

# CCBR ANALYSIS

*A Non-Partisan Center for Research Focusing on  
Economies in Florida's Government*



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## **Improving D.O.T. Consultant Contract Procedures**

*June, 1981  
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## IMPROVING D.O.T. CONSULTANT CONTRACT PROCEDURES

### EXECUTIVE SUMMARY

The Florida Department of Transportation would have saved approximately \$3.7 million this fiscal year by competitively selecting architectural and engineering consultants. This estimate is based on D.O.T.'s one year experience in electing qualified architects and engineers based on competitive manhour proposals during FY 1979-80.

Current law prohibits State and local governments from competitively bidding services of architects and engineers. However, these consultants compete or work among private corporations and businesses and Florida taxpayers would benefit if the law were changed and competitive bidding were allowed in the public sector.

Georgia and Maryland competitively select architects and engineers. Department of Transportation officials of these states report that while the competitive process has substantially reduced the cost to taxpayers, the quality of architectural and engineering services has not declined.

The Citizens Council recommends amending Sections 287.055 and 473.317, Florida Statutes, to require price competition among the three most technically qualified firms. Exceptions for architectural and engineering work should be certified by the Secretary and limited to instances when:

1. a service is available from only a single source,
2. a valid emergency exists, or
3. the scope of work for an exceptional project can not be sufficiently defined.

Consultants should be awarded fees based on actual (audited) - not estimated costs for cost plus fixed-fee contracts. In this way, the State will avoid paying consultants excessive profits.

To avoid "low ball" or excessively high bids, it is recommended that D.O.T. uniformly notify the top three firms as to the range of manhours estimated for a project and require justification for manhour proposals above or below the department's range.

D.O.T. has expanded the use of outside consultants in response to the Governor's commitment to utilize private contractors for transportation work traditionally done by Department employees. While Governor Graham believes that consultants can perform design, construction engineering inspection and routine highway maintenance more economically than D.O.T. personnel, the Legislature remains skeptical as the evidence indicates otherwise. Consequently, the Department has commissioned seven studies since September 1979 to determine if contracting with consultants or utilizing state employees is more cost-effective.

Results of the seven studies indicate that it is not cost-effective to contract design and construction engineering inspection during routine periods of work. However, there are too many questions concerning the accuracy of the Department's two management information systems to make definitive conclusions about the cost-effectiveness of contracting routine highway maintenance.

To improve future comparisons of costs, the Citizens Council recommends that D.O.T. develop a cost comparison model to assess all costs incurred if Department staff performed the work and all costs incurred if the Department contracted consultants. The cost comparison model must be:

- based on accurate and valid cost information,
- based on comparable work units for both Department staff and consultants,
- documented and quantified sufficiently to enable a proper audit,
- broad enough to allow for an analysis of significant qualitative considerations that impact taxpayers but can not be quantified, and
- included as an important factor in the precontractual assessment of need.

Furthermore, the Citizens Council finds that D.O.T. does not have written procedures to determine when it is most advantageous to contract consultants and therefore recommends that the Department develop written procedures to:

- assess requirements, staffing level, time and budget constraints of each project,
- evaluate the Department's current and projected workload and availability of staff,
- review performance by staff and implement staff productivity improvements,
- assess relative qualitative characteristics,
- determine all quantitative costs via cost comparison model,
- document and justify the need to contract, and
- closely monitor all Department and consultant costs.

Developing and consistently utilizing these procedures will go a long way to promote the professional, cost-effective management of consultant contracts and ensure that the public trust is served.

• *Citizens Council for Budget Research*  
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## PREFACE

The Florida Department of Transportation is one of the most visible state agencies. It provides services which affect the social and economic well being of nearly ten million Florida residents, thirty-three million tourists and 222,365 businesses each year.' Also, transportation services are more tangible and quantifiable than many other public services (particularly social and rehabilitative services). Hence, the Florida Department of Transportation should be one of the most accountable public state agencies, since it directly impacts on the socioeconomic development and progress of the State. Recently, however, the Department's accountability has been severely questioned with respect to contracting outside consultants for transportation work traditionally done by Department employees.

- In one instance, the Department hired a consultant for \$4,990 to determine the feasibility of contracting routine highway maintenance on the Florida Turnpike without publicly advertising or competitively bidding the work. The consultant told the Department it was feasible to contract highway maintenance and was subsequently paid \$74,000 to manage the maintenance contracts after submitting the only proposal. An audit of this contract by the Auditor General states: "These associations tend to support the appearance of possibly a questionable contractual relationship."
- In November 1979, the Department of Transportation issued a report that found it costs 19% more to contract consultants during routine workload for the design of highways and bridges and 22% more for Project Development and Environment than it would cost the Department to perform. In December 1979, a private consulting firm hired by the Department found that contracting consultants for Construction, Engineering and Inspection (CEI) during normal workload cost 27% to 52% more than if Department personnel performed the work. The Department of Transportation conducted an internal audit in October 1980 which found that private consultants cost 31% to 73% more than if performed by Department staff for CEI projects during normal workload.

In each instance, the Secretary of the Department stated that using outside consultants was saving the State money. The evidence indicated otherwise.

- Florida's state and local governments are currently prohibited from competitively bidding architectural and engineering services, while businesses and corporations in the private sector are permitted to competitively bid these services.

This study by the Citizens Council shows that the elimination of price competition (among the most technically qualified firms) has raised the taxpayer's cost of purchasing architectural and engineering services.

As the Florida Department of Transportation actively pursues the use of private contracts for design, CEI and routine highway maintenance work traditionally done by departmental employees, the Citizens Council has analyzed the costs and benefits of engaging in such activities. This study provides recommendations that will enable the Department to operate these activities more economically while maintaining sufficient quality control, flexibility and programmatic accountability.

## INTRODUCTION

In an ever increasing attempt to reduce the number of State government employees to one percent of the State population, Governor Graham has advocated expanding the use of the private sector to perform many public services traditionally provided by state employees.

Governor Graham's commitment to utilize the private sector is evidenced *by* his policies for the 1981-83 budget:

"The State shall use private contracting for state service where efficiency, effectiveness and costs are comparable to state delivered services."<sup>2</sup>

The Florida Legislature, however, does not appear to be convinced that using private contractors for transportation jobs traditionally done by state workers is either cost-efficient or good policy. In 1979, the Legislature added proviso language to the 1979-81 General Appropriations Act directing DOT's use of private contractors which states:

*Governor supports more consultants; Legislature uncertain*

"Provided, however, the Department of Transportation shall develop, in cooperation with the Department of Administration, and present to the 1980 Legislature a plan of possible areas for increased use of the private sector. Such plan shall be coordinated with and not supercede the current approved plan to contract with the Department of Corrections and shall include detailed cost estimates for in-house versus contractual services."<sup>3</sup>

Legislative circumspection is further exhibited by this additional proviso language:

Provided, however, the Department shall prepare a documented, in-depth study with recommendations on in-house personnel versus consultant costs for both CEI and Design to be presented to the Legislature no later than January 1, 1980. Such plan shall include all direct and indirect costs of dealing with consultants.

Provided, however, the Department of Administration shall release the consultant funds herein for construction engineering inspection or increase design consultants only upon documentation furnished by the Department of Transportation that sufficient in-house personnel are not available in lieu thereof, and a delay would result in the loss of federal funds or sharply increased costs. Such documentation shall include but shall not be limited to: 1) a review of staffing, workload, and priorities for all districts, and 2) alternate strategies utilizing in-house personnel derived from increased mobility and the additional positions authorized herein.<sup>4</sup>

The Secretary of Transportation approved a substantial staff reduction plan calling for a 10.1% reduction of 963 positions, leaving the Department with 8,574 positions authorized as of July 1981.<sup>3</sup> This staff reduction plan which P.W. Ekey, State Transportation Engineer, submitted to the Secretary of Transportation clearly states that 'approximately half of the identified staff reductions are predicated upon the assumption that services of private enterprise will be available to perform work for which we (DOT) will no longer have staff as of July 1, 1981. If such private enterprise assistance is not available, then the work will not be accomplished.<sup>6</sup> Mr. Ekey further states that a similar additional staff reduction plan should be developed for the following year.

*Detailed cost justification needed*

It is important to note that DOT is reducing its in-house personnel in favor of private contracts when the Department does not have the adequate documentation to justify that such contracts are more cost-effective. As Mr. Ekey indicates, if DOT achieves these staff reductions but does not receive the legislative budget authority to engage in additional consultant contracts, then many transportation jobs originally done in-house will not be completed.

