probes and enable the collection of real-time traffic information, such as speed, travel time, and incident detection. Comparison of actual to predicted travel time helps to identify potential incidents, as well as provides real-time traffic information.

A. TRANSMITs Goals

The TRANSMIT project was designed to develop, implement, and evaluate an Advanced Traffic Management System (ATMS) for the New Jersey-Staten Island corridor, based on AVI, more specifically E-Zpass. The ultimate goal of TRANSMIT is consistent with the national IVHS goals: to improve safety, to reduce congestion, and to improve environmental impact.

B. TRANSMIT's Organizational Structure

TRANSMIT's steering committee, consisting of representatives from FHWA, TRANSCOM, and eight agencies who operate bridges and roads in the area, oversees the project. FHWA sponsored the operational test, spending \$4.2 million since FFY 1990. TRANSCOM provides a 20 percent local match of federal funding through FFY 1992, which amounted to \$750 thousand. The New York/New Jersey Port Authority acts as the host agency for TRANSCOM, providing contract administration support.

C. TRANSMIT's Steering Committee

TRANSMIT's Steering Committee's members are:

- FHWA
- New Jersey Highway Authority
- New York City D.O.T.
- TRANSCOM Project Manager
- Triborough Bridge and Tunnel Authority
- New Jersey D.O.T.
- New Jersey Turnpike Authority
- New York State D.O.T.
- New York State Thruway Authority

III. Risks and Benefits

A. FHWA

The FHWA risks its reputation and the loss of resources committed to EXAM technology which might not be the most appropriate or effective technology to apply to incident management. Therefore, taxpayers might view FHWA as unwisely investing their money. A successful project would benefit the reputation, credibility, and public acceptance of FHWA and the projects it invests in.

B. TRANSCOM Agencies

Toll agencies' risks are related to the issues of privacy and the expense of a regional ETSM surveillance system. The cost of construction, operation, and maintenance of the surveillance system would be high. If the costs are recouped by tolls and outweigh the benefits the public receives, public acceptance of participating agencies would suffer. Some TRANSCOM members fear that TRANSCOM's traffic management function would reduce, or replace, their operating authority.

C. Region

TRANSMIT, if successful, will benefit the entire region in which it operational. TRANSMIT has the potential to provide traffic management and traveler information. Future funding for the project could be provided by user fees for the traveler information. The region assumes virtually no risks.

Case Study: TravTek

I. What and Where is TravTek?

A. Description of TravTek

TravTek (Travel Technology) was a joint public/private sector project to develop, test, and evaluate an advanced traveler information system (ATIS). TravTek consisted of a TravTek Information Service Center (DISC), the TravTek equipped vehicle, and a Traffic Management Center (TMC). The TMC gathered information about traffic and road conditions and transmitted to TravTek vehicles and the TISC. TravTek provided traffic congestion information, motorist services (“yellow pages”) information, tourist information, and route guidance to operators of 100 test vehicles that were equipped with in-vehicle TravTek devices, 25 of which were used by local residents and 75 of which were rented through AVIS. Route guidance reflected real time traffic conditions in the TravTek traffic network. The TravTek operational test covered a 1,200 square mile area and lasted for one year, March 1992 through March 1993, in Orlando, Florida. The original budget for TravTek was \$8 million, shared equally between the public and private sectors. However, as TravTek evolved its cost escalated to more than \$12 million.

B. TravTek Goals

TravTek’s primary goal was to develop, test, and evaluate a state-of-the-art ATIS. More specifically, TravTek was created to develop a tool which enables travelers to avoid congestion, to ease environmental problems, and to enhance safety. The operational test was designed to assess the real-world benefits of an in-vehicle ATIS, with user feedback providing suggestions for improvement.

II. How did TravTek originate? Who was involved?

A. The History of TravTek

General Motors (GM) and the American Automobile Association (AAA) presented the concept of TravTek to the Federal Highway Administration (FHWA) and solicited FHWA for funding. The three formed a partnership and had the first TravTek meeting in March 1989, at which time GM was appointed the project manager and systems engineer. Orlando, Florida was chosen as a test site due to its large rental car market and because AAA was relocating its National headquarters there. GM contacted both the Florida Department of Transportation (FDOT) and the City of Orlando to discuss the project and the prospect of their participation. A Steering Committee was formed to define the project and develop a partnership agreement. In May 1990 the partnership agreement was signed and the Technical and Evaluation Working Group began work on the in-vehicle engineering and supporting systems.

B. The Partners

The partners were: GM, AAA, and FHWA, FDOT, and the City of Orlando. GM and AAA had a long-established private sector market interest in developing and testing the in-vehicle information systems, whereas FHWA wanted to explore and evaluate IVHS technology. GM, AAA, and FHWA provided most of the funds, unfortunately GM and AAA spent more on TravTek than they originally anticipated. FDOT and the City of Orlando provided staff time and expertise.

C. Project Management

TravTek was directed by a Steering Committee which was made up of a representative of each of the five partners. The Steering Committee provided project policies, guidelines, and direction. GM chaired a Technical Working Group which managed the project, and was responsible for systems design, the operational test, and the evaluation plan. The Technical Working Group created a sub-group, the Evaluation Working Group, to design the evaluation plan.

D. The Partnership Agreement

TravTek has a 10 page Partnership Agreement which defines the goals of the project and partially describes partner responsibilities. Costs and projects funding are not defined in the document, but it does address and protect intellectual property. The agreement allows each partner to withdraw from the project with 30 days written notice.

III. Risks and Benefits

A. FHWA

FHWA risked its reputation and credibility with its involvement in TravTek. Additionally, should TravTek fail or be poorly received, FHWA would be viewed as carelessly spending taxpayers money. On the other hand, TravTek offered the opportunity for FHWA to identify the benefits of ATIS systems. The success of TravTek would provide FHWA with positive media exposure.

B. GM

GM risked investing time and resources on a project which competitors would learn from and copy. Additionally GM's participation in TravTek was perceived as risky to some shareholders, which had the potential of scaring away shareholders and investors. Liability of an unsafe product was another risk. Despite all the risks, GM would be in a position to gain practical experience and knowledge. TravTek's success would give GM significant positive publicity.

C. AAA

AAA risked TravTek would be perceived as solely an AAA project. Thus the failure of TravTek would be disastrous to the conservative customer-oriented organization's reputation.

On the other hand, AAA had a corporate strategy to develop new technologies to better serve its members. The success of TravTek would fit AAA's strategy and provide positive publicity.

D. FDOT

The risk to FDOT was minimal, and perhaps the expense of maintaining the system was the most significant negative factor. FDOT would benefit from TravTek's demonstration of alternative methods of alleviating congestion.

E. City of Orlando

The potential benefits to Orlando far outweighed the minor risks associated with TravTek. Orlando benefitted from the installation of a permanent Traffic Management Center and training for their employees in traffic management. Orlando also had the potential for favorable national attention, which could draw businesses to Orlando.

Case Study: Westchester Commuter Central

I. What is Westchester Commuter Central?

A. Description of Westchester Commuter Central

The Westchester Commuter Central (WCC) project is an Advanced Traveler Information System (ATIS) deployed independently in the 450 square mile suburb of New York City, Westchester County, NY. It was initiated by the county's Department of Public Works with FHWA encouragement, but without federal financial assistance. In 1992, Westchester County and a contractor entered into a five-year contract, at no cost to the county, to establish and operate a facility for the collection and dissemination of highway traffic and transit data. The principal sources of traffic data include CB radio, cellular phone, police and fire radio frequencies, construction information supplied by the county, and reports received from TRANSCOM. The facility is called the Westchester County Commuter Central (WCC). The five year contract is designed so the private sector contractor absorbs the construction and maintenance costs of the facility. The contractor must supply traffic information free of charge to the county. However, the contractor charges other individuals and agencies, such as radio stations, a subscriber fee. Profits from the operation of WCC are shared, the amount varying based upon the amount generated.

B. Westchester Commuter Central Goals

The WCC communications center serves to collect and disseminate real-time traffic and transit information, while at the same time coordinating incident management and response via automatic activation of variable message signs. Additionally, WCC aims to provide mass transit information on buses and trains.

II. Participants

A. Partners

Westchester County and a private sector contractor are the only involved parties in the Westchester Commuter Central Case.

B. Management/Leadership

The Westchester County Department of Public Works is responsible for management of the WCC project. There is a manager responsible for day-to-day operations and a manager responsible for policy matters. The private sector has an Operations Director responsible for all operational aspects of WCC, including gathering and distributing transportation information, staff management, and coordination of day-to-day activities which are managed by a senior engineer technician. The Director of Traffic Engineering and Safety oversees the Operations Director.

III. Risks and Benefits

A. Westchester County

Westchester County would get the necessary information for its traffic management program, which would provide commuters with accurate and timely information. In the best case, the county would profit. In the worst case, the county's reputation would suffer. Even if the project failed, the county would get a Traffic Management Center free.

B. Private Contractor

The contractor could lose money invested in constructing the WCC. As far as beneficial attributes of WCC, it would be an opportunity to test the market and methods for gathering and distributing traffic and transit information beyond the conventional methods of radio and television. Although the WCC project is a win-win situation, the private contractor has more to lose than the county.

IV. Problems unique to this case

A. The county has little or no authority or power over the project

Because this project contracted at no-cost to the county, the county had little power over the actual development and progress of the project. The county's lack of power placed it in an all-or-nothing situation.

B. Lack of Federal funding

Initially Westchester County shied away from federal funds to avoid being subject to federal regulations, oversight, delays, and paperwork which could limit the project. Conversely, the county realized later that obtaining federal funds would have enabled the center to explore innovative options.

C. Lack of a definitive marketable product

In the planning and development stages of the WCC project, it was not clear what product the private contractor would have to market. As a result, the contract between the public and private sector participants neither identifies, nor addresses the issues associated with marketing a product.

Toll Road Case Study #7 San Jose Lagoon Bridge in Puerto Rico

In the face of rapid population growth in many areas of the San Juan region of Puerto Rico, transportation infrastructure has come under considerable strain resulting in increasing traffic congestion. Improvements in transportation have not been able to keep up with demand as budget pressures have decreased available public funds. The San Jose Lagoon Bridge project, connecting San Juan with the airport, is one example of a planned project which has suffered continual postponement due to the government's budgetary constraints. In response to the traffic problems and the governments inability to build the project after 17 years on various state plans, the Puerto Rico Highway and Transportation Authority agreed that other alternatives needed to be considered.

The four-lane bridge is planned to span 2.1 miles over the San Jose Lagoon. Currently, there is no bridge that traverses the lagoon; the only routes to the airport are those which circumnavigate the lagoon. Despite its desire to build the bridge for over a decade, the Puerto Rico Highway and Transportation Authority recently decided that improving the alternate routes took precedence for the use of public funds. Thus, with little prospect of building the bridge in the near future, it agreed to solicit bids for a build-transfer-operate arrangement with a private consortia.

The concession was won by Autopistas de Puerto Rico, a joint venture between Dragados y Construcciones S.A. of Spain (approximately three-quarters ownership) and Rexach Construction, a San Juan development company (approximately one-quarter ownership). The authority claims this consortium was chosen largely because it proposed to inject the most equity into the project.

The concession agreement was initially negotiated having Autopistas de Puerto Rico inject 10 percent of the required project capital as equity, with the rest a mixture of different kinds of debt. The project's return on equity was to be capped at 18 percent. Any returns over 18 percent were to be split 60-40 between the public and private participants.

The final concession agreement was reached in December 1991 with only two changes. The first change increased the potential return from 18 percent to 19 percent. The second change altered the profit-sharing equation to 85-15, for profits above a 22 percent return on equity. These two changes have been criticized because they may reduce the concessionaire's incentive for maximum efficiency; if the return is over 22 percent, a 15 percent marginal return on investment may not be enough for the company to actively seek additional cost saving measures.

The company received financing for the project in early 1992. The significant government guarantees mitigated many of the problems and delays in obtaining financing faced by other private toll road projects. The project is currently under construction.

The agreement has been criticized for the significant government guarantees it contains. First, the agreement contains a termination clause which allows the concessionaire to sell the project back to the government if a minimum percentage of the traffic projections is not attained: 80 percent of the projected traffic for the first three years rising to 100 percent of the projected traffic after the ninth operating year. This clause shifted almost all of the traffic risk to the public sector.

Second, the agreement specifically stipulated that in the event the termination clause is exercised, the government would pay the concessionaire the costs incurred plus a thirteen percent return on equity. Through this clause, the government almost completely guaranteed a minimum return of thirteen percent. Thus, the risk to which the concessionaire's capital is exposed is severely limited.

Third, land and environmental permitting required for the project was to be obtained by the government. Because of this agreement, the government is exposed to most of the construction risk.

Fourth, the government assumed all liability for hazardous waste contamination at the construction site.

The two major risks that the government would not specifically guarantee were political risk and tort liability risk. The concessionaire wanted to be able to invoke the termination clause if the government passed a law or regulation that reduced the value of the concession. In addition, the concessionaire wanted the government to assume tort liability for accidents on the bridge. Under the agreement, the concessionaire assumed these risks.

The San Jose Lagoon Toll Bridge project is among the first public-private toll projects in the U.S. to obtain financing and begin construction. Numerous hurdles were overcome in the effort to successfully implement the project. The project has been criticized, however, for the significant guarantees provided to the private sector, particularly in the operation phase. The guarantees may substantially reduce the private sector's incentives to operate the bridge efficiently, and have exposed the authority to most of the project's risks.

Overview of Contract Requirements Imposed by Federal Law for Federally Funded Projects

OVERVIEW OF CONTRACT REQUIREMENTS IMPOSED BY FEDERAL LAW FOR FEDERALLY FUNDED PROJECTS

A. Federally-Funded Projects

In order to ease the burden on states of complying with Federal agencies' differing rules regarding the award and management of grants and cooperative agreements, in 1987 the President directed Executive Branch grant-making agencies to issue a common grants management rule containing uniform government-wide terms and conditions applicable to financial assistance agreements with States and local governments." The U.S. DOT's implementation of this "Common Rule" is contained in 49 C.F.R. § 18. The Common Rule states that it applies to all U.S. DOT grants and cooperative agreements to State Highway Agencies ("SHA") and local governments unless a specific statute directs otherwise, or unless an exemption has been granted.

The Common Rule provides that with respect to procurements using grant funds, SHAs are to expend and account for grant funds, like those in the Highway Trust Fund, according to their own laws and procedures? However, application of the Common Rule as codified in 49 C.F.R. is somewhat complicated because there are certain provisions that do not apply to projects funded under Title 23, and there are statutory provisions in Title 23 that apply to Federal-aid construction contracts and that override the Common Rule.

The following discussion briefly outlines the contracting requirements that 23 U.S.C. and 23 C.F.R. impose on an SHA entering into a construction contract for a Federal-aid highway with Federal Highway Trust Fund grant monies.

1. Civil Rights Act

23 C.F.R. § 200 sets forth guidelines for: (a) implementing the FHWA Title VI compliance program under Title VI of the Civil Rights Act of 1964 and related civil rights laws and regulations, and (b) conducting Title VI program compliance reviews relative to the Federal-aid highway program. A "Title VI Program" is a system of requirements developed to implement Title VI of the Civil Rights Act of 1964. The term also refers to the civil rights provisions of other Federal statutes to the extent that they prohibit discrimination on the grounds of race, color, sex, or national origin in programs receiving Federal financial assistance of the type subject to Title VI. Those

1/ This Executive Branch guidance was amplified in OMB Circular A-102, "Grants and Cooperative Agreements With State and Local Governments," issued March 3, 1988.

2/ 49 C.F.R. § 18.20(a).

Federal statutes include Title VI of the Civil Rights Act of 1964;^{3/} the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970;^{4/} and Title VIII of the Civil Rights Act of 1968, amended in 1974.^{5/}

Pursuant to 23 C.F.R. part 200, the SHA must make assurances that it will not exclude any person on the grounds of race, color, national origin, or sex from participation in any program for which the SHA has received Federal assistance. Section 200.9(b) sets forth a list of required state actions to ensure compliance with Title VI. These requirements include staffing a civil rights unit, development of procedures for processing and disposition of complaints, development of procedures for the collection of statistical data, development of a program to conduct Title VI reviews of program areas, annual reviews, pre-grant and post-grant approval reviews of state programs, and procedures to identify and eliminate discrimination and to resolve deficiencies.

23 C.F.R. §§ 230.109 et seq. provides procedures for the implementation of specific Equal Employment Opportunity Requirements, on-the-job training and supportive services. 23 C.F.R. §§ 230.201 et seq. prescribes similar requirements with regard to supporting minority, disadvantaged and women business enterprises. Form FHWA-1273 sets forth certain “Required Contract Provisions, Federal-Aid Construction Contracts” that implement the requirements of 23 C.F.R. §§ 200 Section II et seq. of that form provides nondiscrimination contract provisions that are applicable to all Federal-aid construction contracts and related subcontracts of \$10,000 or more. Under those provisions generally, the contractor must follow certain Equal Employment Opportunity Standards, make all members of the contractor’s staff cognizant of the contractor’s EEO policy, adopt procedures to ensure that the EEO policy is followed, include in advertisements for employees a notation that the employer is an Equal Opportunity Employer, systematically and directly recruit from minority groups, ensure nondiscriminatory working conditions, investigate complaints, assist in increasing the skills of minority group and women employees, solicit subcontract bids from disadvantaged business enterprises and provide non-segregated facilities.

2. Davis-Bacon Act

Compliance with the Davis-Bacon Act^{6/} is required by 23 U.S.C. § 113. That section provides in pertinent part that:

3/ 42 U.S.C. 2000(d-d4).

4/ 42 U.S.C. 4601-4655 (Pub. L. 91-646); see 49 C.F.R. part 25.

5/ 42 U.S.C. 3601-3619; 23 U.S.C. 109(h); 23 U.S.C. 324; see 23 C.F.R. § 200.5(p).

6/ 40 U.S.C. 276(a).

The Secretary shall take such action as may be necessary to ensure that all laborers and mechanics employed by contractors or subcontractors on the construction work performed on **highway** projects on the Federal-aid highways authorized under the highway laws providing for the expenditure of Federal funds upon the Federal-aid systems, shall be paid wages at rates not less than those prevailing on the same type of work on similar construction in the immediate locality as determined by the Secretary of Labor in accordance with the Act of March 3, 1931, known as the Davis-Bacon Act (40 U.S.C. 276(a). (23 U.S.C. § 113.)

Section IV.1 .a. of FHWA form 1273 requires that for Federal-aid construction contracts exceeding \$2,000, and for all related subcontracts, all mechanics and laborers employed or working upon the project must be paid wage rates not less than those contained in the wage determination of the Secretary of Labor (the "Wage Determination"). The Wage Determination is to be made in accordance with the Davis-Bacon Act. Subparagraph c provides that all rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 C.F.R. parts 1, 3 and 5 are incorporated by reference in the construction contract.

3. Brooks Act and Requirements for Competitive Procurement Procedures

Specific Federal requirements for the letting of Federal-aid highway construction contracts are set forth in 23 U.S.C. § 112. Section 112(a) requires that where the construction is to be performed by the State highway department or under its supervision, a request for the submission of bids shall be made by advertisement unless some other method is approved by the Secretary, and the Secretary shall require such methods of bidding as shall be "effective in securing competition." 23 C.F.R. § 635104(a) provides that the actual construction contract shall be awarded by competitive bidding, unless the SHA demonstrates to the satisfaction of the FHWA's Division Administrator that some other method is more cost effective or that an emergency exists.^{7/}

With respect to contracts for engineering and design services, the general rule is that such contracts are to be awarded in the same manner as a contract for architectural and engineering services is negotiated under Title IX of the Federal Property and Administrative Services Act of 1949 (the "Brooks Act") or equivalent State qualifications-based requirements. Pursuant to 23 U.S.C. § 112(b)(2)(B), if a state has adopted by statute a formal procedure for the procurement of such services, the state is

^{7/} 23 U.S.C. § 112(b)(2).

to follow that procedure.” The new Federal Design-Build Selection Procedures enacted by Pub. L. 104-106, amend Title III of the Brooks Act, and apply to direct Federal contracts, not SHA contracts with Federal funds. The new law did not amend any of the rules applicable to Federal-aid contracts.

Thus, design/build is not permitted for interstate highway projects undertaken by SHAs with Federal funds unless the method is approved by the Division Administrator. The FHWA is authorizing design/build contracts on Federal-aid projects under Special Experimental Project Number 14. Under this project, the Division Administrator will closely review the SHA'S procurement procedures to determine whether or not they promote competition.

