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Contracting for Road and Highway Maintenance

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HOW-TO GUIDE

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Part 1

Introduction

A vital component of economic growth and prosperity is an adequate working infrastructure. There is a growing need for additional roads and highway networks in some places and in others for improvement in the network we have. Usage in the United States is up dramatically. When measured by vehicle miles traveled, it has doubled in the past 25 years; some 2.7 million miles were traveled in 2000.[1] However, new construction has not kept pace. Total road capacity, again measured in miles, has increased a mere 1.5 percent in the same time frame.[2] Even more astounding though is that dollars spent on maintenance (constant dollars) have increased less than 20 percent in the past two decades.[3]

Every year the American Society of Civil Engineers (ASCE) publishes a report card on America's infrastructure. According to the 2001 report, on the whole, America's infrastructure is in need of dramatic investment and repair. The report noted that "America has been seriously under-investing in needed road repairs, and has failed to even maintain the substandard conditions we currently have."[4] Nearly 58 percent of America's urban and rural roadways are in poor, mediocre, or fair condition[5] and "contribute to as many as 13,800 highway fatalities annually."[6] Overall the U.S. road and highway network barely passed and received a grade of D+.[7]

The poor condition of America's road and highway network presents a significant drain on the U.S. economy. Nationally, "motorists pay $222 each in extra vehicle operations costs—or $41.5 billion" nationwide.[8] A 1999 U.S. Department of Transportation report suggested that at the current level of roadway construction, "the average benefit for each $1 spent is $5.70."[9] Thus, improving the condition of the nation's highways will have a tremendous direct and indirect impact on the economy.

In 1998 the federal government reacted to the decline in our road and highway network. The Transportation Equity Act for the 21st Century (TEA-21) included significant funding to improve transportation infrastructure. Yet the follow-through for making this legislation work is still lacking. Between 1998 and 1999, capital expenditures jumped 14.1 percent while expenditures for maintenance rose just 4.9 percent.[10] However, "while the federal role is to assist in capital improvements and expansion, the states' primary responsibility should be maintenance."[11] In fact the states "spend less on road improvements than [Americans] spend on home repairs."[12]

Among the strategies city, county, and state governments are using to cope with all of this is outsourcing road and highway maintenance. They outsource in different ways in response to different challenges, but over the years they have gained enough experience to provide many lessons learned about what works and what does not. (See the historical development in Table below.) Many government officials are eager to learn about

those lessons and best practices and what potential outsourcing may hold for helping to solve their road and highway needs.

This how-to guide offers a distillation of lessons learned and best practices in highway and road maintenance outsourcing to help governments stretch tax dollars by taking advantage of private sector efficiencies and management approaches that can reduce costs and improve the quality of service.

Evolution of Privatized Maintenance		
Project	Year	Long Term Impact
Maintenance Management Research Efforts	1972	State & provincial highway agencies implemented maintenance management programs.
International Highway Maintenance Management Programs Sierra Leone, Peru, Paraguay, Portugal, Ghana, Oman, Dominican Republic, Equador, Costa Rica, Ethiopia, Philippines, Guatemala, Honduras, Brazil, and Belize	1972 to 1982	Maintenance management concepts introduced to agencies worldwide through World Bank, InterAmerican and Asian Banks.
Initial Contract Maintenance Projects (Public Sector) City of Lafayette, Pennsylvania DOT, and Parana, Brazil. Appraisals conducted in Nigeria, Brazil, the United States and Yugoslavia.	1977 to 1985	Pioneering projects in outsourcing that established contract approach, documents and procedures. Appraisals undertaken for the World Bank increased bank lending for contracting.
Innovative Maintenance Contracting Methods **Job Order Contracting** CREMA Warranty Contracts	1986 to 1994	Agencies looking at other ways than traditional contract methods.
Highway Maintenance Contracting Florida I-95, I-4, Primary & Secondary Rds Massachusetts, British Columbia, Australia, New Zealand, Virginia, Florida Asset Mgmt. D.C., Texas, Oklahoma, Mississippi	1993 to present	Established procedures for privatizing maintenance in use today.
Design, Build and Maintain Project Interstate I-15 in Utah. Rt 3, Massachusetts Highways	1997 to present	Established concepts for long term maintenance as part of DBOM.

Part 2

Why Outsource?

Without serious attention, road and highway conditions in the United States will only continue to deteriorate. The growing population will continue to place increased demands on the aging network or roads and highways. At the same time, government entities are faced with uncertain fiscal conditions. With tax dollars already stretched thin, preventative maintenance is all too often put off for another day.

Governments must learn to do more with less. Outsourcing through public/private partnerships offers a solution to improve quality (do more) and save money (with less).

Cities, counties, states, and the federal government outsource road and highway maintenance to achieve a number of goals, including:

- Reducing costs;
- Increasing efficiency;
- Improving quality;
- Speeding project delivery;
- Spurring innovation;
- Enhancing risk management; and
- Overcoming a lack of expertise.

Some of these objectives may be contradictory. For example, it may not be possible to realize significant cost savings and, at the same time, dramatically improve quality. However, many of these objectives are complementary. For example, gaining access to expertise, improving efficiency, and spurring innovation are all somewhat related. One benefit of outsourcing is that there isn't a one-size-fits-all answer. In fact, public/private partnerships afford policy makers an opportunity to make tradeoffs between different goals and customize the outsourcing package that meets their specific needs and goals.