*Engaging consultants should provide documented net savings*

The Citizens Council supports the Department's efforts to reduce its over-abundant staff as a result of completion of the interstate system in North Florida and the phased transfer of administrative responsibilities for construction programs financed by the 80% portion of the second gas tax to the counties.<sup>7</sup> (See Citizens Council Analysis, Vol. 2, No.3.<sup>8</sup>) However, the Citizens Council maintains that Departmental staff reductions should be made in order to ameliorate waste/inefficiencies, or to effectuate productivity improvements. Staff reductions should not be made contingent upon the Department obtaining additional budget authority to consummate consultant contracts, unless engaging in such contracts provides a documented net savings.

# DOT: A CONTRACTING AGENCY

## Background

The Florida Department of Transportation has been and continues to be managed as a contracting state agency. Approximately half, or \$425 million, of the Department of Transportation's budget is currently allocated for contracts with private enterprises.<sup>9</sup> A majority of these contracts, however, are for construction of interstate highways, bridges, state roads, bridge rehabilitation/replacement and resurfacing of the transportation surface subsystem.<sup>10</sup>

Consultant contracts, on the other hand, are labor intensive, and primarily involve the purchase of professional services to design engineering plans, inspect work done by construction engineers and provide a variety of maintenance chores on interstate/state roads. These account for \$23.3 million (or 5%) of the contract portion of DOT's budget for fiscal year (FY) 1980-81. DOT's Budget Request calls for 89% increase in consultant contracts to \$44.0 million for FY 1981-82 and increase another 23% to \$54.2 million in FY 1982-83 (Table 1).

*89% increase requested in consultant contracts next fiscal year.*

Table 1 shows the DOT line item appropriation requests for consultant contracts according to their respective divisions. As indicated, approximately 90% of all DOT consultant contracts are budgeted through the Division of Road Operations. It is in this division that DOT is planning to expand the use of private contractors for design; Construction Engineering and Inspection (CEI); and routine maintenance (Table 2).

Traditionally, DOT has contracted professional/technical services in the areas of CEI, Preliminary Engineering and Design (PED) of roads and bridges for: 1) unusual and infrequent work activities which required a substantial increase in staff or capital investment for a short duration (activities in excess of workload peaks), or 2) when work activities required unique professional expertise not available in the Department. Consequently, the decision to contract was predicated on whether the State wanted those work activities completed or not.

During the eight years of Governor Reubin Askew's administration, the Department of Transportation's personnel performed approximately 65% of the engineering and design work in-house, and contracted the remaining 35% with private firms. As a result of Governor Graham's policy to limit the number of state workers to one percent of the population and expand the use of private contractors to provide State services<sup>11</sup>, the 70% in-house/30% contracting trend is reversing. <sup>12</sup>

*Askew administration:  
65% inside/35% outside.  
Trend reversing in  
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The central issue then is: when is contracting for engineering inspection, design or routine maintenance services advantageous and when should the Department use its in-house expertise to complete the work? The principal benefits and disadvantages are discussed in the following section.

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## Principal Benefits

Florida's economy grew twice as fast as the U.S. economy, since Florida's real Gross State Product (GSP) grew 66.7% while the U.S. real Gross National Product gained 33.0% between 1968 and 1978.<sup>15</sup> Additionally, Florida's population growth rate of 43.4% more than tripled the Nation's growth rate of 11.4% between 1970 and 1980.<sup>14</sup> In an effort to accommodate this growth, the State has sought alternative means of providing increased public services while keeping taxes low and limiting state government employment. In this way, contracting outside services can be seen as an important alternative.

*Accommodates growth while limiting State employment*

An opportune time to engage private consultants is when work activities require a unique level of expertise/talent not currently available in the Department. The design and engineering services required of the Keys Bridges Replacement Program are prime examples of this. Furthermore, consultants may innovate and bring better managerial talent to improve the quality of the final product.

It is frequently advantageous to use private consultants for unusual or infrequent work activities that would otherwise require a substantial increase of Department staff for a short period. The Construction Engineering and Inspection work on 1-75 in southern Sarasota County is one example.

*Provides for occasional activities*

Flexibility is another common characteristic of contracting, since consultants can be hired to complete a job and terminated at its completion without disrupting the Department's operations or staffing level. Also, consultants can more readily scale their own project staff up or down to meet the required job specifications since they tend to base their staffing decisions on economic, rather than political considerations.<sup>15</sup> As such, when the work is completed, staff reductions can be achieved without the political ramifications associated with transferring or laying-off workers in the State Career Service System. This would be particularly true for projects of a limited duration.

*Offers flexibility; can be terminated*

Contracting consultants may also save the State money on such capital investments as buildings or equipment in instances when such overhead costs are required infrequently.

*Saves on capital investments*

Finally, private consultants can offer improved productivity and efficiency in their operations due to the profit motive and competition in the market place. The profit motive encourages consultants to utilize resources more efficiently in order to be compensated with an increased profit margin. The competitive market applies further pressure on consultants to reduce their operating expenses and share some portion of their productivity achievements with the State (via lower bid).

*Improves productivity thru profit motive*

## Principal Disadvantages

### *Potential for abuses*

The most widely recognized disadvantage of utilizing private consultants is that "contracts are one of the most common and lucrative sources of corruption in government. The abuses have only been diminished, not eliminated by public bidding and other formalities designed to improve the integrity of the process. Bribes, kickbacks, or other improper favors from contractors may take their toll by raising the costs of contract service loosening the assiduousness of inspections" according to the University of Florida.<sup>16</sup> News articles and the Auditor General's audit of the Cocoa and Turnpike Maintenance Pilot Projects provide two recent examples which "tend to support the appearance of possibly a questionable contractual relationship."<sup>17</sup>

### *Reduces in-house capabilities*

Another major concern of increasing consultant contracts is that the State would, in effect, reduce its in-house capacity to perform traditional work activities and increase its reliance on contractors to complete government functions. As professor of public finance, Ira Sharkansky, notes "Contractors may use the old gimmick of the 'introductory offer' to win a contract. They boost prices when a community has committed itself and closed the door to other options."<sup>18</sup> This is referred to as "low ball" bidding.<sup>19</sup>

### *Makes lines of control unclear*

When the level of consultant contracts is increased, the State's control over the quality of public services rendered and the direct accountability over taxpayers' funds is reduced. "Private contractual services cannot be viewed as merely a vehicle for efficiency and economy. The private contractor and consultant affect policies and decisions of the agency with which they have a contract, yet the lines of control and accountability over the contractor are unclear."<sup>20</sup> As the use of private consultants continues to rise, it becomes more difficult to locate and monitor these "margins of government".

### *Adds oversight costs*

The need for an additional oversight function of private consultants, through product inspections and monitoring of the production process by Department staff, adds to the overall cost of engaging consultants.

### *Fosters dependence on State contracts*

Another factor is that private consulting firms may become substantially financially dependent on State contracts, in which case their objectivity in providing advice on policy issues of crucial import to the State may become distorted.

### *Requires weighing of all costs*

Finally, efficiency and quality performance do not come automatically because a work activity is contracted with the private sector. Some claims of reduced costs are simply the result of reduced levels of services.<sup>21</sup>

It is essential that any cost-benefit analysis of contracting private consultants weigh all the direct, indirect and intangible costs against the short and long term benefits that may accrue.

## **COST EFFECTIVE CONSIDERATIONS**

### **Other State's Experiences**

In analyzing the cost-effectiveness of consultant contracts, the Citizens Council examined how extensively eight selected states utilize private consultants and whether they cost more or less than performing the work in-house.

#### **Construction Engineering and Inspection Contracts**

In Construction Engineering and Inspection (CEI) contracts the Alabama Highway Department has only used consultants for certain specialized work and therefore, has no cost comparisons.<sup>22</sup> Kentucky contracts consultants for 20% of its CEI workload but does not have a comparison of in-house vs. consultant costs.<sup>23</sup>

*Other states contract CEI when in-house skills unavailable*

Mississippi contracts about 1% of its entire CEI jobs. While the state has not determined the total cost of utilizing consultants vs. state personnel, they indicated that the overhead rate for in-house staff is 48% compared to an average overhead rate of 99.55% to 123% for consultants.<sup>24</sup> South Carolina<sup>25</sup> and Tennessee<sup>26</sup> both stated that they rarely contract consultants for CEI work.

North Carolina has not had any recent CEI projects performed by consultants, but previous experience in contracting consultants for CEI has significantly overrun the costs of completing work with state employees.<sup>27</sup>

The states which contracted consultants for CEI did so when there was limited in-house personnel or when special engineering skills were not available in-house.

#### **Design Contracts**

In design contracts, the Alabama Highway Department has taken comparable projects and analyzed its in-house personnel costs with consultant costs for design work. The Alabama department staff average 598.76 man-days per mile while consultants average 784.23 man-days per mile. Thus, consultants average 31% more man-days per mile than Alabama state personnel. Moreover, Alabama state employees performed design work for an average of \$47,900 per mile while consultants did similar work for \$61,185 per mile.<sup>29</sup> Hence, consultants cost 28% more than if Alabama state workers completed the design services.

