

## POLICE EXECUTIVE RESEARCH FORUw

### 1997 Herman Goldstein Award for Excellence in Problem - Oriented Policing Awards Nomination Form

#### **"THE REENGINEERING OF 911 EMERGENCY COMMUNICATIONS IN THE NEW ORLEANS POLICE DEPARTMENT"**

##### **1. ABSTRACT:**

One of the first priorities of a police department is to handle 911 calls in a timely, efficient, and effective fashion. The department had been plagued with complaints of citizen dissatisfaction in the timeliness of answering emergency calls through the 911 telephone system, and a comprehensive review was initiated by Deputy Superintendent Duane D. Johnson. Daily statistical reports indicated that many citizens were forced to wait for several minutes before the police department answered the telephone. A department is often measured by the community in its quality of service delivery, and this opinion begins with the citizen's confidence that the police will answer as quickly as possible in their time of need. With a steady and predictable increase in calls for service, the department could not keep pace. Delayed answer calls were attributed to poor telephone operator performance, combined with peak call periods and multiple citywide emergencies occurring simultaneously. Chief Johnson embarked on a major research and problem solving project which concluded with the publication of a detailed strategic "call path" plan. The reengineering of the system produced dramatic improvements in the 911 emergency response provided to the citizens of New Orleans.

##### **2. DESCRIPTION:**

###### **A. "Scanning":**

(1) The substantial demand on the 911 number and citizen dissatisfaction in responsive and timely 911 service can be easily linked to the ever increasing call demands placed upon police agencies. Departments must adapt and innovate, implementing creative strategies to maintain quality performance. Rising crime rates and the community's desire for police departments to address and solve problems outside of traditional law enforcement, has increased the demands upon the telephone answering points in all agencies. The ease of dialing 911 has caused increased public reliance upon this number as the fastest method of accessing the police. It is the department's obligation to educate the community and reserve this number for true emergencies while providing alternatives for obtaining other services. The public's confidence in 911 must be bolstered by a creative management plan dedicated to the immediate answer of all 911 calls.

(2), (3) The poor response of the City of New Orleans 911 system was identified by Deputy Superintendent Johnson who noticed an alarming number of hang-up callers and disconnects on a daily basis when reviewing routine performance reports. These reports were commonly utilized for tracking the number of calls to the 911 center and little attention was paid to the number of disconnects. When combining this statistical pattern with the number of citizen complaints received, it was obvious that a problem existed in the answering speed, causing many citizens to hang up before an operator eventually answered the telephone. In addition to documented citizen complaints, some letters to the editor and news stories by the local media hinted at problems in 911 response. City Council members queried Department administrators about response time by 911 operators at budget hearings.

(4) The strategic plan offered was a holistic approach to solving the 911 emergency communications problems for the City of New Orleans. It is important to note that the N.O.P.D. is the City's 911 answering point for all emergency services. Callers needing Police, Fire, and Emergency Medical services, are all channeled through the police department's communications center first. If the police operators were slow in answering the phone, then Fire and E.M.S. assistance was also delayed. Deputy Superintendent Johnson's unsolicited initiative towards solving this problem could be of life saving proportions.

(5) The initial level of diagnosis was to determine the statistical performance and answering speed of the 911 response. The targeted statistic most indicative of this performance would be the number of disconnected calls.

B. "Analysis":

(1) The methods and data information sources used in the analysis of this problem were computer generated performance reports of the 911 telephone system distribution switch. Interviews of complaint operators, dispatchers, supervisors, and field police officers were initiated to assess the problem and identify both equipment related and personnel performance issues as potential causes. Technical research into the limitations of the existing telephone equipment and available alternative technology was also conducted.

(2) The problems associated with 911 telephone response have been most obvious within the last five years, directly related to the increasing number of calls received per month in the dispatch center and static personnel resources.

(3) It was assumed by most managers that the problems associated with inferior response were related to poor performance of the department's complaint operators. The research indicated that there were numerous problems in 911 processing, and that significant gains could be made utilizing existing resources to improve response times.

(4) The harm that resulted from this problem was in the citizen dissatisfaction and lack of confidence in the police department as a whole. There were documented instances where the delayed answer of 911 resulted in minutes lost in the dispatch of emergency medical units to shootings and auto accidents. These precious minutes may have saved lives.

(5) Little or no action was taking place to solve the problem, other than presentations to the City Council and Administration in an attempt to hire additional personnel to address the deficiencies. Deputy Superintendent Johnson's research recognized that the staffing of additional operators would not comprehensively solve the underlying causative factors, nor improve answering speed.

(6) The analysis revealed that the underlying cause began with an identification: there was no specific attention nor goal setting directed at the critical beginning of the emergency communication's process, "expedient answer of a citizen's emergency request for assistance." The baseline conditions that contributed to the 911 problem included: a lack of management accountability; deficiencies in professional training; absence of a community educational campaign; limitations in the use of technology and outdated equipment; and a lack of alternative telephone lines for the diversion of non-911 calls for service.