4. Site Conditions. Suspension of Work and Changes in the Scope

23 USC. § 112(e) requires standardized contract clauses concerning site conditions, suspension of work, and material changes in the scope of the work for highway construction contracts. Pursuant to that section, the Secretary of the U.S. DOT is required to issue regulations establishing and requiring, for inclusion in each contract entered into with respect to any project approved under 23 U.S.C. § 106, contract clauses addressing site conditions, suspension of work ordered by the SHA (other than a suspension of work caused by the fault of the contractor or by weather), and material changes in the scope of work specified in the contract. The Federal clauses must be used unless the State adopts, or has adopted by statute, a formal procedure for the development of such contract clauses, or adopts or has adopted a statute which does not permit inclusion of such contract clauses.

(a) Site Conditions. Differing site conditions are covered by 23 C.F.R. § 635109(a)(l). That section provides that if, during the progress of work, subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract, or if unknown physical conditions of an unusual nature differing materially from those ordinarily encountered are discovered, then the party discovering such conditions must promptly notify the other party in writing. The engineer will then investigate the condition and determine whether the conditions materially differing cause an increase or decrease in the cost or time required for performance of any work under the contract, and make an adjustment in the contract price, excluding anticipated profits.

(b) Suspension of Work. 23 C.F.R. § 635109(a)(2) provides that if the performance of all or any portion of the work is suspended or delayed by the engineer for an unreasonable period of time, the contractor may request additional compensation or contract time. The engineer will evaluate the contractor's request and

8/ 23 U.S.C. § 112(b)(2)(A).

if the engineer determines that the cost or time required to perform has increased as a result of such suspension, and the suspension was caused by conditions beyond the control of and not the fault of the contractor, its suppliers or subcontractors at any approved tier, and not caused by the weather, the engineer will make an adjustment in the contract.

(c) **Changes.** Significant changes in the character of the work are covered by 23 C.F.R. § 635.110. Pursuant to that section, the engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and alterations in the work as are necessary to satisfactorily complete the project. Once such alterations or changes are in themselves significant changes to the character of the work or cause the work to become significantly different in character, an adjustment, excluding anticipated profit, will be made to the contract.

5. Buy America Provisions

Section 165 of the Surface Transportation Assistance Act of 1982, 49 U.S.C. § 1601, § 337 of the Surface Transportation and Uniform Relocation Assistance Act of 1987, and 49 C.F.R. parts 660 and 661 impose Buy America provisions on the procurement of foreign products and materials.

No Federal-aid highway construction project may be authorized for advertisement or otherwise authorized to proceed unless: (1) the project either (i) includes no permanently incorporated steel or iron materials, or (ii) if such materials are to be used, all manufacturing processes, including application of coding for these materials, must occur in the United States; or (2) the state has standard contract provisions that require the use of domestic materials and products, including steel and iron materials, to the same or greater extent as provisions set forth in 23 C.F.R. § 635.410; or (3) the state elects to include alternate bid provisions for foreign and domestic steel and iron materials, and a bid document clearly states that the contract will be awarded to the bidder who submits the lowest total bid based on furnishing domestic steel and iron materials unless such total bid exceeds the lowest total bid based on furnishing foreign materials by more than 25%; or (4) only a minimum use of foreign steel and iron materials will be made, with a total cost not exceeding one-tenth of one percent of the total contract cost, or \$2,500, whichever is greater.

A State may request a waiver from the Buy America requirements under certain circumstances.

6. Record of Materials, Supplies and Labor

FHWA Form 1273 Section VI sets forth contract provisions requiring the contractor to familiarize itself with Form FHWA-47 "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," to maintain records of the total cost and quantities of all materials and supplies in the project, and

furnish data and reports to FHWA. This requirement applies to all Federal-aid contracts on the NHS, except those which (a) provide solely for the installation of protective devices at railroad crossings; (b) are constructed on a force account or direct labor basis; (c) are highway beautification contracts, and (d) the total final construction cost for roadway and bridge is less than \$1,000,000.

7. Subletting or Assigning the Contract

23 C.F.R. § 635.116 provides that Federal-aid project contracts must specify the minimum percentage of work that a contractor must perform with its own organization, which may not be less than 30% of the original contract price, excluding any identified specialty items. Specialty items may be performed by subcontractors, and the amount of specialty items so performed may be deducted from the total original contract before computing the amount of work required to be performed by the contractor's own organization.

The phrase "its own organization" is intended to refer to workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such a term does not include employees or equipment of a subcontractor, assignee or agent of the prime contractor.

"Specialty items" means work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole, and in general are limited to minor components of the overall contract.

The contract amount upon which the 30% is computed includes the costs of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

The SHA is required to ensure that: the contract furnishes (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct the performance of work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work), and (b) such other of its own organizational resources (supervision, management and engineering services) as the SHA contracting officer determines is necessary to ensure the performance of the contract.

Unless the written consent of the SHA contracting officer is obtained, no portion of the contract may be sublet, assigned or otherwise disposed of, and such consent when given is not construed to relieve the contractor of any responsibility for the fulfillment of the contract.

8. Safety and Accident Prevention

23 C.F.R. § 635.116 also provides that the SHA must include provisions in Federal-aid prime contracts requiring that the contractor comply with all applicable Federal, State, and local laws governing safety, health and sanitation. The contractor must provide all safeguards, safety devices and protective equipment and take any other needed action as it determines, or as the SHA contracting officer determines reasonably necessary to protect the life and health of employees on the job and the safety of the public, and to protect property in connection with the performance of the work covered by the contract.

The SHA is required to condition the contract, and make sure the contractor makes it a condition of each subcontract, that the contractor and any subcontractors shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous as determined under construction safety and health standards promulgated by the Secretary of Labor, in accordance with § 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. § 333).

The contract must also provide that, pursuant to 29 C.F.R. § 1926.3, the Secretary of Labor or authorized representative thereof, shall have the right of entry to any site of contract performance to inspect or investigate compliance with § 107 of the Contract Work Hours and Safety Standards Act.

9. Clean Air Act and Federal Water Pollution Control Act

All Federal-aid construction contracts and related subcontracts of \$100,000 or more require the contractor, or subcontractor, as appropriate, to stipulate that any facility that is or will be utilized in the performance of the contract, unless the contract is exempt under the Clean Air Act and under the Federal Water Pollution Control Act, is not listed, on the date of contract award, on the U.S. Environmental Protection Agency List of Violating Facilities pursuant to 40 C.F.R. § 15.20.

The firm must further agree to comply and remain in compliance with all requirements of § 114 of the Clean Air Act and § 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder. The firm must promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, Environmental Protection Agency (EPA), indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities, and the firm must agree to include or cause to be included these requirements in any non-exempt subcontract, and take such actions that the government may direct as a means of enforcing such requirements.

10. Certification Regarding Debarment. Suspension Ineligibility and Voluntary Exclusion

In all Federal-aid contracts, a participant must certify that it is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency; that it has not within a three-year period preceding the proposal been convicted of or had a civil judgment rendered against it for commission of fraud or criminal offense in connection with a public transaction, violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, false statements or receiving stolen property; that it is not presently indicted or otherwise criminally or civilly charged with any such offenses; and that it has not within the three-year period preceding the application had one or more public transactions terminated for cause or default. The participant shall not knowingly enter into a lower-tiered transaction with any party that cannot also make such certification.

11. Certification Regarding Use of Contract Funds for Lobbying

With respect to all construction contracts and subcontracts which exceed \$100,000, 49 C.F.R. § 20 requires the participant to certify that, to the best of his or her knowledge and belief, no Federal appropriated funds have been paid or will be paid for purposes of influencing the award of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement. If any funds other than Federal appropriated funds have been paid for such purpose, the participant must execute a "Disclosure Form to Report Lobbying." The participant also agrees that by submitting the bid proposal they must require such certification to be made in all lower-tier subcontracts.

12. Intellectual Property

In general, the Federal government requires that it be granted an irrevocable, paid-up, nonexclusive license in any intellectual property (patents, copyrights or data) created under a contract with a Federal funding component.

13. Limitations on Warranty Clauses

23 C.F.R. § 635.413 provides that SHAs may include warranty provisions in National Highway System (NHS) construction contracts for a specific construction product or feature. Items of maintenance that are not eligible for Federal participation shall not be covered. All warranty requirements and subsequent revisions must be submitted to the Division Administrator for advance approval, and no such requirement may be approved if, in the Division Administrator's judgment, it places an undue obligation on the contractor for items over which the contractor has not control.

B. Federal Requirements in Absence of Federal Funds

All construction projects on Federal-aid highways must comply with Federal design and engineering requirements and other applicable Federal laws regarding the physical road itself, such as environmental laws. Additionally, § 324 of Title 23 U.S.C., the Civil Rights Act of 1964, and 23 C.F.R. are applicable to all construction contracts awarded by SHAs on NHS highways.^{9/} The contracting requirements in Title 23 do not apply in the absence of Federal funds, but physical requirements do apply.

^{9/} 23 C.F.R. § 633, Subpt. B., App. B.

Financial Administration

Financial Administration

- 49 C.F.R. Part 18 - Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments
- United States Department of Transportation Order No. 4600.17, Grant Management Requirements
- Los Angeles County Metropolitan Transportation Authority - General Cost Guidelines

PART 18-UNIFORM ADMINISTRATIVE REQUIREMENTS FOR GRANTS AND COOPERATIVE AGREEMENTS TO STATE AND LOCAL GOVERNMENTS

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§ 18.1

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AUTHORITY: 49 U.S.C. 322(a).

SOURCE: 53 FR 8086 and 8597. Mar. 11.

1988. unless otherwise noted.

EDITORIAL NOTE: For additional information, see related documents published at 49 FR 24958. June 18. 1984. 52 FR 20198, May 29, 1987, and 53 FR 8028, March 11, 1988.

Subpart A-General

§ 18.1 Purpose and scope of this part...

This part establishes uniform administrative rules for Federal grants and cooperative agreements and subawards to State, local and Indian tribal governments.

§ 18.2 Scope of subpart.

This subpart contains general rules pertaining to this part and procedures for control of exceptions from this part.

§ 18.3 Definitions.

As used in this part:

Accrued expenditures mean the charges incurred by the grantee during a given period requiring the provision of funds for: (1) Goods and other tangible property received: (2) services performed by employees, contractors, subgrantees, subcontractors, and other payees: and (3) other amounts becom-

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ing owed under programs for which no current services or performance is required, such as annuities, insurance claims, and other benefit payments.

Accrued income means the sum of: (1)

Earnings during a given period from services performed by the grantee and goods and other tangible property delivered to purchasers, and (2) amounts becoming owed to the grantee for which no current services or performance is required by the grantee.

Acquisition cost of an item of purchased equipment means the net invoice unit price of the property including the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the property usable for the purpose for which it was acquired. Other charges such as the cost of installation, transportation taxes, duty or protective in-transit insurance, shall be included or excluded from the unit acquisition cost in accordance with the grantee's regular accounting practices.

Administrative requirements mean those matters common to grants in general, such as financial management, kinds and frequency of reports, and retention of records. These are distinguished from "programmatic" requirements, which concern matters that can be treated only on a program-by-program or grant-by-grant basis, such as kinds of activities that can be supported by grants under a particular program.

Awarding agency means (1) with respect to a grant, the Federal agency, and (2) with respect to a subgrant, the party that awarded the subgrant.

Cash contributions means the grantee's cash outlay, including the outlay of money contributed to the grantee or subgrantee by other public agencies and institutions, and private organizations and individuals. When authorized by Federal legislation, Federal funds received from other assistance agreements may be considered as grantee or subgrantee cash contributions.

Contract means (except as used in the definitions for "grant" and "subgrant" in this section and except where qualified by "Federal") a procurement contract under a grant or subgrant. And

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means a procurement subcontract under a contract.

Cost sharing or matching means the value of the third party in-kind contributions and the portion of the costs of a Federally assisted Project or program not borne by the Federal Government.

Cost-type contract means a contract or subcontract under a grant in which the contractor or subcontractor is paid on the basis of the costs it incurs with or without a fee.

Equipment means tangible, nonexpendable, Personal property having a useful life of more than one year and an acquisition cost of \$5,000 or more per unit. A grantee may use its own definition of equipment provided that such definition would at least include all equipment defined above.

Expenditure Report means: (1) For non-construction grants, the SF-269 "Financial Status Report" (or other equivalent Report; (2) for construction grants, the SF-271 "Outlay Report and Request for Reimbursement*" (or other equivalent report).

Federally recognized Indian tribal government means the governing body or a governmental agency of any Indian tribe, band, nation, or other organized group or community (including any Native village as defined in section 3 of the Alaska Native Claims Settlement Act. 85 Stat 688) certified by the Secretary of the Interior as eligible for the special programs and services provided by him through the Bureau of Indian Affairs.

Government means a State or local government or a federally recognized Indian tribal government.

Grant means an award of financial assistance, including cooperative agreements, in the form of money, or property in lieu of money, by the Federal Government to an eligible grantee. The term does not include technical assistance which provides services instead of money, or other assistance in the form of revenue sharing, loans, loan guarantees, interest subsidies, insurance, or direct appropriations. Also, the term does not include assistance, such as a fellowship or other lump sum award, which the grantee is not required to account for.

Grantee means the government to which a grant is awarded and which is accountable for the use of the funds provided. The grantee is the entire legal entity even if only a particular component of the entity is designated in the grant award document.

Local government means a county, municipality, city, town, township, local public authority (including any public and Indian housing agency under the United States Housing Act of 1937) school district, special district, intrastate district, council of governments (whether or not incorporated as a nonprofit corporation under state law). any other regional or interstate government entity, or any agency or instrumentality of a local government.

Obligations means the amounts of orders placed, contracts and subgrants awarded, goods and services received, and similar transactions during a given period that will require payment by the grantee during the same or a future period.

OMB means the United States Office of Management and Budget.

Outlays (expenditures) mean charges made to the project or program. They may be reported on a cash or accrual basis. For reports prepared on a cash basis, outlays are the sum of actual cash disbursement for direct charges for goods and services, the amount of indirect expense incurred, the value of in-kind contributions applied, and the amount of cash advances and payments made to contractors and subgrantees. For reports prepared on an accrued expenditure basis, outlays are the sum of actual cash disbursements, the amount of indirect expense incurred, the value of in-kind contributions applied, and the new increase (or decrease) in the amounts owed by the grantee for goods and other property received, for services performed by employees, contractors, subgrantees, subcontractors, and other payees, and other amounts becoming owed under programs for which no current services or performance are required, such as annuities, insurance claims, and other benefit payments.

Percentage of completion method refers to a system under which payments are made for construction work according to the percentage of completion of the

work, rather than to the grantee's cost incurred.

Prior **approval** means documentation evidencing consent prior to incurring specific cost.

Real property means land, including land improvements, structures and appurtenances thereto, excluding movable machinery and equipment.

Share, when referring to the awarding agency's portion of real property, equipment or supplies, means the same percentage as the awarding agency's portion of the acquiring party's total costs under the grant to which the acquisition costs under the grant to which the acquisition cost of the property was charged. Only costs are to be counted—not the value of third-party in-kind contributions.

State means any of the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, any territory or possession of the United States, or any agency or instrumentality of a State exclusive of local governments. The term does not include any public and Indian housing agency under United States Housing Act of 1937.

Subgrant means an award of financial assistance in the form of money, or property in lieu of money, made under a grant by a grantee to an eligible subgrantee. The term includes financial assistance when provided by contractual legal agreement, but does not include procurement purchases, nor does it include any form of assistance which is excluded from the definition of "grant" in this part.

Subgrantee means the government or other legal entity to which a subgrant is awarded and which is accountable to the grantee for the use of the funds provided.

Supplies means all tangible personal property other than "equipment" as defined in this part.

Suspension means depending on the context, either (1) temporary withdrawal of the authority to obligate grant funds pending corrective action by the grantee or subgrantee or a decision to terminate the grant, or (2) an action taken by a suspending official in accordance with agency regulations implementing E.O. 12549 to immediately exclude a person from partici-

pating in grant transactions for a period, pending completion of an investigation and such legal or debarment proceedings as may ensue.

Termination means permanent withdrawal of the authority to obligate previously-awarded grant funds before that authority would otherwise expire. It also means the voluntary relinquishment of that authority by the grantee or subgrantee. "Termination" does not include: (1) Withdrawal of funds awarded on the basis of the grantee's under-estimate of the unobligated balance in a prior period; (2) Withdrawal of the unobligated balance as of the expiration of a grant; (3) Refusal to extend a grant or award additional funds, to make a competing or noncompeting continuation, renewal, extension, or supplemental award; or (4) voiding of a grant upon determination that the award was obtained fraudulently, or was otherwise illegal or invalid from inception.

Terms of a grant or subgrant mean all requirements of the grant or subgrant, whether in statute, regulations, or the award document.

Third party in-kind contributions mean property or services which benefit a federally assisted project or program and which are contributed by non-Federal third parties without charge to the grantee, or a cost-type contractor under the grant agreement.

Unliquidated obligations for reports prepared on a cash basis mean the amount of obligations incurred by the grantee that has not been paid. For reports prepared on an accrued expenditure basis, they represent the amount of obligations incurred by the grantee for which an outlay has not been recorded.

Unobligated balance means the portion of the funds authorized by the Federal agency that has not been obligated by the grantee and is determined by deducting the cumulative obligations from the cumulative funds authorized.

§ 18.4 Applicability.

(a) **General.** Subparts A through D of this part apply to all grants and subgrants to governments, except where inconsistent with Federal statutes or with regulations authorized in

accordance with the exception provision of §§18.6 of:

(1) Grants and subgrants to State and local institutions of higher education or State and local hospitals.

(2) The block grants authorized by the Omnibus Budget Reconciliation Act of 1981 (Community Services; Preventive Health and Health Services; Alcohol, Drug Abuse, and Mental Health Services; Maternal and Child Health Services; Social Services; Low-Income Home Energy Assistance; States' Program of Community Development Block Grants for Small Cities; and Elementary and Secondary Education other than programs administered by the Secretary of Education under title v, subtitle D, chapter 2, Section 583-the Secretary's discretionary grant program) and titles I-III of the Job Training Partnership Act of 1982 and under the Public Health Services Act (Section 1921). Alcohol and Drug Abuse Treatment and Rehabilitation Block Grant and Part C Of title V, Mental Health Service for the Homeless Block Grant).

(3) Entitlement grants to carry out the following Programs of the Social Security Act:

(i) Aid to Needy Families with Dependent Children (title IV-A of the Act, not including the Work Incentive Program (WIN) authorized by section 402(a)(19)(G); HHS grants for WIN are subject to this part):

(ii) Child Support Enforcement and Establishment of Paternity (title IV-D of the Act);

(iii) Foster Care and Adoption Assistance (title IV-E of the Act);

(iv) Aid to the Aged, Blind, and Disabled (titles I, X, XIV, and XVI-AABD of the Act); and

(v) Medical Assistance (Medicaid) (title XIX Of the Act) not including the State Medicaid Fraud Control program authorized by section 1903(a)(6)(B).

(4) Entitlement grants under the following programs of The National School Lunch Act:

(i) School Lunch (section 4 of the Act),

(ii) Commodity Assistance (section 6 of the Act),

(iii) Special Meal Assistance (section 11 of the Act),

(iv) Summer Food Service for Children (section 13 of the Act), and

(v) Child Care Food Program (section 17 of the Act).

(5) Entitlement grants under the following programs of The Child Nutrition Act of 1966:

(i) Special Milk (section 3 of the Act), and

(ii) School Breakfast (section 4 of the Act).

(6) Entitlement grants for State Administrative expenses under The Food Stamp Act of 1977 (section 16 of the Act).

(7) A grant for an experimental, pilot, or demonstration project that is also supported by a grant listed in paragraph (a)(3) of this section;

(8) Grant funds awarded under subsection 412(e) of the Immigration and Nationality Act (8 U.S.C. 1522(e)) and subsection 501(a) of the Refugee Education Assistance Act of 1980 (Pub. L. 96-422, 94 Stat. 1809), for cash assistance, medical assistance, and supplemental security income benefits to refugees and entrants and the administrative costs of providing the assistance and benefits;

(9) Grants to local education agencies under 20 U.S.C. 236 through 241-l(a), and 242 through 244 (portions of the Impact Aid program), except for 20 U.S.C. 238(d)(2)(c) and 240(f) (Entitlement Increase for Handicapped Children); and

(10) Payments under the Veterans Administration's State Home Per Diem Program (38 U.S.C. 641(a)).

(b) Entitlement programs. Entitlement programs enumerated above in §18.4(a)(3) through (8) are subject to subpart E.

§ 18.5 Effect on other issuances.