A. Outsourcing to Achieve Cost Savings

Achieving cost savings is a leading driver behind outsourcing road and highway maintenance. When cost savings has been a motivation, it has often succeeded significantly. For example, Florida's outsourcing initiatives generated cost savings between 15 and 20 percent.[13]

However, cost savings is not the only issue at play; in fact level of service, asset quality and staff are all motivations that are often overlooked. With the ascendance of best-value contracting, cost savings is but one factor in determining whether or not to outsource.

B. Outsourcing to Improve Efficiency

Seeking to gain the "maximum utility from tax dollars," [14] some contracting agencies have outsourced to improve overall system efficiency through competition and specialization.[15] Government service provision can get stale. Outsourcing injects competition, and often the mere threat of privatization can drive efficiency in the public sector as government agencies must become more efficient and provide better services to compete with private bidders.

Study after study shows that a competitive system is more efficient and effective than traditional single-provider systems. For example, when Massachusetts turned to a competitive system, nearly half of the contracts were won by employee groups who were being forced to compete. For the first time efficiency and effectiveness were introduced system–wide, producing tremendous improvement. The state was able to lower labor inputs and receive greater productivity, which in turn freed up additional resources that could be shifted into other needs. Simply put, a "competitive system improves the status quo … the fundamental goal is turn out the best product possible."[16]

C. Outsourcing to Improve Quality

With the increased private responsibility inherent in public/private partnerships through contracting, there is an increased incentive to produce high quality work and to ensure high performance. One of the most important determining factors for the awarding of contracts is past performance, and delivering a low quality product could prevent the contractor from procuring future work.

Quality outcomes can also arise from appropriate safeguards that governments write into contracts. Contracts can (and should be) performance-based (focusing on outputs or outcomes) and can include quality assurances or quality-control assurances.[17] In all of the case studies in the next section, quality of work has been a motivation for public/private partnerships. In the Florida case study, the contracting agency states that the contractor is "performing at better levels and the quality is at least the same if not superior."[18]

D. Outsourcing to Spur Innovation

Outsourcing through public/private partnerships can produce innovative solutions. The freedom to invent "allows old processes to be discarded in favor of entirely new ones."[19] In non-competitive systems, especially those like government agencies, where the incentive structure is not set up to reward innovation, there is no motivation to "swim upstream" and advance a new idea. Private firms have far more opportunity and incentive to encourage and foster innovative ideas at all levels.

E. Outsourcing to Gain Access to Expertise

Partnerships can solve staffing problems and gain access to new or specialized expertise that is not available in-house. "State Highway Authorities (SHAs) are currently having difficulty with the exodus of proficient employees to the private sector for better wages and working conditions."[20] Furthermore, contractors work on projects worldwide, which brings greater experience and broader expertise.

F. Outsourcing to Meet Peak Demands and Speed Project Delivery

Closely related is outsourcing to meet peak demands and speed up project delivery. America's road and highway network is in a dire state. SHAs don't have the staff to fully maintain the existing infrastructure. The SHA's incentive structure to get the work done in a timely fashion is based on avoiding complaints from community leaders, legislators, and the media. However, the SHA's internal bureaucracy often has conflicting priorities that can hamstring its own efforts at completing projects. The flexibility of private sector staffing enables consultants to shift resources more readily to meet time constraints. Contracts also allow for project completion guarantees.

G. Outsourcing to Increase Flexibility

Outsourcing to increase flexibility is closely related to meeting peak demands. Contractors can be turned off and on when they need to be, a tool not afforded with government employees. Partnerships allow government agencies to shift resources to areas that need extra attention or away from those that don't, thus creating additional efficiencies.

H. Outsourcing to Better Manage Risks

Outsourcing through partnerships allows government agencies to shift risk to contractors, or in some cases to the developer.[21] With the power of a contract at hand, governments can build quality assurance and/or quality controls into project delivery as a means to manage risk. An increasing trend is the employment of warranty concepts whereby the contractor places a long-term guarantee on his work. This further shields the government agency from risk.

Part 3

Contract Options

As the pressures to maintain the existing road and highway network grow—and as outcomes have become richer—the idea that there is always one best way to structure a project has lost its cachet. The beauty of outsourcing is that it can be crafted to meet the specific needs and goals of each contracting agency. There are two main types of contracts that public officials have to choose from when contracting for road and highway maintenance—traditional and performance-based contracts.

A. Traditional Contracts

Traditional contracts for road and highway maintenance are unit- or work-order oriented. Contracting companies are paid for the amount of work they do—not on the quality of work that is provided. Any number of activities can be contracted for, including but not limited to: maintenance, lane striping, litter removal, snowplowing, and pothole repair. Note that the contract can include all maintenance activities on a set of roads. The amount of work can be increased or decreased by the contracting agency and contracts are usually limited to one year with two option years.

In traditional contracts, there is little or no flexibility in determining work methods, as the contracting agency typically defines the work processes. In effect the private contractor mimics the agency's processes. This type of contract, by definition, severely restricts innovation but produces cost savings, gains access to staff and workforce, and improves efficiency and quality.

Massachusetts Outsources to Save Money and Increase Services

In the early 1990s, Massachusetts launched a pilot project, contracting for all routine highway maintenance in Essex County.[22] The contract was quantity-based; the state DOT continued to determine what work would be done and paid only for those specified tasks. The contract greatly improved highway conditions, delivering considerably more work for the same amount of money. The contract has saved $2.5 million annually.[23] According to a Kennedy School analysis, the contractor was 21 percent more cost-effective than the state had been.

