Analyzing Time Card Handling Procedures And Planning Effective Change

Strategic Management of Change

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An applied research project submitted to the National Fire Academy
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ABSTRACT

The topic researched was that Brevard County Public Safety Department time card procedures required employees to sign blank time cards. Time cards were subsequently completed and were sometimes incorrect. The problem was this process required employees to sign a card that indicated the hours reported were correct when no hours were reported and that this resulted in incorrect pay, which negatively affected morale.

The purpose of this project was to evaluate the prevalence of the problem and plan a process to improve time and record keeping. A more general purpose was to apply the Executive Fire Officer program Applied Strategic Planning Model to preparing for the change in employee time keeping techniques.

Evaluative and research methods were used. A literature search was conducted to identify similar problems and solutions in other agencies. An employee survey of Brevard County Public Safety Department (BCPSD) was used to determine the number of pay mistakes and employee resistance to change. The research null hypothesis was, “A majority of BCPSD employees are willing to change time card

procedures."

The procedures included an employee survey to determine attitudes toward changing time card procedures, a literature search, and development of a plan for change.

The result of this project indicated the null hypothesis was proved and an initial plan was developed. The recommendations from this project were the research should be repeated under more controlled conditions with a more pedigreed survey, that Executive Fire Officers (EFOs) can benefit from using the EFO model for strategic planning particularly to identify critical success factors to planning, and that the National Fire Academy can productively serve as a clearinghouse of industry related information.

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INTRODUCTION

The problem researched was, Brevard County Public Safety Department (BCPSD) required, because of logistical problems, employees to sign blank time cards and then processed them before employees had a opportunity to review the work hours reported on the time cards. Employees had no opportunity to identify or correct errors on their time cards made by the staffing office before paychecks were issued. Overtime hours that had been omitted from the time card could not be paid until 3 weeks later (with the second pay check following the error). This allowed reporting errors which affected employee pay and morale.

The purpose of this project was to measure the frequency of errors in pay resulting from incorrectly reported work hours on time cards, to assess legal and departmental parameters for the process, and to plan for change to improve the outcome of the time keeping and scheduling. This analysis and initial strategic plan were modeled on the EFO Applied Strategic Planning Model (FEMA SM 4-15).

The research methods included a survey (Appendix B) in which employee

opinions about the frequency of error and about their potential objection to changing the process by responsibility for their own time card were measured. The sample population included all (approximately 240) BCPSD Fire Rescue Division employees below the rank of captain. Participation in the survey was voluntary. Other research techniques included a literature search of the local libraries of Orange County, University of Central Florida, Valencia Community College, the National Fire Academy Learning Resource Center, and computerized searches of literature using the Internet and several databases including Educational Resource Informational Center (ERIC), FirstSearch ®, and EBSCOHost ®. An Internet search was also conducted for software applicable to employee staffing and time keeping. The research questions included: how many mistakes were being made on time cards, how much resistance to changing the process did employees and line supervisors (lieutenants) have, and what legal restrictions would guide any change.

The null hypothesis used for the project was, "A majority of Brevard County Public Safety Department employees are willing to change time card procedures." The alternate hypothesis was, "A majority of BCPSD employees oppose time card process change."

BACKGROUND AND SIGNIFICANCE

Brevard County Public Safety Department provided fire suppression for a 70 mile by 30 mile county and had 20 fire stations (and 3 volunteer fire stations not affected by this project) staffed by paid personnel. Employees were paid biweekly. Employee paychecks were issued and permanent work time records kept by a separate (constitutional) department, the finance department. Pay was based on time cards completed by the department and submitted to the finance department on the first work day following the end of the pay period. The pay period ended biweekly on Friday at midnight.

BCPSD Fire Rescue operations personnel work a 24 hour on-duty/48 hour off-duty shift rotation. Personnel work every third day from 7 am until 7 am the following day. Blank time cards were received from the finance office the first Monday of each pay period. These were sorted by employee fire station assignment and distributed from the staffing office to the stations on the first Tuesday of the pay period

by courier. They were left at each station for 3 to 4 days to allow all employees on each of the 3 shifts to sign them. The blank cards were signed and returned, without being completed by the employee, by courier to the staffing office. The time to courier the cards both to and from the stations and the 3 to 4 days required at the station to garner all signatures resulted in a logistical delay of 8 to 9 days in completing the cards.

The signed, but otherwise blank, time cards rearrived, in staggered deliveries, at the main staffing office on the second Tuesday, Wednesday, and Thursday (before the Friday end of the pay period). The staffing officer completed, on Thursday and Friday, 240 employees' time records (including regular hours, holiday hours, sick leave, annual leave, overtime hours, and special leave), copied the time cards, resorted them alphabetically by budgetary fund, and forwarded the originals to the finance department for paycheck processing. The copies were then returned to the employees at the fire stations, by courier, for proof reading and resigning.