*Design consultants cost 28% more in Alabama*

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The Kentucky Department of Transportation stated that its in-house design costs are approximately 1/2 the cost of utilizing consultants for design work.<sup>30</sup>

The Mississippi State Highway Department contracts approximately 5% of its design work and performs the remaining 95% in-house but does not have cost comparisons.<sup>31</sup>

New York has maintained a mix of consultants and state workers for preliminary engineering design of formal figures. It has traditionally contracted consultants for large scale projects where competitive.<sup>32</sup> Recent increases in consultant contracts were a result of a cap on hiring state employees.<sup>33</sup> Detailed comparison of in-house and consultant costs will be published shortly. Preliminary findings indicate that design costs for consultants are considerably higher than for in-house staff.<sup>34</sup>

**CEI consultants cost 30\$ to 60% more in Oregon**

Oregon utilized private consultants during 1977-79 in environmental studies. Oregon estimated that consultants cost 40% more for minor projects and 60% more for majors.<sup>35</sup> Oregon also estimated that using consultants for bridge design cost 30% to 35% more than if performed by state personnel.<sup>36</sup>

South Carolina contracts consultants for about 10% of its preliminary engineering work but does not have specific cost comparisons.<sup>37</sup> Tennessee said that it contracted 23% of preliminary engineering design work in 1978 and estimates contracting 33% in 1979, but is also without specific cost comparisons.<sup>38</sup>

**Most states use consultants selectively**

In summary, more states contracted preliminary engineering and design than CEI services. Most states selectively utilize consultants where they do not have sufficient staff or the necessary expertise.

#### **Routine Highway Maintenance Contracts 39**

The Highway Departments of Alabama, Mississippi and South Carolina, as well as Kentucky, New York and North Carolina Departments of Transportation informed the Citizens Council that all routine highway maintenance is performed in-house.<sup>40</sup>

The Tennessee Department of Transportation cited isolated instances of contracts with municipalities for road and bridge sweeping.<sup>41</sup> However, no cost comparisons were available.

**Disparity of costs is enormous**

The Oregon Highway Division contracts some bridge and highway sweeping, as well as brush control, but seldom contracted for routine maintenance. Oregon uses open-ended contracts and has contracted in only one area of a district. Available cost comparisons question the wisdom of contracting. Highway sweeping can be done in-house for \$111.52 per eight-hours while contracting is \$360 per eight-hour shift, along with a \$38 per hour charge for travel and \$40 per diem for overnight expenses. In-house brush cutting costs \$48 per pass mile, while the cost is \$89.50 per pass mile when using contractors.<sup>42</sup> There is little difference in the quality of work performed by contractors or in-house staff.<sup>43</sup>

## Cost Comparisons in Florida

In an attempt to document the cost-effectiveness of contracting design, construction engineering inspection and routine roadway maintenance, the Department of Transportation has commissioned seven studies since September 1979.

The purpose of each study was to compare costs incurred by consultants versus in-house staff to perform comparable work activities. A brief review of these studies is provided with recommendations to improve future comparisons of cost.

### Design Costs

In order to satisfy part of the legislative mandate of providing a documented, in-depth comparison of consultants versus DOT in-house costs by January 1, 1980, the Department of Transportation completed a report, dated November 1979, comparing DOT in-house costs versus consultant costs for engineering design services.<sup>44</sup>

The Department of Transportation found that it costs 19% more to contract consultants for the design of highways and bridges and 22% more for Project Development and Environment than DOT in-house costs.

*DOT study: design costs higher outside*

The results were based on the comparison of hourly salary rates including fringe benefits, direct and indirect overhead and related costs. Cost figures for consultants were taken from about 50 contracts that were actually negotiated for preliminary engineering and design during fiscal year 1978-79. The costs for DOT design work activities were taken from the DOT cost accounting system.

The Department of Transportation contracted the University of Florida, Bureau of Economic and Business Research in the amount of \$174,809 for a three phase detailed cost-effective analysis of contracting design, construction engineering inspection and routine roadway maintenance. As of this writing, the University of Florida completed the second phase of its contract and received \$124,329 prior to cancellation by the Department of Transportation.<sup>45</sup>

*U of F study: contract cancelled*

The contract required a review of the DOT report on contracting design costs and an overview of the cost-effectiveness of contracting preliminary engineering design services. The University of Florida researchers attempted to refute key assumptions incorporated in the November 1979 DOT design study, but admitted that it is extremely difficult to make reliable cost comparisons (without such assumptions) because of the incomplete and inaccurate data. Thus, conclusions about the cost-effectiveness of contracting consultants for design

**Systematic cost comparison procedures available**

The Citizens Council has reviewed the November 1979 DOT design study in detail and contends that it presents a reasonably accurate depiction of all direct and indirect costs in accordance with the 1979 Federal OMB (Office of Management and Budget) Circular A-76: "Policies for Acquiring Commercial or Industrial Products and Services Needed by Government." The OMB Circular A-76 provides a systematic and detailed cost comparison procedure of documenting in-house and outside (consultants) costs.

The key assumptions used in the 1979 DOT study were valid, quantifiable and auditable. Moreover, the results of the DOT report on design costs are consistent with cost comparisons provided by other states (discussed in the previous section).

**Construction Engineering and Inspection Costs**

The Department of Transportation contracted with Arthur Young & Company, October 4, 1979, in the amount of \$21,028 to provide a comparative cost analysis of the use of consultants versus in-house personnel for construction engineering and inspection.<sup>46</sup> This was to satisfy the remaining portion of the legislative mandate of comparing consultants versus in-house costs by January 1, 1980. It was submitted to the Department on December 14, 1979.

**Arthur Young study: consultants costs 27% more**

The study concluded that the direct overhead costs of using consultants for construction engineering and inspection work is 27% more than if DOT personnel were transferred from other districts to perform the work. The study also concluded that consultants cost 52% more than if DOT primarily staffed the CEI projects with new Department employees and staffed the startup work and interim peaks with transfers from other districts.

The basis of the cost analysis was hypothetical, analyzing the relative costs for a CEI job conducted by DOT staff or consultants, with any differences in operating procedures ignored. This approach is less reliable than a comparison of actual/historical costs. However, the Department of Transportation has little experience contracting CEI with few historical comparisons.<sup>47</sup>

The study also discusses the relative advantages of using consultants in certain situations despite the cost differences. These include instances when a CEI job requires special expertise not available in-house, when the Department cannot hire or transfer people to certain parts of the state, or when CEI jobs require staffing above the Department's routine staffing level. The Keys Bridge CEI replacement projects illustrate instances when the Department did not have the required expertise and would have had severe difficulties hiring or transferring state workers to the Keys area. The 1-75 CEI project in southern Sarasota County is an example of when the work would have required staffing above the Department's routine staffing level.

The Department of Transportation also contracted the University of Florida, Bureau of Economic and Business Research, to review the Arthur Young report and analyze the cost-effectiveness of contracting CEI. The University of Florida reiterated that the basis of the cost analysis by Arthur Young was hypothetical. As such, operational efficiencies (or inefficiencies) achieved by consultants or in-house staff were not factored in. The University of Florida did not, however, analyze the cost comparisons of in-house versus consultant costs for CEI because of difficulties in collecting actual in-house costs.

*of F: Arthur Young study "Hypothetical"*

The Citizens Council agrees that historical costs which include operational efficiencies (or inefficiencies) would provide a more valid comparison of consultant and in-house costs. However, it is important to note that any efficiencies which could be achieved by consultants would have to exceed 27% to 52% of the total project cost to equal the Department's lower cost.

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The Department of Transportation conducted an internal audit, dated October 6, 1980, comparing consultant contract CEI costs with the Department's costs to perform the same type of work of comparable scope. The Department's internal audit employed four methods to compare consultant and DOT in-house costs. The audit concluded that the use of consultants for CEI costs the state 31% to 73% more than using DOT personnel.

*DOT compares costs: consultants 31% to 73% more*

Method A - when actual DOT and consultant CEI costs for similar projects are compared, consultants costs 73% more than if DOT performed the work using the maximum wage rate allowed for each Department classification used.

Method B - Actual consultants costs were 52% more when compared with costs DOT would incur if the Department's staffing level were similar to the consultants' and wages paid to in-house staff were DOT's maximum wage rates.

Method C - Actual consultant costs were 38% more when compared with costs DOT would incur at a similar staffing level for consultants, as estimated *by* the DOT District Consultant Coordinator.

Method D - Actual consultant costs were 31% more when compared with costs DOT would incur if its staffing level were based on the DOT Manpower and Utilization program and the Department's employees received the maximum wage rates.

The Department of Transportation internal audit report presents a detailed, documented and auditable cost analysis in accordance with the Cost Comparison Handbook of the 1979 Federal OMB Circular A-76: "Policies for Acquiring Commercial or Industrial Products and Services Needed by Government."