On the heels of the pilot project's success, the DOT expanded the program to the entire eastern part of the state in 1993. Private firms and existing employees bid on seven contracts. Private firms won four, public employees three. With the three union victories, the DOT was able to keep layoffs down to 150 people. The seven contracts saved the state $7.5 million the first year and delivered $10 million more in additional services.[24] Since the DOT pays only for services it specifies, and the contracts made the firms and employees

more productive, both sides won by getting more work done. The new highway maintenance system brought other improvements as well, as competition changed in-house management practices and workers' compensation claims fell 60 percent, overtime decreased 70 percent, and sick leave decreased 50 percent.[25]

The expanded program went so well that in 1996, the DOT moved to competitive contracting of highway maintenance statewide. It offered 14 contracts, with half won by public employees and private firms each. In 1998, the DOT rebid the contracts, and is currently reviewing five additional contracts with no media attention—it has become just a way of doing business. The bottom line for the DOT is that between 1991 and 1999, the annual highway maintenance budget fell from $40 million to $25 million while the amount of maintenance performed grew.

B. Performance-based Contracts

Current best-practice techniques in outsourcing rely on performance-based contracts. Under this type of arrangement, the contracting agency defines an end outcome goal (e.g., high quality roads) and the contractor decides how best to achieve the desired outcome. The contract creates clearly defined performance measures, clearly defined outcomes and timetables, and allows for new and innovative methods.[26]

Because performance-based contracts define success in terms of outcomes alone, they spark contractor innovation and dramatically improve quality. This arrangement creates opportunities for value engineering and improved efficiencies.

The most common form of performance-based contracts in road and highway maintenance is total asset management, or "fence-to-fence" contracts. These contracts cover every part of the road or highway and include all maintenance managing the "total asset." The contracts specify minimum performance standards and a desired end outcome. Payment is based on achievement at different milestones, rewarding contractors for high or exceptional performance with bonus payments and penalizing them for poor performance with fines, and risks are transferred to the contractor. Performance-based total asset management contracts are longer term than traditional contracts—typically five or more years with extension options at the end—which fosters a good relationship that will add to the value and quality of the work.

1. Florida Department of Transportation

In the last few years, the Florida Department of Transportation has let several contracts for some of Florida's busiest roads and highways, including the majority of I-75 and rest areas covering a large portion of the state. Infrastructure Corporation of America (ICA) was the first asset management company in Florida to offer an innovative alternate program to perform routine maintenance of management services related to roadway, bridge and toll facilities.

ICA currently performs total asset management services and complete maintenance on 253 centerlane miles of Interstate 75 in Florida. The seven-year, $77.5 million performance-based contract is for "fence-to-fence" maintenance services. Florida has realized significant savings from using total asset management. Specifically, ICA's winning bid was 12.2 percent below the Florida DOT's funding estimates in year one, ranging up to 22.2 percent below the estimate in year seven. At the same time, quality has not been sacrificed

at the expense of cost savings. The last Level of Service rating conducted on the asset yielded a composite score of 90. This greatly surpasses the required score of 80 set forth in the contract documents.

ICA was also recently selected by the OOCEA (Orlando-Orange County Expressway Authority) to perform maintenance services on the roadway for approximately 50 centerline miles. This contract also includes all of the Authority's facilities, including mainline plazas as well as ramp plazas.

Between 1996 and 1999, Roy Jorgenson Associates had a total asset management contract for roughly 35 miles of Interstate 4 between Orlando and Lakeland, Florida, a populated area with heavy tourist activity. Jorgensen's duties ranged from daily safe condition inspections to tree and brush control to emergency responses.[27] During the three years that Jorgensen was responsible for this stretch of road, the maintenance ratings improved from 51 to 87, while costs remained constant.[28] The state decided not to re-let the contract due to an impending widening/reconstruction project. In a similar contract for Interstate 95 near Jacksonville, road conditions improved by 36 percent while costs decreased by 10 percent.[29]

Overall, in less than a decade, contracting in the state of Florida has gone from small, individual contracts to those covering many rehabilitation areas. In late 1994, District Two awarded a pilot contract on Interstate 95 that consolidated 136 different maintenance areas into one contract,[30] which covered 240 lane kilometers of concrete and 160 lane kilometers of asphalt, over 40 structures; 20 interchanges and 17 cross-street interchanges; and two river crossings of 3300 and 7000 meters.[31] The contract was for one year with two extension options that were exercised. The project has achieved a 10 percent cost savings; reduced internal costs in procurement and administration by 70-90 percent; and improved road conditions by 380 percent in three years.[32]

FDOT has experimented with several types of contracts that vary in length, magnitude, and quality. The parallels among all of these contracts are significant cost savings, private sector reliability, enhanced safety for motorists, and maintenance improvements. The results and relationship that these two institutions have enjoyed in outsourcing road maintenance should be focal points for all considering this policy move.

2. Australia

Prior to letting a large contract, the Australian government conducted two pilot projects. In 1991, two separate two-year maintenance management contracts were awarded for 100 km of urban roads each. The project resulted in a 16 percent cost savings, a 22 percent increase in productivity during the first year, and a 13 percent asset quality condition improvement.[33]

With these pilot successes in mind, Australia let a 10-year $130 million performance-based contract including all maintenance activities for 450 km of urban roads or 1900 lane km.[34] The main performance criterion is average roughness and cracking. Since the partnership was created, the condition of the roads has improved by an estimated 15 percent at a cost savings of 35 percent.[35]

3. New Zealand

In the last 10 years nearly all road and highway works have been outsourced in New Zealand. All of the contracts contain end-result specifications and quality assurance measures. The government has developed a 10-year maintenance contract known as a "performance specified maintenance contract." The contractor

takes total responsibility for delivering pre-agreed service levels. Regular audits are carried out to determine compliance. These contracts have saved New Zealand approximately 20 percent and improved services as well.