Employees were unable make any correction to reported hours in their pay records prior to their upcoming paycheck being issued. This was because the finance office had already processed their hours and pay by the time the employee received the

machine copy of their completed time card. Employees who had incorrect hours reported on their time cards and had mistakes in their pay could not receive their pay correction until the following pay check (after the pay check the current time card was for) 3 weeks later. This was because the finance office had no procedure to issue a corrective or additional pay check between pay periods. Employees were dissatisfied that they had to wait so long for corrections in their pay. This may have contributed to low morale.

The Fair Labor Standards Act (FLSA) required the department to pay employees for hours worked, including paying one and one-half times the regular rate of pay for hours worked over 216 hours in 28 consecutive days (FLSA 1987). The need to keep employee time records is implied in that act but is required by the Family and Medical Leave Act (FMLA), which requires a record of "daily and weekly hours worked per pay period" (Seifman 1996 p. 64). The FMLA also requires records of FMLA related leave to be kept for not less than 3 years (U.S. Government 1993).

BCPSD Administration wanted to change the time keeping process to allow employees to take responsibility for their time records and/or review them prior to the

pay checks being processed. BCPSD had a computer network. Administration wanted to explore avenues for electronic processing of time records to reduce the logistical problems and morale associated with circulating signed and unsigned time cards and for pay record keeping. They also wanted to meet the requirements of the FLSA and FMLA laws.

This research project relates to the EFO Strategic Planning course because it required evaluation of a multiple aspect problem, development of an initial strategic plan for and management of change. The first two steps of analysis and planning of the EFO Strategic Planning model were applied to this project.

LITERATURE REVIEW

A literature search for related material included computerized searches of the Internet, the Learning Resource Center at the National Fire Academy and area libraries. The key words used for the searches are identified in Appendix A. The search identified few topics specifically relevant to this project.

The review indicated a growing trend to "paperless offices" (Seifman 1996 p. 61). North Dakota State University (NDSU) had successfully converted to electronic time keeping for all employees (Vetter 1997 p.37). There is a trend to using biometrics (the science of measuring unique physical characteristics) as an alternative to time cards. Coca Cola Co. has recently replaced time cards with hand scanners (Chandrasekaran 1997 no p#).

Many concerns remain about these new techniques. Some employees are concerned about germs associated with pressing body parts against "scanners". Questions about how biometric data will be managed include, will this data be "sold" like mailing lists are now (Chandrasekaran 1997 no p#). Other questions of privacy exist. Will electronic data be accessible by unauthorized persons who might discover

private medical records relating to sick leave? How will signatures be captured?

One of the more informative literature articles was, “Evolution of the Paperless Office” by Seifman. Mr. Seifman discussed the legal aspects of electronic management of time keeping data. He reported, “virtually all federal and state laws which govern retention of personnel records and the administration of employee benefit plans fail to contemplate our society’s increased reliance on computers.” (Seifman 1996 p. 62). The article discussed guidelines for “written” records and signatures. Legal guidelines for what constitutes a “written” record are provided by the Federal Rules of Evidence (FRE) and the Uniform Rules of Evidence (URE). These guidelines include, items defined as, “letters, words, or numbers, or their equivalent, set down by handwriting, typewriting, printing, photostating, photographing, magnetic impulse, mechanical or electronic recording, or other form of data compilation.” (Seifman 1996 p 72)

Computerized data acquisition and storage met the definition of “written” record as required by the FMLA and FLSA.

Similarly the issue of signatures was defined by the Uniform Commercial Code

(UCC) which "defines 'signed' to include any symbol executed or adopted by a party with present intention to authenticate a writing." (Siefman 1996 p. 73). The assignment of a password or Personal Identification Number (PIN) such as with bank cards is sufficient to ensure an electronic message is generated by the "signer". The use of a PIN coupled with other characteristics such as restricted locations, subsequent and separate verification of the transmission, and supervision by other employees, such as the station lieutenants, contribute to legal verification of signatures and of data for the purposes of meeting FLSA and FMLA requirements.

Lissy identified the need for supervision to be included in the plan design in his article, "Time Card Abuse", in which he describes an employee discharge for falsification of a time card and a law suit for damages resulting from the employment termination. (Lissy 1995 p. 17). Employee dishonesty is independent of whether the hours worked are recorded on time cards, electronic media, or by other processes. It should be considered and planned for, by incorporating supervisory input into the process. Station lieutenants were present and could easily supervise employees. A question, incorporated in the employee survey, inquired of the 60 department lieutenants if they objected to doing so.

The literature review guided the project's strategic plan process in areas involving legal considerations of signatures, privacy, and the responsibility for keeping written records of employee hours of work. The successful experience reported by Vetter with NDSU and McCloy with commercial payroll software (McCloy 1996 p. 10-12) provided reinforcement for Mr. Seifman's legal opinions.

Other articles provided information that guided development of a vision for the project. Barr pointed out that data acquisition does not smoothly interpolate into pay checks without substantial effort by the processing office, (Barr 1997 p. 84-85) which in the case of BCPSD was the elected Clerk of the Circuit Court, who supervised the finance department of the county. The finance department would have to agree to any changes in the acquisition and management of data because they had constitutional responsibility for permanent record keeping and issuing pay checks. Changes in BCPSD procedures invoving time cards could require changes in their procedures as well.

