An Analysis of the Value of Services Provided by the Wildcat Service Corporation

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Note

The field observations, upon which this report is based, were collected by Helene Hackel, Hsi Fong Waung, and Emily Abrahams.

Introduction

This study was designed to measure the value of services produced by Wildcat crews and productivity of those crews. As such this study was a part of a larger effort to determine the benefits (and costs) of the Wildcat program of supported work.

During Fiscal Year 1974 - 1975, a random sample of Wildcat projects was chosen. When a team of analysts systematically observed the work of each project and delved into the project's production reports. The results of these efforts were compared with standards normally prevailing in industry or the Civil Service. That comparison, in turn, provided the basis for computing the market value and productivity rate in each project.

The value of the work produced by Wildcat crews is presented following a description of the methodology of assessing market value and productivity rates.

The Appendix consists of separate chapters on each project in the sample outlining for each project, a) the work involved, b) the measurement procedures, c) a summary of market value and productivity rates, d) qualitative observations and e) tables containing

detailed records of work measurements. The observations are included to provide the reader with a flavor for the tasks and accomplishments on each project.

II Overview of the Findings

The market value produced per worker on an average project was $8414 per year. Table 1 summarizes the estimates.

Table 1 : Summary By Project

Project	Category	Annualized Market Value	Annualized Market Value Per Worker
1. Bronx Police Precinct	Maintenance	$ 6335	1267*
2. Hostos College	Maintenance -	11658	2915*
3. Police Headquarters	Maintenance	364140	26010
4. Queens Criminal Court	Maintenance	48808	12202
5. Fashion Capital	Maintenance	88091	14682
6. HDA Building Rehab.	Construction	70319	3057
7. Sunset Park	Construction	76800	4800
8. City Planning Comm.	Clerical	52963	7566
9. HDA Block and Lot	Clerical	37044	9261
10. Bldgs. Dept. Licensing	Clerical	44365	8873
11. NY Pub. Lib. Circulation	Clerical	133095	8873
12. NY Pub. Lib. Technical	Clerical	57852	7232
13. HRA	Clerical	35910	5130
14. NY Pub. Lib. Move	Moving	79433	6110

* The market value shown here is misleadingly low due to overmanning on the project. The observed rate of productivity implied a value produced of $9700 per crewmember in the Bronx Police Precinct and $8874 at Hostos.

Continued

Project	Category	Annualized Market Value	Annualized Market Value Per Worker
15A. Manhattan Messenger	Messenger	218010	7267
15B. Brooklyn Messenger	Messenger	48064	5340
16. Ask Wildcat	Misc.	25653	8551
Average (unweighted)			$8184

Since approximately 1250 Wildcat participants were working on projects of which the 16 are representative during Fiscal Year 1974 - 1975, the total value of services produced that year was estimated to be about $10,230,000.

The value per worker varied substantially among projects -- from a low of $1,267 per crewmember to a high of $26,010 per crewmember.

Projects were categorized as maintenance, construction, clerical messenger and moving. In general, the market value of those categories of projects which require complex and numberous skills is less than that of projects requiring few skills. Many Wildcat crewmembers arrive at Wildcat with little training in the complex skills required and thus they find it more difficult to produce services at an adequate level on complex projects. However, also in evidence is the potential for high productivity rates among Wildcat crewmembers once they gain mastery of the necessary skills.

The two categories which represent the extremes in productivity are construction and maintenance. Construction crews are the least productive in terms of market value per crewmember -- $3413. In maintenance projects, the market

value per crewmember is the highest -- $8651. Skills required in maintenance appear to be already held by crewmembers or easily developed.

Table 2

Market Value Per Worker
Broken Down By Category

Category	Value Per Worker
Maintenance	$11415
Construction	3929
Clerical	7823
Moving	6110
Messenger	6304

Methodology

a) Measurement

The estimation of the amount of work was based on evaluations offered by agency personnel, work production records and direct observation. Each one of these has its problems.

The evaluations offered by agency personnel (and reported herein) were generally positive. In many cases the agency personnel were sincerely pleased. In other cases, the agency supervisors overestimated the Wildcat contribution to protect the crewmembers from a poor evaluation or to preserve a project which was "free" from their point of view. Thus, whatever Wildcat's production -- it was too much to lose considering its price -- usually little or nothing. However, when the Vera observor asked for a precise quantitative measure of effectiveness, the agency personnel usually dampened the tendency to overestimate.

Production records are often incomplete or subject to the sort of exaggeration found in supervisor's comments. Nevertheless in short term projects with specific tasks to be completed --- paint, construction and the like --- it is difficult to mislead and so the records are probably accurate. After all, on such projects the amount of labor and the final product are both easily recorded. The most difficult projects to assess from production records are those which call for the availability of services over a continous period of time --- for example, clerical projects.

Direct observation would seem to be the best alternative. But for several reasons even this is not nearly satisfactory.

There are firstly effects on work productivity which are induced by the presence of an outside observer. In some cases, the observer felt that she was seeing higher than normal productivity. In other cases, the observer made the crewmembers nervous and the result was a decrease in performance.

There is secondly the expense of direct observation -- i.e., sending a highly trained professional to the field for a statistically sufficient number of observations.

There is also the problem of dealing with the great variability in performance by crewmembers. In fact wide variations in productivity were observed within projects. The consequence of this variation is that it is necessary to obtain even more observations (even more rigidly sampled and measured).

Because of the weaknesses in each of the three methods of work measurement, the procedure followed here has combined all three methods. In general the differences between the methods were not great. Nevertheless, the differences between and problems of theses methods introduces an element of imprecision in the estimates.

b) Pricing

There are a variety of important methodological questions in the valuation of the services provided by Wildcat. The dollar value assigned to each project is in large measure a result of the answers one gives to these methodological questions. (This is a common problem in any cost/benefit accounting in business or public enterprise).

With the above in mind, our guiding principle has been to use the most conservative methods -- i.e. Those which least tend to inflate the value of the services. The principle which summarizes our methodology is the "lowest normally available price".

In the case of short-term, one-shot jobs which are usually contracted out by the city government, contractors' estimating guides were used. Construction, painting, messenger and some building maintenance services fell into this category. The lowest normally available price is thus the figure indicated in industry guides multiplied by the amount of work Wildcat accomplished. These industry estimates include a share of the contractors' administrative overhead. Since the project is often less than a year, the price has been annualized in some cases.

Contractor estimates are usually made on the basis of quantity produced or area (number of square feet) involved, and the type of activities required. The market value is

derived by multiplying the product of the services (such as pounds of garbage to be removed, area to be cleaned, number of letters to be delivered, etc.) by the idustry price per unit. Productivity of employees in these cases does not directly affect this kind of estimate because the estimate is not derived from employee productivity, but rather from the service to be carried out. Nevertheless, employee productivity estimate are sometimes included in the discussion of each project. The reason for this is that some of the contractor-type projects were observed to have been overmanned -- yielding a value per crewmember which was misleadingly low. The productivity observations indicate what the value per crewmmeber might have been if the crewmembers operated at a sustaninable but full capacity level.

In long term, continuous jobs where the services provided by Wildcat are normally provided by civil servants, the city pay scales were used. The value of the service is thus the cost of an equivalent worker at normally available prices --- i.e., civil service "prices". Generally clerical projects were treated in this way. The city civil service pay scales used herein included employee fringe benefits, but no administrative surcharge.

In assigning a monetary value to Wildcat's services long-term projects, the productivity and performance of the crewmembers in carrying out the project assignment is measured relative to that of the non-Wildcat worker. Then,

Wildcat's percentage of standard productivity was multiplied by the annual labor cost of the standard worker.

If, for example, it takes Wildcat workers twice as long as a standard worker to do something, then the relative productivity is 50% and the market value per Wildcat crewmember would be 50% of the standard salary.

When using union productivity standards, union wage rates were used; for an experienced non-union worker a salary commensurate with that worker's ability was used.

1. Building Maintenance

For maintenance work, standards are established in industry maintenance guide books.[1]

Standards were also discussed with individuals in the building maintenance industry, the General Services Administration, and, in particular, the Association of Minority Building Contractors. The consensus of these sources was that a contractor would charge $1.25 per square foot of unobstructed area. (Included in the industry standards are such factors as start-up and clean-up time, non-productive time, etc.).

It should also be noted that when square footage estimates were unavailable, the relative productivity of Wildcat was compared to the median janitor's salary for the New York City area, taken from the Bureau of Labor

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[1] 1975 Didge Manual for Building Construction Pricing Scheduling, McGraw-Hill Information Systems Co., New York 1975, "Building Services Management," William K. Phillips, MacNair-Dorland Co., New York 1970, and "Robert Snow Means Manual."

