The Impact of the In-House Staff vs. Consultant Services on the Right of Way Acquisition Process in Mississippi

By

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ABSTRACT

Acquiring the Right of Way in a timely manner is often the key element in moving a highway construction project forward to prevent further delays to the construction phase. Property needed for transportation construction or improvement projects comes in all sizes, shapes, and locations and each comes with specific challenges. The use of consultants’ services by most, if not all, government agencies has increasingly become a part of the usual process, often without considering when it is better to use in-house Department of Transportation staff (DOT) for acquiring private property either directly or in an advisory role. The question remains, does hiring consultant service instead of using in-house staff benefit the ROW acquisition process? Do consultant services have an impact on the acquisition process of the ROW? Managers were interviewed about this process. Next, twenty four completed projects over a five year period, with 1032 parcels, acquired by the Mississippi Department of Transportation (MDOT) were randomly selected for analysis, using ANOVA to test the Null Hypothesis (Ho, meaning the variable does not affect the result) significance. The interviews results indicated consultant services decreased acquisition duration for projects with large number of parcels but sometimes in house staff was required to tie up loose ends to complete the projects. The descriptive analysis indicated a trend to higher cost but shorter acquisition duration with consultant services. The results of the ANOVA analysis, however, showed that consultant services nor the in house staff impacted the acquisition duration and cost to the 95 percent level of significance.

Key words: ROW Acquisition, ROW duration, consultants, in-house staff

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Background

The ability to purchase the Right of Way (ROW) in a timely manner at a fair market value is the primary key to enabling a highway construction project to move forward (Aleithawwe/2010). Property needed for transportation construction or improvement projects comes in all sizes, shapes, and locations and each comes with specific challenges. A single project usually has many parcels (piece of public property) of land that are needed from different owners and each parcel must be acquired to ensure completion of the project. The ROW acquisition process is not only an economic issue that needs to be executed, but a socially sensitive and personal issue in almost all cases. It deals with the conflicts between public need and private property ownership rights.

The use of Consultants’ Services (CS) by government agencies has increasingly become a part of the usual process, often without considering when it is better to use In-House Staff (IHS) of DOT’s for acquiring private property either directly or in an advisory role. Nationwide, DOTs maintain a master list of approved private companies used to hire CS for ROW acquisition for construction projects as needed.

Some of the reasons argued for using CS in ROW acquisition include; that the work is done quicker, increased difficulty retaining experienced in-house staff, the need of utilizing skills and expertise that in-house staff may not have, too great workload for in-house staff alone, and the need to obtain an outside perspective. However, if the ROW acquisitions are sent to CS there is a concern that cost may rise. These issues might not be included in the original planning of the projects. One beneficial aspect of the use of consultant services is that there appears to be reduced administrative and personnel cost within the DOTs for acquiring the private properties. In this case, the MDOT maintains
direct responsibility for oversight, must authorize each offer/payment, and ensures compliance with State and Federal laws and regulations. These administrative costs are sometimes not factored into the costs of using consultant services.

A literature review revealed few studies on this subject. Most of the past studies examined the consultant’s cost impact on the highway projects.

In 2000, a detailed survey about innovative practices to reduce ROW delivery time was mailed to transportation agencies and ROW administrators and managers in all 50 states (Walter/2000). Thirty-six states responded to this detailed survey. The responses reflect different views, with the majority (62%) gravitating to the use of CS as average in their effectiveness. Twelve states (34%) reported ROW staffing inadequacies, and nine states (25%) reported consultant problems of various types (late delivery, poor preparation, etc.). The use of CS and their value in accelerating ROW delivery had a great deal of mixed reactions among the survey respondents. Some of the comments suggested that ROW administrators would prefer to have sufficient and adequately trained IHS rather than give contract work to consultants. Several respondents expressed a concern, in different ways, that CS do not have the desired level of experience and familiarity with state procedures and policies (Walter/2000). It appears that there are common problems affecting ROW delivery with regard to both IHS and CS personnel resources. With increasing agency use of CS there is a need for further examination of their qualifications, use, and performance evaluation.