(7), (8) The nature and extent of this problem revealed that poor response times occurred on all three shifts on any given day, and in some cases were non-related to the number of complaint operators per shift. Regarding situational information, the problem most often occurred at the busiest times in the dispatch center, which coincided with the community's highest calls for service demands.

#### C. "Response":

(1) The response alternatives were to either attempt to convince a reluctant and financially strapped City Council to fund additional complaint operator positions, or to "reengineer" the N.O.P.D. 911 process with existing resources.

(2) The response to this problem consisted of many different solutions and initiatives all directed to the mutual goal of improving 911 performance. The creative plan included: a redirection in accountability, management style, and supervision of the center; implementation of professional training; installation of customer service and information lines to divert non-emergency calls; public promotional campaigns to educate the citizens on the proper use of 911 and the available options; an overhaul of the telephone incident report process; and finally, a complete replacement of the telephone equipment with state of the art technology. These problem-solving components are described as follows:

**"CALL PATH PLAN"** - The New Orleans Police Department 911 Communications Center receives approximately 85,000 telephone calls per month, with a predictable and steady rate of growth each year. To successfully impact the performance of the center, it was important to address this increasing volume of calls for service. The challenge was to determine which calls placed to the 911 switchboard could be targeted for reduction. The first task is to eliminate those hang-up callers who disconnected and called the department back again because no one answered their first call. This reduction would be achieved by offering solutions to improve 911 answer time. The next target area would be to reduce those calls placed to the 911 center for informational purposes only. Citizens often called the police department to gather information about towed cars, payment of traffic citations, or to access administrative offices within the department. Lastly, a call path strategy was needed to improve the assignment and handling of those complaints which did require police response. It was important to educate the community in the proper use of 911 and the alternative for non-emergency calls for service under 821-2222.

**"TRACE" REDESIGN** - The "Call Path Plan" assessed the proper priority levels for citizen complaints, ensuring the most efficient utilization of patrol resources. A principal component of call path, is to divert those citizen requests that do not require police response. The Trace Section is staffed by police technicians who handle minor incidents by telephone, thus freeing patrol cars for street assignments. The process was flawed however. Because of backlogs, many victims were forced to wait for hours for the return phone call. As a result they would call back 911 for their status. To eliminate these repeat calls, the management of the Trace Section was revamped and statistical reports were monitored to improve performance. The section's manpower was better deployed to handle peak workloads of crime reports. A specific dispatcher was assigned to control the assignment and monitoring of complaint calls, and the telephone lines were linked to the digital recording system for supervisor management. A computerized leader board was installed to inform the complaint operators of the backlog waiting time, so that the citizens could be advised on the expected waiting time of the return phone call. Chief Johnson's research indicated that people may not mind waiting if they have a reasonable expectation of how long that wait may be.

**"DISTRICT STATION WALK-IN COMPLAINTS"** - A second concept of Deputy Superintendent Johnson's "Call Path Plan" was to improve citizen service and satisfaction through an educational campaign encouraging walk-in complaints at the District station. An examination of the Bell South telephone directories revealed that the addresses and phone numbers for the district police stations were unlisted. In the spirit of community policing it was important to open these doors for complainants, as well as district residents, encouraging them to walk-in and meet the officers. Citizens would then have the option of filing minor reports at their convenience. The telephone directory blue pages were updated so that everyone could locate and call their district stations. To improve the technological management of these walk-in complaints Deputy Superintendent Johnson dedicated \$85,000 to the acquisition of eight remote "computer aided dispatch" workstations for the district desk officer areas. These computers allow district officers to view the headquarters dispatcher's computer screen, and to initiate incident item numbers

and complaint histories for walk-in complaints. This terminal also provides patrol district ranking officers complete on-line management access of the district's workflow, backlog, and patrol car performance.

**"RED PAGE" PUBLICATION** - To further the educational campaign, Deputy Superintendent Johnson initiated the "Red Page", a community information publication that provides reference and user instructions to the city's public safety services. This reference page was designed of sufficient quality and durability to be inserted as a bookmark into the telephone directory, and was appropriately titled so that users could add it to the white, yellow, and blue telephone book pages. To improve 911 response, it was important to redirect and educate citizens in the use of the 821-2222 and 821-NOPD non-emergency telephone lines. A quick reference list of the most frequently called numbers in error to the police department was also included. The design assists in the department's move towards quality service through "community policing" with a convenient map of the police department stations located on the rear, encouraging citizens to visit their district stations and establish a partnership with their respective community's police officers. Deputy Superintendent Johnson was successful in obtaining funding for the "red page" as a community service from the Orleans Parish 911 Communications District; and the Times Picayune distributed the pages in a Sunday edition at no cost.