All other grants administration provisions of codified program regulations, program manuals, handbooks and other nonregulatory materials which are inconsistent with this part are superseded, except to the extent they are required by statute, or authorized in accordance with the exception provision in §18.6.

§ 18.6 Additions and exceptions.

(a) For classes of grants and grantees subject to this part, Federal agencies may not impose additional administrative requirements except in codified

regulations published in the FEDERAL REGISTER.

(b) Exceptions for classes of grants or grantees may be authorized only by OMB.

(1) All Departmental requests for exceptions shall be processed through the Assistant Secretary of Administration.

(2) [Reserved]

(c) Exceptions on a case-by-case basis and for subgrantees may be authorized by the affected Federal agencies.

(1) All case-by-case exceptions may be authorized by the affected operating administrations or departmental offices, with the concurrence of the Assistant Secretary for Administration.

(2) [Reserved]

[53 FR 8086 and 8087, Mar. 11, 1988, as amended at 66 FR 19646, Apr. 19, 1995]

Subpart B-Pre-Award Requirements

§ 18.10 Forms for applying for grants.

(a) Scope. (1) This section prescribes forms and instructions to be used by governmental organizations (except hospitals and institutions of higher education operated by a government) in applying for grants. This section is not applicable, however, to formula grant programs which do not require applicants to apply for funds on a project basis.

(2) This section applies only to applications to Federal agencies for grants, and is not required to be applied by grantees in dealing with applicants for subgrants. However, grantees are encouraged to avoid more detailed or burdensome application requirements for subgrants.

(3) Forms and procedures for Federal Highway Administration (FHWA) projects are contained in 23 CFR part 630, subpart B, 23 CFR part 420, subpart A, and 49 CFR part 458.

(b) **Authorized forms and instructions for governmental organizations.** (1) In applying for grants, applicants shall only use standard application forms or those prescribed by the granting agency with the approval of OMB under the Paperwork Reduction Act of 1980.

(2) Applicants are not required to submit more than the original and two copies of preapplications or applications.

(3) Applicants must follow all applicable instructions that bear OMB clearance numbers. Federal agencies may specify and describe the programs functions, or activities that will be used to plan, budget, and evaluate the work under a grant. Other Supplementary instructions may be issued only with the approval of OMB to the extent required under the Paperwork Reduction Act of 1980. For any standard form, except the SF-424 facesheet, Federal agencies may shade out or instruct the applicant to disregard any line item that is not needed.

(4) When a grantee applies for additional funding (such as a continuation or supplemental award) or amends a previously submitted application, only the affected pages need be submitted. Previously submitted pages with information that is still current need not be resubmitted.

[53 FR 8086 and 8087, Mar. 11, 1988, as amended at 53 FR 6066, Mar. 11, 1988]

§ 18.11 state plans.

(a) Scope. The statutes for some programs require States to submit plans before receiving grants. Under regulations implementing Executive Order 12372, "Intergovernmental Review of Federal Programs," States are allowed to simplify, consolidate and substitute plans. This section contains additional provisions for plans that are subject to regulations implementing the Executive order.

(b) **Requirements.** A State need meet only Federal administrative or programmatic requirements for a plan that are in statutes or codified regulations.

(c) **Assurances.** In each plan the State will include an assurance that the State shall comply with all applicable Federal statutes and regulations in effect with respect to the periods for which it receives grant funding. For this assurance and other assurances required in the plan, the State may:

(1) Cite by number the statutory or regulatory provisions requiring the assurances and affirm that it gives the assurances required by those provisions,

(2) Repeat the assurance language in the statutes or regulations, or

(3) Develop its own language to the extent permitted by law.

(d) **Amendments.** A State will amend a plan whenever necessary to reflect: (1) New or revised Federal statutes or regulations or (2) a material change in any State law, organization, policy, or State agency operation. The State will obtain approval for the amendment and its effective date but need submit for approval only the amended portions of the plan.

§18.12 Special grant or subgrant conditions for "high-risk" grantees.

(a) A grantee or subgrantee may be considered "high risk" if an awarding agency determines that a grantee or subgrantee:

(1) Has a history of unsatisfactory performance, or

(2) Is not financially stable, or

(3) Has a management system which does not meet the management standards set forth in this part, or

(4) Has not conformed to terms and conditions of previous awards, or

(5) Is otherwise not responsible; and if the awarding agency determines that an award will be made, special conditions and/or restrictions shall correspond to the high risk condition and shall be included in the award.

(b) Special conditions or restrictions may include:

(1) Payment on a reimbursement basis;

(2) Withholding authority to proceed to the next phase until receipt of evidence of acceptable performance within a given funding period;

(3) Requiring additional, more detailed financial reports;

(4) Additional project monitoring;

(5) Requiring the grantee or subgrantee to obtain technical or management assistance; or

(6) Establishing additional prior approvals.

(c) If an awarding agency decides to impose such conditions, the awarding Official will notify the grantee or subgrantee as early as possible, in writing, of:

(1) The nature of the special conditions/restrictions;

(2) The reason(s) for imposing them;

(3) The corrective actions which must be taken before they will be removed

and the time allowed for completing the corrective actions; and

(4) The method of requesting reconsideration of the conditions/restrictions imposed.

Subpart C-Post-Award Requirements

FINANCIAL ADMINISTRATION

§ 18.20 Standards for financial management systems.

(a) A State must expand and account for grant funds in accordance with State laws and procedures for expending and accounting for its own funds. Fiscal control and accounting procedures of the State, as well as its subgrantees and cost-type contractors, must be sufficient to-

(1) Permit preparation of reports required by this part and the statutes authorizing the grant, and

(2) Permit the tracing of funds to a level of expenditures adequate to establish that such funds have not been used in violation of the restrictions and prohibitions of applicable statutes.

(b) The financial management systems of other grantees and subgrantees must meet the following standards:

(1) **Financial reporting.** Accurate, current, and complete disclosure of the financial results of financially assisted activities must be made in accordance with the financial reporting requirements of the grant or subgrant.

(2) **Accounting records.** Grantees and subgrantees must maintain records which adequately identify the source and application of funds provided for financially-assisted activities. These records must contain information pertaining to grant or subgrant awards and authorizations, obligations, unobligated balances, assets, liabilities, outlays or expenditures, and income.

(3) **Internal control.** Effective control and accountability must be maintained for all grant and subgrant cash, real and personal property, and other assets. Grantees and subgrantees must adequately safeguard all such property and must assure that it is used solely for authorized purposes.

(4) **Budget control.** Actual expenditures or outlays must be compared with budgeted amounts for each grant

or subgrant. Financial information must be related to performance or productivity data, including the development of unit cost information whenever appropriate or specifically required in the grant or subgrant agreement. If unit cost data are required, estimates based on available documentation will be accepted whenever possible.

(5) **Allowable cost.** Applicable OMB cost principles, agency program regulations, and the terms of grant and subgrant agreements will be followed in determining the reasonableness, allowability, and allocability of costs.

(6) **Source documentation.** Accounting records must be supported by such source documentation as cancelled checks, paid bills, payrolls, time and attendance records, contract and subgrant award documents, etc.

(7) **Cash management.** Procedures for minimizing the time elapsing between the transfer of funds from the U.S. Treasury and disbursement by grantees and subgrantees must be followed whenever advance payment procedures are used. Grantees must establish reasonable procedures to ensure the receipt of reports on subgrantees' cash balances and cash disbursements in sufficient time to enable them to prepare complete and accurate cash transactions reports to the awarding agency. When advances are made by letter-of-credit or electronic transfer of funds methods, the grantee must make drawdowns as close as possible to the time of making disbursements. Grantees must monitor cash drawdowns by their subgrantees to assure that they conform substantially to the same standards of timing and amount as apply to advances to the grantees.

(c) An awarding agency may review the adequacy of the financial management system of any applicant for financial assistance as part of a preaward review or at any time subsequent to award.

(d) Certain Urban Mass Transportation Administration (UMTA) grantees shall comply with the requirements of section 15 of the Urban Mass Transportation (UMT) Act of 1964, as amended, as implemented by 49 CFR part 630, regarding a uniform system of ac-

counts and records and a uniform reporting system for certain grantees.

[53 FR 8086 and 8087, Mar. 11, 1988, as amended at 53 FR 8086, Mar. 11, 1988]

§ 18.21 Payment.

(a) **Scope.** This Section prescribes the basic standard and the methods under which a Federal agency will make payments to grantees, and grantees will make payments to subgrantees and contractors.

(b) **Basic standard.** Methods and procedures for payment shall minimize the time elapsing between the transfer of funds and disbursement by the grantee or subgrantee, in accordance with Treasury regulations at 31 CFR part 205.

(c) **Advances.** Grantees and subgrantees shall be paid in advance, provided they maintain or demonstrate the willingness and ability to maintain procedures to minimize the time elapsing between the transfer of the funds and their disbursement by the grantee or subgrantee.

(d) **Reimbursement.** Reimbursement shall be the preferred method when the requirements in paragraph (c) of this section are not met. Grantees and subgrantees may also be paid by reimbursement for any construction grant. Except as otherwise specified in regulation, Federal agencies shall not use the percentage of completion method to pay construction grants. The grantee or subgrantee may use that method to pay its construction contractor, and if it does, the awarding agency's payments to the grantee or subgrantee will be based on the grantee's or subgrantee's actual rate of disbursement.

(e) **Working capital advances.** If a grantee cannot meet the criteria for advance payments described in paragraph (c) of this section, and the Federal agency has determined that reimbursement is not feasible because the grantee lacks sufficient working capital, the awarding agency may provide cash or a working capital advance basis. Under this procedure the awarding agency shall advance cash to the grantee to cover its estimated disbursement needs for an initial period generally geared to the grantee's disbursing cycle. Thereafter, the awarding

agency shall reimburse the grantee for its actual cash disbursements. The working capital advance method of payment shall not be used by grantees or subgrantees if the reason for using such method is the unwillingness or inability of the grantee to provide timely advances to the subgrantee to meet the subgrantee's actual cash disbursements-

(f) Effect of program income, refunds, and audit recoveries on payment. (1) Grantees and subgrantees shall disburse repayments to and interest earned on a revolving fund before requesting additional cash payments for the same activity.

(2) Except as provided in paragraph (f)(1) of this section, grantees and subgrantees shall disburse program income, rebates, refunds, contract settlements, audit recoveries and interest earned on such funds before requesting additional cash payments.

(g) Withholding payments. (1) Unless otherwise required by Federal statute, awarding agencies shall not withhold payments for proper charges incurred by grantees or subgrantees unless-

(i) The grantee or subgrantee has failed to comply with grant award conditions or

(ii) The grantee or subgrantee is indebted to the United States.

(2) Cash withheld for failure to comply with grant award condition, but without suspension of the grant, shall be released to the grantee upon subsequent compliance. When a grant is suspended, payment adjustments will be made in accordance with § 18.43(c).

(3) A Federal agency shall not make payment to grantees for amounts that are withheld by grantees or subgrantees from payment to contractors to assure satisfactory completion of work. Payments shall be made by the Federal agency when the grantees or subgrantees actually disburse the withheld funds to the contractors or to escrow accounts established to assure satisfactory completion of work.

(h) Cash depositories. (1) Consistent with the national goal of expanding the opportunities for minority business enterprises, grantees and subgrantees are encouraged to use minority banks (a bank which is owned at least 50 percent by minority group members). A list of

minority owned banks can be obtained from the Minority Business Development Agency, Department of Commerce, Washington, DC 20230.

(2) A grantee or subgrantee shall maintain a separate bank account only when required by Federal-State agreement.

(i) **Interest earned on advances.** Except for interest earned on advances of funds exempt under the Intergovernmental Cooperation Act (31 U.S.C. 6501 et seq.) and the Indian Self-Determination Act (23 U.S.C. 450), grantees and subgrantees shall promptly, but at least quarterly, remit interest earned on advances to the Federal agency. The grantee or subgrantee may keep interest amounts up to \$100 per year for administrative expenses.

(j) 23 U.S.C. 121 limits payments to States for highway construction projects to the Federal share of the costs of construction incurred to date, plus the Federal share of the value of stockpiled materials.

(k) Section 404 of the Surface Transportation Assistance Act of 1982 directs the Secretary to reimburse States for the Federal share of costs incurred.

[53 FR 8086 and 8087, Mar. 11, 1988, as amended at 53 FR 8086, Mar. 11, 1988]

§ 18.22 Allowable costs.

(a) Limitation on use of funds. Grant funds may be used only for:

(1) The allowable costs of the grantees, subgrantees and cost-type contractors, including allowable costs in the form of payments to fixed-price contractors; and

(2) Reasonable fees or profit to cost-type contractors but not any fee or profit (or other increment above allowable costs) to the grantee or subgrantee.

(b) Applicable cost principles. For each kind of organization, there is a set of Federal principles for determining allowable costs. Allowable costs will be determined in accordance with the cost principles applicable to the organization incurring the costs. The following chart lists the kinds of organizations and the applicable cost principles.

For the costs of a---	Use the principles in---
State, local or Indian tribal government	OMB Circular A-87.

For the costs of a-	Use the principles in----
Privatenonprofit organization other than an (1) institution of higher education (2) hospital, or (3) organization named In OMB Circular A-122 as not subject to that circular.	OMB Circular A-122
Educational institutions.	OMB Circular A-21.
For-profit organization other than a hospital and an organization named In OMB Circular A-122 as not subject to mat cira-lar.	48 CFR part 31. Contract Cost Principles and Procedures, or uniform cost accounting standards that comply with cost principles acceptable to the Federal agency.

(c) The overhead cost principles of OMB Circular A-87 shall not apply to State highway agencies for FHWA funded grants.

(d) Sections 3(l) and 9(p) of the UMT Act of 1964, as amended, authorize the Secretary to include in the net project cost eligible for Federal assistance, the amount of interest earned and payable on bonds issued by the State or local public body to the extent that the proceeds of such bonds have actually been expended in carrying out such project or portion thereof. Limitations are established in sections 3 and 9 of the UMT Act of 1964, as amended.

(e) Section 9 of the UMT Act of 1964, as amended, authorizes grants to finance the leasing of facilities and equipment for use in mass transportation services provided leasing is more cost effective than acquisition or construction.

[53 FR 8086 and 8087, Mar. 11, 1988, as amended at 53 FR 8086, Mar. 11, 1988]

§ 18.23 Period of availability of funds.

(a) General. Where a funding period is specified, a grantee may charge to the award only costs resulting from obligations of the funding period unless carryover of unobligated balances is permitted, in which case the carryover balances may be charged for costs resulting from obligations of the subsequent funding period.

(b) **Liquidation of obligations.** A grantee must liquidate all obligations incurred under the award not later than 90 days after the end of the funding period (or as specified in a program regulation) to coincide with the submission of the annual Financial Status Report (SF-269). The Federal agency may ex-

tend this deadline at the request of the grantee.

§18.24 Matching or cost sharing.

(a) **Basic rule: Costs and contributions acceptable.** With the qualifications and exceptions listed in paragraph (b) of this section, a matching or cost sharing requirement may be satisfied by either or both of the following:

(1) Allowable costs incurred by the grantee, subgrantee or a cost-type contractor under the assistance agreement. This includes allowable costs borne by non-Federal grants or by others cash donations from non-Federal third parties.

(2) The value of third party in-kind contributions applicable to the period to which the cost sharing or matching requirements applies.

(b) **Qualifications and exceptions-(1) Costs borne by other Federal grant agreements.** Except as provided by Federal statute, a cost sharing or matching requirement may not be met by costs borne by another Federal grant. This prohibition does not apply to income earned by a grantee or subgrantee from a contract awarded under another Federal grant.

(2) **General revenue sharing.** For the purpose of this section, general revenue sharing funds distributed under 31 U.S.C. 6762 are not considered Federal grant funds.

(3) **Cost or contributions counted towards other Federal costs-sharing requirements.** Neither costs nor the values of third party in-kind contributions may count towards satisfying a cost sharing or matching requirement of a grant agreement if they have been or will be counted towards satisfying a cost sharing or matching requirement of another Federal grant agreement, a Federal procurement contract, or any other award of Federal funds.

(4) **Costs financed by program income.** Costs financed by program income, as defined in §18.25, shall not count towards satisfying a cost sharing or matching requirement unless they are expressly permitted in the terms of the assistance agreement. (This use of general program income is described in § 18.25(g).)

(5) **Services or property financed by income earned by contractors.** Contractors

under a grant may earn income from the activities carried out under the contract in addition to the amounts earned from the party awarding the contract. No costs of services or property supported by this income may count toward satisfying a cost sharing or matching requirement unless other provisions of the grant agreement expressly permit this kind of income to be used to meet the requirement.

(6) Records. Costs and third party in-kind contributions counting towards satisfying a cost sharing or matching requirement must be verifiable from the records of grantees and subgrantee or cost-type contractors. These records must show how the value placed on third party in-kind contributions was derived. To the extent feasible, volunteer services will be supported by the same methods that the organization uses to support the allocability of regular personnel costs.

(7) **Special standards for third party in-kind contributions.** (i) Third party in-kind contributions count towards satisfying a cost sharing or matching requirement only where, if the party receiving the contributions were to pay for them, the payments would be allowable costs.

(ii) Some third party in-kind contributions are goods and services that, if the grantee, subgrantee, or contractor receiving the contribution had to pay for them, the payments would have been an indirect costs. Costs sharing or matching credit for such contributions shall be given only if the grantee, subgrantee, or contractor has established, along with its regular indirect cost rate, a special rate for allocating to individual projects or programs the value of the contributions.

(iii) A third party in-kind contribution to a fixed-price contract may count towards satisfying a cost sharing or matching requirement only if it results in:

(A) An increase in the services or Property provided under the contract (without additional cost to the grantee or subgrantee) or

(B) A cost savings to the grantee or subgrantee.

(iv) The values placed on third party in-kind contributions for cost sharing or matching purposes will conform to

the rules in the succeeding sections of this part. If a third party in-kind contribution is a type not treated in those sections, the value placed upon it shall be fair and reasonable.

(8) 23 U.S.C. 121(a) permits reimbursement for actual construction cost incurred by States for highway construction projects. Except for private donations of right-of-way, contributions and donations shall not be considered State costs, and shall not be allowable for matching purposes for highway construction contracts. 23 U.S.C. 323 permits private donations of right-of-way to be used for a State's matching share, and establishes procedures for determining the fair market value of such donated right-of-way.

(9) Section 4(a) of the UMT Act of 1964, as amended, provides that the Federal grant for any project to be assisted under section 3 of the UMT Act of 1964, as amended, shall be in an amount equal to 75 percent of the net project costs. Net project cost is defined as that portion of the cost of the project which cannot be reasonably financed from revenues.

(10) Section 18(e) of the UMT Act of 1964, as amended, limits the Federal share to 80 percent of the net cost of construction, as determined by the Secretary of Transportation. The Federal share for the payment of subsidies for operating expenses, as defined by the Secretary, shall not exceed 50 percent of the net cost of such operating expense projects.

(c) **Valuation of donated services-(1) Volunteer services.** Unpaid services provided to a grantee or subgrantee by individuals will be valued at rates consistent with those ordinarily paid for similar work in the grantee's or subgrantee's organization. If the grantee or subgrantee does not have employees performing similar work, the rates will be consistent with those ordinarily paid by other employers for similar work in the same labor market. In either case, a reasonable amount for fringe benefits may be included in the valuation.

(2) **Employees of other organizations.** When an employer other than a grantee, subgrantee, or cost-type contractor furnishes free of charge the services of an employee in the employee's normal

line of work, the services will be valued at the employee's regular rate of Pay exclusive of the employee's fringe benefits and overhead costs. If the services are in a different line of work, paragraph (c)(1) of this section applies.

(3) Section 5(g) of the Department of Transportation Act (49 U.S.C. 1654(g)) limits in-kind service contributions under the local Rail Service Assistance Program to "the cash equivalent of State salaries for State public employees working in the State rail assistance program, but not including overhead and general administrative costs."

(d) Valuation of third party donated supplies and loaned equipment or space.

(1) If a third party donates supplies, the contribution will be valued at the market value of the supplies at the time of donation.

(2) If a third party donates the use of equipment or space in a building but retains title, the contribution will be valued at the fair rental rate of the equipment or space.

(e) Valuation of third party donated equipment, buildings, and land. If a third party donates equipment, buildings, or land, and title passes to a grantee or subgrantee, the treatment of the donated property will depend upon the purpose of the grant or subgrant, as follows:

(1) **Awards for capital expenditures.** If the purpose of the grant or subgrant is to assist the grantee or subgrantee in the acquisition of property, the market value of that property at the time of donation may be counted as cost sharing or matching.

