

Myopia In Municipality Management— the Need For Better Planning and Control*

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ABSTRACT

The concentration on short-term economic goals or plans at the expense of long-range well being expresses the idea of myopia. This deficiency of foresight or current discernment for tomorrow's problems typifies the management approach used by many of today's managers of municipal governments and public works administrators.

This lack of adequate planning manifests itself as constant reaction to adverse conditions only after they occur, or what is frequently referred to as a fire drill type of operation. It is the opinion of the author that this practice often fosters suboptimization in the utilization of limited resources. With the rising pressure of inflation coupled with expanded requests for services and a reluctance of taxpayers to continue to provide an ever increasing budget, management is currently forced to seek more efficient operational methods.

It is the purpose of this paper to reveal that deficiency of long-range planning, inadequate budgeting, a lack of followup and control, and deficiencies of in-depth management capability are currently widespread throughout public works administration. The existence of these conditions is considered a major contributor to ineffective municipal management. Recommended techniques to recognize and reduce these problems are presented in the latter section of this paper.

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Introduction

Much attention has been focused recently on the fact that things don't work as well as we remembered they used to. Examples of these deficiencies are readily available; e.g., New York's telephone service, electrical appliance performance, and automobile dependability and serviceability. However, little public attention has been directed to identify inefficiencies or their cause in public works administration. Except for isolated major labor-management problems, such as strikes by sanitation workers and potential mass layoffs of municipal employees created by the taxpayers' reluctance to vote in favor of increased taxes, few of the many problems of public works management are made visible to the average taxpayer.

It is this same uninformed taxpayer, who in masses, is paying the increasing bill for what may in some instances be an antiquated, ineffective, and therefore excessively costly operation. The taxpayer is not too unlike his counterpart in industry, i.e., the stockholder, who has very little impact on operational or organizational reforms except through the firm's management. The recognition of need for reform in a business is readily reflected in the profit and loss annual summary. Since municipal governments operate as non-profit or money-losing operations, no similar measure of their management efficiency is available. Therefore, an inefficient operation can go undetected for several years unless deficit spending is incurred, and increased tax levies are proposed.

This paper uses a total systems approach in the analysis of public works management techniques currently in use by various municipalities. These techniques are evaluated with consideration for identifying system deficiencies which are contributing to suboptimal decisions involving the consumption of limited resources.

Observations

A recent study of 12 public works administrations conducted by the author and associates indicates a developing trend toward suboptimization in the utilization of limited resources of material, manpower, and equipment. A summary matrix of the findings of this study is depicted in Table 1.

Details of typical findings are evidenced in the following observations.

INADEQUATE PLANNING

City A had purchased and stored utility poles valued at \$250,000 for a project that has somehow been forgotten. Thus, one quarter of a million

other instances of nonexisting or ineffective equipment maintenance practices and equipment utilization plans can be cited, these examples should be sufficient to suggest that these practices are commonplace.

INEFFECTIVE BUDGETING

Further consideration is now directed to the consideration of the budget as a resource, and its current function as utilized by municipal organization. For the most part budgets are considered by the functional departments as a necessary evil which have to be contended with on an annual basis in order to exist for another year. Therefore, during those four to six weeks which immediately precede the start of a fiscal year, elaborate plans and visual aids are prepared to sell the management on the need for significant increases in the department's budget. Some department heads are more gifted in art and presentation skills such as engineering and planning departments, and therefore are more successful in their attempts to expand operations.

In too many cases proposed budgets are effectively only eyewash, and thus forgotten immediately after budget approval. This is the result of shortsighted department heads feeling that they have accomplished their major task for the coming year by being assured that desired operational funds will be made available. Lack of adequate budgetary controls can create waste in the months immediately following budget approval and austerity during the end months of each fiscal period. For example, abuse of sanitary and cleaning supplies during the early months of the academic year has created periods of austerity during the end of the school fiscal period when cleaning solutions were heavily diluted to stretch existing supplies throughout the remaining days. This activity typifies a needlessly ineffective utilization of supplies and custodial personnel.

Another budget-related problem which was frequently observed during the study is the lack of budgetary control as a management tool. This condition frequently is the result of years of operations wherein some specific organizations have maintained in effect an open-ended budget status; by flagrant misuse of allocated funds they create an overrun condition as a basis for an increased allocation next year. This condition is nurtured by existing policy on budget justification being frequently limited only to a requirement to justify increases above last year's appropriation.