**CREATION OF THE "821-NOPD INFO LINE"** - To maintain pace with those increasing telephone calls for administrative and information related requests, Deputy Superintendent Johnson determined that it was important to establish a new telephone line. He created the 821-NOPD customer service and information line which now processes these calls with operators on dedicated levels of priority. The phone line is first linked to an automated attendant which can automatically channel referrals and/or transfer callers to the appropriate private, city, or police divisions through a dial menu. The 821-NOPD info line was advertised through press conferences, the "red page"; and in the telephone directory.

**MODERNIZATION AND UPGRADE OF 911 TELEPHONE EQUIPMENT** - Deputy Superintendent Johnson was directly responsible for identifying and demonstrating the need for complete replacement of the department's computerized telephone switching equipment. This call distribution switch was nearing ten years old and was no longer supported by the vendor. The computer's technology level prevented creative management and deployment of complaint operators to address priority 911 incoming telephone calls. The rigidity of this system mandated a complaint operator handling a non-emergency call to complete that item before responding to 911 emergency calls that were waiting for answer. The system's limited memory prevented operators from contacting those citizens who terminated before answer, including those who could have disconnected because of a medical or other emergency. In addition, our complaint operators did not have equipment allowing them to view routine "caller identification".

To obtain funding for the acquisition of a \$450,000 telephone system was no easy task. Deputy Superintendent Johnson spent many hours negotiating with the city administration and the board of the Orleans Parish 911 Communications District. His tenacity and passion in demonstrating the difficulties and failures of the existing system, convinced the board and the city administration to unanimously fund this project. As a result, the 911 center received a state of the art call distribution switch, advanced computer technology in the work stations for the management of calls for service; automated attendant features, allowing menu driven direction of non-emergency calls; and digital recording of telephone lines and radio frequencies. Our operators now have full caller ID functions; immediate taping and playback of calls; and computerized tracking of any abandoned calls for call back. A full size leader board alerts complaint operators as to the status of the incoming calls, and a bright strobe light flashes in the event that any 911 call is in a delayed answer status, so that other call takers or supervisors may respond. The 911 public safety answering point for New Orleans is now one of the finest equipped in the country. This computerized system enables supervisors to monitor the dynamic performance of our 911 center from a large screen computer workstation, thus allowing flexibility in the rapid deployment of call takers to address any backlog of 911 calls.

#### **"ENHANCED 911 PERFORMANCE THROUGH EFFECTIVE MANAGEMENT"**

Utilizing strategic planning, the communications center was critically examined for those personnel and management changes necessary to improve responsiveness to 911 emergencies. As a result, many significant changes were initiated prior to the acquisition of the new telephone equipment. This plan included: establishment of minimum staffing requirements determined for each shift based on workload; setting break schedules for complaint operators according to hours of peak demands; extensive training in operator interpersonal skills; accreditation of workers to communications operators national standards; and the introduction of stress management training. Senior Police Dispatchers were fully trained as shift supervisors and given full accountability in the mandate to dramatically reduce the number of unanswered/abandoned calls.

(3) The above responses were creatively designed to divert as many non emergency calls as possible from 911, and to improve the quality and efficiency of those calls properly directed to 911.

(4) The evaluation criteria most important before implementation included the establishment of statistical goals to prove effective service to the community, and the acquisition of state of the art telephone and communications equipment and technology to support the backbone of the project.

(5) The project goal and measurable objectives included the statistical tracked diversion of non emergency calls to the system; improved average answering speed for 911 calls; the reduction of disconnect 911 calls; and the elimination of citizen complaints for delayed response to 911 emergency calls.

(6) The resources available to tackle this problem included the staff and supervisors of the communications center; technical support from an engineer on staff at the Orleans Parish Communications District (911 taxing commission); and political and financial support from the O. P. C. D. board.

(7) Before implementing the plan, a great deal of lobbying and demonstration of the City's 911 problem was required to obtain the political and financial support necessary to fully fund all initiatives.

(8) Difficulties encountered during this implementation included a "blue flu" weekend sick-out by more than half of the complaint operators when proportional scheduling and the elimination of breaks during peak call hours was implemented. The development of the request for proposal and technical research necessary for the telephone equipment exceeded the time frame planned for implementation. Installation of the remote computer aided dispatch stations was dependent on the City's full installation and support of a wide area computer network.

(9) The people involved in Deputy Superintendent Johnson's response included the platoon supervisors and administrative command staff of the Communications Division; the O.P.C.D. technical and project engineer; and community volunteers who assisted in the advertisement and distribution of the "red page" informational campaign.