Statistics survey.* The median monthly salary for janitors in April 1974,the latest available data, was $661. The hourly base rate for a 40 hour week was $3.81. Allowing for a 30% fringe benefit, the hourly rate works out to be $4.95. The increase in the cost of living between April 1974 and January 1976 was 14.4%. Therefore the current estimated hourly rate is $5.67, and the average annual janitor's salary is $10,319.**

2. Construction

A major problem is assessing the market value of Wildcat construction projects and the fact that tenement and brownstone renovation was invalued, rather than new construction. With a few exceptions mostly in New York City, very few large scale renovation projects are undertaken by commercial contractors. As a result the industry guides (Dodge Building Cost Guide and The Robert Snow Means Manual) provide little help in standards for renovation.

Another reason for the lack of standards is the irregular nature of the old buildings. Dimensions even in a single apartment were not standard: two windows or doorways were not identical due to settlement and age of the building. Thus additional manhours were necessary to make individual measurements rather using a typical single doorway as a standard throughout.

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* "Wages and Benefits of New York City Municipal Government Workers, April 1972 and April 1974, Regional Report No. 47, September 1975," and "Wages in New York City, April 1973, Regional Report No. 41, October 1974", Bureau of Labor Statistics, U.S. Department of Labor.

** This excludes additional contractor's fees.

Consequently, two registered architects, a professional engineer and contractors familar with this specialized construction work were consulted on appropriate methods of determining the market value. The method recommended was to multiply the floor area of an apartment (observed to be 375 square feet) by $20 per square foot. (This may be a conservative estimate, since the Dodge Cost Guide indicates a $40 per square foot figure for similar new construction.)

3. Clerical Positions

There are no well-defined industry standards for clerical projects. No comparable set of standards has been developed for clerical positions, because the productivity of clerical positions is usually a function of the work assigned.

Moreover there are usually no clear-cut products for clerical positions as in maintenance, construction, and messenger projects. Since clerical projects could not be evaluated by comparing the rate of work with pre-determined industry standards, and a product analysis was not usually feasible, clerical projects were evaluated by other means.

Each clerical project, and in some cases each individual working alone, was evaluated separately. The dollar value of each clerical position was based on what it would have cost to have had work (of similar skill level and difficulty) performed by individuals outside of Wildcat.

Both salary ranges from private industry (listed in the Bureau of Labor Statistics Survey) and New York City Civil Service salaries for comparable job titles were used. The market value of the work is simply the labor cost, since naturally clerical work is not contracted out and a contractor's surcharge would be inappropriate.

It was clear that not all the Wildcat workers performed at a level equal to a typical clerk. In order to assess a Wildcat clerk's relative productivity of performance the individual Wildcat clerical positions were examined to determine: a) if the workers appeared familiar with the work being done; b) if the worker worked independently without requiring direct supervision from Wildcat or agency to do his work; c) if the crewmember worked continously or if he had long periods of inactivity; d) whether the work was satisfactory based on agency, Wildcat and/or the observer's opinion. The combination of these factors: job comprehension, ability to work independently, amount of work and "quality" report, determined whether the position was evaluated at full market value or at some percentage thereof.

The assumption was that a position for which there was not sufficient work would be eliminated or the work performed part-time by an employee who was already on the payroll.

4. Moving Projects

Moving projects were very difficult to assess since they were of such unusual difficulty and so labor intensive they did not fit the usual industry mode. Nevertheless

industry standards were used and the market value was calculated by multiplying the number of items (books) moved by the "standard" unit price (5.2¢). (See section 14 of the Appendix for further details).

5. Messenger Service

The value of the Messenger Service projects, was determined by evaluating production reports on the number of pieces of mail sent by the messenger service, and attaching a value of 13¢ per item. The 13¢ is the cost of postage which is the lowest normally available price. It should be realized, though, that Wildcat's service is more direct and faster than the Postal Services.

It is appropriate at this point to consider some alternative pricing methods. On some projects --- usually not for city agencies---Wildcat is paid a price for the work provided (say a paint job) in the same way as a commercial contractor. It is thus possible in these projects to assume the market value is the price paid. There are however a number of things wrong with such an argument.

First, in Wildcat's actual experience the price paid has sometimes included an extra "social service surcharge" beyond what the job would normally have cost. In other words, the purchaser of the service felt he was helping a good experiment succeed.

Second, and more important, there are all kinds of random factors which affect the price for a service. But the only useful long term indicator of the value of that

service is what its price would have been on the average. This is why we have used industry guides which list average prices. In a sample as small as the one upon which this study was based, it would have been misleading to use anything but the average prices. If the sample had instead contained hundreds of projects for which real price information was available we would have used the real prices --- and we would also have expected to find that the average of those prices approximately equalled the industry standard for an average price.

Another argument, which is sometimes offered, is of particular relevance to projects in offices where Wildcat crewmembers and civil servants work side by side. This argument is that the value of the Wildcat service equals the money the city spent on the service in the past --- i.e. the displacement value. There are really two variations to this argument.

The first says that if Wildcat provided services which previously cost the city X-dollars, then X-dollars is the value. The problem for us in general is that we did not know how much the city spent for the services -- or to what extent Wildcat's services were available in the city government before Wildcat arrived. It is usually the case that Wildcat provides a different mix of functions than existed before -- for example, a little less typing, a little more filing. In other words the comparison is difficult and misleading.

The second argument -- really a corrollary to the first -- is that any new services Wildcat offers are valueless, since the city felt no need for those services before. Put another way: The displacement value of the new services is zero, so the market value is zero. This argument again assumes it is possible to know exactly what went on before Wildcat's arrival. More importantly, the argument is specious because it refuses to recognize the value of services actually received and accepted by the city government. To provide a clearer example, consider the case of a taxpayer who is dunned for $1500. If he sends the city treasury $15,000 and the city accepts that amount, the city has in fact received $15,000. It would be incorrect to say the city only recieved $1500. In the same way, if the city received more services under a Wildcat contract than it had received before, the value of all of those services must be considered.*

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* This is in no way the same as arguing that indirect or future benefits be included. For example, the rental value of renovated property was not considered in assessing the market value of construction projects since this was an indirect and future benefit. As a concommittant rule, costs outside of Wildcat's budget for this Fiscal Year were also excluded.

c) Extrapolation

The overall value of services per crewmember can be calculated in several ways. Each project can be weighted by the percentage it represents of workers in the sample or manhours in the sample or workers or manhours in Wildcat as a whole.

The simplest solution however is to count each project in the sample equally. This is the solution used in Table 1. A check of the other methods indicates only slight variations in the estimate of overall output per crewmember.

While this extrapolation to Wildcat as a whole results in a single dollar figure of $8414, the reader should note several important caveats about using that figure. The figure reflects idle time on the part of crewmembers which is sometimes caused by their customers. The figure also reflects on-the-job training provided by supervisors which cuts into normal production. Also tending to bring down the value of output per crewmember is the fact that unlike most companies, Wildcat's "employees" have a short average tenure of approximately a year. The speed and effectiveness developed by veterans on a job is not found among the Wildcat crewmembers.

There are many goals of Wildcat management. Thus, in general, it should be noted that Wildcat is not organized to maximize the value of output per crewmember. If Wildcat management were to optimally match its projects to the prevailing skills of its crewmembers, the value of output would no doubt be higher.

Appendix

Detailed Analysis Of The Value Of Services Produced By Each Project In The Sample

1. BRONX POLICE PRECINCT MAINTENANCE

A. Description of Work

This Wildcat crew were responsible for the general maintenance of certain rooms in the Bronx Police Precinct. Twice daily the crewmembers swept and mopped floors, cleaned bathrooms and cells, removed garbage, cleaned the garage, and cleaned the precinct parking lot. They were also responsible for doing odd jobs, such as moving lockers and cleaning Venetian blinds, when requested by the agency supervisor.

The crewmembers worked either in pairs or separately depending on the activity and the number of crewmembers present. Typically, such activities as sweeping and mopping the large rooms were performed by two crewmembers; whereas cleaning the bathrooms or other small areas was the responsibility of one crewmember.

B. Measurement of Market Value

The crew was responsible for cleaning approximately 5068 square feet with varying degrees of obstruction. (See Exhibit 1-A). The industry standard of $1.25 per square foot for lightly obstructed areas was used to estimate market value.

C. Summary of Market Value

Applying $1.25 per square foot to the 5068 square feet, a contractor would have charged $6335 for this

job.*

The possible productivity of the Wildcat Bronx Police Precinct crew was also measured by directly observing and recording the amount and difficulty of work completed by the Wildcat crew between two points in time. (See Exhibit 1-B). The observed rate of work at full capacity was 94% of the industry rate or $9700 per crewmember. If the project had enough work for full capacity for five crewmembers its value would have been $9700 x 5 = $48,500.

D. Observations

The agency supervisor was satisfied with the overall work performed by the Wildcat crewmembers but mentioned that the performance of the crewmembers varied. The supervisor said, however, that he was pleased with the foreman. Similar remarks were made by several policemen. The appearance of the areas after the cleaning and mopping by the Wildcat crew was good.

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* Since there were five crewmembers on this project, it was clear there was overmanning and a considerable amount of time when crewmembers did not work at full capacity.