The literature search helped define program outcomes of the revision to the

process. Employees had identified the process was problematic but did not define a vision of outcomes. The literature search helped do so. It also helped reassure Administration's concerns about compliance with federal and state regulations regarding privacy, signatures, and written records.

PROCEDURES

This project used a survey (see Appendix B) to collect data from Brevard County Public Safety Department's employees. The survey was distributed by courier with the time cards.. The total population was 240 (all employees under the rank of captain) for the general questions numbers 1 through 5, and 60 (the lieutenants only) for the supervisory questions numbers 6 through 8. Participation in the survey was voluntary. Some employees responded to all questions and others responded only to selected questions. The question most often left unanswered was number 5. The sample population for each question varied according to the number of employees who chose to answer it. The table, Employee Survey Results, in the result section below lists the sample population that responded to each question. The surveys were returned with

the blank, signed time cards. The sample population was adequate for the 3 primary, researched questions to provide a 95% confidence interval. One question (#5) may have been invalid, but was not one of the primary research questions and was not evaluated.

A limitation of the project was the limited literature available. There was nothing that specifically addressed fire service staffing needs. The online search identified many commercial entities but no relevant fire service staffing software. The time frame of the project precluded substantive investigation of commercial software or of what techniques and/or technology other departments were using to staff and record hours worked. One software enterprise was investigated. The vendor was found to be misrepresenting its customer list when the author telephone a "reported" user, Oviedo (FL) Fire Department (OFD), to investigate their experience with the software. OFD advised they never opened the free, demonstration version that had been gratuitously mailed to them and objected to being listed by the vendor as a "user".

Other limitations of the project included a lack of "critical success factors" (FEMA SM 5-18) including a clear vision of what changes would be made to the time

keeping process, what the budget would be, and if there would be administrative support for change. Without those foundations, the project could only be academic and lacked the necessary support identified in the EFO Strategic Planning Model.

RESULTS

The results of the survey are indicated in the "Employee Survey Results" table below.

Employee Survey Results

Survey Question	% Yes	# Yes	% No	# No	Total Responding
1	47%	58	53%	65	123
2	31%	36	69%	81	117
3	41%	51	59%	72	123
4	73%	72	27%	26	98
5	52%	63	48%	48	111
6	56%	33	44%	26	59
7	33%	19	67%	38	57
8	50%	26	50%	28	56

The survey was designed for questions 1, 3, and 6 to acquire the statistical data evaluated to answer the research questions. The other questions were intended to provide anecdotal information and to impart a casual nature to the survey. Those questions were not used for research in the project.

Response to question 1, "Has there been a mistake in your time card in the last

90 days?" indicated 58 of the 123 responding employees had a mistake made in their pay in the last 90 days. That was a 47% response. This substantiated the error rate was approximately 50% in 1 calendar quarter.

Response to question 3, "Would you object to completing your own time card?" indicated approximately 60% (59%) of the employees did NOT object to accepting the additional responsibility of completing their own time cards if necessary to improve the program outcome.

The lieutenants' response to question 6, "Would you be willing to review your employee's time card for correct completion?" indicated 67% of the line supervisors did NOT object to also accepting additional responsibilities to improve the program outcomes. This question was exclusively directed to lieutenants.

The Internet search failed to identify any software developed exclusively to meet the needs of the fire service and their 24/48 hour shift system. Several general scheduling software programs were discovered.

DISCUSSION

DISCUSSION

The error rate identified in question 1 provided a measure of the problem and answered the research question, " How many mistakes were being made on time cards?" The high error rate was clearly identified by the survey. The error rate is considered excessively high by administration. Anecdotally response to question #5, "Do you feel the number of time card mistakes is reasonable?" indicated 52% of the responding employees felt this error rate was acceptable.

Question 3 and 6 answered the research question, "How much resistance to changing the process did employees have?" In those questions a majority of employees responded they were willing to accept new job responsibilities to resolve the problem and a majority of the lieutenants were willing to accept new supervisory responsibilities. It suggested all the employees were willing to accept this proposed change even if it required more responsibility on their part.

Measurement of morale was beyond the scope of this applied research project, however the high response on the voluntary survey (approximately 50% of the total

population) implied the employees were motivated to contribute to identifying the size of the problem and that their morale could be improved by a positive response to their input.

The literature search identified successful precedents and legal opinions about electronic management of the pay records. Those data answered the research question, "what legal restrictions would guide any change." It appeared the legal regulations can be met while accommodating administration's needs to use modern computers to manipulate the employee data. Provisions for employee privacy, individual identification (ie PIN numbers), supervisory review to prevent time card abuse, and coordination with the finance department had to be planned.

The null hypothesis that "A majority of BCPSD employees are willing to change time card procedures" was proved and the alternate hypothesis, "A majority of BCPSD employees oppose time card process change." was disproved.