Robin Dunlap, the general manager of Transit New Zealand said that "one thing is certain: better services are being delivered at much lower costs."[36] In the last 11 years the actual maintenance cost has remained nearly the same in real dollars, yet traffic volumes have increased by 52 percent and accident rates have decreased by 45 percent.[37]

4. Virginia

In 1995 the Virginia legislature passed the Public and Private Transportation Act (PPTA) mandating that the state DOT evaluate alternate proposals to maintain and reconstruct roads. The PPTA goals were simple: to improve efficiency and save valuable tax dollars. Proposals are now compared against Virginia Department of Transportation (VDOT) traditional methods. Once an evaluation committee selects a proposal, the two parties negotiate price, work scope, and timelines.

In 1996, VMS Inc, a highway construction and maintenance firm based in Virginia, was awarded a total asset management VDOT maintenance contract. The initial contract was for five and a half years with a value of $131.6 million covering 251 miles of interstate. VMS maintains state highways in urban Richmond, rural West Virginia, and the southwest part of the state.

VMS is responsible for determining how it will maintain the road, e.g., what type of materials, techniques, and procedures it will use. The contract requires VMS to maintain all fencing and guardrails, and to mow, snowplow, repair potholes and cracks, repair and rehabilitate roadways and bridges as needed, and attend to vegetation, drainage, lighting, and striping concerns along the 251 miles of highway to standards established by the VDOT and VMS during contract negotiations. The VDOT's team of engineers and consultants set standards that are fixed for the life of the contract.

The VDOT uses the same engineers and consultants to monitor the performance of VMS. An annual audit is conducted and a report card is issued describing VMS's progress toward the contract goals. In 2000, Virginia Tech conducted an independent assessment for the VDOT. It found cost savings between $16 million and $23 million over the five-year period.[38] The savings were generated from lower input costs for materials, labor, and capital equipment. Recently, the VDOT exercised a five-year contract extension, evidence of its satisfaction with the product.

Despite the changes that the PPTA brought, the VDOT continues to maintain a staff around 10,000, despite initial fears from public employees. In fact, the VDOT continues to have a massive workload—contracting has allowed it to simply shift employees to other productive projects.

5. District of Columbia

In 1998, The District of Columbia Department of Public Works (DC DPW/DDOT) and the Federal Highway Administration (FHWA) sought to establish a performance-based contract for the National Highway System (NHS). The contract covers 344 lane-miles, 2950 catch basins, seven miles of drainage ditches, 450,000 feet of curb and gutter, 109 bridge structures, 4 major tunnels, and traffic and weather control.[39] The D.C.

project engineer monitors the contract using public surveys and monthly field inspections. Ratings of good, fair, and poor are given in relation to performance criteria, including rideability, cracking, skidding, and public satisfaction.[40] Payment includes incentives for performance and depends on compliance with the performance measures. The five-year $69 million contract was awarded on a best-value selection.[41] The project (The D.C. Street Initiative) is the largest transportation investment in DDOT's history and is also the first time that the FHWA has joined with a DOT on a program to preserve transportation assets.

The contract was awarded in 2000 to VMS, which is responsible for rehabilitation and maintenance of 75 miles of major streets and highways in the District. Since the contract was let, the District has seen major improvements in the quality of its roads. In the first year, performance was in the low 80s (out of 100), up from the high 20s the roads scored before outsourcing.[42] This improvement is in part attributable to the specialization through subcontracting to smaller companies or companies that VMS creates for an area of maintenance. VMS has positively affected the neighborhood with new job hiring, community service participation, and subcontracting.[43] The D.C. government team is specifically satisfied with the progress on tunnels, which were dilapidated prior to the contract, snow removal, and emergency responses.[44] Overall, the DDOT, the FHWA, the D.C. public, and VMS are satisfied with the project in that the assets are generally in better condition than they were two years ago.[45]

6. *Latin America*

On average, one third of all roads in developing countries are in poor condition. The roads in Latin America are even worse, where between 7 and 52 percent of roads are in good shape.[46] Even in the best-case scenario nearly half of the roads are depreciating or in poor shape. Seeking to improve road conditions and reduce maintenance costs, Latin American governments have begun experimenting with performance-based contracts.

The contracts include performance criteria that establish standards and measure performance of visual appreciation, potholes, cracks, rutting, blockage of drainage systems, friction, and deflection. Contracts tend to exceed 10 years.

For example, since 1990 Argentina has used a performance-specified contract for the maintenance of 9600 km of national roads.[47] To finance the project, Argentina awarded a 12-year concession allowing the contractor to collect tolls. The program has been so successful that another 10,000 km of national roads are being privatized under a similar scheme with a five-year contract.[48] Occasionally the government makes direct payments to the contractor to cover additional costs. The frequency depends on the financial status of the project and the contractor.

Since the program's inception, Argentina has realized lower maintenance costs, higher levels of services, new capital investment in roads, a reduction in government workers, and largely eliminated corruption in this area of government.

C. Warranty-type Contracts

A warranty-type contract is another form of performance-based contracts. This is a total asset management contract whereby the contractor warranties the work for an extended period of time, usually around 20 years.

Warranties are usually limited to new construction, re-construction, and maintenance since the contractor assumes all of the product risk.