D. "Assessment":

(1) In the last quarter of 1995, the primary goal of improving 911 service through reorganization of resources and improved management was initiated . The benchmark measurement for success would be monitored daily in the number of unanswered and disconnected 911 calls. As a result of this initiative the below listed noteworthy accomplishments were achieved:

**500% IMPROVEMENT IN UNANSWERED /ABANDONED 911 CALLS**

FIRST TEN MONTHS 1995	38,110 "Unanswered/Abandoned 911 Calls" (3,811 per month -127 per day)
FIRST TEN MONTHS 1996	7,656 "Unanswered/Abandoned 911 Calls" ( 765 per month - 25 per day)

**100% IMPROVEMENT IN DELAYED 911 CALLS**

FIRST TEN MONTHS 1995	1,428 calls received per day, 43 experienced some delay
FIRST TEN MONTHS 1996	1,417 calls received per day, 22 experienced some delay

## **150% IMPROVEMENT IN ANSWERING SPEED**

FIRST TEN MONTHS 1995 Average answering speed of 2.5 seconds

FIRST TEN MONTHS 1996 Average answering speed of 1.0 seconds

## **13% OF NON-EMERGENCY CALLS DIVERTED**

Average 911 calls per month	47,000
Average non-emergency calls per month to 821 -2222	38,000

Of the above 38,000 non-emergency calls, an average of 11,000 per month are now diverted and handled via the automated system without the intercession of an operator.

As a result of Deputy Superintendent's initiative, the performance of the 911 communications center has made dramatic and astounding progress. The statistics listed above are specific performance indicators with quantifiable results. Underlying benefits include an enhanced sense of purpose and morale on the part of the 911 employees in our mission of quality service. The job of a complaint operator is one of significant anxiety, in that they are expected to calm victims and offer assistance to all types of emergencies on a daily basis. They are sometimes verbally abused and criticized if the police do not respond quickly enough, while expected to be compassionate and understanding at all times. These successful program initiatives have improved the quality of life not only for the citizens, but also for the complaint operators in their high stress workplace.

All of the above achievements were documented prior to the installation of the telephone equipment in November of 1996, thus the first ten months of 95 and 96 were utilized for statistical comparison. Since full implementation of this telephone equipment, the results have been even more encouraging:

## **731 % ADDITIONAL IMPROVEMENT IN UNANSWERED/ABANDONED 911 CALLS**

FIRST TEN MONTHS 1996 765 per month / 25 per day

FIRST SIX MONTHS 1997 92 per month / 3 per day

## **100 % ADDITIONAL IMPROVEMENT IN ANSWERING TIME**

FIRST TEN MONTHS 1996 Average answering speed of 1.0 seconds

FIRST SIX MONTHS 1997 Average answering speed of 0 seconds  
(immediate first ring answer).

Since the initiation of the "call path plan" and revisions to management and staffing procedures, the Department *has not received any citizen complaints* of unsatisfactory 911 answer time performance.

(2) The methods of evaluation included reports generated by the computerized telephone equipment. This evaluation was compared to the year 1995 prior to any implemented changes through the first six months of 1997.

(3) The evaluation was conducted by the technical engineer assigned to the Orleans Parish Communications District as well as the administrative staff of the Communications Division.

(4) See C. #7

(5) Not Applicable

(6) All goals were achieved beyond expectations.

(7) See D. #1

(8) The response could have been more effective only from a time implementation standard; the results would have been obtained sooner if the telephone switching equipment was installed earlier in the call path plan.

(9) There was no concern about displacement, the N.O.P.D. 911 center is the only public safety answering point responsible for this service.

(10) This response will continue to require daily statistical and performance monitoring on all shifts to ensure quality service delivery. The system has proven itself, however the process is still reliant upon the dedicated effort of the Communications Division workers and supervisors. Daily summary reports are still reviewed at the Bureau Chief level, with appropriate levels of accountability maintained.

### **3. AGENCY AND OFFICER INFORMATION**

(1) This problem - solving initiative was the concept of Deputy Superintendent Duane Johnson and began at the Bureau Chief level. The plan was adopted by the supervisors, complaint operators, and administration of the Communications Division.

(2) Articles and textbooks regarding problem-oriented policing had been reviewed by Deputy Superintendent Johnson. None of the police supervisors or civilian operators assigned to the Communications Division were trained.

(3) Not applicable.

(4) Not applicable.

(5) The problem - oriented policing model was useful in gathering the facts necessary to identify and justify the existence of the problem. The concept of a strategic plan, a plan that takes into consideration impact into areas affected by the development and implementation of the solutions, also proved beneficial. The problem - oriented model

is useful in "project management" by tracking the phases and measuring the objectives when achieved.

(6) The primary funds dedicated to this plan were allocated from the budget of the Orleans Parish Communications District - 911 taxing commission: \$450,000 for the A. T. & T./Lucent Technologies telephone equipment and \$30,000 for the public education "red page" campaign. All other resources for personnel costs were funded within the Police Department budget.

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