There were several problems related to this study. Those problems presented potential additional areas of study and include,

The most important issue related to the purpose of the study was to emphasize the need for successful strategic planning of change. That planning requires ongoing assessment of critical success factors. In this study several success factors were absent. These included a budget for the project, support by administration, a lack of consensus with the finance department which objected to change, a lack of a vision of program outcomes, and an unwillingness by administration to prioritize the process revision. The lack of support by administration is demonstrated by a failure to provide any budget for the process revision, a failure to respond to the proposed preliminary strategic plan, and a failure to act within 6 months of identifying the problem. The finance department did not feel motivated to participate in any proposed change. Their perspective was that time card errors were an internal (to the fire rescue division) problem and should not require finance to change their procedures or technology to accomodate the fire rescue division. Those absent critical success factors precluded any effective strategic planning or subsequent improvement.

RECOMMENDATIONS

It is recommended the project be restudied with a more pedigreed survey before any significant conclusions can be made. Any repeat of the project should

include site visits and surveys of similar departments and how they manage their employee pay record information needs.

It is recommended fire officers apply the Strategic Planning Model of the EFO Executive Planning course to their analysis and planning of similar projects. In this project, the plan was ineffective because critical success factors were not present.

It is recommended that the National Fire Academy continue to serve as a clearinghouse of data on problems ubiquitous to the fire industry. Sharing solutions and new technology can be an effective role for the academy.

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ERIC	http://www.aspensys.com/eric/index.html
FirstSearch	http://www.ccla.lib.fl.us/htbin/validate
Orange County Library	http://www.ocls.lib.fl.us/
EBSCOHost	http://www.ebscohost.epnet.com/cgi-bin/epwtop

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McCloy, A., Software Provides Online Payroll Services. (1996). Boston Business Journel. v16 n32, p.10-17.

Seifman, D., Trepanier, C. Evolution of the Paper less Office: Legal Issues Arising Out

[1]The author was unable to identify a proper procedure to bibliograph (APA 1994) Internet web sites and listed them sequentially. The listing was guided by the bibliographic purpose of providing the reader adequate information to access the reference.

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Appendix A

A computer search was conducted of the Internet including a general web search, ERIC, FirstSearch, and EBSCOHost.

Key words for the computerized literature search included combinations of search words using the “match all words” feature.

electronic time keeping
electronic time cards
electronic staffing
employee staffing
employee time keeping
employee time cards
Fair Labor Standards Act
Family and Medical Leave Act
hours of work
pay records
payroll
time keeping
time cards
wage and hour

Appendix B

Brevard County Public Safety Department
Employee Opinion Survey
July 28, 1997

This survey requests your opinion about the manner in which our department processes time cards. The survey is limited to this one issue. Please do not confuse it with other staffing issues. You may sign your name or remain anonymous if you wish. This is purely a survey of employee opinions and an opportunity for the staffing office to receive your constructive suggestions on how to process time cards.

1. Has there been a mistake on your time card in the last 90 days? ❍ Yes ❑ No

2. Would you LIKE to complete your own time card" ❍ Yes ❑ No

3. Would you OBJECT to completing your own time card? ❍ Yes ❑ No

4. If you complete your own time card, would there be less mistakes on it after your learning period? ❍ Yes ❑ No

5. Do you feel the number of time card mistakes is reasonable? ❍ Yes ❑ No

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The following questions are for lieutenants and acting lieutenants only:

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6. Would you be willing to review your employee's time card for correct completion? ❍ Yes ❑ No

7. Do you feel this is a reasonable responsibility of a lieutenant? ❍ Yes ❑ No

8. Do you feel this new process would reduced the current errors? ❍ Yes ❑ No

The following question is for all employees: Do you have any suggestion for improving the time card process? The guidelines are that the pay week ends every other Friday and time cards must be submitted to the finance office by 10 AM Monday. You may sign your name here if you wish. Use the back of this page if you don't have enough room here.

Appendix C

Initial Strategic Plan

Timekeeping and Electronic Scheduling System (TESS)
(attached)

Timekeeping and Electronic Staffing System (TESS)

Project Plan Proposal

Submitted to Donald E. Boykin, Fire Chief
Brevard County Fire Rescue Department

By Rich Wiederhold, Battalion Chief
April 28, 1997

Table of Contents

Project Statement

This document is a draft plan of a project to analyze Brevard County Fire Rescue Department's work scheduling, payroll processing, and related needs. This is a preliminary project plan. It is not an implementation plan. Implementation will be guided by the needs analysis and software development.

1 Objectives:

It is recommended the project include the following objectives in the plan:

- ✓ Use a standardized database for all department data needs and link databases to allow interchange of data and avoid duplication of work.

  Database linking will provide access between different databases to information such as training records, incident exposures, personnel records, incident command records, and other unpredicted needs.

- ✓ The database should be multiuser and function on the existing network in the Windows environment.

- ✓ Store data on the file server rather than on individual work stations.

- ✓ Analyze the information needs of finance, staffing officers, district supervisors, lieutenants, and administrators.

- ✓ Provide for input by staffing personnel, district supervisors, and fire station supervisors.

