Equipment Maintenance Section

The equipment maintenance section, like many of the other sections of the public works, is essentially autonomous in its operations and authority system. Officially, the section head -- the garage foreman[6] -- is responsible to the public works superintendent, but in matters pertaining to the repair and maintenance of city equipment, the foreman makes virtually all decisions. This autonomy is increased by the complete financial separation of the equipment maintenance section from the public works. The Annual Budget (1963) includes the following statement which explains the peculiar financial status of this section.

> /The equipment maintenance section/ performs the function /sic/ of acquisition, maintenance and repair and replacement of vehicular equipment used by all City Operations except the Fire Department. It is a self-sustaining operation and it is intended that all costs of vehicle acquisition, maintenance and repair and operation be paid through appropriate rental of such equipment to other City departments. These rental rates are reviewed from time to time to insure that the garage fund neither makes a profit nor suffers a loss from operations and to insure that the rental rates reflect the actual costs incurred to operate each type of equipment.[7]

This section, then, is service-oriented, extending its service to all city departments which use vehicular equipment in their work. This characteristic has effects both on the relationships of the section to other public works sections and divisions and on its relationships with other departments within the city.

At Time One, the equipment maintenance section included some eighteen men, responsible to the garage foreman and divided into two shifts. The day shift is on from eight in the morning until 4:30 p.m. and is made up of eleven men (including the garage foreman): the day subforeman, five mechanics, a welder, a body man, and two service men. The night shift, which works from 4:30 until half-past midnight, is somewhat smaller, composed of six men: the night subforeman, two mechanics and two service men, and a welder. The night shift is limited to work defined as "trouble-shooting" because parts are almost impossible to obtain during the evening hours. Unless the parts can be assembled by the day crew, the second shift generally cannot attempt major repairs and overhauls.

The men in the section are usually assigned to jobs on the basis of their experience, particularly those men who are classified as mechanics, body men, and welders. The tasks of the servicemen are somewhat more flexible; they may take on a wide variety of responsibilities. One of the servicemen suggested that his formal classification -- Auto Equipment Service Man -- is just "a fancy title for flunky." "They can put me on any job," he

said, "whether it's light or heavy duty and figure I'll qualify on the job " Asked to perform a certain task, such as building gutter brooms for the street sweepers to fill in for someone who was ill or on vacation, he has inherited the job permanently: "Between the hitch and the switch I was put on the job and I've been left on it." This attrition of responsibilities is apparently typical only of those positions with vaguely defined job descriptions.

For the other men in the section, tasks are assigned by job classification. But even among men who are classified similarly, among mechanics for example, there is some differentiation in individual skills and experience. Thus, one of the day mechanics is consulted by his co-workers when problems arise in transmission repairs. This man's experience makes him something of an expert relative to the other men. The subforemen also serve as consultants available to answer questions and make decisions concerning the work of the section. When these decisions require the attention of someone higher in the authority system, the garage foreman, the assistant superintendent and the superintendent of public works are consulted in that order -- at least officially. One of the subforemen indicated that normally when decisions involve members of the division administration, the assistant superintendent is as high as he needs to go. This same subforeman often informally seeks the advice of the head of the sanitation section since he, like some of the other "old-timers," has considerable experience in public works.

The service orientation of this section and the pressures for quick repairs sometimes applied by those the section serves result in "Joe McGee-ing," an expression which refers to the practice of repairing equipment rapidly, but only temporarily. Joe McGee, according to one of the subforemen, was a mechanic whose only tools were a hammer and a chisel, a pair of pliers and some baling wire -- "and that's how he fixed." Another form of "Joe McGee-ing," practiced in emergencies, during snow storms and the like, is to borrow parts from one piece of equipment to keep another working. In fact, highest priority is assigned to emergency equipment: police vehicles, followed by garbage trucks, and street maintenance equipment. During the winter maintenance equipment employed in snow removal -- caterpillars (cats), snow leaders, belt loaders, and dump trucks -- are looked after more quickly. The garbage trucks are checked every week by one man whose Saturday job is to inspect these pieces of equipment. If one does break down, it normally requires two or three men working together to repair it.

When pressure from other departments for quick repair of their equipment results in "Joe McGee-ing": and the equipment is returned for more lasting repairs, or when the initial repairs are simply done inadequately and the piece comes back to the garage, some foremen, according to one respondent, cover up for the man who did the job:

> Instead of giving it back to the guy that did it and making him do it right, /the foremen/ give it to somebody else and don't say anything about it.

Related to this practice of avoiding complaints is the record keeping of the section. The principal, although unofficial, function of this paper work

is to demonstrate that repair work has actually been done when questions or complaints arise.

> All you keep records for anyhow, as far as that goes, is to keep down complaints -- to keep them from saying: "Well, I brought the truck in to get it fixed and they didn't fix it." The best way is to make out a slip and date it . . . and then when it's fixed, well, then it's marked off. They can't say: "Well, I brought it in; I told him about two or three days ago, and he didn't fix it."

According to another member of the equipment maintenance section, some of these problems can be attributed to the multiple clientele served by the section. It is simply impossible to please everyone but, at the same time, you have to get along with them.