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The DOT costs were based on data in the Department's fiscal records and consultant costs were based on the actual invoices submitted by consultants engaged in CEI work activities. While the actual supervisory and operational efficiencies achieved by consultants were included in the costs comparisons, the audit report indicates that contracting consultants for CEI cost 31% to 73% more than if performed by personnel in-house.

In summary, there have been two studies comparing in-house and consultant costs to perform CEI activities of comparable scope. One cost comparison was performed by a private consultant and the other by the DOT Office of Internal Auditing. Both reports conclude that contracting CEI during routine workload costs substantially more than if performed by DOT staff.

**Consultants supported in two situations**

While contracting consultants for CEI is not cost-effective for normal workload, the Citizens Council supports the use of consultants to perform CEI when the Department does not have the technical expertise or when the CEI workload is in excess of the Department's routine staffing level. Contracting consultants in these situations would be cost-effective to taxpayers since the contracted (purchased) skills and labor could be terminated at completion of the time-limited project, thus avoiding the inefficiencies associated with overstaffing the Department. Contracting private consultants also enables the State to complete unique CEI projects which it could not otherwise perform.

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**Routine Highway Maintenance Costs**

The Department of Transportation contracted Jerry McLain Associates on September 4, 1979, for a fixed fee of \$4,990.00 to determine the feasibility of contracting private firms for routine highway maintenance in Brevard and Seminole Counties. Since the consultant's fee did not exceed \$5,0000, it was not advertised in the Florida Administrative Weekly, nor competitively bid. Also, the consultant did not file an application for qualification prior to employment, pursuant to Section 337.33, Florida Statutes, until ten months after being employed.

**Researcher: cheaper to contract maintenance**

Jerry McLain submitted a report to the DOT Secretary on October 6, 1979, which stated that it would be cheaper to contract roadway maintenance operations in Brevard and Seminole Counties." The report asserted that contracting first year activities should result in savings of about \$298,000.

**Result: researcher gets contract**

As a result of McLain's feasibility findings, the Department solicited bids by advertising in the Florida Administrative Weekly on October 12, 1979. Jerry McLain Associates submitted the only response to the request for bids. The Department contracted Jerry McLain, on January 11, 1980, for a fixed fee of \$74,000 for one year. According to this contract, Jerry McLain is required to provide counsel and assistance to the maintenance engineer in overseeing the activities of six private contractors.

These six contracts are for an amount not to exceed \$697,978. They are currently in force and are the only source of unit cost information for private contractors in the area of routine maintenance.

The basic assumptions and methodology which Jerry McLain employed in his feasibility report have been aptly refuted by the Auditor General<sup>49</sup> and University of Florida<sup>50</sup> researchers. The report was biased in favor of contractors due to invalid assumptions, inaccurate reporting of direct and indirect overhead, improper use of overhead percentages and comparing incomparable/inconsistent costs.

**Auditor General  
refutes research  
methodology**

After reviewing the available cost information from the Cocoa Pilot Project, the Auditor General concluded that:

**Conclusion:  
No conclusion**

Contract maintenance costs will presently be about equal, perhaps higher or lower in some instances, than the costs of Department in-house maintenance. However, such factors as effectiveness and efficiency of either the private or the public operated maintenance process have not been evaluated; yet, they could very well be of greater significance in the decision making process.<sup>51</sup>

As part of the Phase II Report, the University of Florida researchers independently analyzed the cost-effectiveness of contract maintenance at the Cocoa Pilot Project. The researchers compared the DOT total unit costs against the DOT total unit cost when using contractors. This is illustrated below.

#### UNIT COST WITH NO CONTRACTORS

DOT direct costs + DOT (direct and indirect) overhead = DOT total cost.

DOT total cost ÷ number of specific work units completed = DOT total cost per unit of work.

VS

#### UNIT COST WITH USE OF CONTRACTORS

Contractor bid price + DOT continuing (direct and indirect) costs when using contractors = DOT total cost with contractors.

DOT total cost with contractors ÷ number of specific work units completed = DOT total unit cost with contractors.

The University of Florida report indicated that contracting certain maintenance activities may be cost-effective. These include spot shoulder repair; reworking shoulders, **Contracting some maintenance is cost-effective**

and ditches; cleaning and reshaping roadside ditches; mechanical weed control; and roadside sweeping. The report indicated that contracting seeding, fertilizing and mulching did not appear to be cost-effective. It left uncertain the cost-effectiveness of contracting plant mix patching, bridge tending and rest area maintenance.

*Inaccuracies in information systems cloud total cost picture*

Although the University of Florida's research methodology appears to be sound, the unit cost information upon which the researchers based their comparisons has been flawed by inadequacies and inconsistencies in the Department's two management information systems. The Department's cost accounting system, which collects fiscal information and controls disbursements, has not properly interfaced with the Department's maintenance manpower information system, which accounts for the units of work accomplished and controls manpower and machinery allocations. The Auditor General and The University of Florida researchers have also pointed out that these two accounting systems contain some inaccurate and incorrectly coded information, further clouding the Department's actual total unit costs. As such, there is presently no conclusive evidence to substantiate (or deny) that contract maintenance is cost-effective.

*On-the-job work performance being measured*

The DOT Inspector General is currently analyzing the Department's cost accounting system and maintenance manpower information system to determine how extensively work performance units go unreported or inaccurately documented. The Inspector General's report, to be published shortly, is expected to provide specific recommendations to reduce these data problems.<sup>52</sup>

More importantly, the Department should only enter into a pilot project for work activities of a comparable nature to routine maintenance services presently performed by in-house Department staff. Only then can valid cost comparisons be made. Furthermore, the Department should closely monitor the pilot project to determine how much of the Department's staff time and resources (direct labor cost plus direct and indirect overhead) are used.

## **Summary and Conclusions**

The available evidence indicates that contracting consultants for preliminary engineering design and construction engineering inspection activities is not cost-effective on a project-by-project basis during normal workload. Contracting consultants for peak periods, where the PED or CEI projects will exceed the Department's normal workload, may be cost-effective.

Contracting consultants may be economical for PED and CEI jobs where the Department receives unexpected federal lapse funds. By contracting consultants, the Department can commit federal lapse monies in a timely fashion, thus preventing

project costs from escalating due to inflation and avoid being overstaffed after the projects are completed.

There are two situations when it is advantageous to contract consultants even though they are not "cost-effective" per se. The first circumstance is when the State does not have the required expertise available in-house. The second is when the Department cannot hire or transfer employees to perform the necessary projects which are of a limited duration. In both instances, the projects would not be completed unless the Department purchased what expertise or flexible labor was necessary to get the job done. Therefore, the decision to contract, in these circumstances, is dependent upon the Department's decision to perform the work or not.

*Advantageous though not cost-effective*

The Citizens Council asserts that there are presently too many fundamental questions concerning the adequacy of the Department's two management information systems to make definitive conclusions about the cost-effectiveness of contracting routine maintenance. This is particularly true of the Maintenance Manpower Information System. The DOT Inspector General's report (regarding routine highway maintenance) should provide some valuable recommendations to improve the Department's data base and enhance the validity of unit costs for future comparisons.

*Goal: enhance validity of DOT data base*

The Citizens Council notes that higher wages, overhead rates and operating margins paid to consultants make the use of Department personnel more economical on a project-by-project basis. Cost comparisons have thus far examined the relative costs of consultants and Department forces, but have largely omitted costs which the State realizes by overstaffing Department personnel when PED and CEI projects are completed.