1. Aspen Seeks Warranty to Solve Unique Problem

In 1999, the city of Aspen faced a unique problem. The city's economy is largely driven by winter and summer tourist seasons, and harsh weather conditions require frequent and expeditious maintenance of the roads. Without proper and timely preventative maintenance, Aspen's accessibility could suffer, negatively affecting the tourist market and economy.[49]

Officials were often forced to either disrupt the tourist season to maintain and improve roads, or to defer maintenance. They turned to Koch Performance Roads, Inc. (KPRI) with a 15-year maintenance contract that included a product quality warranty by KPRI and contract extension options. The city chose a long-term contract to strengthen the relationship between the city and KPRI. Long-term contracts place the incentive on the contractor to perform at high levels of quality to reduce life-cycle costs and improve profitability. Under this contract, KPRI is also afforded quite a bit of leeway and flexibility to determine the best manner and materials to complete the work.

The contract includes rehabilitation and maintenance on over 30 percent of Aspen's city streets. KPRI has incorporated an innovative and effective management program to oversee the accelerated work schedules. Another advantage of the contract structure has allowed KPRI to collaborate with local companies, Grand River Construction for example, to complete the work in a timely manner during the off-peak tourist season.

To date Aspen has been extremely satisfied with the partnership. The city has realized cost savings, shorter work schedules, and a high quality product while limiting negative impact on the tourist market. Bob Heitmann, vice-president for performance roads, suggests that the key to success is the identification and "proper alignment of incentives and goals."[50]

2. New Mexico Receives Product Guarantee and Innovative Solution to Road Conditions

In July 1998, New Mexico's governor, Gary Johnson, announced an innovative partnership with Mesa Construction, a wholly owned subsidiary of Koch Performance Roads. The New Mexico Corridor 44 Project included the design, construction, routine maintenance, and (at the option of the state) partial financing of the project—the expansion of a 121-mile section of two-lane highway to four lanes—with a 20 year warranty.[51]

Construction of the additional lanes was fast compared to traditional programs. Had it been built in traditional four-mile increments, it would have taken 27 years. Under the contract, the project was finished last year in 3.5 years. If it was not finished on time, Koch would have paid a penalty of $7,000 per day.[52] Furthermore, the contractor would have forgone payment until the job was done, creating a significant incentive to finish on time.[53] This structure has significantly transferred risk onto the developer—Koch's total risk exposure is over $50 million.[54]

The most significant aspect of the contract is the warranty from the developer. "In addition to assuming subbase-to-surface risk for a major asphalt highway, Koch has guaranteed to pay for the upkeep and repair of a public asset for 20 years without recourse to public funds."[55] The road will be maintained to meet specific

performance criteria based on industry guidelines. "The $62 million long-term warranty will save the taxpayers $89 million," since the maintenance cost was projected to be $151 million.[56]

Another important aspect of the partnership is the doubling in size of highway capacity from one-lane each way to two. Not only does this improve safety but also, NM 44 is a border route allowing more efficient transfer of goods across the state.

One major factor for success: "the state is not telling [Koch] how to build the road."[57] Avoiding micromanagement allowed the contractor to use innovation and technologies often not available to the public sector. In this case, Koch utilized a unique and innovative pavement design. The extremely durable design uses very strict specifications for materials in the asphalt mix but has the benefit of needing 20 percent less pavement and will cost at least $20 million less to use.[58]

It seems that New Mexico will realize what it set out to achieve: decreased project schedules, significant tax dollar savings, and a transfer of risk through a warrantied product. Paul Wheeler, president of KPRI noted that, "the key to success is the identification of customer needs and the proper alignment of incentives and goals."[59]

Part 4

Contract Structure

The elements of a contract are subject to negotiation, from costs and user rates to the extent of guarantees provided by the contractor. Negotiations should be aimed at achieving a win-win situation, under which the major objectives of both sides can be satisfied and both will benefit mutually. Both sides often compromise through negotiations in the interest of the relationship. Also, both will be called upon to live up to contractual obligations over the term of the contract.

A. Service Approach

The single largest reason most public agencies haven't privatized operations is out of fear of loss of control. However, movement to performance-based contracting allows the public agency to remain totally in control of outcomes while at the same time allowing the private sector to bring efficiencies and save money.

Essentially there is a distinction between a government that provides a service and a government that produces a service. "It is also the distinction between administration and management. Under public/private partnerships, government does not cease to administer, nor does it cease to manage, but it administers by carefully managing the production of services it buys from the private sector."[60] At the same time, potential efficiencies and innovations may be forgone if public officials attempt to micromanage service delivery. Effective outsourcing requires a focus on desired outcomes without specifying how the outcomes are to be accomplished.

In addition to standard outsourcing of maintenance, other possibilities include folding maintenance into agreements to design and build facilities, such as:

Design-Build-Operate-Maintain (DBOM): in which the government enters into a single contract for design, construction, maintenance, and operation of a road over a contractually defined period. Funds required to pay for the services of the DBOM contractor during the contract period are appropriated prior to award of the contract or garnered via tolls or user charges.

Design-Build-Finance-Operate-Maintain (DBFOM): in which the government enters into a single contract for design, construction, finance, maintenance, and operation of a road over a contractually defined period. No funds are appropriated to pay for any part of the services provided by the DBFOM contractor during the contract period.

B. Selection Process

Once the available options for partnerships are analyzed, state and local governments that decide to outsource must select the process by which they will proceed. Different procedures would be used when outsourcing simple maintenance of a road compared to a more complicated project that includes rehabilitation and warranty, or even more so for maintenance as a component of a package to deliver a new road. Road and highway maintenance can entail complicated, environmentally sensitive activities subject to extensive regulation, so a simple request for proposals may not always be the best method to maximize the value and control risks.