> Where you've got the shop being a service organization, you're not only directly under /the public works superintendent/, but under direct fire from every other department head in the city -- you have to get along with everybody. I can't just make /the superintendent/ happy because then I'd step on the chief of police's toes . . . you have to deal with /the superintendent and his assistant and the sanitation section head/, and four or five other water and street foremen, a couple of general foremen. Also you have to deal with the head of the water division and the electric department. You have all the general foremen and the subforemen there. In the telephone department you deal with the same chain of command there, and all the way down to the man on the vehicle.

These interdepartmental relationships, required by the section's responsibilities, are facilitated by the knowledge the garage foreman had acquired in the course of his twelve years with public works. He "can practically tell you the serial number on everything that the city owns," it was suggested. In addition, he had been employed for seven years in a similar capacity by The Alaska Railroad so that his experience in servicing equipment and satisfying the demands of others was extensive. The acquaintances and friendships which had developed through these nineteen years were helpful in his work relationships with other departments and organizations. Thus, borrowing supplies and equipment -- and lending in return -- takes place frequently between his section and The Alaska Railroad and the State Department of Highways, both of which are organizations maintaining large inventories of vehicular supplies. Similar working relationships exist between the equipment maintenance section and the local supply houses, the Army and the Civil Defense.

Intra- and interdepartmental relationships are not limited to exchange of supplies and equipment but include mutual aid in a more direct form. Particularly during the winter, men from the equipment maintenance section will provide assistance for other public works divisions like the water utility and for other city organizations like the telephone department. The water division, for example, may request help from the equipment maintenance section in thawing frozen pipes and performing other "normal emergency" operations.

Advice and suggestions are also exchanged between the equipment maintenance section and other city departments. The garage foreman's experience in maintenance apparently makes him something of an expert: it was reported that foremen and their men in other sections and divisions of public works and from other city departments consult with him informally about maintenance operations and decisions, although they take their more important problems, particularly those which involve departmental policy, to the public works superintendent.

Within the section the normal chain of command links the superintendent, as head of the maintenance division, with the garage foreman, and the latter, as section head, with his subforemen and mechanics. Policy orders, according to respondents, generally follow this pattern. Requests for maintenance and repair, however, come directly to the garage foreman without going through his supervisor. Thus, the director of public works or the city manager's secretary may occasionally call on the garage foreman when city automobiles need servicing, just as other section and division heads contact him with their maintenance requests. If mechanics or service men are asked by persons outside their section to make repairs, these requests are normally rerouted through one of the foremen. The only exceptions reported were those requests which are so minor as to require only a few minutes or those which are obviously routine, such as requests for fuel.

Deviation from the official procedure for requisitioning equipment and supplies is as normal in the equipment maintenance section as it is in many of the other sections of public works. Supplies may be obtained from the warehouse without the officially required papers; these can be sent later without disrupting the bookkeeping system. Such an informal approach to the requisitioning of equipment is also facilitated by the friendships which the garage foreman has made among the suppliers. As is true of the foremen in other sections of the public works, the garage foreman checks with his supervisor before authorizing any major expenditures; large purchases -- $500 or more -- require official sanctioning before they can be made.

Sanitation Section

Of the three sections which make up the maintenance division, the sanitation section is the most independent. Normal operations of this section do not impinge on any other section or division within the public works -- as compared, for example, with the equipment maintenance section which involves every city department using vehicular equipment. The sanitation section is responsible for garbage pickup, has control of the city dump and junk car disposal, and is charged with the enforcement of sanitation ordinances

affecting junk yards, abandoned wells, and private litter. Each of these responsibilities is the concern of the sanitation section only and does not normally require a great deal of inter- or intradepartmental coordination.[8]

The section itself is composed of some twenty men who are organized under the general foreman and sanitation officer. Because the work is regular and its volume predictable and because the number of employees is apparently just adequate to the requirements of the work, there is little loaning of men to other sections and divisions, a pattern which characterizes sections like general maintenance and divisions like the water utility where emergencies and slack periods are more likely to occur. The sanitation section, however, does borrow men from general maintenance to serve as relief drivers when regular employees are unavailable.

The working day begins at 6:00 a.m. for the three men who drive the dumpster trucks and make the pickups in the business section of Anchorage. By leaving an hour earlier than the drivers and swampers assigned to residential collection, the men responsible for the daily business routes can be finished with their downtown work before the eight o'clock traffic begins. According to a member of the administration, the men who take the six o'clock routes are those who have demonstrated that they are capable of working on their own without direct supervision; thus, unless special dispatches require that the general foreman be there, he does not come to the garage until seven o'clock.

Once the seven o'clock crews have left, the members of the crews do not require any additional supervision from the general foreman, each driver and pair of swampers being responsible for the completion of their routes for the day. Normally these are finished by three or three-thirty in the afternoon. The general foreman spends most of his day with office work, although when he has time he assists the sanitation officer with his inspections. The entire city is too much for one man to inspect, and for this reason -- and because he has been unable to convince the city council that additional funds and an additional inspector are needed -- he tries to fill in the gaps in this operation. His office work, however, is so time-consuming that usually he does not have much opportunity to help the sanitation officer. The general foreman completes his work about an hour after the crews have finished, leaving his office at four or four-thirty.

