Tucson Police Department

4-10 Work Schedules
Final Report
(March 1991)
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Executive Summary</td>
<td>1-1</td>
</tr>
<tr>
<td>2</td>
<td>Introduction</td>
<td>2-1</td>
</tr>
<tr>
<td>3</td>
<td>Overtime Experience</td>
<td>3-1</td>
</tr>
<tr>
<td>4</td>
<td>Response Times</td>
<td>4-1</td>
</tr>
<tr>
<td>5</td>
<td>Special Unit Activity</td>
<td>5-1</td>
</tr>
<tr>
<td>6</td>
<td>Patrol Activity</td>
<td>6-1</td>
</tr>
<tr>
<td>7</td>
<td>Shift Differential</td>
<td>7-1</td>
</tr>
<tr>
<td>8</td>
<td>Fatigue Factors</td>
<td>8-1</td>
</tr>
<tr>
<td>9</td>
<td>Off Duty Work</td>
<td>9-1</td>
</tr>
<tr>
<td>10</td>
<td>Employee Opinion</td>
<td>10-1</td>
</tr>
<tr>
<td>11</td>
<td>Recommendations</td>
<td>11-1</td>
</tr>
<tr>
<td></td>
<td>Appendix</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Employee surveys</td>
<td>A-1</td>
</tr>
</tbody>
</table>
Executive Summary

A one-year test of 4-10 work schedules was implemented in Operations Division South patrol, Service Dog Unit (SDU), and Identification Section field technicians (ID) on January 1, 1990.

Several factors were identified for study throughout the year and the following conclusions were made:

- Court-related overtime decreased (-19.5%) in the test patrol division compared with an increase (+11.3%) in the non-test divisions. Court-related overtime decreased (-40.5%) for SDU and increased (+28.1%) for ID. Overall savings due to court-related overtime reductions during the test were approximately $60,000.

- Extended duty overtime decreased (-50.8%) in the test patrol division compared with an increase (+11.7%) in the non-test divisions. Extended duty overtime decreased (-18.7%) in SDU and (-77.1%) in ID. Overall savings due to extended duty overtime reductions during the test were approximately $44,500.

- Although there were some changes in other category overtime in all test units, none of the changes were attributable to the change in work schedules.

- There were modest changes in response times and calls over response time targets during the test. These were not coincident with implementation of 4-10 schedules, nor were they coincident with a shift change during the test. Implementation of 4-10 schedules had little or no actual effect on patrol response times during the test period.

- Although 4-10 schedules provide better clock coverage for the Service Dog Unit and Identification, demand for their services did not increase as expected, however, that was not related to the change in work schedules. There were no
Section 1
Executive Summary

performance changes of consequence noted when these support units were placed on 4-10 schedules. The only benefits observed were in overtime experience.

- A slight reduction in documented administrative time was observed, but the test failed to identify where officers were specifically using the additional time. There was a slight reduction in overall documented time which would indicate an increase of random patrol time. Unlike other agencies who reported significant increases in officer-initiated activity, this activity decreased in the test division during the test period. Consistent with this conclusion, Records Section workload during the test period did not increase.

- Vehicle availability was not a factor during the test. There were no occasions where officers had to be paired in one vehicle due to a vehicle shortage in the test division during the test period.

- Implementation of 4-10 schedules in Operations South patrol caused shift differential costs to decrease (-9.0%). The non-test divisions overall shift differential hours increased slightly (+1.4%) during the same period. Overall savings associated with the reduction of shift differential payments during the test period was approximately $2,400.

- The surprising and unexpected decrease in some of the fatigue factors (industrial injuries and citizen complaints) reported at the six-month point of the test did not continue. Neither did the substantial increase in sick leave also reported at six months. The overall test experience in each of the four fatigue factors (industrial injuries, vehicle accidents, citizen complaints, and sick leave) was that no change of significance attributable to the change of work schedules was observed.
Section 1
Executive Summary

- Off duty work rates did not increase and there was a tendency to shift off duty work to weekend rather than work days.

- When considering a conversion to 4-10 schedules, employees express a preference for the change. After one year of 4-10 schedule experience, there is an even more pronounced preference for the 4-10 schedule. Considering narrative responses from employees, morale was very positively affected by the test.

Based on the results of the test, scheduling and cost benefits to the department, and employee opinion, Planning & Research recommends 4-10 schedules be used as an option in Police Department units that normally operate 24-hours a day, 7-days a week (uniform patrol, Communications, Records, and ID). In addition, SDU is recommended because of better schedule coverage and advantages reported for the animals.

These recommendations represent potential savings to the City in extended duty overtime costs. Despite the test experience, court overtime costs should not be considered as a probable reduction. How effectively the court uses the new officer scheduling system and whether court consolidation actually occurs are likely to have a greater effect on court overtime costs than a schedule change. The test did show, however, that court overtime costs do not increase because 4-10 schedules are implemented and reductions are possible. Other costs are not likely to be affected substantially either positively or negatively.

These recommendations assume no substantive reductions in patrol personnel or vehicles as the test program did not determine the minimum possible configuration of each. Below some point in staffing, the operational benefits of extra shift overlap (which causes the extended duty overtime reductions) on 4-10 schedules becomes a handicap when those officers must be used on overtime to cover other schedule deficiencies.
Section 2

Introduction

In late 1988, the Tucson Police Department began studying the feasibility of four, ten-hour workdays per week (4-10 schedule) as an alternative to the traditional five, eight-hour workdays (5-8 schedule). Shortly thereafter, the Headquarters Desk Unit, manning the front desk and handling report call-backs, was placed on 4-10 schedules.

Planning & Research staff obtained information from many other police agencies with 4-10 experience, worked with patrol commanders to study various allocations of personnel and equipment, and polled police personnel about their opinions of a possible schedule change.

In April 1989, the 4-10 Plan Evaluation (referred to as "the feasibility study") was published and distributed. It recommended a carefully monitored test of 4-10 schedules be conducted in one patrol division, one sworn officer support unit (Service Dog Unit), and one non-sworn support unit (Identification Section). The study and its recommendations were submitted to Mayor and Council who, in December 1989, authorized a one-year test beginning January 1, 1990.

Monthly updates and a six-month status report were issued by Planning & Research, containing data important to the evaluation of the program. Particular emphasis was placed on overtime costs and response times. These "critical factors," if negatively affected in a significant manner, could have caused the test to be immediately terminated.

This is the final report and evaluation of the 4-10 test program.
Overtime Experience

Police overtime is a major cost to the City. In calendar year 1989, it amounted to $2.18 million (in pay and compensatory time equivalent). In 1990, the amount was $2.25 million. During the original 4-10 Feasibility Study, many police commanders expressed concern that any negative effect of the schedule on overtime could be extremely costly. Of particular concern was court-related overtime, accounting for the majority of police overtime and over which the Police Department has little control. The original study determined that most agencies experienced no change in overtime costs in general and a reduction in extended duty overtime. The extended duty reduction was due to the greater shift overlap while on 4-10 schedules (i.e. less need for officers to take calls near the end of a shift).

Background

For the purposes of this evaluation, police overtime is segregated into three categories: court-related, extended duty, and other. Police overtime is submitted by employees on a Police Department overtime form. Each submission includes a code indicating the reason for the overtime. Police overtime records are data-entered and processed on the City IBM computer on a pay period basis. After the payroll report is issued (every two weeks), overtime data is archived on computer tape. Records prior to January 1990 were obtained from the archive. Beginning that month, records were obtained directly from the bi-weekly overtime files prior to archiving. All records were downloaded from the City computer. Overtime was calculated for the period in which it was earned rather than paid. For example, overtime earned on December 30, 1989 is included in totals for December 1989 rather than January 1990 when it was actually paid to the employee and appeared on the payroll report.

Each of the three categories of overtime is reported in total hours for each of the evaluation periods. In addition, court-related overtime (related to the number of assigned officers) is reported on a per-officer basis. Extended duty overtime, which could be affected
Section 3
Overtime Experience

by how efficiently officers are scheduled relative to call load, is reported in hours of overtime per 100 actual duty hours in addition to total hours.

Other overtime codes involving field training pay, off-duty work for other departments, and the Connie Chambers grant-funded project, were excluded from other overtime calculations because they do not relate to working schedules. In addition, the number of hours associated with these activities is relatively large in comparison to other codes categorized as "other overtime." This would obscure any changes in the smaller categories, making evaluation difficult.

Where any costs or savings attributed to the test program are estimated, the overtime cost per hour is the actual average overtime cost per hour for all overtime incurred by that unit from January through December 1990. No fringe benefit costs (such as pension) are included.

Court-related Overtime

During the test year, two divisions experienced an overall increase in court overtime hours (Midtown +11.9%, East +22.4%). Two decreased (West -20.3%, South -24.0%). The total amount of non-test division overtime (West, Midtown, East combined) increased 17.5%.

<table>
<thead>
<tr>
<th></th>
<th>SOUTH</th>
<th>WEST</th>
<th>MIDTOWN</th>
<th>EAST</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN-JUN 89</td>
<td>4349.8</td>
<td>4393.1</td>
<td>3005.3</td>
<td>3625.6</td>
</tr>
<tr>
<td>JUL-DEC 89</td>
<td>3780.9</td>
<td>3801.2</td>
<td>2755.6</td>
<td>2507.8</td>
</tr>
<tr>
<td>JAN-JUN 90</td>
<td>3089.3</td>
<td>3603.7</td>
<td>3357.8</td>
<td>3431.1</td>
</tr>
<tr>
<td>JUL-DEC 90</td>
<td>3125.3</td>
<td>2950.0</td>
<td>3689.9</td>
<td>4075.7</td>
</tr>
</tbody>
</table>

Figure 3.1
Court-related overtime
(Total hours)
Prior to the test (calendar year 1989) Operations South and West were nearly even as the largest users of court overtime. During the test (calendar year 1990) the test division was the smallest user of court overtime and experienced only 20.1% of all court-related patrol overtime. During the same period, 27.8% of all patrol personnel were assigned to the test division.