Exhibit 1-A Ranking of Work Difficulty of Rooms

Room	Dimensions	Total Square Feet	Work Difficulty Category	Reasons for Difficulty
Main Lobby	(17'x48'6") +(13'10"x7')	921	Moderately Obstructed	Floor includes a raised surfac platform crewmembers had to wo around. Main lobby traffic.
Sitting Room	(34'x30'9")	1,046	Moderately Obstructed	Floor includes a raised surfac platform and chair must be mov around before room can be swep and mopped.
Hallways(2)	(22'x5') x 2	220	Moderately Obstructed	Hallways are narrow, and not a easy to maneuver within as a wide open space.
Conference Room	(21'3"x4'6")	96	Moderately Obstructed	Chairs must be moved around be fore room can be swept & moppe
Precint Investigation Unit	(27'10"x24')	668	Moderately Obstructed	Room has many corners. Crewmem bers (frequently) had to work around traffic.
Garage	(measurements from precinct blueprint)	700	Moderately Obstructed	Vehicles and other obstruction block floor space.
TOTAL SQUARE FEET MODERATELY OBSTRUCTED		3,651		
Anti-Crime Room	(8'x15'10")	127	Heavily Obstructed	Room has many corners and floo has small surface area which hinders maneuverability, Furth crewmembers had to work around traffic.
Bathrooms(3)	(6'14') x 3	252	Heavily Obstructed	Rooms have extremely small sur face areas, and many corners t be cleaned.
Cellblocks	16 x (5'6"x8')+ 2 x (24'6"x4')+ 1 x (24'x5'9")	1,038	Heavily Obstructed	Rooms have extremely small sur face areas, and many corners t be cleaned
TOTAL SQUARE FEET HEAVILY OBSTRUCTED		1,417		
TOTAL SQUARE FEET OF PRECINCT		5,068		

Exhibit 1-B

Observations of Productivity

Room	Sq. Ft.	Activity	Obstruction	Wildcat Time (minutes)	% of Industry Rate
Sitting Room	1046	Sweeping	Moderate	30	56
Sitting Room	1046	Mopping	Moderate	42	97
Main Lobby	921	Sweeping	Moderate	10	147
Main Lobby	921	Mopping	Moderate	38	108
Cell Blocks	1038	Sweeping	Heavy	10	208
Cell Blocks	1038	Mopping	Heavy	30	198
Conference Room	96	Mopping	Moderate	44	10
Hallways	220	Mopping	Moderate	16	61
TOTAL	6326			220	94%*

* Time - Weighted average which emphasizes Wildcat's weakest performances.

2. HOSTOS COLLEGE MAINTENANCE

A. Description of Work

The Hostos College maintenance crew, - three crewmembers and a foreman - was responsible for the general maintenance of the college buildings. Crewmembers have been specifically charged with sweeping and mopping the floors, vacuuming rugs, stripping and waxing floors, cleaning bathrooms,and performing other miscellaneous maintenance tasks.

B. Measurement of Productivity and Market Value

The productivity ofthe Wildcat Bronx Police Precinct crew was measured by directly observing and recording the amount and difficulty of the work completed by the Wildcat crew during a given time period.

The market value estimates for this project were obtained by multiplying crewmember productivity rates by the industry's salary rates.

C. Summary

During the observations, the crew's overall productivity rate was 86% of the industry standard. This estimate was obtained by totalling the time spent on all the activities and comparing it to the time a commercial crew would spend on a comparable group of activities. The output per crewmember would thus be 86% of $10,319 (the commercial cost per man year) or $8874.

However, as in the Bronx Precinct there was overmanning.

The market value of the maintenance project (according to the building contractor's method of multiplying the number of square feet by $1.25) was 9326 square feet times $1.25/square foot = $11,658.

The $11,658 per year estimate may be lower than the true value because a building maintenance contractor will assign fewer individuals than Wildcat to a building, and will perform fewer services, in order to make a profit.

D. Observations

When each activity was examined individually, variations in productivity rates were found.

Sweeping: The sweeping rate is 68%. This rate was based on observations of two rooms where the rate was found to be 137% of industry standards, and the observation of stairwells where the Wildcat rate was 26% of industry standards.

Two possible factors might explain the wide variation in sweeping production rates. First, crew-members who have different productivity levels may be working on the different areas. Second, the industry rate for sweeping stairwells is most likely under-stated in a heavily obstructed environment. Industry time may not take into account the fact that each of the 36 stairs must be swept separately, with the dust

and dirt caught underneath each of the steps. Comparing square feet swept may not provide a satisfactory measure.

Mopping: The overall mopping productivity rate was 60%, based on observations of the bathrooms and stairwells. The mopping rate for the stairs alone is 129%. Possible explanations for the differences in bathroom and stair rates are: 1) since the bathrooms are more frequently used than the stairs, they are dirtier and more difficult to clean; s) the small size of the bathroom (3' X 5') slows down productivity; 3) standard industry rates for mopping stairwells appear not to be understated as is the case with sweeping the stairs. Crewmembers did not have to stop mopping after each stair (stop the work process) as they did while sweeping.

Vacuuming: The overall vacuuming rate was 110%. This was based on twelve separate observations, two on the first day and ten on the second. Although an area-by-area analysis shows a wide variation, the areas taken as a whole probably provide a better gauge of productivity than any one area considered separately because each area was small. In a small room the difference of one minute can exaggerate variations in the productivity rate.

E. Tables

Exhibit 2A: Scope of Work

Description of Area	Square Feet in Area
Building 1	
Classrooms	3840
Hallways	2088
Basement	600
Stairwells	500
Bathrooms	480
Total Square Feet, Building 1 =	7508
Building 2	
Lounge	400
Stairwells	500
Bathrooms	150
Hallways (carpeted)	576
Hallways (non-carpeted)	192
Total Square Feet, Building 2 =	1818
Total Square Feet, Buildings 1 and 2 =	9326

Exhibit 2-B: Observed Productivity

Room	Sq.Ft	Activity	Obstr.	Wildcat Time In Minutes	Industry Time In Minutes	Wildcat Productivity In Terms Of Industry
Room 103	480	Sweeping	Heavy	7	9.6	137%
Room 104	480	Sweeping	Heavy	7	9.6	137%
Stairwells	300	Sweeping	Heavy	23	6.0	26%
		SUB TOTAL		37	25.2	68%*
Lounge #1	142	Vacuuming	None	3	2.7	90%
Lounge #2	216	Vacuuming	Heavy	7	7.78	111%
Hallway	126	Vacuuming	None	3	2.39	80%
Room 304	152	Vacuuming	None	2	2.89	145%
Room 302	84	Vacuuming	None	1	1.6	160%
Room 301	72	Vacuuming	None	3	1.37	46%
Room 201	299	Vacuuming	None	4	5.68	142%
Room 211	238	Vacuuming	None	2	4.52	226%
Room 210	104	Vacuuming	None	1	1.98	198%
Room 209	104	Vacuuming	None	1	1.98	198%
		SUB TOTAL		27	32.89	122%*
Bathroom	15	Mopping	Heavy	4	.48	12%
Stairwell	174	Mopping	Heavy	6	5.56	93%
		SUB TOTAL		10	6.04	61%
		TOTAL				86%

* Time-weighted average.

3. POLICE HEADQUARTERS BUILDING MAINTENANCE

A. Description of Work

According to the Building Superintendent all members of this crew are responsible for performing the same functions as the Civil Service Custodial Assistants.

Some crewmembers are assigned to specific floors and are responsible for performing those services necessary to maintain the cleanliness of these floors. This includes removing refuse from all the floors, cleaning bathrooms, washing glass partitions between offices, sweeping, and mopping halls and rooms.

Two crewmembers are assigned to window washing and work as a team. They are the only window-washers assigned to the Police Headquarters building. Every day they are responsible for cleaning the twenty-four windows on the first floor main lobby and the eight windows on the street level VIP room. After cleaning these windows, they are responsible for cleaning the windows on the other floors, rotating from one floor to another, and covering different floors each day, so that at the end of the month all the windows will have been cleaned at least once.

Other crewmembers are on special assignment - so they are given different assignments every day by the Agency Supervisor. Examples of special assignments include cleaning floors other than those cleaned regularly by Wildcat crews, moving furniture and equipment, and loading and unloading trucks. There is also one crewmember who assists the Building Superintendant as a handyman.

B. Measurement of Productivity and Market Value

Although the tasks very, it was assumed all tasks fell into the general category of maintenance in a lightly obstructed area (implying a normal productivity rate of 1000 square feet per each 16 minutes).

To determine the value of this project, both quantity and wage rate methods were used. For the seven crewmembers with specific floor assignments the $1.25 per square foot value was applied.

For the others on general assignment, it was assumed (from discussion with agency supervisors) that the normal productivity rate could be applied to Wildcat. Hence each crewmember's salary would be $10,319 in the commercial market. (This figure excludes the surcharge contractors usually add to cover supplies and profit).

C. Summary

The market value is $364,140.