The drivers of the five packer trucks act as the foremen of their two-man crews. Any decisions which must be made on the routes are made by the drivers. The crews are operated, said one respondent,

> . . . on the premise that the truck driver on the truck is the crew foreman. In other words, he's responsible for himself, that truck, and that crew, and if he wants to work a man that isn't as good as he should be, then he's working a hardship on no one but himself because he's got to get out and help more. . . . What he says goes as far as the route business goes.

The basic priority established in this section, on which the drivers operate, is the necessity of completing the route. If this priority requires that the twelve-minute coffee breaks allowed in the morning and the afternoon be cut short or eliminated, this decision is the driver's. Business routes typically have a higher priority than residential pickups since the downtown collections must be made every day; residential pickups are weekly and thus can be left for a day "without hurting."

The present general foreman made a number of changes when he assumed his position, changes which, it was felt, have increased the efficiency of the operations. Routes were redrawn so as to eliminate the necessity of driving several miles for coffee breaks and lunch; the crews now make these stops in the course of their pickups. The crews were also given greater incentive to finish their collections by cutting the lunch hour to thirty minutes and allowing the men to go home whenever they completed their run in the afternoon.[9] The result was an increased flexibility in the daily routine of the crews: on days when the work was going faster than usual, lunch and coffee breaks on the routes could be extended; on the other hand, when the work was heavier than normal, these could be abbreviated.

Unofficially, the crews are responsible during slack periods for stops which are not normally part of their routes. When this is done, it relieves the sanitation officer's work load. A respondent explained the usefulness of these extra stops.

> If we're going down the street and we do see a mess that we've got time to clean up, why, we stop and clean it up rather than send a man /i.e., the sanitation officer/ out to tell the people to do it themselves.

Drivers vary in making these extra stops. One of the swampers, for example, indicated that his driver is especially interested in keeping a neat-looking route and will frequently stop to pick up a messy area instead of turning in a complaint. The driver is in charge of the route and the swampers have no choice in these stops. These load-packer crews will also stop to pick up overflow from dumpster cans on the business routes. The routes are covered by only one man to a truck; were he alone to attempt this extra work, his collection would be slowed down. Unofficially, the load-packer crews also keep a "scrounge box" on the back step of the trucks to take home anything that appears salvageable. "This practice," said one of the drivers, "is not looked on too well, but it's been done, I guess, since garbage men have been hauling garbage."

Like the other two section heads in the maintenance division, the general foreman of the sanitation section is responsible to the public works superintendent and his assistant. Most of the foreman's consultations, however, are with the general foreman of the maintenance section and with the assistant superintendent and assistant director of public works. These are relationships dictated less by the formal chain of command than by mutual

friendships and respect. The sanitation foreman and the general foreman of the general maintenance section are old friends, having worked together for the bureau of public roads before coming to the Anchorage Department of Public Works. And the sanitation foreman has considerable respect for the assistant director: the foreman appreciates the latter's practicality and training, and relies frequently on his opinion.

Both the sanitation foreman and the sanitation officer are "old-timers" with the public works: the foreman has worked there for eight years, the officer for eleven.[10] Thus, the foreman is frequently sought out for unofficial advice and information by other members of the public works. If his reputation as an "old-timer" is responsible for good extra sectional relationships, his reputation as a "good guy" is responsible for good relationships within his section. Of his superior, one member of the section made the following comments which suggest some of the reasons for these friendly relationships.

> He is the type of fellow that all the men highly respect. And I think that's why we have such a good department. He works real close with us and we just feel friendly to him as well as respect him.

And another said

> Everybody feels free to talk to him. They aren't backwards or afraid to say what they want to say, because he will hear them out and do what is right.

The foreman is not consulted, however, on routine matters. Because the work of the section is largely repetitive, varying little from one day to the next, there are relatively few occasions when policy decisions arise which require the foreman's judgment.[11] He is consulted when personnel problems develop, such as differences of opinion between a driver and his crew or requests for transfer from one crew to another. In these situations the foreman is regarded as particularly effective by the members of his section -- so successful, in fact, that these situations are infrequent. In any case, "everybody feels free to talk to him."

The descending chain of command within the section is from the public works superintendent to the general foreman and to the sanitation officer and truck drivers. Only when the drivers are not available will the foreman give orders directly to the swampers; when the foreman is unavailable, the drivers receive dispatches from the superintendent or from the sanitation officer. Messages for the men on the routes are sometimes left with the woman who works in the record office at the city dump. Since the drivers gain their position by seniority, they make all the routine decisions on collections. As is true of other sections of the public works, persons who are missed when deviation from the normal chain of command occurs are informed of the order after the fact. No evidence of problems associated with these deviations, however, appears in the data.

