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Certified Public Manager Project

**Cutting Cost and Time in the Production of Legal
Construction Contracts at SCDOT**

By

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STATE DOCUMENTS

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Define Problem

The production of construction contracts is a costly and labor intensive procedure. Our advertisement of the work involved in each contract is prepared through electronic means. The proposals and plans of each project are accessible through electronic data as well. However when it comes to turning all of this data into a hard copy contract the work is still done manually.

Evidence of Problem

There is currently one individual responsible for collecting all the data for each project and transforming it into a contract. We are given copies of proposals from each month's letting to produce our finished copy of the contract. The only problem with this is the huge amount of paper wasted each month. For instance if any of the special provisions change on any of the projects, we have to reprint that proposal in its entirety resulting in huge amounts of wasted paper. Six to seven contracts are produced manually for each construction project that gets awarded from our monthly Highway Bid Letting. These contracts are distributed among department officials, contractors and bonding companies. In addition to this distribution other request for copies are also filled, such as for FOIA (Freedom of Information Act) cases and other legal agencies resulting in more paper and time being used.

Most of the information required to produce these contracts is already available in electronic format. By automating the process of developing these contract documents, the amount of paper and man hours will reduce and provide an efficient and effective utilization of resources.

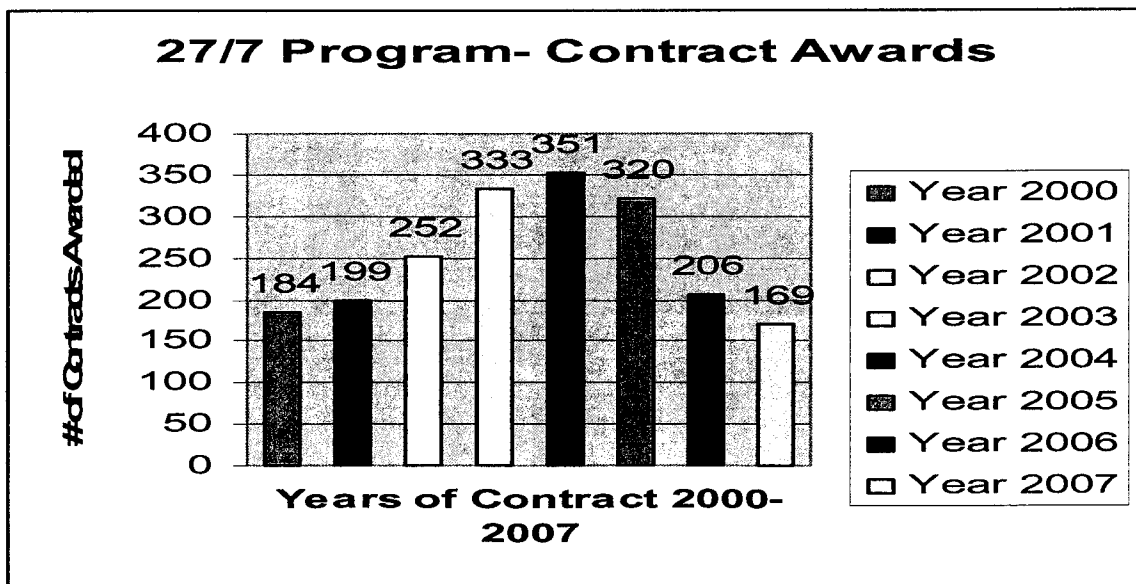
Automation of contracts plays a big part in The SCDOT/FHWA Strategic Plan and identifying the Big Rocks. The Strategic Plan for 2006-2008 identifies the big rocks as SAFETY, MAINTENANCE/PRESERVATION, RESOURCES, CUSTOMER SERVICE and EMPLOYEE DEVELOPMENT. My focus for this project will be on Resources, Customer Service and Employee Development. "The effective and efficient use of public funds is a characteristic of good stewardship to the state." This is a commitment from us as state employees to try and use all supplies and equipment as efficiently as possible. By being able to produce the contract document in a timely manner using fewer resources is a part of serving the customers well and earning the Public Trust internally and externally. We should also be able to reduce the average contract cost in production.