(2) **Other awards.** If assisting in the acquisition of property is not the purpose of the grant or subgrant, paragraphs (e)(2) (i) and (ii) of this section apply:

(i) If approval is obtained from the awarding agency, the market value at the time of donation of the donated equipment or buildings and the fair rental rate of the donated land may be counted as cost sharing or matching. In the case of a subgrant, the terms of the grant agreement may require that the approval be obtained from the Federal agency as well as the grantee. In all cases, the approval may be given only if a purchase of the equipment or rental of the land would be approved as

an allowable direct cost. If any part of the donated property was acquired with Federal funds, only the non-federal share of the property may be counted as cost-sharing or matching.

(ii) If approval is not obtained under paragraph (e)(2)(i) of this section, no amount may be counted for donated land, and only depreciation or use allowances may be counted for donated equipment and buildings. The depreciation or use allowances for this property are not treated as third party in-kind contributions. Instead, they are treated as costs incurred by the grantee or subgrantee. They are computed and allocated (usually as indirect costs) in accordance with the cost principles specified in 518.22, in the same way as depreciation or use allowances for purchased equipment and buildings. The amount of depreciation or use allowances for donated equipment and buildings is based on the property's market value at the time it was donated.

(f) Valuation of grantee or subgrantee donated real property for construction/acquisition. If a grantee or subgrantee donates real property for a construction or facilities acquisition project, the current market value of that property may be counted as cost sharing or matching. If any part of the donated property was acquired with Federal funds, only the non-federal share of the property may be counted as cost sharing or matching.

(g) Appraisal of real property. In some cases under paragraphs (d), (e) and (f) of this section, it will be necessary to establish the market value of land or a building or the fair rental rate of land or of space in a building. In these cases, the Federal agency may require the market value or fair rental value be set by an independent appraiser, and that the value or rate be certified by the grantee. This requirement will also be imposed by the grantee on subgrantees.

[53 FR 8086 and 8087, Mar. 11, 1983, as amended at 53 FR 8086, Mar. 11, 1988]

§18.25 Program income.

(a) **General.** Grantees are encouraged to earn income to defray program costs. Program income includes income from fees for services performed, from the use or rental of real or personal property acquired with grant funds,

from the sale of commodities or items fabricated under a grant agreement, and from payments of principal and interest on loans made with grant funds. Except as otherwise provided in regulations of the Federal agency, program income does not include interest on grant funds, rebates, credits, discounts, refunds, etc. and interest earned on any of them.

(b) **Definition of program income.** Program income means gross income received by the grantee or subgrantee directly generated by a grant supported activity, or earned only as a result of the grant agreement during the grant period. "During the grant period" is the time between the effective date of the award and the ending date of the award reflected in the final financial report.

(c) **Cost of generating program income.** If authorized by Federal regulations or the grant agreement, costs incident to the generation of program income may be deducted from gross income to determine program income.

(d) **Governmental revenues.** Taxes, special assessments, levies, fines, and other such revenues raised by a grantee or subgrantee are not program income unless the revenues are specifically identified in the grant agreement or Federal agency regulations as program income.

(e) **Royalties.** Income from royalties and license fees for copyrighted material, patents, and inventions developed by a grantee or subgrantee is program income only if the revenues are specifically identified in the grant agreement or Federal agency regulations as program income. (See § 18.34.)

(f) **Property.** Proceeds from the sale of real property or equipment will be handled in accordance with the requirements of §§ 18.31 and 18.32.

(g) **Use of program income.** Program income shall be deducted from outlays which may be both Federal and non-Federal as described below, unless the Federal agency regulations or the grant agreement specify another alternative (or a combination of the alternatives). In specifying alternatives, the Federal agency may distinguish between income earned by the grantee and income earned by subgrantees and between the sources, kinds, or amounts

of income. When Federal agencies authorize the alternatives in paragraphs (g) (2) and (3) of this section, program income in excess of any limits stipulated shall also be deducted from outlays.

(1) **Deduction.** Ordinarily program income shall be deducted from total allowable costs to determine the net allowable costs. Program income shall be used for current costs unless the Federal agency authorizes otherwise. Program income which the grantee did not anticipate at the time of the award shall be used to reduce the Federal agency and grantee contributions rather than to increase the funds committed to the project.

(2) **Addition.** When authorized, program income may be added to the funds committed to the grant agreement by the Federal agency and the grantee. The program income shall be used for the purposes and under the conditions of the grant agreement.

(3) **Cost sharing or matching.** When authorized, program income may be used to meet the cost sharing or matching requirement of the grant agreement. The amount of the Federal grant award remains the same.

(4) Section 3(a)(1)(D) of the UMT Act of 1964, as amended, provides that the Secretary shall establish requirements for the use of income derived from appreciated land values for certain UMTA grants. Specific requirements shall be contained in grant agreements.

(5) UMTA grantees may retain program income for allowable capital or operating expenses.

(6) For grants awarded under section 9 of the UMT Act of 1964, as amended, any revenues received from the sale of advertising and concessions in excess of fiscal year 1985 levels shall be excluded from program income.

(7) 23 U.S.C. 156 requires that States shall charge fair market value for the sale, lease, or use of right-of-way airspace for non-transportation purposes and that such income shall be used for projects eligible under 23 U.S.C.

(h) **Income after the award period.** There are no Federal requirements governing the disposition of program income earned after the end of the award period (i.e., until the ending date of the final financial report, see paragraph (a)

of this section). unless the terms of the agreement or the Federal agency regulations provide otherwise.

[53 FR 8086 and 8087, Mar. 11, 1988. as amended at 53 FR 8087, Mar. 11, 1988]

§ 18.26 Non-Federal audits.

(a) **Basic** rule. Grantees and subgrantees are responsible for obtaining audits in accordance with the Single Audit Act of 1984 (31 U.S.C. 7501-7) and Federal agency implementing regulations. The audits shall be made by an independent auditor in accordance with generally accepted government auditing standards covering financial and compliance audits.

(b) **Subgrantees.** State or local governments, as those terms are defined for purposes of the Single Audit Act, that receive Federal financial assistance and provide \$25,000 or more of it in a fiscal year to a subgrantee shall:

(1) Determine whether State or local subgrantees have met the audit requirements of the Act and whether subgrantees covered by OMB Circular A-110, "Uniform Requirements for Grants and Other Agreements with Institutions of Higher Education, Hospitals and Other Nonprofit Organizations" have met the audit requirement. Commercial contractors (private forprofit and private and governmental organizations) providing goods and services to State and local governments are not required to have a single audit performed. State and local governments should use their own procedures to ensure that the contractor has complied with laws and regulations affecting the expenditure of Federal funds;

(2) Determine whether the subgrantee spent Federal assistance funds provided in accordance with applicable laws and regulations. This may be accomplished by reviewing an audit of the subgrantee made in accordance with the Act, Circular A-110, or through other means (e.g., program reviews) if the subgrantee has not had such an audit;

(3) Ensure that appropriate corrective action is taken within six months after receipt of the audit report in instance of noncompliance with Federal laws and regulations;

(4) Consider whether subgrantee audits necessitate adjustment of the grantee's own records; and

(5) Require each subgrantee to permit independent auditors to have access to the records and financial statements,

(c) **Auditor selection.** In arranging for audit services, § 18.36 shall be followed.

CHANGES, PROPERTY, AND SUBAWARDS

§ 18.30 Changes.

(a) **General.** Grantees and subgrantees are permitted to rebudget within the approved direct cost budget to meet unanticipated requirements and may make limited program changes to the approved project. However, unless waived by the awarding agency, certain types of post-award changes in budgets and projects shall require the prior written approval of the awarding agency.

(b) **Relation to cost principles.** The applicable cost principles (see § 18.22) contain requirements for prior approval of certain types of costs. Except where waived, those requirements apply to all grants and subgrants even if paragraphs (c) through (f) of this section do not.

(c) **Budget changes-01 Nonconstruction projects.** Except as stated in other regulations or an award document, grantees or subgrantees shall obtain the prior approval of the awarding agency whenever any of the following changes is anticipated under a non-construction award:

(i) Any revision which would result in the need for additional funding.

(ii) Unless waived by the awarding agency, cumulative transfers among direct cost categories, or, if applicable, among separately budgeted programs, projects, functions, or activities which exceed or are expected to exceed ten percent of the current total approved budget, whenever the awarding agency's share exceeds \$100,000.

(iii) Transfer of funds allotted for training allowances (i.e., from direct payments to trainees to other expense categories).

(2) **Construction projects.** Grantees and subgrantees shall obtain prior written approval for any budget revision which would result in the need for additional funds.

(3) **Combined construction and non-construction projects.** When a grant or subgrant provides funding for both construction and nonconstruction activities, the grantee or subgrantee must obtain prior written approval from the awarding agency before making any fund or budget transfer from non-construction to construction or vice versa.

(d) **programmatic changes.** Grantees or subgrantees must obtain the prior approval of the awarding agency whenever any of the following actions is anticipated:

(1) Any revision of the scope or objectives of the project (regardless of whether there is an associated budget revision requiring prior approval).

(2) Need to extend the period of availability Of funds.

(3) Changes in key persons in cases where specified in an application or a grant award. In research projects, a change in the project director or principal investigator shall always require approval unless waived by the awarding agency.

(4) Under nonconstruction projects. contracting out, subgranting (if authorized by law) or otherwise obtaining the services of a third party to perform activities which are central to the purposes of the award. This approval requirement is in addition to the approval requirements of § 18.36 but does not apply to the procurement of equipment, supplies, and general support services.

(e) **Additional prior approval requirements.** The awarding agency may not require Prior approval for any budget revision which is not described in paragraph (c) of this section.

(f) **Requesting prior approval.** (1) A request for prior approval of any budget revision will be in the same budget format the grantee used in its application and shall be accompanied by a narrative justification for the proposed revision.

(2) A request for a prior approval under the applicable Federal cost principles (see §18.22) may be made by letter.

(3) A request by a subgrantee for Prior approval will be addressed in writing to the grantee. The grantee Will Promptly review such request and

shall approve or disapprove the request in writing. A grantee will not approve any budget or project revision which is inconsistent with the purpose or terms and conditions of the Federal grant to the grantee. If the revision, requested by the subgrantee would result in a change to the grantee's approved project which requires Federal prior approval, the grantee will obtain the Federal agency's approval before approving the subgrantee's request.

§ 18.31 Real property.

(a) **Title.** Subject to the obligations and conditions set forth in this section, title to real property acquired under a grant or subgrant will vest upon acquisition in the grantee or subgrantee respectively.

(b) **Use.** Except as otherwise provided by Federal statutes, real property will be used for the originally authorized purposes as long as needed for that purposes, and the grantee or subgrantee shall not dispose of or encumber its title or other interests.

(c) **Disposition.** When real property is no longer needed for the originally authorized purpose, the grantee or subgrantee will request disposition instructions from the awarding agency. The instructions will provide for one of the following alternatives:

(1) **Retention of title.** Retain title after compensating the awarding agency. The amount paid to the awarding agency will be computed by applying the awarding agency's percentage of participation in the cost of the original purchase to the fair market value of the property. However, in those situations where a grantee or subgrantee is disposing of real property acquired with grant funds and acquiring replacement real property under the same program, the net proceeds from the disposition may be used as an offset to the cost of the replacement property.

(2) **Sale of property.** Sell the property and compensate the awarding agency. The amount due to the awarding agency will be calculated by applying the awarding agency's percentage of participation in the cost of the original purchase to the proceeds of the sale after deduction of any actual and reasonable selling and fixing-up expenses. If the grant is still active, the net pro-

ceeds from sale may be offset against the original cost of the property. When a grantee or subgrantee is directed to sell property, sales procedures shall be followed that provide for competition to the extent practicable and result in the highest possible return.

(3) **Transfer of title.** Transfer title to the awarding agency or to a third-party designated/approved by the awarding agency. The grantee or subgrantee shall be paid an amount calculated by applying the grantee or subgrantee's percentage of participation in the purchase of the real property to the current fair market value of the property.

(d) If the conditions in 23 U.S.C. 103(e) (5), (6), or (7), as appropriate, are met and approval is given by the Secretary, States shall not be required to repay the Highway Trust Fund for the cost of right-of-way and other items when certain segments of the Interstate System are withdrawn.

[53 FR 8086 and 8087, Mar. 11, 1988, as amended at 53 FR 8087, Mar. 11, 1988]

§ 18.32 Equipment.

(a) **Title.** Subject to the obligations and conditions set forth in this section, title to equipment acquired under a grant or subgrant will vest upon acquisition in the grantee or subgrantee respectively.

(b) **States.** A State will use, manage, and dispose of equipment acquired under a grant by the State in accordance with State laws and procedures. Other grantees and subgrantees will follow paragraphs (c) through (e) of this section.

(c) **Use.** (1) Equipment shall be used by the grantee or subgrantee in the program or project for which it was acquired as long as needed, whether or not the project or program continues to be supported by Federal funds. When no longer needed for the original program or project, the equipment may be used in other activities currently or previously supported by a Federal agency.

(2) The grantee or subgrantee shall also make equipment available for use on other projects or programs currently or previously supported by the Federal Government, providing such use will not interfere with the work on

the projects or program for which it was originally acquired. First preference for other use shall be given to other programs or projects supported by the awarding agency. User fees should be considered if appropriate.

(3) Notwithstanding the encouragement in § 18.25(a) to earn program income, the grantee or subgrantee must not use equipment acquired with grant funds to provide services for a fee to compete unfairly with private companies that provide equivalent services, unless specifically permitted or contemplated by Federal statute.

(4) When acquiring replacement equipment, the grantee or subgrantee may use the equipment to be replaced as a trade-in or sell the property and use the proceeds to offset the cost of the replacement property, subject to the approval of the awarding agency.

(d) **Management requirements.** Procedures for managing equipment (including replacement equipment), whether acquired in whole or in part with grant funds, until disposition takes place will, as a minimum, meet the following requirements:

(1) Property records must be maintained that include a description of the property, a serial number or other identification number, the source of property, who holds title, the acquisition date, and cost of the property, percentage of Federal participation in the cost of the property, the location, use and condition of the property, and any ultimate disposition data including the date of disposal and sale price of the property.

(2) A physical inventory of the property must be taken and the results reconciled with the property records at least once every two years.

(3) A control system must be developed to ensure adequate safeguards to prevent loss, damage, or theft of the property. Any loss, damage, or theft shall be investigated.

(4) Adequate maintenance procedures must be developed to keep the property in good condition.

(5) If the grantee or subgrantee is authorized or required to sell the property, proper sales procedures must be established to ensure the highest possible return.

(e) Disposition. When original or replacement equipment acquired under a grant or subgrant is no longer needed for the original project or program or for other activities currently or previously supported by a Federal agency, disposition of the equipment will be made as follows:

(1) Items of equipment with a current per-unit fair market value of less than \$5,000 may be retained, sold or otherwise disposed of with no further obligation to the awarding agency.

(2) Items of equipment with a current per unit fair market value in excess of \$5,000 may be retained or sold and the awarding agency shall have a right to an amount calculated by multiplying the current market value or proceeds from sale by the awarding agency's share of the equipment.

(3) In cases where a grantee or subgrantee fails to take appropriate disposition actions, the awarding agency may direct the grantee or subgrantee to take excess and disposition actions.

(f) Federal equipment. In the event a grantee or subgrantee is provided federally-owned equipment:

(1) Title will remain vested in the Federal Government.

(2) Grantees or subgrantees will manage the equipment in accordance with Federal agency rules and procedures, and submit an annual inventory listing.

(3) When the equipment is no longer needed, the grantee or subgrantee will request disposition instructions from the Federal agency.

(g) Right to transfer title. The Federal awarding agency may reserve the right to transfer title to the Federal Government or a third party named by the awarding agency when such a third party is otherwise eligible under existing Statutes. Such transfers shall be subject to the following standards:

(1) The Property shall be identified in the grant or otherwise made known to the grantee in writing.

(2) The Federal awarding agency shall issue disposition instruction within 120 calendar days after the end of the Federal support of the project for which it was acquired. If the Federal awarding agency fails to issue disposition instructions within the 120

calendar-day period the grantee shall follow §13.32(e).

(3) When title to equipment is transferred, the grantee shall be paid an amount calculated by applying the percentage of participation in the purchase to the current fair market value of the property.

§ 18.33 Supplies.

(a) **Title.** Title to supplies acquired under a grant or subgrant will vest, upon acquisition, in the grantee or subgrantee respectively.

(b) **Disposition.** If there is a residual inventory of unused supplies exceeding \$5,000 in total aggregate fair market value upon termination or completion of the award, and if the supplies are not needed for any other federally sponsored programs or projects, the grantee or subgrantee shall compensate the awarding agency for its share.

§ 18.34 Copyrights.

The Federal awarding agency reserves a royalty-free, nonexclusive, and irrevocable license to reproduce, publish or otherwise use, and to authorize others to use, for Federal Government purposes:

(a) The copyright in any work developed under a grant, subgrant, or contract under a grant or subgrant; and

(b) Any rights of copyright to which a grantee, subgrantee or a contractor purchases ownership with grant support.

§18.35 Subawards to debarred and suspended parties.

Grantees and subgrantees must not make any award or permit any award (subgrant or contract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs under Executive Order 12549. "Debarment and Suspension."

§ 18.36 Procurement.

(a) **States.** When procuring property and services under a grant, a State will follow the same policies and procedures it uses for procurements from its non-Federal funds. The State will ensure that every purchase order or other con-

tract includes any clauses required by Federal statutes and executive orders and their implementing regulations. Other grantees and subgrantees will follow paragraphs (b) through (i) in this section.

(b) **Procurement standards.** (1) Grantees and subgrantees will use their own procurement procedures which reflect applicable State and local laws and regulations, provided that the procurements conform to applicable Federal law and the standards identified in this section.

(2) Grantees and subgrantees will maintain a contract administration system which ensures that contractors perform in accordance with the terms, conditions, and specifications of their contracts or purchase orders.

(3) Grantees and subgrantees will maintain a written code of standards of conduct governing the performance of their employees engaged in the award and administration of contracts. No employee, officer or agent of the grantee or subgrantee shall participate in selection, or in the award or administration of a contract supported by Federal funds if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when:

- (i) The employee, officer or agent,
- (ii) Any member of his immediate family,
- (iii) His or her partner, or
- (iv) An organization which employs, or is about to employ, any of the above, has a financial or other interest in the firm selected for award. The grantee's or subgrantee's officers, employees or agents will neither solicit nor accept gratuities, favors or anything of monetary value from contractors, potential contractors, or parties to subagreements. Grantee and subgrantees may set minimum rules where the financial interest is not substantial or the gift is an unsolicited item of nominal intrinsic value. To the extent permitted by State or local law or regulations, such standards or conduct will provide for penalties, sanctions, or other disciplinary actions for violations of such standards by the grantee's and subgrantee's officers, employees, or agents, or by contractors or their agents. The awarding agency may in regulation provide additional prohi-

bitions relative to real, apparent, or potential conflicts of interest.

(4) Grantee and subgrantee procedures will provide for a review of proposed procurements to avoid purchase of unnecessary or duplicative items. Consideration should be given to consolidating or breaking out procurements to obtain a more economical purchase. Where appropriate, an analysis will be made of lease versus purchase alternatives, and any other appropriate analysis to determine the most economical approach.

(5) To foster greater economy and efficiency, grantees and subgrantees are encouraged to enter into State and local intergovernmental agreements for procurement or use of common goods and services.

(6) Grantees and subgrantees are encouraged to use Federal excess and surplus property in lieu of purchasing new equipment and property whenever such use is feasible and reduces project costs.

(7) Grantees and subgrantees are encouraged to use value engineering clauses in contracts for construction projects of sufficient size to offer reasonable opportunities for cost reductions. Value engineering is a systematic and creative analysis of each contract item or task to ensure that its essential function is provided at the overall lower cost.

(8) Grantees and subgrantees will make awards only to responsible contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration will be given to such matters as contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

(9) Grantees and subgrantees will maintain records sufficient to detail the significant history of a procurement. These records will include, but are not necessarily limited to the following: rationale for the method of procurement, selection of contract type, contractor selection or rejection, and the basis for the contract price.

(10) Grantees and subgrantees will use time and material type contracts only—

(i) After a determination that no other contract is suitable, and

(ii) If the contract includes a ceiling price that the contractor exceeds at its own risk.

(11) Grantees and subgrantees alone will be responsible, in accordance with good administrative practice and sound business judgment, for the settlement of all contractual and administrative issues arising out of procurements. These issues include, but are not limited to source evaluation, protests, disputes, and claims. These standards do not relieve the grantee or subgrantee of any contractual responsibilities under its contracts. Federal agencies will not substitute their judgment for that of the grantee or subgrantee unless the matter is primarily a Federal concern. Violations of law will be referred to the local, State, or Federal authority having proper jurisdiction.

