



DEPARTMENT OF PUBLIC WORKS

411 ELM STREET, 4TH FLOOR
DALLAS, TEXAS 75202

CAPITAL IMPROVEMENT PROGRAM

5 PHASE PRODUCT DELIVERY SYSTEM

December 2004

PHASE 1 -- PLANNING & PRELIMINARY DESIGN

STEP ONE - PROJECT DEFINITION

1. Transportation Planning distributes a “Call for Projects”. This is a process initiated every 2 years and involves partnering with all cities and stakeholders involved. The nomination period is open for ~6 months before projects are submitted, usually in August of odd numbered years.
2. After the Planning Division assures all the information is submitted correctly (and assists some of the smaller city staffs in submissions), a matrix team of Public Works (PW) employees begins with an executability analysis that precedes selection of projects for inclusion in the County's MCIP. The team, with Engineering & Construction, Planning, & Property people involved provides assistance with risk assessments from various perspectives --feasibility, cost estimates, scope definition, political aspects, funding, technical issues, utilities, safety, environmental, and traffic factors etc. Property Division team members examine Right-of-Way (ROW) & utilities (e.g. Railroad involvement), relocations, etc.
3. The Director and AD's meet with each Commissioner separately to go over the slate of nominated and analyzed projects in his/her District. The pros and cons of each project are discussed and each Commissioner takes their own approach to project selection. One has each City Mayor & staff come and presents their rationale and then makes the final decision after that. Others look at all the nominations and the data on previous \$ commitments, percent of thoroughfare roads & population of each city, and then decide on the projects to be selected. Every project is placed into a Program Year (PY) (year slated for construction start), based on District and overall County MCIP cash flow projections. After briefing each Commissioner and the Judge, the updated spreadsheet called the “MCIP Transportation Funding Commitments” is presented in Briefing format in public forum to the Commissioners Court. The following week, a Court Order is submitted and the MCIP is then formally approved by the Court, by Court Order.
4. The MCIP has been formulated on the premise that legal agreements should reflect the nature and character of the program. Equal funding partnerships, Project Management methods of project delivery, and partnering principles applied in every phase of project delivery are the essential elements of the MCIP. The time for getting inter-local agreements approved should never be on the critical path of project delivery. Therefore much effort was expended between the Civil DA staff and PW to formulate a “Master Agreement Governing Transportation Major Capital Improvement Projects.” This agreement has been signed by all the cities with approved projects and serves as the legal basis for partnerships between the various cities and Dallas County. Later during project design, enough information will be known to forge a Project Specific Agreement (PSA) that details the specifics of that particular project. None of the basic elements of a city-county legal agreement have to be repeated in the PSA, thus simplifying the process and time involved.
5. A kickoff meeting is next held with each of the City Partners who have projects selected. This key meeting sets the basic parameters for each of the projects, such as cash flow requirements for each partner, who the lead agency for project delivery will be, agreed upon technical criteria, known risks, roles for each stakeholder, etc., all focused on assuring timely project delivery and moving the project into construction during the selected PY..

6. We use Partnering Principles of Trust, Commitment, and Shared Vision in addition to Best Practices of Project Management Principles throughout the life of the project.
7. A Project Manager will be assigned for each project by the Assistant Director of Engineering and Construction. In addition a matrix team will be identified and coordinated with each business unit leader.
8. An initial Project Funding & Execution Status (PFES) and Program Management and Planning Status (PMAPS) form will be developed by the PM for each project in coordination with the PEMD & the AD, Engineering & Construction. Each business unit leader will review PFES and PMAP in order to provide adequate workforce for each project.
9. Decision on use of Subsurface Utility Engineering (SUE) will be made before initiating design. In the analysis of candidate projects, utility relocation risks will have been identified. When these risks are high (the usual situation), then funding will be planned in the design for SUE efforts. PW now has in place an IDIQ contract for quick implementation of SUE consultant efforts. Utility partnering efforts include initiatives for joint efforts wherever feasible. This information will be critical for designers to use as they launch the design.