DEFICIENCY OF IN-DEPTH MANAGEMENT CAPABILITY

The operation of many municipalities both at the City Manager and department level evidenced a lack of in-depth management capacity. This is illustrated by the lack of authority delegation, or single-point responsibility.

Table 1. Summary of Trend in Municipal/Public Works Problems

Problems	<i>Federal Governmental Installations</i>	<i>AGENCIES Large to Small Cities/Counties or Municipalities</i>						
	A - E	F	G	H	I	J	K	L
1	X	X	X		X			X
2		X	X	X	X	X	X	X
3				X	X	X	X	X
4	X	X	X	X	X	X	X	X
5	X	X	(X)		X	X	X	X
6	X	(X)	(X)	X	X	X	X	X
7	(X)	X	X	X	X	X	X	X

Legend:

() Indicate problem recognized and corrective action planned or being implemented.

Problem Definition:

1. Goals made at top not communicated down organization
2. Work force not considered a resource
3. Scheduling and budgeting not integrated and inadequate
4. No systematic development of work
5. Poor organizational structures (lack of in-depth capability)
6. Lack of long range planning
7. Deficiency in management control and followup

dollars of capital was tied up in a vacant field serving no useful purpose. City B purchased and tried for several years to operate an unlawfully unsafe caravan of wheeled trash containers through the city's business district. It was generally agreed that between collision with other motor vehicles or spillage from these open containers, collection practices were very ineffective. This method of collection was recently discontinued, but the question of why were they originally purchased is still unanswered. Organization C maintains dual equipment capability in a garage for electric arc welding. Machine number one cost several thousand dollars and had been inoperative for several months, though not reported to a maintenance shop for repairs, which were minor; instead, a cheaper welder was requested and installed to perform the minimal shop load requirements. In another organization heavy construction equipment and expensive computer equipment both experienced very low utilization. Equipment such as a \$35,000 tractor and a comparably priced shovel were observed to be idle for several months while adjacent work districts required drastic drainage work. Route structure for refuse collection in still another municipality was left up to the truck drivers, thus causing suboptimum conditions. Many

This condition creates an operation that is totally dependent upon a single individual for operational guidance, i.e., if Joe is out for the day no decisions can be made. Thus operations are either not performed or seriously curtailed until Joe returns.

Frequently a mushrooming effect on the entire operation is experienced by this condition whenever serious illness or business requiring extended travel by key personnel occurs. This condition not only needlessly burdens the efficiency of the overall operation but causes unnecessary physical stress on the key man. Single-point responsibility operations also suffer from other limitations. Physical limitations of a central authority coupled with his personal preferences and lack of concern for some important tasks and the associated decisions may cause equally important tasks to merit a low priority, and thus receive little or no consideration. The result may lead to suboptimization through the implementation of short-term solutions to long-range problems. Many pollution problems, for example, stem from decisions implemented to solve today's outstanding problems concerning waste disposal with little thought for overall system impact.

LACK OF FOLLOWUP AND CONTROL

Many problems associated with manpower utilization can be observed in public works operations. We all immediately think of the police squad car crew taking too many coffee breaks, but this is not always true. An analysis of a typical route, calls and service rendered over a given period using Poisson arrival rates for calls and negative exponential service times indicates a very high degree of utilization. The problem here generally is that the Chief of Police is too often from the old school, and is reluctant to understand or utilize operations research tools to help him create a good image for his people or to justify his additional needs.

With the advent of civil service systems, political influence has been reduced at City Hall, but it has not been totally eliminated. The major fault with municipal personnel selection systems seems to stem from a lack of work standards, job descriptions, and the frequent overspecification of many menial jobs. This is not meant to imply that most personnel departments should take on this task, for it is felt that work standards developed and implemented by the personnel department of most city governments may be worse than no standards at all. However, it appears advisable to initiate action in this area. Otherwise the worker's performance cannot be adequately evaluated; nor can he know when he is doing what is expected of him. In setting standards for public works tasks, one could be assisted by industrial engineering experience gained from research with factory operations.

Some observations into public works operations that had attempted to establish standards for utility service calls revealed that they were usually not realistic and often quite excessive. Typical is the following case study: One week a standard of 1.2 manhours per job was used; however the following week for an identical job a standard of 2.8 hours was used. A physical check of the job revealed that a two-man team could easily perform the job in less than five minutes. A third man on this crew had to wait idle for five minutes while the other two men performed their job so that he could do his task which usually took less than one minute to complete.