(12) Grantees and subgrantees will have protest procedures to handle and resolve disputes relating to their procurements and shall in all instances disclose information regarding the protest to the awarding agency. A protestor must exhaust all administrative remedies with the grantee and subgrantee before pursuing a protest with the Federal agency. Reviews of protests by the Federal agency will be limited to:

(i) Violations of Federal law or regulations and the standards of this section (violations of State or local law will be under the jurisdiction of State or local authorities) and

(ii) Violations of the grantee's or subgrantee's protest procedures for failure to review a complaint or protest. Protests received by the Federal agency other than those specified above will be referred to the grantee or subgrantee.

(c) Competition. (1) All procurement transactions will be conducted in a manner providing full and open competition consistent with the standards of 518.36. Some of the situations considered to be restrictive of competition include but are not limited to:

(i) Placing unreasonable requirements on firms in order for them to qualify to do business,

(ii) Requiring unnecessary experience and excessive bonding,

(iii) Noncompetitive pricing practices between firms or between affiliated companies,

(iv) Noncompetitive awards to consultants that are on retainer contracts,

(v) Organizational conflicts of interest,

(vi) Specifying only a "brand name" product instead of allowing "an equal" product to be offered and describing the performance of other relevant requirements of the procurement, and

(vii) Any arbitrary action in the procurement process.

(2) Grantees and subgrantees will conduct procurements in a manner that prohibits the use of statutorily or administratively imposed in-State or local geographical preferences in the evaluation of bids or proposals, except in those cases where applicable Federal statutes expressly mandate or encourage geographic preference. Nothing in this section preempts State licensing laws. When contracting for architectural and engineering (A/E) services, geographic location may be a selection criteria provided its application leaves an appropriate number of qualified firms, given the nature and size of the project, to compete for the contract.

(3) Grantees will have written selection procedures for procurement transactions. These procedures will ensure that all solicitations:

(i) Incorporate a clear and accurate description of the technical requirements for the material, product, or service to be procured. Such description shall not, in competitive procurements, contain features which unduly restrict competition. The description may include a statement of the qualitative nature of the material, product or service to be procured, and when necessary, shall set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use. Detailed product specifications should be avoided if at all possible. When it is impractical or uneconomical to make a clear and accurate description of the technical requirements, a "brand name or equal" description may be used as a means to define the performance or other salient requirements of a procurement. The specific features of the

named brand which must be met by offerors shall be clearly stated; and

(ii) Identify all requirements which the offerors must fulfill and all other factors to be used in evaluating bids or proposals.

(4) Grantees and subgrantees will ensure that all prequalified lists of persons, firms, or products which are used in acquiring goods and services are current and include enough qualified sources to ensure maximum open and free competition. Also, grantees and subgrantees will not preclude potential bidders from qualifying during the solicitation period.

(d) **Methods of procurement to be followed for Procurement by small purchase procedures.** *Small purchase procedures* are those relatively simple and informal procurement methods for securing services, supplies, or other property that do not cost more than the simplified acquisition threshold fixed at 41 U.S.C. 403(11) (currently set at \$100,000). If small purchase procedures are used, price or rate quotations shall be obtained from an adequate number of qualified sources.

(2) Procurement by **sealed bids** (formal advertising). Bids are publicly solicited and a firm-fixed-price contract (lump sum or unit price) is awarded to the responsible bidder whose bid, conforming with all the material terms and conditions of the invitation for bids, is the lowest in price. The sealed bid method is the preferred method for procuring construction, if the conditions in § 18.36(d)(2)(i) apply.

(i) In order for sealed bidding to be feasible, the following conditions should be present:

(A) A complete, adequate, and realistic specification or purchase description is available;

(B) Two or more responsible bidders are willing and able to compete effectively and for the business; and

(C) The procurement lends itself to a firm fixed price contract and the selection of the successful bidder can be made principally on the basis of price.

(ii) If sealed bids are used, the following requirements apply:

(A) The invitation for bids will be publicly advertised and bids shall be solicited from an adequate number of known suppliers, providing them suffi-

cient time prior to the date set for opening the bids:

(B) The invitation for bids, which will include any specifications and pertinent attachments, shall define the items or services in order for the bidder to properly respond;

(C) All bids will be publicly opened at the time and place prescribed in the invitation for bids;

(D) A firm fixed-price contract award will be made in writing to the lowest responsive and responsible bidder. Where specified in bidding documents, factors such as discounts, transportation cost, and life cycle costs shall be considered in determining which bid is lowest. Payment discounts will only be used to determine the low bid when prior experience indicates that such discounts are usually taken advantage of; and

(E) Any or all bids may be rejected if there is a sound documented reason.

(3) Procurement by *competitive proposals*. The technique of competitive proposals is normally conducted with more than one source submitting an offer, and either a fixed-price or cost-reimbursement type contract is awarded. It is generally used when conditions are not appropriate for the use of sealed bids. If this method is used, the following requirements apply:

(i) Bequests for proposals will be publicized and identify all evaluation factors and their relative importance. Any response to publicized requests for proposals shall be honored to the maximum extent practical;

(ii) Proposals will be solicited from an adequate number of qualified sources;

(iii) Grantees and subgrantees will have a method for conducting technical evaluations of the proposals received and for selecting awardees;

(iv) Awards will be made to the responsible firm whose proposal is most advantageous to the program, with price and other factors considered; and

(v) Grantees and subgrantees may use competitive proposal procedures for qualifications-based procurement of architectural/engineering (A/E) professional services whereby competitors' qualifications are evaluated and the most qualified competitor is selected, subject to negotiation of fair and rea-

sonable compensation. The method, where price is not used as a selection factor, can only be used in procurement of A/E professional services. It cannot be used to purchase other types of services though A/E firms are a potential source to perform the proposed effort.

(4) Procurement by **noncompetitive** proposals is procurement through solicitation of a proposal from only one source, or after solicitation of a number of sources, competition is determined inadequate.

(i) Procurement by noncompetitive proposals may be used only when the award of a contract is infeasible under small purchase procedures, sealed bids or competitive proposals and one of the following circumstances applies:

(A) The item is available only from a single source;

(B) The public exigency or emergency for the requirement will not permit a delay resulting from competitive solicitation;

(C) The awarding agency authorizes noncompetitive proposals; or

(D) After solicitation of a number of sources, competition is determined inadequate.

(ii) Cost analysis, i.e., verifying the proposed cost data, the projections of the data, and the evaluation of the specific elements of costs and profits, is required.

(iii) Grantees and subgrantees may be required to submit the proposed procurement to the awarding agency for pre-award review in accordance with paragraph (g) of this section.

(e) Contracting with small and minority firms, women's business enterprise and labor surplus area firms. (1) The grantee and subgrantee will take all necessary affirmative steps to assure that minority firms, women's business enterprises, and labor surplus area firms are used when possible.

(2) Affirmative steps shall include:

(i) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(ii) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

(iii) Dividing total requirements, when economically feasible, into small-

er tasks or quantities to permit maximum participation by small and minority business, and women's business enterprises;

(iv) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority business, and women's business enterprises;

(v) Using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce; and

(vi) Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in paragraphs (e)(2) (i) through (v) of this section.

(f) Contract cost and price. (1) Grantees and subgrantees must perform a cost or price analysis in connection with every procurement action including contract modifications. The method and degree of analysis is dependent on the facts surrounding the particular procurement situation, but as a starting point, grantees must make independent estimates before receiving bids or proposals. A cost analysis must be performed when the offeror is required to submit the elements of his estimated cost, e.g., under professional, consulting, and architectural engineering services contracts. A cost analysis will be necessary when adequate price competition is lacking, and for sole source procurements, including contract modifications or change orders, unless price reasonableness can be established on the basis of a catalog or market price of a commercial product sold in substantial quantities to the general public or based on prices set by law or regulation. A price analysis will be used in all other instances to determine the reasonableness of the proposed contract price.

(2) Grantees and subgrantees will negotiate profit as a separate element of the price for each contract in which there is no price competition and in all cases where cost analysis is performed. To establish a fair and reasonable profit, consideration will be given to the complexity of the work to be performed, the risk borne by the contractor, the contractor's investment, the amount of subcontracting, the quality

of its record of past performance, and industry profit rates in the surrounding geographical area for similar work.

(3) Costs or prices based on estimated costs for contracts under grants will be allowable only to the extent that costs incurred or cost estimates included in negotiated prices are consistent with Federal cost principles (see §18.22). Grantees may reference their own cost principles that comply with the applicable Federal cost principles.

(4) The cost plus a percentage of cost and percentage of construction cost methods of contracting shall not be used.

(g) Awarding agency review. (1) Grantees and subgrantees must make available, upon request of the awarding agency, technical specifications on proposed procurements where the awarding agency believes such review is needed to ensure that the item and/or service specified is the one being proposed for purchase. This review generally will take place prior to the time the specification is incorporated into a solicitation document. However, if the grantee or subgrantee desires to have the review accomplished after a solicitation has been developed, the awarding agency may still review the specifications, with such review usually limited to the technical aspects of the proposed purchase.

(2) Grantees and subgrantees must on request make available for awarding agency pre-award review procurement documents, such as requests for proposals or invitations for bids, independent cost estimates, etc. when:

(i) A grantee's or subgrantee's procurement procedures or operation fails to comply with the procurement standards in this section; or

(ii) The procurement is expected to exceed the simplified acquisition threshold and is to be awarded without competition or only one bid or offer is received in response to a solicitation; or

(iii) The procurement, which is expected to exceed the simplified acquisition threshold, specifies a "brand name" product; or

(iv) The proposed award is more than the simplified acquisition threshold and is to be awarded to other than the

apparent low bidder under a sealed bid procurement: or

(v) A proposed contract modification changes the scope of a contract or increases the contract amount by more than the simplified acquisition threshold.

(3) A grantee or subgrantee will be exempt from the pre-award review in paragraph (g)(2) of this section if the awarding agency determines that its procurement systems comply with the standards of this section.

(i) A grantee or subgrantee may request that its procurement system be reviewed by the awarding agency to determine whether its system meets these standards in order for its system to be certified. Generally, these reviews shall occur where there is a continuous high-dollar funding, and third-party contracts are awarded on a regular basis.

(ii) A grantee or subgrantee may self-certify its procurement system. Such self-certification shall not limit the awarding agency's right to survey the system. Under a self-certification procedure, awarding agencies may wish to rely on written assurances from the grantee or subgrantee that it is complying with these standards. A grantee or subgrantee will cite specific procedures, regulations, standards, etc., as being in compliance with these requirements and have its system available for review.

(h) **Bonding requirements.** For construction or facility improvement contracts or subcontracts exceeding the simplified acquisition threshold, the awarding agency may accept the bonding policy and requirements of the grantee or subgrantee provided the awarding agency has made a determination that the awarding agency's interest is adequately protected. If such a determination has not been made, the minimum requirements shall be as follows:

(1) **A bid guarantee from each bidder equivalent to five percent of the bid price.** The "bid guarantee" shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his bid, execute such contrac-

tual documents as may be required within the time specified.

(2) **A performance bond on the part of the contractor for 100 percent of the contract price.** A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligation under such contract.

(3) **A payment bond on the part of the contractor for 100 percent of the contract price.** A "payment bond" is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.

(i) **Contract provisions.** A grantee's and subgrantee's contracts must contain provisions in paragraph (i) of this section. Federal agencies are permitted to require changes, remedies, changed conditions, access and records retention, suspension of work, and other clauses approved by the Office of Federal Procurement Policy.

(1) Administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as may be appropriate. (Contracts more than the simplified acquisition threshold)

(2) Termination for cause and for convenience by the grantee or subgrantee including the manner by which it will be effected and the basis for settlement. (All contracts in excess of \$10,000)

(3) Compliance with Executive Order 11246 Of September 24, 1965, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR chapter 60). (All construction contracts awarded in excess of \$10,000 by grantees and their contractors or subgrantees)

(4) Compliance with the Copeland "Anti-Kickback" Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR part 3). (All contracts and subgrants for construction or repair)

(5) Compliance with the Davis-Bacon Act (40 U.S.C. 276a to 276a-7) as supplemented by Department of Labor regulations (29 CFR part 5). (Construction

contracts in excess of \$2000 awarded by grantees and subgrantees when required by Federal grant program legislation)

(6) Compliance with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330) supplemented by Department of Labor regulations (29 CFR part 5). (Construction contracts awarded by grantees and subgrantees in excess of \$2000, and in excess of \$2500 for other contracts which involve the employment of mechanics or laborers)

(7) Notice of awarding agency requirements and regulations pertaining to reporting.

(8) Notice of awarding agency requirements and regulations pertaining to patent rights with respect to any discovery or invention which arises or is developed in the course of or under such contract.

(9) Awarding agency requirements and regulations pertaining to copyrights and rights in data.

(10) Access by the grantee, the subgrantee, the Federal grantor agency, the Comptroller General of the United States, or any of their duly authorized representatives to any books, documents, papers, and records of the contractor which are directly pertinent to that specific contract for the purpose of making audit, examination, excerpts, and transcriptions.

(11) Retention of all required records for three years after grantees or subgrantees make final payments and all other pending matters are closed.

(12) Compliance with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h)), section 508 of the Clean Water Act (33 U.S.C. 1368). Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15). (Contracts, subcontracts, and subgrants of amounts in excess of \$100,000)

(13) Mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L. 94-163, 89 Stat. 871).

(j) 23 U.S.C. 112(a) directs the Secretary to require recipients of highway construction grants to use bidding

methods that are “effective in securing competition.” Detailed construction contracting procedures are contained in 23 CFR part 635, subpart A.

(k) Section 3(a)(2)(C) of the UMT Act of 1964, as amended, prohibits the use of grant or loan funds to support procurements utilizing exclusionary or discriminatory specifications.

(l) 46 U.S.C. 1241(b)(l) and 46 CFR part 381 impose cargo preference requirements on the shipment of foreign made goods.

(m) Section 165 of the Surface Transportation Assistance Act of 1982, 49 U.S.C. 1601, section 337 of the Surface Transportation and Uniform Relocation Assistance Act of 1987, and 49 CFR parts 660 and 661 impose Buy America provisions on the procurement of foreign products and materials.

(n) Section 105(f) of the Surface Transportation Assistance Act of 1982, section 106(c) of the Surface Transportation and Uniform Relocation Assistance Act of 1987, and 49 CFR part 23 impose requirements for the participation of disadvantaged business enterprises.

(o) Section 308 of the Surface Transportation Assistance Act of 1982, 49 U.S.C. 1968(b)(2), authorizes the use of competitive negotiation for the purchase of rolling stock as appropriate.

(p) 23 U.S.C. 112(b) provides for an exemption to competitive bidding requirements for highway construction contracts in emergency situations.

(q) 23 U.S.C. 112 requires concurrence by the Secretary before highway construction contracts can be awarded, except for projects authorized under the provisions of 23 U.S.C. 171.

(r) 23 U.S.C. 112(e) requires standardized contract clauses concerning site conditions, suspension or work, and material changes in the scope of the work for highway construction contracts.

(s) 23 U.S.C. 140(b) authorizes the preferential employment of Indians on Indian Reservation road projects and contracts.

(t) FHWA, UMTA, and Federal Aviation Administration (FAA) grantees and subgrantees shall extend the use of qualifications-based (e.g., architectural and engineering services) contract selection procedures to certain other related areas and shall award such con-

tracts in the same manner as Federal contracts for architectural and engineering services are negotiated under Title IX of the Federal Property and Administrative Services Act of 1949, or equivalent State (or airport sponsor for FAA) qualifications-based requirements. For FHWA and UMTA programs, this provision applies except to the extent that a State adopts or has adopted by statute a formal procedure for the procurement of such services.

[53 FR 8086 and 8087, Mar. 11, 1988, as amended at 53 FR 8087, Mar. 11, 1988; 60 FR 19639, 19647, Apr. 19, 1995]

§ 18.37 Subgrants.

(a) **States.** States shall follow state law and procedures when awarding and administering subgrants (whether on a cost reimbursement or fixed amount basis) of financial assistance to local and Indian tribal governments. States shall:

(1) Ensure that every subgrant includes any clauses required by Federal statute and executive orders and their implementing regulations;

(2) Ensure that subgrantees are aware of requirements imposed upon them by Federal statute and regulation;

(3) Ensure that a provision for compliance with § 18.42 is placed in every cost reimbursement subgrant; and

(4) Conform any advances of grant funds to subgrantees substantially to the same standards of timing and amount that apply to cash advances by Federal agencies.

(b) **All other grantees.** All other grantees shall follow the provisions of this part which are applicable to awarding agencies when awarding and administering subgrants (whether on a cost reimbursement or fixed amount basis) of financial assistance to local and Indian tribal governments. Grantees shall:

(1) Ensure that every subgrant includes a provision for compliance with this part;

(2) Ensure that every subgrant includes any clauses required by Federal statute and executive orders and their implementing regulations; and

(3) Ensure that subgrantees are aware of requirements imposed upon

them by Federal statutes and regulations.

(c) **Exceptions.** By their own terms, certain provisions of this part do not apply to the award and administration of subgrants:

- (1) Section 18.10;
- (2) Section 18.11;
- (3) The letter-of-credit procedures specified in Treasury Regulations at 31 CFR part 205, cited in §18.21; and
- (4) Section 18.50.

REPORTS, RECORDS, RETENTION, AND ENFORCEMENT

§ 18.40 Monitoring and reporting program performance.

(a) **Monitoring by grantees.** Grantees are responsible for managing the day-to-day operations of grant and subgrant supported activities. Grantees must monitor grant and subgrant supported activities to assure compliance with applicable Federal requirements and that performance goals are being achieved. Grantee monitoring must cover each program, function or activity.

(b) **Nonconstruction performance reports.** The Federal agency may, if it decides that performance information available from subsequent applications contains sufficient information to meet its programmatic needs, require the grantee to submit a performance report only upon expiration or termination of grant support. Unless waived by the Federal agency this report will be due on the same date as the final Financial Status Report.

(1) Grantees shall submit annual performance reports unless the awarding agency requires quarterly or semi-annual reports. However, performance reports will not be required more frequently than quarterly. Annual reports shall be due 90 days after the grant year, quarterly or semi-annual reports shall be due 30 days after the reporting period. The final performance report will be due 90 days after the expiration or termination of grant support. If a justified request is submitted by a grantee, the Federal agency may extend the due date for any performance report. Additionally, requirements for unnecessary performance reports may be waived by the Federal agency.

(2) Performance reports will contain, for each grant, brief information on the following:

(i) A comparison of actual accomplishments to the objectives established for the period. Where the output of the project can be quantified, a computation of the cost per unit of output may be required if that information will be useful.

(ii) The reasons for slippage if established objectives were not met.

(iii) Additional pertinent information including, when appropriate, analysis and explanation of cost overruns or high unit costs.

(3) Grantees will not be required to submit more than the original and two copies of performance reports.

(4) Grantees will adhere to the standards in this section in prescribing performance reporting requirements for subgrantees.

(c) **Construction performance reports.** For the most part, on-site technical inspections and certified percentage-of-completion data are relied on heavily by Federal agencies to monitor progress under construction grants and subgrants. The Federal agency will require additional formal performance reports only when considered necessary, and never more frequently than quarterly.

(1) Section 12(h) of the UMT Act of 1984, as amended, requires pre-award testing of new buses models.

(d) **Significant developments.** Events may occur between the scheduled performance reporting dates which have significant impact upon the grant or subgrant supported activity. In such cases, the grantee must inform the Federal agency as soon as the following types of conditions become known:

(1) Problems, delays, or adverse conditions which will materially impair the ability to meet the objective of the award. This disclosure must include a statement of the action taken, or contemplated, and any assistance needed to resolve the situation.

(2) Favorable developments which enable meeting time schedules and objectives sooner or at less cost than anticipated or producing more beneficial results than originally planned.

(e) Federal agencies may make site visits as warranted by program needs.

(f) Waivers, extensions. (1) Federal agencies may waive any performance report required by this part if not needed.

(2) The grantee may waive any performance report from a subgrantee when not needed. The grantee may extend the due date for any Performance report from a subgrantee if the grantee will still be able to meet its performance reporting obligations to the Federal agency.

[53 FR 8086 and 8087, Mar. 11, 1988, as amended at 53 FR 8087, Mar. 11, 1988]

§ 18.41 Financial Reporting.

(a) **General.** (1) Except as provided in paragraphs (a) (2) and (5) of this section, grantees will use only the forms specified in paragraphs (a) through (e) of this section, and such supplementary or other forms as may from time to time be authorized by OMB, for:

(i) Submitting financial reports to Federal agencies, or

(ii) Requesting advances or reimbursements when letters of credit are not used.