Our goal for the 2006-2008 Strategic Plan is to increase internal and external customer service by 10%. If our employees are able to save time and effort on manual labor projects, they will have time to focus on career goals and other team building techniques. This should support an atmosphere of adequately staffed qualified employees able to carry out the mission of SCDOT.

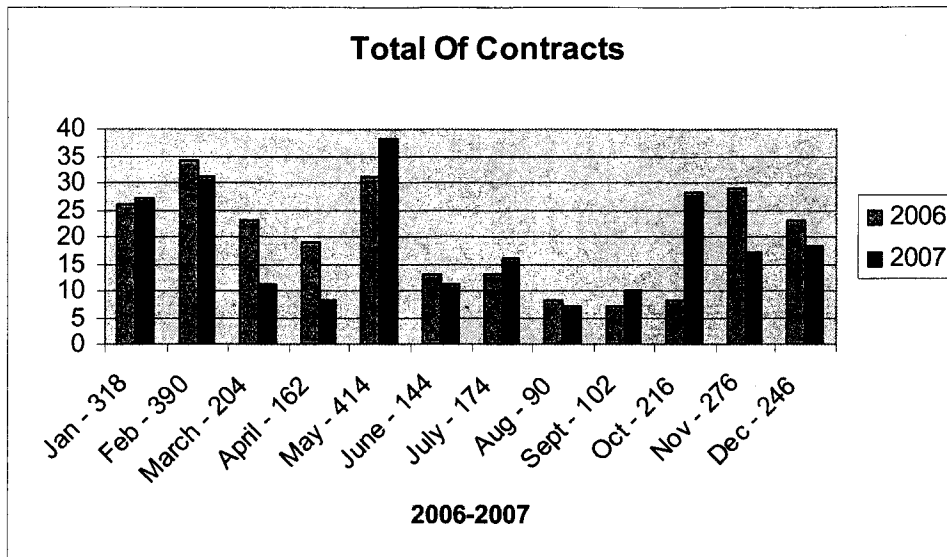
DATA COLLECTION AND ANALYSIS

The data for this project was taken from various sources such as SCDOT records, neighboring states D.O.T.'s, The Xerox Corporation and our legal department. The average printing cost for our division has been increasing for the last five years. Each year we printed from 60,000 to 66,497 copies and the charges for this are from \$8,500 to \$9,800 per year.

Some of this cost could have been attributed to success rate of the 27 in 7 Construction era that was implemented in 1999 by our Executive Director. During the construction phase of this program, the SCDOT was projected to construct twenty-seven years worth of work in the short period of seven years which ended in 2007. Huge numbers of contracts were awarded over this construction period. At least six to seven contracts per project were awarded in most cases.



Currently we let to Contract and average of 8 to 38 projects per month yielding 48 to 228 copies of contracts per month.



My goal is to research all of this information and show the importance of how much paper is used or otherwise wasted and the number of man-hours used to develop these documents. I will compare other Departments of Transportation in our neighboring states to South Carolina's in the innovativeness of contract development. Information collected from our legal department will be crucial in determining how we can proceed with using much of our electronic data.