D. Observations

The importance of the Wildcat crew to the entire building maintenance operation was affirmed by the Agency Supervisor. He reported that the quality of work varied greatly from one crewmember to another. He said that they had some "great guys" on the crew and some "bombs," and that he could not make an overall generalization concerning the Wildcat workers. He did feel, however, that the Wildcat crewmembers had tremendous potential, which had not yet been properly channeled. It should be noted that the supervisor was very optimistic about the future productivity of the Wildcat crewmembers on his projects since the supervision had recently changed.

The crewmember on the second floor is an exceptional case which may be of interest. This crewmember is on the job working every day between 1:00 and 1:30 a.m. although he is supposed to arrive at 6:00 a.m.. His nine or ten hour days are confirmed by his clocking himself in each morning. This floor was exceptionally spotless and shining; the glass windows were very clean. One lady stopped to say that the Wildcat crewmember was the best thing that had happened to the floor. An employee from the pressroom came to speak to this observer at length

about this Wildcat crewmember. He said that this crewmember is phenomenal, and that he runs the floor. The pressroom employee noted that littering is rare at Police Headquarters because the police recognize the pride this crewmember takes in the appearance of his floor. Another Police Department employee said that it was a pity that there is no way to get this crewmember into Civil Service.

E. Tables

Exhibit 3-A: Scope of Work* and Market Value

Floor	Square Feet	No. of Crewmembers	Activities	Basis For Market Value	Market Value
9th floor	25,775	2	2 locker rooms; garbage disposal; sweeping, mopping of cafeteria, bathrooms	$1.25 per sq.ft.	$32220
8th floor	25,525	1	clean bathrooms; mop and sweep hallway; clean glass windows and partitions of the communications room; garbage disposal	$1.25 per sq.ft.	$31900
2nd floor	28,100	1	bathrooms; sweeping, mopping, dusting; garbage disposal	$1.25 per sq.ft.	$35120
Cellar	75,000	2	bathrooms; sweeping mopping; garbage disposal	$1.25 per sq.ft.	$93750
Subcellar	75,000	1	cell blocks; cleaning area, remaining debris from construction	$1.25 per sq.ft.	$93750
Windows		2		$10,319 per yr.***	$20640
Floating crewmembers		3 or 4 (mean=3.5)			$36120
Foremen		1 inside foreman and assistant foreman**			$20640
TOTAL		14.5			$364140

(Footnotes on next pag

* Although these floors are generally covered every day and by the same crewmembers, additional floors are assigned at the discretion of the agency supervisor.

** Since this report was written, the number of crews has been changed to one.

*** Assuming commercial productivity for these crewmembers. Excludes the usual contractor's fee.

4. QUEENS CRIMINAL COURT MAINTENANCE

A. Description of Work

The Queens Criminal Court is a seven story building. Municipal workers perform the non-janitorial tasks associated with maintenance of the building; they clean, strip, and buff floors after business hours, adn perform minor electrical and carpentry repairs on a regular basis.

Diring the observation period four Wildcat workers were working at the project. They worked from 8:00 a.m. to 4:00 p.m. weekdays. Their responsibilities were primarily janitorial -- sweeping and dust-mopping floors, emptying ashtrays, cleaning bathrooms, damp mopping and rinsing the floors. Each crewmember had responsibility for two floors.

B. Measurement of Productivity and Market Value

The market value of the Queens Criminal Court Maintenance project was determined by multiplying the number of square feet maintained by $1.25.

Measurements were taken on the floor space maintained by the crewmembers. In addition, a count was made of all bathroom fixtures and other objects to be cleaned. Several chairs, several benches, and ashtrays were placed about the perimeter of the halls and corridors above the first floor. Hence those work areas are considered to be slightly obstructed. The bathrooms, because of the existence of partitions, posts, and waste baskets

near the wash basins, were also slightly obstructed.

C. Summary

The estimated market value was $48,808 (or 39046 times $1.25 per square foot).

D. Observations

The agency supervisor reported he was pleased with the work of the Wildcat crewmembers, and was unhappy only in that the program was being phased out.

E. Tables

Exhibit 4A: Square Footage of Work Areas Maintained by Crewmembers

Type of Floorspace	Degree of Obstruction	Footage
I. Halls and Corridors		
Basement	Slightly obstructed	1.483
First Floor	Unobstructed	4,883
Second Floor	Slightly obstructed	6,025
Third Floor	Slightly obstructed	3,731
Fourth Floor	Slightly obstructed	6,025
Fifth Floor	Slightly obstructed	3,731
Sixth Floor	Slightly obstructed	6,025
Seventh Floor	Slightly obstructed	3,731
II. Bathrooms		
Basement	Slightly obstructed	180
Second Floor	Slightly obstructed	227
Third Floor	Slightly obstructed	227
Fourth Floor	Slightly obstructed	227
Fifth Floor	Slightly obstructed	227
Sixth Floor	Slightly obstructed	227
Seventh Floor	Slightly obstructed	227
III. Stairways		
all floors	Unobstructed	11,20 (140 each)
IV. Telephone Rooms		
six floors	Slightly obstructed	528 (88 each)
V. Elevators		
six	Unobstructed	222 (37 each)
	Total Square Footage	= 39,046

Exhibit 4B: Location and Number of Bathroom Fixtures and Other Objects to be Cleaned

	Bathroom Fixtures				Other Objects		
Location	Mirrors	Washbasin	Urinal	Commode	Ash-trays	Benches	Chairs
Basement	1	2	2	2	--	--	--
First floor	1	2	2	2	4	--	--
Second floor	1	2	2	2	2	4	6
Third floor	1	2	2	2	2	7	--
Fourth floor	1	2	2	2	2	4	6
Fifth floor	--	--	--	--	3	--	--
Sixth floor	1	2	2	2	2	4	6
Seventh floor	1	2	2	2	2	--	--

5. FASHION CAPITAL ENVIRONMENTAL MAINTENANCE

A. Description of Work

The environmental crew removed litter from the garment district. This involved cleaning the sidewalks and curbs with Litter-Vac* sweepers and emptying litter baskets throughout the area. On rainy or snowy days, crewmembers were assigned to odd jobs, such as refinishing desks in Fashion Capital's offices. Litter baskets were emptied each working day, regardless of weather conditions.

One crewmember was responsible for keeping the sweeping machine in order; other crewmememberswere organized in teams of two. One teammember cleaned from the building to the center of the sidewalk, and the other from the center of the sidewalk up to and including the curb. The Litter-Vac sweepers are designed to pick up litter ranging in size from ciagrette butts to milk containers; other trash must be picked up by hand.

On streets throughout the area Wildcat installed 103 thirty-five pound wire trash baskets, similar to those used by the Sanitation Department. The crew made two rounds a day to remove any bags from the baskets that were at least half full with trash; fresh liners are installed. The bags with trash were taken to the nearest avenue corner to be picked up by the Department of Sanitation trucks.

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* Litter-Vac is a brand name for an outdoor vacuum machine

B. Measurement of Productivity and Market Value

The basket collection and the sweeping operations were used to measure the market value of the Fashion Capital Environment crew.

Litter Basket Collection: To measure the market value of basket collection, the value of the number of pounds of garbage lifted by crewmembers was used. Using NYC Sanitation Department standards, the commercial value of emptying each full basket is equal to $1.16. The annual market value is that dollar value multiplied by the number of full baskets emptied each year.

The productivity rate of the Litter basket operation was based on the amount of garbage collected in a given time period. Observations were conducted on ____ days and the average number of baskets emptied in one day was 114. Assuming Wildcat's work year is 249 days, then 28,386 baskets were emptied by each crewmember per year.

Litter-Vac Sweeping: The market of the sweeping operation is computed using the number of necessary hours according to industry standards, after adjusting for productivity.

In the Litter-Vac operation, crewmember productivity was observed to be 78% that for industrial workers.

C. Summary

The market value of the basket operation is 28,386 x $1.16 = $32,928.

For the Litter-Vac sweeping operation, the market value was computed as follows. The average daily square footage of 22 block-faces covered was 105,490 (249 working days x 105,490).

Thus 26,267,010 square feet were cleaned by the Litter-Vac in one year. An industry worker can sweep 2700 square feet in one hour * , or 9729 hours to sweep the square footage that the Wildcat crew sweeps in one year. Using this standard and an hourly rate of $5.67 per industry worker (including fringes), the market value of the sweeping operation was estimated to be $55,163.

Totalling the market value of the litter basket operation ($32,928) and the Litter-Vac operaiton ($55,163), the project market value was $88,091.

D. Observations

The agency supervisor spoke of the work of the environmental crew as a "glorious success." He said that their work was the centerpiece of the Mayor's office of Apparel Industry Planning and Development in the garment district.