Before coming to the sanitation section, the foreman had been a heavy equipment operator and had worked at one time or another in practically every public works division. His experience is understandably broad and, as already noted, he is frequently called upon to give advice and information. In addition to these extra sectional relationships, he has, as sanitation foreman, taken on a number of other unofficial tasks which bring him into contact with public organizations and with other city departments. He has, for example attended the meetings of the Anchorage Anti-Litter Committee and, whenever topics relevant to his work are discussed, meetings of the city council. He also maintains business relationships with the private contractors in Anchorage. The disposal of junk cars, organized by his section, is carried out by private companies contracted by the sanitation section.

Water Division

The water division was set up as a separate element of the public works in October of 1963. Prior to the establishment of this division, water treatment and supply, maintenance and repair of the systems, and customer service and billing had been scattered throughout a number of city departments. The greatest number of persons involved in these operations had been employed in the public works, notably in the maintenance division, although others were located in the engineering division. This "bits-and-pieces approach" was replaced by a unified division composed of three sections: customer services, treatment plant, and maintenance. Customer billing for the water utility, like the billing for garbage collection, was delegated to the city finance department and, until after the earthquake, all engineering for the water division continued to be done by the engineering division of public works.[12] Following a discussion of the normal activities of the water division, each of the three sections of this division is briefly discussed.

Manager

The manager is as new to the water division as the water division is itself new as a separate division. The six months from the division's beginning to the earthquake (October to March) were largely a period of organization and education for the manager. His activities during that time -- a combination of administrative paper work and field inspections -- sometimes required working as many as nine or ten hours a day. Nor were these activities scheduled in advance; as one member of the division indicated.

> There's no set-time schedule. Some days /he will/ be in the field perhaps from six-thirty in the morning until ten o'clock. Other days, there may be a week when /he/ wouldn't be in the field at all. Perhaps one day, now and then, /he'd/ be out of the office practically all day, depending on what needs to be done in the field and what needs to be done in the office.

The educational function of these field trips for the manager was suggested in the following statement.

> Normally when /he's/ in the field, it's either going up to the water treatment plant to discuss problems that they may have there, or going out on projects just to see how they're being constructed. It's more as an education . . . to keep . . . up-to-date on what's happening, what we're doing, how our projects are going, rather than trying to be a coordinator or something like this.

Because the manager was new both to Anchorage and to the public works, this set him off from most other members of the division. His relative inexperience is probably an important explanation for the independence granted the other employees of the division. The manager occupied, during the months preceding the earthquake, a position of authority without exercising much of its decision-making power, relying instead on the greater knowledge of his foremen and the members of their crews for operational decisions. Indeed, it was suggested by a member of the division that all the way down the line the men of his division exercised more authority than would be typical of a similar department in another city.

> We have Maintenance Men IV's, for instance, very often doing work that the foreman in the cities of the south forty-eight /states/ should be doing. Our foremen are doing things that the general foreman should be doing. The general foreman is doing some of the things that /the manager/ should be doing. If we get overloaded, /we/ try to pass on as much as /we/ can in order to get the job done. And it works right down. If the general foreman gets overloaded, the foremen end up with some of his work. And they're all flexible and capable enough to where they can handle this kind of setup.

Nonetheless, the manager attempts to keep himself informed of such activities, conferring periodically with the foreman without actually making decisions himself. "In many cases," a respondent said, "/the manager/ was seeking their advice as to what to do, as well as in some cases they were seeking /his/." Only administrative, as opposed to operational decisions, such as the purchasing of supplies and equipment, are always made in the manager's office.

The range of the manager's administrative responsibilities is suggested by the priorities he established for his office: first, the collection and organization of material required for the weekly council meeting, and second, the solution of administrative problems affecting the work of the field crews. Replies to customer inquiries or complaints are also high on this list. These are not answered by the manager personally, but he does review them and suggest an appropriate answer before passing them on to the customer service section. Additional routine work, if it piles up, requires extra time at his office evenings or on weekends. In such work, he tries not to fall any farther than a week behind.

The manager's immediate supervisor is the director of public works. Normally, only policy decisions require consultation with the director; routine administrative decisions can be made independently, and decisions which involve, for example, the finance department can be made in collaboration with personnel of that department. The water division maintains a regular working relationship with the fire department as well. In addition to working directly with the fire crews at the scene of a fire, insuring water pressure and guarding against the danger of freezing, the water division also regularly maintains the more than 800 hydrants included in the local water system. The costs of this service, however, are charged to the fire department.

Relationships with organizations not part of the municipal system are somewhat less official. Mutual aid agreements link the water division with private utilities in areas surrounding Anchorage and also with nearby military installations. Equipment exchange, characteristic of other divisions of the public works, is also typical of the water division.

Customer Service Section

The customer service section of the division of water is responsible for inspection, meter reading, turn-on and turn-off duties, and surveys (the latter to insure that no unbilled use of city water occurs). The section is made up of three customer service representatives and one supervisor. Like his superior, the manager of the division, the supervisor of customer services is new to the water division. The supervisor, however, is not new to public works. He was transferred from the survey section of the engineering division, a work background hardly related to his position as customer service supervisor. Similarly, the three customer service representatives are new to their positions. Two were transferred from the public works labor pool and the third from the sanitation section of the maintenance division.[13]

The section functions as the link between the field crews of the water division's maintenance section and the office staff of the finance department which does the customer billing. Thus, the supervisor coordinates meter reading, water connections and disconnections, customer complaints, and the like.