Court overtime must be considered in light of the number of officers assigned to each division. This consideration should not exclude days off, vacation, sick leave, etc., because officers are routinely scheduled for court even when not working their normal patrol assignment. The total number of officers assigned to each division was determined by analyzing daily rosters. The number of officers assigned for the year is the average daily number of officers carried on each patrol division's roster, regardless of leave.
Section 3
Overtime Experience

Figure 3.3
Court-related overtime
(Hours per officer)

<table>
<thead>
<tr>
<th></th>
<th>SOUTH</th>
<th>WEST</th>
<th>MIDTOWN</th>
<th>EAST</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUL-DEC 89</td>
<td>38.0</td>
<td>41.8</td>
<td>33.2</td>
<td>29.9</td>
</tr>
<tr>
<td>JAN-JUN 90</td>
<td>30.8</td>
<td>38.8</td>
<td>41.3</td>
<td>37.8</td>
</tr>
<tr>
<td>JUL-DEC 90</td>
<td>30.4</td>
<td>33.6</td>
<td>38.8</td>
<td>42.2</td>
</tr>
</tbody>
</table>

When the number of officers is considered, the reduction of court overtime hours becomes even more apparent. Operations South experienced the most substantial court overtime reduction (-19.5%) and also became the lowest per-officer user of court overtime. Other patrol divisions experienced an overall increase (+11.3%) during the same period.¹

Figure 3.4
Court-related overtime
(Hours per officer)

¹Because January through June 1989 data were unavailable, both six month periods of 1990 were averaged to make the comparison with the six-month test period.
Section 3
Overtime Experience

The non-test divisions' extended duty overtime collectively increased (+17.8%) from 1989 to 1990. Only one of those divisions, Operations West, experienced a decrease and that was slight (less than one percent). In contrast, Operations South's extended duty overtime decreased markedly (-47.5%) during the same period.

Figure 3.5
Extended duty overtime (Total hours)

<table>
<thead>
<tr>
<th></th>
<th>SOUTH</th>
<th>WEST</th>
<th>MIDTOWN</th>
<th>EAST</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN-JUN 89</td>
<td>1347.4</td>
<td>665.9</td>
<td>838.1</td>
<td>995.1</td>
</tr>
<tr>
<td>JUL-DEC 89</td>
<td>1430.8</td>
<td>879.6</td>
<td>809.0</td>
<td>1104.1</td>
</tr>
<tr>
<td>JAN-JUN 90</td>
<td>709.8</td>
<td>862.9</td>
<td>1145.8</td>
<td>1290.9</td>
</tr>
<tr>
<td>JUL-DEC 90</td>
<td>749.2</td>
<td>673.9</td>
<td>1207.0</td>
<td>1051.7</td>
</tr>
</tbody>
</table>

Figure 3.6
Extended duty overtime (Total hours)
Section 3
Overtime Experience

Unlike court overtime, which depends less on the actual working hours of officers and more upon the number of officers, extended duty overtime is most likely to occur when there are fewer numbers of officers actually working. Another likely scenario is poor officer schedule to service demand. In either case, the total number of actual deployed patrol hours is more important when considering extended duty overtime than is the number of officers assigned to the division roster. For this reason, extended duty overtime was analyzed considering the number of duty hours (per 100 duty hours).

Figure 3.7
Extended duty overtime
(Hours per 100 duty hours)

<table>
<thead>
<tr>
<th></th>
<th>SOUTH</th>
<th>WEST</th>
<th>MIDTOWN</th>
<th>EAST</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUL-DEC 89</td>
<td>1.54</td>
<td>1.11</td>
<td>1.17</td>
<td>1.56</td>
</tr>
<tr>
<td>JAN-JUN 90</td>
<td>0.68</td>
<td>1.08</td>
<td>1.69</td>
<td>1.63</td>
</tr>
<tr>
<td>JUL-DEC 90</td>
<td>0.92</td>
<td>0.93</td>
<td>1.38</td>
<td>1.36</td>
</tr>
</tbody>
</table>
Section 3
Overtime Experience

Considering the number of duty hours worked, the non-test divisions experienced an increase (+11.7%) in the amount of extended duty overtime. During the same period, Operations South experienced a substantial decrease (-50.8%).

Figure 3.8
Extended duty overtime
(Hours per 100 duty hours)
Other Overtime

Other categories of overtime were not expected to change due to implementation of 4-10 schedules. The following table shows Operations South other-category overtime has fluctuated widely over the full 24-month evaluation period, with sharp increases in the second half of both years.

<table>
<thead>
<tr>
<th></th>
<th>SOUTH</th>
<th>WEST</th>
<th>MIDTOWN</th>
<th>EAST</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN-JUN 89</td>
<td>455.5</td>
<td>247.9</td>
<td>431.2</td>
<td>579.2</td>
</tr>
<tr>
<td>JUL-DEC 89</td>
<td>1289.4</td>
<td>492.4</td>
<td>546.0</td>
<td>557.2</td>
</tr>
<tr>
<td>JAN-JUN 90</td>
<td>567.1</td>
<td>555.5</td>
<td>639.9</td>
<td>572.2</td>
</tr>
<tr>
<td>JUL-DEC 90</td>
<td>1046.5</td>
<td>699.4</td>
<td>726.0</td>
<td>540.6</td>
</tr>
</tbody>
</table>

The observed reduction in the first six months of 1990 should not be attributed to the schedule change. Operations South established a "beat officer" program unrelated to 4-10 schedules in the Spring of 1989 that required officers to attend beat meetings, in many cases off duty. A check of other overtime from July through December 1989 confirmed that meetings were the largest single contributor to this category during the time. Meetings were also the largest contributor to other overtime during 1990. Other divisions did not have a similar program.

Overall, there was an increase (+9.7%) in the test division's other overtime during 1990. During the same period, the non-test divisions collectively also experienced an increase (+30.1%). The smaller increase in Operations South should not be attributed to 4-10 schedules. Operations South was the largest other-category overtime user both prior to and after implementation of 4-10 schedules. There is no schedule-related reason attributable for this difference.
Section 3
Overtime Experience

Figure 3.10
Other overtime
(Total hours)
Support Unit Overtime

The Service Dog Unit experienced a substantial reduction (-40.5%) in court overtime while on 4-10 schedules in 1990 when compared with 1989.

The Identification Unit experienced an increase (+28.1%) in court-related overtime during 1990.

**Figure 3.11**
Special unit court overtime (Total hours)

<table>
<thead>
<tr>
<th></th>
<th>S.D.U.</th>
<th>I.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN-JUN 89</td>
<td>311.5</td>
<td>38.7</td>
</tr>
<tr>
<td>JUL-DEC 89</td>
<td>293.3</td>
<td>32.5</td>
</tr>
<tr>
<td>JAN-JUN 90</td>
<td>209.6</td>
<td>77.9</td>
</tr>
<tr>
<td>JUL-DEC 90</td>
<td>150.4</td>
<td>13.3</td>
</tr>
</tbody>
</table>

**Figure 3.12**
Special unit court overtime (Total hours)
Section 3
Overtime Experience

Special units' extended duty overtime experience on 4-10 schedules was similar to that of the test patrol division. Service Dog Unit extended duty overtime decreased (-18.7%) during 1990. Identification Unit overtime decreased markedly (-77.1%) during 1990.

Figure 3.13
Special unit extended overtime (Total hours)

<table>
<thead>
<tr>
<th></th>
<th>S.D.U.</th>
<th>I.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN-JUN 89</td>
<td>37.7</td>
<td>109.7</td>
</tr>
<tr>
<td>JUL-DEC 89</td>
<td>38.2</td>
<td>128.5</td>
</tr>
<tr>
<td>JAN-JUN 90</td>
<td>24.5</td>
<td>32.2</td>
</tr>
<tr>
<td>JUL-DEC 90</td>
<td>37.2</td>
<td>22.4</td>
</tr>
</tbody>
</table>

Figure 3.14
Special unit extended overtime (Total hours)
Section 3
Overtime Experience

Other overtime increased for both special units during 1990. The Service Dog Unit uses other category overtime primarily for call-outs (bomb threat responses, tracks, etc., and demonstrations). Call-outs were up in number during 1990 (see Section 5), however, an analysis of the time of day these call-outs found they would have occurred off duty on the former 5-8 schedules also. In other words, the increase in call outs and associated other-category overtime (+16.2%) was not caused by the schedule change.

Identification Unit other overtime also increased (+14.1%), however, most was due to a grant-funded project initiated in September 1990. 157.8 overtime hours were worked for (and paid through) the Forensics IV Police Criminalist Grant (Arizona Criminal Justice Commission, Drug Enforcement Task Force) from September through December 1990. Excluding this activity, the ID Unit actually decreased overall other overtime during 1990 (-63.6%).

![Figure 3.15](image)

### Figure 3.15
Support unit other overtime (Total hours)

<table>
<thead>
<tr>
<th></th>
<th>S.D.U.</th>
<th>I.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN-JUN 89</td>
<td>221.5</td>
<td>106.2</td>
</tr>
<tr>
<td>JUL-DEC 89</td>
<td>347.3</td>
<td>96.7</td>
</tr>
<tr>
<td>JAN-JUN 90</td>
<td>345.5</td>
<td>56.8</td>
</tr>
<tr>
<td>JUL-DEC 90</td>
<td>315.7</td>
<td>17.1</td>
</tr>
</tbody>
</table>

*Both the table and graph exclude grant-funded overtime in Identification. See text.*
Section 3
Overtime Experience

Figure 3.16
Support unit other overtime
(Total hours)\(^2\)

Costs

In calendar year 1990, the non-test divisions experienced a collective increase of 11.3% in the amount of court overtime per officer when compared to 1989. During the same period, Operations South court overtime per officer decreased 19.5%. Assuming Operations South could have expected increases similar to the non-test divisions had 4-10 schedules not been implemented, savings to the City during the year-long test was approximately $53,800.

Because no comparable units existed for comparison, Service Dog Unit and Identification Unit overtime costs/savings were estimated assuming no change in court overtime hours would have occurred had 4-10 schedules not been implemented. Service Dog Unit court overtime decreased 40.5% in 1990, a savings of approximately $6,400. Identification Unit court overtime increased 28.1%, a cost of approximately $400.
Section 3
Overtime Experience

The non-test divisions experienced an overall increase in extended duty overtime hours (per duty hour) of 11.7% in 1990. During the same period, Operations South extended duty overtime decreased 50.8%, a savings to the City of approximately $40,500 (assuming South's experience would have been similar to the non-test divisions had 4-10 schedules not been implemented).