- ✓ Provide for reports to finance, district supervisors, station supervisors, administration and employees.

2.1 Project Members:

The following project members are requested:

1. Rich Wiederhold
2. Mark Miller
7. Randy Thompson
8. Info' Systems Rep.

3. Tim Mills
4. Jim Stables
5. Ron Szott
6. Bill Matta
9. Finance Rep.
10. Legal Rep.
11. Station 24 Lieutenants
12. Chief Taggart

2.2 Responsibilities: The station 24 lieutenants are requested because that station's staff are a convenient and representative sample population. The roles of the other project members are described briefly in the responsibility matrix table below:

Responsibility Matrix

Task	RW	MM	TM	JS	RZ	BM	RT	IS	Fin	Le	MT
Scheduling	xx	xx									
Progress Rep't	xx										
Needs Analys'	xx		xx	xx	xx	xx	xx	xx	xx		
Report Devl'			xx	xx	xx	xx	xx		xx	xx	
Soft' Search	xxx	x	xx				xx				
Soft' Develop	x	xxx									
Beta Test		xx	xx	xx	xx	xx	xx		xx		
Soft' Debug		xx									
Document'n	xx		x				x				x
Training	x	xxx	x	x	x		x				
Implement'n	xx	xx					xx	xx	xx		
Audit	xx	xx	xx	xx	xx				xx		xx

It will not be necessary for all project members to be present at every project meeting. Meetings will be scheduled according to the task and only those members who have a responsibility for that task need to attend.

Work Breakdown

2.3 Needs Analysis: Department administration, the district supervisors, the station 24 lieutenants, finance, and Captain Matta will identify scheduling and reporting needs. There will be two phases of the formal needs analysis.

Phase 1: Will identify the reports needed.

1) Finance will identify reporting needs for payroll generation reports.

2) District supervisors will identify needs for scheduling reports and assignment of "floating" personnel.

3) Staffing personnel will identify needs about overtime selection list reports.

4) Administrative officers will identify needs for status and benefit reports.

Phase 2: Will use the reporting needs to identify data input needs, what the program will do automatically, and include a cost analysis.

1) The program should automatically generate a "base" schedule using data from the personnel database.

2) The scheduling person will manually input changes such as overtime, annual leave, or shift trades to the "base" schedule to create a "shift" schedule.

When the scheduling person inputs a shift trade or overtime, the program will automatically check the personnel database to confirm eligibility (amount of annual leave, rank-for-rank status, and 48 hour limit status) and send an approval to the employee and the lieutenant scheduled for that date.

3) The program will automatically generate individual "station" schedules from the "shift" schedule.

4) The station lieutenant will input any changes to the "station" schedule.

5) The program will compare the "shift" schedule and the lieutenant's input and generate flags for the district supervisor about any discrepancies.

6) The program will generate payroll records and send them to appropriate personnel for verification.

Verifying personnel will use a password (like the PDocs system). Redundant security can be built in by having the program compare the TESS password to the Banyan network "streetname" and insure the password and employee match.

7) The program will generate a master payroll report for Finance.

It will flag names of employees not included in the master report. If verification is the employee's responsibility, this task should be self enforcing because employees who fail to verify, like current failure to sign a time card, must wait until the next pay period for pay.

8) Individual employees should input, to their personal record, a limited number of data fields such as current shift, unit, station, telephone number and address. New personnel input will be flagged for the scheduling person who will verify it.

This task can also be made self envorcing. Employees who do not keep their own records current may miss telephone calls for overtime.

2.4 Schedule: The project can begin the needs analysis within 6 days and complete it in 15 more days. The schedule will depend on the needs, whether software is purchased or written, the priority given the project by administration, and the skill of the programmer.

A DRAFT Gantt chart of the project follows: This chart is optimistic, assumes maximum administrative support and prioritization, and takes no delays into account. It is based on the assumption no COTS software will be found and programming will begin on June 1st, 1997. The optimal project completion date is November 1, 1997. Any delay of more than 1 week will, because of the holidays, result in an overall delay until at least January 15, 1998.

Contingencies

The project should provide for contingencies for the following problems and opportunities.

3.1 Potential problems include:

1) failure to meet needs of finance or the department. Failure to meet Finance's record keeping requirements will be critical. Finance may also have a concern about receiving payroll reports from different departments in different formats. Managing a variety of formats will add to their work and their resistance to the project.

2) ineffective Software: The failure of the software to perform in a "user friendly" manner or to "error check" incorrect data input will be critical.

3) software environment mismatch: It will be difficult to make the program work across both DOS and Windows environments. Windows is recommended.

4) lack of administrative support: This could cause insurmountable difficulty in coordinating the effort with finance and overcoming resistance to change.

5) employee resistance to change: Employee resistance (including finance) to change is normal. The project team can minimize resistance by making employees stakeholders in the project. Administration's support can minimize supervisors' resistance.

6) failure to meet schedule: The failure to keep to a project schedule will have a demoralizing effect on project team members but will not be a critical problem.