STEP TWO - PRELIMINARY DESIGN

1. A systematic decision process as part of the PWBOP updating is done to determine which design efforts will be completed with in-house designers and which will be done by consultants. For consultant selection, a rigorous and systematic process will be used to select the best qualified consultants for each project. An initial contract will be signed with best qualified consultant to either perform the entire preliminary design, or participate in Phase 1 as a liaison, trainer, or expert in an area.
2. County, city, or joint team of in-house designers or selected A/E firm begins initial design. Objective is to resolve all alignment issues early in the design process, in close partnership with all stakeholders. Preliminary surveying requires estimating centerline and ascertaining existing ROW.
3. Task Force and or Matrix Team meetings will be scheduled in order to assure effective teamwork.
4. County PM and Inspectors will assure an effective Constructibility Review is completed.
5. In most projects a consultant will be brought in as early as possible in Phase I with the possibility for an amendment to the contract for completion of the primary design after concept design is complete. City partners will be invited to participate in the selection process. The decision to amend the contract for completion of the Primary Design will be made after an interim evaluation is completed using the County's consultant evaluation system.
6. A Preliminary Design Charrette (PDC) will be planned by the Project Manager who will lead the execution with all stakeholders (Cities, utilities, County, any private parties or other decision-makers), dependent upon project complexity and number of unknowns. The goal of the PDC is to build consensus and support behind the project and alignment alternative that is selected by the stakeholders. Many projects have been derailed by lack of support when opposition arises. A great effort will be made to assure attendance of all the key players. Special efforts will have to be made to assure political leaders have the meeting on their calendar and plan to attend. In addition, by name individual contacts will have to be made to

assure utility company representatives attend, since key alignment decisions will be made that can affect, or be affected by, probably utility locations. Where applicable, the PDC will include an orientation walk-thru of the project site, which includes right of way assessment. We will highlight specific City zoning and other ROW requirements.

7. A Public Involvement strategy will be forged under the leadership of the PM, and the advisement of the PW Transportation & Planning Division. T&P will attain and maintain a PI center of expertise and advise PMs on various techniques and methods to use to best involve the public and other stakeholders. We will use innovative methods in coordination with our cities, such as workshop/small group formats, picnics, BBQs etc.
8. Phase 1 ends with approval of the Preliminary Design Report, Preliminary Alignment/Profile and Preliminary Sizing of bridges and drainage structures along with SUE determination, Preliminary Survey Report, and Preliminary Utility Investigation Report.
9. The design firm or in-house design team will have begun necessary permitting and environmental assessments. Basically the level of effort will approximate that required of the Preliminary Schematic and Environmental Assessment Phase that currently is required on the TxDOT STP/MM projects.
10. Roadway plans are estimated to be 60-65% complete at the end of Preliminary Design.

PHASE 2 -- PRIMARY DESIGN

1. Assignment of either an in-house design team or negotiation of amendment to preliminary contract with consultant for Primary Design is the initial task.
2. Scope of Work is now well defined by all Phase 1 effort and includes geotechnical investigations, utility analysis Constructability Review, Environmental Analysis Phase I, Neighborhood Meetings, Traffic Information approval, estimated ROW parcels, & assembled utility information.
3. Part of negotiations both with in-house design teams and consultants includes definitive delivery dates for various deliverables, phases, and reviews. , In paying submitted invoices for progress during the design period, Earned Value Analysis concepts will be used to track cost and schedule progress. We DO NOT make 'cost plus' assumptions about consultants work efforts. Since our 2-phase system allows for better scope definition, the instances of misunderstanding on true project scope are reduced.
4. Consultant or In-house Design Team works closely with all stakeholders -- under the guidance and direction of the County PM, in a partnering mode. The lead designer is the Technical Manager at this point in the process, and always under the matrix leadership of the PM. Any available internet or intranet based Project Management tools, including extranets, will be used to optimal effect during the life of the project. When one of our IDIQ consultants is hired (survey, miscellaneous design, SUE or materials testing) we will work with them using partnering concepts and treat them as members of the Public Works team. We will expect them to become experts in our 5-Phase project delivery processes and deliverables.
5. Traffic and Utilities data will be considered in design, with data from partner city, County, NCTCOG, or consultant. Agreed upon level of S.U.E. will be key input into design

details, and utilities partnering imperatives will be used throughout the design and construction phases.