Outsourcing best practices are moving away from a single-tier bidding process through which governments simply select the lowest bidder. More often, they are using a two-tier process that allows them to examine bidders on multiple levels, with a focus on "quality-based" or "best-value" determinations. There is no cookie cutter approach, and government procurement teams need to work with private service providers to put together an agreement that meets the government's goals without overcomplicating the selection process.

*1. **RFQ Phase***

The request for qualifications (RFQ) is used to assess the technical qualifications of potential bidders. This process determines a firm's ability to meet basic performance, financial, regulatory, and other criteria. The RFQ is used to "weed out" applicants that do not meet minimal standards established by the local governing agency. These standards should broadly define the expected level of service required under the contract but should avoid micromanagement.

Table 1: What to Include in Your RFQ
1. Corporate Financial Ability
2. Experience Providing Like Services
3. Baseline Performance Data
4. Bonding Requirements
5. Legal Encumbrances
6. Indemnification
7. Local and State Requirements
8. Insurability
9. Workers' Compensation Issues
10. Labor Issues
11. Record-keeping/Reporting Ability
12. Accounting Practices
13. Complaint-Resolution Procedures

After the RFQs have been returned, they must be evaluated, reviewed, and ranked. Only firms that grade as *adequate, good,* or *excellent* should receive invitations to bid. The quality ranking should reflect the firm's ability to incorporate innovation into operations. Firms that display good compliance/inspection and complaint/resolution histories should also receive high quality points. Another factor that influences quality points is whether firms have been good corporate citizens by getting involved in the community, supporting charities, working on quality-of-life issues for their employees, and so on.

2. RFP Phase

The request for proposals (RFP) or request for bids (RFB) is used to select the winning contractor. It is important to have several bidders to ensure flexibility and choice; multiple bids ensure a competitive process, which in turn creates incentives to innovate, keep costs low, and maintain high accountability. Sometimes smaller communities have trouble attracting multiple bidders, in which case joining with other communities to create larger and more attractive contracts can help. Another option is to form a public-private partnership with a firm that is not fully qualified on its own and develop it to a point where it can bid competitively for the job.

However, firms trying to break into the market with a new innovative product often find themselves without competition. If State Highway Authorities (SHAs) wait until there are multiple bidders, innovation can stagnate. Few companies will spend the resources to enter a new market (e.g., 20-year road warranties), until customer demand reaches the point that those companies can be somewhat confident entering the market will be profitable. If SHAs demand products, competition ultimately will develop. For example, New Mexico chose innovation over competition on the NM 44 project. Since, additional companies have offered long-term warranties on other highway projects—competition caught up to innovation.

The RFP may be a single "fill in the blank" page, where the contractor puts prices or costs into each blank. But other very important factors besides price should be considered. Many factors are difficult to quantify, but the use of a "multiplier" may allow for their consideration. For example, price bids from firms that received excellent rankings in their RFQs might be multiplied by 0.9, while bids from firms with adequate rankings are multiplied by 1.1 and those from firms with good rankings are multiplied by 1.0. Using a multiplier enables government managers to consider the best combination of price, quality, and delivery options (innovation). The multiplier has the same effect as lowering the cost of a bid from an excellent firm while raising the cost of a bid from a firm with a lower ranking.

A good strategy is to involve bidders in determining terms of the RFP and, later, the contract, especially the scope of work, performance standards, accountability, and employee transitions. The more information governments share about their goals and expectations up front, the better the relationship. Often the contractor will have more experience with such issues than the city or county does. Bidder participation also makes it easier to be sure that all necessary elements of service delivery are included in the RFP. Adding service changes after the selection—or, worse yet, after the contract is signed—distorts the competitive process and can often be costly. Bidder participation also creates a level of trust with the contractor, which makes for better relations in the future.

RFPs should:

- State specific goals and objectives and have a clear scope of work, while welcoming alternatives and options;
- Furnish complete and accurate information and data;
- Provide reasonable response times;
- Grant good and repeated access for facility tours and information gathering;
- Require relevant and measurable project experience and financial criteria;

- Choose terms and conditions that use established and understood standards as much as possible, and thoroughly explain innovative standards to bidders; and
- Set terms and conditions of the partnership, either in a term sheet or a draft agreement.

C. Alternatives to Low-bid

Outsourcing procurements are unlike most municipal purchasing in that contracts generally do not need to be (and should not be, except as required by state law) awarded on a low-bid basis. Best practices for government procurement and service contracting are steadily moving toward "best-value" techniques, where, rather than selecting a private partner based on low cost alone, governments choose the best combination of cost and quality, and other important selection criteria.

Governments are starting to realize what every shopper knows—sometimes if you pay more, you get more; that is, the best value is not always the cheapest. Indeed, the idea that selecting firms to provide complex services or projects should be based on qualifications and technical merits, as long as the price is a value for what is promised, is becoming mainstream. The Federal Acquisition Regulations were amended in 1996 (FAR 2.101) to allow best-value source selections in outsourcings. Federal Acquisition Regulations define "best value" as "the expected outcome of an acquisition . . . providing the greatest overall benefit in response to the requirement." And the American Bar Association's revised *Model Procurement Code* incorporates best-value procurements as the standard.[61]

D. Performance Standards or Objectives

Performance-based contracts have emerged as a state of the art contracting tool to give government managers better control over contractors and greater assurances of accountability.[62] A key starting point for making the partnership performance-based is to both maximize the potential and incentives capacity for improved performance while managing the risks of performance shortfalls. The best way to accomplish this is through performance objectives.