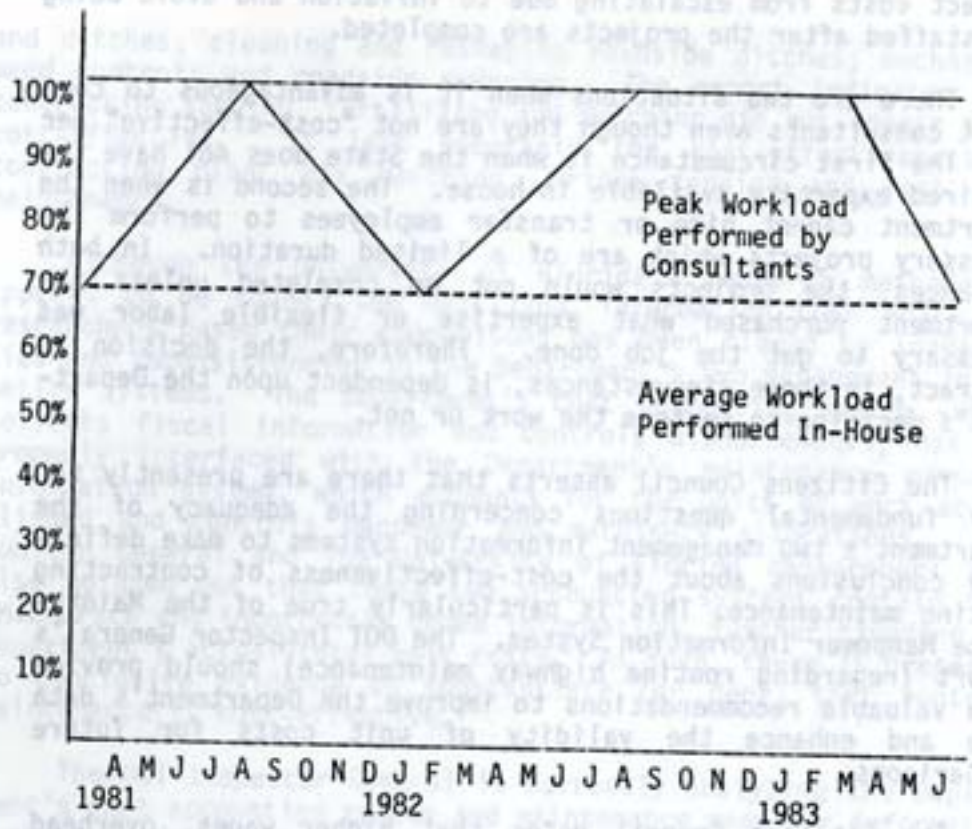
*Don't omit over-staffing costs*

It is generally assumed that contracting consultants for PED and CEI during peak workloads is cost-effective. However, there is no empirical evidence to support or deny this assumption. Consequently, the Citizens Council recommends that DOT evaluate the cost-effectiveness of contracting consultants during peak workload based on current and projected staffing needs.

Moreover, the Citizens Council recommends that DOT determine the proper mix of consultants and Department personnel so that Department staff members are utilized to their optimally productive level and to avoid extended periods of overstaffing. Moreover, future cost comparisons and DOT staffing decisions should be based on the Department's overall staffing needs and optimal mix of consultants and Department personnel (Table 3).

**TABLE 3\***

Optimal Mix of Consultants and In-House Staff



\* DOT current and projected workload depicted solely for illustrative purpose.

**Recommendations**

The Citizens Council recommends that the Department of Transportation Inspector General also assess the accuracy of the Department's accounting and management information systems for PED and CEI.<sup>53</sup> Moreover, the Department should calculate and report unit costs (of PED and CEI services provided) to facilitate cost comparisons and ensure that project managers are held accountable for the efficiency of their operations.

The Citizens Council recommends the Department of Transportation develop a comprehensive cost comparison manual to systematically document all costs associated with contracting consultants. The manual should factor in all costs if the Department were to complete the project versus the consultants' cost (bid price) and the Department's continuing costs (both direct cost and direct and indirect overhead) when contracting consultants. As such, the cost comparison manual should provide resultant figures which are documented, quantifiable and auditable.

*Document all consultant costs*

The Citizens Council suggests that DOT incorporate relevant cost comparison criteria enumerated in the Federal Cost Comparison Handbook, "Supplement No. 1 to OMB Circular No. A-76: Policies for Acquiring Commercial or Industrial Products and Services Needed by the Government."

*Criteria for cost comparisons available*

After developing the cost comparison manual, the Department of Transportation should forward copies to the Auditor General's Office and the appropriate legislative staff. This would allow the parties responsible for auditing and establishing appropriations for DOT consultant contracts to review the procedures and comment on their adequacy (i.e., fiscal and quality assurance controls, comparability of data, etc.). This should improve future cost comparisons and reduce the duplication of studies to study studies.

The Citizens Council finds that the Department of Transportation does not have written procedures to systematically assess the specific needs of a project, the availability of in-house staff and expertise on the need to contract consultants. In recognizing the advantages of contracting consultants, the Citizens Council recommends that the Department of Transportation develop written procedures that meet the following minimum criteria:

1. Assess the requisite expertise, staffing level and time constraints of each project together with the Department's current and projected workload.
2. Evaluate the availability of qualified Department staff and level of expertise. Transferring or hiring new personnel (on other Personal Services) for projects of limited duration should also be considered.
3. Review whether current projects are staffed in-house at their optimal cost-efficient level. If they are not, determine whether the problem is one of unproductive operations or inappropriate/inefficient staffing levels. When the latter exists, implement productivity improvements; when the former is true, reallocate staff.
4. Assess the relative qualitative characteristics of contracting consultants versus using in-house staff for each project. For example, consultants may offer improved techniques or a flexible staffing level; while Department staff may offer longstanding knowledge of comparable projects and more public accountability over the project's operations. Such characteristics should be appraised on a project by project basis.

*Assess requirements*

*Evaluate staff availability*

*Implement staff productivity*

*Assess contracting vs in-house*

*Employ cost-comparison manual*

5. Systematically assess all costs incurred if DOT performed the work versus the consultant cost and the continuing DOT costs when using consultants. Calculate costs by employing the cost comparison manual recommended earlier.

*Apply three documented criteria*

6. Document and justify why the project could not be feasibly performed in-house. The State should contract consultants when their services are documented to be cost-effective, or the project requires skills not available in-house or for peaks in the Department's workload. Therefore, the decision to contract is based on the specific needs of the project, current and projected workload and documented/auditable cost-effective evaluation.

*Monitor all costs*

7. After commencing the consultant contract, the Department should closely monitor all costs, including all efficiencies achieved by consultants and the full extent that DOT staff time and resources are utilized on the project. The Department should also evaluate the quality of the services rendered and fiscal accountability of the project.

The Citizens Council asserts that developing and consistently utilizing procedures based on the preceding criteria will go a long way to promote the professional and cost-effective management of consultant contracts and insure that the public interest is served.

## SELECTION OF CONSULTANTS

After the Department of Transportation decides to contract consultants, it is governed by State law and rules in the selection of consultants. The following section describes each major phase of the consultant selection process, while providing recommendations to eliminate existing abuses and make the selection process more responsive to the taxpayers' interest.

### Pre-Qualification

The Department of Transportation is legally required to determine the qualifications of all professional consultants prior to their contractual employment.<sup>54</sup> The law ensures that only qualified proposals are submitted.

Accordingly, DOT consultant contract procedures state that the prequalification of consultants is the first step in the selection process.<sup>55</sup> However, there are at least two instances when the Department has awarded contracts prior to the receipt of an application for qualification. Jerry McLain submitted an application for qualification in July 1980 - ten months after his initial contract of September 4, 1979 for \$4,990 and six months after securing a second contract on January 11, 1980 for \$74,000. Frederick Hejl submitted an application for qualification on February 18, 1981 - eight months after his firm, Southern Contract Consultants, Inc., was awarded a \$5,000 contract on June 18, 1980 and four months after his firm was awarded a \$37,000 contract on October 20, 1980.<sup>56</sup> The Citizens Council was also informed by the DOT Contracts Administration Office, where the qualification applications are processed, that Mr. William Nieman has not yet submitted an application for qualification even though DOT initially contracted him 18 months ago on September 11, 1979 for \$5,000.<sup>57</sup>

The Citizens Council finds that such abuses add suspicion to the selection process and present a breach of the taxpayer's trust. DOT should award contracts only after an application for qualification is submitted and approved by the DOT Consultant Contracts Negotiator.

### Advertisement

The Department is legally required to publicly announce, in a uniform and consistent manner, each occasion when the Department decides to acquire professional services from a private consultant for more than \$5,000.<sup>58</sup> Notices for consultant services in excess of \$5,000 are advertised in the Florida Administrative Weekly.<sup>59</sup> The only lawful exceptions are for cases of valid public emergencies that are certified by the DOT Secretary.<sup>60</sup> Moreover, the notice must include a project description and show how interested consultants may apply.

*Contracts awarded prior to applications*

*Such abuses add suspicion to selection process*

## Competitive Bids and Negotiations

The Department of Transportation initially screens all interested consultants who respond to the public notice in a like manner. The DOT unit requesting consultants screens those who respond to the public notice and recommends five firms for additional scrutiny based on the following professional qualifications:

Ability of professional personnel, past performance, willingness to meet time and budget requirements, location, recent, current and projected workloads of the firms and the volume of work previously awarded to the firm, providing however, that such distribution does not violate the principal of selection of the most highly qualified firms (emphasis added).<sup>61</sup>

*DOT commended for procedures*

The Citizens Council finds that such procedures are critical to ensuring that only the most highly qualified technical proposals are recommended and commends the Department of Transportation for their development.

The Secretary of Transportation then narrows the list to three firms and provides each with a consultant proposal package. The package includes the time and place of the Scope of Service Meeting, initial work specifications and instructions to prepare consultants for this meeting.

The three recommended consultants jointly attend the scope of service meeting to discuss the specifications of the project and associated requirements in detail.

