

**American Association of State and Highway
Transportation Officials (A.A.S.H.T.O.)
Standing Committee on Highways (SCOH)**

Strategic Plan Strategy 4-4



**Right of Way and Utilities
Guidelines and Best Practices**

**prepared by the
Highway Subcommittee on Right of Way and Utilities
in cooperation with the Federal Highway Administration**

January 6, 2004

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I. INTRODUCTION

The Highway Subcommittee on Right of Way and Utilities (Subcommittee) has prepared recommended guidelines and best practices for the major functional work areas involved in the Right of Way and Utilities process. This information was developed as an assignment of the A.A.S.H.T.O. Standing Committee on Highways (S.C.O.H.) Strategic Plan. Strategy 4-4 of that plan requires the Subcommittee to take primary responsibility to "Develop and advocate guidelines and best practices to assure timely procurement, clearance of rights of way and adjustment of utilities."

The members of the Subcommittee participated in and contributed recommendations to the development of the guidelines and best practices and have reviewed the report. In addition, recommendations made by the International Right of Way and Utilities European Scan Team, sponsored by F.H.W.A., A.A.S.H.T.O. and N.C.H.R.P., which visited Norway, Germany, The Netherlands and The United Kingdom, have been incorporated into this guide. Where appropriate, excerpts are taken from Chapters 7 and 8 of the Scan Team's report and are in quotations. In addition representatives of the Right of Way and Utilities consultant industry were asked to comment and make recommendations to the report. We hope that these recommendations will be of value to transportation agencies in conducting their Right of Way and Utilities activities but caution that, because of the wide national disparity in state laws relating to Right of Way acquisition, condemnation, contracting and Utilities, many of the recommendations for best practices included here may not be organizationally feasible or permitted under the law in some states. For those interested in a more detailed account of the findings and recommendations of the International Right of Way and Utilities European Scan Team, please go to the website:

<http://www.international.fhwa.dot.gov/eurorightofway/index.htm>

The subcommittee wishes to thank the team leaders and all team participants (see Appendix B and C) for their work in developing these recommendations as well as the members of the International Right of Way and Utilities European Scan Team and the Implementation Task Force for providing insight into the most effective European practices and the Right of Way and Utilities consultant representatives for their review and comments on the report (see Appendix D). The Subcommittee also extends special thanks to Caroline Fleurissaint, State Right of Way Resource Administrator, of the Florida Department of Transportation for her work in coordinating, editing, and marshaling information for the report.

II. PROJECT DEVELOPMENT

Guideline 1

Effective communication and coordination must be established between all disciplines, including Right of Way and Utilities, during the scoping, project development and design phases.

Best Practices

- A. Assign a project manager to coordinate the feasibility assessment activities with the appropriate unit responsible for project scope development. Feasibility assessment should serve as a "fatal flaw analysis" to screen candidate projects prior to the initiation of final scope development.
- B. Assign a project manager to assemble a cross-functional project scoping team to ensure the involvement of the correct disciplines necessary for effective project screening and scope development. The team must be sized to ensure effective communication without accumulating excessive "soft" costs. Right of Way should play a vital role during the scoping process, providing guidance in assessing the social and economic impact of proposed schemes.
- C. Provide scope team members with preliminary project data and request them to analyze the project from their unit's perspective in order to be prepared to provide constructive input at the project scoping meeting. Each Right of Way field office should designate an acquisition agent or other staff member who acts as the liaison with all other Department of Transportation program areas.
- D. Informational meetings should be scheduled to acquaint the public with project proposals and to generate a dialogue with affected property owners. A special meeting with property owners and relocatees may also be helpful, if circumstances warrant it. "States are encouraged to consult impacted property owners in advance of the completion of project design to assess the impact of the proposed design and to determine if a design revision is warranted. Selective use of this practice could result in more timely purchases and reduce damages to the properties impacted." "European Right of Way and Utilities Best Practices", F.H.W.A., August 2002, p. 6.
- E. A Right of Way agent or other appropriate Right of Way staff member should attend all public meetings/hearings on projects which involve right of way acquisition. The agent should answer questions and communicate

information about the acquisition process and assist affected property owners in resolving acquisition related impacts.

- F. Right of Way should provide comparative, preliminary cost estimates to be utilized in the selection of the preferred alternative. Right of Way input is critical at this juncture in assessing the impact of design features on directly affected or abutting properties, to determine if property impacts may be lessened by modification of design. Right of Way expertise should be available to assess the potential cost of design decisions. Advance acquisition of property can be initiated at this phase to alleviate hardship or for protective buying. Impacts upon utilities and railroads as well as environmental issues must be addressed early in the design and plans development process.
- G. An access impact summary or similar document should be prepared which identifies how the selected alternative will alter existing access to properties. Right of Way interface with this process is critical since the degree of access may impact the property's highest and best use after acquisition. Non real estate reports in the form of parking or other such studies may also be required to assess impact.
- H. Major utility companies should be identified early in the project development phase. The impact of the proposed project on existing utility facilities should be evaluated. The cost to mitigate conflicts with these utilities should be evaluated when alternative designs are considered. If there are major conflicts, the utility owner should be contacted and encouraged to develop and evaluate alternative design proposals.
- I. Proposed changes in scope should be strictly controlled by the project manager and any changes to project scope should be reviewed by all affected offices, including Right of Way and Utilities, and approved by a change control board or other appropriate authority. Schemes should be evaluated in light of community support, environmental/property impacts and financial constraints.
- J. A multi-disciplinary team, including Right of Way and Utilities, should review plans at key completion milestones during the final design process in order to timely assess and resolve any developing problems.
- K. If the design build process is used in a project, Right of Way and Utilities must be involved in the design-build planning and contract development to ensure compliance with F.H.W.A. requirements, 23 C.F.R., Parts, 627, 635, 636, 637 and 710,. "The team supports the FHWA and AASHTO efforts to

examine the feasibility of incorporating right of way functions, as well as utilities, into the design-build process. Encourage state right of way and utilities personnel to study the benefits of design-build and the advantages this concept brings, including shortening the project development process by eliminating many of the procedural procurement processes. FHWA published the design-build Final Rule in the Federal Register December 10, 2002, that went into effect on January 9, 2003." *Supra at* p. 26, 38.

III. APPRAISAL AND APPRAISAL REVIEW

Guideline 1

Develop a well-trained and technically qualified group of staff and fee appraisers and review appraisers.

Best Practices

- A. Facilitate appraisal course presentations and technical assistance workshops sponsored by the FHWA's National Highway Institute, the International Right of Way Association, and professional appraisal organizations. Consider offering training in expert witness testimony.
- B. Develop localized in-house training courses for staff and fee appraisers and review appraisers in order to ensure understanding of state law relating to Right of Way and Eminent Domain valuations.
- C. Establish standards and testing for fee appraisers and reviewers to qualify for the approved department list. For those states using an approved agency fee reviewer prequalified list, uniform qualification standards should be established.
- D. If permitted by state law, consider providing pay incentives or bonuses for certified or licensed staff appraisers and reviewers who have achieved state certification or licensing status.
- E. In those states with licensing or certification requirements, and if permitted by state law, consider paying licensing or certification fees for staff appraisers or reviewers in order to develop a highly trained appraisal workforce.
- F. Require reviewers to complete an agency established minimum number of complex appraisals each year to maintain high expertise levels and professionalism.

Guideline 2

Utilize available technology to expedite appraisal production by reducing multiple steps in preparing and reviewing appraisal reports.

Best Practices

- A. Consider providing digital cameras and scanners, laptop computers and cell phones to staff appraisers and reviewers for use in the field to facilitate data

collection and report preparation.

- B. If available, use computerized data sources including ownership information, GIS mapping and land use information, cost indexing services, and market sales data information.
- C. Consider establishing electronic transmission and storage and retrieval systems for all appraisals and appraisal information. Several states are participating in a pooled fund research project to achieve this objective.

Guideline 3

Maximize appraisal and appraisal review production time, cost and efficiency benefits by making full use of federal flexibility and latitude in regulations.

Best Practices

- A. Consider obtaining F.H.W.A. approval to use an appraisal waiver up to the maximum dollar amount. If using the currently authorized \$2,500 threshold for the appraisal waiver, considering obtaining F.H.W.A. approval to increase this amount to \$10,000.
- B. Consider obtaining F.H.W.A. approval to use higher levels of Appraisal Waivers. Experiments in Florida and North Carolina have been approved at \$20,000.
- C. Consider obtaining F.H.W.A. approval to allow the same person to perform appraisal and negotiation functions for parcels up to a maximum dollar amount. (See Acquisition Guideline 4 A.)

Some states allow the negotiating agent to complete an agent's price estimate on low value parcels and then conduct negotiations for the property. In such cases, policy and instructions should be offered and quality assurance provided by the appraisal staff review appraiser. Valuation support for various types of uses should be documented and maintained in the parcel file.

A senior Right of Way agent should approve the final just compensation. Eliminating a full written appraisal on these low value parcels not only saves the cost of preparing the appraisal, but also saves time to complete the acquisition.

"The European countries commonly used the same person to perform both appraisal and negotiation functions on a parcel. The team recommends that a pilot program be conducted in several states. The goal of the pilot is to

determine if such an approach is cost effective yet at the same time assures appropriate treatment of property owners." *Supra* at p. 7, 33.

- D. Consider obtaining F.H.W.A. approval to use a risk management-based appraisal review system. "States are encouraged to adopt a risk management-based appraisal review system similar to those used in some of the European countries. The goal is to determine whether such a system (for example, auditing a sample, reviewing all complex appraisals, or setting review thresholds) can protect the quality and integrity of the valuation process while saving overall project time and costs. The team recommends a risk management-based appraisal review system pilot be undertaken in several states in conjunction with FHWA. The results of the pilot should be used as a basis for any applicable regulatory changes." *Supra* at p. 33.
- E. Consider obtaining F.H.W.A. approval to test alternative methods of appraisal quality control. This could include use of statistical process control methods or other types of electronic artificial intelligence to assist the review appraiser and reduce labor intensive review responsibilities. Florida, Michigan, Wisconsin, and Washington conducted experimental projects to evaluate eliminating appraisal review requirements under certain circumstances.
- F. Consider obtaining F.H.W.A. approval to use an Appraisal/Replacement Housing Payment (RHP) Calculation. In some cases, time and cost savings may result from including these amounts in a single document. (See Relocation Guideline 1 B)

"Appraisal/Replacement Housing Payment Calculation-Colorado and Arizona may consider this one-step process for experimentation although FHWA has received no state proposals. FHWA may need to do a broader solicitation for a state experiment to be undertaken in this area." *Supra* at p. 41.
- G. Consider obtaining F.H.W.A. approval to use obtain authority, as explained above, for appraisals required on surplus property disposal activities. (See Property Management Guideline 1 F)

Guideline 4

Develop and implement timely and effective contracting procedures for appraisal consultants.