The central focus of the section's work is the customer. Customer complaints are typically attended to before other more routine tasks. Indeed, meter reading and customer billing at times fall behind by a month as a result of the priority given to specific complaints. The irony is that this delay provokes additional complaints about late bills. Apparently this compounding of the problem has been alleviated, at least in part, by the hiring of new service personnel during 1964 and 1965.[14]

Officially, the general foreman of the water division is the immediate supervisor of the head of each of the three sections. However, it was suggested that unofficially the customer service and the treatment plant sections are completely independent. The general foreman was said to work almost totally with members of the maintenance section of the water division. Decisions not in the normal routine of the customer service section are discussed with the manager of the water division, not with the general foreman.

The customer service section works closely with the municipal light and power department, particularly when water connections are being made in new subdivisions in the area. Because both departments are involved in utility services and utility billing, efficiency is increased when these installations are made concurrently. This cooperation has been developed only since the water division was established in 1963; prior to that time "water was a sort of orphan and everybody had a piece of it" so that this coordination was structurally almost impossible. A similar relationship between the customer service section and the telephone department facilitates connection and billing consistency.

Treatment Plant Section

Anchorage receives its water supply from two sources. The major source, the surface water from Ship Creek, can deliver twelve million gallons per day to the treatment plant. The second source is a series of seven deep wells which together can supply as much as ten million gallons a day to the system. However, it is not feasible to operate all the wells simultaneously; they are supplementary, used only during periods of high demand or in the event of a break in the main supply line. The wells are also used during the winter when the Ship Creek water is extremely cold. By introducing the slightly warmer underground water into the system freeze-ups can be prevented.

The treatment plant section of the water division is responsible for the treatment plant itself -- for filtering and adding chlorine and fluoride to the water -- and also for the operation of the deep wells, because all but one must be manually controlled. The wells are used on a rotating basis and require periodic inspections and maintenance. The members of the section are on a seven-day, two-shift schedule; the foreman of the section lives at the treatment plant in order to provide the maximum security for the system.[15]

The treatment plant is automatic and the duties of the men who work there are simply inspection and instrument reading. Maintenance of the plant itself is also a part of the section's responsibilities. These activities, together with the maintenance and operation of the deep wells, vary little with the seasons except for special treatment which is required during the spring when the water tends to be turbid. A normal day's routine was described in the following statement:

> On a normal day I'd come in at 8:00 in the morning and check the log -- we have a log right here -- to see what happened during the night shift and check the tests to see how everything is. I'd check the water, if we were treating . . . and make a check of all the instruments, charts, panels to see how the plant ran during the night. I'd check the boilers, check all of the equipment and pressures, filters, and lay out whatever work I wanted done for the day for the crew -- painting or cleaning.

Similarly, the operator in charge of the maintenance of the deep wells indicated that his work is routine. He keeps to a weekly schedule which takes him to each of the wells where inspection and repairs as needed are carried out.

The treatment plant is seven miles outside of Anchorage and is, apparently, not easily accessible. This physical separation accounts in part for the independence of the section from direct supervision by members of the public works administration. The work itself is routine enough not to require much supervision. In addition, the section includes a number of men who have been with the public works for a considerable length of time: the foreman and the operator in charge of the deep wells, for example, have each worked in the water system for eighteen years. And, as "old-timers," they are somewhat immune to direct supervision. "No one ever gives me an order," one of them said, "they know it won't go any farther. That's what's nice about being older. I can tell them to go jump in the lake." The other, too, observed that his section does not expect much supervision: "We're more or less self-contained here and we have to solve our own problems."

The status of the "old-timers" also allows them a degree of freedom from certain official paper work. A nice indication of how the section dealt with this problem is provided in the following:

> They did start us out a long time ago with about five or six copies. We cut that down -- it got down to zero. These nonsensical things that don't amount to anything, we more or less eventually weeded them out. It'd be shoved to one side and we don't even bother with it because you can get into a lot of paper work which comes, to me, under the heading of "Useless Information" when they do get it.

Such paper work may be defined as unnecessary when, as is true in this instance, the men have been with the system since it began. They could recall when the water system consisted of one small pumping station and three men who were responsible for everything. Since that time, their job grew with the system: they are still responsible for almost everything. The result is that they, like other "old-timers" in the public works, are a source of information concerning the system which is unattainable anywhere else. At least from this perspective, then, the distinction between "useful" and "useless" information relative to this work is very clear: hence, their reaction to "unnecessary" paper work. On what is necessary, the following was adamantly stated: "But there's no short cuts for the actual work we do, because there's certain things that have to be done and that's that."

Normally, the work of the treatment plant section is self-contained: there is little need to coordinate with other sections and divisions of the public works or other city departments. On occasion, however, overlapping does take place. "Normal emergencies," such as power failures -- which "are

not unusual" -- may require that the foreman and members of his section work with the city electrical department. Similarly, when breaks occur in the water system, the treatment plant section may provide assistance to the maintenance section of the water division, and during the spring months, when additional treatment of the water supply is needed, the health department may become more involved than at other times in the water purification work of the section.