Contingency -- Problem Chart

Problem:	Probability	Severity	Action
Unmet Needs	Low	Critical	Analysis
Bad Software	Low	Critical	Analysis
Environment Prob'	Low	Substantial	Decide 1st
Lack of Adm' Sup't	Low	Critical	Decide 1st
Empl' Resistence	High	Low	Involvemt

Contingencies

Unmet Schedule	High	Low	Pray

3.2 Potential Opportunities include:

1) increased information access: There is an opportunity to plan to link the timekeeping and schedule database to other databases to allow powerful use of existing data.

> For example, the department has a personnel database with physical exam' dates and performance review dates. District supervisors, who are responsible to insure timely follow up to these, would be able to get reports of those dates.

2) simplify payroll processes: There is an opportunity to develop a model system for all departments in the county.

3) increased employee morale: There is an opportunity to apply a "user friendly" software application that will reduce work, insure fair distribution of overtime, reduce payroll mistakes, and improve employee morale'.

4) modify scheduling processes: There is an opportunity to develop a scheduling program and make simultaneous scheduling changes to provide greater accountability of scheduling and allow the department to reduce overtime costs.

> For example. The Fair Labor Standards Act requires overtime be paid to employees working over 106 hours in the pay period. Employees have cycles in which they earn overtime for their regular shifts. They call this a "high" cycle. They call the cycle, in which they do not earn overtime, their "low" cycle. It is possible to prioritize, in the overtime list, employees in their "low" cycle to reduce overtime pay rates from time-and-a-half. Another possibility is to use "floaters" to relieve personnel of duty for ½ shift (a "Kelly" shift or day) during their high cycle.

Contingency -- Opportunity Chart

Opportunity	Probability	Impact	Action

Action Plan

Database Link	High	Excellent	Plan well
Model System	Moderate	Excellent	Coordinate well
++ Morale	Moderate	Very good	Follow thru'
Lower OT Cost	Moderate	Excellent	Admn' decision May be Negot'

4 Action Plan:

Needs Analysis: The project Action Plan is to conduct a survey to measure employee needs and satisfaction with the existing system. The project team will identify data needs, information (reports) needs, procedural (input and program function) needs, and how to process payroll records with Finance.

Report Development: The team will consolidate the needed data to form sample reports. A report presentation format will be developed. These will be evaluated by the users to confirm they meet the need. The reports will be used to evaluate commercial software.

Software Survey: The project team will then survey existing software and site visit any local departments currently using the software to determine if it meets our needs and if it is cost effective. The team will be request an "on-site" 90 day beta test of the software. The software will be used, during the test, concurrently with the existing system. The team will recommend its purchase if it meets the needs.

Software Development: If no COTS (Canned Off The Shelf) software is found to be satisfactory, software can be written by a department programmer. Mark Miller, as the department information systems manager, should be primarily responsible for software development. The software should be Alpha tested and debugged.

Beta Test: It will then be beta tested by the Captains and the station 24 lieutenants for 9 days.

Debug: Any problems identified during testing will be corrected.

Training: All lieutenants should have a 3 hour training session the shift before implementation.

Action Plan

Implementation: Implementation should be made concurrent with the existing system for not less than 60 days. Administration will be tempted to "cut over" to the new scheduling system after the first pay period if the software functions properly. This temptation should be resisted because subtle programming errors may not show up in the first weeks and data are at risk.

Performance Audit: A user satisfaction survey should be made at 90 and again at 180 days. The audit should measure how successfully the project meets the users needs, how easy the software is to use, and indicate any recommendations for modification. The 180 audit should include a cost analysis.

4.1 Software Operation Plan

The software will operate on the existing computer network as a multiuser application. The program will work under a point-and-shoot menu system, consistent with the Windows environment. It will allow input and reporting from any work station.

Security access levels will be assigned. Passwords will be required for access. Secure portions of the program will be located on the file server in directories that are unavailable to unauthorized personnel. Security will have two levels. The first level of security will be access to the network. The second level will be password encoded access to the program.

The program will record the time and name of each user who modifies the database, such as scheduling overtime or updating their personnel data (telephone number, etc.).

4.1.1 Reports: A report is collection of related data. The program will generate reports. There will be a need for about 12 different kinds of reports.

A. Payroll Report: The report that is driving the development of this project is the payroll report. This will eliminate circulating time cards between 23 work sites and about 300 employees. It should reduce errors by internal error checking and check-and-balance loops that provide for verification of employee hours. The design of this report will be dependent on the data needs of our finance division.

B. District Supervisor Reports: The district supervisors will have 7 different reports.

Action Plan

1) District Report: This report will list, by date, the stations in each district, employee rank and name, unit assignment, starting time, ending time, pay status, floater status and flags. The pay status refers to whether the employee is working overtime (OT), shift trade (ST), paid holiday (H), or is on unpaid leave (UL). An absent employee will be flagged in italics (or some appropriate method) and will have a pay designation of; sick leave (SL), annual leave (AL), shift trade (ST), administrative leave (AD), emergency leave (EL), injury (INJ), paid holiday (H), light duty (LD), Probationary (Pb), unpaid leave (UL), or special (SP). Flags on the report will direct special attention to any unusual status such as a performance evaluation being overdue. This report should be accessible by any one who may function as a district supervisor. A first draft "district report" is attached.