Best Practices

- A. Where permitted by state law, develop statewide appraisal contracts or, in decentralized state organizations, use regional or district contracts that can be actuated by "push-button" instructions.
- B. Determine and use the appropriate balance between project contracts and on-call or push button contracts.
- C. Frequently rotate appraisal and review assignments to expand and maintain the pool of qualified and experienced appraisers and review appraisers. This will encourage both to develop a better understanding of the other's needs, responsibilities, and limitations.
- D. Encourage timely appraisal delivery with bonus and enforced penalties.
- E. Develop and use term agreements with set hourly rates and prequalified consultant appraisers to speed the hiring of appraisers.

Guideline 5

Simplify value determinations and reporting procedures.

Best Practices

- A. Make maximum use of standardized form Appraisal reports.
- B. Where appropriate or needed, invoke the Jurisdictional Exception Rule in the Uniform Standards of Appraisal Practice (USPAP). Where an agency's requirements differ from USPAP, use of the Jurisdictional Exception is appropriate. However, appraisal reports for projects using Federal funds must comply with the Uniform Act and 49 CFR Part 24.
- C. If possible, obtain and store appraisal reports electronically to reduce paper and simplify transmitting electronic versions of the report to Review, Legal, Acquisition, Relocation or other user offices.
- D. Streamline appraisal review by developing and implementing a "short form" review process for low value and uncomplicated appraisals.

Guideline 6

Encourage and foster teamwork in the appraisal, appraisal review, acquisition and litigation process.

Best Practices

- A. Coordinate joint inspection of the subject property and comparable sales by the appraiser, review appraiser. Also, including the negotiating agent, and attorney in the field inspection will facilitate and improve the entire acquisition and condemnation process.
- B. On commercial properties, combine the relocation inspection with the appraisal inspection.
- C. Assign and involve the appraisal reviewer in project scoping, plan review and other pre-acquisition meetings on a project.
- D. Be sure that the review appraiser is notified of the outcome of negotiations or litigation on his/her parcels to foster and encourage a team approach to the Right of Way process.

IV. ACQUISITION

Guideline 1

Encourage frequent coordination and communication with the property owner as well as between staff to reduce costs and time and improve quality.

Best Practices

- A. Conduct good faith negotiations with property owners and attempt to avoid litigation, if possible. There should be an emphasis on compromising on issues related to just compensation, if possible. "Based on the European approach to negotiations, the team recommends that emphasis be placed on compromising on issues related to just compensation. It is recognized that such techniques will effectively resolve acquisition in a timely and cost-effective manner." *Supra* at p. 34.

Successful compromise does not relieve the agency of the responsibility to follow all Uniform Act requirements in establishing amounts of just compensation to which the property owner is entitled, including, preparation of appraisal reports, appraisal review, good faith offer and negotiation.

Achieving a reasonable compromise with the property owner when there is good faith dispute over the value of the property acquired or damaged will reduce costly and time consuming litigation. Documentation of settlements should be communicated to all appropriate persons within the agency.

- B. Consider obtaining F.H.W.A. approval to initiate a voluntary land consolidation pilot project. This process is used successfully in Europe to pool individual and fragmented parcels into more contiguous tracts which provide more economic uses. "Three of the four countries the team visited use some form of land consolidation. This process allows pooling of fragmented parcels of land and redistribution using more economically rational parcel configurations. Owners receive land of at least the same value as the land they put into the pool. The team recommends that FHWA research the ability of states to accomplish voluntary land consolidation and implement a pilot program to evaluate the benefits." *Supra* at p. 34.
- C. Consider using Rights of Entry to achieve early entry onto property, where Rights of Entry are permissible under law, to obtain early access to property to initiate construction. It must be cautioned that the agency must still be careful to properly execute all required deeds, comply with all Uniform Act requirements and document all files for the project. Rights of Entry should

be used only in appropriate circumstances to facilitate early entry onto property and do not serve as a substitute for required acquisition processes.

- D. Ensure that the acquisition and negotiating agent is made a party to, or advised of, discussions about the project and the parcels during project development, plans review and appraisal preparation.
- E. Conduct a project overview meeting, including assigned acquisition agents, outlining the essential information about the project, the design, special features (e.g., number of lanes, sewer and waterline locations), upcoming decisions, and date(s) of future public hearings or public meetings. This meeting should be held early in the project development process for all property owners. This early information sharing eliminates confusion and assists in decisions still to be made before design becomes final. Promoting trust and a sense of cooperation and shared ownership of the project with the public expedites the acquisition process.
- F. Conduct interviews with property owners to determine their wants and needs to facilitate later negotiations. This process is very common and successful in Europe. "Acquisition staff is encouraged to use an extensive interview process, when appropriate, to discuss the impact of a project with property owners. This interview will afford a better understanding of how the property owners use the property. The information obtained from the interview can be used to determine if further investigation into possible damages is necessary. If further investigation is needed, appropriate experts should be assigned to assess the project impacts on the property. The findings from the in depth interview, the appraisal, and the analysis from the experts help form a comprehensive estimate of just compensation. Presenting the property owners with a more comprehensive estimate of just compensation will help facilitate negotiations." *Supra* at p. 6, 33.
- G. Use a uniform monthly status report throughout the project life by all offices to promote communication and understanding of the current status of the project, and to streamline and simplify each office's reporting process.

Guideline 2

Use current available electronic technology to the greatest extent possible to avoid time-consuming and costly duplication of work during the acquisition process.

Best Practices

- A. Ensure automated database systems such as right of way management systems are user friendly and provide easily accessible information to field agents.
- B. Use shared database applications for field staff to plan and document their schedules and itineraries and to track the status of the right of way process.
- C. Use standardized, computer-generated forms so that necessary approvals can be requested and approved for field personnel on-line. Provide for access to completed forms and documents, such as appraisals, acquisition contracts, relocation assistance offers, etc., in the field.
- D. Use digital cameras to take and electronically store photographs in the field so multiple use can be made of them by different individuals, offices, functional areas, etc. Use digital cameras and scanners to eliminate normal film processing time for appraisal, acquisition and relocation work.
- E. Consider issuing cell phones, pagers and other means of electronic communication to field forces to enhance communication with their office and property owners.
- F. Use wireless communication techniques to gain remote access to networks or Internet.

Guideline 3

Streamline processes associated with title issues to reduce delivery time and costs, and improve quality.

Best Practices

- A. Expedite title search procedures in situations where negotiated settlements below a set maximum dollar amount have been approved by obtaining title certification based on review of current deed information.

Alternatively, utilize a title company to get title information on permanent taking right-of-way parcels but use staff to obtain title information on temporary easement and minor fee parcels.

- B. Obtain title insurance only when the value of the permanent taking right-of-way parcel is over a set minimum dollar amount. Alternatively, an attorney's title insurance opinion may be viable. State agencies should address their own state's law regarding the number of years required to be searched to sustain marketable title claims.
- C. Waive obtaining mortgage releases, liens and property taxes for acquisitions involving low valued parcels to reduce paper work and acquisition time. Allow field office project managers to use their discretion when obtaining mortgage releases.
- D. If outside Attorney General services are required for title approval, obtain authority to increase "in house" title approval authority to a set maximum dollar amount to save processing time for completing acquisitions.
- E. Develop and implement an alternative real estate tax pro ration payment computation for low value partial take claims.
- F. Use an escrow company to close the transaction when there are a number of encumbrances to clear.

Guideline 4

Maximize acquisition production time, cost and efficiency by making full use of federal flexibility and latitude in regulations.

Best Practices

- A. Consider obtaining F.H.W.A. approval to allow the same person to perform appraisal and negotiation functions for parcels up to the set maximum dollar amount. (See Appraisal Guideline 3 C.)
- B. Consider obtaining F.H.W.A. approval to use incentive offers to accelerate acquisition and reduce costs. In some cases, using incentive amounts in offers may significantly encourage quick negotiated settlement and reduce net costs by accelerating the project for construction.

Guideline 5

Streamline processes associated with negotiation and acquisition to reduce delivery time and costs, and improve quality

Best Practices

- A. Make personal service of process of litigation documents on the owner (beginning the statutory period for litigation) by certified mail rather than in person, if this is permitted by state law.
- B. Consider negotiations by mail for claims less than a certain threshold dollar amount . Offers by mail should be preceded by extensive pre-negotiations contact with the owner before the appraisal is finished.
- C. Review appraisers and negotiators should meet prior to the beginning of negotiations to discuss the project in order to reduce the number of questions, calls or visits later. Other staff, such as Design or Legal, should be requested to attend, as needed.
- D. Make a reasonable effort to get donations on permanent and temporary easement parcels while agreeing to pay the landowner for other out-of-pocket costs such as moving fences. An appraisal waiver should be requested after informing the property owner of their rights under the law.
- E. Have warrants available at the onset of negotiations. This requires having the necessary tax documents signed up front and having the property owner's Social Security number. Attempt to secure this information at the public involvement meeting.
- F. Reduce staff time at the courthouse by using an instruction manual which lists pertinent contacts, phone numbers, and directions to and inside the courthouse. Provide staff with either a warrant or credit cards to pay for title and closing work in the courthouses.
- G. In a decentralized agency, only require final plans to be submitted and filed in the central or headquarters office.
- H. Use sketch maps to accompany the offer on administrative determinations of just compensation, in order to avoid waiting for completion of the final map.
- I. Attempt to get all consent, grant, and disclosure forms (authorization to negotiate/pay tenants) executed at the same time that the tenant/owner inventory form is signed.

- J. At Federal Highway Administration final project closeout, employ a risk management based-approach to final right of way costs.
- K. Pre-approve legal descriptions. Require an appropriate authorized manager or engineer to sign off before appraisals or negotiations begin, eliminating delays in recordings, etc. Attempt to get all plan revisions and corrections completed before proceeding to acquisition.
- L. Employ a "blitz" procedure on nominal projects with minimal controversy. After completion of appraisals, property owners may be invited to a session where agents explain the project and methods of valuation to the entire group, make offers, and then negotiate individually with the property owners. This may result in the ability to negotiate and obtain signed agreements with the majority of the property owners in one meeting. One agency has employed such a process by conducting 'open houses' twice monthly for several months and bringing laptop computers, printers, agreements, and files in portable boxes. Notices are sent to eligible property owners announcing each open house. Bilingual agents are available to converse with owners who prefer to negotiate in Spanish.
- M. On rural projects involving strip takings, consider negotiating en masse with all affected owners at a public meeting which includes a presentation on different land values on the project. Each property owner should be advised as to the acreage affected by various land uses (e.g., cropland, etc.). At the public meeting, values should then be individually applied. Use a pre-approved schedule of payments for items such as fencing and access control. Establish an offer with individual property owners. Signed documents and necessary waivers should also be obtained. Delivering a good overview and having adequate staff available to meet one-on-one to prepare the necessary documentation is essential.

Guideline 6

Conduct acquisition activities in a manner to build owner confidence in the agency and encourage rapport with owners.