6. Any required environmental impact analysis will be completed during this phase. Common sense will be used to address significant issues without wasting time on clearly unimportant areas. The goal is to execute environmentally sustainable development that improves the overall quality of life of our joint customers, the transportation users and citizens of Dallas County and the partner city.
7. Right of Way (ROW) documents will be finalized, with quality controlled by the consultant or in-house design team. The QA function will be completed by both the PM and the Property Division in a smoothly coordinated manner, using pre-coordinated checklists. At the appropriate time, the documents will be delivered to Property Division, but the PM still retains overall responsibility for timely project delivery. Early involvement in ROW issues, includes utility relocation aspects (i.e. getting possible Rights of Entry (ROE) for utility relocation) is critical for success. Early provision of final and accurate ROW documents will be a critical milestone of the design contract.
8. Design Consultant or In-house Design Team completes work on provided schedule. Consultants and/or In-house Design Team are expected to assure that they accomplish “muddy boots” design with true “eyes-on” the total project site. We will avoid lengthy rounds of passing designs back and forth, in favor of “over-the-shoulder” reviews, as required to meet design completion timelines. These will include city and other interested stakeholders under the orchestration of the PM.
9. PM completes interim evaluation of consultant. Special note will be taken of the consultant’s system for assuring QC of all design effort including ROW documents.
10. After construction if complete, the PM performs a final Consultant evaluation, using standard evaluation system. Consultant is given opportunity to evaluate County’s project management process.

PHASE 3 – DESIGN COMPLETION & RIGHT-OF-WAY

INITIATION

1. Begins with the delivery of the initial, unsealed ROW documents to the County by the consultant. Consultants will first bring a few ROW documents for review by the PM and Property Division team members, to assure they fully understand the details and level of Quality Control we expect in their submittals. Standards and scheduling will be clearly spelled out in writing within Consultant's contract. Deliverables will include ROW maps and deed records.
2. Consultant is required by contract to submit property owner deeds along with right of way maps which have received an internal quality control process. The PM assures utility representatives are informed of the project and all known utilities are shown on the plans. Diligent efforts must be made to assure that all private or public utility easements

are identified on the maps and plans as required in Consultant Contract. All the SUE efforts should be included in the design documents.

3. The PM, still leading project delivery, assures the County or City ROW Functional Manager works to assure efficient execution of ROW planning and acquisition services, as part of the Project Matrix Team. The Property Division will manage ROW Services IDIQ contract, if this delivery tool is used. Before writing a work order for the ROW services IDIQ, the Property Division Chief will meet with the Chief of Engineering & Construction and the PM, to assure adequate project budget is available for the added cost of procuring ROW services.
4. County or City Project Manager monitors and tracks progress. Resolves issues as they develop, keeping all stakeholders informed, using e-tools and networking. Any available internet-based Project Management tools, including extranets, as well as intranets will be used to optimal effect during the life of the project.
5. Consultants or In-house Design Team are to avoid taking right of way that is not absolutely necessary to the construction of the project by performing a preliminary Design/Right of Way Review Board. PM uses Matrix Team to minimize the ROW takings and assures appropriate leadership required to assure project delivery dates are met.
6. County decides, in consultation with other stakeholders and early enough to preclude re-work by consultant, the packaging of the construction contract for bidding purposes.
7. Consultant will make minor changes resulting from property owner requests or other changes that arise naturally in ROW negotiations.
8. As required, the Project Manager will be prepared for expert testimony at any Eminent Domain hearings.
9. ROW is complete when all parcels necessary for construction have been acquired.

PHASE 4 – ROW Completion & Utility Adjustment

1. ROW acquisition is carried to completion, again under the active project management and leadership of the PM, with proactive activity of the ROW acquisition team. If the city or another partner such as TxDOT is the ROW acquisition agency, the PM will still track carefully the progress and proactively lead efforts to remove obstacles, etc. to keep progress on schedule.
2. The PM will use partnering principles as well as results of S.U.E. to assure utility adjustments are accomplished in time to keep scheduled project advertisement and contract award dates. Based on successful partnering efforts for over 4 years with major utility providers (including the UPRR), the PM will assure the attached *Essential Elements of Utility Partnering* and GUIDELINES FOR ASSURING SMOOTH RELATIONSHIPS BETWEEN LOCAL GOVERNMENTS AND UPRR are proactively used by all matrix team members.