2) Shift Report: This report will list, by date, all stations, rank, name, unit assignment and FLOATER status and when the floater was notified of the day's assignment. It will report less data than the district report but will overview the shift schedule and the county wide availability of floaters. This report should be accessible by anyone who may function as a district supervisor.

3) Overtime List: This report will be a list, current at the time of access, of persons to be called for overtime. The program will update it on a running basis as any overtime is scheduled. This list will be sorted by rank of Firefighter (F), fireMedic (M), Lieutenant/emt (L), Lieutenant/Medic (LM), Captain (C), and Battalion chief (B). The list will include rank, name, contact number 1, contact number 2, and total overtime hours to date. This report should be accessible by anyone who may schedule emergency overtime.

> A secondary objective of reducing overtime can be included in the needs analysis. The program should be flexible enough to allow nontraditional schedules and for modifying the OT list report to meet department parameters. Nontraditional scheduling may be necessary if the county begins interfacililty medical transport or system status management.

4) Personnel Status: This report will list by shift; rank, name, amount of annual and sick leave accrued, amount of sick leave used, amount of overtime worked, hours

worked in the current pay cycle, and dates of last performance evaluation and last physical examination. This report should be accessible by any district supervisor.

5) Payroll Verification: This report will list all information that is currently provided on a time card. It should be accessible by anyone responsible to verify employee hours.

6) Incident Summary: This report will list by incident number, date of the incident, units dispatched, units arrived, pertinent times, personnel assigned to units, and name of the incident commander. This report is secondary to the objective of the project but can be easily made available with the project. This should be available to anyone who serves as an incident commander.

C. Station Reports: These reports list the day's schedule for each station. They will be required by the lieutenant so he may verify employee attendance, units in service, and authorized leave.

1) Station Staffing: This report will list by date, scheduled personnel. It will include rank, name, unit assignment, and pay status (OT, ST). The lieutenant will be responsible to review and verify the accuracy of the data. This report should flag any reassignment (to or from the station) of "floater" personnel and the duration of floating assignments.

The lieutenant must update the report if an employee is held over, arrives late, or leaves early or if the assigned unit is changed. The program will schedule the usual unit (such as Engine - 24) as a default, but the lieutenant must update unit assignments if a backup unit is placed in service. The program will then accept the update as the usual unit, until it is again updated. (This may also assist with tracking vehicle maintenance records.)

This report must be accessible by anyone who may function as a station supervisor (lieutenants and acting lieutenants).

2) Time Card Verification: This report lists data previously written on time cards. This report will reflect the needs of the Finance Department. The program will

generate this report and send it to appropriate personnel who must input their verification (electronically sign their time card) before receiving pay.

D. Employee Report:

Employees should be able to access a report of their own status. This will be an individual version of the district supervisors' personnel status report and their location in the overtime list.

4.1.2 Input: There will be 3 levels of user input. The program will be designed to limit user input as much as possible and use the computer to generate “default” schedules which the users will update only as needed (for annual leave, sick leave, etc). The program will mechanically perform as much data management as possible. The scheduling input, if properly planned, can be less time consuming than current shift trade and annual leave approval processes.

- The scheduling person or district supervisor will: input CHANGES to the default staffing schedule. Those changes will be for annual leave, overtime, sick leave, shift trades, etc. These will include rescheduled employees and reassignments for employees who "float".

- The station lieutenants will: input changes to the station staffing schedule. Those changes will be for authorized hold overs, employees leaving early, and employees arriving late, and unit reassignments.

- The district supervisors: will input emergency staffing for employees calling in sick, shift trades, and reassignment of floaters.

- The program will: generate default schedules for the station, district, and shift. It will screen employee performance evaluation and physical examination dates and flag any employee who is due for either in 90, 60, and 30 days. It will keep a running tally of hours worked, and update a running overtime list by rank. The program will use internal error checking routines to reduce input error, eliminate employees working over the 48 hour limit, scheduling too many employees at any one site, unfair assignment of overtime, failure to account for employee leave, and notifying supervisors of significant dates.

4.2 Flags:

A flag is a special indicator such as flashing or colored text or UPPER CASE LETTERS. The program will use Flags to attract the attention of the user. These can be used to indicate discrepancies in scheduling, upcoming due dates for performance evaluations or annual physical exam dates, "floaters" being reassigned, employees unexpectedly absent with sick or emergency leave, etc.

4.3 Documentation:

A written instruction manual for using the program will be provided to; the scheduling person, the station lieutenant, and the district supervisor. The manuals may be different for each type of user. For example, lieutenants will not need instruction on tasks performed by the scheduling person. Documentation will include a department Standard Operating Procedure and an instruction manual.