Best Practices

- A. Make the presentation of an initial offer in writing to the owner or the owner's authorized representative. If possible, the purchasing agent should deliver the department's offer in person to all owners or representatives residing within the state. In those instances where making a personal call is impractical, a written offer should be mailed to the owner and/or representative. Revised offers due to changes in the acquisition or due to

updated appraisals should be handled in the same manner as the initial offer.

- B. Voluntarily and routinely share copies of complete appraisal reports with property owners. Even if not mandated to do so by law, test this approach for a trial period. This approach may eliminate the perception the agency is hiding something from potential sellers and may improve agency credibility in its negotiation efforts. In some cases, pay the landowner for an independent second appraisal to try to reach a right-of-way settlement, provided the appraisal is done by someone on the state's approved appraiser list (if applicable) and the appraisal is approved by the state's review appraiser.
- C. Where appropriate, use a "caseworker" or single agent approach to allow the same agent to handle acquisition and relocation claims processing and also calculate the replacement housing supplement. This approach allows for continuity through the acquisition and relocation process that may provide a more satisfactory experience for the property owner.

Alternatively, provide a letter of introduction from Relocation Assistance to create a partnership relationship.

- D. Provide each landowner a professional folder of information regarding the project and how the project affects their property. Included in this package should be the offer letter of just compensation, landowner information brochure, legal descriptions, plans with the acquisition area highlighted and a cover letter which explains the project details and its effects. This process allows the landowner to have a comprehensive package of information about the project and acquisition process and to have an organized folder to maintain additional information regarding the right of way acquisition.

Guideline 7

Provide as much independent negotiation and settlement authority as possible to acquisition agents.

Best Practices

- A. If permitted by state law, use a process which provides immediate payment to the property owner for low value property interests. This process makes it possible for a single agent to make one call on a property owner to obtain signatures on acquisition contract documents and make full payment on the spot.
- B. Ensure that each negotiator works toward the goal of identifying all obstacles

to settlement and to the extent possible, independently resolving them.

- C. Seek the assistance of counsel to assist the agent in preparation for negotiations and when issues of law are raised during negotiations.
- D. Adopt an administrative settlement policy to allow field negotiators full authority for settlements up to a set maximum dollar amount. Also, provide the chief negotiator or negotiation supervisor with additional authority at a set dollar amount. The Right of Way Manager, or designee, should retain authority for amounts over this maximum dollar amount.

Guideline 8

Avoid or minimize condemnation litigation to the greatest extent possible.

Best Practices

- A. A joint committee of right of way and legal staff should meet prior to initiating condemnation to assess risks involved and determine one final pre-condemnation settlement offer. This group should review and discuss the tracts that have not been acquired and are recommended for condemnation. This brainstorming session insures that all possible solutions or settlements have been considered prior to initiation of condemnation and should assist in reducing the number of tracts being acquired through condemnation.
- B. Maintain open lines of communication with the Legal Office to give that office advance notice on all potential condemnation cases. In states that require warrants at suit filing, submit packages simultaneously with the preparation of warrants, to expedite the paperwork.
- C. Where settlement cannot be obtained during the negotiation process, ensure that all information developed by the negotiator is transmitted to the attorney assigned to handle the parcel in eminent domain. Prior to submitting a property owner file to the legal division for condemnation proceedings, provide the file to a condemnation specialist for review to ensure that condemnation is the only alternative. Document and highlight issues that have been a stumbling block to successful negotiation and which the acquisition agent believes will surface during litigation.
- D. Use mediation to settle acquisitions that have entered eminent domain processes. Mediation may save time, money and may eliminate many of the costs and delays inherent in eminent domain procedures.
- E. Ensure that all settlement recommendations are properly documented,

reviewed and approved prior to final settlement commitments.

Guideline 9

Streamline contracting and invoicing processes for acquisition or other consultants to reduce time and save costs.

Best Practices

- A. If permitted by state law, develop statewide, area-wide or district-wide contracts for consultant services to eliminate repeatedly contracting for the same services and to avoid time lost on advertising and bidding procedures.
- B. Pre-approve and contract for Right of Way consultants to handle production peaks. Also, use this expedited preapproval process for the hiring of condemnation appraisers and other expert witnesses, or professional fee services for title search or legal description preparation.
- C. Give signature authorization to appropriate project managers in district or field offices for execution of contracts, including contracts of purchase, appraisals and property management issues.
- D. To the greatest extent possible, eliminate all headquarter office review of consultant bills and invoices, delegating this responsibility to the district or field offices.

Guideline 10

Use corridor protection techniques to reduce costs of future rights of way.

Best Practices

- A. Consider using early or advance Right of Way acquisition or coordinating with local governments in their comprehensive planning process to protect needed transportation corridors from costly real estate development. This technique is used successfully in Europe. "A major benefit of strong local planning systems in the countries visited is the broad ability to make thoughtful and comprehensive decisions about future needs, including appropriate land use and transportation infrastructure. The system also improves project quality and public support, and creates the opportunity to save considerable time in the project development process. The success of European practices suggest that re-examination of corridor preservation is warranted in the United States, using the '1990 Report of the AASHTO Task

Force on Corridor Preservation ' as a starting point. The review should consider how States might benefit from lessons offered by the more holistic European approach to land use, environmental, and transportation planning. " *Supra* at p. 28.

However, states should be cautious because some attempts at corridor protection through restrictions on building permits within the corridor have been held to be unconstitutional building moratoriums resulting in inverse condemnation claims.

Where vacant corridors are permitted to develop, future Right of Way costs and adverse acquisition impacts on property owners will be substantially increased

"The team suggests creation of one more pilot projects to test corridor preservation and land consolidation techniques. The team recommends evaluating adverse effects of not doing early right-of-way acquisition, including increased costs because of value appreciation and adverse effects on property owners forced to hold property they cannot sell.

This should be a joint effort with AASHTO subcommittees for statewide transportation planning, land use and environment, and right of way. As background, England's Blight Acquisition Program offers relief to property owners adversely affected by a pending project. This program provides for early acquisition of such properties." *Supra* at p. 38, 39.

The Center for Transportation and the Environment (CTE) in North Carolina hosted a video-cast in October 2001 that was co-sponsored by FHWA. This effort was aimed at transportation decision makers to raise awareness of the need to involve right of way, design, planning and environmental professionals early in the project development process in order to develop better transportation solutions. The archived video-cast can be viewed on the CTE website: www.itre.ncsu.edu/cte under "teleconferences: previous broadcasts: 2001".

V. RELOCATION

Guideline 1

Enhance relocation production time, cost and efficiency benefits by seeking flexibility and latitude in federal regulations.

Best Practices

- A. For business relocations, consider obtaining F.H.W.A. approval of a waiver to the maximum threshold dollar amount for items such as search expenses and for reestablishment expenses or waiver of other federal requirements. As successfully applied in Europe, this could involve consideration of such items as:
 - 1. "Liquidation of small businesses beyond the \$20,000 fixed payment currently available under the Uniform Act.
 - 2. Giving special consideration to business owners who are of retirement age." *Supra* at p. 34.
- B. For residential relocations, consider obtaining F.H.W.A. approval to use Appraisal/Replacement Housing Payment (RHP) Calculation. In some cases, time and cost savings may result from including these amounts in a single document. (See Appraisal Guideline 3 F)
- C. Consider obtaining F.H.W.A. approval to use Relocation incentive payments. Virginia has implemented an FHWA-approved pilot project on the Woodrow Wilson Bridge construction project. "The VDOT Early Move Incentive Program successfully relocated residents from 333 apartment units in 7 months—less time than originally scheduled. Even though the program cost the project approximately \$1.2 million, VDOT was able to derive the following direct savings from the accelerated relocations:
 - Construction schedule-related savings of approximately \$6 million.
 - Reduced property management overhead costs for the condemned properties during the relocation period.
 - Met the overall project schedule such that the relocation effort will not impact the opening of the new Woodrow Wilson Bridge.

In addition to the direct savings VDOT achieved, following are indirect benefits for its citizens as a result of the incentive program:

- The program developed goodwill between the tenants and VDOT, which

serves as a model for future resident relocation programs. Virginians and all users of the Capital Beltway will enjoy reduced commuting expenses and travel times through earlier project completion." *Supra* at p. 60, 61.

Guideline 2

Develop a detailed plan for providing relocation assistance early in the project development process.

Best Practices

- A. Develop conceptual relocation plans for each possible corridor during the planning phase.
- B. Begin development of detailed needs assessment as soon as the parcels to be acquired have been identified.
- C. Compile needs assessment results into a detailed plan for providing relocation assistance on the project.

Guideline 3

Ensure that effective advisory services are provided to each displacee.

Best Practices

- A. Ensure that each displacee is fully advised of the project schedule and the estimated time of their displacement from the project site.
- B. Use the needs assessment survey data to ensure that all necessary services are coordinated and available to assist each displacee.

Guideline 4

Streamline the relocation appeal process.

Best Practices

- A. Reduce the number of appeals to one, that is, to the Manager of Right of Way or other designated staff member authorized to make a final decision for the agency.
- B. Use an informal pre-hearing process to enable relocatees to voice objections to the review panel prior to a formal hearing. This is less intimidating and frequently resolves the problem.

Guideline 5

Increase the threshold for monetary approval of relocation assistance payments in field offices.

Best Practices

- A. Approve all relocation assistance payments, including last resort housing, by final determination in district or field offices. Eliminate dollar amount thresholds implemented to require higher-level approval.
- B. Delegate the approval authority to the lowest possible level allowed by state law.

Guideline 6

Increase the protective Rental Program to reduce relocation assistance costs.

Best Practices

- A. When a residence or business-occupied property becomes vacant on a preferred alternate, prior to Right of Way authorization, lease the vacant property (initiate protective rental procedures) from the property owner so that the property remains vacant and a potential rental displacement is avoided.

Guideline 7

To the extent possible, utilize a "One Agent" concept for negotiation and relocation.

Best Practices

- A. Assign one agent to handle customer contacts for both negotiations and relocation assistance.
- B. Authorize that same agent to prepare evaluation of all claims, with supervisor concurrence, to provide more personalized attention and service.
- C. Encourage that agent to provide personalized attention and service and be responsive to the sensitive nature of involuntary property acquisition.

Guideline 8

Use innovative technology to the greatest extent possible to provide efficient relocation services.

Best Practices

- A. Use the Internet to secure information such as multiple listings service for relocation studies, property title information or cost indexes.
- B. Use laptops in the field to produce completed Relocation forms.
- C. Use digital cameras to take photographs and electronically store them for the relocation history and documentation. Multiple use can be made of the photographs by different individuals or offices throughout the Right of Way and project development process.

VI. PROPERTY MANAGEMENT

A survey of Right of Way and Utility Subcommittee members was used to develop some of the information for this section. The Best Practices information will summarize some of this survey information, when appropriate. Please refer to Appendix A for an explanation of the survey used for this section.

Guideline 1

Provide timely disposition of surplus and excess property to meet the requirements of potential buyers, thereby maximizing revenue.