3. County or City Project Manager tracks and resolves issues and work schedules, using Matrix Team to proactively lead efforts to remove obstacles of acquisition and utilities relocation to ensure project schedule. As a matter of standard procedure, the use of utilities Rights of Entry (ROE) will be explored on every project. When conditions are there, we will use the ROE as a way to take the utility adjustment time off the project critical path. R&B forces may be needed to clear trees from the new ROW, and will be procured through requests to the Commissioner.
4. City works as part of Matrix Team to expedite utility relocations. Many times, franchise utilities have relationships with cities that can be used beneficially to secure better cooperation. Monthly Task Force meetings are initiated during this phase to assure early and frequent communication of all stakeholders. All team members are to proactively partner with the utilities and facilitate their relocation. Departmental policy is 0 R R (Zero Relocation of Relocations).
5. An Advertising Risk Assessment (ARA) is completed prior to engaging the Purchasing Department in advertising the project for bids. Advertising is not issued until all utilities are within a reasonable and confirmable clearance date. A deliberate decision will be made on how many days from bid opening until contract award, and how many days until the Work Order is given. Work Order dates will not be projected to occur BEFORE high assurance that all known utilities will have been relocated. A second important function of the ARA is to ascertain all the funding commitments, to update the PFES to include all funds already expended, and to calculate an up-to-date construction estimate.
6. Consultant will be kept on-call for unique projects or if required to complete requested Engineering During Construction (EDC) services, such as shop drawing submittal review and consultation on design intent, assumptions, etc. The intent is to capture the best part of the effort and focus that the consultant or in-house design team has just expended in designing the project.

PHASE 5 -- CONSTRUCTION

STEP ONE - CONSTRUCTION

1. PM does all work to advertise project and works with Purchasing Dept for bid opening.
2. PM leads execution of Project Specific Agreement with each Partner giving approval of final funding on a timely basis. Project Manager prepares Court Briefing Memo and Court Order to award the construction contract.
3. PM completes all work for construction contract award. PM works with all partners to assure a logical and timely notice to proceed is given. This order to begin work and the contract time period will be based on status of utility relocations, any city requirements, etc.
4. The PM will plan, schedule and execute the Partnering and Pre-Construction Meeting with key stakeholders in attendance. The PM will schedule for attendance and

participation the Director and Assistant Director for E&C. Careful pre-planning ensures the attendance of the right stakeholders and staff. PW will normally facilitate our own Partnering meetings since we have the expertise and experience to accomplish this without hiring specialized consultants.

5. Construction proceeds on schedule with Construction Management services provided by County or city partner. A PM assures Partnering spirit and principles (**Trust, Commitment, and Shared Vision**) are maintained throughout the project construction phase.
6. PM assures constant communication with customers and other project stakeholders. This may include a construction oriented Public Information Neighborhood Meeting, as well as periodic project newsletters, notices of key construction events or phasing, meeting with neighborhood interests (property owners, schools, churches, businesses, etc). We are interested in not only achieving a high quality end-product, but also in delivering the project in a user-friendly manner.
7. PM assures ultimate owner is provided As-builts made from marked-up construction plans.
8. PM plans and conducts an After Action Review (AAR) to assess what happened and brainstorm any lesson-learned. If appropriate, this will also be a “partnering success celebration.”
9. PM conducts one year follow up inspection in conjunction with all applicable stakeholders.

STEP TWO- PROJECT DELIVERY AND CLOSE OUT

1. PM assures final estimate is paid to Contractor on a timely basis. Contractor may have to be persuaded to close out the project, if he does not seem motivated to do it.
2. PM completes final Evaluations on the Contractor, using interim evaluation results (if one was done), and performance during the entire contract period. Contractor evaluates Dallas County Public Works (on a voluntary basis).
3. Project Manager ensures that as-built plans are provided for ultimate owner from marked-up construction plans.
4. Program Management works with Project Manager and Total Project Costs are established and Program Management authorized to disencumber any remaining funds.
5. PM assures city is invoiced for their remaining portion of the Total Project Costs.
6. Project is formally turned over to the City by letter citing the date of return to City for maintenance.
7. PM plans an ARR to capture lessons learned and celebrate project completion with all involved in project delivery from design to construction completion.
8. Conduct one year Maintenance Bond Inspection in conjunction with all applicable stakeholders.
9. PM completes close out project report including lessons learned.