A more recent report by the United State Government Accountability Office (GAO) indicated that the most important factor in the State DOTs decision to contract out highway projects is the need to access the manpower and expertise necessary to ensure
the timely delivery of their highway program, because of in-house resource constraints (GAO/2008). GAO's completed survey of 50 states indicated that 38 states (76%) have experienced constant or declining staffing levels over the past 5 years. The report indicated that state DOTs have increasingly contracted out preliminary engineering, design, ROW, and construction engineering and inspection activities. The report also found that state DOTs have increasingly given CS more responsibility for project quality through a growing trend to contract out construction inspection and engineering activities (GAO/2008). The report shows some had increased their use of CS in different department areas. One example is Illinois DOT which has contracted out preliminary engineering and design activities at various levels for 30 years, but has only recently begun to increase its use of CS to perform pre-construction activities, such as ROW delivery. In addition, Georgia DOT now contracts out 65 to 75 percent of their design work compared with very little design work being contracted out in prior few years. The report concluded that State DOTs have long used CS to extend existing workforces. Recent trends suggest that CS and contractors are used more than ever before and in a large number of different activities—from designing projects, to appraising and acquiring ROW, to managing and inspecting projects—and, in some cases, CS may even be responsible for projects from beginning to end.

All aspects of the ROW acquisition process are subject to the federal requirements of the Federal Real Property Acquisition Polices Act of 1970, also known as the Uniform Act, (Uniform Act 1972). This provides protection to affected owners and tenants. ROW administrators/managers and staff face continuous challenges to provide good, honest
service to the land owners and address public concerns such as taxpayer cost, environmental and archeological issues. Most professionals who worked with the Uniform Act regard the law as an excellent tool to ensure protection of business and the property owners affected by the acquisition of private land for public use. It also ensures that taxpayers’ money is not wasted (FHWA/2005).

Almost 80% of all ROW acquisitions are settled without initiating condemnation proceedings (FHWA/2004). Ideally, all ROW should be acquired via negotiation, rather than condemnation and litigation. This approach reflects the Uniform Act’s requirement that agencies “…make every reasonable effort to acquire expeditiously real property by negotiation.” Acquiring property through litigation substantially increases Acquisition duration and cost for the agency and property owners. It also results in adversarial interactions between the agency and property owners and further burdens an already overloaded court system (FHWA/2004).

The question remains, does hiring CS instead of using IHS benefit the ROW acquisition process? Do CS have an impact on the acquisition duration and cost of the ROW? This study interviewed IHS and CS and reviewed completed projects from 2008-2012 to help answer this question.

Objectives

This paper presents an analysis of 24 competed Mississippi Department of Transportation (MDOT) projects that included 1032 parcels of over five years (2008-2012) to statistically measure the impact of the private consultant service verse the use of in-house staff on the ROW acquisition cost and duration process.
Methodology

At MDOT, interviews were conducted with managers and senior agents of the IHS and CS in Mississippi from engineering, appraisal, acquisition, title and other ROW sections to learn about methodology, techniques, and challenges commonly faced with appraising and acquiring ROW property. To statistically examine whether the CS and IHS impacted the acquisition cost and duration, 1032 parcels in 24 randomly selected completed projects were used. Every third project, without looking at project details, was selected. The 24, a statistically meaningful but manageable sample size, completed projects were extracted from the ROW database of Mississippi Department of Transportation (MDOT), for the years 2008-2012 into an excel spreadsheet. The projects were examined for the comprehensive completion of the ROW acquisition accuracy. If a mistake was found then the data were examined against the physical files. A descriptive and detailed analysis of the total acquired parcels in the 24 completed projects by CS and IHS was performed. Analysis of Variance (ANOVA) was used to find the statistical significance among the two variables, CS versus in-house that was hypothesized to affect the ROW acquisition process (duration and cost). The null hypothesis (Ho) stated that there is no significant difference in the two independent variables. In addition, all assumptions in the analysis were examined and obeyed.

Results:

Interviews

Some of the major findings from interviews included the following:

1. The CS were provided with complete project documentation, instruments, deeds, maps, and all information needed in almost all cases. This practice allows CS’s to
start working on the project with minimal delay. This differs from IHS who are often assigned projects where project documentation is only partially completed and is regularly subjected to change and revisions as work by the IHS proceeds. This practice often causes a project to require incrementally more time to be completed by the IHS.

2. The CS personnel usually had a single project at a time on which to focus their work activities. They minimized the number of field trips to the project location to gather needed information for the project. They returned to a fully-equipped office to complete the paper work on this one project. Conversely, the IHS are usually dealing with multiple projects and other MDOT duties at any one time or are being constantly shifted and/or reassigned from one project location to another by ROW management due to constantly shifting project prioritization. Because IHS's are often prevented from focusing on one project at a time and are subject to reassignment, the IHS nearly always transports their own office equipment to and from project locations each and every week from their respective home bases.

3. The CS are allowed to work longer hours and as often as needed. This option is not available to IHS who work on fixed schedule and salary. In addition, unlike the IHS, the CS personnel are empowered to make field decisions without prior approval from ROW management.