The Citizens Council commends the Department of Transportation for the development of fair, responsive and progressive administrative procedures outlined above. From this point, however, there remains a major difference in the way the State selects consultants of certain professions.

*Five professions prohibited from competitive bids*

Architects, engineers, landscape architects and registered land surveyors are prohibited by *law* from competitively bidding jobs for the State.<sup>62</sup> The law does not, however, prohibit these professionals from competitively bidding in the private sector.

Certified public accountants are legally prohibited from competitively bidding in the public and private sectors.<sup>63</sup>

After discussing the work specifications in detail at the Scope of Service Meeting, the three recommended firms submit detailed technical proposals to the Department. The DOT Selection Committee (composed of the Secretary, State Transportation Engineer and appropriate division director) evaluate the proposals and rank them.

This is where the major distinction exists. Architects, engineers, landscape architects, registered land surveyors and public accountants submit only their detailed technical proposals. Cost or manhour estimates are not considered for these

professionals when the DOT Selection Committee ranks the firms in preference. All other professional consultants are required to submit detailed cost estimates, including proposed manhours by job classification, wage rates and overhead rates, in addition to detailed technical proposals.

• EQ17.

*Other professionals submit cost estimates*

The Consultant's Competitive Negotiation Act (CCNA) is the Florida law which prohibits architects, engineers, landscape architects and registered land surveyors from competitively bidding professional services for the public sector. CCNA is modeled after the Federal "Brooks Act" which mandates that the agency head negotiate a contract with the most technically qualified firm for architectural and engineering services.<sup>64</sup> Table 4 illustrates the Florida CCNA

<p>FIRM A I. DOT estimates the manhours (by classification) it should take the consultant to perform architectural/engineering services.</p> <ol style="list-style-type: none"><li>2. DOT reviews Firm A's cost proposal and tries to negotiate a reasonable price. At this point, DOT does not know how much Firms B and C will charge to perform the comparable architectural/engineering services.</li><li>3. If DOT feels satisfied that a reasonable price has been arrived at, then DOT will contract that consultant.</li><li>4. Theoretically, if DOT cannot arrive at a reasonable price, then DOT cancels negotiations with Firm A and contacts Firm B.</li></ol> <p>FIRM B I. - 3. Repeat all phases of contract negotiation as was done with Firm A.</p> <ol style="list-style-type: none"><li>4. If DOT cannot arrive at a reasonable price, then DOT cancels negotiations with Firm B and contacts Firm C.</li></ol> <p>FIRM C I. -3. Repeat all phases of contract negotiation.</p> <ol style="list-style-type: none"><li>4. If DOT cannot arrive at a reasonable price, then DOT cancels negotiations with Firm C and reopens the solicitation process.</li></ol> <p>NOTE: Under the CCNA process, DOT has only contacted and negotiated a contract with a second firm (B) on one occasion and has never contacted the third qualified firm (C) in the past 6 years.</p>
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TABLE 4

Florida Consultants' Competitive Negotiation Act Procedures

**TABLE 5**

Project	Competitive Manhours		
	Florida DO Estimate	Selectee	% Over/Under FDOT
1	3,680	2,777	-24.5%
2	5,465	4,200	-23.1%
3	626	408	-34.8%
4	3,100	2,337	-24.6%
5	1,585	983	-38.0%
6	1,738	1,385	-20.3%
7	13,608	13,540	-.5%
8	705	420	-40.4%
9	936	980	+ 4.7%
10	940	604	-35.7%
	32,383	27,634	-14.7%

Source: Florida Department of Transportation, Office of Consultant Contracts.

The firms which DOT selected via competitive manhours were 14.7% lower than the DOT estimate.

The competitive bid (of manhours by classification) enabled the DOT to select firms with a 14.7% savings by manhours. The DOT cost of selecting firms by the noncompetitive (negotiated) procedure cost the State an additional 4.0% more than DOT estimate. The combined difference is 18.7%.

**TABLE 6**

Project	Noncompetitive (Negotiated) Manhours				
	Fla. DOT Est.	DOT Negot. Manhours	% Above/Below DOT Est.	First Proposal	% Above/Below DOT Est.
1	7,267	7,799	+ 7.3%	9,227	+27.0%
2	7,475	7,442	- .4%	7,442	- .4%
3	15,206	17,224	+13.3%	18,964	+24.7%
4	19,810	21,745	+10.0%	25,225	+27.3%
5	10,539	10,704	+ 1.6%	11,118	+ 5.5%
6	11,880	12,506	+ 5.3%	12,506	+ 5.3%
7	6,655	6,772	+ 1.8%	7,439	+11.8%
8	2,135	2,150	+ .7%	2,150	+ .7%
9	9,150	8,925	- 2.5%	9,369	+ 2.4%
10	9,260	9,710	+ 4.9%	14,226	+53.6%
11	7,140	7,463	+ 4.5%	7,875	+10.3%
12	6,623	6,762	+ 2.1%	7,525	+13.6%
13	9,906	9,321	- 5.9%	10,282	+ 3.8%
14	9,057	9,091	+ .4%	9,721	+ 7.3%
15	5,730	5,802	+ 1.3%	6,896	+20.3%
	137,883	143,416	+ 4.0%	159,965	+16.1%
	(Avg.) 9,189	9,561	+ 4.0%	10,664	+16.1%

Source: Florida Department of Transportation, Office of Consultant Contracts.

According to information received from DOT, the noncompetitive (negotiated) manhours was 4.0% higher than DOT estimate, and the noncompetitive manhours received in the first proposal were 16.1% higher than the DOT estimate.

The selection process governed by CCNA is designed to ensure that the Department arrives at a "fair, competitive and reasonable" price.<sup>65</sup> As Table 4 indicates, DOT does not know what the other two most qualified firms will charge. In fact, DOT has only negotiated with a second firm on one occasion and has not negotiated with a third firm.<sup>66</sup>

*What will other qualified firms charge*

From July 1979 to June 1980, the Department of Transportation required that architectural and engineering firms submit cost proposals of estimated manhours *by* classification, in addition to their detailed technical proposals. Even though DOT did not necessarily select the lowest manhour proposals, the competitive bidding process enabled it to reduce consultant manhours by as much as 19%. As Table 5 indicates, the Department selected qualified firms for about 15% less than their estimated manhours. Under the noncompetitive (negotiated) procedure shown in Table 6, DOT selected firms for about 4% more than its estimated manhours. The original proposals were 16% more than the estimated manhours.

Georgia and Maryland require that the three to five most qualified architectural and engineering firms submit specific cost proposals in addition to detailed technical proposals. Both states prequalify consultants, as does Florida, and only accept cost proposals from the most technically qualified firms.

*Quality sustained; price reduced*

Officials in Georgia<sup>67</sup> and Maryland<sup>68</sup> assert that while substantial savings have been achieved (see Table 7), the quality of architect and engineer services has not diminished. Moreover, when the Florida Department of Transportation experimented with requiring competitive manhour proposals, the quality of architect and engineer services was not compromised.<sup>69</sup>

## Findings and Recommendations

The Citizens Council finds that the quality and professional integrity of architect and engineer services is largely ensured by rigorous design and engineering specifications established by various state and federal agencies. In fact, the Federal Highway Administration will not reimburse the State with federal funds unless such stringent specifications are followed.

"Given current economic and political realities, the question of price is inseparable from a consideration of the public interest." - Public Administration Review<sup>70</sup>

The Citizens Council notes that Florida's Consultants' Competitive Negotiation Act does not prohibit architects and engineers from competitively bidding their professional services for private corporations or businesses. Private sector *Private sector uses competitive bidding*

TABLE 7

## PRICE PROPOSALS\*

Georgia Department of  
Transportation's  
Competitive Selection  
of Consultants

PROJECT	LOW		DOLLAR HIGH	PERCENT DIFFERENCE
1	\$ 185,000	\$	\$ 52,000	39%
2	191,000		44,000	23%
3	60,000		56,000	93%
4	145,000		188,000	130%
5	128,000		72,000	56%
6	688,000	1,140,000	452,000	66%
7	60,000	166,000	106,000	177%
8	62,000	137,000	75,000	121%
9	58,000	90,000	32,000	55%
10	103,000	207,000	104,000	101%
11	594,000	1,398,000	804,000	135%
12	190,000	358,000	168,000	88%
13	211,000	299,000	88,000	42%
14	409,000	435,000	26,000	6%
15	494,000	1,284,000	790,000	160%
16	76,000	115,000	39,000	51%
17	115,000	215,000	100,000	87%
18	53,600	148,000	94,400	176%
19	97,000	233,000	136,000	140%
20	65,000	93,000	28,000	43%
21	72,000	132,000	60,000	83%
22	85,100	109,000	23,900	28%
TOTAL				87%
AVERAGE	\$4,089,700	\$7,628,000	\$3,538,300	
	\$ 185,89	\$ 346,727	\$ 160,83	87%

\* The Georgia Department of Transportation has required price proposals from the most qualified firms for the past three years. All firms were prequalified for each specific project and the low bid was selected in each case. Georgia also reports that the quality of engineering services has not diminished.

