



CITY OF LONG BEACH

C-10

DEPARTMENT OF PUBLIC WORKS

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October 4, 2011

HONORABLE MAYOR AND CITY COUNCIL
City of Long Beach
California

RECOMMENDATION:

Authorize the City Manager to execute a one-year contract extension with MWH Americas, Inc. (MWH), in an amount not to exceed \$122,500 (with a net cost to the City of \$17,500) to provide statistical and data gathering services for the California Multi-Agency Capital Improvement Program (CIP) Benchmarking Study Group in which the City of Long Beach participates; and increase appropriations in the General Fund (GP) in the Department of Public Works (PW) by \$105,000. (Citywide)

DISCUSSION

Since 2001, the City of Long Beach has participated in an ongoing study to benchmark capital project delivery performance by the seven largest cities in California (Los Angeles, Long Beach, San Jose, San Francisco, San Diego, Sacramento, and Oakland). The purpose of the study is to determine reasonable costs to deliver capital projects by comparing cost data from similar agencies and to compare/evaluate different delivery methods. Information is shared by each participating agency on what has worked or not worked to improve project delivery in categories as varied as fire stations, libraries, parks, streets, storm drains, and traffic signals, just to name a few. The results have been a more uniform and improved project delivery approach for each of the participating agencies.

The study, now known as the California Multi-Agency CIP Benchmarking Study, was first published in 2002, with subsequent annual updates published each year thereafter. The study currently includes three main areas: Performance Benchmarking, Best Management Practices and Discussions of Current Project Delivery issues, and has been officially recognized by the League of California Cities and the American Public Works Association. The study, now in its tenth year, is considered nationally as one of the longest and best studies ever conducted for the purposes of understanding project delivery costs by municipalities. As the current chair of this study group, Long Beach regularly receives inquiries from cities and counties across the nation about the study and how to form similar study groups in their areas.

The participation in the statewide benchmarking process has provided each agency with unique and valuable insight as to how project delivery varies from agency to agency, both in terms of non-construction related costs and methodology. The process has also challenged each City to fully understand its own processes and costs, and to re-evaluate those areas that do not meet the standards being set by the other participating agencies in this study. Attached is a brief summary of the study and the positive impacts resulting from it. In general, Long Beach has been able to keep its project delivery costs below the average by utilizing lessons learned through the City's participation in this study. The resulting project delivery cost reductions have

saved the City well over \$500,000 last year, easily recouping the study participating cost of \$17,500.

When the study was first initiated in 2001, the participating agencies agreed that, in order to make the most effective use of the group's time and to have access to the expert capability required to process large amounts of data (the project data base now includes over 1000 projects totaling more than \$1 billion), the benchmarking group needed to retain the services of a consultant to provide data gathering and statistical analysis services. Since 2001, the cities in the group have typically rotated the responsibility of managing the study's consultant, MWH. Long Beach accepted the management responsibility for the study group on October 1, 2008. It has been requested by the participating agencies that Long Beach continue as the lead agency for one additional year. This will require that the current contract between the City of Long Beach and MWH be extended for one year. It should be noted that to assist the member agencies in these tough economic times and to ensure that this valuable study work continues, MWH has reduced the current proposed contract to \$122,500, which is 16 percent (\$23,500) less than it has been historically. The contract costs are shared equally by each of the seven cities resulting in a net cost to the City of Long Beach of \$17,500 for participation in the study.

This matter was reviewed by Deputy City Attorney Linda Trang on September 13, 2011, and by Budget Management Officer Victoria Bell on September 9, 2011.

TIMING CONSIDERATIONS

In order to avoid disruption to the work of the benchmarking group, City Council action on this matter is requested on October 4, 2011, to authorize execution of a contract extension with MWH.

FISCAL IMPACT

The contract award is for an estimated amount of \$122,500. Since sufficient funds are not currently budgeted, an appropriation increase in the General Fund (GP 100) in the Department of Public Works (PW) in the amount of \$105,000 is requested. Participating cities' reimbursement to the City will be deposited in the General Fund, so the net cost to the City will be \$17,500. There are no job impacts related to this action.