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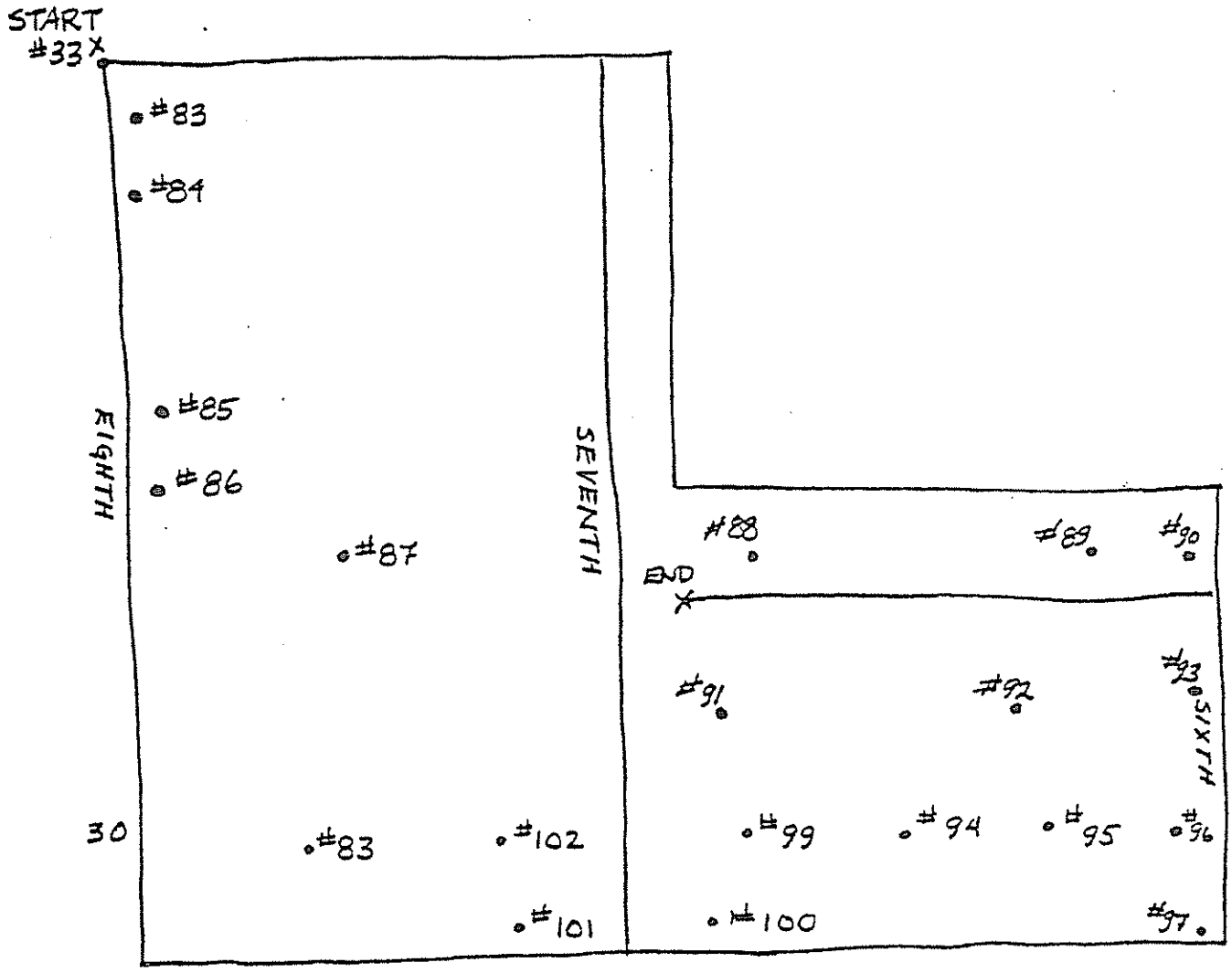
* From Phillips maintenance guide.

E. Detailed Observation Records

Exhibit 5A: Litter Basket Route



The observer accompanied a crewmember on his litter basket route. It took approximately two hours to complete the route (9:45-11:45). The crewmember not only had to remove the full garbage bag from the litter basket and bring it to the corner, but often had to clean up the debris around the basket and even answer questions from pedestrians. He did a thorough job and completed twenty baskets on his route.

Exhibit 5B: Litter-Vac Route

Two crewmembers were accompanied by an observer, on their Litter-Vac Route. The time spent and block faces covered was less than usual since the day of the visit was the day before the fourth of July weekend. The crew had to return at 3:00 P.M. in order to clean up and be ready to leave at 4:00 P.M.

One man started working a few feet ahead of the other. The first Litter-Vac vaccuumed that part of the sidewalk closest to the building, while the second Litter-Vac worked the other half of the street, but also tried to pick up the debris that the first Litter-Vac had missed. The sidewalk was crowded, and some debris could not be picked up.

The crewmembers' route started at Wildcat Headquarters, at 37th Street between 7th and 8th Avenues, and vacuumed up 8th Avenue to 39th Street and two-thirds of the way along 39th Street to 7th Avenue. On 39th Street between 8th Avenue and 7th Avenue, the exhaust pipe fell off one of the Litter-Vac machines, and it had to be taken back to headquarters. [There were no tools available at headquarters to fix the machine, so the machine had to be sent out for repairs.]

The working Litter-Vac and crewmember vacuumed from 39th between 7th and 8th Avenues to 7th Avenue until he reached 38th Street. He vacuumed approximately one-half of an avenue block and one complete street in fifteen minutes (2:45-3:00). He worked steadily and on a crowed sidewalk.

6. HDA BUILDING REHABILITATION (CONSTRUCTION)

A. Description of Work

Wildcat was responsible for repair and rehabilitation of the tenement building at 51 West 129th Street in Manhattan. This project, started in early 1974 and lasted through the end of Fiscal Year '74-'75. During this analysis work was done mainly on 10 apartments (Nos. 14-24). For the purpose of this analysis, Apartment No. 18 was chosen as a typical apartment renovation.

The renovation work was done in stages:

a) rubbish removal,

b) demolition and continued rubbish removal,

c) bridging beams,

d) rough carpentry, which included making such replacements as required of slats, beams, windows, frames, doors, and doorjambs, etc.,

e) installation of sub-flooring, studs and partitions as required,

f) installation of fixtures in bathrooms and kitchens,

g) ceramic tiling in bathroom as needed,

h) finishing floor throughout apartment as needed,

i) taping and spackling drywalls, and caulking windows,

j) priming walls,

k) hanging doors,

l) installation of molding and trim on doors and windows,

m) painting and installation of hardware and fixtures in bathrooms and kitchens,

n) final clean-up.

Twenty-three crewmembers were assigned to this project and two supervisors. All crewmembers were responsible for learning and performing the various renovation tasks, in addition to participating in the clean-up labor required to prepare the ten apartments for renovation. Depending on the tasks assigned, the crewmembers worked either independently or as part of a team. For example, windows were hung by a single crewmember, while painting and plastering were done by several crewmembers working together.

B. Measurement of Productivity and Market Value

The "standard" cost of $20 per square foot renovated was used. (See Methodology section).

One problem in using this simple figure for this project, was that the building was inhabited when Wildcat crews were working. One man-year was required for buildings maintenance in order to permit continued tenant habitation during renovation. As a result, the building could not be rehabilited simultaneously on all floors.

The project market value thus also included janitorial and handyman services provided by the HDA crew to the tenants living in the building. The yearly cost of a janitor is $10,319 (taken at the Bureau of Labor Statistics rate of $5.67/hour), which was added to the project market value.

C. Summary

Using the value of an apartment of approximately 375 square feet, at $20 per square foot**, each apartment renovation had a market value of $7,500 and thus the value of rehabilitation work was $75,000. However, the time span of this project was 15 months so that for this analysis the value of this project for one year was computed as: $\$75,000 \times \frac{12}{15} = \$60,000$.

Adding the cost of one year's janitorial services ($10,319), the project market value was found to be $70,319 or $3057 per person year.

D. Observations

The agency supervisor was pleased with Wildcat's efforts in rehabilitating the HDA apartments. He mentioned problems at the start such as high turnover and lack of motivation. The supervisor felt that HDA Rehabilitation project was a successful training vehicle for Wildcat crew, noting several had become proficient in carpentry skills. Crew productivity increased as crewmembers became experienced.

He did mention that because the HDA Rehabilitation project represented a training effort, the productivity and market value results did not prove to be cost beneficial (that is, that it would have been less expensive for HDA to hire a commercial contractor). He also felt that future projects to which the Wildcat con-

struction crewmembers might be assigned could be cost effective.

Some expenses associated with the project were caused by the lack of HDA direction. The project was described by HDA as a "fixit" project which grew. For example, Wildcat did not have a blueprint or floor plan from which to work and the agency changed the scope of the project which hampered productivity.

7. SUNSET PARK BUILDING REHABILITATION

A. Description of Work

Wildcat contracted to renovate two Brooklyn brownstones at 270 and 272 East 56th Street by offering the lowest bid for the job. The renovation included:

1) demolition,
2) installation of stairways,
3) carpentry (replacing 150 beams, putting up sheet rock partitions, taping and spackling),
4) installation of siding, leaders, and gutters as well as roof repairs,
5) installation of flooring and tiling,
6) priming and painting,
7) installation of kitchen and bathroom equipment,

and other tasks as needed for the renovation. Plumbing and electrical work were done by private contractors.