Service Dog Unit extended duty overtime decreased 18.7%, a savings of approximately $400. Identification Unit extended duty overtime decreased 77.1%, a savings of approximately $3,600. Special unit estimates assume no change in extended duty hours would have occurred had 4-10 schedules not been implemented.

Because other overtime costs are not directly schedule-related (in the case of patrol officers) and no 4-10 attributable change occurred in special unit other overtime, no conclusion should be drawn regarding costs/savings associated with changes in other overtime costs.

The estimated overall savings in court and extended duty overtime costs during the one-year test period is approximately $104,000.

Conclusions

The observed reductions in court-related and extended duty overtime which occurred in the test division (and following implementation of 4-10 schedules) are related to the change of schedules. No program that would affect either of these factors in Operations South differentially from any other patrol division was implemented either internally or externally during the same period.

The observed reduction in court overtime is greater than was originally expected. A significant reduction in extended duty overtime was expected and, in fact, materialized.
Response Times

Response times to calls for police service were considered a critical factor of the evaluation of 4-10 schedules. The more efficiently officers can be scheduled to call demand, the better response time can be expected. The Tucson Police Department is not considered fully staffed and concern that insufficient personnel might cause a degradation of response time required investigation and evaluation.

Police Department objectives are to respond to all Priority-1 calls within five minutes, Priority-2 calls within ten minutes, and Priority-3 calls within thirty minutes. These priorities are defined as follows:

- **Priority-1.** A report of a serious personal offense in progress, or of an incident involving serious injury or imminent serious injury. Police response is to an extreme emergency.

- **Priority-2.** A report where a rapid police response will increase the probability of apprehension of a felon or the prevention of injuries. Police response is to an emergency or other urgent need for police presence.

- **Priority-3.** A report where immediate police attention is not required, but police assistance is still necessary. Police response to these calls is considered routine.

Response time is considered to be the time from the receipt of the call-for-service until the first officer arrives at the scene.

Response time data is obtained from the Police Department's Consolidated Records Indexing System (CRIS) computer.

The 4-10 feasibility study concluded no change (or a slight improvement) in response times could be expected if 4-10 schedules were implemented.
Another measure used by the Police Department to evaluate service delivery, is the percentage of all calls that are outside of the time limit objectives. While the average response times are important, it is equally, if not more, important to know how often the department's actual objectives are not met.

Analysis

As illustrated in the following three charts, response times for all call priorities increased in the test division during the second half of the test year. An analysis of the monthly data found this increase due almost entirely to the months of November and December. These months were further analyzed and, while the results for both months were almost identical, the reason for the increase each month was different. In November, an increase in the amount of pre-dispatch time (the length of time a call must be held prior to dispatch) was responsible but travel time (the amount of time from dispatch of an officer to actual arrival) was about average. In December, the reverse occurred, the pre-dispatch time was about average but travel time was greater than normal. A general degradation in pre-dispatch times could indicate greater difficulty in locating a free unit for dispatch. This does not appear to be the case in this instance because pre-dispatch times returned to approximately average in December. In addition, there were no changes in 4-10 schedules (including shift changes) that occurred during the final two months of the test that would have affected these two months differently from the others.
Section 4
Response Times

During the entire test year, the response time for Priority-1 calls in Operations South increased (+5.4%) when compared with the year before the test. The non-test divisions increased 4.0% during the same period.

Figure 4.1
Priority-1 Calls
(Average response time, minutes)
Section 4
Response Times

During the test year, Operations South's Priority-2 response time increased slightly (+3.3%). During the same period, the non-test divisions remained virtually unchanged (-0.3%).

Figure 4.2
Priority-2 Calls
(Average response time, minutes)
During the test year, Operation South's Priority-3 response time decreased slightly (-2.3%) in Operations South. There was also a decrease, also slight (-1.6%), in the non-test divisions during the same period.
Section 4
Response Times

The number of Priority-1 calls over the five-minute response target increased slightly (+1.8%) during the test year in Operations Division South. The non-test divisions experienced a much larger increase (+9.6%) during the same period. Similarly to average response time, the increase during the second half of the year was due primarily to increases in November and December.
Section 4
Response Times

The number of Priority-2 calls over the ten-minute response target increased (+13.2%) during 1990 in Operations South during the test year. The non-test divisions experienced almost no change (-0.7%) during the same period.

Figure 4.5
Priority-2 Calls
(Percent over response target)
The number of Priority-3 calls over the thirty-minute response target decreased (-3.0%) during 1990 in Operations South during the test year. The non-test divisions experienced a very similar decrease (-4.0%) during the same period.
Conclusions

There were modest changes in response times in Operations South during the test year. These were not coincident with implementation of 4-10 schedules, nor were they coincident with a shift change during the test. The response time and percent-over-target changes were "mixed," that is some were positive, some negative across all three priorities. Had 4-10 schedules been responsible for a change (positive or negative) the change would have occurred coincident with the schedule change and stayed at the changed level. In addition, a general change would have occurred across all call priorities and different from the experience of the non-test divisions.

Implementation of 4-10 schedules had little or no effect on patrol response times during the test period.
Section 5

Special Unit Activity

Police agencies have a myriad of support units, some composed entirely of sworn officers, others entirely of non-sworn personnel. The suitability of 4-10 schedules for support units was questioned and two Police Department support units were selected to test the schedules: Service Dog and Identification Field Technicians.

Background

Other police agencies reported little experience with support units and 4-10 schedules. Either few had tried it or their reports were limited to the major police department function of patrol response.

Tucson Police commanders and supervisors were asked to comment on the feasibility of 4-10 schedules for various department units. The Identification Section and Service Dog Unit were selected for the test because their proposed schedules offered better coverage than existing 5-8 schedules. ID, an exclusively non-sworn assignment, expected to reduce overtime (evaluated in Section 3), decrease response time, and process more service requests.

The Service Dog Unit (S.D.U.), composed of sworn police officers, expected to provide better field coverage during peak hours, thereby receiving more requests for service. The number of calls received immediately before and after shift were expected to decrease due to better schedule coverage.

Both support units felt that requests for their services were going unasked, particularly during peak-demand hours. This belief resulted in their common expectation that calls-for-service would increase.
Section 5
Special Unit Activity

Service Dog Unit

The Service Dog Unit handled almost the same number of total calls during 1990 as 1989 (-1.1%). Response times increased slightly (+6.2%) while the number of call-outs increased substantially (+17.7%). Calls to and from work decreased significantly (-39.5%).

<table>
<thead>
<tr>
<th></th>
<th>JAN-JUN /89</th>
<th>JUL-DEC /89</th>
<th>JAN-JUN /90</th>
<th>JUL-DEC /90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calls handled</td>
<td>4234</td>
<td>3850</td>
<td>4460</td>
<td>3534</td>
</tr>
<tr>
<td>Response Time</td>
<td>4.27</td>
<td>4.50</td>
<td>4.55</td>
<td>4.76</td>
</tr>
<tr>
<td>Call-outs</td>
<td>63</td>
<td>61</td>
<td>87</td>
<td>59</td>
</tr>
<tr>
<td>Calls to-from work</td>
<td>193</td>
<td>202</td>
<td>121</td>
<td>118</td>
</tr>
</tbody>
</table>

The increase in the number of call-outs also caused an increase in the amount of other-category overtime (see Section 3). These call-outs were analyzed by time of day and day of week to determine whether the change of schedules was responsible for the observed increase. It was determined that only eight call-outs occurred during the working hours of the unit. These were cases requiring an additional or specialized dog. The remainder (141 cases) all occurred on hours that would have been off duty whether on 4-10 or on the former 5-8 schedules. The observed increase was not related to the change to 4-10 schedules.
Section 5
Special Unit Activity

Identification Section

The number of calls handled by Identification Technicians during 1990 was significantly less (-20.6%) than in 1989. Response time was virtually unchanged (-0.9%). Total time on calls decreased (-14.4%) and the average time per call increased (+8.7%). None of these changes were directly attributable to the change in work schedules.

Figure 5.2
Identification Technicians Activity Statistics

<table>
<thead>
<tr>
<th></th>
<th>JAN-JUN /89</th>
<th>JUL-DEC /89</th>
<th>JAN-JUN /90</th>
<th>JUL-DEC /90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calls handled</td>
<td>1590</td>
<td>1429</td>
<td>1265</td>
<td>1131</td>
</tr>
<tr>
<td>Response Time</td>
<td>22.82</td>
<td>25.20</td>
<td>23.80</td>
<td>23.78</td>
</tr>
<tr>
<td>Total hours on call</td>
<td>3166</td>
<td>3235</td>
<td>2836</td>
<td>2643</td>
</tr>
<tr>
<td>Average time per call</td>
<td>1.97</td>
<td>2.23</td>
<td>2.25</td>
<td>2.36</td>
</tr>
</tbody>
</table>

Conclusions

Although 4-10 schedules provide better clock-coverage for the Service Dog and Identification Units, substantial increases in demand for their services did not increase as expected. The call demand appears to be driven by factors other than availability (nature of call, etc.). The assertion that requests for service were not made because of unavailability of these special units is not supported by this analysis.

There were no performance changes of consequence noted when these support units were placed on 4-10 schedules. The only benefits observed were in overtime experience. The Service Dog Unit noted (subjectively) that the 4-10 schedule appeared to be better for the dogs than the pre-test 5-8 schedules.
Section 6

Patrol Activity

One clear benefit of a 4-10 schedule is a decreased percentage of duty time spent in administrative activities such as briefing and vehicle preparation, breaks, meals, and debriefing periods. This is due to fact that these periods are day-dependent and a reduction in the number of work days per week results in a corresponding reduction in the number of these administrative periods, freeing the time for more productive work activity.

On a five-day schedule, 600 minutes per week is obligated for these activities. On a four-day schedule, 480 minutes is obligated, a 20% reduction. Two additional hours per week, per officer are available for patrol activity.

Several different options existed to evaluate how officers use this additional available time. Other agencies with 4-10 experience reported increases in officer-generated activities such as traffic citations, field interviews, on-sight arrests, etc. This was reported to have caused an increase in certain support units' workloads (such as Records).

The Tucson Police Department measures the numbers of these "contacts" in addition to several other possibly useful indicators. On-sight contacts are the total number of on-sight arrests and traffic contacts (including citations, warnings, and repair orders).