In completing a desk audit of our Program Assistant who is responsible for developing all our contracts, it was found that it takes approximately 30 to 45 min per contract for development. This process includes typing an award letter, printing the schedule of prices (the low bidder's unit prices to perform the work), typing the Bond sheets (Performance and Payment Bonds), typing the contract sheet (all legal dates and

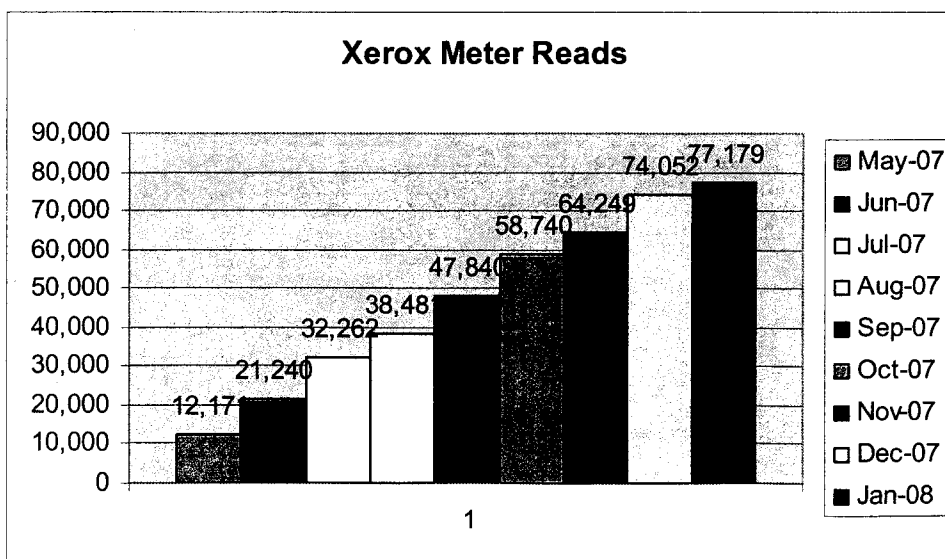
signatures are binding here), typing the contract cover sheet (this sheet contains all identification numbers for the contract). If the project is federal instead of a state project, it requires additional sheets known as the Disadvantage Business Enterprise (DBE) sheet. These sheets give us the federal goal required and the quote provided by the DBE firm to the Prime Contractor for that project. This information is then printed and disseminated into six or seven stacks to complete the appropriate amount of contracts.

Information gathered from our legal division gave me options on the degree of paperless transactions. First of all we could supply only two hard copy contracts, one for the contractor and the other for our records. The District Engineers, Resident Engineers, Bonding Companies, Legal Departments and other Department Officials can be directed to a site on our server where they can view or download the documents. This would eliminate the need for duplicating six or seven extra contracts. Paper usage will decrease and the time spent duplicating can be devoted to something else.

The Legal Division shared another option of electronic contract documents which falls under the "South Carolina Electronic Uniform Electronic Transactions Act found at S.C. code Section 26-6-10. This Act would allow SCDOT to eliminate even the two hard copies if SCDOT and the Contractor agreed to conduct the transaction by electronic means and each recipient is capable of retention of the documents sent electronically. It will probably take some time before the SCDOT decides to enter the electronic world to that extent. SCDOT would have to consult with State Budget and Control Board concerning any regulations they have promulgated in regard to electronic transactions.

These regulations can be found in section 26-6-180 of the Uniform Electronic Transaction Act. This section explores the process of government agencies sending and accepting electronic records and signatures. Our expenditure report shows this department using 61 cartons of paper per year. Approximately one-half of this is used in the production of contracts. The cost of each carton is \$30.05 and contains (10) reams of paper @ 500 sheets per ream. Contracts are different in size and can contain up to and over 500 pages. It takes 30 to 45 minutes to complete one contract in its entirety. Automation of contracts would be a turning point in developing legal construction contracts.

Xerox keeps up with the number of copies used by our office with a meter read each month. This tells them whether or not we are matched with the most efficient piece of equipment to complete our job. We received a new copier in May of 2007 and already we have gone from 12,171 of copies the first month to 77,179 in January 2008. The graph below shows our steady increase of paper usage for that period of time.