(2) Grantees need not apply the forms prescribed in this section in dealing with their subgrantees. However, grantees shall not impose more burdensome requirements on subgrantees.

(3) Grantees shall follow all applicable standard and supplemental Federal agency instructions approved by OMB to the extent required under the Paperwork Reduction Act of 1980 for use in connection with forms specified in paragraphs (b) through (e) of this section. Federal agencies may issue substantive supplementary instructions only with the approval of OMB. Federal agencies may shade out or instruct the grantee to disregard any line item that the Federal agency finds unnecessary for its decisionmaking purposes.

(4) Grantees will not be required to submit more than the original and two copies of forms required under this part.

(5) Federal agencies may provide computer outputs to grantees to expedite or contribute to the accuracy of reporting. Federal agencies may accept the required information from grantees in machine usable format or computer printouts instead of prescribed forms.

(6) Federal agencies may waive any report required by this section if not needed.

(7) Federal agencies may extend the due date of any financial report upon receiving a justified request from a grantee.

(b) **Financial Status Report--(1) Form.** Grantees will use Standard Form 269 or 269A, Financial Status Report, to report the status of funds for all non-construction grants and for construction grants when required in accordance with § 18.41(e)(2)(iii).

(2) Accounting basis Each grantee will report program outlays and program income on a cash or accrual basis as prescribed by the awarding agency. If the Federal agency requires accrual information and the grantee's accounting records are not normally kept on the accrual basis, the grantee shall not be required to convert its accounting system but shall develop such accrual information through and analysis of the documentation on hand.

(3) **Frequency.** The Federal agency may prescribe the frequency of the report for each project or program. However, the report will not be required more frequently than quarterly. If the Federal agency does not specify the frequency of the report, it will be submitted annually. A final report will be required upon expiration or termination of grant support.

(4) **Due date.** When reports are required on a quarterly or semiannual basis, they will be due 30 days after the reporting period. When required on an annual basis, they will be due 90 days after the grant year. Final reports will be due 90 days after the expiration or termination of grant support.

(c) **Federal Cash Transactions Report--**

(1) Form. (i) For grants paid by letter or credit, Treasury check advances or electronic transfer of funds, the grantee will submit the Standard Form 272, Federal Cash Transactions Report, and when necessary, its continuation sheet, Standard Form 272a, unless the terms of the award exempt the grantee from this requirement.

(ii) These reports will be used by the Federal agency to monitor cash advanced to grantees and to obtain disbursement or outlay information for each grant from grantees. The format

of the report may be adapted as appropriate when reporting is to be accomplished with the assistance of automatic data processing equipment provided that the information to be submitted is not changed in substance.

(2) Forecasts of Federal cash requirements. Forecasts of Federal cash requirements may be required in the "Remarks" section of the report.

(3) Cash in hands of subgrantees. When considered necessary and feasible by the Federal agency, grantees may be required to report the amount of cash advances in excess of three days needs in the hands of their subgrantees or contractors and to provide short narrative explanations of actions taken by the grantee to reduce the excess balances.

(4) Frequency and due date. Grantees must submit the report no later than 15 working days following the end of each quarter. However, where an advance either by letter of credit or electronic transfer of funds is authorized at an annualized rate of one million dollars or more, the Federal agency may require the report to be submitted within 15 working days following the end of each month.

(d) Request for advance or reimbursement-(1) Advance payments. Requests for Treasury check advance payments will be submitted on Standard Form 270, Request for Advance or Reimbursement. (This form will not be used for drawdowns under a letter of credit, electronic funds transfer or when Treasury check advance payments are made to the grantee automatically on a predetermined basis.)

(2) Reimbursements. Requests for reimbursement under nonconstruction grants will also be submitted on Standard Form 270. (For reimbursement requests under construction grants, see paragraph (e)(1) of this section.)

(3) The frequency for submitting payment requests is treated in § 18.41(b)(3).

(e) Outlay report and request for reimbursement for construction programs. (1) Grants that support construction activities paid by reimbursement method. (i) Requests for reimbursement under construction grants will be submitted on Standard Form 271. Outlay Report and Request for Reimbursement for Construction Programs. Federal agencies

may, however, prescribe the Request for Advance or Reimbursement form, specified in § 18.41(d), instead of this form.

(ii) The frequency for submitting reimbursement requests is treated in § 18.41(b)(3).

(2) Grants that support construction activities paid by letter of credit, electronic funds transfer or Treasury check advance. (i) When a construction grant is paid by letter of credit, electronic funds transfer or Treasury check advances, the grantee will report its outlays to the Federal agency using Standard Form 271. Outlay Report and Request for Reimbursement for Construction Programs. The Federal agency will provide any necessary special instruction. However, frequency and due date shall be governed by § 18.41(b)(3) and (4).

(ii) When a construction grant is paid by Treasury check advances based on periodic requests from the grantee, the advances will be requested on the form specified in § 18.41(d).

(iii) The Federal agency may substitute the Financial Status Report specified in § 18.41(b) for the Outlay Report and Request for Reimbursement for Construction Programs.

(3) Accounting basis. The accounting basis for the Outlay Report and Request for Reimbursement for Construction Programs shall be governed by § 18.41(b)(2).

(f) Notwithstanding the provisions of paragraphs (a)(1) of this section, recipients of FHWA and National Highway Traffic Safety Administration (NHTSA) grants shall use FHWA, NHTSA or State financial reports.

[53 FR 8086 and 8087, Mar. 11, 1988, as amended at 53 FR 8087, Mar. 11, 1988]

§ 18.42 Retention and access requirements for records.

(a) Applicability. (1) This section applies to all financial and programmatic records, supporting documents, statistical records, and other records of grantees or subgrantees which are:

(i) Required to be maintained by the terms of this part, program regulations or the grant agreement, or

(ii) Otherwise reasonably considered as pertinent to program regulations or the grant agreement.

(2) This section does not apply to records maintained by contractors or subcontractors. For a requirement to place a provision concerning records in certain kinds of contracts, see § 18.36(i)(10).

(b) **Length of retention period.** (1) Except as otherwise provided, records must be retained for three years from the starting date specified in paragraph (c) of this section.

(2) If any litigation, claim, negotiation, audit or other action involving the records has been started before the expiration of the 3-year period, the records must be retained until completion of the action and resolution of all issues which arise from it, or until the end of the regular 3-year period, whichever is later.

(3) To avoid duplicate recordkeeping, awarding agencies may make special arrangements with grantees and subgrantees to retain any records which are continuously needed for joint use. The awarding agency will request transfer of records to its custody when it determines that the records possess long-term retention value. When the records are transferred to or maintained by the Federal agency, the 3-year retention requirement is not applicable to the grantee or subgrantee.

(c) **Starting date of retention period—(1) General.** When grant support is continued or renewed at annual or other intervals, the retention period for the records of each funding period starts on the day the grantee or subgrantee submits to the awarding agency its single or last expenditure report for that period. However, if grant support is continued or renewed quarterly, the retention period for each year's records starts on the day the grantee submits its expenditure report for the last quarter of the Federal fiscal year. In all other cases, the retention period starts on the day the grantee submits its final expenditure report. If an expenditure report has been waived, the retention period starts on the day the report would have been due.

(2) **Real property and equipment records.** The retention period for real Property and equipment records starts from the date of the disposition or re-Placement or transfer at the direction of the awarding agency.

(3) **Records for income transactions after grant or subgrant support.** In some cases grantees must report income after the period of grant support. Where there is such a requirement, the retention period for the records pertaining to the earning of the income starts from the end of the grantee's fiscal year in which the income is earned.

(4) **Indirect cost rate proposals cost allocations plans, etc.** This paragraph applies to the following types of documents, and their supporting records: indirect cost rate computations or proposals, cost allocation plans, and any similar accounting computations of the rate at which a particular group of costs is chargeable (such as computer usage chargeback rates or composite fringe benefit rates).

(i) **If submitted for negotiation.** If the proposal, plan, or other computation is required to be submitted to the Federal Government (or to the grantee) to form the basis for negotiation of the rate, then the 3-year retention period for its supporting records starts from the date of such submission.

(ii) **If not submitted for negotiation.** If the proposal, plan, or other computation is not required to be submitted to the Federal Government (or to the grantee) for negotiation purposes, then the 3-year retention period for the proposal plan, or computation and its supporting records starts from the end of the fiscal year (or other accounting period) covered by the proposal, plan, or other computation.

(d) **Substitution of microfilm.** Copies made by microfilming, photocopying, or similar methods may be substituted for the original records.

(e) **Access to records—(1) Records of grantees and subgrantees.** The awarding agency and the Comptroller General of the United States, or any of their authorized representatives, shall have the right of access to any pertinent books, documents, papers, or other records of grantees and subgrantees which are pertinent to the grant, in order to make audits, examinations, excerpts, and transcripts.

(2) **Expiration of right of access.** The right of access in this section must not be limited to the required retention period but shall last as long as the records are retained.

(f) Restrictions on public access. The Federal Freedom of Information Act (5 U.S.C. 552) does not apply to records unless required by Federal, State, or local law. grantees and subgrantees are not required to permit public access to their records.

§ 18.43 Enforcement.

(a) Remedies for noncompliance. If a grantee or subgrantee materially fails to comply with any term of an award, whether stated in a Federal statute or regulation, an assurance, in a State plan or application, a notice of award, or elsewhere, the awarding agency may take one or more of the following actions, as appropriate in the circumstances:

(1) Temporarily withhold cash payments pending correction of the deficiency by the grantee or subgrantee or more severe enforcement action by the awarding agency,

(2) Disallow (that is, deny both use of funds and matching credit for) all or part of the cost of the activity or action not in compliance,

(3) Wholly or partly suspend or terminate the current award for the grantee's or subgrantee's program,

(4) Withhold further awards for the program, or

(5) Take other remedies that may be legally available.

(b) Hearings, appeals. In taking an enforcement action, the awarding agency will provide the grantee or subgrantee an opportunity for such hearing, appeal, or other administrative proceeding to which the grantee or subgrantee is entitled under any statute or regulation applicable to the action involved.

(c) Effects of suspension and termination. Costs of grantee or subgrantee resulting from obligations incurred by the grantee or subgrantee during a suspension or after termination of an award are not allowable unless the awarding agency expressly authorizes them in the notice of suspension or termination or subsequently. Other grantee or subgrantee costs during suspension or after termination which are necessary and not reasonably avoidable are allowable if:

(1) The costs result from obligations which were properly incurred by the grantee or subgrantee before the effective

date of suspension or termination, are not in anticipation of it, and, in the case of a termination, are noncancellable, and,

(2) The costs would be allowable if the award were not suspended or expired normally at the end of the funding period in which the termination takes effect.

(d) Relationship to debarment and suspension. The enforcement remedies identified in this section, including suspension and termination, do not preclude grantee or subgrantee from being subject to "Debarment and Suspension" under E.O. 12549 (see §18.35).

§ 18.44 Termination for convenience.

Except as provided in § 18.43 awards may be terminated in whole or in part only as follows:

(a) By the awarding agency with the consent of the grantee or subgrantee in which case the two parties shall agree upon the termination conditions, including the effective date and in the case of partial termination, the portion to be terminated, or

(b) By the grantee or subgrantee upon written notification to the awarding agency, setting forth the reasons for such termination, the effective date, and in the case of partial termination, the portion to be terminated. However, if, in the case of a partial termination, the awarding agency determines that the remaining portion of the award will not accomplish the purposes for which the award was made, the awarding agency may terminate the award in its entirety under either § 18.43 or paragraph (a) of this section.

Subpart D-After-The-Grant Requirements

§ 18.50 Closeout.

(a) General. The Federal agency will close out the award when it determines that all applicable administrative actions and all required work of the grant has been completed.

(b) Reports. Within 90 days after the expiration or termination of the grant, the grantee must submit all financial, performance, and other reports required as a condition of the grant. Upon request by the grantee, Federal agencies may extend this timeframe.

These may include but are not limited to:

- (1) *Final performance or progress report.*
- (2) *Financial Status Report (SF 269) or Outlay Report and Request for Reimbursement for Construction Programs (SF-271) (as applicable).*
- (3) *Final request for payment (SF-270) (if applicable).*
- (4) *Invention disclosure (if applicable).*
- (5) *Federally-owned property report:*

In accordance with § 18.32(f), a grantee must submit an inventory of all federally owned property (as distinct from property acquired with grant funds) for which it is accountable and request disposition instructions from the Federal agency of property no longer needed.

(c) *Cost adjustment.* The Federal agency will, within 90 days after receipt of reports in paragraph (b) of this section, make upward or downward adjustments to the allowable costs.

(d) *Cash adjustments.* (1) The Federal agency will make prompt payment to the grantee for allowable reimbursable costs.

(2) The grantee must immediately refund to the Federal agency any balance of unobligated (unencumbered) cash advanced that is not authorized to be retained for use on other grants.

§ 18.51 Later disallowances and adjustments.

The closeout of a grant does not affect:

- (a) The Federal agency's right to disallow costs and recover funds on the basis of a later audit or other review;
- (b) The grantee's obligation to return any funds due as a result of later refunds, corrections, or other transactions;
- (c) Records retention as required in § 18.42;
- (d) Property management requirements in §§18.31 and 18.32; and
- (e) Audit requirements in §18.26.

§ 18.52 Collection of amounts due.

(a) Any funds paid to a grantee in excess of the amount to which the grantee is finally determined to be entitled under the terms of the award constitute a debt to the Federal Government. If not paid within a reasonable

period after demand, the Federal agency may reduce the debt by:

(1) Making an administrative offset against other requests for reimbursements.

(2) Withholding advance payments otherwise due to the grantee, or

(3) Other action permitted by law.

(b) Except where otherwise provided by statutes or regulations, the Federal agency will charge interest on an overdue debt in accordance with the Federal Claims Collection Standards (4 CFR Ch. II). The date from which interest is computed is not extended by litigation or the filing of any form of appeal.



U.S. Department of
Transportation

Office of the Secretary
of Transportation

ORDER

DOT 4600.17

9-5-95

Subject: GRANT MANAGEMENT REQUIREMENTS

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1. PURPOSE. This Order consolidates all previous DOT Orders pertaining to the administration of financial assistance programs and prescribes the procedures for implementing laws, regulations, Office of Management and Budget (OMB) Circulars and Executive Orders providing guidance for the administration of DOT financial assistance programs.

For purposes of this Order, "financial assistance" means the forms of assistance that provide funds to eligible recipients, e.g., grants and cooperative agreements. It does not include loans, loan guarantees, interest subsidies or insurance.

A grant or cooperative agreement is the transfer of money, property, services, or anything of value to an eligible recipient to accomplish a public purpose of support or stimulation authorized by Federal statute, rather than the acquisition, by purchase, lease or barter, of property or services for the direct benefit of the Federal Government. A cooperative agreement differs from a grant in that, in the case of the former, substantial involvement is anticipated between the Federal Government and the recipient.

2. CANCELLATION. The following DOT Orders are cancelled:
- DOT 1340.7B, DOT Grant Information System, dated 7-25-94;
 - DOT 4000.8A, Use of Contracts, Grants and Cooperative Agreements, dated 8-17-82;
 - DOT 4200.5C, Governmentwide Debarment, Suspension and Ineligibility, dated 5-9-89;
 - DOT 4600.9C, Grants and Cooperative Agreements with State and Local Governments, dated 7-14-88;
 - DOT 4600.10, Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Nonprofit Institutions, dated 1-19-77;
 - DOT 4600.11A, Principles for Determining Costs Applicable to Grants and Contracts with State and Local Governments, dated 9-9-82;

- g. DOT 4600.13, Intergovernmental Review of DOT Programs and Activities, dated 10-3-83;
 - h. EC? 4600.14, Principles for Determining Costs Applicable to Grants, Contracts and Other Agreements with Nonprofit Organizations, dated 9-18-84;
 - i. DOT 4600.15A, Audits of Federal Assistance Recipients, dated 2-22-93; and,
 - j. DOT 4600.16, DOT Grant Management Council, dated 2-21-92.
3. BACKGROUND. Executive Order 12861 of September 12, 1993, required that all executive branch departments and agencies eliminate at least 50 percent of their internal regulations by September 11, 1996. OMB defined internal regulations in an October 18, 1993, implementing memorandum as "any agency directive . . . that prescribes agency policies and procedures -- including internal agency acquisition regulations and grant management requirements --- that pertain to an agency's internal organization, management, or personnel". The Executive Order was one of several Federal initiatives designed to improve productivity, streamline operations, and improve service to the public.
- Several DOT Performance Review recommendations addressed the problem of a lack of centralized information for financial assistance program guidance. This consolidation of DOT program guidance addresses both requirements to centralize and reduce the amount of internal regulations. A summary of the disposition of former guidance is provided on page 4. A list of Appendices to this Order is provided on page 5.
4. POLICY. DOT policy is to comply with all instructions and standards as contained in Appendices A through H of this Order except where enabling legislation for a specific financial assistance program prescribes different policies or requirements, or where a specific exemption has been granted by OMB or the Assistant Secretary for Administration in accordance with paragraph 6 of this Order.
5. APPLICABILITY. The provisions of this Order and its Appendices apply to all operating administrations and secretarial offices that award Federal assistance, or provide policy guidance to departmental financial assistance managers.

6. RESPONSIBILITIES.

- a. The Assistant Secretary for Administration shall issue additional instructions as required for implementing the contents of this Order only in those instances where the prescribed requirements need further clarification and/or implementation.
- b. Operating administrations and applicable secretarial offices shall establish any necessary implementing procedures to comply with this Order.
- c. Operating administrations and applicable secretarial offices shall submit all new and/or revised procedures which are designed to implement the requirements of this Order, or the directives this Order implements, to the Assistant Secretary for Administration for clearance before the procedures are issued. Procedures will be reviewed to determine compliance with the appropriate guidance.
- d. When required, operating administrations and applicable secretarial offices shall request waivers to the requirements of this Order, or the directives this Order implements, from the Assistant Secretary for Administration. Waivers must be accompanied by sufficient information to justify an exemption.

7. IMPLEMENTATION. The policy and procedures contained in this Order and its Appendices are effective immediately. Implementing directives required by paragraph 6 shall be submitted within 90 days of the publication of this Order.

FOR THE SECRETARY OF TRANSPORTATION:



Melissa J. Spillenkothen
Assistant Secretary for
Administration

DISPOSITION OF CURRENT DOT GRANT ADMINISTRATION GUIDANCE

DOT ORDERS

<u>Order</u>	<u>Title</u>	<u>Coverage</u>
DOT 1340.7B	DOT Grant Information System	Appendix H
DOT 4000.8A	Use of Contracts, Grants and Cooperative Agreements	Appendix A.
DOT 4200.5C	Governmentwide Debarment, Suspension, & Ineligibility	Appendix E.
DOT 4600.9C	Grants and Cooperative Agreements with State and Local Governments	Appendix B.
DOT 4600. 10	Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Nonprofit Institutions	Appendix B.
DOT 4600.11 A	Principles for Determining Costs Applicable to Grants and Contracts with State and Local Governments	Appendix C.
DOT 4600.13	Intergovernmental Review of DOT Programs and Activities	Appendix F.
DOT 4600.14	Principles for Determining Costs Applicable to Grants, Contracts and Other Agreements with Nonprofit Organizations	Appendix C.
DOT 4600.15A	Audits of Federal Assistance Recipients	Appendix D.
DOT 4600.16	DOT Grant Management Council	Appendix G.

DOT POLICY MEMOS

<u>Memo</u>	<u>Title</u>	<u>Coverage</u>
M-60 Memo of 24 Nov. 1981	Travel Costs of Elected Officials	Appendix C
M-60 Memo of 31 Jan. 1986	Cognizant Agency Assignments for Audits of State and Local Governments	Appendix D.
M-60 Memo of 4 April 1990	Government-Wide Common Rule - New Restrictions on Lobbying	Appendix H.
M-60 Memo of 26 June 1990	Government-wide Guidance for New Restrictions on Lobbying	Appendix H.
M-60 Memo of 24 Aug 1992	Negotiation of State and Local Indirect Cost Rates	Appendix C.

ADDITIONAL REQUIREMENTS NOT CONTAINED IN CURRENT GUIDANCE

<u>Directive</u>	<u>Item</u>	<u>Coverage</u>
M-60 Memos	Updates to the Catalog of Federal Domestic Assistance	Appendix H.
M-60 Memos	Semi-annual Reports of Lobbying Activities	Appendix H.