Community involvement time is the amount of time spent specifically interacting with the public in a community-involved approach such as foot patrol or neighborhood watch meetings. It does not include "routine" patrol.

Another indicator of patrol strength to work-load is the overall percentage of dispatched activity (calls), administrative activity (briefings, meals, court, training, etc.), and self-initiated activity (community-oriented, problem directed patrol, traffic contacts, etc.). The only time available for routine (otherwise know as "random") patrol, is that remaining after these three categories are addressed.
Section 6
Patrol Activity

Arrests, contacts, and time ratios are reported on officers' activity sheets which are compiled monthly by each division. Planning and Research obtained these records back to January 1989. The manner in which activity is logged differs from division-to-division, so no comparison to non-test divisions was attempted. Comparisons were made between the pre-test and the six-month test periods.

One possible indicator of actual increased patrol activity is vehicle mileage. At least some of the additional available time should be used driving (whether responding to calls or random patrol). Mileage figures for Operations South were obtained beginning in September 1989.

Unlike many other agencies with 4-10 experience, the test division did not exhibit increases in officer-generated activity during the test period. Overall, on-sight contacts decreased 10.2% during the test year. Community involvement contacts were down 5.2% during the same period.

Activity

Figure 6.1
Operations South Activity Statistics

<table>
<thead>
<tr>
<th></th>
<th>On-Sight Contacts</th>
<th>O/S Contacts (100 DH)</th>
<th>Com. Inv. (Hours)</th>
<th>Com. Inv. (100 DH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN-JUN 89</td>
<td>16592</td>
<td>26.9</td>
<td>6356</td>
<td>10.3</td>
</tr>
<tr>
<td>JUL-DEC 89</td>
<td>17654</td>
<td>27.1</td>
<td>7426</td>
<td>11.4</td>
</tr>
<tr>
<td>JAN-JUN 90</td>
<td>14488</td>
<td>23.8</td>
<td>5639</td>
<td>9.3</td>
</tr>
<tr>
<td>JUL-DEC 90</td>
<td>16255</td>
<td>20.8</td>
<td>7422</td>
<td>9.5</td>
</tr>
</tbody>
</table>

1 On-sight contacts include: on-sight felony and misdemeanor arrests and traffic contacts.
2 100 DH = 100 duty hours
Section 6  
Patrol Activity

The larger decrease, both in overall number and number per 100 duty hours, observed during the first six months of the test may be the result of trainees. The factored number is reduced by the additional working hours of the trainees and, the trainers will not be as active while fulfilling training duties. This conclusion is supported by the month-to-month statistics. In January and February 1990, contacts and community involvement activity were higher than the same two months one year earlier. Beginning in March 1990 (coincident with the assignment of the trainees to active training) both types of activity decreased markedly from the same period in 1989. While possibly accounting for a significant portion of the increase, the results of the second six months of the test (when training was completed) shows the assignment of trainees was not solely responsible, however.

A further check was made specifically to resolve the issue of whether an increase in Records activity could be expected when 4-10 shifts are implemented. Priority-0 calls (those that officers generate from on-sight activity) were evaluated for a full two year period, from January 1989 through December 1990. Operations South on-sight calls decreased 8.0% during 1990. The non-test divisions decreased 3.4% during the same period. These results are consistent with the on-sight contact decrease reported earlier. Both point to a conclusion that implementation of 4-10 schedules in the test division did not cause an increase in hard (contacts, reports, etc.) activity by officers.
The effect of new trainees appears to have influenced the administrative time category. Training time is logged as administrative time and may be masking what would otherwise be a decrease. As illustrated in the following graph, administrative time (as a percentage of overall available time) decreased markedly in January and February. Beginning in March, coincident with assignment of the first group of trainees to training duty, administrative time increased and fluctuated greatly until July. Then, administrative time continues to be less than usual until December when a new group of trainees was assigned.
Section 6
Patrol Activity

All categories of officer time activity remained relatively unchanged during the test when evaluated in six-month blocks. There was a slight reduction in administrative time during the second six months of the test when trainees were no longer an influence on administrative time.
Vehicle Mileage

Vehicle mileage figures could not be obtained prior to October 1989 because just prior to that date, there was a mass reassignment of vehicles from division to division due to Mobile Data Terminal (M.D.T.) installation. During the last quarter of Calendar Year 1989, Operations South averaged 580.7 miles per 100 duty hours. In the first quarter of 1990, there was no significant change in vehicle mileage (584.2 miles per 100 duty hours).

Because trainees are assigned to 2-officer cars, the assignment of trainees, beginning in late February, affected miles driven. Training duties reduce the mileage driven by trainers also, contributing to a general reduction. New trainees were again assigned to the test division in the month of December 1990.
Assignment of the trainees likely had more of an influence on vehicle miles driven than the schedule change. In addition, a fuel conservation-mileage reduction program was instituted in the fall of 1990 due to sharp increases in the cost of fuel caused by the Persian Gulf Crisis. The following chart illustrates these effects.

Due to the non-schedule influences on vehicle mileage during the test period, no conclusion should be drawn from this factor.
Vehicle Availability

A procedure was established prior to the test for Operations South supervisors to provide a memorandum in each case where two officers were deployed in one vehicle because a vehicle was unavailable. Memos were not required where the pairing of officers was for another (operational) reason.

During October 1989, twenty-two memos were received indicating officers were paired due to a vehicle shortage. However, this was during the same period when vehicles were being outfitted with M.D.T.’s and reassigned among all of the patrol divisions. After October, no memos indicating vehicle shortages were received. Several checks were made with the test division during the test period to confirm the lack of memoranda was due to no vehicle shortages rather than change of procedure.

Conclusions

While a slight reduction in administrative time was observed, the test failed to identify where officers were specifically using the additional time. There was a slight reduction in overall documented time which would indicate an increase of random patrol time. The measurement designed to detect this (vehicle mileage) was affected by other factors during the test and could not be used to draw a conclusion.

Administrative time reductions did occur, however, the measurement of them was obscured by the administrative time increases associated with the assignment of trainees to the test division during the first six months (and final month) of the test.

Vehicle availability was not a factor during the test. There were no occasions where officers had to be paired in one vehicle due to a vehicle shortage in the test division during the test period.

Unlike other agencies, who reported significant increases in officer-initiated activity, this activity decreased in the test division during the test period. Consistent with this conclusion, Records workload during the test period did not increase due to increased officer activity.
Section 7

Shift Differential

Background

None of the agencies with 4-10 experience reported any evaluation of the schedule's effect on shift differential costs.

Shift differential pay is very common among law enforcement agencies and is most frequently a premium payment, paid on a per-hour basis, for working hours on evenings, late nights and, occasionally, weekends. The City of Tucson compensates police officers, as well as other non-overtime-exempt employees, with an additional $0.30 per hour for every hour worked between 6:00 P.M. and midnight and $0.35 per hour for every hour worked between midnight and 6:00 A.M. Shift differential is not paid in addition to other premium pay (such as overtime) which might be in effect, nor is it paid when an employee is off duty (vacation, sick leave, etc.). As such, shift differential costs are purely a function of the number of personnel assigned to night hours.

Payroll roster data was downloaded from the City IBM mainframe computer. These records contain, among other things, the number of "P.M. hours" (6:00 P.M. - 12:00 A.M.) and "A.M. hours" (12:00 A.M. - 6:00 A.M.) paid as shift differential each working day. The number of overall duty hours was also determined for this analysis, because the number of shift hours paid is proportional to the number of personnel and how many hours they work.

Analysis

Total P.M. shift differential hours increased for all divisions except Operations South in the six months following implementation of 4-10 schedules in the test division (South -9.4%, West +3.0%, Midtown +6.3%, East +12.7%).

Only the test division and Operations Midtown experienced decreases in A.M. shift hours during the same period (South -6.0%, West +8.1%, Midtown -9.2%, East +22.1%).
When the second half of 1990 is compared with the same six months of 1989, the non-test divisions collectively experienced the same shift differential costs. P.M. shift differential was identical (64,760 hours) and A.M. shift differential was practically unchanged (-0.9%). Operations South decreased in both P.M. and A.M. shift differential during the same period (-10.8% and -5.5%, respectively).
Section 7
Shift Differential

The results are similar when the number of shift differential hours are factored by the number of actual duty hours, thereby eliminating differences due to the numbers of personnel assigned. Operations South was the only division to experience a decrease in P.M. shift hours (South -11.4%, West +1.8%, Midtown +3.8%, East +0.7%) during the first six months of the test. Operations South and Midtown were the only divisions to experience a decrease in A.M. shift hours (South -8.5%, West +7.3%, Midtown -7.0%, East +9.3%).

During the second six months of the test, all of the divisions experienced very similar results as during the first six months. The test division continued to be substantially lower than pre-test experience. This was not the case for non-test divisions.

When the last six months of 1990 is compared with the same period in 1989, Operations Division South shift hours per 100 duty hours decreased 9.0%. The non-test divisions increased 1.4% during the same period.

![Table and graph](image-url)
Operations South was the only division to experience a decrease in total shift differential hours per 100 duty hours, as illustrated in the following graph.

Assuming Operations South would have experienced the same shift differential costs during calendar year 1990 as the last half of 1989 had 4-10 schedules not been implemented, a savings of approximately $2,400 was realized during the test year.

Conclusions

Implementation of 4-10 schedules in Operations South caused shift differential costs to decrease slightly.
Section 8

Fatigue Factors

One of the most common concerns about extending the working hours of police officers by two hours is that of potential increases in "fatigue factors" such as industrial injuries, vehicle accidents, citizen complaints, and sick leave. Police commanders shared this concern when asked their opinions about the possibility of establishing 4-10 schedules in Tucson. Their comments were reported in the April 1989 4-10 feasibility study.

Background

The experience of other police agencies that had implemented 4-10 schedules was examined. Most reported no change in these fatigue factors. Some, however, reported decreases.

Industrial injuries are job-related illnesses or injuries incurred while on duty. Also included are injuries sustained off duty when taking police action. An employee who suffers an injury is required to report to a supervisor who must arrange for medical treatment (if necessary) and completion of documenting paperwork. All industrial injury reports are forwarded to Police Personnel for further distribution and entry into that unit's microcomputer files.