Through performance objectives, performance contracts spell out the desired result expected of the contractor, but the manner in which the work is to be performed is left to the contractor's discretion. Contractors are given as much freedom as possible in finding ways to best meet the government's performance objective. Performance objectives give contractors the incentive (bonus or penalty) "to increase productivity, cut costs and raise service quality."[63] They also shift much of the risk to the contractor, who is rewarded for productivity improvement and penalized for poor performance or rising costs.[64]

The better the performance standards, the easier contract monitoring is. Performance standards should be written at the same time that the monitoring plan is developed, ensuring that no discrepancies exist between the two. "The plan should be quantifiable and specific and include reporting requirements, regular meetings with minutes, complaint procedures, and access to contractors' records."[65] In some arenas, high risk exists, even for minor problems, and "high-cost and high-control preventive monitoring techniques are necessary."[66]

Table 2: Example of Performance Criteria from VA 288

Criteria	Measure		Extent	Severity				
				Yrs 1-2	Yrs 3-5	Yrs 6-10	Yrs 11-15	Yrs 16-20
Smoothness	IRI (inches per mile)	Mainline	Avg/2 miles	75	80	105	105	110
		Ramps	Avg/Ramp	80	90	115	115	115
Rutting/ Shoving	Depth (inch)	Mainline	Avg/2 miles	3/8	3/8	3/8	3/8	3/8
		Ramps	Avg/Ramp	½	½	½	½	½
Cracks/ Joints	Width (inch)	Mainline	24 ft. (contin.)	½	½	½	½	½
		Ramps	Ramp width	½	½	½	½	½
Bleeding	Coeff. Of Friction (f)	Mainline	300 sq. ft.	0.05	0.05	0.05	0.05	0.05
		Ramps	Avg/Ramp	0.05	0.05	0.05	0.05	0.05
Raveling/ Weathering	Depth (inch)	Mainline & Shoulders	300 sq. ft.	½	½	½	½	½
		Ramps & Shoulders	400 sq. ft.	½	½	½	½	½
Potholes	Depth (inch)	Mainline & Shoulders	0.5 sq. ft.	1	1	1	1	1
		Ramps & Shoulders	0.5 sq. ft.	1	1	1	1	1

All this being said, there may sometimes be limitations to realistic performance expectations subject to:

- The design and physical capabilities of the privatized system;
- The occurrence of any disabling event beyond the reasonable control of the operator, such as extreme weather conditions; and
- Change in law or regulations.

E. Risk-sharing

Sometimes a major stumbling block in the construction of a partnership is the allocation of risks. The government and its private partner must review the risks and goals of the project, and determine the level of responsibility that the partner will incur over the life of the contract. Evaluating risks allows for the construction of a reasonable and prudent risk guarantee structure.

Officials need to consider risks of performance failure. Reasonable bonds or other sureties can assure that contractors are capable of performing the service. If the contractor fails to perform, the government receives the bond to cover any damages and costs associated with replacement service provision. But government managers should also be cautious that financial guarantees are set only as high as necessary—if set too high, they may prevent some small but competent firms from participating and reduce the amount of competition, or wind up driving up the user costs bid by all participants.

It is important to strike the proper risk balance between the private operator and public entity. Determining specific goals to accomplish under the privatization agreement will help determine which responsibilities should remain under the province of the local entity (e.g., environmental permitting, right of way), and which risks can be better managed by the contract operator (e.g., completion date, cost, performance quality).

Douglas Herbst, former Chairman of the National Council For Public-Private Partnerships (NCPPP), sees the growth of unnecessarily large guarantees as thwarting some otherwise sound partnership plans. Herbst contends that "excessive contract security and unlimited liability should not be the reason that otherwise qualified and capable firms walk away from opportunities."[67]

The bottom line, according to Herbst, is that contractors aren't banks or insurance companies, and can't be expected to assume unreasonable risk levels. However, insurance companies and banks can provide a window into the competency and security offered by a potential vendor. The contractor who posts bonds from a highly rated surety has offered strong evidence of financial capability, and contractors can only secure insurance coverage if their carriers are convinced that the contractor can do the job and bear the risks of the project.

A prime example of Herbst's point is with the Florida DOT, which has included in its standard asset management language the following clause:

> *Any advance preparation, repairs, replacement, etc., required as a result of a natural disaster, catastrophic or emergency event will be considered part of the contract responsibilities and the Contractor will not receive any additional compensation. The Department authorizes the Contractor to pursue claims of any emergency reimbursement in response to the disaster.*

In Florida, the possibility of a large natural disaster (hurricane) exists in most parts of the state. Emergency reimbursement provided by the FHA or the Federal Emergency Management Agency could take years to process and be remitted to the contractor. Assigning this level of risk disables the state's ability to realize the full benefits of the asset management concept since bidders are forced to encompass this high level of risk into the bid packages.

Ultimately this clause has led to increased bid prices, but exposes the state to the real possibility of contractor default. Simply put, the firms are not financially equipped to handle the huge expenditures without compensation.

F. Labor and Employee Issues

This is a crucial issue for community support, since most employees and unions will be resistant to the idea of the current staff working for a private entity. In many contracts, private operators retain the existing employees because of the benefits of having an experienced workforce. If a reduction in employee size is needed to increase efficiency, a common practice is to handle staff reduction through attrition. When an employee leaves, an overstaffed operation will not fill the position.