SUGGESTED ACTION:

~Approve recommendation.

Respectfully submitted,

MICHAEL P. CONWAY
DIRECTOR OF PUBLIC WORKS

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MPC:MAC:db

Attachment

APPROVED:


PATRICK H. WEST
CITY MANAGER

California Multi-Agency CIP Benchmarking Study

Introduction

Over the next several years, seven of the largest cities in California are expected to award nearly \$6 billion in public works infrastructure construction contracts. These municipalities are building roads and transportation systems, sewer and water infrastructure, municipal facilities, libraries, parks and recreation facilities, animal shelters, fire stations, bridges, seismic retrofits, bikeways, storm drains, and other facilities.

While \$6 billion for public works improvements is a significant amount, it does not represent the entire infrastructure cost. There are additional, significant costs – over and above construction – to deliver these projects. The costs associated with the project delivery process – planning, design, environmental documentation, value engineering, permits, construction management and startup – are influenced by many factors such as project size and complexity, new construction vs. rehabilitation, internal organization, project prioritization, clear guidelines, and more.

With all of this construction on tap in California, would it be possible – and beneficial – for cities to collaborate, pool their knowledge and experience on these cost-influencing factors, then benchmark their project delivery processes so they can learn from each other's successes, while keeping project delivery costs to a minimum? The answer these cities found is a definite yes.

In October 2001, the City of Los Angeles, Department of Public Works, Bureau of Engineering initiated a benchmarking study through the cooperative effort of individuals responsible for the development and implementation of Capital Improvement Projects (CIP) in seven of the larger California cities. The objective of this study was to provide a general analysis of the efficiency of capital project delivery systems within various agencies in California, based on the observed performance and the processes implemented over previous years. This study became known as the *California Multi-Agency CIP Benchmarking Study*.

Although it is highly effective for municipalities tasked with delivering Capital Improvement Projects to collaborate on their experiences and methods, it is also very rare that this actually occurs. Further, it is even rarer that such activities, once started, are continued uninterrupted for the purpose of effecting continuous positive improvement over a long period of time. This paradigm was challenged in 2002 when the first *California Multi-Agency CIP Benchmarking Study* (Study) was published. This year's *Update 2011* to be published this fall will mark 10 years of continuous collaboration between the participating Cities and represents an accomplishment unparalleled in the industry. Unlike many "single event" studies conducted in the past, this on-going study, involving all of the original participants, provides the benefit of actually experiencing the outcomes of the strategies it creates. The dynamic nature of this effort truly provides a basis for continuous improvement.

Since the participating Cities of Long Beach, Los Angeles, Oakland, Sacramento, San Diego, San Jose and the City and County of San Francisco initiated these efforts, interest within the industry has been sparked. As a result, other benchmarking efforts,

both large and small, have started to spring up in various parts of the country, such as municipalities in New York and Arizona, the Port of Long Beach, and large water utilities in the western United States. The *California Multi-Agency CIP Benchmarking Study* participants applaud these efforts and look forward to a time when more agencies are sharing their best ideas for the benefit of all and owners can turn to one another to gather insight on how to best address the challenges they face.

The *California Multi-Agency CIP Benchmarking Study* has evolved to consist of three main areas; Performance Benchmarking, Best Management Practices, and Discussions of Current Project Delivery Issues also know as “on-line discussions”.

The Study

Performance Benchmarking

Performance benchmarking involves collecting documented project costs and creating data models of the component costs of project delivery versus the total construction cost. Project delivery costs are defined as the sum of all agency, internal client, and consultant costs associated with project planning, design, bid, award, construction management, and closeout activities.

The performance curves included in the 2011 report will have been developed from data on projects completed on or after January 1, 2006. Outlier projects have been identified and eliminated. The remaining 751 projects used in the analyses were all delivered using the design-bid-build delivery method and each has a total construction cost of greater than \$100,000. Table 1 shows the study results over the past 5 years.