3. The CS usually make maximum use of modern technology and use effective communications techniques, including emails, voice mail, electronic signatures, and electronic document transmission to share information among themselves and with DOT IHS to save time, and money. Conversely, although IHS do make
extensive use of email they still utilize ink-signed hardcopy and are often expected to meet with managers face to face to discuss many issues instead of making more extensive use of available technology tools.

4. The CS usually received larger projects in areas served by an active Multiple Listing Service (MLS) data source allowing the CS to utilize, MLS-member brokers, investors and local real-estate agents among other sources, to gain and verify sale price information. If the CS did not already have a membership in the local MLS they often obtain membership in the local MLS or associate themselves with a local MLS member to provide a rapid online source to the project area’s local real estate data. MLS membership or compensated use is not permitted as a reimbursable expense to IHS at MDOT. The MDOT’s internal policies restrict such practices by IHS.

5. To meet the project’s deadline, the CS may submit an incomplete project to MDOT. Incomplete issues with individual files or “loose ends” must then be handled by IHS. This type of work by IHS often occurs with MDOT absorbing costs for ROW acquisition that were expected to have been handled by the CS.

Any of the above scenarios that were noted during the interviews may have led to additional duration of acquisition time on the part of the IHS, especially if the project had a large number of parcels.

Descriptive Analysis

Two analysis methods were used—, descriptive analysis to summarize patterns and general trends in the data set and detailed analysis using ANOVA and LS Means
analysis to examine the significant effect of the acquisition agent type variables, in-house staff versus consultants, on the acquisition duration.

Table 1 represent the basic statistical distribution of the 24 randomly selected completed projects. As shown in Table 1, there was an average of 43 parcels per project.

Table 1 Descriptive Analysis Summary of the Data Sample

<table>
<thead>
<tr>
<th>Measure</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total completed Projects</td>
<td>24</td>
</tr>
<tr>
<td>Total number of parcels</td>
<td>1032</td>
</tr>
<tr>
<td>Mean parcels per project</td>
<td>43</td>
</tr>
<tr>
<td>Median parcels per project</td>
<td>24</td>
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<tr>
<td>SD of parcels per project</td>
<td>40</td>
</tr>
<tr>
<td>Range of parcels per project</td>
<td>3-125</td>
</tr>
</tbody>
</table>

Descriptive analysis was performed on the frequency, cost, and the ROW acquisition duration on the MDOT completed projects. Table 2 show the distribution relationship of acquired parcels between the CS versus IHS. Table 2 show that CS acquired an average of 63 parcels/project, 55 (87%) through negotiation and 8 (13%) through condemnation and IHS acquired 28 parcels/project, 22 (79%) and 6 (21%) parcels/project respectively.

Table 2 Descriptive Analysis of the Total Acquired Parcels Summary

<table>
<thead>
<tr>
<th>Measure</th>
<th>Consultants</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Parcels acquired/project</td>
<td>63</td>
<td>36</td>
</tr>
<tr>
<td>Acquired - negotiation/project</td>
<td>55</td>
<td>33</td>
</tr>
<tr>
<td>Acquired - condemnation/project</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Acquired amount/project</td>
<td>$10,066,281</td>
<td>$14,846,289</td>
</tr>
<tr>
<td>Acquired duration/project (days)</td>
<td>2129</td>
<td>1015</td>
</tr>
</tbody>
</table>
The results of the data analysis are presented below. An alpha (p-value) level of 0.05 was used for all statistical tests. The p-factor is the probability of seeing a result comparable to the RMSE in a collection of random data in which the variable had no effect. A p-value of 5% (or 0.05) or less indicates only a 5% chance that results would have occurred in a random distribution, so there is a 95% probability of the variable(s) having an effect. The ANOVA analysis was used to examine the effect of the acquisition categorical agent type variables, in-house staff versus consultants, on the acquisition duration and cost as shown in Table 3 and 4 respectively.

Table 3 ANOVA Analysis of Projects’ Duration in Days for CS vs IHS

<table>
<thead>
<tr>
<th></th>
<th>SS</th>
<th>Degr. Of Freedom (df)</th>
<th>MS</th>
<th>F</th>
<th>p &lt; 0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agnet type</td>
<td>64032</td>
<td>1</td>
<td>64032</td>
<td>2.14394</td>
<td>0.157278</td>
</tr>
<tr>
<td>Error</td>
<td>657063</td>
<td>22</td>
<td>29867</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Although frequency distributions for each population’s sample were not normal, a 2x2 factor analysis of variance (ANOVA) was performed to determine if a significant difference existed between the independent and dependent variables. The results show the average and the variability of each variable. Results of the ANOVA testing the significance of the independent variables (CS vs IHS) as shown in Table 3 (P>0.05) did not impact the acquisition duration to a 95% level of significance. Therefore, the null hypothesis was not rejected, indicating that there is no difference in duration between use of CS or IHS.
The acquisition cost was also examined using ANOVA analysis. The ANOVA results of testing the significance of the independent variables (CS vs IHS), as shown in Table 3, (P>0.05) did not impact the acquisition cost to a 95% level of significance. Therefore, the null hypothesis was not rejected, again indicating that there is no difference in duration between use of CS or IHS.