APPENDICES

APPENDIX A: USE OF CONTRACTS, GRANTS AND COOPERATIVE AGREEMENTS

Implements Federal requirements on the use of grants, cooperative agreements and contracts, 31 U.S.C. §§ 6301 et seq; OMB Circular A-102, Revised; OMB Circular A-110, Revised.

APPENDIX B: ADMINISTRATIVE REQUIREMENTS FOR FINANCIAL ASSISTANCE PROGRAMS

Implements 49 CFR parts 18 and 19; OMB Circular A-102, Revised; OMB Circular A-110, Revised.

APPENDIX C: COST PRINCIPLES FOR FINANCIAL ASSISTANCE PROGRAMS

Implements 49 CFR parts 18 and 19; OMB Circular A-21, Revised; OMB Circular A-87, Revised; OMB Circular A-122, Revised.

APPENDIX D: AUDITS OF FEDERAL ASSISTANCE RECIPIENTS

Implements 49 CFR part 90; OMB Circulars A-128, A-133.

APPENDIX E: DEPARTMENT AND SUSPENSION

Implements 49 CFR part 29.

APPENDIX F: INTERGOVERNMENTAL REVIEW OF PROGRAMS AND ACTIVITIES

Implements.49 CFR part 17; Executive Order 12372.

APPENDIX G: DOT GRANT MANAGEMENT COUNCIL

APPENDIX H: ADDITIONAL REPORTING REQUIREMENTS

Implements 31 U.S.C. § 6102a - Grant Information System;
31 U.S.C § 6104 - Catalog of Federal Domestic Assistance;
49 CFR part 20 - Lobbying Reporting Requirements.

USE OF CONTRACTS, GRANTS AND COOPERATIVE AGREEMENTS

1. PURPOSE. This Appendix provides departmental guidance for implementing Federal statutes, codified at 31 U.S.C §§ 6301 et seq., establishing requirements on the use of grants, cooperative agreements and contracts.
2. BACKGROUND. Section 6301 of 31 U.S.C. provides standards that agencies are required to use in selecting among contracts, grants or cooperative agreements. The intent is to prescribe uniform criteria to assist agencies in distinguishing differences between the legal instruments based on the Federal purpose in the relationship. It does not convey new authority to make assistance awards independent of agency program legislation.

A contract is used when the principal purpose of a transaction is to acquire property and services for direct DOT use. A grant or a cooperative agreement is used when the principal purpose is to transfer funds or resources to assist recipients in acquiring property or services to carry out a public purpose of support or stimulation. Generally, grants are used where there is less specific Federal supervision and oversight of project activities. Cooperative agreements are used when there is substantial involvement by the granting agency in grant project activities.

Often, funds are provided for direct DOT use which are in turn provided to a third party. The choice of instruments in this type of transaction depends solely on the purpose of the transaction. If the intent is to acquire the recipient's services to carry out a DOT program function, a contract is required. If the intent is to aid the recipient to carry out its functions, a grant or cooperative agreement is appropriate.

3. REQUIRED ACTIONS. Each Operating Administration or Secretarial Office that awards contracts, grants, or cooperative agreements shall:
 - a. Determine whether there exists substantive authority to award a grant or cooperative agreement. If such authority exists, determine whether the principal purpose of a transaction is to acquire property and services for direct DOT benefit or use, or to transfer funds to assist recipients in accomplishing public purposes.

- b. Award and administer each of the legal instruments in accordance with the appropriate directives.
 - (1) Contracts will be awarded and administered in accordance with the provisions of the Federal Acquisition Regulation (FAR), the Transportation Acquisition Regulation (TAR), the Transportation Acquisition Manual (TAM), and other DOT directives covering contracting activities.
 - (2) Grants and cooperative agreements with units of State and local governments will be awarded and administered in accordance with OMB Circular A-102 and 49 CFR part 18.
 - (3) Grants and cooperative agreements with universities, hospitals, and other nonprofit organizations will be awarded and administered in accordance with OMB Circular A-110 and 49 CFR part 19.
 - (4) Grants and cooperative agreements with for-profit organizations will be awarded and administered in accordance with applicable program procedures. The use of 49 CFR part 19 is encouraged.
- c. Obtain the maximum competition practicable in awarding grants or cooperative agreements whenever discretion is permitted in selecting recipients. Unless congressionally directed or when awards are made to State or local governments, when competition has not been sought, a justification shall be prepared. The justification shall include the basis for not competing the award and a rationale for selecting the grantee. Justifications must be approved by the Operating Administrator or Secretarial Officer or a designee. Suggested guidelines for levels of approval are contained in the FAR subpart 6.304 and the TAM subpart 1206.304.
- d. As required by Section 316 of the Federal Property and Administrative Services' Act of 1949, as amended, 41 U.S.C. § 266, new awards for research, development, test or evaluation must be based on merit-based selection procedures. This section provides that a provision of law may not be construed as requiring a new grant to be awarded to a specified non-Federal government entity unless that provision of law specifically refers to Section 316, identifies the specific entity involved, and states that the award is required by law in contravention of the policy set forth in Section 316.

ADMINISTRATIVE REQUIREMENTS FOR FINANCIAL ASSISTANCE PROGRAMS

1. PURPOSE. This Appendix provides departmental guidance for implementing OMB Circular A-102, Grants and Cooperative Agreements with State and Local Governments, 49 CFR part 18, Uniform Administrative Requirements for Grants and Cooperative Agreements with State and Local Governments, OMB Circular A-110, Uniform Administrative Requirements for Grants and Agreements With Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations, and 49 CFR part 19 (same title).
2. BACKGROUND. On March 12, 1987, the President directed all affected agencies to issue a common grants management rule to adopt Governmentwide terms and conditions for financial assistance to State and local governments. OMB Circular A-102 was revised in 1988 to provide additional guidance to Federal agencies. DOT issued its common rule on March 11, 1988, as 49 CFR part 18. The common grants management rule allows States to use their own procedures to manage their financial management, equipment, and procurement systems. OMB Circular A-102 was revised on October 14, 1994, "to include updated direction on: (1) implementation of the metric system; (2) review of infrastructure investment; (3) implementation of the Resource Conservation and Recovery Act; and (4) public announcement of the amount of Federal funds used in certain contract awards.

Administrative requirements for management of grants to nonprofit organizations programs are contained in 49 CFR part 19, originally published as an interim final rule on April 4, 1994. The rule incorporates and reflects the provisions of OMB Circular A-110. The revised Circular was developed by an interagency task force for Governmentwide use in a common rule format to facilitate regulatory adoption by executive departments and agencies.

Part of these efforts included DOT obtaining required paperwork clearance for all standard forms and reporting requirements in 49 CFR parts 18 and 19. However, OMB approval must be obtained for any additional reporting requirements. Both rules permit deviations, but they must be based on statute or approved by either OMB (for class deviations) or the Office of the Secretary (for individual cases).

3. REQUIRED ACTIONS.

- a. The Assistant Secretary for Administration shall issue additional specific instructions for implementing OMB Circulars A-102 and A-110, and 49 CFR parts 18 and 19 only in those instances where the prescribed requirements need further clarification and/or implementation.
- b. The Operating Administrations and Secretarial Offices shall:
 - (1) Establish additional instructions, if required, for implementing the above directives.
 - (2) If imposing additional requirements on "high risk" grantees, as authorized by 49 CFR part 18.12, forward copies of such notifications to the Assistant Secretary for Administration and the Deputy Assistant Inspector General for Audits.

COST PRINCIPLES FOR FINANCIAL ASSISTANCE PROGRAMS

1. PURPOSE. This Appendix provides departmental guidance for implementing Office of Management and Budget (OMB) Circular A-87, Cost Principles for State and Local Governments, OMB Circular A-122, Cost Principles for Nonprofit Organizations, and OMB Circular A-21, Cost Principles for Educational Institutions.
2. BACKGROUND. The costs of Federal financial assistance performed by State or local governments are determined by the provisions of OMB Circular A-87. The Circular requires State and local governments to substantiate indirect costs through formal indirect cost proposals or cost allocation plans, and provides for the negotiation, approval and audit of those plans. OMB has assigned DOT as the cognizant Federal agency for all State highway agencies and other State transportation-related agencies.

The costs of Federal financial assistance performed or administered by nonprofit organizations are determined by the provisions of OMB Circular A-122. The Circular provides principles and policy-guidance for recognizing costs incurred by nonprofit organizations, and lists methods for allocating indirect costs and computing indirect cost rates. The cognizant Federal agency negotiates and approves indirect cost rates. OMB Circular A-21 establishes principles for determining costs applicable to financial assistance to certain educational institutions. The Circular was revised in 1993 to include: (1) a limitation of a 24 percent fixed allowance for the administrative costs portion of indirect costs; (2) permission to use multi-year predetermined indirect cost rates for research agreements; and (3) a consistent policy for adjustment of indirect cost rates for proposals subsequently containing unallowable costs.

The cost principles established by subpart 31.2 of the Federal Acquisition Regulation shall be used for for-profit organizations.

3. REQUIRED ACTIONS.
 - a. The Assistant Secretary for Administration shall issue additional specific instructions for implementing OMB Circulars A-21, A-87, and A-122 only in those instances where the prescribed requirements need further clarification.

- b. In those cases where DOT is the cognizant Federal agency, the Office of Inspector General shall perform or arrange for audits of recipients' indirect cost proposals or cost allocation plans as necessary. Audits are normally performed only where a significant problem exists in a grantee's financial system.
- c. The Operating Administrations (OAs) and Secretarial Offices (SOs) shall:
 - (1) Establish additional instructions, if required, for implementing the above directives.
 - (2) If assigned cognizant responsibility, review and approve indirect cost rates and cost allocation plans in accordance with OMB Circulars A-87, A-21, and A-122. The cognizant OA or SO shall also request required audits and prepare the negotiation agreement. Each agreement shall be made available to appropriate OAs and SOs and other affected Federal agencies.
 - (3) Accept indirect cost rate and cost allocation plan agreements negotiated and approved by the Federal cognizant agency or by the OA or SO within DOT having cognizant administrative responsibility.
 - (4) Provide technical assistance to recipients in cases where they need help in determining appropriate subrecipient costs and indirect cost rates. The cognizant OA or SO shall review the recipient's procedures for determining the subrecipient's indirect cost rate, recommend changes as required, and certify the rate so that it can be relied upon by all agencies providing funds to the subrecipient. Documents setting forth the approved rates for subrecipients, and the approvals of these rates shall be made available to affected OAs/SOs and other Federal agencies.

AUDITS OF FEDERAL FINANCIAL ASSISTANCE RECIPIENTS

1. PURPOSE. This Appendix provides departmental guidance for implementing Office of Management and Budget (OMB) Circular A-128, Audit Requirements for State and Local Governments, 49 CFR part 90, Audits of State and Local Governments, and OMB Circular A-133, Audits of Institutions of Higher Education and Other Nonprofit Organizations. It also provides guidance for determining audit coverage for other types of assistance recipients.
2. BACKGROUND. The Single Audit Act of 1984, 31 U.S.C. §§ 7501-7507, established audit requirements for State and local government recipients of Federal financial assistance, and is implemented by OMB Circular A-128. OMB Circular A-128 extends the provisions of the Act to public hospitals, colleges and universities, but governments may exclude these entities from single audits provided that the audits are conducted in accordance with OMB Circular A-133. OMB Circular A-133 provides audit requirements for institutions of higher education and other nonprofit organizations, and closely parallels the requirements of A-128. The requirements for audit coverage for recipients not covered under either A-128 or A-133 are included in this Appendix.

OMB has prepared compliance supplements for audits of major programs covered by A-128 and A-133. Auditors are encouraged to use them when conducting single audits.

3. REQUIRED ACTIONS.
 - a. General: Each Operating Administration (OA) and Secretarial Office (SO) shall require recipients to have audits conducted in compliance with the provisions of OMB Circulars A-128 or A-133, as appropriate. OAs and SOs are also responsible for ensuring appropriate audit coverage for other types of assistance recipients not covered by these Circulars. OMB will assign cognizant agencies for larger recipients. Smaller recipients not assigned a cognizant agency will be under the general oversight of the Federal agency providing them with the most funds. Where DOT has been designated to serve as the cognizant agency, the responsibilities shall be divided between the OAs and SOs, and the Office of Inspector General (OIG).

When the OAs, SOs or the OIG determine that additional audits are necessary, such audits shall build on the results of independent auditors if the audits meet the criteria contained in OMB Circulars A-128 or A-133. Recipients receiving less than \$25,000 a year in Federal assistance funds are exempt from audit requirements; however, they must retain appropriate records to document their compliance with the requirements of their Federal assistance awards. Recipients receiving \$25,000 or more but less than \$100,000 who do not obtain audits in accordance with A-128 or A-133 shall follow procedures prescribed by the OAs and SOs and shall ensure that Federal funds were spent in accordance with applicable laws and regulations governing the program in which they participate. The following can be used to determine recipient compliance with Federal requirements:

- (1) Recipient obtained audits made in accordance with "Government Auditing Standards" (GAS) issued by GAO.
 - (2) Previous audits of recipient operations.
 - (3) Desk reviews by Federal program officials of project documentation.
 - (4) Federal/non-Federal audits obtained by recipients.
 - (5) Evaluation of recipient operations by Federal program officials.
- b. The Assistant Secretary for Administration shall:
- (1) Issue any additional guidance as required.
 - (2) Maintain an updated list, as provided by OMB, of cognizant agency assignments for single audits.
 - (3) Assign cognizant administrative responsibility in instances where the OAs or SOs that provide funds are unable to make a determination as to who will carry out this responsibility. .

c. The OIG shall:

- (1) Obtain or provide quality control reviews of selected audits made by non-Federal auditors to ensure that audits are performed in compliance with OMB Circulars A-128 or A-133, generally accepted auditing standards and GAS., Results will be provided to the OA or SO whose program or activities are subject to audit by the entities. When appropriate, results should be provided to other interested organizations.
- (2) Ensure that audits are made in accordance with A-128 and A-133, and advise the recipient of audits that are deficient in meeting requirements. The OIG shall also notify the cognizant OA or SO of audits not meeting these requirements for followup action.
- (3) Provide technical advice and liaison to OAs, SOs, recipients, and other independent auditors, as required.
- (4) Inform other affected Federal organizations and appropriate Federal law enforcement officials (including State and local officials if necessary) of any reported illegal acts or irregularities.
- (5) Coordinate audit work performed by or for Federal/non-Federal organizations that are in addition to the audits required by A-128 and A-133 so that additional audits build upon such audits to achieve the most efficient and cost effective results.

d. Each OA and SO shall:

- (1) Establish and maintain tracking mechanisms for recording receipt of audit reports and monitoring the status of corrective actions. Recipients shall be instructed to submit an appropriate number of copies of audit reports directly to the appropriate Federal program official, and one copy of the single audit reports to the DOT National Single Audit Review Center.
- (2) Establish and enforce appropriate audit coverage for recipients not covered under A-128 and A-133. Audit requirements for these recipients shall be

established and performed for the program in a manner that ensures the Federal interest is adequately protected. Examples of effective measures are illustrated in paragraph 3a of this Appendix. Audits for these recipients shall be conducted in accordance with generally accepted Government auditing standards.

- e. Each OA and SO assigned cognizant administrative responsibility for a recipient shall:
 - (1) Insure that audits are made and reports are distributed in a timely manner and that recipients take prompt corrective action when audit reports are found not to be in compliance with A-128 and A-1.33. Copies of all audit reports and corrective action plans shall be submitted to the OIG and other appropriate officials.
 - (2) Oversee and coordinate the resolution of cross-cutting findings that affect programs of two or more Federal entities.
 - (3) Negotiate with-recipients to correct system deficiencies and resolve questioned costs for findings that affect two or more OAs and/or SOs. When mutually agreed upon by both the cognizant agency and affected OAs and SOs, specific system deficiencies or questioned costs may be resolved by the affected OA or SO. This function applies only to the DOT portion of audit findings.

DEBARMENT AND SUSPENSION

1. PURPOSE. This Appendix provides departmental procedures for implementing debarment, suspension, and ineligibility procedures.
2. BACKGROUND. The debarment and suspension procedures are intended to prevent waste, fraud and abuse in Federal procurement and nonprocurement actions. Debarment or suspension of an organization or individual from doing business with the Federal Government is not meant to be a punishment, but a procedure to ensure that federally funded business is conducted legally with responsible persons. Debarment and Suspension (Nonprocurement), 49 CFR part 29, provides rules for a Departmentwide system of debarment and suspension under nonprocurement transactions; the Federal Acquisition Regulation (FAR) part 9.4, Debarment, Suspension, and Ineligibility, provides rules for procurement actions. Both 49 CFR part 29 and the FAR provide for reciprocity between procurement and nonprocurement actions.
3. REQUIRED ACTIONS.
 - a. The Assistant Secretary for Administration shall notify the General Services Administration (GSA), at least annually, of the DOT distribution requirements of the Lists of Parties Excluded from Federal Procurement or Nonprocurement Programs.
 - b. DOT Operating Administrations and Secretarial Offices administering procurement and nonprocurement transactions shall:
 - (1) Encourage recipients to subscribe to and utilize the Monthly Lists of Parties Excluded from Federal Procurement or Nonprocurement Programs published by GSA.
 - (2) Conduct debarment and suspension investigations in accordance with 49 CFR 29.311 and 29.410, and make the final determination. Forward to GSA the required suspension or debarment information in accordance with 49 CFR 29.505, and provide a copy to the Office of Acquisition and Grant Management.

INTERGOVERNMENTAL REVIEW OF PROGRAMS AND ACTIVITIES

1. PURPOSE. This Appendix gives guidance for implementing Executive Order 12372, as amended, Intergovernmental Review of Federal Programs, and 49 CFR part 17, Intergovernmental Review of Department of Transportation Programs and Activities. Provisions of the Executive Order are based on Section 204 of the Demonstration Cities and Metropolitan Development Act of 1966, as amended, 42 U.S.C. § 3334, and intergovernmental cooperation legislation codified at 31 U.S.C. § 6506.
2. BACKGROUND. Issued on July 14, 1982, Executive Order 12372 provided a simplified system for coordination of Federal assistance programs by State and local government officials and Federal agencies. The Executive Order is implemented in the Department by 49 CFR part 17. Emphasis was placed on utilizing the States' review processes to the greatest extent possible. DOT publishes in the Federal Register a list of the departmental programs subject to the above Executive Order. States have the option of adopting a consolidated State process for review and administration of DOT assistance programs, or electing not to participate in the process. Participating States may select any or all of the DOT programs for incorporation into their process, and should notify DOT of their selections. States must designate a single agency to serve as the point of contact for this process. If no State process exists, Operating Administrations (OAs) and Secretarial Offices (SOs) are still required to meet other intergovernmental review requirements.
3. REQUIRED ACTIONS.
 - a. The Assistant Secretary for Administration shall:
 - (1) Obtain appropriate clearances and publish changes to the DOT list of programs and activities subject to 49 CFR part 17.
 - (2) Receive and distribute initial selections and subsequent changes-by States of programs and activities to be covered by a State's process.
 - b. Applicable OAs and SOs shall:
 - (1) Incorporate provisions to implement the rules listed in paragraphs 3b(2) through 3d into guidance material issued to actual and potential applicants.

- (2) Use a State's process as soon as feasible, but no more than 90 days, after a State notifies DOT of the process or of changes to the process.
- c. OAs and SOs providing assistance under programs covered by 49 CFR part 17 shall ensure that assistance projects are reviewed in accordance with that regulation. Applicants shall be instructed to follow the State process prior to submission of applications to OAs and sos if required by the State process. In those cases where the OAs and SOs cannot accommodate State process recommendations or reach a mutually agreeable solution, they shall contact the State point of contact and --explain the reason.- An informational copy of the explanation shall be sent to the Assistant Secretary for Administration for central recordkeeping and submission to the Assistant Secretary for Governmental Affairs for secretarial notification, if appropriate. The applicant may use the State process to obtain required environmental impact information pursuant to Section 102(2) (C) of the National Environmental Policy Act of 1969, as amended, 42 U.S.C § 4332(2) (C).
- d. OAs and SOs which administer programs requiring, by statute or regulation, a State plan as a condition of assistance shall advise recipients where to send State plans that simplify, consolidate or substitute federally required State plans. In those cases where the OA or SO cannot accept the State's plan, they shall notify the State of the steps necessary to bring the State's plan into compliance with Federal requirements. Copies of disapprovals of modified State plans shall be sent to the Assistant Secretary for Governmental Affairs.