Source: Georgia Department of Transportation, March 31, 1981 and Citizens Council for Budget Research, Inc.

organizations continue to procure professional services from architects and engineers, similar to those purchased by the State, and do consider price in their selection process.<sup>71</sup>

The Citizens Council recommends that DOT uniformly notify the three recommended firms as to the range of manhours it estimates a project should require. Firms with manhour proposals above or below the DOT range should provide justification to the Department with supporting documentation. This should preclude the State from entering into "low ball" or excessively high bids, thus ensuring that only qualified, reasonable and competitive proposals are awarded. This will also serve to clarify each project's scope of work and result in an improved quality and cost-effective product.

*Clarify project's scope through range of manhours*

Also, it is recommended that Section 473.317, Florida Statutes, be amended to require that State agencies consider cost proposals in the selection of public accounting firms after the three most highly qualified firms have been recommended. Presently, Section 11.45, 1980 Supplement to Florida Statutes, requires county commissioners to "simultaneously negotiate (competitively bid) with the recommended firms for auditing services at compensation which the board (of county commissioners) determines will be fair, competitive and reasonable."

*Require three most qualified to submit cost proposals*

The Citizens Council recommends that the three most qualified firms, which are recommended by the DOT Selection Committee, be required to submit cost proposals in addition to their detailed technical proposals. The architectural and engineering consultants' estimate of work effort and cost proposal should be sealed and submitted with the detailed technical proposal. Moreover, the DOT procedures before the selection of (Three) Candidate Firms should be consistently and carefully applied.

Architectural and engineering projects which have a defined scope of work readily lend themselves to considering price in the selection process. Furthermore, most DOT architectural and engineering contracts are awarded in lump sum because the scope of work is sufficiently detailed to enumerate anticipated project costs.<sup>72</sup> When the cost plus fixed-fee method of payment is necessary, the Citizens Council recommends that DOT award firms the fixed-fee based on actual reimbursable costs which are verified (audited) by DOT - not estimated costs. In this way, the State will only pay firms for actual costs and avoid paying consultants excessive profits (see Attachment A).

*Award fees based on actual - not estimated costs*

*With competitive selection, the State would have saved \$3.7 million this year*

If the Florida Department of Transportation had competitively selected CEI and design consultants, the State would have saved approximately \$3.7 million during FY 1980-81. Millions more could be saved each year under this revised selection process, particularly as DOT increases its use of consultants.

*Cost proposals should be enumerated in total dollars*

The Citizens Council, therefore, recommends that cost proposals be enumerated in total dollars. This will allow qualified firms which use more direct labor (manhours) to offer the State a lower total cost due to more efficient use of overhead. Including total dollars in the consideration of price provides qualified firms with an incentive to increase efficiency and offer taxpayers the best service for the most competitive cost.

*Amend Consultants' Competitive Negotiation Act*

The Consultants' Competitive Negotiation Act (Section 287.055, Florida Statutes) should be amended to require that agencies consider cost proposals in the selection of architectural and engineering consultants after the three most highly technically qualified firms have been recommended. Exceptions should be limited to instances where the Secretary of Transportation certifies that:

*Exemptions to be limited*

1. a service is available from only a single source,
2. a valid emergency exists, or
3. the scope of work for an exceptional project can not be sufficiently defined, in which case, the price proposal would be premature.

The Citizens Council then recommends that the Department of Transportation employ its current selection procedures for such certified exceptions. This will further ensure that architectural and engineering contracts are awarded in an effective, competitive and publicly responsive manner.

ATTACHMENT A

U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

Region Four  
P. O. Box 1079  
Tallahassee, Florida 32302

NOTES

February 24, 1981

In Reply Refer To: HEC-FL

Mr. F. W. Ekey  
State Transportation Engineer  
Florida Department of Transportation  
Tallahassee, Florida

Attention: Mr. R. L. Orth

Dear Mr. Ekey:

Subject: Florida - Consultant Agreement - Keys Bridge  
CEI - Firm A

On April 13, 1977, a consultant agreement for construction engineering inspection (CEI) was executed with Firm A. This agreement covered the general administration project for several of the individual construction projects in the Florida Keys.

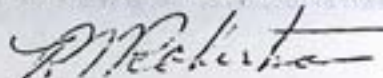
During the negotiations for this contract, we consistently stated that projected inspection costs were estimated too high; however, the agreement was executed with very little reduction in any estimated costs.

The 42 months contract time has now elapsed and we have reviewed a copy of the consultant's November 24, 1980 estimate, which shows that the consultant made 40.5 percent profit over the life of the project. This is far in excess of a reasonable profit, and steps should be taken immediately to recover the excess profit. Under Paragraph 20.00 of the agreement, the Department has the right to recover excess fees when the agreement was based on inaccurate data. Under the provisions of Paragraph 1-3.807-5 of the Federal Procurement Regulations, the Federal Government is also entitled to an adjustment in fee to exclude any significant sum by which the price was increased due to defective data.

We intend to recover the excessive profit funds. Please advise us of your position within 60 days.

Sincerely yours,

P. E. Carpenter  
Division Administrator



James M. Tumlin  
Assistant Division Administrator  
For the Division Administrator

## NOTES

1. See Research Report, Citizens Council for Budget Research, No. 3, January 22, 1981, for Florida's economic outlook through June 1983. Private business statistics were extrapolated from ES-202 files (Unemployment Compensation records) for 1980 - second quarter, Bureau of Research and Analysis, Florida Department of Labor and Employment Security.
2. Florida's Biennial Budget 1981-83, the Governor's Goals, October 1980, p. 17.
3. Chapter 79-212, Laws of Florida (1979-81 General Appropriations Act), proviso language succeeding Appropriation Item 1213A.
4. Chapter 79-212, Laws of Florida (1979-81 General Appropriations Act), proviso language succeeding Appropriation Item 1227E.
5. DOT Staff Reduction Plan. Memorandum from William N. Rose, Secretary of Transportation to Executive Committee Members and District Engineers, October 9, 1980.
6. Staff Reductions, 1980-81. Memorandum from P.W. Ekey, State Transportation Engineer to Secretary Rose, September 24, 1980.
7. Section 339.08(4), Florida Statutes.
8. Citizens Council for Budget Research Analysis: Current Transportation Problems In Florida, Citizens Council for Budget Research, Vol. 2, No.3, February 1980.
9. Confirmation received from Office of the Internal Auditor, Florida Department of Transportation, February 4, 1981.
10. Chapter 79-212, Laws of Florida, Section 1, Appropriation Items 1181 through 1239.
11. See Research Report, Citizens Council for Budget Research, November 25, 1980, for the impact of Governor Graham's policy to reduce state government employment to one percent of Florida's population.
12. Florida House of Representatives Committee on Transportation, Representative C. Fred Jones, Chairman, February 10, 1981.
13. Florida Economic Indicators, Bureau of Economic and Business Research, University of Florida, November 1980, Vol. 12, No. 11.
14. Research Report, Citizens Council for Budget Research, January 22, 1981, No. 3 and Official U.S. 1980 Census.
15. Hargrave, Scott H. Review of Literature Concerning Private Contracting. Bureau of Economic and Business Research, University of Florida. Prepared for Florida Department of Transportation, July 30, 1980.
16. Hargrave, op.cit., p.4.
17. Audit 9796, Office of the Auditor General, January 13, 1981, pp.15 and 24.
18. Sharkansky, Ira, "Policy Making and Service Delivery on the Margins of Government: The Case of Contractors," Public Administration Review, March/April 1980, p. 119.
19. Brief Disclosure, Citizens Council for Budget Research, Vol. 1, No. 7, March 23, 1981.
20. Levenson, Rosaline, "Do Private Contractual Services Substitute for Public Employees?", Public Personnel Management, May-June, 1977, p. 147.
21. Sharkansky, op.cit., p. 119.
22. Correspondence from John L. Skinner, Jr., Design Bureau Chief, Alabama Highway Department to R.B. Gillette, Alabama Division Administrator, Federal Highway Administration, U.S. Department of Transportation, April 27, 1979.
23. U.S. Government Memorandum from Robert E. Johnson, Kentucky Division Administrator, Federal Highway Administration, U.S. Department of Transportation to P.E. Carpenter, Florida Division Administrator, Federal Highway Administration, U.S. Department of Transportation, April 24, 1979.
24. Correspondence from John R. Tabb, Mississippi State Highway Department Director to E.L. Shaw, Mississippi Division Director, Federal Highway Administration, U.S. Department of Transportation, May 9, 1979.
25. U.S. Government Memorandum from B.G. Cloyd, South Carolina, Division Administrator, Federal Highway Administration, U.S. Department of Transportation to P.E. Carpenter, Florida Division Administrator, Federal Highway Administration, U.S. Department of Transportation, April 13, 1979.