Vehicle accidents are collisions involving City vehicles operated by employees whether on public or private property. Records of these accidents are kept in the Police Department's Internal Affairs Division computer. These collision records include only those where the employee was determined to be at fault or otherwise negligent. Records of collisions involving employees who were not at fault were not available for this review.

Citizen complaints are, calls or personal contacts with the Police Department's Internal Affairs Division alleging improper police conduct or behavior. These records are also computerized and include cases where the complaint was substantiated as well as those where the employee was exonerated.

In each of the above cases, computer records contained the date and time of incident, the employee involved, and (in some cases) the
Section 8
Fatigue Factors

employee's duty shift. Planning and Research obtained copies of these computer records and correlated them with duty rosters to determine the employee's assignment (division and shift). The total number of each of the three types of incidents was determined for each patrol division during the last six months of Calendar Year 1989 and Calendar Year 1990.

In addition to the total numbers of incidents, duty rosters were analyzed from computer records (see Section 3, Overtime Experience, Background) to determine the number of actual duty hours worked by officers in each of the divisions. Each of the fatigue factors was also examined on a per-duty-hour basis to equalize, as much as possible, the working strength of each division.

Sick leave is reported in total hours sick, days sick, and on a per-employee basis. Sick leave hours, as a whole, were expected to increase due to the fact that each sick call would be ten hours rather than eight. No change in the number of days called in sick would result in a 20% increase in the number of hours sick.
Section 8
Fatigue Factors

Industrial Injuries

The substantial reduction observed in the number of industrial injuries during the first six months of the test in Operations South did not continue during the second six months. The test division, an historically high industrial injury area, was approximately equal to the non-test divisions during the first six months of 1990. During the second six months of the test, industrial injuries increased, but not to the same level as before 4-10 schedules were implemented. The non-test divisions collectively decreased during the same period.

When the last six months of 1989 are compared with the last six months of 1990, there were substantial reductions in all divisions (South -21.9%, West -34.2%, Midtown -38.1%, East -35.7%).
Section 8
Fatigue Factors

When factored by the number of actual working hours, the results are similar, as illustrated by the following graph.

Figure 8.2
Industrial Injuries
(Incidents per 100 Duty Hours)
Vehicle Accidents

Vehicle accidents, which increased markedly for all patrol divisions during the first six months of the test, decreased during the second six months, to approximately pre-test levels.

<table>
<thead>
<tr>
<th></th>
<th>SOUTH</th>
<th>WEST</th>
<th>MIDTOWN</th>
<th>EAST</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUL-DEC 89</td>
<td>4</td>
<td>10</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>JAN-JUN 90</td>
<td>7</td>
<td>16</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>JUL-DEC 90</td>
<td>3</td>
<td>12</td>
<td>9</td>
<td>5</td>
</tr>
</tbody>
</table>

The number of incidents continued to be very few and even small numerical changes result in large percentage increases and decreases.
Section 8
Fatigue Factors

Due to the very small number of incidents, the value when factored by the number of duty hours becomes extremely small. The following graph does illustrate the relative change, however.

Figure 8.4
Vehicle Accidents
(Incidents per 100 duty hours)
Citizen Complaints

Citizen's complaints, which decreased during the first six months of the test in Operations South, increased back to pre-test levels. The non-test divisions, which had remained relatively flat during the first six months of 1990, experienced a similar increase during the second half of 1990. When the last six months of 1990 are compared to the same period in 1989, all divisions increased (South +5.3%, West +22%, Midtown +22%, East +4.5%).

Figure 8.5
Citizen Complaints
(Number of incidents)

<table>
<thead>
<tr>
<th></th>
<th>SOUTH</th>
<th>WEST</th>
<th>MIDTOWN</th>
<th>EAST</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUL-DEC 89</td>
<td>57</td>
<td>59</td>
<td>51</td>
<td>66</td>
</tr>
<tr>
<td>JAN-JUN 90</td>
<td>43</td>
<td>69</td>
<td>65</td>
<td>49</td>
</tr>
<tr>
<td>JUL-DEC 90</td>
<td>60</td>
<td>72</td>
<td>75</td>
<td>69</td>
</tr>
</tbody>
</table>
Section 8
Fatigue Factors

When factored by the number of actual duty hours, the results are similar as illustrated by the following graph.
Section 8  
Fatigue Factors

Sick Leave

As indicated in the Background Section above, a 20% increase in overall sick hours was expected because each sick day on a 4-10 schedule represents ten hours lost rather than eight. In reality, the expected increase is slightly less because of the reduced probability of being ill on the fewer number of workdays. All things being equal (i.e. no change in sick leave use) the number of sick hours would show an increase of 16%.

<table>
<thead>
<tr>
<th></th>
<th>SOUTH</th>
<th>WEST</th>
<th>MIDTOWN</th>
<th>EAST</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUL-DEC 89</td>
<td>2614.3</td>
<td>2058.0</td>
<td>1899.2</td>
<td>2561.3</td>
</tr>
<tr>
<td>JAN-JUN 90</td>
<td>2145.0</td>
<td>2220.5</td>
<td>1603.5</td>
<td>1948.8</td>
</tr>
<tr>
<td>JUL-DEC 90</td>
<td>2736.8</td>
<td>2086.2</td>
<td>1763.5</td>
<td>2552.8</td>
</tr>
</tbody>
</table>

At the six-month point of the test, a substantial increase in sick hours was reported. Although the increase in sick hours per officer (19.4%) during the first six months of the test was about the amount expected, the non-test divisions collectively experienced a 15.8% reduction during the same period. It was concluded that there was no reason not to expect a similar reduction in the test division so an anticipated increase was reported. The opposite experience occurred during the second six months of the test. Operations South sick leave decreased markedly (-13.0% compared to the previous six months and only +4.7% of the pre-test period). During the last half of 1990, the other divisions increased 10.9% from January through June 1990 and decreased (-1.8%) compared to the same six-month period of 1989.
Section 8
Fatigue Factors

When adjusted on a per-officer basis, Operations South decreased sick leave markedly (-15.3%) during the second six months of the test when compared with the first six months. The non-test divisions increased (+12.4%) during the same period.

There was a slight decrease (-3.2%) in non-test divisions sick hours from July through December 1990 when compared to the same period of 1989. The test division experienced a slight increase (+1.1%) when making the same comparison.

Figure 8.8
Sick hours (per officer)

<table>
<thead>
<tr>
<th></th>
<th>SOUTH</th>
<th>WEST</th>
<th>MIDTOWN</th>
<th>EAST</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUL-DEC 89</td>
<td>26.3</td>
<td>22.6</td>
<td>22.9</td>
<td>30.6</td>
</tr>
<tr>
<td>JAN-JUN 90</td>
<td>21.4</td>
<td>23.9</td>
<td>19.7</td>
<td>21.5</td>
</tr>
<tr>
<td>JUL-DEC 90</td>
<td>26.6</td>
<td>23.9</td>
<td>22.1</td>
<td>27.1</td>
</tr>
</tbody>
</table>
Section 8
Fatigue Factors

Figure 8.9
Sick hours (per officer)

It appears the increase during the first half of 1990 may have been due to something other than 4-10 schedules. Because that increase was associated with one division only (the employees of which work closely together) it is possible some particular illness worked its way through those personnel during that period. Had the increase been seasonal, the other divisions would have experienced a similar increase. Had the increase been associated with 4-10 schedules, it should have been observed during the second six months of the test also.

When analyzed from the point of view of days rather than hours, sick leave in the test division during the second half of 1990 decreased (-19.1%) when compared to the same half of 1989.

Based on the experience of the entire test year, sick leave did not increase as much as expected but no advantage (reduction of sick hours attributable to the schedule change) was observed either.
Conclusions

Each of the four fatigue factors changed in exactly the opposite manner in the test division during the second six months of the test as they had during the first six months. In all cases (except sick leave) the relative numbers of incidents is so small that small numerical changes result in large percentage changes. In each case, the last half of 1990 data were very comparable to the last half of 1989 data (pre-test) even in the number of sick hours which were expected to experience a substantial increase of 16-20%.

The increase in sick hours observed during the first six months of the test also reversed.

The overall test experience in each of the four fatigue factors (industrial injuries, vehicle accidents, citizen complaints, and sick leave) was that no change of significance attributable to the change of working schedules was observed.
Section 9

Off duty Work

Former City Manager Joel Valdez requested the Police Department evaluate off duty work behavior by officers, particularly relating to sick leave use by officers on 4-10 schedules who also work off duty.

Background

Off duty jobs are volunteer assignments by officers responding to requests from private firms or organizations to employ peace officers on an intermittent basis. Occasionally, off duty work is performed for other City departments, such as Parks and Recreation during festivals. Other examples of off duty work include traffic control at major construction projects, Convention Center security, the Fourth Avenue Street Fair, and the Tucson Gem and Mineral Show.

To arrange for employment of an off duty officer, the private firm or organization contacts the Police Department's Community Services Division, which arranges a "sign-up" for interested officer volunteers. Officers may sign up for off duty jobs subject to limits imposed by department rules and procedures. Department regulations require eight continuous hours of rest in every 24-hour period and eight continuous hours of rest before return to duty. There is a 25-hour per week maximum limit on total off duty work unless the officer is on leave for the entire week. Officers may take vacation or use accumulated compensatory time (if approved by their commander) to work an off duty job.

In November 1989, the Police Department reported the results of a very limited study of off duty work and sick leave use by Headquarters Desk Unit officers who had been assigned to a 4-10 schedule. The study determined that of twenty-eight officers who were assigned to the Headquarters Desk from July through October 1989, only seven (25%) worked any off duty at all. During this period, a total of seventy-four off duty jobs were worked by these seven officers. Fifty-one jobs (69%) were worked on one of the officer's scheduled days off. The other twenty-three (31%) of the jobs were worked on the same day as a scheduled tour-of-duty. The average length of an off duty job on a day off was 6.0 hours compared with 4.7 hours for a duty-day job. The two officers with the greatest number of off duty
Section 9
Off Duty Work

Jobs used no sick leave during the four-month period. For the seven officers who worked the seventy-four off duty jobs, it was discovered that as off duty work hours increased, sick leave decreased.

The report predicted a reduction of off duty work on working days and an increase on non-duty days. This expectation did, in fact, materialize.