Other observations included instances when the supervisor of a shop had dispatched a service vehicle to a job, but a check several hours later revealed the crew had not yet arrived. In a large percentage of the cases, the supervisor did not know where his people were located, what they were doing, or how long the job took to accomplish.

Some jobs may not lend themselves to rigorous work standards. This is the case with trash collection crews. In one city studied, the garbage trucks either never covered the assigned route in its allocated time or missed pickups which were recorded by complaints to the Director of Sanitation at City Hall. A two-step plan was implemented which effectively resolved this problem without the necessity to establish elaborate work standards or point-to-point pick up schedules. First the trucks on the trouble routes were staffed with a "straw-boss" of the same ethnic group who all the fellow workers knew had authority to supervise the operation, and who had responsibility to provide reliable service. Secondly, the crew was given the one goal—"cover your route without complaints," and go home when you are finished. Management was pleasantly surprised when complaints stopped and vehicle utilization was reduced to approximately six hours per day. Management thus solved their personnel problem and as a bonus reduced vehicle operation costs, provided customer satisfaction, and made available more time for routine maintenance during normal working hours, thus saving overtime for the garage crew.

Another approach to solving the same problem was to increase salaries to a level comparable with professionals, such as starting teachers, and to give personal recognition by furnishing personalized uniforms and private clothing lockers; it proved to be a less effective solution. Within six months of implementing these changes unrest was prevalent within the work force of the sanitation department, and another raise was expected. Most motivational scientists agree that the motivational effect of a pay raise is usually short lived; therefore, other ideas should be explored.

With the possible exception of emergency vehicles, evidence of poor equipment maintenance was observed extensively. Almost unknown was

any attempt to schedule maintenance or to consider operations research techniques like queuing theory to help determine facility or manpower requirements.

Almost every industrial organization is aware of the advantages of a quality control organization to improve efficiency and customer satisfaction. It appears that few, if any, municipal organizations have recognized a need for this type of control as is evidenced by the many irate citizens constantly registering complaints with City Hall concerning poor garbage service, pot holes or broken pavement, and unfinished jobs such as open excavations. Many directors of public works operations consider that they are doing an excellent job when no one has called to complain within the last ten minutes.

LACK OF JOINT VENTURES

A definite need for improved understanding and cooperation between local industry was a common deficiency noted. When this suggestion was made to some municipal officials the response varied from, "that big city up state beat us to a good thing once again," or "we always have had bad relations and it would be wasting our time trying anything new with that company."

About twenty years ago many public works managers made decisions along these same lines when they decided to buy, instead of make, certain commodities such as asphalt for street pavement instead of maintaining their own inefficient plant.

Hard pressed to handle the ever increasing quantity of solid waste, most governmental agencies are developing bigger sanitary land fill areas, hoping they will last a few more years when compacted with heavier equipment. However, a few (two discovered in my research) cities have been imaginative and systematic in their approach to solid waste disposal due to the tremendous costs involved in the conversion of this material to useful products; these few imaginative individuals have enlisted the assistance of public enterprise.

One city has contracted with a railroad to convert the waste material to rail bed ballast. Even though the city pays for this service, an overall savings is realized in the reduction of a need for maintaining a sanitary fill site.

The other city is experimenting with the conversion of solid waste to electric power through steam generation. For several years some industries have utilized high temperature incineration as a method of waste disposed with a bonus of steam power thus generated. If the prototype technique currently under development proves effective on a large scale, cities could some day sell the waste to the utilities or trade it for free street lighting.

The results of the aforementioned survey indicated a definite lack of joint ventures. This situation creates a potential environment for some imaginative thinking and negotiations between industry and municipalities to solve common problems.

Conclusions

The following deficiencies depict those items most generally observed during an evaluation of municipal governments/public works operations which create suboptimal decisions in the management of limited resources:

- Inadequate planning—little or no long range planning.
- Ineffective budgeting—budget activity limited to the last six weeks of the fiscal year in an effort to justify any increase for the upcoming fiscal year.
- Almost total absence of control—lack of standards for the measurement of performance, cost or schedule or any method of auditing operations and assessing activities for effectiveness.
- Lack of followup on assigned actions—
 Action dates not required
 Unacceptable solutions or delinquent assignments do not have adequate followup.
- Deficiency of in-depth management capability—one man makes all key decisions.