Best Practices

- A. Recognize that an effective process for disposal of excess property is time-sensitive. A frequent concern of potential buyers of state properties is the length of time the process will take. The process should provide for timely assessment of property disposal needs. Once determined to be excess to the department's needs, the property should be marketed as rapidly as possible.
- B. Reduce the number of internal and external processing steps in an effort to reduce processing time. A key factor in the disposal process is the time required to place property on the market. Most states (59 percent) responding to the survey indicated they were not required to dispose of property within a prescribed time frame. Once a determination is made to dispose of the property, 28 percent of the states responding were able, on average, to place a property available for sale in three months or less. In only five states did the process take over a year. Except where required by FHWA regulations, most states were not required to obtain approvals outside their respective departments to sell property. Whether or not outside approvals were required does not appear to have a direct correlation on the timeliness of getting the property to market.
- C. Use of outside consultant resources for maps or sketches eliminates a potential bottleneck in making a property available for sale. Depending upon the jurisdiction, a map or sketch, in addition to a legal description of the parcel may be required for the sale of excess property. Most states use only department staff to prepare maps and sketches. However, some states supplement their staff's efforts by using consultants or purchaser-supplied maps or sketches. This avoids impacted staff resources involved in project production activities.
- D. Delegate signature authority to the lowest possible level in order to facilitate the sale and closing process. In most states, department staff is assigned to

perform closings. Only three states responding to the survey use title companies, in addition to staff, to process closings on excess property sales. Most states use quitclaim deeds to convey property interests, and the deeds are signed by a department representative, e.g., department director, right of way director, etc. In seven states, the governor is required to sign such deeds.

- E. Consider the costs versus the benefits of recording excess property deeds. After closing, purchasers in 61 percent of the states responding to the survey were responsible for recording the deed. In states where the seller records the deed, avoidance of a future title problem and notification to taxing authorities that the property should be returned to the tax rolls were cited as the primary reasons for expending additional staff time for recording.
- F. Use appraisal waiver and other such techniques in preparing appraisal reports required for surplus property transactions. (See Appraisal Guideline 3 G)

Guideline 2

Maximize the return on property sold.

Best Practices

- A. Use the sale of surplus and excess property to assist in recouping the investment made in acquiring right of way. The revenue received can be used to support the transportation program. States have a vested interest in maximizing the return on property sold.
- B. An effective excess property sales program uses a variety of marketing and financing approaches to sell property.
- C. Be cautious when marketing excess properties to consider requirements for disclosure and liability for radon, asbestos, lead-based paint, or other hazardous materials.
- D. Ensure that parcels acquired with Federal aid are sold at fair market value unless FHWA has approved an exception. Most states (97 percent) responding to the survey indicated they are required to sell property at fair market value. Normally, one exception to that requirement is the conveyance of property to another state agency or a local unit of government. Seventy-four percent of the states indicated that they are required to offer property to other state agencies prior to offering the property to the general public.

- E. In consideration for selling properties at less than fair market value, reversionary conditions should be used to have the property revert back to the transportation agency if used for other than a public purpose. For most of the states, sales or transfers to other state agencies or local units of government can be at less than fair market value. The reversionary clauses in deeds help discourage local units of government from serving as brokers for private interests and depriving departments of the increase in revenue that may be realized if the property was auctioned on the open market.
- F. If permitted by state law, retain flexibility over whether or not to prepare an appraisal on the property to be sold, depending on dollar value or complexity.
- G. If an appraisal is required for property disposal, use staff or preapproved fee appraisers to complete the appraisal process for property disposal in a timely manner. This will allow staff appraisers to concentrate on property acquisition appraisal activities.
- H. If permitted by state law, avoid use of requests for proposals for disposal of surplus or excess property sales. The survey indicates that properties are marketed in a variety of ways. The most common methods were direct negotiated sales (100 percent of the states responding), followed by sealed bids (89 percent) and then auctions (56 percent). Very few states used requests for proposals which is a time-consuming and staff resource intense activity.
- I. Consider using a minimum bid amount when doing property sales to adequately recoup the state's investment in the property. In the case of sealed bids and auctions, minimum bids should be established. In most situations the minimum bid amount is posted or announced prior to the sale. Most states are not required by statute or policy to set a minimum bid amount as a percentage of value.
- J. Consider using private real estate brokers or the Internet to dispose of properties. Some states use private brokers to market properties. Others (5) use the Internet to announce the availability of property and to explain department sale procedures. The use of private brokers and the Internet are marketing techniques which will be used increasingly, given the increased emphasis on privatization and technology.
- K. If permitted by state law, consider offering financing as a means of attracting buyers. In the survey, only four states offered financing as a means to attract more buyers.

- L. Keep all options open in your plan to market properties for sale. The ability to market property in a variety of ways increases market exposure and buyer interest. In the survey, those states accomplishing the most sales used a wide variety of marketing approaches

Guideline 3

Maximize the temporary or interim use of Right of Way and excess property.

Best Practices

- A. Consider allowing temporary or interim use of rights of way prior to construction to meet external customer demand and provide the state a revenue source. To meet the needs of modern society, highway and railroad modes of transportation have amassed substantial land corridors. These corridors have attracted the attention of public and private interests as viable corridors for non-transportation uses (e.g., utility, telecommunications, trail, etc.). Access to right of way is also actively pursued by private interests. Temporary or interim use of excess property may be appropriate in cases where the property is needed for some distant future need.
- B. Lease excess property to generate revenue and maximize the return on the state's investment. All states surveyed leased excess property. Most leases were less than six years in length. Properties are leased for both commercial and residential purposes.
- C. Actively manage properties to maximize income and minimize vacancies. The survey revealed that most states used either staff or private management companies to manage multi-unit residential property.
- D. Require security deposits on leased properties. Most states (70 percent) required security deposits on leased residential properties.
- E. Develop clearly written leases that provide for possible future transportation needs. When leasing excess property, leases should clearly state the responsibilities and liabilities of the respective parties. Cancellation provisions should be written to avoid condemnation if a transportation need arises for the property. Care should be employed when executing leases for temporary recreational purposes, like trails, in order to eliminate possible Section (4) (f) problems that could impact later highway construction projects.
- F. Develop comprehensive guidelines to effectively manage telecommunication antenna sites. This should include: engineering requirements, site approvals,

termination conditions and lease rates.

- G. Develop criteria defining eligible users and allowable uses to effectively manage longitudinal leases. Sixty-one percent of the states responding to the survey did not lease longitudinally within the right of way. Of the states that did allow longitudinal leases, the leases were allowed within both limited and non-limited access rights of way. In several states, longitudinal leases were restricted to a select group of users (e.g., utilities, fiber optic companies, etc.) These restrictions were imposed by either statute or policy. Lease rates in three states responding to the survey were set by statute.

VII. UTILITIES

Guideline 1

Use current available technology to the greatest extent possible.

Best Practices

- A. Consider initiating more research and expand use of Geographic Information Systems (GIS) to map utilities. "GIS are being used in Europe for mapping right of way properties. In Norway and England, software programs have been developed and GIS is being used extensively for right of way mapping. . . More research into the feasibility of using GIS to map utilities needs to be initiated." *Supra* at p. 24.
- B. Ensure utilities are depicted at appropriate quality levels on all highway plans. Collect Subsurface Utility Engineering (SUE) information early in the development of all highway projects, and use it to.
 - 1. Encourage the Federal Highway Administration (FHWA) to continue its support of SUE. The FHWA's efforts to document cost savings, demonstrate benefits, allow Federal funds to be used, and to continually encourage the use of SUE has proved helpful to State transportation departments that are trying to establish and maintain SUE programs.
 - 2. Keep good records of cost and timesaving. This information is often beneficial for justifying the continuation of Subsurface Utility Engineering programs to upper management. See the FHWA study, "Cost Savings on Highway Projects Utilizing Subsurface Utility Engineering" (2000) for evaluating cost savings.
 - 3. The American Society of Civil Engineers (ASCE) has developed a standard guideline to present a system of classifying the quality of existing subsurface utility data. This document is entitled, CI/ASCE 38-02, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data. The process described in the guideline will allow the project owner, design engineer, subsurface utility engineer, constructor, and utility owner to develop strategies to manage risks caused by existing subsurface utilities in a defined manner. All State transportation departments should comply with the requirements in this standard guideline.
 - 4. Examples:

- The Virginia Department of Transportation has been using Subsurface Utility Engineering since 1984. It is presently used, to some extent, on virtually every highway project.
 - Some of the other states making extensive use of Subsurface Utility Engineering include Maryland, Illinois, Georgia, South Carolina, North Carolina, Maryland, Texas, Ohio, New York, Florida, Montana, Arizona, Delaware, Pennsylvania, Utah and Michigan. In addition, many local highway agencies use Subsurface Utility Engineering.
 - State transportation departments utilizing SUE to some degree and/or developing programs for future implementation include: Pennsylvania, Washington State, Oregon, Utah, Nevada, and Arkansas. Maine, Missouri, Illinois, and New Jersey.
- C. Encourage the development of a computer-aided design drawing (CADD) database and electronic transfer systems for on-line permitting and the transfer of plans and other documents between utility companies and transportation departments.

Guideline 2

Encourage frequent coordination and communication with local governmental agencies to reduce delivery time, reduce costs, and improve quality in the utilities process.

Best Practices

- A. Extend pavement life by minimizing utility pavement cuts on State-maintained roads and streets. "Pavement cuts are a significant problem in Europe. . . In Germany, underground utility crossings on major roads are made by boring, jacking, directional drilling, or similar means. But pavements are frequently cut for utility crossings on lesser roads and for fiber optics installations on streets. The scanning team recommends that the US make a greater effort to use trenchless technologies for highway and street crossings and to control the frequency of pavement cuts to access or install utilities under city streets." *Supra* at p. 24.

Pavement cuts are also a problem in the United States. Pavements on lesser rural highways are routinely cut for utility crossings. In the cities, pavements are frequently cut to access the many utilities located longitudinally beneath

the streets. Fiber optics installations are becoming particularly troublesome as streets are torn up for installations and then poorly repaired. Even excellent repairs are not sufficient to prevent reduced pavement life in cut pavements.

Better efforts need to be made in the United States to utilize non-destructive technologies for highway and street crossings, and to better control the frequency of pavement cuts to access or install utilities under the pavement of city streets. In this regard, The FHWA has published a manual entitled, “Manual for Controlling and Reducing the Frequency of Pavement Utility Cuts.” This manual provides guidance and support for state and local agencies in developing policies and promoting technologies for controlling or reducing the frequency of utility cuts in pavement infrastructure.