For the purposes of this evaluation, computerized off duty work records were obtained from the Police Department Community Services Division and payroll roster records were downloaded from the City IBM mainframe computer. Several non-patrol divisions' roster records are not computerized, so while this analysis includes raw numbers of jobs worked by non-patrol personnel, hours and sick leave comparisons were made only for those personnel who were assigned to a patrol squad at some time during the respective six-month evaluation periods. The six-month pre-test period of July 1 through December 31, 1989 and the test period of January 1 through December 31, 1990 were compared.
There was a slight decline in the percentage of all officers who worked off duty from the last half of Calendar Year 1989 to Calendar Year 1990. This was not related to the implementation of 4-10 schedules as the decline was almost identical for the combined patrol divisions as it was for Operations South. From July to December 1989, 42.4% of all patrol officers worked off duty (44.9% in Operations South). From January to June 1990, 36.4% of all patrol officers worked off duty (37.6% in Operations South). From July to December 1990, 34.1% of all patrol officers worked off duty (34.5% in Operations South).

Figure 9.1
Off duty Workers

<table>
<thead>
<tr>
<th></th>
<th>SOUTH</th>
<th>WEST</th>
<th>MIDT.</th>
<th>EAST</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUL-DEC</td>
<td>OFF-DUTY WORKERS</td>
<td>40</td>
<td>37</td>
<td>28</td>
</tr>
<tr>
<td>1989</td>
<td>NON OFF-DUTY WORKERS</td>
<td>49</td>
<td>49</td>
<td>51</td>
</tr>
<tr>
<td>JAN-JUN</td>
<td>OFF-DUTY WORKERS</td>
<td>41</td>
<td>32</td>
<td>40</td>
</tr>
<tr>
<td>1990</td>
<td>NON OFF-DUTY WORKERS</td>
<td>68</td>
<td>57</td>
<td>51</td>
</tr>
<tr>
<td>JUL-DEC</td>
<td>OFF-DUTY WORKERS</td>
<td>39</td>
<td>30</td>
<td>29</td>
</tr>
<tr>
<td>1990</td>
<td>NON OFF-DUTY WORKERS</td>
<td>74</td>
<td>56</td>
<td>64</td>
</tr>
</tbody>
</table>

1 Off duty workers are the number of officers who were assigned to the indicated division and worked any off duty during the indicated six-month period.
In the pre-test period, the ratio of off duty jobs worked on an officer's day off was very similar to the Headquarters Desk study (33.4% of all off duty jobs worked by patrol officers were worked on duty days). Operations South (test division) personnel worked 34.4% of off duty jobs on duty days.

For the six-month test period following implementation of 4-10 schedules in Operations South patrol, the non-test divisions' experience changed very little, averaging 31.0% of off duty jobs (209/675) on duty days. Operations South, on the other hand, decreased markedly to 17.4% (36/207) of off duty jobs worked on duty days. During the second half of 1990, the non-test divisions' off duty work on workdays increased to 44.3% (277/625) and Operations South, while higher than the first half of 1990, was still much reduced from the pre-test experience as well as the experience of the non-test divisions at 23.3% (35/150).
A comparison of the overall hours of off duty work yields similar results. In 1989, Operations South's patrol personnel worked 295 of 983.5 (30%) of off duty hours on duty days. The average of the other divisions was very comparable (801 of 2642 hours, 30.3%). During the first six months of 1990, Operations South patrol personnel worked 171.5 of 1272 (only 13.5%) of off duty hours on duty days. The average of the other divisions was substantially different (1136 of 4451.5 hours, 25.5%). The experience was very similar during the second six months of the test when Operations South officers worked 175.2 of 855.7 (20.4%) of off duty hours on duty days. The average of the non-test divisions was 36.1% (1211.5 of 3354.4 off duty hours).

<table>
<thead>
<tr>
<th></th>
<th>SOUTH</th>
<th>WEST</th>
<th>MIDT.</th>
<th>EAST</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUL-DEC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1989</td>
<td>295.0</td>
<td>313.5</td>
<td>293.0</td>
<td>194.5</td>
</tr>
<tr>
<td>Off Days</td>
<td>688.5</td>
<td>678.0</td>
<td>660.5</td>
<td>502.5</td>
</tr>
<tr>
<td>JAN-JUN</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>171.5</td>
<td>471.5</td>
<td>488.5</td>
<td>176.0</td>
</tr>
<tr>
<td>Off Days</td>
<td>1100.5</td>
<td>1495.0</td>
<td>1139.0</td>
<td>681.5</td>
</tr>
<tr>
<td>JUL-DEC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>175.2</td>
<td>631.0</td>
<td>385.0</td>
<td>195.5</td>
</tr>
<tr>
<td>Off Days</td>
<td>680.5</td>
<td>1321.0</td>
<td>555.2</td>
<td>266.7</td>
</tr>
</tbody>
</table>
The overall number of hours per off duty job increased slightly from the last half of Calendar Year 1989 to the first half of Calendar Year 1990. In 1989, duty-day jobs averaged 5.0 hours each, in 1990, 5.8 hours each. Operations South averaged 4.6 hours each for duty days and 5.6 hours each for non-duty days. In 1990, the overall duty day average was 5.3 hours. The non-duty day average was 7.1 hours. Operations South's experience was comparable at 4.8 hours per job on duty days and 6.4 hours on non-duty days.

Another slight increase in the number of hours per off duty job on workdays in Operations South was observed during the second six months of the test. Also observed was a general reduction in the number of hours per off duty job. The result was that during the second half of 1990, only 0.9 hours per job difference was observed between workday and non-workday jobs for Operations South personnel, compared with 1.7 hours for non-test personnel.

These results must be considered with the fact that off duty jobs are for a minimum duration of three hours and Operations South personnel worked only about half the number of jobs off duty on work days as did the non-test divisions (see page 9-4).
Sick Leave
Off duty vs. Non Off duty Workers

Analysis of sick leave use during the pre-test and test periods shows a general tendency toward fewer sick leave hours as off duty work rates increase. This finding is the same as observed in the Headquarters Desk study.

In addition, the overall average sick leave use for officers working off duty was less than officers who did not. In the last half of Calendar Year 1989 (prior to implementation of 4-10 schedules) officers who worked off duty averaged 18.3 hours of sick leave use. Officers who worked no off duty averaged 22.0 hours. The results were very similar in the first half of Calendar Year 1990 (after implementation of the 4-10 schedules). Officers who worked off duty averaged 18.5 hours of sick leave; those who worked no off duty averaged 21.7 hours. Operations South results were comparable in both periods, as illustrated in Figure 9.5.

During the second six months of 1990, off duty workers in the non-test divisions used slightly more sick leave than non off duty workers (19.4 and 21.0 sick hours, respectively). The test division experience was similar but more pronounced, with off duty workers averaging 21.3 hours of sick leave versus 14.6 hours for non off duty workers.

When considered over the entire test year, against a similar experience in the non-test divisions, and general sick leave experience (see Section 8), there is no data to support a conclusion that sick leave is affected due to increased off duty work activity by officers on a 4-10 schedule.
Section 9
Off Duty Work

Figure 9.5
Sick Leave

<table>
<thead>
<tr>
<th></th>
<th>SOUTH</th>
<th>WEST</th>
<th>MIDT.</th>
<th>EAST</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUL-DEC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1989</td>
<td>19.9</td>
<td>12.3</td>
<td>18.7</td>
<td>22.3</td>
</tr>
<tr>
<td></td>
<td>18.1</td>
<td>23.1</td>
<td>22.4</td>
<td>24.6</td>
</tr>
<tr>
<td>JAN-JUN</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>19.0</td>
<td>22.2</td>
<td>18.1</td>
<td>13.9</td>
</tr>
<tr>
<td></td>
<td>20.7</td>
<td>20.4</td>
<td>17.5</td>
<td>26.7</td>
</tr>
<tr>
<td>JUL-DEC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>21.5</td>
<td>20.9</td>
<td>12.3</td>
<td>28.2</td>
</tr>
<tr>
<td></td>
<td>14.6</td>
<td>19.3</td>
<td>22.0</td>
<td>22.4</td>
</tr>
</tbody>
</table>

2 Average number of sick hours used during the indicated six-month period.

Conclusions

Implementation of 4-10 schedules does affect off duty work behavior of officers. Approximately one-third of all patrol officers work off duty, scheduling most of these jobs on non-duty days. When a 4-10 schedule is implemented, officers shift a greater percentage of their off duty work to non-duty days, working roughly half the amount of workday off duty as 5-8 schedule officers.

Sick leave is not negatively affected due to increased off duty work activity.
Employee Opinion

Background

The 4-10 Feasibility Study found that other agencies with 4-10 schedule experience reported overwhelming employee support for 4-10 schedules compared to more common 5-8 schedules.

Planning & Research conducted three surveys of Police Department personnel to determine employee opinion during the study phase, just prior to implementation of 4-10 schedules, and after the one-year test. Appendix A contains the complete text and results of the before and after (last two) surveys. The text and complete results of the first survey may be found in the 4-10 Feasibility Study. Each survey encouraged comments from employees in addition to the prepared questions.

Analysis

The first survey was of all department personnel in February 1989 to determine employee interest in 4-10 work schedules. Eighty-five percent responded they would like a 4-10 program. Nine percent felt they would not and seven percent didn’t know.

A slightly different question asked whether employees would be willing to work a 4-10 schedule even if they personally preferred the 5-8 shift. Ninety-three percent answered positively, four percent answered negatively, and three percent had no opinion.

The second and third surveys were designed with almost identical questions for the purpose of comparing employees' positive expectations just prior to implementation of 4-10 schedules, with their opinions after a year's actual experience.

The second survey was conducted in December 1989. Operations South and Service Dog personnel expressed a clear preference for 4-10 shifts while Identification Technicians expressed a slight preference for 5-8 schedules.
Section 10
Employee opinion

It was expected that employees would show approximately the same preference after one year's experience. The third survey was conducted in January 1991 and found the preference of employees of all the test units had very strongly shifted in favor of 4-10 schedules. ID's response was very similar to patrol and Service Dog Unit in the final survey. The opinion of employees was even stronger in favor of 4-10 schedules after a year's experience.

One employee noted (s)he used 20% less fuel to drive to work one less day per week.

