

**Mayor Mike Fahey's
Road Construction Task Force**

**Recommendations for Improving and
Expediting Omaha's Road Construction Process**

Final Report

September 8, 2004

BACKGROUND

Task Force Purpose

The Road Construction Task Force was created by Omaha Mayor Mike Fahey to identify and analyze the causes of road construction delays and to provide recommendations to expedite future road construction projects. This is the first time in the City's history a formal body has been established to address this issue.

Steady westward expansion and continued eastern redevelopment have increased traffic flow throughout the Metropolitan Area and have intensified the need for infrastructure improvements. Mounting concerns expressed by Omaha's citizens about the time it takes to complete road construction projects and the inconvenience these projects place on neighborhoods led Mayor Fahey to commission experts in the fields of engineering, construction, public and private utilities, and labor to examine the current construction process in the City of Omaha.

Task Force Process

The 15-member group met seven times over a three-month period beginning on Wednesday, June 23, 2004. Mayor Fahey led the first meeting at which time he reiterated the purpose of the Task Force facilitated discussion and solicited initial ideas.

The second meeting on Wednesday, June 30, finalized the direction the group would take toward developing final recommendations. The Task

Force evaluated the three major phases of a project – design, bidding/contracting and construction. In addition to Task Force members meeting, outside experts and construction professionals from other cities provided insight into the experiences in their communities.

Project Development Process

To the average citizen, roads are a seemingly simple element of a city. They appear to be no more complex than putting concrete or asphalt over dirt. However, the construction of roads is a complex process requiring many entities, often with divergent objectives, to come together. A roadway corridor actually serves many purposes, including: providing adequate lanes for motor vehicles, accommodation of public and private utilities, conveying storm water to streams, as well as providing for public transit, pedestrians and other non-motorized means of travel. Roadway corridors are initially constructed, widened or re-built through three general phases of a project. They are explained as follows:

1. **Design** – This is the phase during which the plans are developed. During the early stages of design, the engineer gets a handle on the existing conditions through traffic counts, drainage studies, identification of existing utilities and detailed surveys. On most projects, public input is also sought through direct property owner meetings or general public open houses. A preliminary plan is developed integrating the analysis of existing conditions with necessary design standards for the planned road improvements. Utility companies are provided these preliminary plans in order to begin the coordination of their facilities with the proposed improvements. After approval of preliminary plans, final design is

performed which involves the preparation of all details required to produce a complete set of plans and specifications for bidding by contractors. Included in this final design step is the development of the construction sequencing and traffic control plans. Depending upon how a project is funded and its associated impacts, environmental studies and special permits are often necessary during the design phase. If additional right-of-way is necessary to accommodate the proposed project, right-of-way acquisition is also initiated toward the later stages of design.

2. **Bidding/Contracting** – During this phase, the engineer completes contract documents, advertises the proposed project, selects the contractor, signs contracts and issues a notice to proceed. The current practice within the City of Omaha is to select the lowest and best bid.

3. **Construction** - Although the first two phases can take several years on major projects, the construction phase is the first point at which the public is directly impacted. In addition to contractor and utility company activities, the City is providing administration, management, and inspection to assure the construction conforms to the plans. Depending upon the extent of the project the City solicits varying degrees of public involvement. The typical sequence for a construction project is:
 - Barricades
 - Removals
 - Utility relocations
 - Storm/sanitary sewer construction
 - Grading
 - Wall construction

- Pavement construction
- Traffic Signals
- Sidewalks
- Landscaping

ISSUES

Why Do Projects Take So Long?

It was determined that the current process is geared around delivering the project in the least expensive way, not the fastest. Due to growing needs and tightening of budgets, the mission has been to construct as much project for the tax dollar as possible. The current system achieves this mission, however, it often comes at the expense of efficiency and longer public inconvenience.

Before developing recommendations it was important to determine the causes. The Task Force identified various issues that cause slow roadway construction. They are listed in no particular order.

- Impact of utility relocations on the schedule.
- Lack of precise scheduling.
- Contract days are too lenient.
- Insufficient funding - Roadway construction has not kept up with the needs. This has led to projects being constructed many years later than they should. Although not necessarily a cause of slow construction, it does result in projects being built in developed areas where conflicts and public disruption are greater.
- Desire or public pressure to build project while keeping corridor open to traffic.

- Unqualified contractor or subcontractors on the project.
- Inefficient design that leads to constructability issues or conflicts.
- Lack of incentives/disincentives.
- Independent entities often have different goals and missions, which work against expediting construction.