DEPARTMENT OF TRANSPORTATION GRANT MANAGEMENT COUNCIL

1. PURPOSE. This Appendix gives direction for the administration of the DOT Grant Management Council (GMC).
2. BACKGROUND. The GMC was formally established February 21, 1992. The GMC was created to:
 - a. facilitate the coordination of the Department's grant programs and grant management activities;
 - b. promote the orderly, concerted, and aggressive development of 'sound and effective grant management throughout the Department;
 - c. facilitate cooperation and the exchange of information and ideas between the Operating Administrations (OAs) and applicable Secretarial Offices (SOs) in grant administrative areas of mutual interest and concern;
 - d. provide a means to ensure that the requirements and interests of each OA and SO are reflected in departmental grant management policies and programs;
 - e. communicate grant management program objectives which are to be given special emphasis throughout the Department;
 - f. provide advice concerning the development and improvement of the grant management work force; and,
 - g. serve as an advisory body to the Assistant Secretary for Administration in matters dealing with grant regulations, policy, and management.

Membership of the GMC consists of a minimum of one representative from the Office of Inspector General, Office of the General Counsel, a senior grant representative from each OA and applicable SO, and representatives from the Office of Small and Disadvantaged Business Utilization, and the Office of Acquisition-and Grant Management. Attendance of other DOT grant program personnel is encouraged. The Director of the Office of Acquisition and Grant Management, or his/her designee, serves as the Chairperson.

The GMC meets quarterly or at other times as designated by the Chairperson.

3. REQUIRED ACTIONS.

- a. The Chairperson of the GMC shall:
 - (1) provide advance notification of GMC meetings and prepare agenda topics and materials;
 - (2) provide adequate staff resources-and support to the Council, its committees, and projects;
 - (3) provide a recording secretary for all GMC meetings and furnish minutes to all Council members and meeting attendees; and,
 - (4) report to the Assistant Secretary for Administration, as necessary, on the actions and recommendations of the Council.
- b. Council members or their alternates are expected to attend all scheduled meetings. Members are encouraged to submit agenda items or topics.

ADDITIONAL REPORTING REQUIREMENTS

1. PURPOSE. This Appendix gives guidance for:
 - a. Reporting DOT Federal financial assistance awards as required by 31 U.S.C. § 6102;
 - b. Maintaining records of Federal assistance programs and reporting on these programs to the Office of Management and Budget (OMB) and the General Services Administration (GSA) for inclusion in the Catalog of Federal Domestic Assistance (CFDA) in accordance with 31 U.S.C. § 6104; and
 - c. Maintaining records of lobbying disclosures of recipients of Federal-aid, and forwarding copies of required forms of lobbying disclosures, as required by 49 CFR part 20.
2. BACKGROUND. The DOT Grant Information System (GIS) is a comprehensive information system that answers questions about assistance awards, provides periodic reports on various aspects of assistance programs, and provides periodic reporting to the Federal Assistance Awards Data System (FAADS) as required by 31 U.S.C. 6102(a). Except for awards to other Federal agencies or interagency agreements, all departmental financial assistance awards shall be reported to the GIS. Information on contracts awarded under the Federal Acquisition Regulation are not included in the GIS, but are reported to the Contract Information System. Reporting is done by a variety of means, such as manually prepared data entry forms, computer disks or tapes, or PC-based data entry system. The GIS is designed to accommodate FAADS and the various Operating Administration (OA) and Secretarial Office (SO) information systems as much as practicable.

The CFDA is a comprehensive listing of all Federal assistance programs, and provides information on program history, eligibility requirements, funding levels, application procedures, and Federal program points of contact. Executive departments and agencies are required to periodically provide updated information on existing and new programs in accordance with Public Law 98-169. The Office of Acquisition and Grant Management coordinates the submission of departmental information, maintains required records, and provides guidance on reporting procedures as required.

Part 20 of 49 CFR prohibits the use of federally appropriated funds in connection with lobbying activities related to the award of a Federal contract, grant or loan.

Part 20 requires contractors and recipients of Federal assistance to disclose whether any funds other than federally appropriated funds have been used in connection with lobbying activities. Part 20 also requires that all disclosure forms (Standard Form LLL, Disclosure of Lobbying Activities) submitted by contractors and recipients be reported to Congress semiannually. The Office of Acquisition and Grant Management coordinates the submission to Congress of disclosure forms submitted to the OAs and SOs, and provides departmental guidance as required.

3. REQUIRED ACTIONS: GRANT INFORMATION SYSTEM

a. The Assistant Secretary for Administration shall:

- (1) Be responsible -for the operation of the GIS, including responding to requests for information and submitting data to FAADS.
- (2) Develop, maintain, and revise as required, all reporting information, including but not limited to: Record Layout and General Data Descriptions; DOT Form 1340.7B (10-94), DOT Grant Information System Form (see attached); and DOT Grant Information System Reporting Instructions.
- (3) Edit information submitted to the GIS, identify problem areas, and contact the submitting organization directly to resolve the problems.

b. The OAs and SOs shall:

- (1) Advise the Office of Acquisition and Grant Management of new assistance programs and make arrangements to have data submitted to the system.
- (2) Report all obligations of Federal assistance awards to the GIS by the 15th of the month following the end of each quarter. Reports shall contain obligation information for the previous quarter and any other awards not previously reported. Data shall be submitted on-magnetic tape, computer disk or diskette, on DOT F1340.7B (attached), or via a PC-based direct data entry system. The Office of Acquisition and Grant Management will provide required input forms and documentation requirements. Except when data is provided to the GIS by automated systems, a copy of the completed DOT F 1340.7B shall be included in the project file for all DOT assistance awards.

4. REQUIRED ACTIONS: CATALOG OF FEDERAL DOMESTIC ASSISTANCE

- a. The Assistant Secretary for Administration shall:
 - (1) Be responsible for DOT submission of CFDA information in accordance with OMB and GSA directives and guidance, and provide OAs and SOs with required submission guidance. Review and edit submissions, and provide a consolidated DOT input to OMB and GSA as required.
 - (2) Develop, distribute, maintain, and revise, as needed, all reporting information and materials, including reporting forms, pre-formatted diskettes, and edit checklists.
- b. The OAs and SOs shall:
 - (1) Provide the Office of Acquisition and Grant Management with a point of contact responsible for reporting CFDA data.
 - (2) Advise the Office of Acquisition and Grant Management of new assistance programs and provide information on the programs as required.
 - (3) Provide periodic information updates to the Office of Acquisition and Grant Management upon request. Content and format of submissions will be provided by the Office of Acquisition and Grant Management.

5. REQUIRED ACTIONS: REPORTS OF LOBBYING ACTIVITIES

- a. The Assistant Secretary for Administration shall submit to Congress, prior to May 1 and November 1 of each year, the required semiannual report of lobbying disclosure forms received by OAs and SOs during the previous six months. The Office of Acquisition and Grant Management shall prepare consolidated reports to the Senate and the House of Representatives and retain copies of submissions for not less than three years.
- b. The OAs and SOs shall submit copies of all lobbying disclosure forms submitted to them during the previous six-month period (October-March, April-September) to the Office of Acquisition and Grant Management by April 15 and October 15 respectively.

DOT Grant Information System Input Form

1 Administration										2 Federal Identifier Number										3 Number Changes		4 Multiple Location Code		5 Kind of Action					6 OMB/CFDA Number				
A=FAA O=OST B=BTS P=RSPA G=USCG R=FRA H=FMWA S=NHTSA M=MARAD T=FTA																								A=New Award B=Mod Increase C=Correction D=Deletion R=Mod Decrease									

7 Recipient Type																				8 Type of Instrument										9 Purpose									
A=Ed. Inst. (Public) G=Multi County Grp M=City T=Transit Authority B=School Dist H=Borough N=Other Nonprofit U=Other Govt. Org C=Federal Agency J=Planning Comm O=Large Business V=For Profit Org D=State Agency K=Council of Govt P=Small Business W=Individual E=Multi State Group L=Port Authority Q=Indian Tribe Y=Ed. Inst. (Private) F=County Agency S=Sponsored Org																				1=Grant 2=Coop. Agree 3=Direct Loan 4=Guarint. Loan 5=Insurance 6=Other										1=Construction 5=Training 2=Equipment 6=Other 3=Planning 7=Operating Assist 4=R&D or Demo 8=Safety									

10 Recipient Name																				11 State Application Identifier Number																			

12 Business Location								13 Performance Location								14 Business Location Zip Code							
State	County	City		C D	Region	State	County	City	C D	MSA													
70 71	72 73 74	75 76 77 78	79 80	81 82	83 84	85 86 87	88 89 90 91	92 93	94 95 96 97	98 99 100 101 102	103 104 105 106												

15 Award Date			16 Federal Award Amount (Right Justify - Whole Dollars)										17 Non-Federal Amount (Right Justify - Whole Dollars)										18 Estimated Completion Date			19 Funding Type		
Year	Month	Day																					Year	Month	Day	C = Cong. Mandate D = Discretionary F = Formula/Entire M = Mixed Funding		
107 108	109 110	111 112	113 114 115 116 117 118 119 120 121 122										123 124 125 126 127 128 129 130 131 132										133 134	135 136	137 138	139		

20 Project Description																			

21 Special Narrative																			

22 Other Performance Counties (Optional)										23 Other Congressional Districts (Optional)										24 Reserved									
County 2	County 3	County 4	County 5	County 6	CD 2	CD 3	CD 4	CD 5	CD 6																				
220 221 222	223 224 225	226 227 228	229 230 231	232 233 234	235 236	237 238	239 240	241 242	243 244	245 246 247 248 249 250 251 252 253 254 255																			

Person to Contact Regarding this form _____
Telephone Number _____

* Business City/County Name _____
* Performance City/County Name _____
* Complete this information if GSA location code is not known

Los Angeles County Metropolitan Transportation Authority

General Cost Guidelines

The Los Angeles County Metropolitan Transportation Authority (MTA) has prepared this document as a guide to MTA staff, contractors, consultants and auditors to assure consistency in the determination of allowability, allocability and reasonableness of costs to its contracts. The Federal Acquisition Regulation (FAR) 31.205 contains the cost principles which are to be used by both contractors and auditors.

**Los Angeles County Metropolitan Transportation Authority
General Cost Guidelines
Specific Cost Allowability**

**FAR
31.205
REF**

- 1
- 2
- 3
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(Reserved)
-10
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-22

ALLOWABLE

ADP Leasing Costs

Bonding Costs
Civil Defense Costs
Compensation for Personal Services & Fringe Benefits

Depreciation
Economic Planning Costs
Employee Morale Costs

Gains and Losses on Sale of Capital Assets

IR&D/B&P Expense
Insurance & Indemnification

Labor Relations Costs

NOT ALLOWABLE

Bad Debt Expense

Contingencies
Contributions & Donations

Cost of Money (MTA Policy)

Entertainment Costs
Fines & Penalties

Interest & Other Financial Costs

Lobbying Costs

**SOMETIMES
ALLOWABLE**

Advertising, Public Relations

Idle Facilities

**Los Angeles County Metropolitan Transportation Authority
General Cost Guidelines
Specific Cost Allowability (con't.)**

FAR 31.205 REF	<u>ALLOWABLE</u>	<u>NOT ALLOWABLE</u>	<u>SOMETIMES ALLOWABLE</u>
-23		Losses on Other Contracts	
-24	Maintenance & Repair Costs		
-25	Manufacturing & Production Engineering Costs		
-26	Material Costs		
-27		Organizational Costs	
-28	Other Business Expenses		
-29	Plant Protection Costs		
-30	Patent Costs		
-31			Plant Conversion Costs
-32			Pre-Contract Costs
-33	Professional and Consulting Costs		
-34	Recruitment Costs		
-35	Relocation Costs		
-36	Rental Costs		
-37			Royalties
-38			Selling Costs
-39	Service and Warranty Costs		
-40	Special Tooling & Test Equipment		
-41			Taxes
-42	Termination Costs		
-43	Trade, Business, Technical and Professional Activity Costs		
-44	Training & Education Costs		

**Los Angeles County Metropolitan Transportation Authority
General Cost Guidelines
Specific Cost Allowability (cont'd.)**

FAR
31.205

REF

-45
-46
-47
-48
-49
-50
-51
-52

ALLOWABLE

Transportation Costs
Travel Costs

NOT ALLOWABLE

Goodwill costs
Executive Lobbying Costs
Alcoholic Beverages

**SOMETIMES
ALLOWABLE**

Legal & Other Proceedings
Deferred R & D Costs

Asset Valuations Resulting from Business
Combinations

Specific Items:

- Severance Pay
-
- In-town Business Meals (business related and fully documented)
- Use Charges for Fully Depreciated Assets (subject to prior written approval by the MTA)
-
- Bank Fees (except any form of Interest)
- Employee Parties - \$25 per person limit (no alcoholic beverages)
- Subsistence and Travel Costs - JTR no longer applicable, however costs should be reasonable with a per day maximum for Hotel expense. (see Section 4, Travel & Business Expenses)

First Class Air Travel

Club Memberships

ITS Transactional Documents

1. NEW YORK STATE THRUWAY AUTHORITY, REQUEST FOR PROPOSAL, DESIGN, INSTALLATION, OPERATION AND MAINTENANCE OF A FIBER OPTIC INFRASTRUCTURE ALONG THE THRUWAY/CANALS RIGHTS-OF-WAY, OCTOBER 24, 1994
2. Richard J. Harcar, ETTM Procurement, September 27, 1991
3. MINNESOTA DEPARTMENT OF TRANSPORTATION, PUBLIC/PRIVATE PARTNERSHIP AGREEMENT BETWEEN MNDOT AND MOTOROLA COMMUNICATIONS & ELECTRONICS, INC.
4. MINNESOTA DEPARTMENT OF TRANSPORTATION AND WESTINGHOUSE ELECTRIC CORPORATION, AGREEMENT NUMBER: 7 1624, PUBLIC/PRIVATE PARTNERSHIP AGREEMENT, CONTRACT No. M-8 124
5. MINNESOTA DEPARTMENT OF TRANSPORTATION, MN GUIDESTAR PARTNERSHIP PROPOSALS FOR PRELIMINARY ENGINEERING DESIGN, TEST, AND EVALUATE THE FREEWAY MANAGEMENT SYSTEM, FEBRUARY 10, 1994
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8. NEW YORK STATE DEPARTMENT OF TRANSPORTATION, HIGHWAY EMERGENCY LOCAL PATROL
9. NEW YORK STATE DEPARTMENT OF TRANSPORTATION, TRAFFIC FLOW VISUALIZATION
10. NEW YORK STATE DEPARTMENT OF TRANSPORTATION, OPERATION OF INFORM TRAFFIC MANAGEMENT SYSTEM
11. Colorado H.B. 95-1267, Concerning Public-Private initiatives for Transportation System Projects
12. Town of Secaucus, and Anthony E. Just, Sr., v. United States Department of Transportation, Federal Transit Administration; Gordon J. Linton in his capacity as Administrator of the Federal Transit Administration; Hackensack Meadowlands Development Commission; New Jersey Transit Corporation; and Allied Junction Corporation, Civ. No. 94-6288 (DRD) (D. New Jersey filed April 17, 1995)

13. NEW YORK STATE DEPARTMENT OF TRANSPORTATION, REQUEST FOR PROPOSALS, OPERATION OF THE INFORM TRAFFIC MANAGEMENT SYSTEM, JANUARY 13,1994
14. NEW YORK STATE DEPARTMENT OF TRANSPORTATION, SOLICIATION DOCUMENT NUMBER 94-04-01
15. STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION, REQUEST FOR QUALIFICATIONS, IMPLEMENTATION OF ADVANCED TRAFFIC MANAGEMENT SYSTEMS (ATMS) ON STATE HIGHWAYS WITHIN NEW YORK CITY, BRONX, KINGS, NEW YORK AND QUEENS COUNTIES
16. Laurie L. Anderson, Contracts Management Officer, Minnesota Department of Transportation, Contact List
17. DEPARTMENT OF THE AIR FORCE, ROME LABORATORY DIRECTORATE OF CONTRACTING, BROAD AGENCY ANNOUNCEMENT (BAA) & PROGRAM RESEARCH AND DEVELOPMENT (PROA), MARCH 1994 (REV)
20. NEW JERSEY TURNPIKE AUTHORITY, ETTM PROCUREMENT
21. MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (MBTA), PUBLIC PRIVATE DEVELOPMENT INVITATION FOR JOINT DEVELOPMENT CONCEPT PROPOSALS
22. FEDERAL HIGHWAY ADMINISTRATION, REBUILDING AMERICA: FEDERAL HIGHWAY ADMINISTRATION' S PARTNERSHIP FOR INVESTMENT, JULY 1994
23. PAWS v. UW, 125 WN.2D 243
24. SUPREME COURT OF PENNSYLVANIA, CONSTRUCTION MANAGEMENT, CMs RULED PROFESSIONALS
25. FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, FTA' s INNOVATIVE FINANCING HANDBOOK, FEDERAL REGISTER, DEPARTMENT OF TRANSPORTATION, PART III, MAY 9, 1995
26. CITY OF LOS ANGELES, OFFICIAL SAMPLE BALLET AND VOTER INFORMATION PAMPHLET
27. WASHINGTON STATE DEPARTMENT OF TRANSPORTATION, SWIFT IVHS PUBLIC-PRIVATE PARTNERSHIP AGREEMENT, DECEMBER 16, 1994
28. WASHINGTON STATE DEPARTMENT OF TRANSPORTATION, IVHS PARTNERSHIP MEMORANDUM OF UNDERSTANDMG FOR THE PUGET SOUND HELP ME (PUSHME) A PUGET SOUND REGIONAL MAYDAY SYSTEM OPERATIONAL TEST, SEPTEMBER 16, 1994
29. WASHINGTON STATE DEPARTMENT OF TRANSPORTATION, 1995 PROFESSIONAL SERVICES CONSULTANT AGREEMENT FOR PUSHME PUGET SOUND REGIONAL MAYDAY SYSTEM OPERATIONAL TEST, 01/95

FHWA Chief Counsel's Letter Clarifying the Government's Retained License to Inventions and Copyrights

August 4, 1994

U.S. Department
of Transportation
Federal Highway
Administration

400 Seventh St S.W.
Washington, DC 20590

Aug 4, 1994

In Reply
Refer to: XC-32

Mr. Howard Goldstein
NYNEX Assurance Services
565 Taxter Road, 4th Floor
Elmsford, New York 10523

Re: Northstar Field Operational Test Project

Dear Mr. Goldstein:

This letter is to clarify the Federal law and, Federal Highway Administration (FHWA) policy regarding the Government's retained license to inventions and copyrights developed under an Intelligent Vehicle-Highway System (IVHS) Partnership Agreement. This clarification was requested by Mr. John Cosgroff during his telephone conversation with Ms. Julie Dingle on July 14.

The Government's policy governing rights to inventions created in the course of a Federal funding agreement: (including an IVHS Partnership Agreement) is set forth in Chapter 18 of title 35, United States Code. All Federal-funding agreements must include the requirements established in paragraph 202(c)(4) and §203 of Chapter 18. Accordingly, the IVHS Partnership Agreement must include a provision for retention by FHWA of a license to practice any subject invention arising under the Agreement. Specifically, paragraph 202(c)(4) provides:

With respect to any subject invention in which a contractor elects rights, the Federal agency shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world.

The standard patent rights clause which implements this statute, and which is incorporated by reference in IVHS Partnership Agreements, requires the recipient (in this case, the State DOT) to include this provision in all contracts, subcontracts and subgrants for experimental, developmental or research work.

FHWA construes the scope of its license to include the following:

(1) Research and development and support services performed under a Federal procurement contract.

2) Use of the subject invention on a federally-owned road.

FHWA does not construe the scope of its license to include sublicensing the technology to a State or Local government, bridge, tunnel or turnpike authority, or private entity for uses unrelated to the two described above.

FHWA's objective in IVHS operational test projects is to provide seed money to operationally test a technology under real-world conditions. Consistent with the Federal patent policy, private sector participants in operational tests retain title to the subject inventions as an incentive to develop technological innovations. FHWA retains the minimum license necessary to meet FHWA's needs, leaving contractors with the rights necessary to encourage private sector investment in the development of commercial applications.

With respect to copyrights, 49 CFR § 18.34 provides that the Federal awarding agency reserves a royalty-free, nonexclusive, and irrevocable license to reproduce, publish or otherwise use, and to authorize others to use, for Federal Government purposes:

- (a) The copyright in any work developed under a grant, subgrant, or contract under a grant or subgrant; and
- (b) any rights of copyright to which a grantee, subgrantee or a contractor purchases ownership with grant support.

Again, this is a Federal Government purpose license. This license does not extend to commercial purposes.

I trust that this information will resolve the questions raised in regard to this operational test project.

Sincerely yours,

Theodore A. McConnell
Chief Counsel

cc: Mr. Edward Roberts
New York State DOT