Conclusion

When considering a conversion to 4-10 schedules, employees express a preference for the change. After one year of 4-10 schedule experience, there is an even more pronounced preference for the 4-10 schedule. Considering voluntary narrative responses from employees, morale was very positively affected by the test.
Section 11

Recommendations

The test of 4-10 schedules in Operations Division South patrol, Service Dog Unit, and Identification showed that the shifts can be a valuable morale boost for employees while also offering some operational (schedule coverage) and cost (overtime and shift differential) cost benefits to the City. Based on the results of the test, scheduling and cost benefits to the department, and employee opinion, Planning & Research recommends 4-10 schedules be used as an option in Police Department units that normally operate 24-hours a day, 7-days a week (uniform patrol, Communications, Records, and ID).

These recommendations assume no substantive reductions in patrol personnel or vehicles as the test program did not determine the minimum possible configuration of each. Below some point in staffing, the operational benefits of extra shift overlap (which causes the extended duty overtime reductions) on 4-10 schedules becomes a handicap when those officers must be used on overtime to cover other schedule deficiencies. Since the test was implemented, Operations Midtown realigned personnel to provide a tenth squad which would be necessary to properly schedule 4-10 shifts for patrol officers in that division. The current difficult budget situation is not expected to result in a loss of the number of patrol officers, therefore, the number of personnel available will not be an issue. Should reductions occur in the future, however, this might not be true. The test satisfied the concern about the number of available vehicles during peak times, however, as is the case with patrol personnel, a future reduction in the number of patrol cars could affect the ability to field officers. In addition, SDU is recommended to remain on 4-10 schedules because of better schedule coverage and advantages reported for the animals.

These recommendations also serve to maximize the potential morale benefit. Uniform patrol and Records, in particular, are entry-level, basic assignments where demand to leave for other assignments is greatest both in intensity and number. They are considered by most employees as the most "undesirable" assignments available within
their job classifications. Any factor which would make these assignments more desirable would benefit all personnel. Any reduced demand for special assignments (both officers and civilians) would increase the overall percentage of successful applicants for special assignments.

Costs

These recommendations represent potential savings to the City in extended duty overtime costs. Despite the test experience, court overtime costs should not be considered as a probable reduction. How effectively the court uses the new officer scheduling system and whether court consolidation actually occurs are likely to have a greater affect on court overtime costs than a schedule change. The test did show, however, that court overtime costs do not increase because 4-10 schedules are implemented and reductions are possible. Other costs are not likely to be affected substantially either positively or negatively.
Appendix
THIS SURVEY WAS DISTRIBUTED TO EACH EMPLOYEE WHO WORKED THE 4-10 SHIFT DURING THE TEST PERIOD. OPS SOUTH HAD 56 RESPONDEES, ID HAD 9, AND SDU HAD 7. THE SCORES UNDER EACH QUESTION ARE THE AVERAGE RESPONSES FOR THAT PARTICULAR UNIT.

**SCHEDULE SURVEY**  
December 1989

Current shift (circle one): MIDNIGHTS DAYS SWINGS

Years of service: 1 2 3 4 5 6 7 8 9 10+

Use the following scale to respond to the survey questions:

1. Very negative opinion/effect  
2. Negative opinion/effect  
3. No opinion/Neutral/No effect  
4. Positive opinion/effect  
5. Very positive opinion/effect

1. How does your current 8-hour schedule affect your morale?
   - OPS SOUTH: 3.21  
   - ID: 3.44  
   - SDU: 2.57

2. How do you believe a 10-hour schedule will affect your morale?
   - OPS SOUTH: 3.41  
   - ID: 3.00  
   - SDU: 4.86

3. How does the current 8-hour schedule affect the morale of your fellow workers?
   - OPS SOUTH: 3.03  
   - ID: 3.00  
   - SDU: 2.71

4. How do you feel a 10-hour schedule will affect the morale of your fellow workers?
   - OPS SOUTH: 3.50  
   - ID: 2.89  
   - SDU: 4.57

5. How does the current 8-hour shift affect your ability to communicate with your supervisor?
   - OPS SOUTH: 3.20  
   - ID: 3.11  
   - SDU: 3.00

6. How do you feel a 10-hour schedule will affect your ability to communicate with your supervisor?
   - OPS SOUTH: 3.23  
   - ID: 3.44  
   - SDU: 3.57
7. How well does your current 8-hour schedule provide time for you to complete your work?
OPS SOUTH - 3.23  ID - 2.89  SDU - 3.14

8. How well do you believe a 10-hour schedule will provide time for you to complete your work?
OPS SOUTH - 3.50  ID - 3.56  SDU - 3.43

9. How does your current 8-hour/2-day-off schedule affect your relationship with your family?
OPS SOUTH - 2.79  ID - 2.89  SDU - 2.71

10. How do you believe a 10-hour/3-day-off schedule will affect your relationship with your family?
OPS SOUTH - 3.75  ID - 3.78  SDU - 4.28

11. How do you feel about the hours and days-off you are assigned on your current 8-hour schedule?
OPS SOUTH - 3.05  ID - 3.56  SDU - 2.85

12. How do you feel about the hours and days-off of a 10-hour schedule?
OPS SOUTH - 3.52  ID - 3.56  SDU - 4.29

13. How did the current 8-hour shift affect your ability to sleep on your hours off-duty?
OPS SOUTH - 3.09  ID - 2.89  SDU - 2.71

14. How do you believe a 10-hour shift will affect your ability to sleep on your hours off-duty?
OPS SOUTH - 2.82  ID - 2.89  SDU - 3.14

15. How does the current 5-8 schedule affect your ability to relax on your days off?
OPS SOUTH - 2.89  ID - 3.11  SDU - 2.57
16. How do you feel a 4-10 schedule will affect your ability to relax on your days off?
OPS SOUTH - 3.64 ID - 3.78 SDU - 4.14

17. How do you feel the current 5-8 schedule affects fatigue on the job?
OPS SOUTH - 3.04 ID - 3.08 SDU - 2.86

18. How do you feel a 4-10 schedule will affect fatigue on the job?
OPS SOUTH - 2.68 ID - 2.78 SDU - 3.29

19. How do you feel the current 5-8 schedule affects your overall stress level?
OPS SOUTH - 2.98 ID - 3.22 SDU - 2.71

20. How do you feel a 4-10 schedule will affect your overall stress level?
OPS SOUTH - 3.07 ID - 2.78 SDU - 3.43

21. How effectively does the court schedule your court appearances on the current 5-8 schedule?
OPS SOUTH - 2.36 ID - 2.67 SDU - 2.57

22. How effectively do you believe the court will schedule your court appearances on a 4-10 schedule?
OPS SOUTH - 2.00 ID - 2.22 SDU - 2.57

23. What is your overall feeling about the current 5-8 schedule?
OPS SOUTH - 3.07 ID - 3.44 SDU - 2.71

24. What is your overall feeling about a 4-10 schedule?
OPS SOUTH - 3.38 ID - 3.33 SDU - 3.89
25. How do you feel about the current (5-8) shift rotation schedule?
OPS SOUTH - 2.93  ID - 3.22  SDU - 2.86

26. How do you feel about a (4-10) shift rotation schedule?
OPS SOUTH - 3.30  ID - 3.22  SDU - 4.14

THE FOLLOWING QUESTION WAS ASKED OF EACH RESPONDENT, AND THE ANSWERS LISTED ARE THE AVERAGE OF THE NUMBER OF RESPONDENTS TO EACH ACTIVITY.

What do you do with your longer weekends on this new 4-10 schedule? Rate in order of greatest time (1=most time).

OPS SOUTH  1.25  Spend time with family
            3.35  Recreation (sports, etc.)
            5.84  Work more off-duty
            4.32  Hobbies
            3.50  Work around the house and yard
            5.34  School/Education
            4.10  Just general R & R
            5.31  Other - Probably spend more time in court (ha-ha)
                  Polish leather
                  Even more time with family
                  Short trips out of town
                  Cover home duties while wife attends U of A
                  Polish boots and leather
<table>
<thead>
<tr>
<th>ID</th>
<th>SDU</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.11</td>
<td>2.28</td>
<td>Spend time with family</td>
</tr>
<tr>
<td>3.11</td>
<td>1.86</td>
<td>Recreation (sports, etc.)</td>
</tr>
<tr>
<td>6.11</td>
<td>7.43</td>
<td>Work more off-duty</td>
</tr>
<tr>
<td>4.56</td>
<td>3.57</td>
<td>Hobbies</td>
</tr>
<tr>
<td>3.33</td>
<td>4.00</td>
<td>Work around the house and yard</td>
</tr>
<tr>
<td>5.11</td>
<td>7.00</td>
<td>School/Education</td>
</tr>
<tr>
<td>4.56</td>
<td>2.43</td>
<td>Just general R &amp; R</td>
</tr>
<tr>
<td>2.75</td>
<td>6.00</td>
<td>Other - Sleep</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Get away from work</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Public/social activities</td>
</tr>
</tbody>
</table>
General comments:

OPS SOUTH

I think that a ten hour day shift and swing shift will work. My concern is that ten hours on the midnight shift is going to make for a very long shift. But this may be off set by only having to work it for four days at a time.

I won't be able to work regular off duty job as much. Answers are mostly neutral at this point. Ask them again after we've done a 10 hr. midnight shift. If days off are chopped up by court, beat meetings, etc., I don't think morale is going to improve.

Good luck.

I believe my stress level and morale will improve greatly on the 4-10 hr. program.

Won't really know how 4-10 will affect me until I've been on it for a while. Hoping to see more of my husband - works shifts also. Shifts are always conflicting.

I feel that the 4-10 plan will be good overall for coverage on calls, reduction of overtime in the field; above all more time for the officer to get away from the stress; attempt to live a more normal life. A drawback in my opinion would be that an already long midnight shift will be even longer. However, offsetting this is the fact that with only 2 days off on the current midnight shift, I think officers sleep half (4hrs.) of the first day off, then only have a day and a half before going back to work midnights again. Under the 4-10 plan the officer will, if still sleeping half of the first day off, have 2 1/2 days off; more time to get used to sleeping nights instead of working nights. In my opinion few officers like working midnights and the 4-10 plan should make it more bearable simply by reducing it from a 5 day grind to a 4 day grind.

I think the 4-10 plan will be over all very good for the team.