The Task Force also noted that there is a high level of frustration centered around a limited number of projects. There are projects that have gone very well under the current system and obviously those that have not.

RECOMMENDATIONS

Many topics were discussed to address the issues behind the problem. Some topics have institutional or legal roadblocks that prevent their immediate implementation. Some of the topics are associated more with the existing process, and thus have the possibility of being implemented sooner. Other topics are broad reaching and require major process revisions, and thus are longer-term improvements. The following are the compilation of recommendations segregated by the three phases of project development previously outlined. Other topics discussed by the Task Force are listed in Appendix III.

Design Phase

1. Establish a design partnership between the City of Omaha, utility companies and contractor groups. This partnership will allow all entities to design, plan and coordinate the improvements and relocations together. This will generate commitment and

accountability for each entity to meet design, planning and coordination deadlines. It would include:

- a. A kickoff meeting at project conception to explain the scope and define important dates.
 - b. A meeting after completion of preliminary design allowing utilities and the City the opportunity to identify and work through conflicts and constructability issues. Additionally, a preliminary master construction schedule would begin to be developed.
 - c. A meeting at 90% of the project design completion to develop a project-sequencing plan, to summarize utility relocation requirements, and finalize the master construction schedule.
2. Acquire all right-of-way before the project starts.
 3. Set up a system in which construction industry professionals, that include contractors, vendors and suppliers, are brought in to review the preliminary design and offer constructability and phasing suggestions to help achieve an efficient design.
 4. Enhance communication with the public during design. This should involve both solicitation of input to design, but also provide an educational/informational means for the public to understand why the project is being designed and constructed in a certain way.
 5. Improve a program level (not project by project) coordination amongst key decision makers and planners from the City, utilities,

state, and county to enhance coordination of projects throughout the metro area.

6. Communication utility companies should share duct banks instead of separate trenches. The City of Omaha could provide duct bank installation with the project.

Bidding/Contracting Phase

1. Develop a formula-based Incentive/Disincentive Program that is applied not only to the end date, but key intermediate milestones.
2. Establish an annual contractor pre-qualification program.
3. Move toward calendar days or fixed day deadlines for project completion within City specifications for time-sensitive projects.
4. For time sensitive projects, award bids on a system that considers both costs and time.
 - Utilize A + B or A + C on projects where applicable. (i.e., high volume traffic routes, total road closure contracts, etc.)
 - Utilize lane rental charges.
 - Utilize stricter enforcement of contractor disincentive clause for project completion.
5. Tighten City Specifications
 - No payment will be made for traffic control devices (barricades, etc.) after the contract period has elapsed.
 - Require contractors to have supervision on the project during working hours.

- Do not allow contractors to submit bids if they are currently on liquidated damages.
- Meet with utility representatives before a project is advertised for bid to review and confirm the final project plans and important dates.

Construction Phase

1. Establish a construction management partnership led by the Public Works Director, between the City of Omaha, utility companies, and contractor. A critical path schedule will be developed to include all construction improvements and utility relocations, establishing accountability for each entity and allowing all parties to become an integral part of the construction process. This will generate commitment and accountability for each entity to become an integral part of the construction process.
2. Continue to enhance public communication by expanding and strengthening current newsletters, media communications, public meetings with neighbors, sign boards and website.
3. Allow street closure at all possible project locations.
4. The City should consider use of 24/7 or double shifts on critical segments of projects.

CONCLUSION

Roadway construction is an expensive and complex endeavor that requires many different entities with different goals and missions to come together in a coordinated manner. It must be acknowledged that no two projects are alike and that unforeseen problems and issues are common with any form of construction.

The current process of roadway construction is based upon providing a given project at the lowest possible cost. This report identified ideas and proposed recommendations to speed up the construction process. It should be pointed out that some of these recommendations would also increase the cost of the project.

Upon submission of this report, Mayor Mike Fahey's Road Construction Task Force will have completed its assignment. In the future, the Task Force may be reconvened in an advisory capacity to evaluate the progress of its recommendations.

APPENDIX

- I. Road Construction Task Force Roster
- II. Topics of Discussion
- III. Flow Chart of City's Design Process

APPENDIX I

Road Construction Taskforce Committee

Lynette Barnes - American Asphalt, Inc.