1. Many states have considered it to be in the public interest, even considering difficulties associated with liability, colocation spacing and future transportation construction or maintenance requirements, for transportation agencies to accommodate utilities on highway right-of-way. Some states have statutes that give utilities the right to occupy highway rights-of-way. As a result, many utilities have been placed longitudinally under the pavement. When maintenance of the utility facility is required, it is often necessary to cut the pavement. Even under the best conditions, this practice disrupts traffic and reduces the life of the pavement. The coordination and control of pavement cuts is affected by who performs the work -- local government agencies, public and private utility companies, utility contractors, paving contractors. Yet, despite who does what in terms of utility installations, modifications, or repairs local government agencies have the ultimate responsibility for seeing that pavement cuts for utilities are properly made and that pavements are properly restored.
2. Transportation agencies should work with local jurisdictions to ensure utility work involving pavement cuts is efficiently carried out. This can be done through the development and/or proper use of permit requirements, performance bonds, liability insurance, specifications, identification markings, inspection, and communication.
3. Examples:
 - The FHWA has published a manual entitled, “Manual for Controlling and Reducing the Frequency of Pavement Utility

Cuts “DTFH61-01-00024 ” This manual provides guidance and support for state and local agencies in developing policies and promoting technologies for controlling or reducing the frequency of utility cuts in pavement infrastructure.

- Some transportation agencies are requiring utility companies to provide a traffic control plan prior to working within the right of way and when working within the roadway sections. Requiring utility companies to provide inspectors to take compaction tests to assure proper compaction of the sub-grade is required in some states. Other states are requiring utility companies to refill the trench with "non-shrink backfill", which is a lean concrete mix that requires no compaction and allows traffic across the trench in a short time. The use of water jet/vacuum systems is causing concerns due to water saturation during excavation and future pavement settlement issues. Some agencies are recommending replacing water-jet systems with air-vacuum excavation systems.

Guideline 3

Encourage frequent coordination and communication with utility companies to reduce delivery time, reduce costs, and improve quality in the utilities process.

Best Practices

- A. Provide utility companies with long-range highway construction schedules.
- B. Host meetings with utility companies to discuss future highway projects.
- C. Recognize the importance of long-range highway/utility coordination. The better utilities are able to foresee potential impacts on highway projects to their systems, the more responsive they will be to the transportation agencies need and the better they can account for such impacts in their capital construction programs. Conversely, transportation agencies will improve the quality of project scoping, budgeting, and design efforts if they can obtain early information on utility construction programs and potential conflicts.
- D. Organize periodic (monthly, quarterly, annual) meetings with utility owners within a municipality, county, or geographic or highway-planning region. Such meetings may include all utilities within a corridor or locale; or utilities of a particular type; or be one-on-one with individual utilities. Furnish information on the Department of Transportation long-range highway

schedule, such as annual budgets, five or ten-year plans, projected advertisement dates, or whatever else may be available to provide early notice. Be prepared to discuss right of way corridor or other major projects and their potential impacts on existing utilities. Identify probable major conflicts and insure this information is communicated to the project designer and reflected in the project scope.

- E. Solicit similar information on utility owner's capital construction programs, particularly where a utility's planned expansion or reconstruction may encroach on and coincide with a planned highway project. Look for opportunities to coordinate such overlapping projects so costs and public impact may be minimized. Through schedule changes, try to avoid situations such as where a new buried utility line disrupts a newly reconstructed highway.
- F. Consider using the long range-planning meeting as a convenient forum to discuss other highway/utility issues, such as accommodation policies, reimbursement, etc. What begins as a series of informal planning meetings could eventually evolve into a local, regional, or statewide "utility coordination committee."

Examples:

- The Florida Department of Transportation provides a five-year work program to utility companies on a semi-annual basis and is exploring ways to make more use of the worldwide web to keep the industry current.
 - In Nevada, monthly meetings with local utility companies and local entities are held in the Las Vegas area in order to enable participants to address upcoming project needs and identify better ways to improve future projects when dealing with utility relocations. This provides an opportunity for the Nevada Department of Transportation to better coordinate efforts with county officials and utilities to prevent project delays and costly mitigation.
 - The Montana Department of Transportation provides 5-year long-range project schedules to all utility companies. These schedules are segregated by geographical area.
- G. Consider providing earlier preliminary notice to Utilities companies in order to allow the Utilities companies to budget for relocations and have sufficient manpower

available to do the work. Provide utility companies with a notice of proposed highway improvements and preliminary plans as early in the development of highway projects as possible.

- 1) Assure utility companies understand that the dates the work may actually take place are subject to change, that the preliminary plans are subject to many changes, and no relocation work should begin until firm letting dates have been established, plans have been substantially completed, and the Department of Transportation provides notification that work can begin.
- 2) Examples:
 - In Wisconsin, all utility facilities the Department of Transportation is reasonably able to recognize are included in such a notice. Within a reasonable time, usually about 60 days, utility companies are expected to respond to the notice and provide a description of facilities in the vicinity of the improvements, including specific reasons or needs for those facilities to remain in place or be relocated. After each utility responds to the notice, the Department of Transportation mails the utility at least one set of preliminary project plans. These plans should show all existing utility facilities known to the Department of Transportation in areas where they will conflict with the improvements. This process is followed by the Wisconsin Department of Transportation in accordance with a State law enacted to prescribe minimum utility coordination requirements in order to prevent utility relocations from delaying highway projects. [Sec. 84.063, Wis. Stats. Utility Facility Relocations and related Administrative Rule Trans 220].
 - In Missouri, the Department of Transportation furnishes micro station plan files with utility companies to reduce the drafting work by the utility companies. This process expedites development of utility relocation plans on a project.
 - In Florida, the Department of Transportation provides utility companies advance notice of proposed highway improvements and furnishes preliminary route plans. The Department of Transportation also submits 30, 60, and 90% plans to utility companies as part of the design process. At least one Florida Department of Transportation district sends

the utilities a monthly mail-out listing all projects in the production and letting cycle. This typically gives the utilities about 18 months advance notice of planned projects. Twice yearly, the Department of Transportation's five-year work program is sent to all utility companies in the state. The Florida Utility Coordination Committee meets quarterly at different locations around the State. Currently, the Department of Transportation maintains a utility web page containing the Department of Transportation's five-year work program, names, addresses, and contact numbers of district utility engineers, advice on obtaining permits, and permit forms and agreements.

- Georgia and South Carolina also host regular meetings with utility companies to advise them of pending projects and to review and submit preliminary plans to utility companies.

- H. Reduce conflict with Utilities companies which occurs after Design is complete by involving utility companies in the design phase of highway projects where major relocations are anticipated.
1. Meet often with utility owners and highway designers, throughout the development of projects, to coordinate ongoing activities.
 2. Conduct on-site meetings or plan-in-hands with utility companies to determine utility conflicts and appropriate resolutions.
 3. Conduct detailed meetings monthly on major projects, as a minimum, in order for all parties to keep abreast of the project status and changes.
 4. Cost effective advance planning is essential to utility companies since they must now compete under deregulation. The Department of Transportation's help and cooperation is needed more than ever. It is not good business, and may have negative political consequences, if Department of Transportation's attempt to dictate to utility companies.
 5. Department of Transportation project engineers should meet individually with representatives from every utility company in order to minimize the possibility the Department of Transportation will reject utilities' relocation plans and require them to redesign the relocation. Early involvement can decrease the cost and impact of

projects by identifying conflicts that can be avoided.

6. Involve utility companies in the right-of-way design phase to assure utility companies have room between the construction limits and the new right-of-way in which to relocate facilities.
 - The Pennsylvania Department of Transportation holds on-site meetings with utility companies in all 11 of their engineering districts. This produces valuable information for and from involved utilities and has not appeared to affect the time frame of projects.
 - The Virginia Department of Transportation contacts utility owners during the design phases of projects where major relocations are anticipated. This allows planners to understand relocation needs and to identify major right-of-way corridor requirements for anticipated relocations. This has worked particularly well for major power transmission and petroleum pipeline relocations. The Virginia Department of Transportation has only had limited success involving utilities on projects where few relocations are anticipated because utility owners seem to prefer to wait until after the design has been essentially completed to discuss relocations. The Virginia Department of Transportation strives to avoid or minimize as many relocations as possible through application of their subsurface utility engineering program.
 - Some states such as Iowa design right of way limits at least eight meters beyond the construction limits to allow utility companies room to relocate facilities.
- I. Conduct on-site utility meetings or utility plan-in-hands with utility companies to determine utility conflicts and resolution.
- J. Participate in local one-call notification programs to the maximum extent practicable per state law. Preventing damage to underground utilities by excavation activities is a problem in Europe. "Utility companies in Germany are responsible for identifying all of their underground facilities and making this information known to highway contractors prior to excavation. Highway contractors in The Netherlands are required to call a national information

center to obtain pertinent information about underground utilities in the area before they begin excavation activities. Highway contractors in United Kingdom must notify all affected utilities before they begin to dig. Despite these activities, damage to underground utilities continues to occur. Extensive one-call notification programs have been developed in the United States to reduce damage to underground utilities caused by excavation activities. Even so, damage continues to occur. In order to protect underground utilities from unnecessary damage, state DOTs should utilize one-call notification centers at an appropriate level of participation, and should provide sufficient oversight to assure that highway contractors fully participate in one-call notification programs." *Supra* at p. 37.

1. Utilize one-call centers at an appropriate level of participation to protect underground facilities.
 - Many utilities are damaged by transportation department's forces engaged in excavation activities. Highway related activities have been estimated to result in up to 20 percent of all damage to underground utilities. Transportation department forces should always "call before they dig." There may be times and situations when it is not practicable to do so. But, in general, taking the time to call for locates before beginning excavation activities will reduce much damage to utilities, including State-owned utilities. And, there is no charge to the Transportation Departments for this service.
 - Require contractors to fully participate in local one-call notification programs whether required by State law or not. (Departments of Transportation in several States are specifically excluded from one-call requirements, but contractors are not).
 - This would include contacting the local one-call center prior to digging, waiting for the site to be marked before beginning to excavate, protecting the markings after they are placed, and hand digging within two feet on either side of marked lines.
 - Oversight should be provided to assure compliance. Penalties should be assessed for non-compliance.
 - Contractors should be held responsible for damage caused by non-compliance.

2. State transportation departments own or manage many underground utilities, sometimes vast, statewide networks for traffic signalization, lighting, ITS, and other purposes. Some transportation departments are specifically exempted by State law from having to participate in local one-call activities. This is possibly because participation may appear to be cost prohibitive due to the expected large volume of calls by excavators for marks and subsequent marking activities. Even so, to the extent allowable, transportation departments may become members of local one-call centers and participate in one-call activities to protect their own utilities from excavation activities.
 3. Examples:
 - A regional communication company with underground fiber optics lines in nine states determined that 18 to 22 percent of all damages to its facilities in 1997 to 1999 were caused by state and local highway activities.
 - The North Carolina Department of Transportation is participating in a test program in six counties to determine an appropriate level of participation by the Department of Transportation in the North Carolina One-Call Center.
 - Montana Department of Transportation is securing proposals for a locating services company to locate state owned facilities for all one-call requests.
 4. The FHWA considers damage prevention to be a two-part process involving Subsurface Utility Engineering during the early development of a project and One-Call Notification during the construction phase of a project.
- K. Invite utility companies to preconstruction meetings and encourage or require utility companies, contractors, and project staff to hold regular meetings, as deemed appropriate, during the construction phase of a project.
1. Encourage or require all utility owners, who must coordinate their relocation work with the highway construction, to attend the project pre-construction conference. The purpose of their participation is to:
 - Establish contact with the Department of Transportation project manager and with the contractor's organization.