A crew of sixteen was assigned to the job -- 14 crewmembers, 2 foremen.

The on-site supervisor had a three-fold responsibility. He was responsible for the overall super-

vision of crewmembers (attendance, punctuality, etc.), training the crewmembers in construction skills, and acting as the project's prime construction worker

B. Measurement of Productivity and Market Value

The project's market value was computed on the basis of square feet rehabilitated, using $20 per square foot as the cost of commercial renovation.

C. Summary

Each of buildings is roughly 2400 square feet. At $20 per square foot, the estimated commercial market value of renovating one building was $48,000. The commercial value of the whole project was thus approximately $96,000*.

The project was in operation over approximately a 15 month period and thus the market value of a year's work was $76,800.

D. Observaitons

This project represented to Wildcat a stepping stone for crewmembers. According to the division chief it "gave a percentage of the men a commitment to the job as pushing a broom does not." On this project it was observed that Wildcat productivity was adequate in trades not requiring skills such as rough carpentry, laying of

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* If the apartment in the building were to be rented, the rental value would be $250 per apartment per month $12,000.

subflooring, setting dry wall on walls. Productively was poor in finishing trades, such as spackling, taping and bricklaying.

Position	No. of Crewmembers	Clerical Productivity	Comparable Salary With Fringe Benefits	Market Value
Mail Clerk	1	100%	$8873	$8873
Receptionist #1	1	25%	7774	1944
Receptionist#2	1	100%	8873	8873
Crew Chief	1	100%	8873	8873
Printer	1	75%	8873	6655
Junior Planner	2	75%	11,830	17,745

This total market value of this project for one year was $52,963 or -----per crew member.

D. Observations

Receptionist #1 appeared to have little work to do*, and was doing a crossword puzzle during the fifteen minutes of observation. The three other people in the office were busy working and did not come over to speak to Receptionist #1 at any time. Receptionist #1 said that there was never much work, and that another secretary in the office split the work with Receptionist #1.

Receptionist #2, on the other hand, was busy. She appeared active and the agency supervisor reported that Receptionist #2 had a good telephone manner, learned quickly, and followed through with tasks and her relationship with the office staff was excellent: "They love her."

The supervisor of the printer said that the printing crewmember was very careful, and that he seems to enjoy working with the machines.

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* This was an example of a situation when there was no effect of the observor's presence.

D. Observations

Receptionist #1 appeared to have little work* to do, and was doing a crossword puzzle during the fifteen minutes of observation. The three other people in the office were busy working and did not come over to speak to Receptionist #1 at any time. Receptionist #1 said that there was never much work, and that another secretary in the office split the work with Receptionist #1.

Receptionist #2, on the other hand, was busy. She appeared active and the agency supervisor reported that Receptionist #2 had a good telephone manner, learned quickly, and followed through with tasks and that her relationship with the office staff was excellent: "They love her."

The supervisor of the printer said that the printing crewmember was very careful, and that he seems to enjoy working with the machines. The agency supervisors were, in general, pleased with the crew's work. For example, they wanted to have the mailroom clerk "rolled over" to regular city employee status, but there were no openings due to the city budget crisis.

9. HDA BLOCK AND LOT (CLERICAL)

A. General Description

The HDA Block and Lot Clerical crew is primarily responsible for the preparation of cards containing informaiton regarding the dates of inspection of New York City blocks. These cards are microfilmed for permanent records. The preparation process involves locating designated blocks and lots in the atlas at the Municipal Building, pulling the tile cards for the blocks and arranging the information on index cards in numerical order by year. New cards are then typed, proofread,and xeroxed by Wildcat.

B. Measurement of Productivity and Market Value

The productivity of the HDA Block and Lot crew was gauged by determining whether the crewmembers understood their specific assignments; appeared busy;and had a full day's work -- the same criteria used for City Planning Commission.

C. Summary

In observation, the crewmembers seemed to understand their assignments and appeared busy. The agency was concerned over the possibility of losing this Wildcat crew. The positive evaluations of the agency yielded 100% productivity rating.

The position is comparable to a Typist B in Civil Service. The market value of this crew was thus: 4 crewmembers X $9261 = $37,044.

10. DEPARTMENT OF BUILDINGS LICENSING CREW (CLERICAL)

A. Description of Work

Each of Wildcat's DOB Licensing crewmembers perform a variety of clerical functions for the Central Billing Section of the HDA Clerical Licensing Division. The Central Billing Section is primarily responsible for the billing tradesmen who are obtaining or renewing licenses and inspections. Billing tasks include verification of computer lists by checking information on source cards; verification of correct addresses using the microfilm machine; location of correct names and addresses of businesses whose mail has been returned to DOB undelivered; preparation of new license mailing packages (attaching photo to license and completing license form); and maintenance of a file of data processing printouts and computer cards.

B. Measurement of Productivity and Market Value

The market value of the DOB licensing crew was determined by the same criteria as other clerical work. Because Wildcat crewmembers are responsible for a variety of clerical functions, the job of clerk, paid at $8873 per year, was considered comparable.

C. Summary

Agency Supervisor #1 has a high opinion of the Wildcat crew and feels that all crewmembers are good workers.

Further, when observed, each crewmember understood his work and was busily working; consequently the crew's rate is probably equal to that of a Civil Service Clerk at $8873 per year. Therefore the market value of the project is equal to: 5 crewmembers X $8873 year = $44,365.

D. Observations

This supervisor has begun to record the monies received by DOB as a result of Wildcat efforts. The DOB has always had a number of its bills returned because of insufficient or incorrect addresses. New York City employees were not being assigned to work in the return mail section, but Wildcat employees spend time correcting and supplying addresses for re-mailing of the returned pieces. After approximately 53 man-hours, 117 payments on bills previously returned were received. Each payment is estimated at $25, so that the gross total benefit to the City of 53 hours of Wildcat work was $4095.

The agency supervisor who had spent a great deal of time with the crew reported their value to the department was "inestimable." The crew was noted as providing services to the City that would not otherwise be provided. One crewmember set up a filing system for data printouts. A second comment came from the supervisor who had recently taken over the crew. She was less enthusiastic stating that they manage themselves - an "O.K. job." - and that she really didn't know much about the program.

11. NEW YORK PUBLIC LIBRARY CIRCULATION (CLERICAL)

A. Description of Work

The crewmembers in the circulation area have responsibility for both the circulation desk and behind-the-scenes operations. In the Circulation Department, there are three key areas: the Charging Desk, the Registration Desk, and the processing of returned and overdue books.

At the Charging Desk, operations include stamping library cards and transaction cards, and checking expiration dates of books. At the Registration Desk, library users can obtain library cards, report lost cards, and change the name/address on cards. A crewmember assigned to the Returns Desk must check due dates of books returned and accept payment of fines for overdue books. In addition, he makes out slips for unpaid fines when an individual does not have the money for the fine with him.

Behind-the-scenes assignments involve clerical work, such as mailing overdue notices, checking missing slips, etc.

B. Measurement of Productivity and Market Value

The Wildcat crewmembers in this section of the Library perform the same tasks as library clerks. Therefore, work performed by Wildcat crewmembers was compared with that performed by the agency personnel through direct observation of individuals from both groups.

C. Summary

Inthe observation the pace at which employees were working (see Section E), the employees knowledge of their jobs, and employee courtesy were noted. No difference between the library employee

and the Wildcat worker was apparent. Both answered questions courteously (and apparently helpfully, since no one came back to them and complained that the directions were faulty). They both worked rapidly, and completed many transactions in a minute or less.

These observations suggest no difference in productivity between the Library employee and the Wildcat crewmember. Wildcat productivity was thus equivalent to 100% of the industry standards, i.e. the Library employee.

The market value of library clerical work then, was thus [100% X 15 crewmembers X $8873 (salary of Library employee)] = $133,095.