Tom Crockett - Hawkins Construction

Pat Gorup - Lyman-Richey Corporation

Kara Habrock - Roloff Construction **(Chair/Spokesperson)**

Norm Jackman – Acting Director of Public Works

Scott Keep - M.U.D.

Allen Keiser - Vrana Construction

Terry Moore - Omaha Federation of Labor

Paul Mullen - Metropolitan Area Planning Agency (MAPA)

Randy Sanman - Kiewit Construction

Chuck Sigerson, Jr. - Omaha City Councilman

Paul Surber - O.P.P.D.

Linda Swain - Swain Construction

Matt Tondl - HDR, Inc.

Committee Staff

Lynn Fullenkamp – Office of Mayor Mike Fahey

Chris Rodgers – Office of Mayor Mike Fahey

Diane Sturm – Public Works Department

APPENDIX II

TOPICS OF DISCUSSION

The following are topics discussed by the Task Force for improvements in each phase of project development. All may be considered for individual projects. The priority recommendations however have been submitted to the Mayor.

Design Phase

- Contractor reviews of initial designs in order to produce the optimal sequencing and constructability of the project.
- Develop preliminary master schedule integrating contractor and utility operations.
- Provide utility duct banks for communication utility lines to reduce the utility congestion within the street right-of-way.
- Establish rates for using lanes and make contractor responsible for scheduling work in the most expedient manner to lower lane rental costs and minimize impacts to the traveling public.
- Enhanced communication with the public. Not only obtain their input into the design concept but also educate them on the trade offs that must be made in design to optimize schedules while still staying within an acceptable budget.

- Better “program level” coordination between city/utilities/state/county. It was felt that this could help get the right jobs started at the right time and set clear, concise priorities.
- Provide better traffic control through the construction zones. Although not necessarily speeding up construction, it was felt that improved traffic control would help mitigate the impact to the traveling public.
- Build the ultimate roadway improvement in conjunction with adjacent land development, not 10 to 20 years after.
- Improve coordination of utility relocations with contractor’s controlling operation.
- Give stronger consideration to closing roads during construction. This will reduce the phasing of the project, which yields both a faster and cheaper project – although major inconveniences could temporarily occur.

Bidding/Contracting Phase

- Pre-qualification of bidders.
- Incentives for early completion and disincentives for not completing a project within time frame allowed.
- A + B or A + C bidding – this is a bidding process that considers time in addition to money. In essence a higher bid with a faster schedule could be selected.

- Design/build procurement – This is a process in which designing is done parallel with construction. This is not currently legal in Nebraska. This yields a faster overall delivery of a project (design, bidding, construction), but does not necessarily reduce the construction phase of the project, which is when the public is impacted.
- Lane rental charges establishes rates for using lanes and makes contractor responsible for scheduling work in the most expedient manner to lower lane rental costs and minimize impacts to the traveling public.
- Calendar days instead of working days in City specifications.
- Unit price traffic control – contractor pays for barricades, etc., beyond contracted days making the contractor responsible for costs associated with incomplete projects.
- Put utility relocations within the City contract. This places all construction operations under a single point of control. Utility companies would still retain inspection.
- Time packaging of bids such that projects can be completed in one construction season.
- Have all right-of-way acquired before utility relocations and/or contractors are given notice to proceed.
- CPM Scheduling Specifications required by contract. Contractor must submit and City must approve Critical Path Schedule prior to beginning of project. Gives a means and method for both the contractor and/or City to make adjustments in schedule and time if changes affect original schedule submitted. This requires monthly

updates, so as to see that original progress is being maintained and can be adjusted with changes. Also, gives owner control when contractor falls behind schedule to use in dealing with changes that occur.

Construction Phase

- Formal partnering to improve lines of communication and accountability.
- Close project corridor to through traffic.
- Consider including non-critical utility relocations that can be performed by the contractor under the City contract.
- Enhance/improve communication to the public. It was felt that much of the public frustration is due to being uninformed or misinformed.
- Use of double shifts or 24/7 operations in key areas such as critical intersections.
- Integrate scheduling of construction and utility relocations under one master schedule controlled by the contractor.
- Create a system and empower front line people to achieve quick resolution of issues and conflicts on the job site.
- City may require contractor to maintain Full time Representative on any project while traffic control devices are on-site, even if no work is being performed (other than Holidays or Weekends – Traffic Control Maintenance and Documentation would still be required). Protects

contractor and city from liability issues that would come up with no one around to document claims.

APPENDIX III