Because the foreman and a number of the operators have worked with the department for so long, they have established personal relationships with many of the other city employees. One of the operators, for example, is acquainted with most of the electricians, customer service representatives, and mechanics. As a result, he often receives requests from these men directly rather than through the foreman. He also knows almost everyone from whom he gets supplies: "I could walk into any place from here and say I wanted so-and-so and so-and-so and I get it without any if's or but's."

Maintenance Section

The maintenance section of the water division is made up of men who had formerly done this work within the maintenance division of the public works. According to one of the respondents, virtually all the permanent men of this section are "old-timers" in this respect. The section is made up of three foremen and, under them, some ten men who make up the crews. The general foreman, officially the supervisor of the heads of all three of the sections of the water division, works most closely, if not completely, with the foremen in the maintenance section. He is assisted by the senior foreman, an unofficial position which is filled by the foreman who has been with the public works for the longest period of time. As is true of the general maintenance section of the maintenance division, a number of the members of the crews are designated as "lead men," and, like the position of senior foreman, these positions are filled on the basis of seniority.

The tasks of this section are maintenance and repair, although a limited amount of installation and connection work is done by the crews during the summer. Most actual construction, however, is contracted to private companies and is supervised, as is all work done for the city, by inspectors of the construction section of the division of engineering. One of the water maintenance foremen said that he does, nonetheless, periodically check up on the private contractors when they are engaged in work for the water division. "I have been talked to a number of times," he said, "for butting my nose in where it didn't belong, but I still felt I should." This inspection is unofficial because the principal task of the foremen of this section is the supervision of their own maintenance crews, a task which keeps them in the field most of the time working with the hydrants, the water mains, valves, and the like.

The men are not assigned to any one of the foremen on a permanent basis but are shifted around depending on the work which needs to be done. A degree of specialization does exist among the foremen, however. The senior foreman has had considerable experience in making water connections and he and his crews are generally dispatched when this work is required. This task

specialization necessarily precludes regular geographical assignments of the type found in the general maintenance section of the maintenance division. One of the members of the crews made a somewhat critical observation on these assignment procedures in which he suggested that the shifting of men and foremen sometimes results in confusion among the men.

> If you're on a job and you're working for one foreman, then he should be the only one you work for. This is not so in the water division. And I don't think the system works out too good, personally. Frankly, I think a man can only work for one person -- in an emergency or other wise -- because if you start having two or three men giving orders things are bound to get fouled up down the line. . . . One foreman might have told you to go someplace and then the other one would call you and tell you to meet him so-and-so or go do something. Well, you're supposed to be on one job and you're not there, and they wonder what you're doing. That's the difficulties you run into.

The general foreman of the water division is consulted by the three foremen of the maintenance section principally when decisions of a nonroutine nature must be made. In normal operations the general foreman is less a decision maker than a coordinator, concerned primarily with the efficiency of the maintenance and repair operations. Thus, most operational decisions are made by the foremen or, in the absence of the foremen, by the lead men of the crews. Frequent "normal emergency" work -- breaks in the water mains, for example -- and the considerable experience of many of the crew members make for considerable delegation of authority in decision making. One of the crew members described these conditions this way:

> The bigger decisions come from upstairs, usually through the /water/ utility manager. Then the foremen make some of the decisions there at the shop and then sometimes the men make the decisions on the job because problems arise. . . . The foreman can't be there to determine everything and when he's got two or three crews working, he can't be everywhere at once . . . so quite often it's left up to the men to make the decisions in the field.

He continued by citing more specifically the conditions under which members of the crew might make operational decisions themselves.

> A lot of times you have to make the decision in the field. You have to make it quick. You can't run here and there to see about it because you might be flooding somebody out or you might be endangering property or something of that sort. So you have

to make decisions, do something, sometimes even if it's wrong.

Allowing the men to work largely on their own is particularly necessary in this section because the work is often of an emergency nature. Of this one foreman said: "Earthquakes or not, you're going to have broken lines." Under these conditions, a foreman cannot expect to supervise all of his men directly.

Nonemergency decisions, decisions which can be postponed without resulting in property damage or a lengthy disruption in service, are held for the general foreman or the crew foremen to make at the end of the day. Unofficially, decisions are sometimes made by the foremen in consultation with other city employees or with members of private organizations involved in city work. Thus, the senior foreman regularly discusses maintenance and repairs with the construction men contracted by the city for work on the water system. It was also indicated that quite often these men come to the section unofficially. The senior foreman himself is also consulted, informally, by the other two foremen in the section. His longer experience as a foreman and greater knowledge of the city's water system make him a reliable source of advice and specific information.

On occasion foremen from outside the maintenance section will make requests of the crews without contacting the crew foremen. When this happens, according to one of the crew members, these requests are either ignored altogether or those making the request are asked to check with the crew foreman. This problem was more pronounced when the water crews were still part of the maintenance division: one of the street foremen was particularly notorious for this breach of standard procedure and was often reminded of it by the water foreman. Since the water crews have become part of a separate division, the problem has been somewhat alleviated.