D. Observations

E. Detailed Observation Records

Exhibit 11A: Observation Record

Time	Manhours in Minutes	No. of Crewmembers	Activity	No. of Books Handled
11:02 - 11:02	(less than 1 min.)	1	Receive books	2
11:05 - 11:05	(less than 1 min.)	1	Received books and answer question of woman who wanted to know if books would be returned from another branch.	2
11:06 - 11:07	1	1	Receive books and calculate fines, collect, and give change	5
11:08 - 11:08	(less than 1 min.)	1	Receive books	1
11:09 - 11:10	1	1	Receive books, calculate, and collect change	4
11:10 - 11:11	1	1	Receive books, calculate,and collect change	4
11:11 - 11:12	1	1	Receive books, calculate,and collect change	-
11:16 - 11:16	(less than 1 min.)	1	Receive books	1
11:17 - 11:18	1	1	Receive books	2
11:20 - 11:20	(less than 1 min.)	1	Give change	-
11:21 - 11:21	(less than 1 min.)	1	Receive books	2
11:22 - 11:23	1	1	Answer question	
11:25 - 11:26	1	1	Receive books	5
11:27 - 11:27	(less than 1 min.)	1	Give change	-

exhibit 11A - Cont'd

Time	Manhours in Minutes	No. of Crewmembers	Activity	No. of Books Handled
1:27 - 1:27	(less than 1 min.)	1	Receive books	1
1:28 - 1:29	1	1	Receive books	5
1:32 - 1:32	(less than 1 min.)	1	Receive books	2
1:34 - 1:34	(less than 1 min.)	1	Give change	-
1:35 - 1:35	(less than 1 min.)	1	Receive books	2
1:36 - 1:36		-	Answer question	
1:37 - 1:37	(less than 1 min.)	1	Receive books	2
1:38 - 1:38	(less than 1 min.)	1	Answer question	-
1:39 - 1:39	(less than 1 min.)	1	Give change	-
1:40 - 1:40	(less than 1 min.)	1	Receive books; also resolve problem with a 2 week book	2
1:41 - 1:42	1	1	Receive books, calculate, and collect change	1
1:44 - 1:45	1	1	Receive books, calculate, and collect change	2
1:45 - 1:48	3	1	Receive books, calculate, and collect change	6
1:50 - 1:51	(less than 1 min.)	1	Answer questions and give change	-
1:50 - 1:51	1	2	Receive books, calculate and collect change	-

Exhibit 11A: Cont'd

Time	Manhours in Minutes	No. of Crewmembers	Activity	No. of Books Handled
3:35 - 3:36	1	1	Return books (no overdues)	5
3:36 - 3:37	1	1	Return books and (compute and collect charge on overdues)	5 (5 were overdue)
3:38 - 3:40	2	1	Return books (compute and collect charge on overdues)	6 (5 were overdue)
4:44 - 4:45	1	1	Return books (no overdues)	3
4:05 - 4:06	1	1	Answer question	
			Return books (calculate, collect change, and	
4:05 - 4:06	1	1	Answer question	
4:07 - 4:09	2	1	Return books (calculate, collect change, and explain payment to customer)	6 (6 overdue)
4:09 - 4:09	(less than 1 min.)	1	Return books (calculate and give change)	1

12. NEW YORK PUBLIC LIBRARY TECHNICAL SERVICES (CLERICAL)

A. Description of Work

There were two teams of Wildcat crew members working in the Library's Technical Services department. One team of four ordered books, and the other team of four binds and processed books. Technical Service orders and processes about 450,000 books/year for libraries in the Bronx, Manhattan and Staten Island.

The crewmembers work individually and totally integrated with the library staff on different tasks under the supervision of library personnel.

B. Measurement of Productivity and Market Value

Since Wildcat crew in the Binding and Bookkeeping Section perform the same tasks as the library clerical personnel their work was compared with library employees by observing individuals from both groups.

Determination of productivity in the Ordering Division was based on how frequently a clerk asked for direction, how quickly a particular procedure was learned, how independent were the Wildcatters, and the quality of the work produced in regard to neatness, format, and accuracy.

C. Summary

Book Ordering Division: The productivity of a Wildcat and library workers were compared on checking order forms with delivery slips and marking payments. The Wildcat employee with less experience than the library employee worked slower---approximately two thirds as fast as the library employee. The market value is obtained by

multiplying the number of crewmembers assigned to this area (4) by the productivity rate (68%), and by the clerical salary : .68x4 x $8873, which equals $24,135.

Book Processing Division: Data on Wildcat crewmembers and NYPL employee were compared on book processing which involves putting pockets on books, putting labels on the spine of books, and removing the dust covers from books.

The Wildcat worker worked slower---95% of the speed as the NYPL employee. There was a difference, however, in their work pace. The NYPL person worked at a steady pace throughout the morning, processing 2.1 books per minute. The Wildcat pace was faster after the morning break: 2.4 books processed per minute before the break vs. 1.6 books per minute after the break.

The market value is 4 crew members times.95 x$8873= $33717.

The total market value of both technical services is $24135 + $33717 = $57,852 or $7232 per crewmember.

D. Observations

E. Detailed Record of Observations.

Exhibit 12A: Work Performed In Book Ordering

	Wildcat Employees			New York Public Library Employees		
Observation #	Time in Minutes	Books Processed	Books Per Minute	Time in Minutes	Books Processed	Books Per Minute
1	190	91	.479	120	91	.758
2	30	17	.566	60	47	.783
Average			.523			.771

Ratio of Wildcat to NYPL = .523 to .771 = 68%

Exhibit 12B: Work Performed In Book Processing

	Wildcat Employees			New York Public Library Employees		
Observation #	Time in Minutes	Books Processed	Books Per Minute	Time in Minutes	Books Processed	Books Per Minute
1	90	140	1.56	90	190	2.10
2	110	258	2.35	80	167	2.08
Average			1.96			2.09

Ratio of Wildcat to NYPL = 1.96 to 2.09 = 95%

13. HRA CLERICAL

A. Description of Work

The HRA clerical crew has seven members, including a crew chief. The crewmembers work in separate areas, most typing throughout the day.

Typically the crew consists of clerk/typists who type memoranda and field reports written by the HRA staff. They proofread original drafts and make corrections in spelling and grammar if necessary. They also xeroxed, delivered memoranda to other city offices, and performed various special filing and listing tasks. A clerk in the Research and Statistical Services Department performed simple statistical work, such as adding the numbers of people in welfare hotels.

B. Measurement of Productivity and Market Value

The productivity of the HRA crewmembers was measured by direct observation (e.g.watching them type letters), and by comparing their work with industry professionals. To obtain industry standards, professional typists were observed typing similar work (see Exhibit 15A for a sample of the work).

As in other projects, such as the Bronx Police Precinct, the direct observation method results in productivity estimates which are probably higher than is actually the case over the long run. It should be noted however that, in clerical projects, the productivity of a typist is limited by his skills. No matter how great the effects due to observation by an outsider, a typist cannot type faster than his skill allows.

C. Summary

The productivity results obtained from the direct observations indicate that the Wildcat crewmembers work at approximately 50% of the expected industry rate.*

The estimated value of services per crewmember was thus 50% of 10,260 or $5130. For seven crewmembers the total market value in a year is $35,910.

D. Observations

One typist was nervous during the observation. She was, however, requested to type columns and did not know how to use the tabulator. The Wildcat crewmember involved in filing appeared to be working at a good pace, with no apparent mistakes. Since the foreman had typing duties as her primary responsibility with the HRA clerical crew, she could not be very effective as crew chief.

The agency supervisor was satisfied with the Wildcat crewmembers working on her crew. In the past she has had a few crewmembers who had become outstanding employees, and later received permanent positions elsewhere.

The supervisor mentioned, however, that the typing skills of the Wildcat crewmembers, when they first came to her agency, were quite poor. She mentioned an employee who took the typing test and whose results were minus fifteen words per minute. Even crewmembers with RCA

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* Professional typists (who are paid $10,260 including fringes) were given work similar to that done by Wildcat crewmembers and their speed used to determine the industry rate.

training did not appear to be effective typists. The supervisor worked with crewmembers closely, and after four or five months of heavy supervision, the crewmembers became productive employees -- typing at about 20 words per minute.

Another agency supervisor said that over the two to three year period that Wildcat worked the results were more satisfactory than unsatisfactory.

The Wildcat crewmembers appeared* to be more diligent than their Civil service counterparts, working in the same office. The crewmembers were working continuously and were able to explain in detail what their responsibilities were, indicating a good understanding of their work. Given the office atmosphere and the apparent attitude of the crewmembers, the effectiveness rating may be conservative.

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* Some of this may be due to the presence of a Vera obserer.

Exhibit 15 A: Samples of Work Typed

(A) HOTEL INFORMATION

Name of Person | Name of Hotel | Date | Telephone

(B) PERSONAL FILE CARD

Name_____ Address_____ Phone_____

Social Security #_____

In emergency notify_____

Relationship_____

Phone_____

Exhibit 15B: Record of work observed

Task	Wildcat Time in Minutes	Industry Time in Minutes	Wildcat to Industry Productivity Percentage
Typing a half page from handwritten draft	3.00	2.00	67
Typing card - format had to be spaced out	5.50	4.00	73
Typing report - 3 pages from handwritten draft	33.00	10	30
Typing addresses on envelopes - 6 envelopes; no return addresses	11.00	3	27
Typing personal information card	3.50	2.00	57
Typing list of individuals in hotels - 14 names; 4 hotels	8.00	3.25	41
Typing 50 word letter from written draft	3.00	1.50	50
Retyping letter from typewritten draft	1.80	1.00	56
TOTAL	68.80	26.75	

Wildcat Productivity (based on average of 8 tasks) = 50%

14. NEW YORK PUBLIC LIBRARY (MOVING)*

A. Description of Work

The Library Move project involved moving books (in order) from one section of the library to another.* The crew used a cart with three shelves on it, each the size of a library shelf. The library was more concerned with accuracy in placement than with speed.