**Table-1 Project Delivery Costs by Project Completion Year
(As % of Total Construction Cost)**

Project Completion Date	Count by Project Type					Project Delivery Data				
	Municipal Facilities	Streets	Pipes	Parks	Total	Average TCC (\$M)	Median TCC (\$M)	Design Cost (% of TCC)	Construction Management Cost (% of TCC)	Project Delivery Cost (% of TCC)
2005	27	71	80	18	196	\$1.72	\$0.65	23%	17%	40%
2006	36	54	67	9	166	\$2.76	\$0.87	22%	17%	39%
2007	24	52	50	14	140	\$2.95	\$0.95	24%	17%	40%
2008	15	43	46	15	119	\$2.40	\$0.86	24%	17%	41%
2009	19	59	42	10	130	\$1.65	\$0.73	22%	17%	39%
Total	121	279	285	66	751	\$2.27	\$0.76	23%	17%	40%

Notes:

- ¹ Project Delivery percentages represent arithmetic averages of the individual projects and do not represent the results from the regression analyses.
- ² Project Delivery percentages vary from year to year based on the selection and the composition of the projects in the database.

Best Management Practices

At the start of the Study, the agencies examined over 100 practices used in the design and construction management phases of project delivery. They selected practices to include in this Study those they did not already commonly use, but believed should be implemented as BMPs. Practices are added annually by the agencies to address specific challenges they encounter or reflect new learnings by the participants. Agency implementation of the selected practices has been and will continue to be tracked during the lifetime of the Study.

To support the linking of BMPs to performance improvements, BMP implementation has been tracked and project completion dates have been collected on the Performance Questionnaire. It is anticipated that the performance data will eventually demonstrate that as BMPs were implemented, project delivery costs were reduced. However, it is recognized that "processes" become effective "practices" only after a learning curve and full implementation on projects. Therefore, obtaining empirical evidence of this trend is expected to take several years. Table 2 shows a list of sample BMP's that have been developed and implemented during the Study period.

Table-2 Sample Listing of BMP's

Category	Ref.:	BMP	LA	LB	OK	SC		SD	SF	SJ	Notes
						DT	DU				
Planning	1.i.	Show projects on a Geographical Information System.	✓	✓	✓	✓	✓	✓	✓	✓	LB: Infrastructure only
	2.b.	Provide a detailed clear, precise scope, schedule, and budget to designers prior to design start.	✓	✓	✓	✓	✓	✓	✓	✓	SC DU: General scope only for simple projects.
Design	2.f.	Define requirements for reliability, maintenance, and operation prior to design initiation.	✓	✓	✓	✓	NI	✓	✓	✓	SD: Some Divisions only
	2.i.	Adapt successful designs to project sites, whenever possible (e.g. fire stations, gymnasiums, etc).	✓	✓	✓	✓	✓	NI	✓	✓	
	2.k. 2003	Train in-house staff to use Green Building Standards.	✓	✓	✓	NI	NI	✓	✓	✓	This BMP is intended to improve client satisfaction (quality) and may not reduce project delivery cost directly. SF: When applicable
	2.l. 2004	Limit Scope Changes to early stages of design.	✓	✓	✓	✓	NI	✓	✓	✓	SC DU: Control and minimize, but difficult to eliminate, since clients and engineers come up with new/better solutions.
	2.m. 2004	Require scope changes during design to be accompanied by budget and schedule approvals.	✓	✓	✓	✓	NI	✓	✓	✓	

Key:

LA: Los Angeles; LB: Long Beach; OK: Oakland; SC: Sacramento (DGS: Department of General Services, DT: Department of Transportation, DU: Department of Utilities), SD: San Diego, SF: San Francisco, and SJ: San Jose

✓: Implemented

PI: Partially implemented

NI: No plans to implement at this time

TBD: To be determined

yyyy: Will be implemented in calendar year "yyyy"

* See Process Questionnaire in Appendix C of 2002 Report; year noted indicates this BMP was added later.

Online Discussion Forum

Among the primary benefits, accruing to the participating agencies during this ongoing Study has been the opportunity to discuss the challenges of public works project delivery with their peers. These successful open forum communications included online discussions of over thirty topics that influence project delivery efficiency. Many of these topics have evolved into recommended Best Management Practices.