The work of the maintenance section frequently impinges on other divisions of public works and on certain city departments; consequently the section is more often involved in the work of these departments than are the other sections of the water division. A certain base for these extra divisional relationships had already been laid by the previous "bits-and-pieces" arrangement of the water personnel. Many of the men in the maintenance section know employees in other divisions and city organizations because they had worked with them before. "One reason that we get along so well," said a foreman, "is that we used to be part of those organizations." In the normal course of their work, the maintenance personnel contact the fire and police departments to inform them of hydrants and streets being closed for repairs, the traffic engineer to set up detours and road blocks, the gas company and the telephone department to check exposed lines and cables, and the maintenance division to aid in making and filling excavations.

In addition, members of the water crews pass on information to other sections and divisions when they see conditions which require attention. The location of malfunctioning traffic lights or fallen street signs, manhole

covers which have been removed, and similar information can be left with the appropriate office without undue effort. "I feel that I'm not just working for the water department," said one of the foremen, "but that I'm working for the city of Anchorage -- it all comes out of the same pocket actually."

The senior foreman of the maintenance section is an experienced man in his official position in the water division. He is regarded as "one of the boys" more consistently than any of the other foremen in the organization. His informal position and his considerable work experience together probably account for the influence which his opinion carries in the department, for he is, as one of his colleagues put it, "the sort that could change a superior's decision fairly easily." In addition, he is a close friend of the assistant director of public works, having worked closely with him before the organization of the water division. He, the more experienced of the other crew foremen, and the general foreman work well together.

Division of Traffic Engineering

The division of traffic engineering is one of three small divisions which, together with the large engineering, maintenance, and water divisions, make up the Anchorage Department of Public Works. The division includes five persons, plus the traffic engineer and his assistant who supervise the division. The responsibilities of the division range from the design, installation, and maintenance of traffic signs and signals, crosswalks and centerline markings, to the compilation and analysis of accident records and the tabulation of traffic counts. In addition, the division is responsible for a daily check of the nearly two thousand parking meters owned by the city. Almost the same number of street lights is maintained by the division, although the municipal light and power is responsible for their installation.

The work of the traffic engineering division is actually more closely associated with city and state departments entirely outside the public works than with divisions within the public works. Practically all the activities of the division involve either the police department or the municipal light and power, that is, either traffic regulations or the installation of signals. The division also works frequently with the city manager's office and with the state department of highways. With the latter department, the association is both official and unofficial; on the one hand, certain coordination is required if the flow of traffic is to be orderly and efficient, and, on the other, courtesy suggests that the members of the division should check with their counterparts in the state department periodically -- "You never know when you might have overlooked something." Only when the division works with the maintenance division of the public works, is extensive intraorganizational contact demanded but, according to one member of the traffic engineering division, even this can be accomplished without necessarily involving the administration of public works. One can go directly to the public works superintendent as head of the maintenance division or through the general foreman of that division.

The bulk of the routine administration of the division -- the "leg work" -- has been passed down from the traffic engineer to his assistant. One respondent noted, for example, that this "has gotten to the point where /he/

even signs as department head on requisitions and other types of authorizations when /the traffic engineer/ is out." That his signature has never been questioned leads the assistant to conclude that he is not overstepping his own authority in this practice. His normal activities are, thus, closely associated with the work of the traffic engineer. Prior to the earthquake, the department had been in the process of planning for and acquiring property in the downtown area to provide additional off-street parking. About half of the assistant's time was spent on these and related plans for equipping five more intersections with electric signals.

If this division is at least as autonomous as some of the other in public works, this independence is here more actively sought than elsewhere. It is difficult, however, to determine the extent to which this independence is a function of the kind of work the division does, the push for greater autonomy by the traffic engineer, or the relatively fluid history of the division itself. One member of the division suggested, for example, that because "things /in Anchorage/ are still in a state of flux" the traffic engineer finds it easy to continue the process of separation. "In an established city in the southern forty-eight," he continued,

> where for the last fifty years the division of traffic engineering has had its slot right there, he could never go in there in a period of three years and wrench it out and make it a new organization. So this is possible only because of the fact that the city of Anchorage is not that well established -- it hasn't been around that long.

In addition, the high rate of employee turnover breaks down one of the forces which tends to reinforce continuity in organizations. "Nobody is around who says, 'Well, twenty years ago it was like that: what was wrong with it then?'"

Division of Building Inspection

The division of building inspection is the second of the three small divisions included in the public works department prior to the earthquake. Like the division of traffic engineering, it was made a separate department of the city late in 1964. At Time One it was made up of ten persons. The head of the division was the chief building inspector, assisted by the plan checker. The other members of the division, the condemnation officer, two building inspectors, an electrical inspector, a gas inspector, a plumbing inspector, and two clerks, were responsible to the chief building inspector and his assistant.