Recommendations

The skills needed to solve the problems previously identified are varied and complex, and one may ask where to begin such a task. By applying Pareto's principles of economic analysis to these problems, priorities can be established and feasible solutions can be implemented. The first step in this approach will select the few meaningful problems from the insignificant many. Some criteria for selection may be cost, frequency of occurrence, and impact on other operations within the system.

The following recommendations are the results of a Pareto analysis to establish a priority for the basic five problems most frequently encountered by municipality management:

Inadequate Planning—Develop long range organizational goals and objectives through surveys of projected needs as determined from projections of census statistics, coordination with local industries on possible joint ventures to solve mutual problems, internal recommendation, and inputs from the citizens as voiced by local polls or through their elected

representative (i.e., city councilman). Provide a management-level position just below the city manager level to administer and coordinate all planning and budget development. Direct this planning and budget function to consider the long-range impact of implementing all short-term decisions, i.e., guide against the promotion of myopia. Assure that all departments develop and maintain both operational and long-range plans.

Ineffective Budgeting—This activity will be partly solved if the guidelines for adequate planning, as described in the previous item, are implemented. Budgets should be totally integrated with the planning function and further complemented with management direction on the development and control of each organization's annual budget. Guidelines for budget preparation should require a "zero-based" budget. This idea requires that justification should be required on every entry, not only the additions being requested above last year's budget. In addition, a priority system should be established by each organization and attached to each line item in the budget. This priority allocation will first require an in-depth assessment of each item by the various department heads, thus possibly reducing unneeded items; secondly, this ranking gives top management a tool to adjust allocations if proposed department budgets exceed the anticipated revenue.

Absence of Control—The establishment of organizational goals and objectives will partly resolve this problem; however, the development of performance standards is essential to any measurement task. In addition, some organization functions should periodically audit the various operations and assess the degree of conformance to planned and anticipated activities. Everyone within any organization is always eager to know how they are performing in regard to what is expected. Favorable audit results could boost employee morale and efficiency, whereas deficiencies reported via this method would require corrective action. An independent group is probably the most effective to perform this activity, however, acceptable success in industry has been experienced by the rotation of this authority at a certain level of management through each department. This has proven effective in that a department will surely solve any previously identified problem within its organization before identifying other's problems to higher management. Written operations procedures and policies should be made available to all employees to improve the communication aspect of operations control. These procedures would enhance the performance measurement standards for activities where specific procedures and responsibilities are required.

Several performance measurement systems (PMS) currently being developed by various industries, computer companies, and the defense department may be easily adapted to municipal use to assist in the solution of this problem.

Lack of Followup—This problem is closely associated with lack of overall control, and is basically the feedback loop of a control system. It can be solved by various techniques which may vary from a weekly memo to elaborate chart room operations, which specify who is responsible for what and when action is required. The basic problem herein seems to originate with top management who assign open-ended tasks. This could be resolved by mutually agreeable action dates assigned to each task as they are delegated. These action dates will require some mechanism to record the assigned dates and a periodic status review to determine if schedule delinquencies exist. In the case of complex problems, an evaluation of the completed task should be performed to assure that action taken actually solved the problem to prevent recurrence, and not merely corrected a specific instance.

Deficiency of In-Depth Management Capability—Expand upper levels of management to include an overall manager just below the Mayor level with separate assistants for long-range planning and budgets and an operations management. The operations assistant manager would be responsible for daily operations. Assure back-up capability in all key management positions and delegate the appropriate authority to make decisions commensurate with each position. Create expanded capability in second and third level management through involvement in a training program that includes access to planning information and participation in management decisions.

With the incorporation of the recommendations listed above, the municipality could be considered as an improved production system, thus providing improved and expanded services through more efficient management of available resources. See Figure 1 for the three major elements of a municipal production system, and their associated interfaces.

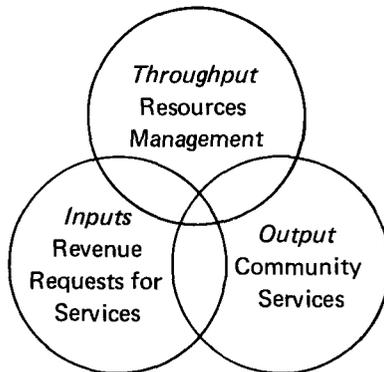


Figure 1. The Municipal production system.