The library move crew also checked the arrangement of books on the shelves against the card files.

B. Measurement of Productivity and Market Value

For this crew, the basis for evaluating market value was the number of books moved measured by production reports and observation.

To determine the value of the work performed, book moving contractors were consulted. It was learned that the type of moving done by the Wildcat Library crews is very expensive and hence not the sort of project a contractor would normally want to bid on.

Commercial firms do contract to move books from one location to another, but do not generally contain for seeing books are moved in order. Moving the books in

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* This crew as well, does one or two day moving jobs for paying customers, such as the Cultural Council and the Department of Aging.

numerical order requires more time.

Moreover, commercial firms generally contract to move books from one location to another and Wildcat is currently responsible for moving books from one section of a floor to another.

Nevertheless, if industry rates for the cost of packing cartons of books are used, a rough market value of the Library move project can be estimated. This computation assumes that, by and large, "packing" books and "moving" books are similar.

One commercial book mover can pack 15 cartons or the equivalent of 375 books per hour at an hourly cost of $5 for equipment, $10 for wages and $3 for fringe benefits. Thus each book which is moved costs the contractor 4.8¢. This figure does not include any overhead. If 10% is added as a low estimate of overhead, the cost to the customer would be 5.2¢ per book.

C. Summary

As is evident in the Projects' production report (Exhibit 14-A), a total of 235,008 books were moved. The market value of this project thus was estimated at $12,220 for the eight weeks of the project of $115 per crewmember per 35-hour week. (Had the project continued for a year, as it operated in those eight weeks, the annual value would have been $79,433 or $6110 per crewmember).

As in other projects, the crew did not always work at its full capacity. The observed level of productivity was 55% of commercial standards or $19,492* per Wildcat man-year. This figure was based on the fact that a Wildcat worker moved an average of 206 books or $10.71 of services per hour. (See Exhibit 14-B). The observed average level of 206 books per hour was higher than the average level of 63 books per hour over the life of the project.

D. Observations

The Agency Supervisor was impressed with the perseverence the Wildcat crewmembers brought to the task which he considered difficult and tedious. He stressed the uncomfortable - damp and dusty - working conditions, especially in summer months. He also noted without Wildcat crewmembers this work would not be done at all.

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* Clearly this is higher than the salary of a typical mover. The difference between the yearly cost of the service and the yearly labor cost (which varies from firm to firm) is taken up by the costs of vehicles, other equipment and profit. Vehicles were not part of the cost of operation in the NYPL Moving crew. On the other hand, the normal industry cost is based on a less difficult work.

Exhibit 14A : Weekly Production Reports*

Week	Total No. of Units Moved **	Total No. of Books Moved	Total No. of Paid Man-hours	Books Moved Per Man-hour
1/17	138	26496	366	72.4
1/24	100	19200	515	37.3
1/31	80	15360	473	32.5
2/07	194	37248	481	77.4
2/14	164	31488	462	68.2
2/21	33	25536	458	55.8
2/28	205	39360	531	74.2
3/07	210	40320	445	90.6
Cumulative	1224	235008	3730	63.0

* Reports on books moved from Main Library Building to Library Annex from 1/17/75 to 3/14/76.

** Wildcat supervisor provided the following information

1 unit = 24 linear feet

8 books per linear foot

1 unit = 192 books

Exhibit 14B: Observation Record*

No. Of Crewmembers	No. Of Man-hours Worked	No. Of** Books Moved	Books Moved Per Hour
3	18.75	2400	128
4	2	480	240
3	1.25	312	250
		Average	206

* Books were moved from one section of the fourth floor to another section on the same floor.

** The Wildcat supervisor provided the following information:

1 section = 3 linear feet

8 books per linear foot

1 section = 24 books

15. MESSENGER SERVICE -- MANHATTAN AND BROOKLYN

A. Description of Work

Each crew was observed separately, but the reports are combined here.

a) Manhattan

The Manhattan Messenger Service crew is responsible each day for picking up and delivering mail to city agencies. Each of 30 crewmembers has an assigned daily route.

The type of routes vary from one agency to another. Some consist of a number of stops in one building, and others involve stops covering several blocks. Moreover, some routes are covered four times per day, whereas others only covered once a day.

b) Brooklyn

The Brooklyn Messenger Service worked on routes in teams of two. Two crewmembers were responsible for sorting the mail. Each route took from 30 minutes to one hour and each agency was serviced twice a day, (once in the morning and once in the afternoon).

B. Measures of Productivity and Market Value

In order to evaluate the productivity of the messengers, their work was compared by the agency supervisor to that of messengers performing similar functions in industry and in various city agencies.*

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* Another method considered was that of comparing route time (the number of stops and the number of blocks traveled) of an industry messenger to that of a Wildcat messenger. However, this was not an accurate method of determining productivity because the Wildcat crewmembers work primarily in one specific area (within walking distance) while industry messengers are not limited to one area.

In order to evaluate the market value of the project's services, observers counted messages and analyzed production reports. The number of messages delivered was multiplied by the cost of a one-ounce letter (13¢).* This assumed that all messages sent via the messenger service would have been mailed, and both overstates and understates the service's value. It overstates the value since agency personnel were aware of the expense involved in mailing messages at 13¢ and might not have mailed some to those carried by the less expensive Wildcat service. On the other hand, this method understates the messengers' value because the service delivers messages in one day, whereas the postal service and interagency sorting processes may take three or four days.

C. Summary

In Manhattan, the messages picked up and delivered over a four week period were counted. The total in that period was approximately 129,000 messages. The total number per year is approximately 1,677,000 or 32,250 per week. If each message is assumed to have a market value of 13 cents, then the total market value of the Manhattan service was $218,010.

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* The agency project manager estimated these two prices on the basis of the weight of the messages.

In Brooklyn, production reports from three randomly chosen weeks in May and August 1975 were analyzed. These reports indicated an average of 1710 messages per week or 369,720 per year. The market value would thus be $48064. (It sould be noted that the difference between Manhattan and Brooklyn can be accounted for by the lesser demand and larger geographic area covered by the Brooklyn service).

D. Observations

The agency supervisor, who was the initiator in the Mayor's Office and the designer of the Messenger Service project, said that his overall impression of the crewmembers' performance was favorable. He mentioned that the Wildcat performance with respect to the daily servicing of city agencies was excellent; the "special delivery service" on the other hand was not as effective.

16. "ASK WILDCAT" INFORMATION BOOTH AT THE SOUTH STREET SEAPORT

A. Description of Work

The "Ask Wildcat" booth is located on South Street in Manhattan. Three crewmembers answer inquiries which range from questions about the Seaport exhibits to questions concerning New York City transportation. Information on the following activities is provided by the "Ask Wildcat" booth: New York Antiques Center, Culture Bus, Folkarts Newsletter, museum exhibits in Harlem, sailing, dance, Jazz Interactions, emergency phone numbers, and ballet. Crewmembers devote approximately three man-days per week to researching questions they find they cannot answer. Crewmembers also duplicate some of the information flyers distributed at the booth. Finally, crewmembers collect South Street Museum membership dues and distribute membership cards.

B. Measurement of Productivity and Market Value

Wildcat crewmembers were compared to the individuals working in the Visitors Information Booth. Factors that might cause differences in productivity would stem from inability to answer questions, inarticulateness, and rudeness.

The market value of the South Street Seaport Information Project is estimated using productivity (determined from observations) and salaries earned by the Visitors Information Booth employees (due to a policy of the administration of the Visitors Information Booth, the salaries or the salary ranges of employees were unobtainable.)

By comparison with civil service descriptions of reception duties (including phone responsibilities and light typing) the "Ask Wildcat" crewmembers were evaluated at two steps higher than a beginning receptionist.

There are several reasons for the two-step increment. The crewmember does not type or answer phones, but like a receptionist, has direct contact with the public and must answer a wide variety of questions. His position calls for skills in communication, the ability to respond to a wide range of questions, a good on-the-spot of New York City and a familiarity with reference information. The receptionist, while required to possess good communication skills and minimal typing ability, is required to have a command of significantly less knowledge.

The receptionist with light typing and phone responsibilities earns a minimum of $7774 per year including fringes. The "Ask Wildcat" crewmember, evaluated at two steps higher than the receptionist, would be maximally valued at $8551 per year (.10 x $7774 - $8551.)

C. Summary

Observations indicated that Wildcat crewmembers were as competent and helpful as their civil service counterparts.

The only major distinction between South Street Seaport or the Visitors Information Booth was the number of requests for information. Because of the location of the Visitors Information Booth, that booth handles more requests. This is not a function of employee quality, and hence not sufficiently significant to indicate a difference in productivity between the Visitors

Information and South Street Seaport Booth employees.

The productivity thus estimated to be 100% of commercial value. Using the 100% productivity rating and multiplying it by the estimated value of the industry worker ($8551), and this in turn by the three crewmembers, the market value for the project is $25,653.