The Annual Budget (1964) described the activities of this division in the following statement:

> The Building Inspection Division is responsible for handling and processing all permits for building inspection or alteration, work in the public rights-of-way, sewer and water connection applications,

> moving permits and miscellaneous permit administration connected with the Public Works Department. Inspection services are performed on all the above work and in addition inspections are performed on plumbing, electrical and gas installations. Routine yearly license inspection is a function of this division and also approval of new business licenses; house numbering is also referred to this division. In addition, an active condemnation program is being followed with one man devoting full time to this activity. This Division is responsible for the enforcement of the Zoning Ordinance and works in close cooperation with the Planning Department and with the Board of Examiners and Appeals with appropriate public hearings, and the Board of Gas Fitters' Examiners and Appeals who are responsible for the examinations and licensing of Gas Fitters.[16]

Like the division of traffic engineering, the building inspection division is infrequently associated with other divisions of the public works. More often this division works through the police department -- as in the issuing of summonses and the like -- or with the fire department. Most frequently contact is with the city planning department, although a certain amount of liaison work is also carried on between the building inspection division, the municipal light and power company, and the gas company. In fact, the director of public works, according to the one member of the building inspection division, "knows very little of the /building inspection/ workings that go on." As a consequence, at least during normal times, the director is not involved in the operations of the division.

Within the division, despite a certain degree of specialization -- the plumbing, electrical, and gas inspectors, for example -- considerable overlapping of activities and authority exists. The plan checker may exercise much of the authority of the chief building inspector when the latter is not available. And among the inspectors similar patterns occur; when one man is on vacation or ill, others in the division are prepared to take over the responsibilities of the vacant position. In addition, some inspectors are avoided by persons who frequently require the services of the division; inspectors with friendlier dispositions and more favorable reputations are sought instead. Because the division works face-to-face with the public, such public relations considerations take on increased importance in this division.

Conclusions

This discussion of the normal operations of the public works has sought to demonstrate that the organization is plural. It is less a coherent, single entity than a collection of varyingly independent parts, some linked rather closely, both officially and unofficially, with each other and with the

administration, and others, virtually autonomous. The survey, design, and construction sections of the engineering division are probably the most coherent elements of the organization. Others, like the equipment maintenance and sanitation sections of the maintenance division, function as relatively autonomous units through the tasks they perform; and still others have achieved similar independence through the activities of the men who lead them. Of the latter, probably the building construction and maintenance section of the engineering division and the traffic engineering division are the clearest examples. The building inspection division is often simply ignored. The treatment plant section of the water division and the division of airports are physically removed from the rest of the organization and relatively self-sufficient.

Another factor which appears to be associated with the relative independence of certain divisions and sections of the public works is the extent to which their normal responsibilities involve them with organizations outside the public works proper. Thus, the traffic engineering and the building inspection divisions, more often than other elements of the public works, are associated with city and state agencies separate from their parent organization. Similarly, the financial dependence of the municipal airport on the federal government -- as well as its physical distance from the public works offices -- contributes to its autonomy.

If it is true that crisis situations intensify organizational strains which are normally ignored, if not unnoticed, then this imminent fragmentation of the Anchorage Department of Public Works might be expected to emerge explicitly in its reaction to the earthquake. This, in fact, is one of the central themes of chapters four and five of this monograph.

FOOTNOTES: Chapter III

1. City of Anchorage, Annual Budget, City of Anchorage, for the Year 1964, compiled and submitted by Robert H. Oldland, City Manager (Anchorage: October 29, 1963), p. 185.

2. Ibid., p. 192.

3. Ibid., p. 201.

4. Ibid., p. 200.

5. See William A. Anderson, Disaster and Organizational Change: A Study of the Long-Range Consequences in Anchorage of the 1964 Alaskan Earthquake, Disaster Research Center Monograph Series (Columbus: Disaster Research Center, The Ohio State University, 1969), for additional information on this post-disaster change.

6. At Time One some difficulties existed between the garage foreman and the public works administration. The exact situation cannot be reconstructed from the data available (no interview was conducted with this foreman), but during the emergency period the foreman and the department officially parted company. His position was temporarily filled by the day subforeman; the latter eventually accepted the position permanently. In this and subsequent discussion the garage foreman referred to is the former subforeman.

7. Annual Budget 1963, n.p.

8. The one exception to this statement is customer billing, a task which was part of the responsibility of the sanitation section but which in 1963 was turned over to utility billing in the city finance department.

9. The task incentive program, which would have made official this kind of operation, had not been adopted at Time One, but a campaign for the adoption of the program was underway.

10. The sanitation officer, however, was only promoted to that position during the earthquake. He had been a driver. For an extended discussion of this personnel change during Time Two, see chap. 5.

11. Thus one member of the section said:

> In our department when you come to work, you know your route that you're going to pick up that day and it's just come and get your truck out and go. You don't have to receive any particular orders. The supervisor doesn't have to come and tell you it's time to work. . . . You might not even see him.

12. For a discussion of the post-disaster changes in this arrangement see Anderson, Disaster and Organizational Change.

13. It is not clear from the data whether these men had done customer service work in their own previous positions or whether it was entirely new.

14. The exact number of additional men is somewhat difficult to establish since the available information is contradictory. The customer service supervisor indicated that he had three new men; the annual budgets for 1964 and 1965 list only one.

15. All of this information is derived from the Annual Budget 1964, pp. 327-328.

16. Annual Budget 1964, p. 244.