In practice, outsourcing allows the operator to retain valuable experience on staff. The private sector often offers better employee training, development, and advancement than the public sector. It is through the transition from public employment to the private sector that opportunities for continuing education, training, and career advancement are created. Many of senior staff and line workforce at most private road maintenance firms come out of the public sector. Career advancement between projects and from the field into corporate positions is commonplace.

Benefits packages can be tailored to meet specific local requirements, and to match those currently available to both unionized and non-unionized staffs. In negotiating this issue, the parties should recognize the costs of maintaining staff levels and benefits, recognizing a collective bargaining agreement, and/or requiring the operator to negotiate a new agreement with the local union.

Some employee displacement may occur, but is increasingly rare and can be minimized with proper planning.[68] Public officials should plan for employee transitions from the beginning of the outsourcing process. Often, contractors can hire many, or all, existing workers, and governments may wish to offer incentives to encourage that. In addition, plans can be made to move displaced employees to other departments, retrain them for other public or private jobs, offer early retirements, and so on.[69]

G. Accountability and Monitoring

Firms should be subjected to continual monitoring and contracts should include reporting and auditing requirements. Accountability ultimately lies with the contracting government to ensure the taxpayers are getting the services they are paying for from the private service provider. This process enables local governments to maintain quality, quantity, and cost of services. Efficient monitoring, though costly, pays for itself by preventing overcharges and poor quality performance in the first place by recouping inappropriate outlays, and by disallowing payment for inadequate performance.[70] At the same time, the monitoring process must be completed without micromanaging the contractor.

Governments should avoid employing those individuals who formerly managed the in-house operation as contract managers or monitors over the contracted operation. Even if these individuals are fully committed to fairly and objectively monitoring the contractor, the appearance of bias and conflict of interest can cause disagreements and even rifts to develop between the clients and the contractor.

The private firm should provide the local government with monthly and annual operating reports in sufficient detail to enable the local government to evaluate performance under the agreement. In addition, the local government should have the right to inspect any facility or worksite and audit operator's records at any time upon reasonable notice. The success of partnerships depends on ongoing communication, monitoring and oversight to ensure services contemplated by agreement are being delivered and problems and issues that arise will be identified and dealt with early on.

H. Term and Payment

Length of term is another important clause of an operational contract (or a lease). Most operational contracts are between 3 and 10 years long. Rebidding them on a periodic basis is one way to ensure competitive pressure to innovate and keep costs down.[71] However, shorter contracts do carry risks in creating perverse incentives. A maintenance provider may put off doing an overlay, which lasts seven-plus years, and do a less expensive form of maintenance if he has to re-bid the contract in three years. Short contract terms can discourage life-cycle cost considerations. Generally, longer contracts have the most favorable rates and can incorporate more robust performance elements, but may reduce cost savings and innovation potential from more-frequent rebidding.

The compensation package and payment schedule should also be incorporated into the contract. Performance-based payments should be part of the package and will be a bit more complex than standard fixed-price payment schedules. One strategy is to structure the compensation in two parts. First, a fixed fee designed to cover basic facility operating costs and any maintenance and capital upgrades must be agreed upon. Second, a variable fee tied to performance against a basket of outcome measures may be developed.

I. Termination

Another “must” section details the method of termination for noncompliance, nonperformance, or general breach of contract. It can be helpful to establish an escalating scale of specific sanctions that culminate in termination and to specify the use and structure of arbitration or mediation. Often, contracts will include “termination for convenience” clauses, which allow either party to end the agreement without cause but requiring sufficient notice, usually 60 to 120 days.

Part 5

Conclusion

As the pressures on government agencies to maintain infrastructure have evolved—and as the outcomes sought have become richer—the idea that there is always one best way to structure a project has lost its cachet. Speed, flexibility, innovation, and access to skilled personnel have joined cost savings as key motivations for outsourcing elements of project delivery, and project structures have changed as well. Paralleling the evolution of best-value methods for structuring procurements has been the evolution of value-based delivery systems—delivery systems that match the goals of an individual project.

The emergence of road and highway maintenance public/private partnerships gives policymakers a new solution to rehabilitate and maintain America's aging road and highway network. With a properly structured agreement in place, the burden and expense of maintenance can be shifted to a private provider. Experience shows that outsourcing can lead to cost savings, quality improvements, and long-term warranties. With many governments facing continuing financial challenges and aging infrastructure, the outsourcing of road and highway maintenance will continue to be a viable option for high quality and cost-effective services.

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Robin A. Johnson, *Privatization and Layoffs: The Real Story*, Reason Public Policy Institute E-brief No.112, March 2001, www.rppi.org/ebrief112.html.

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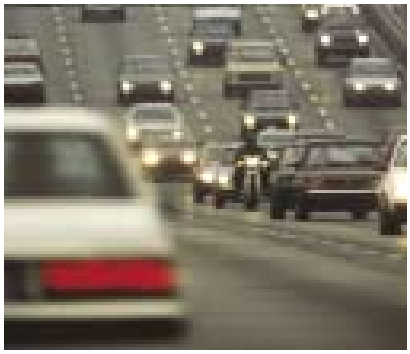





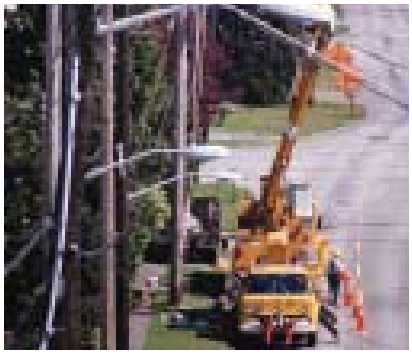

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