Compared to other states such as Georgia, Florida, Virginia and North Carolina, South Carolina is on the cutting edge of automation of contracts. I spoke to Sandy Smith Casey of the Florida Department of Transportation and was informed that they use a forms program to develop contracts. Specific pages of information are printed after their bid letting, but they still manually assemble the contracts from these pages. Erica Stewart of the Georgia Transportation Department shared with me their methods for contract development. They also use pre-printed forms for contract development but the process is still done manually. Joe Moore of the North Carolina Department of Transportation is very interested in the results of my CPM project to gain insight into the automation of construction contracts at NCDOT. And the same goes for the Virginia Department of Transportation.

ACTION PLAN

I have accomplished the first steps in my action plan by consulting our legal department concerning the legalities of electronic contract signatures. Next, I will need opinions and the subsequently approval of our Director of Construction. After approval, the Contract Administrator's office will need to inform our internal and external customers of the change we will be implementing in the coming months concerning distribution of contracts. We will choose a regular Highway Letting as a target date to get started. Cost will be considerably less than the norm because we will be developing fewer contracts. Our information technology center has been notified of our need to

purchase a second scanner. Our cost will be negotiated by lowest bid. Therefore we will have the extra help at minimal cost.

We will develop (3) hard copy contracts for distribution to the contractor, the bonding company and SCDOT. Once all copies are fully executed we will scan our copy to a folder on our Director of Construction's drive. The Preconstruction Management office has established a construction plans library and is located on a local server for SCDOT employees to view. We will send our scan PDF version of the contract to the Preconstruction team responsible for maintaining the library. They can then upload our scanned contract file to the server which already contains the plans and is accessible to SCDOT employees.

There may be a few District offices that may not have access to the Preconstruction Server, but we will be able to email electronic copies to all who have access to email. The amount of time and effort to perform this duty would be cut considerably because of the need to produce fewer hard copy contracts. Paper usage would also decrease by 50%.

Our key stakeholders, SCDOT and the Contractors will both have a hard copy of the contract for legal use. We will continue to address any issues that may arise concerning the procedure change for contract distribution. As with any new procedure there may be some resistance to change. To ease the integration period we could still provide hard copies to the Federal Highway Administration (FHWA) and others with

minimal resources and unable to accept the change all at once. This will give us time to identify those areas in our district with a need for equipment changes to be able to receive electronic contracts if in fact the need does exist. We will also be able to assess who has the need for the contract copies.

EVALUATION METHOD

For the first four months after implementation, we will monitor paper usage and the number of requested copies. We would complete a second desk audit of the Program Assistant for contract development to establish production time difference. Following the desk audit we will send out an email to internal and external customers to assess their likes and dislikes of electronic contracts versus hard copies.

SUMMARY AND RECOMMENDATIONS

In conclusion, electronic data is already available from the inception of construction preliminaries to actual project development. We can use this information throughout the life of the project by manipulating the information through various outlets. We are currently manually developing six to seven hard copy contracts per project let to construction. This process causes repetitive use of electronic data already available on various servers. The manipulation of this data electronically will cut the number of hard copy contracts being made to nearly half. Contracts would be readily available after official execution of the document. Paper usage will decrease as will the cost for Xerox

copying. Our legal department will be able to view the fully executed (signed by all parties) copy of the contract without requesting a hard copy from the Contracts Office.

It is my recommendation that we adopt this new method of contract development as it will allow us to get efficient and effective utilization of our resources. The South Carolina Electronic Uniform Transaction Act found at S.C. code section 26-6-10 allows us to use electronic data legally. Furthermore, this act allows for electronic transactions to be the sole means of a legal agreement. In the future the SCDOT could elect to eliminate the (3) hard copies we are proposing to develop for official execution. The SCDOT and the Contractors would have to agree to conduct the transaction by electronic means and each recipient would have to be capable of retention of the documents sent electronically. However, before SCDOT could decide to venture in the electronic world to this extent, it would have to consult with the State Budget and Control Board and comply with any regulations necessary. We are on the verge of total electronic transmissions in developing construction contracts.