DALLAS COUNTY PROJECT DELIVERY TEAM'S ESSENTIAL ELEMENTS OF UTILITY PARTNERING

1. Know the utilities' customers and **remember that we have the same customers.**
2. Make utilities move **only if absolutely necessary to achieve the project purpose.**
3. Move only once if the move is, in fact, **essential.**
4. Get involved with actual field reconnaissance early. Include and engage Project Representatives or Constructability personnel very early.
5. Get the acquiring agency's Right of Way personnel involved early.
6. Schedule initial Utility Partnering Conference early. Make partnering the theme and the first topic. Do it on the jobsite to increase the effectiveness.
7. Involve and Invite Utility representatives to Neighborhood or Public Meetings.
8. Distribute roadway plans early to get started with the utility planning.
9. Coordinate with all utilities to ensure that one has no negative impact on another. Coordination should ensure that enough right-of-way is acquired to accommodate all of the facilities.
10. When plans are changed, get them to utility companies promptly. Provide a list of changes for our partners.
11. Communicate with utilities frequently to ensure knowledge of changing personnel and appropriate contact person.
12. Review utility company's plans, comment on plans and implement the coordination long before fieldwork needs to begin.
13. Do not begin implementing a project schedule without total feedback from all companies.
14. Identify the precise sequence of relocations that need to occur. Many companies are predecessors of other companies' relocations. Communicate this sequence to all utilities and other stakeholders. Ensure that the sequence is streamlined as much as possible.
15. One way of ensuring the streamlining of the sequence is web-based notification when each company is complete or is scheduled to be complete. Scheduling is as important as the sequence.
16. Consider that seasonal shutdown restrictions will have significant and adverse schedule impacts, sometimes up to one year. Also consider that certain times of day are restricted from utility relocation. In addition, develop procedures for emergency situations and learn the appropriate "windows of opportunity" for change-overs, etc.
17. Share accurate information with all companies & see that they share information with each other.
18. Communicate the need to follow City Ordinances, particularly those relating to traffic control, backfill and pavement restoration. Traffic control plan must be filed and approved.
19. Insure that the companies have measures for handling complaints about their work and that they do not inconvenience our mutual customers more than is absolutely essential.

Remember, O R R !!

GUIDELINES FOR ASSURING SMOOTH RELATIONSHIPS BETWEEN LOCAL GOVERNMENTS AND UPRR

- **Start Early Coordination** – Set up a meeting with Steve Marchenke to share project selection lists, to ascertain projects with UPRR impacts. Then on impacted projects, share preliminary designs, invite UPRR to early meetings, such as stakeholder pre-design charrettes, public workshops, etc.
- **Work out precisely the location of railroad project impacts**, before contacting UPRR. This speeds the coordination process greatly. Use MAPSCO location, subdivision, and RR Mile Post where ever possible
- **Use the UPRR.com website for a wealth of information, maps, etc.** This can save time in answering questions and can provide much information about UPRR, including points of contact, e-mail and telephone information, instructions, applications, specifications, DOT crossing information, permit requirements, ROW agreements, etc. **Very, very valuable.** Our in-house or consultant designers need to explore this web-site before launching road design whenever there is going to be a RR crossing. Procedures and responsibilities are clearly laid out, as are design guidelines and specifications. Avoid nasty surprises that can impact project costs if not budgeted.
- **Expect the UPRR owned ROW to contain many other utilities (telecommunications, power, pipelines, etc), that you will have to pay to relocate.** These are private easements the utilities have paid for and the project will have to bear the costs of relocation. UPRR is a good source of information on the potential conflicts that you will encounter. Budgeting accurately for these costs will avoid nasty surprises later.
- **Do not even think about changing Exhibit B of the standard agreement.** UPRR has agreements to work out in 23 states, and their lawyers are very vigilant to watch for precedents that might bind UP elsewhere. Work on win-wins in the body of the agreement.
- **Avoid adversarial actions and relationships, instead try the partnering approach.** UPRR will respond in-kind. They desire to maintain integrity in relations with all their communities. Do not presume upon them (e.g., impossible responses on coordination that you failed to start timely, making demands they cannot meet, presuming the worst).
- **Look for ways to forge win-wins, for UPRR and the local community.** Understand that USDOT has a policy since 1992 to reduce at-grade RR crossings by 25%. This puts tremendous pressure on RR's to accomplish this goal. Does your community have a number of little-used crossings? Explore ways to eliminate them and UPRR can do much to meet the needs of your current project.
- **When appropriate, have our attorneys communicate directly with UPRR attorneys.** The key is to have worked out all the coordination we can before that, using the information, contacts and principles described in these guidelines. Then, the Project Manager should stay involved to assure that going down "legal rabbit trails" is avoided whenever possible. If we follow the spirit of win-win, then both sides will have better results, even if our attorneys are involved, as they have to be.
- **When you're in doubt and have searched all the readily available information, call Steve Martchenke, Ken Rouse, or Doug Feagan.** Even though they have large territories to cover, they are never too busy to help you proactively solve a problem and forge a win-win. If you have a "folder number," this will save them much time in looking up the project file information.