In addition, the least square means analysis was utilized to further test the null hypothesis. The results of the least square means analysis as shown in Figure 1 also indicated no significant difference (P>0.05) between the two variables (F (2,21) = 3.11, P = 0.113). The graph indicates that there is a clear increasing trend in the acquisition cost and duration by the consultant variable but not to the 95% level of significance.

Table 4 ANOVA Analysis of Projects’ Cost for CS vs IHS

<table>
<thead>
<tr>
<th></th>
<th>SS</th>
<th>Degr. Of Freedom (df)</th>
<th>MS</th>
<th>F</th>
<th>p &lt;0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent Type</td>
<td>3.115985E+10</td>
<td>1</td>
<td>3.115985E+10</td>
<td>0.609903</td>
<td>0.443148</td>
</tr>
<tr>
<td>Error</td>
<td>1.123977E+12</td>
<td>22</td>
<td>5.108988E+10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Discussion of the results

The hypothesis test results indicated that the IHS nor the CS impacted the acquisition duration and cost to the 95% level of significance. The perception that CS acquiring ROW faster than IHS is attributed to several things according to the interview results: CS personnel receives incentives when acquiring ROW. The faster and the higher number of acquired parcels the more incentives and profits they gain, while IHS are working on based salary with no incentives. When dealing with large projects, ROW Supervisors usually don't micromanage CS in their ROW acquisition activities. CS are empowered to make field decisions without prior approval, including administrative adjustments which is an extra value that can be applied to the fair market value or awarded to the property owner when justified. IHS on the other hand are closely managed and do not have the same field empowerment to make field decisions without prior
approval from their direct supervisors. In addition, CS maintain experienced, professional field agents that are expected and required to accomplish the job without supervision and within established procedures and deadlines. CS and IHS are not using the same tactic when dealing with property owners during the negotiation process. Case in point, CS usually tell property owners that they do not work for the MDOT. This allows them more flexibility and they are not seen as a state government staff trying to take their land away from them. The use of technology and time management by the CS allows them to maximize their workflow when dealing with large projects to utilize the incentives associated with larger projects, the more parcels acquired the more money they make. CS are allowed to work longer hours and as often as needed to meet the project deadlines. This option however, is not available to IHS, who work a fixed schedule and salary. It is not in the CS interest to extend the negotiation process past a certain time, thus CS tend to recommend parcels for condemnation quicker if the negotiation with property owners stalls or comes to a dead end. This results in further delay in the acquisition process and higher acquisition cost. This approach however is contrary to the Uniform Act’s requirement that agencies “…make every reasonable effort to acquire expeditiously real property by negotiation.” Acquisition duration and cost in acquiring property through litigation is substantial, for the agency and property owners. This extra process would ultimately be handled by IHS which results in adding additional workload on the IHS and increase in the overall duration of the acquisition process as shown in Table 3. Additionally, when IHS are assigned to a given project, sometimes priorities may change with short notice. This can result in some of the entire IHS could be reassigned to different projects. That shuffling of IHS personnel injects a substantial amount of time
delay and inefficiency into the acquisition process. From that perspective as time goes on, IHS would be less efficient than CS when handling larger projects.

One of the limitations of this study was that IHS administrative time and cost to complete ROW acquisitions initially assigned to CS was not included in the analysis and it might further differentiate where each of these services is best used.

Although trends indicated that the use of CS made decreased the acquisition duration at the individual parcel level it also indicated an increased acquisition cost. Interviews with IHS also indicated CS decreased the acquisition duration particularly when handling projects with a large number of parcels. The necessity of IHS to complete projects and tie up loose ends was perceived to add time to the final acquisition process.

ANOVA analysis that included 1032 parcels over a five year period, however, did not show significant difference to the 95% level of significance between CS and IHS on the acquisition duration and cost.

Despite no statistical difference in duration or costs in this analysis the roles of CS and IHS should continue to be reviewed and analyzed in different settings to determine when acquisition projects should be assigned to each service and how they might complement one another.

ACKNOWLEDGEMENT

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