- Confirm the utility's physical relocation plans.
 - Verify the utility's relocation schedule and notification/coordination requirements as may be further described in the project specifications.
 - Resolve other coordination details, such as signing/traffic control, site preparation by highway contractor, etc.
2. Give utility owner representatives sufficient advance written meeting notice to facilitate their attendance. Confirm their planned attendance by follow-up telephone call. Designate a specific time during the preconstruction meeting to address utility issues. Honor that meeting schedule and allow the utility representatives to be present only as needed during the reserved time period. Depending on the number and complexity of the utility conflicts, reserve separate times for individual utility owners.
 3. At the discretion of the Department of Transportation's utility engineer or utility liaison, hold a separate pre-construction meeting with utility representatives and/or utility subcontractors. This sometimes provides a more comfortable setting for utilities to address their coordination needs. If potentially serious concerns are identified, the Department of Transportation representative can then provide liaison between the utility and the highway contractor. A separate meeting with utility representatives may also avoid tying up the time of other Department of Transportation and contractor representatives who may have little direct involvement with the utility issues.
 4. Examples:

- Wyoming recommends utilities that are affected by project construction to attend the preconstruction conference. The Wyoming Department of Transportation assigns levels of utility involvement with a project so that utility companies and contractors are familiar with the extent of each utility company/contractor coordination work that is necessary. Wyoming also invites utility companies affected by a project to attend partnering meetings.
 - The Virginia Department of Transportation encourages or requires regular meetings between the contractor, utility owners, and others on major projects.
- L. Take the lead in developing and supporting utility coordinating committees. It is important to enhance cooperation, coordination, and communication with utility companies. "In the United States, according to the United States General Accounting Office, the states that have active utilities coordinating committees that meet on a regular basis to discuss common problems have fewer utility-related problems than other states. The team recommends that State DOTs continue and intensify efforts to meet with utility company representatives regularly. DOTs should take the lead in developing and supporting utilities coordinating committees." *Supra* at p. 35.

The Florida Utilities Coordinating Committee meets quarterly at various locations around the state. It is well attended by State transportation department and utility company personnel. Many common problems are discussed and many issues are resolved. In addition, these two-day meetings provide sufficient time for networking and social interaction, both of which contribute significantly to better understanding and better working relationships.

The North Carolina and South Carolina Utilities Coordinating Committees meet annually for a two-day joint meeting, alternating each year from state to state. Both have many chapters that meet on a regular basis at locations around the states.

Guideline 4

Use or consider establishing utility corridors for utilities crossing major highways or located longitudinally along highway rights of way.

Best Practices

- A. Consider establishing utility corridors for future utility use. This practice is

used successfully in Europe. States should "use or consider establishing utility corridors for utilities crossing major highways or located longitudinally along highway rights of way. Conduit can be placed within these corridors for future use by multiple utilities and/or joint trenching can be used to systematically arrange multiple utilities in the same trench." *Supra* at p. 35.

- B. Continue to develop or enhance utility pole safety programs by locating utilities underground. This has been successfully accomplished in Europe. "Utilities in most of the countries visited are routinely placed underground. As a result, utility pole collisions are not a problem. In the United States, utilities are located underground for aesthetic rather than safety reasons. However, some state DOTs are addressing the safety issue by developing and implementing utility pole safety programs designed to systematically relocate hazardous utility poles.

The team recommends that state DOTs continue to develop or enhance utility pole safety programs. Undergrounding should be considered as a possible countermeasure. Undergrounding all utilities in the United States would be very costly, and in some states it would be difficult due to unfavorable soil conditions. State DOTs should evaluate their decision-making process for utility installations, looking beyond construction costs to give appropriate weight to factors such as safety, environmental effects, and community aesthetics." *Supra* at p. 35.

- C. Consider utilizing pipelines along highway right of way as a mode of transportation to carry freight. "In the Netherlands, a new national plan recognizes utilities as a mode of transportation. As such, more credence is given to the contribution of utilities to transportation. Initially, this will include more utilization of gas transport lines, followed by increased utilization of water, electrical, mineral, and petroleum transport lines.

As highways in the United States become more congested and air quality concerns increase, taking advantage of pipelines to transport essential products normally transported by trucks may be beneficial. State DOTs could consider methods to foster pipelines as a mode of transportation. This could involve facilitating research and developing methods to exploit pipeline transport, including establishing routes and corridors for pipeline companies or funding construction and operation of pipelines." *Supra* at p. 36.

The FHWA Office of Program Administration (HIPA) has initiated the following experimental project to test and evaluate innovative European

utility practices. The North Carolina State University Center for Transportation and the Environment (NCSU/CTE) initiated a literature search. It was found that the Texas Transportation Institute (TTI) has designed a system whereby pipelines would be used to carry freight from Dallas, Texas, to Laredo, Mexico. TTI is presently looking for a funding source to build a prototype.

- D. Consider cost sharing for utilities on public and private right of way. "In England, when utilities located on highway right of way are required to relocate to accommodate highway construction, the utility companies and the Highways Agency pay 18 percent and 82 percent of the total relocation cost, respectively. This cost includes preparation of estimates, preliminary engineering, advance materials orders, supervision, inspection, overhead, and other eligible expenses. In addition, 75 percent of the Highways Agency's 82 percent may be paid to the utility company in advance, either by lump sum or by installment. State DOTs should consider such a cost sharing arrangement for utilities located on both public and private rights of way. Theoretically, this would be an incentive for utility companies to relocate their facilities in a timely manner. It also would eliminate costly, time-consuming arguments over who has prior rights. In addition, state DOTs should consider paying preliminary engineering costs up front in exchange for an agreement from the utilities to complete work in a timely manner. They should also consider paying construction costs up front under a pre-financing agreement in cases where disagreements over project costs threaten delays." *Supra* at p. 37.

The FHWA Office of Program Administration has also initiated the following experimental project to test and evaluate innovative European utility practices. Investigation of the feasibility of paying preliminary engineering costs for all utility relocations. The Virginia DOT began a pilot program in September 2000 in which it agreed to pay 100 percent of all preliminary engineering costs for utility relocations regardless of who had prior rights. Results to date have been statistically inconclusive; however, early returns appear to indicate that the benefits are outweighing the cost. The pilot project is continuing. As mentioned previously, the Florida DOT has negotiated utility easements with the property owners, on behalf of the utilities, in order to streamline the process.

Each state should consider any legal constraints in their ability to use department funding for this.

- E. Consider protected highway designation to increase highway capacity and facilitate traffic flow. In England, the Highways Agency has the power to

designate a roadway as protected, precluding new utility installations. Existing utilities on newly designated roads may repair facilities and make service connections, but may not expand or replace facilities on the right of way. This designation currently applies to motorways and other major highways. As DOTs in the United States search for ways to increase highway capacity and facilitate traffic flow on the National Highway System, consideration should be given to ways in which this idea may apply." *Supra* at p. 37.

- F. Consider accommodation of fiber optics and wireless telecommunications towers on highway rights of way for the purpose of enhancing the development and implementation of Intelligent Transportation System (ITS). "Fiber optics and wireless telecommunications towers are being installed in Europe. . . Many states in the United States have entered into resource sharing arrangements with both fiber optics and wireless telecommunications providers. Cash and services have been received in exchange for use of highway right of way. Intelligent Transportation Systems (ITS) have been greatly enhanced by these installations. State transportation departments should continue pursuing these resource-sharing arrangements, but care should be taken to assure that the safety, operations, and integrity of the highways are not unduly compromised." *Supra* at p. 38.

The FHWA has published a "Design Guide for Fiber Optic Installation on Freeway Right-of-Way" to provide practical guidance for State personnel to work effectively and comfortably with telecommunication providers. The FHWA is also providing an interactive two-day workshop for State personnel providing an introduction to fiber optics installation.

- G. Use standardized utility agreements. Such agreements are frequently used in Europe. "These agreements save time for both DOTs and utility companies, including the time necessary to consummate agreements. The team recommends that state DOTs not using master utility agreements consider doing so. AASHTO and/or FHWA should consider developing model master agreements or distributing sample master agreements obtained from State DOTs that use them." *Supra* at p. 36 .

1. Examples:

- The Pennsylvania Department of Transportation uses standard agreements on approximately 95% of their projects. Utility and Department of Transportation attorneys in Pennsylvania are receptive to standard agreements. They know what is in them and usually sign without question.

- In Missouri, the Department of Transportation pays the utility company, upon request, the estimated cost of relocation before the utility company begins the work. Relocation of utilities is expedited since budget concerns are eliminated which previously created a strain on the ability of a utility company to perform the relocation work.
- Other Departments of Transportation such as Montana use standard agreements for the majority of utility relocation work

H. Initiate separate contracts for advance roadway work on selected projects prior to utility relocation.

1. Advance roadway work may consist of, but is not confined to, the following activities: clearing and grubbing, slope staking, monumentation, demolition of buildings, advance grading.
2. On selected projects, the letting of advance roadway work as separate contracts in advance of the grading may enable utilities to be relocated prior to letting the roadway contract. This will help reduce delays to the contractor waiting for utilities to be relocated out of the way.
3. There may be situations where utility relocation work could begin, but must await advance roadway work, and, for whatever reason, letting of the primary contract including that work has been delayed. In such cases, separate contracts for the advance roadway work would afford an opportunity to relocate utilities out of the way in advance of the primary highway contract. The Department of Transportation should consider reimbursing the utility company, with project funds, for this work if the utility performs the work or contracts it.
4. Examples:
 - The Iowa Department of Transportation has recognized relocation delays awaiting clearing and grubbing to be a problem at times and has recommended separate clearing and grubbing contracts on selected projects as a solution.
 - The Florida Department of Transportation has let separate

clearing and grubbing contracts. As an innovative idea, the Department of Transportation sought legislation that passed, effective July 1999 which allows the Department of Transportation to pay utility companies to do selected clearing and grubbing if they would agree to do the relocation work in advance of the highway construction. The FHWA has agreed to participate in this work on a project-by-project basis. This is expected to help reduce delays and shorten the contract time for highway projects.

- The Virginia Department of Transportation has let on-call contracts for the demolition of buildings and miscellaneous structures prior to the advertisement of the highway project, but has not found it to be advantageous to oversee separate clearing and grubbing work. Most of the utility companies in Virginia who perform on a force account basis have contractors available on a continuing-contract basis. The use of that method does not seem to cause any delays or inefficiencies. The Virginia Department of Transportation encourages the practice of having contractors available to demolish vacant structures that are in the way of utility relocation, but doesn't believe this practice should be extended to clearing and grubbing.

- I. Set forth responsibilities for appropriate action to reduce delays to contractors.
 1. There should be a clear understanding of each party's responsibilities and rights, preferably supported by case law or statute.
 2. The Department of Transportation is responsible to ensure the utility owner has adequate lead-time and notice and to control or make allowance for late highway design changes.
 3. There should be a notice, or preferably a written agreement describing the work required, the schedule for performance, and penalties for noncompliance.
 4. There must be mutual agreement for, and allowances made for all changes made in the field during construction.
- J. Provide utility special provision language in the construction contract.