26. U.S. Government Memorandum from E.G. Oakley, Tennessee Division Administrator, Federal Highway Administration, U.S. Department of Transportation to P.E. Carpenter, Florida Division Administrator, Federal Highway Administration, U.S. Department of Transportation, May 8, 1979.
27. U.S. Government Memorandum from Ronald C. Heinz, North Carolina Division Administrator, Federal Highway Administration, U.S. Department of Transportation to P.E. Carpenter, Florida Division Administrator, Federal Highway Administration, U.S. Department of Transportation, April 13, 1979.
28. Correspondence from John L. Skinner, Jr. op.cit.
29. *ibid.*
30. U.S. Government Memorandum from Robert E. Johnson, op.cit.
31. Correspondence from John R. Tabb, op.cit.
32. Per conversation with Roger Edwards, Director of Design, New York State Department of Transportation, January 26, 1981.
33. Per conversation with Jim McDonald, Construction Office, Albany Regional Office, New York State Department of Transportation, January 23, 1981.
34. Per conversation with Roger Edwards, op.cit.
35. Correspondence from D.H. Moehring, Assistant State Highway Engineer, Highway Division, Oregon Department of Transportation to Citizens Council for Budget Research, February 6, 1981 and per conversation with D.H. Moehring and Maynor Holmes, Agreements Specialist, Oregon Department of Transportation, January 26, 1981.
36. *Ibid.*
37. U.S. Government Memorandum from B.G. Cloyd, op.cit.
38. U.S. Government Memorandum from E.G. Oakley, op.cit.
39. Routine highway maintenance includes: asphalt patching; shoulder repair; mechanical weed and brush control; rest area maintenance, and bridge tending.
40. Per conversations with B.A. Riddle, Assistant Maintenance Engineer, Alabama Highway Department; Mr. Green, Maintenance Engineer, Mississippi Highway Department; T.J. Wessinger, Contract Administrator, South Carolina Highway Department; Bureau Chief of Maintenance, Kentucky Department of Transportation; Rich Gunn, Bureau of Maintenance, New York Department of Transportation; and Bob Adams, Bureau of Maintenance, North Carolina Department of Transportation, March 4-6, 1981.
41. Per conversation with Mr. Brockman, Maintenance Engineer, Tennessee Department of Transportation, March 4, 1981.
42. Per conversation with Mike O'Mara, Bureau of Maintenance, Highway Division, Oregon Department of Transportation, March 6, 1981.
43. *ibid.*
44. "Cost Study: Consultant Engineers vs. Florida DOT Design Costs," Florida Department of Transportation, November 1979.
45. Secretary William N. Rose resigned from the Department of Transportation on February 13, 1981. Governor Bob Graham immediately appointed Mr. Jake Varn as Secretary of DOT. Shortly after his appointment, Secretary Varn stated that DOT would cancel the University of Florida contract.
46. The contract was for a total of \$220,000.00. A member of Arthur Young & Company estimated that \$21,028.72 was for work related to the cost comparison of DOT in-house cost versus cost to contract construction engineering and inspection, per Audit Report 9796. The remainder of the contract (\$198,971.28) was for work related to the development and installation of the Construction Manpower Management System for DOT.
47. The Department of Transportation has contracted consultants for CEI in the past on non-federal aid projects, such as the Florida Turnpike, and other toll roads and bridges. More recently, DOT has contracted consultants for CEI on the Keys Bridge reconstruction projects and on I-75 in southern Sarasota County. In both recent instances, DOT had neither the technical expertise nor sufficient staffing level to accomplish the work in-house.
48. "Evaluation of the Feasibility to Contract Routine Highway Maintenance for the Florida Department of Transportation," submitted by Jerry D. McLain, Management Consultant, October 1979.
49. Audit 9796, Office of the Auditor General, January 13, 1981, pp. 8-21.

50. Henry Fishkind, Charles McDonald, Ron Dodson, and Scott Hargrove, Phase 2 Report: Costs and Benefits Accruing from the Use of Private Contractors in the Florida Department of Transportation, Bureau of Economic and Business Research, University of Florida. Prepared for Florida Department of Transportation, February 6, 1981, pp. 11-16.
51. Audit 9796, op.cit., p.9.
52. Per conversation with Christine Speer, Department of Transportation Inspector General, March 12, 1981.
53. The Department of Transportation Inspector General's study, referenced above, is limited to the accounting and management information systems for routine highway maintenance.
54. Section 337.33, Florida Statutes.
55. Professional Consultant Contract Administration, Procedures Series 146-001 thru 146-999, Florida Department of Transportation, November 18, 1980, Procedure No. 146-001, p. 1 of 41.
56. The \$37,200 consultant contract was terminated on December 17, 1980 as bids for routine highway maintenance exceeded the Department's cost by 75%.
57. Citizens Council for Budget Research staff were assisted by Ms. Loraine Odom, Department of Transportation Contracts Administration Office, March 18, 1981.
58. Section 287.055(3)(a), Florida Statutes.
59. Professional Consultant Contract Administration, Procedures Series 146-001 thru 146-999, op.cit., Procedure No. 146-002, p.3, and Procedure No. 146-003, p.3.
60. Section 287.055(3)(a), Florida Statutes.
61. Professional Consultant Contract Administration, Procedure Series 146-002, p. 4 and Procedure No. 146-003, p. 3.
62. Section 287.055(2), Florida Statutes, prohibits these professionals from competitively bidding work for the State, or a state agency, municipality, or political subdivision, a school district or a school board.
63. Section 473.317, Florida Statutes, prohibits price competition for prospective clients. Section 11.45(3)(J), Florida Statutes, provides one exception from Section 473.317, Florida Statutes, whereby the board of county commissioners shall simultaneously negotiate (competitively bid) with no fewer than three qualified firms for audits covering fiscal year 1978-79. The board of county commissioners may competitively bid in the same manner for subsequent audits.
64. Selection of Architects and Engineers, Public Law 92-582, 86 Statute 1278, October 27, 1972.
65. Section 287.055(5), Florida Statutes.
66. Per conversation with Bob Orth, DOT Consultant Contract Negotiator, March 11, 1981.
67. Hal Rives, Assistant State Engineer, Georgia Department of Transportation, March 20, 1981.
68. Per conversation with and correspondence from S. Donald Sherin, Consultant Services Bureau Chief, State Highway Administration, Maryland Department of Transportation, March 26, 1981.
69. William N. Rose, Secretary, Florida Department of Transportation, February 6, 1981.
70. Slawsky, Norman J. and Demarco, John J., "Is the Price Right? State and Local Government Architect and Engineer Selection," Public Administration Review, May/June 1980, p.271.
71. Yemansky, S., "Competitive Acquisition of Professional Services," Governmental Purchasing, June 1978, pp. 22-25.
72. Bob Orth, Consultant Contract Negotiator, Florida Department of Transportation, March 19, 1981.
73. Based on 18.7% of CEI and design consultant contracts (enumerated in Table 2) which were not competitively selected during FY 1980-81. This is a conservative estimate of cost savings based on Florida DOT's actual experience from July 1979 - June 1980.



June 11, 1981

Mr. Mel F. Brdlik  
Executive Director  
Citizens Council for Budget  
Research, Inc.  
P.O. Box 10209  
Tallahassee, Florida 32303

Dear Mr. Brdlik:

Thank you for the opportunity to review your draft report, "Improving D.O.T. Consultant Contract Procedures". The use of the private sector for the provision of services traditionally provided by D.O.T. employees is an issue that has received much attention. Your summary and analysis of previous reports and activities is useful.

I was somewhat disappointed that your summary of reports dealing with maintenance did not include the more positive report prepared by Representative Jason Steele at the request of Representative Fred Jones. Representative Steele reviewed the Cocoa Maintenance Pilot Project and concluded that contract maintenance had a place in the D.O.T. work program. Some of the issues raised in your report regarding work quality and product accountability were addressed.

Bids were recently received for the renewal of those private sector routine maintenance contracts due to expire in June in Seminole and Brevard counties. We were pleased to note that on a unit cost basis the bids received were 10.4% lower than the contracts awarded last year. The lower prices coupled with other positive results of the Cocoa project make the continuation of this pilot effort most desirable. In analyzing the pilot maintenance effort, it is important to recognize that we are talking about less than 1% of the statewide maintenance budget.

The recommendations made in your report will be considered by the Department. We share the Citizens Council's desire that we operate in an effective, expeditious and publicly responsive manner.

Thank you again for the opportunity to review your draft report.

Sincerely,

A handwritten signature in cursive script that reads "Jacob D. Varn".  
Jacob D. Varn  
Secretary

JDV/sj