4.4 Implementation:

Implementation should be only after an all-officer (including acting lieutenants) training session. The new program should run concurrently with current staffing procedures for not less than 60 days. Administration will be pressured, if the program works well, to terminate the existing time card and staffing system before the full trial period. It is important to keep concurrent processes for 60 days to insure the system does not have subtle, major problems. Printed copies should be kept of all Payroll Reports. The database should be backed up on a daily basis.

The project team should evaluate the possibility of staggering implementation of portions of the program. The programming should not be staggered but should be written with full capabilities from inception. Staggered implementation will allow for focused training and familiarization with the program on a step-by-step basis.

5 Performance Audit:

A performance audit should follow implementation by 30 days. It should be a formal evaluation and should encourage both direct and anonymous input from all users. Input from Finance should be

solicited on an ongoing basis. The performance audit should be repeated 180 days after start of implementation, at which time a cost analysis should be repeated.

Action Plan

6 Administrative Policy Decisions must include:

- What is the budget for the project. If Canned Off The Shelf (COTS) software that meets the department's needs be found, can it be purchased?
- Parts of the program will have to operate at all work stations. Shall the program be designed to work in the Windows or DOS environment? If the choice is Windows, when will the fire station computers be upgraded to run Windows?
- Should planning allow for expansion to other divisions, internally to Crossing Guards and Life Guards; externally to other Departments?
- Should it link to the Personnel database to access a common bank of employee telephone numbers, pay rate, budget cost code, and other secure data?
- Should it link to Dispatch to identify staffing on ambulances & other units?
- What will be the physical and software security access. Who gets what level of access. Which software components will be placed in the stations and which ones will be placed on the file server? Who will maintain the personnel database?
- Who will support future needs of the system?
- Should municipal chiefs be invited to assist with development and use the software for their departments?
- Should the project expand to consider nontraditional methods of reducing overtime?

Action Plan

District 40 Report

Jan 1, 1998 -- A Shift

First Draft

Stn	Unit	Rank	Employee		Start	End	Status	Flag	Fl't	Notified
27	R-27	LM	L Drew		0700	0700	Reg			
	R-27	M	S Jurgensen		0700	1900	Reg			
	R-27	M	S Jurgensen		1900	0700	ST			
	Off	M	J Harris		1900	0700	ST			
	E-80	LM	N FAZIO		0700	0700	Reg	Eval	24 hr	12-29
40	E-224	L	J Neviaser		0700	0700	Reg			
	E-224	M	M Cumiskey		0700	0700	Reg			
41	E-41	L	J Matta		0700	0700	Reg			
	E-41	F	D Cherry		0700	0700	Reg			
	E-41	F	None		0700	0700	Reg			
	R-41	M	D Cederburg		0700	0700	Reg			
	R-41	M	S Gold	0700	0700	Reg				
42	E-42	L	M Bishop		0700	0700	Reg			
	E-42	F	T Rowley		0700	0700	Reg			
43	E-43	F	A Hoog		0700	0700	Reg			
	E-43	F	K SCHNEIDER		0700	0700	Reg	FDL		
	E-43		None							
	R-43	LM	D Highmiller		0700	0700	Reg			
	R-43	M	P Leitz	0700	0700	Reg				
60	R-60	LM	K Thompson		0700	0700	Reg			
	R-60	M	D Walls		0700	0700	Reg			
80	E-80	L	D Neterer		0700	0700	Reg			
	E-80	F	M Hansen		0700	0700	Reg			

Action Plan

E-80	F	J Hoog		0700	0700	Reg	Avail

FLAGS	Rank	Name	Item	Date
Eval	LM	N Fazio	Performance Evaluation	03-12-98.
FDL	F	K Schneider	FL Driver License renewal	02-01-98

Action Plan

Station Schedule
Jan 1, 1998 -- A Shift

First Draft

Station 27: Daily Assignments

Unit: Rescue 27

Rank	Employee	Start	Start	Status	Flag	Float	Notified
Lieutenant Medic	L. Drew	0700	0700	Reg			
FireMedic	S. Jurgensen	0700	1900	Reg			
FireMedic	J. Harris	1900	0700	Reg			

Station 27: Daily Floats

Rank	Employee	Start	Start	Status	Flag	Float	Notified
Act Lmedic	N. Fazio	0700	0700	Reg	Eval	E-80	12-29

Flags:	Name	Item	Date
Eval	N. Fazio	Evaluation	3-12-98

Action Plan

Payroll Report
Brevard County Public Safety Department

First Draft

Authorized by: _____
Period: From 12/19/97 to 01/02/98

Fund: 1500 3210-0

Name	SS#	Rk	Rg	OT	HO	AL	SL	OR	TL
Doe, Joh	111-11-1111	M	104	8					112
Easy, Life S.	222-22-2222	C	Ex	Ex	Ex				Sal.
Boss, Lady	333-33-3333	Sec	80						80

Fund: 1940 5105-4

Name	SS#	Rk	Rg	OT	HO	AL	SL	OR	TL
Worker, Hard	444-44-4444	F	104	8					112
Worker, Slack	555-55-5555	L	104	32					136
Worker, Occas	666-66-6666	LM	104	8					112