1. Special provisions are needed to define the responsibilities of the Department of Transportation's highway construction contractor with respect to cooperation with the utility owner.
2. Special provisions provide a formal statement of the timing schedule and work windows between contractor, utility owner, and Department of Transportation. This levels the playing field and ensures all of the players are aware of their responsibilities.
3. Standard special provisions help establish statewide uniformity.
4. Helps to ensure that there will not be conflicts between utility companies for same work site location and time.
5. Provide notice to the Department of Transportation's contractor of agency's requirements for protection in place and workarounds.

K. Avoid late plan changes.

1. Late plan changes tend to complicate and often delay utility relocations for construction projects. Projects have been delayed because utility relocations are affected by late plan changes. In some cases utility companies have been required to relocate previously relocated facilities because of late plan changes, resulting in increased costs to both utility companies and Departments of Transportation.
2. Late plan changes must be avoided to help compensate for increased numbers of utilities being placed on highway right-of-way, increased funding for highway projects, increased utility relocation requirements, and reduced utility company and Department of Transportation engineering staff.
3. Plan changes due to right-of-way acquisition have a similar impact on utility relocations.

L. Have highway contractors relocate utility and municipal facilities, when possible.

1. Although it is generally acceptable for the utility owner to relocate its facilities with its own forces (see 23 CFR 635.205(b)), other construction methods are available, including but not limited to having the work performed on the owner's behalf by the highway

contractor (see 23 CFR 645.115). In consultation with the utility, select the appropriate method based on cost effectiveness considerations, including whether the work can be done at a reasonable cost and "at a time convenient to and in proper coordination with the associated highway construction" (23 CFR 645.115(a)).

2. Incorporating the utility relocation work into the highway contract has the following potential advantages:

- Greater utilization of contractor's equipment and manpower.
- Less duplication of effort on items such as traffic control.
- Lower bid prices by consolidating items such as excavation under a single contract.
- In determining if the highway contractor should relocate utilities, consider:
- Whether the utility work must be performed prior to or concurrent with highway work.
- Whether the highway contractor can be reasonably expected to perform the utility work; or if the work can be readily subcontracted. In some cases a pre-approved list of contractors acceptable to the utility company is an option.
- Whether the utility work substantially alters the planned scope of the highway project.
- Whether utility owner and/or labor union policies allow others to perform the work, and if so, under what conditions, e.g., the use of pre-approved subcontractors, use of proprietary materials, etc.
- Potential efficiencies to be gained by consolidating the utility and highway work.
- Whether the necessary funding can be put into place.

3. In determining if improved ability to control the work, DOT's should coordinate sequential or concurrent operations (with a corresponding

reduced risk of delay or disruption).

4. If the Department of Transportation and utility agree to incorporate the work into the highway construction contract, make appropriate written arrangements for work performance, standards, payment, inspection, liability etc. If the utility is responsible for relocation costs, make provision for the utility to either fund the work in advance, or reimburse the highway agency (or contractor) upon completion. In the event bid prices for the utility work are excessively high, make contingency plans for the work to be withdrawn from the contract and performed by other suitable means, or for the responsible party to make up the shortfall. As needed, incorporate utility-furnished or approved plans and specifications into the highway project bid package. Make adequate provisions for the owner to inspect and accept the work.

- M. Consider contracting for utilities in Design-Build Contracts. In practice, utility work that is more readily performed by highway contractors, or their subcontractors, may include such items as storm and sanitary sewers, water lines, gas line service laterals, manhole and valve cover adjustments, and sleeves or ducts for later use by utilities. Power, communications, and high pressure commodities pipeline companies may be reluctant to delegate work on their facilities, due to safety, union, proprietary, or other concerns (however, they may allow the use of pre-approved subcontractors). Highway contractors may likewise be reluctant to assume responsibility for work that is well outside their normal qualifications or experience. "The team supports FHWA and AASHTO efforts to examine the feasibility of incorporating right of way functions, as well as utilities, into the design-build process. The team encourages State right of way and utilities personnel to study the benefits of design-build contracting, including shortening the project development process by eliminating many procedural procurement processes." *Supra* at p. 38.

Contracts for design-build projects in the United States often fail to include utility relocations. By including utilities in these contracts, risks of utility-related delays would be transferred to highway contractors, thus reducing delays and the expense of large overruns. State DOTs not already including utilities in design-build contracts should consider doing so.

- N. Consider utility installations by highway contractors to enhance the highway contractor's control of their production schedule and to reduce subsequent delays or disruptions. "In Norway and United Kingdom, highway contractors sometimes place conduit for the utility companies. This also occurs on some

projects in the United States. State DOTs, in conjunction with utility companies, should consider allowing highway contractors, or their subcontractors, to install such items as conduit for later use by utilities, storm and sanitary sewers, water lines, and possibly power, communications, and high-pressure pipelines. This will provide an improved ability for the highway contractor to control the work and to coordinate sequential or concurrent operations, thus reducing the risk of delays or disruptions." *Supra* at p. 36, 37.

- O. Acquire sufficient Right of Way for utilities purposes. "Several European countries visited acquire right of way for utility purposes. Some State DOTs in the United States do this also. When State DOTs are in the process of acquiring right of way for highway purposes, they could consider acquiring, in consultation with the affected utilities, sufficient right of way to accommodate utility needs. This would minimize the inconvenience to property owners created when both DOT and utility representatives approach them trying to acquire property rights." *Supra* at p. 37.
 - 1. When a Department of Transportation requires utilities to be relocated to accommodate highway construction and intends to permit utilities to be accommodated on the right-of-way of a proposed new highway project, such use should be considered in determining the extent and adequacy of the right-of-way needed for the project. Failure of the Department of Transportation to acquire sufficient right-of-way to accommodate utilities may affect the safe and efficient operations of the highway.
 - 2. When a Department of Transportation dedicates or permits a portion of highway right-of-way for use by utilities in accordance with established criteria pursuant to State law, regulation, or policy, such right-of-way may be considered eligible for Federal-aid reimbursement as an integral part of the project right-of-way.
- P. Provide training to Department of Transportation utility staff and utility companies' staff.
 - 1. Department of Transportation utility staff should have continuous and ongoing training in department operations and requirements that may come into play during the utility relocation process. Some examples are changes in design standards, environmental requirements to require the utility companies to comply with federal and state environmental regulations and laws and federal codes and state

statutes that deal with utility relocation and reimbursement.

2. Department of Transportation utility staff should be trained and familiar with utility company design, estimating, billing, placement, and bidding requirements so as to avoid confusion during the utility relocation process.
3. Department of Transportation staff should provide training for utility company staff in utility relocation procedures required by the department. In addition, department staff can provide training on how to read plans and cross sections to enable utility company staff to design facilities to avoid conflict with the project construction.
4. An excellent resource to share with utility companies is the Highway Utility Guide and the Program Guide, Utility Adjustments and Accommodation prepared by the Federal Highway Administration.
 - a) Examples:
 - Pennsylvania Department of Transportation is preparing a video to be distributed to utility companies on how to read department plans.
 - Other Departments of Transportation host periodic meetings with utility staff to better acquaint them on department requirements, such as utility permitting.

- Q. Designers should try to avoid utility relocations rather than ignoring the impacts of utilities on the construction costs and timing of a project. See FHWA publication "Avoiding Utility Relocations".

The North Carolina State University Center for Transportation and the Environment (NCSU/CTE) initiated a literature search. It was found that the Texas Transportation Institute (TTI) has designed a system whereby pipelines would be used to carry freight in Texas from Dallas to Laredo. TTI is presently looking for a funding source to build a prototype.

- R. Consider including should include utilities in design-build contracts. "In the three years following the scanning study, England's Highway Agency planned to advertise 19 design-build contracts for major projects. Utility relocation is an essential part of these projects.

Contracts for design-build projects in the United States often fail to include utility relocations. By including utilities in these contracts, risks of utility-related delays are transferred to highway contractors, reducing delays and large cost overruns. The scanning team recommends that State DOTs not already including utilities in design-build contracts consider doing so." *Supra* at p. 36.

The South Carolina transportation department has had extensive experience including utilities in design-build projects. They have determined that the agreements for utility relocations and all payments should be between the State and the utility companies, but that the contractor should be held responsible for coordinating the utility relocation work.

- S. Make every effort to avoid relocating utilities to accommodate highway construction by investigating techniques to avoid unnecessary utility relocations.

The FHWA believes it is essential for transportation departments to use Subsurface Utility Engineering (SUE) to collect and depict existing underground utility information, and for highway designers to use this information at the 30% design stage, or preferably sooner, if serious efforts are to be made to avoid unnecessary utility relocations.

The FHWA has published a manual entitled, "Avoiding Utility Relocations." This manual provides guidance for collecting subsurface utility information early in the development of projects and techniques designers can use to "design-around" utilities.

The FHWA has developed and distributed a video entitled, "CCC; Making the Effort Works!" This video encourages highway agencies and utility companies to cooperate, coordinate, and communicate early and often.

VIII. MANAGEMENT PRACTICES

Guideline 1

Use a team approach to share best practices, improve internal communication, streamline processes and improve quality.

Best Practices

- A. Share best practices by requiring managers and senior level realty specialists to meet routinely and report on lessons learned.
- B. Streamline processes by using teams such as a Relocation team, Optimum Workload team or others to continuously reevaluate and improve organizational structure.
- C. Use Quality Improvement Teams after problem areas have been identified to review existing processes and identify methods for improvement.
- D. Use Quality Review Teams as a method to review and improve quality. Recommendations made by the team should be used by management in improving policies and procedures. Provide periodic quality assurance reviews on various Right of Way and Utility processes and incorporate improvement areas into the training program. Include FHWA as a review team member.
- E. Use highly skilled, multi-disciplined teams, comprised of a manager and specialists, to recommend methods of reducing costs and time and improving quality and improving communication and understanding of the project, including its necessity and design concepts. This team concept provides cross training of all team members in all phases of right of way acquisition including project planning and increases employee awareness and sense of ownership of the project.
- F. Discuss alternative or innovative practices of district or field offices at routine management meetings.
- G. Encourage organizational commitment to overall project management instead of commitment to particular individual functional areas or specific phases in a project.
- H. Enhance decision-making at the lowest effective organizational level by increasing delegated responsibilities from the headquarters or central office to district or field offices throughout the state. This effort should result in

reducing time spent processing requests for approvals.

- I. Make processes concurrent rather than a linear-type handoff between offices or functional areas so that representatives from different offices or functional areas are involved throughout the project development process.

Guideline 2

Provide an effective system for scoring the quality of consultant services.

Best Practices

- A. Develop a scoring system which accurately reflects the quality of the consultant services provided, and ensure that scoring is done on a regular basis and actively use such scores in the selection of future consultants.
- B. Provide a system which makes previous scores of each consultant available to those responsible for selecting consultants for future contracts.