Benefits of Participation

The participating agencies have been very supportive of the Study efforts over the years. The Study is possible only because the agencies believe they are benefiting from their continued participation.

The agencies have expressed the benefits they experience in a variety of ways:

- The City of San Jose places a high value on its participation in the California CIP Benchmarking Study. The dynamic data surrounding project delivery costs provides ongoing feedback toward improvement of San Jose's Capital Improvement Program. The Study's continuous development and refinement of Best Management Practices also greatly assists in optimizing San Jose's project delivery approach. Perhaps most importantly, the special topics that the Study will be addressing, such as the effect of "below-market-rate bids" and the intrinsic higher delivery costs associated with smaller projects will help those who read the Study better understand the current challenges of public sector capital project delivery.
 - The City and County of San Francisco uses the benchmarking study in working with other City agencies using our services. Design costs initially quoted by outside consultants may not reflect the final design costs associated with occupied facilities, seismic retrofits, and rehabilitation (especially involving corrosion, dry rot and hazardous material abatement). Presenting 7 cities' data is far more persuasive than presenting our estimates and past data alone. International prices for steel, cement, and petroleum-based products have been volatile over the past 5 years. Since the mortgage lending and auto company economic crisis, the bidding environment has been even more unpredictable. Having the larger sample size of information afforded by the benchmarking study is essential to forecasting pricing trends with any degree of certainty. The online forum has helped us provide elected officials accurate information quickly regarding other cities' practices on accepting streets and structures for maintenance, and how maintenance work is funded."
 - The City of Los Angeles has stated that "in addition to the general benefits that we have described in past years and continue to receive from participation in the benchmarking group, we find it most interesting to hear how other agencies are coping in these very challenging economic times. Many of the agencies are experiencing similar challenges, and the actions taken are some of the same the City of Los Angeles is implementing. For instance, our City is considering the feasibility of reducing the cost of personal services contracts through rate reductions. We received helpful feedback from other agencies that have also considered this or have already implemented some
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sort of fee reduction agreement with their consultants. Also, many agencies had either implemented furloughs, or were planning to in the near future. It was very helpful to hear these comments, and to discover that others are going through similar budget tightening measures.”

□ The City of Long Beach offers this comment: “Cities in California continue to experience major budget and staffing reductions that are having significant impacts in their ability to deliver capital improvement projects. Understanding the consequences of these resource cuts and learning how to cope with them has become a major challenge for municipal managers. Participation in the statewide benchmarking process has allowed the City of Long Beach to share and acquire the knowledge necessary to tackle these project delivery challenges and to determine if the costs of project delivery are reasonable in today’s environment”

□ According to the City of Sacramento, “the benefits of our continued participation in the Study have increased geometrically each year we have participated. Our data collection and tracking have evolved to mirror the Study format, making it much easier for us to directly correlate the results of our work and effort with that of our industry peers. As we continue to implement new BMPs each year, our project management and delivery standards continue to improve. We have also found that the online discussion forum is an invaluable resource when we are researching a new policy or practice, as all of the participating agencies are very generous in sharing their own knowledge, standards, and practices.”

□ The City of San Diego “continues to find the Study extremely useful in validating our Engineering Department’s performance and in setting benchmarks and goals. Participation in the quarterly meetings allows us to share information on new processes that we or the other agencies are implementing, and we always get new or better ideas to improve our project delivery. The discussion forum is a great way to keep the momentum between meetings and to share detail information on processes.”

□ The City of Oakland offers this comment. “Besides the obvious benefits of validating our project delivery costs and improving our project delivery processes through implementation of the BMPs, the participation in the Study allows Oakland to network with our peers and draw upon their expertise on how other cities in California manage their challenges that seem to be universal for all major cities. With the shrinking capital budgets and mandatory furloughs, the Study becomes even more valuable since the need to improve our delivery costs and processes are now greater than ever before.

Additional Study Information

To view the entire 2010 *California Multi-Agency CIP Benchmarking Study* or view past years reports go to the following website:

<http://eng.lacity.org/techdocs/cabm/>