Go for the 4-10 100%
I feel the change to a 10 hour work day is not being made for morale purposes. The change will impact our peak hours/call coverage, vs. manpower. More time (10 hrs.) more work. More people during peak hours. The three(3) days off will probably be butchered by the city court, beat meetings, MVD hearings, superior court, grand jury - more overtime will be used. After a 10 hour midnight with a court date in the morning, morale will not only suffer, but it will worsen!

Not having worked a 4-10 shift before, I don't have a strong opinion for or against. I do foresee several negatives as well as positives. I believe court scheduling will become much more critical in the 4-10 plan in both overtime considerations and rest on the days worked when court is scheduled.

Reference spending time with family, when working 0900 - 1900 with week days off, the family is at work or school when you're off. On the weekends, you leave for work at 0800 and get home at 1930 - no family time.

I think the amount of AT you are allowed to build up should be increased. Currently on 5-8 hrs you're allowed 48 hrs or 6 days. On a 4-10 plan you should be allowed to build up to 60 hrs or 6 days. Currently you are allowed 1 day/8hrs per month for sick leave, & 1 day/8hrs for vacation. This should also be changed to 1 day/10 hrs per month for sick leave, and 1 day/10 hrs per month for vacation.

My biggest concern with the 4-10 shift is fatigue on the midnight shift.

We don't have enough personnel to make 5-8 work. I trust that at the end of this experiment, the survivors will be returned to 5-8.

Only thing I see is about court. Perhaps court should run longer for all officers!

[ No comments submitted ]
THIS SURVEY WAS DISTRIBUTED TO EACH EMPLOYEE WHO WORKED THE 4-10 SHIFT DURING THE TEST PERIOD. OPS SOUTH HAD 71 RESPONDENTS, ID HAD 9, AND SDU HAD 8. THE SCORES UNDER EACH QUESTION ARE THE AVERAGE RESPONSES FOR THAT PARTICULAR UNIT.

**SCHEDULE SURVEY**
**JANUARY, 1990**

Current shift (circle one): MIDNIGHTS DAYS SWINGS

Years of service: 1 2 3 4 5 6 7 8 9 10+

Use the following scale to respond to the survey questions:

1. Very negative opinion/effect
2. Negative opinion/effect
3. No opinion/Neutral/No effect
4. Positive opinion/effect
5. Very positive opinion/effect

1. How did your former 8-hour schedule affect your morale?
   OPS SOUTH - 2.90  ID - 3.00  SDU - 2.75

2. How does your current 10-hour schedule affect your morale?
   OPS SOUTH - 4.56  ID - 4.11  SDU - 4.63

3. How did your former 8-hour schedule affect the morale of your fellow workers?
   OPS SOUTH - 2.83  ID - 2.89  SDU - 2.88

4. How does the current 10-hour schedule affect the morale of your fellow workers?
   OPS SOUTH - 4.42  ID - 4.00  SDU - 4.50

5. How did the former 8-hour shift affect your ability to communicate with your supervisor?
   OPS SOUTH - 3.07  ID - 3.00  SDU - 2.88

6. How does the current 10-hour schedule affect your ability to communicate with your supervisor?
   OPS SOUTH - 3.82  ID - 3.67  SDU - 3.00
7. How well did your former 8-hour schedule provide time for you to complete your work?
   OPS SOUTH - 2.83  ID - 2.44  SDU - 3.13

8. How well does the current 10-hour schedule provide time for you to complete your work?
   OPS SOUTH - 4.23  ID - 3.44  SDU - 3.38

9. How did your former 8-hour/2-day-off schedule affect your relationship with your family?
   OPS SOUTH - 2.30  ID - 2.89  SDU - 2.88

10. How does the current 10-hour/3-day-off schedule affect your relationship with your family?
    OPS SOUTH - 4.56  ID - 4.00  SDU - 4.63

11. How did you feel about the hours and days-off you were assigned on your former 8-hour schedule?
    OPS SOUTH - 2.62  ID - 2.67  SDU - 3.00

12. How do you feel about the hours and days-off you are assigned for the current 10-hour schedule?
    OPS SOUTH - 4.23  ID - 3.67  SDU - 4.13

13. How did the current 8-hour shift affect your ability to sleep on your hours off-duty?
    OPS SOUTH - 2.92  ID - 2.67  SDU - 2.75

14. How does the current 10-hour shift affect your ability to sleep on your hours off-duty?
    OPS SOUTH - 3.66  ID - 2.89  SDU - 3.38

15. How did the former 5-8 schedule affect your ability to relax on your days off?
    OPS SOUTH - 2.34  ID - 2.56  SDU - 2.75
16. How does the current 4-10 schedule affect your ability to relax on your days off?
   
   OPS SOUTH - 4.55  ID - 4.44  SDU - 4.75

17. How do you feel the former 5-8 schedule affected fatigue on the job?
   
   OPS SOUTH - 2.69  ID - 2.78  SDU - 2.88

18. How do you feel the current 4-10 schedule affects fatigue on the job?
   
   OPS SOUTH - 3.70  ID - 3.11  SDU - 3.38

19. How do you feel the former 5-8 schedule affected your overall stress level?
   
   OPS SOUTH - 2.63  ID - 2.44  SDU - 2.63

20. How do you feel the current 4-10 schedule affects your overall stress level?
   
   OPS SOUTH - 3.76  ID - 3.22  SDU - 3.22

21. How effectively did the court schedule your court appearances on the former 5-8 schedule?
   
   OPS SOUTH - 2.55  ID - 2.11  SDU - 2.25

22. How effectively do you believe the court schedules your court appearances on the current 4-10 schedule?
   
   OPS SOUTH - 3.06  ID - 2.22  SDU - 2.38

23. What is your overall feeling about the former 5-8 schedule?
   
   OPS SOUTH - 2.03  ID - 2.22  SDU - 2.00

24. What is your overall feeling about the current 4-10 schedule?
   
   OPS SOUTH - 4.65  ID - 4.56  SDU - 4.75
25. Which shifts did you work while on the current 4-10 schedule? (Check each that you worked)

OPS SOUTH - Days - 64 Swings - 62 Mids - 56
ID - Days - 8 Swings - 9 Mids - 8
SDU - Days - 0 Swings - 8 Mids - 0

THE FOLLOWING QUESTION WAS ASKED OF EACH RESPONDENT, AND THE ANSWERS LISTED ARE THE AVERAGE OF THE NUMBER OF RESPONDENTS TO EACH ACTIVITY.

What do you do with your longer weekends on this new 4-10 schedule? Rate in order of greatest time (1=most time).

OPS SOUTH 1.26 Spend time with family
3.34 Recreation (sports, etc.)
5.62 Work more off-duty
4.42 Hobbies
3.20 Work around the house and yard
6.03 School/Education
3.62 Just general R & R
3.40 Other - Church Activity
Travel
Personal Business
Run Family Business
Visit Wife in CA
Shopping Malls
(Classified)
<table>
<thead>
<tr>
<th>ID</th>
<th>SDU</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.25</td>
<td>1.00</td>
</tr>
<tr>
<td>3.57</td>
<td>3.00</td>
</tr>
<tr>
<td>3.33</td>
<td>6.67</td>
</tr>
<tr>
<td>3.50</td>
<td>3.14</td>
</tr>
<tr>
<td>2.80</td>
<td>2.75</td>
</tr>
<tr>
<td>4.33</td>
<td>6.33</td>
</tr>
<tr>
<td>3.83</td>
<td>4.00</td>
</tr>
<tr>
<td>2.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Catch up on thing done after work on 5-8's
Currently, patrol officers change shifts every three months. Indicate your preference for the length of time between shift changes.

Change shifts more often, every ____ months.
(your preference)

OPS SOUTH - 3  ID - 1  SDU - 0

Leave as is now, every ___ months.

OPS SOUTH - 36  ID - 7  SDU - 4

Change shifts less often, every ____ months.
(your preference)

OPS SOUTH - 9  ID - 0  SDU - 0

Permanent shifts

OPS SOUTH - 26  ID - 1  SDU - 4
General comments:

OPS SOUTH

I do notice that officer morale is better on the 4-10, than on the 5-8. The three days off are good for relieving stress. I had very little overtime during 4-10's than I did on 5-8's.

This is the best change the Dept. has made in years.

I believe the current squad systems are working well. If we go to the platoon system, I believe overall morale and productivity will go down.

Forget the platoon system. It has been envisioned and embellished by previous rulers, and didn't work then either. You've made vast morale adjustments in the 4/10 plan. Don't make this a backhanded deal and destroy your followers.

The reason I prefer 4 month shift changes is so shifts coincide with school semesters. At present, college courses are difficult at best because we change on a 3 month basis. Semesters are 4 months.

With personnel facing already low morale and impending wage freezes or cutbacks, the 4-10 plan offers a small incentive.

The 4-10 plan has changed my whole outlook to the job and to the patrol function. I love coming to work, by the time the 3 days off have passed, I look forward to seeing my job. I really enjoy the extra day to do things at home.

4-10, one of the best morale boosters ever!

Permanent shifts would be good for those officers wanting to stay on mids. On the other hand, permanent mids would be a great strain on my family, unless it was on agreement to have permanent weekends off (Fri-Sat-Sun) or (Sat-Sun-Mon).

I only have 50 more days to go, but for the rest of the troops, I think the 4-10 plan is better than the 5-8.
I'm from another Dept. - We worked 8 hour shifts, but with 8 days on - 4 days off, 7 days on - 2 days off. Loved it!

I love it! So does my family - I feel better and don't even think about calling in sick.

I feel the 4-10 plan is better for the officer and the family. I feel permanent shifts would allow an officer and his family to adjust their lives more around the job and not have the adverse effect that shift work creates.

4-10's are great, but holiday pay for days worked needs to be changed. We work 10 hours on a holiday, they should pay 10 hours of holiday pay.

ID

It doesn't matter how you slice up 40 hours per week. If you don't have the people, equipment or training, the work still doesn't get done.

I am very much in favor of the 4-10 shifts. I don't feel any more fatigue at the end of a shift than I did with an 8 hour shift, but having 3 days off is great. It especially helps having a longer weekend when I work the midnight shift, which is the most difficult shift for me. Not only is my morale better with the 4-10 shift, but I'm also using 20% less gas to get to work now!

SDU

Currently assigned to dog unit with permanent shifts.