Guideline 3

Regularly monitor the quality of each program and implement corrective actions, as necessary.

Best Practices

- A. Develop measurements and standards for the acceptable level of quality of each program which are agreed upon by all persons involved in administering the program or in measuring the quality of the program.
- B. Publish results of quality reviews promptly after the completion of each review and provide a process for developing agreed upon corrective actions.
- C. Ensure that quality reviews identify high quality areas as well as deficient areas.
- D. Communicate findings of high quality areas and quality deficiencies in a lessons learned format to all offices.

Guideline 4

Implement a system for obtaining feedback from customers and making adjustments to processes on the basis of such feedback.

Best Practices

- A. Develop a survey which is quick and easy for customers to complete.
- B. Ask customers to complete the survey as soon as possible after the completion of their involvement with the process.
- C. Establish a process for regularly reviewing customer survey responses and developing corrective actions for problems identified.

Guideline 5

Assign staff as project managers responsible for coordinating and managing primary consultants and sub-consultants.

Best Practices

- A. Assist and coordinate consultant and sub-consultant interaction through production status reports, group meetings, established milestones, programmed time lines, and active involvement in the project review process.
- B. Assure consistency in the project through effective pro-active communication between consultants and the project manager(s) and staff before, during and after product submission.
- C. Implement effective evaluations on consultant performance.
- D. Determine acceptability of consultant performance through a review of both random and selective sampling of the product.
- E. Consider requiring consultants to use electronic transmission, review and storage of records.

Guideline 6

Use acceptable risk management practices and Federal Highway Administration regulation flexibility to the greatest extent possible in management of programs.

Best Practices

- A. Use waiver of lien and mortgage releases on partial acquisitions of \$10,000 and under.
- B. Make maximum use of appraisal waiver on uncomplicated acquisitions

valued at \$10,000 or less.

Guideline 7

Facilitate customer relations by providing information and creating partnering relationships.

Best Practices

- A. Provide complete appraisals to property owners to further or foster negotiations efforts.
- B. Provide a letter of introduction from Relocation Assistance to create a partnership relationship.

Guideline 8

Use available current technology to the greatest extent possible in management of the programs.

Best Practices

- A. Consider accessing or publishing information on individual state DOTs best practices to promote information exchange between states on the AASHTO Right of Way and Utilities Subcommittee's website. "The team encourages the AASHTO Right of Way and Utilities Subcommittee to establish an information clearinghouse on right of way and utilities databases, including GIS, for project development, tracking, and management."
- B. Use laptop computers to produce completed forms, such as appraisals, right of way contracts, relocation assistance offers, etc.
- C. Use cellular phones or other electronic means of communication to enhance communication between field forces and central office.
- D. Use the Internet to secure information, such as comparable listings for relocation studies, property title information, cost indexes for appraisers.
- E. Use digital cameras to photograph and store copies electronically so multiple use can be made of them by different programs and to reduce expenses..
- F. Use automated Right of Way information systems, including mainframe and PC-based databases, to produce timely, accurate reports in serving informational, managerial and audit purposes.

- G. Use Key-file, a LAN-based system, to do searches on legal opinions.
- H. Automate manual forms, including contracts, appraisals, conveyances, claims, and other administrative documents.
- I. Schedule formal meetings with field offices or other functional units to address issues and concerns.
- J. Provide consistent procedural responses to issues and concerns raised by field staff or other organizational units.
- K. Encourage district managers to attempt to share resources across district boundaries when planning for projects.
- L. Require consultants and field staff to provide all legal descriptions in electronic form for easy integration into instruments.
- M. Put real estate and Right of Way-related alternative or innovative practices, news, interim or pilot procedures, etc. on the transportation agency's internal web page.
- N. Develop a system, which will allow limited external access to intranet systems to those directly involved in projects (e.g., FHWA and certain consultants) or to entities involved in coordinated activities (Utilities, Metropolitan Planning Organizations, local governmental agencies). Also, provide similar access to procedural manuals, tracking systems and forms, or possibly allow such entities to enter data into the system, when appropriate.

Guideline 9

Refer to available resources and literature to assist in managing the program.

Best Practices

- A. Consider using Federal Highway Administration "Handbook of State Right of Way Office Prototypes, February 1996" as a guide in organizing and presenting best right of way management practices. Recommends six functions or operations:
 - Organizational Planning;
 - Teams and Quality;
 - Organizational Structure;

- Communications;
- Training;
- Technology.

B. Consider using the A.A.S.H.T.O. Highway Subcommittee's Internet Home Page as well as using the Internet E-mail Network of Subcommittee Members.

IX. TRAINING

Guideline 1

Develop a complete basic and advanced training program for new employees and continuing education for experienced staff.

Best Practices

- A. Emphasize the necessity of formal training for right of way and utilities professionals. , "Although training requirements varied in the countries visited, they all place a great emphasis on formal training and continuous employee development. The team recommends that FHWA encourage establishment of a pre-employment degree program and employee education and training programs. This involves exploring the potential for recruiting one or more colleges to provide this service, to include a college degree program for right of way careers and a continuing education program using distance-learning techniques. This proposal expands upon the federal government's potential establishment of a real estate services academy.

Establish a panel comprised of representatives from FHWA, IRWA, AASHTO, and a private consultant to pursue this training concept. FHWA will act as the lead to contact colleges and on-line learning centers, with the goal of developing and implementing such a curriculum by Fall 2002. . Evaluate current mentoring activities in each state through AASHTO's Internet web site. Summarize mentoring methods in the United States and Europe and recommend adoption to the states." .*Supra* at p. 34, 35.

FHWA has spent considerable effort to pursue college degree programs leading to either an associates or bachelors degree in real estate. In response to the Real Estate Training Analysis, found at www.fhwa.dot.gov/realestate, FHWA is producing a web based training course. This course, called Real Estate Acquisition and the Uniform Act: An Overview, NHI # 141045, will become available in 2003."

- B. Develop a training plan to update skills as part of the overall planning process and include training for managers.
- C. Use cross training and skills training to maintain a staff capable of producing quality work.
- D. Management and skills training should not only include training in the technical aspects of Right of Way work, but also in the new requirements generated by the implementation of teams.

- E. Training should include programs for new employees as well as continuing education by assigning the responsibility to one person in each Right of Way decentralized office.
- F. Support staff attendance at seminars and training provided by national organizations such as the International ROW Association, National Highway Institute, and the Appraisal Institute.
- G. Provide in-house basic and advanced training on specializations within each program such as surveying, appraisal, land acquisition and other functional responsibilities.
- H. Utilize available training provided by outside sources such as Professional Land Surveyors Association, American Society of Civil Engineers seminars, outside consultant sources, and National Highway Institute, etc.
- I. Require achievement of specified levels of training for promotion.
- J. Provide tuition reimbursement for college level courses.
- K. Include training sessions in regularly scheduled meetings. Topics should reflect the needs of the organization and support its mission and vision.
- L. Continuously update the Right of Way manual and forms to ensure consistent quality of work.
- M. Include training to improve communication and negotiation skills. This should be in addition to technical training because communication and negotiation skills are equally as important as technical skills.

Guideline 2

Educate right of way and engineering staff in the office's responsibilities in order to fully implement project management principles from project inception through acquisition.

Best Practices

- A. Dedicate a position to coordinate the analysis, preparation and presentation of training classes.
- B. Identify needs through customer feedback tools such as surveys, Quality Assurance Reviews, and performance indicators.

- C. Create a central office/district training committee to approve recommended training and plan for necessary district/central office resources needed. Meet semi-annually to plan and to check progress.

X. APPENDIX A

PROPERTY MANAGEMENT SURVEY

Purpose of the Survey

In order to assess property management practices throughout state departments of transportation, a survey was developed. The purpose of the survey was to establish a baseline for practices used in the management of real property sales and leasing. The survey contained 47 questions on property management issues, size of programs, process to determine surplus, valuation, marketing, transfer of property, and leases. Thirty-nine states responded to the survey. The survey addressed facets of the property management process where time could be consumed due to organizational or procedural barriers. The survey indicates the similarities and differences between states, which may assist others to assess whether or not their particular situation is optimal. Based on these responses, the following is an assessment of best practices, or in some cases, the more prevalent practice.

General Overview of States Responding to the Survey

The survey provided some general information on the size and annual revenue generated from property management activities. All states responding to the survey acquired excess property. In most states the process was managed on a centralized basis. Annual revenues from sales for 95 percent of the states were \$5 million or less, with 44 percent of the states having revenues \$1 million or less. Most states sold between 26 and 100 parcels annually. Only one state sold more than 300 parcels. Most states used either an automated system or relied on a combination of automation and manual systems to maintain their property inventory.

Summary

The survey provided a capsulized view of how various departments operate. For most departments, excess property issues consume an inordinate amount of time and energy. May the findings of this survey serve as a catalyst for departments to review and assess their operations and initiate any needed improvements.

XI. APPENDIX B
SUBCOMMITTEE OFFICERS, EXECUTIVE BOARD MEMBERS AND
STATE DIRECTORS

Kenneth M. Towcimak, Chairman
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Florida Department of Transportation

Stuart Waymack, Vice-Chairman
Director, R/W & Utilities,
Virginia Department of Transportation

Susan Lauffer, Secretary
Director, Office of Real Estate Services
Federal Highway Administration
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David H. Clawson
A.A.S.H.T.O. Liaison
Program Director for Policy Planning
Washington, D.C.

Roger McClellan, Utilities Liaison
Federal Highway Administration
Washington, D.C.

REGIONAL REPRESENTATIVES - REGION 1

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Maryland Department of Transportation

Joe Bissett, Chief, Construction and Utilities
Maryland State Highway Administration

REGIONAL REPRESENTATIVES - REGION 2

John Williamson, Manager, Right of Way
North Carolina Dept. of Transportation

Jim Dousay, Director, Right of Way
Louisiana Dept. of Transportation & Dev.

REGIONAL REPRESENTATIVES - REGION 3

Jim Viau, Right of Way & Utilities Director
Ohio Dept. of Transportation

Terry Sampson, Right of Way Director
Missouri Highway and Transportation Dept.

REGIONAL REPRESENTATIVES - REGION 4

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John P. Campbell, P.E., Director
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Right of Way Bureau Chief
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Arkansas Dept. of Transportation

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Louisiana Dept. Of Trans. &
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Massachusetts Dept. of Transportation

Christian Larson, Director
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XII. APPENDIX C - ACKNOWLEDGEMENTS

The Subcommittee wishes to acknowledge and express gratitude to the following individuals for their contribution in making recommendations to the report. The individuals are former federal or state employees of transportation departments, members of the International Scan Team, members of the International Scan Implementation Team or members of the Right of Way and Utilities consultant community:

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Howard Armstrong	Richard J. Morris
Mike Borelli	Janet Myers
Joe Conn	Robert L. North
Ralph Divine	Joachim Pestinger
Kathy Facer	William Pickering
Ron Fannin	David E. Schinneer
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