

Shift Schedule Comparison

Introduction

The Health and Wellness Committee was established at the direction of the Fire Chief and Local 479 Leadership to analyze and submit recommendations to address sleep deprivation in Tucson Fire Department personnel. Since 1981, the Tucson Fire Department has used the 5-6 shift schedule to provide 24-hour emergency response coverage for the City of Tucson. The committee consulted with Dr. Patricia Haynes and reviewed related literature pertaining to sleep deprivation, as well as, investigated schedules utilized by other fire departments.

The committee has created this objective comparison of four alternative schedules to the 5 – 6 shift schedule. The objective nature of this comparison and associated pros and cons for each schedule are intended to provide all TFD personnel with information that will help guide the analysis in determining the best alternative(s) to the 5-6 shift schedule. The pros and cons for the 5-6 schedule are not listed due to the established familiarity we already have with the schedule.

Comparison Chart References:

* back to back Sat or Sun worked in a row, 3 – 4 has three in a row

** a commute is a round trip travel to and from shift. Each shift equal one commute

*** Sleep in days are days you sleep in your own bed and do not wake up to go on shift. Maximizes recovery sleep

**** The 4 4 4 6 has one month where you have two 6 day breaks and one 4-day break. Also has a month with two 4-day breaks and one 6-day break.

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	1 – 2	3 – 4	4 4 4 6	5 - 6	48 - 96
Shifts required	3 shifts A B C	3 Shift A B C	3 Shifts A B C	3 Shifts A B C	3 Shifts A B C
Shifts per month	10	10	10, Some may be 8 and some may be 12	10	10
# of full weekends off	20	17	16	17	27, every 6 weeks work full weekend
Multiple Sat or Sun worked in a row *	No	Yes, 3 Sat or 3 Sun in a row are worked 6 times a year *	Yes, 2 Sat or Sun worked in a row 4-5 times a year	Yes, 2 Sat or Sun worked in a row 4 times a year	Yes, 9 x a year back to back Sat or Sun worked
Commutes per month / year **	10 / 120	10 / 120	10 / 120	10 / 120	5 / 60 50 % reduction
Sleep in days per month ***	9 - 10	10	10	10	15
Long breaks	NO	YES	YES	YES	YES
Length of breaks	2 days	4 days	4 and 6 days	6 days	4 days
Long breaks per month	None	3 - 4	One 4 day and one 6 day per month****	2	5
Number of long breaks per year	NONE	40	24 ****	24	60
# of vacs needed for 10 day	3	3 for a 10 day or a 14 day	2 vacs if planned over your 6 day	2 vacs for a 10 day if taken over 6 day	2 vacs
Extra duty opportunity	Yes, only 12 hours shifts, split shifts	YES	YES	YES	YES
Trade opportunity	Yes, only 12 hour shifts, split shifts	YES	YES	YES	YES
Tour Length	1 day	5 days	7 days	9 days	2 days,48hr straight

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Shift Schedule Pros and Cons:

1 – 2 Shift Schedule

Pros: Based on the available research, 2 consecutive rest days (48 hours) after a 24-hour shift is best for sleep recovery and minimizes long periods of sleep debt or sleep deficit. Another benefit of the 1 – 2 Shift Schedule is 20 full weekends off a year. Finally, firefighting personnel will have 9-10 sleep in days a month where they will wake up in their own bed and NOT have to begin a shift.

Cons: One of the challenges with the 1 – 2 Shift Schedule is the general perception that firefighters feel like they are always at work. Due to the nature of this schedule, there are no long recovery breaks. In the event that personnel need or want a longer break, 3 vacation days will need to be used to accommodate an 11-day break. Additionally, trades will be more challenging due to always requiring a split-shift (12 hours). The 1 – 2 Shift Schedule will limit Extra Duty opportunities compared to the current schedule. Lastly, when evaluating commute days, this schedule will result in 10 commutes per month or 120 commutes per year.

3 – 4 Shift Schedule

Pros: The 3 – 4 Shift Schedule is the most similar to the current schedule and can cause the least impact on personal lives and family obligations. A benefit to the 3 – 4 Shift Schedule is the shorter length of a work tour (5 days) before a substantial period of recovery (4 days). This schedule is an improvement from the 5 – 6 Shift schedule that interrupts sleep patterns for a 9-day tour. Along those lines, this schedule results in 40

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4-day breaks and 17 full weekends off per year. Lastly, firefighting personnel will have 10 sleep in days a month where they will wake up in their own bed and NOT have to begin a shift.

Cons: One of the drawbacks of the 3 – 4 Shift Schedule is that it is similar to, but not as impactful as, the current schedule where there is still a cycle of 24-hour shifts with a single 24-hour recovery day in a work tour and similar effects of sleep debt or sleep deficit. During the course of a year, there will be 5 to 7 times a year that personnel will work 3 consecutive Saturdays and Sundays. Should fire personnel desire a longer break, 3 vacation days will need to be used to facilitate a 13-day break. In comparison to the current 5 – 6 Shift Schedule, Extra Duty opportunities are moderately limited. Finally, this schedule will result in 10 commutes per month or 120 commutes per year.

4 – 4 – 4 – 6 Shift Schedule

Pros: The 4 – 4 – 4 – 6 Shift Schedule is the most similar to the current 5 – 6 Shift Schedule and would be a relatively simple transition. Another aspect of the similarity to the current schedule is the longer 4-day and 6-day breaks for sleep recovery after a work tour. When analyzing leave and time off, it only requires 2 vacation days surrounding the 6-day break to facilitate 10 days off. When looking at weekends, there are 16 full weekends off per year and no more than 2 Saturdays or Sundays worked each month. The Extra Duty opportunities are similar to the 5 – 6 Shift Schedule and 24-hour trades are still available. Lastly, firefighting personnel will have a range of 8 to 10 sleep in days a month where they will wake up in their own bed and NOT have to begin a shift.

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Cons: Similar to what was cited as a pro, a major drawback of the 4 – 4 – 4 – 6 Shift Schedule is that it is very similar to the current 5 – 6 Shift Schedule. This schedule does not address the problems we currently face with long work tours with alternating 24-hour shifts and the limits on sleep debt and deficit. Ultimately, this type of schedule does not resolve the issues we are trying to fix. The nature of the 4 – 4 – 4 – 6 Shift Schedule is that it lends itself to be confusing and can result in difficulties with planning for personal/family events. There are some instances where certain shifts may work 12 shifts in select months and 4 times a year, work consecutive Saturdays or Sundays. Finally, this schedule will result in a range of 8 to 10 commutes per month or 120 commutes per year.

48 – 96 Shift Schedule

Pros: The 48 – 96 Shift Schedule is designed to facilitate a work schedule to maximize the time spent on shift by working a straight 48 hours. There are 48-hours worked before a substantial break for sleep recovery. Along the lines of substantial breaks, the 48 – 96 Shift Schedule results in five 4-day breaks per month or 60 4-day breaks per year. This schedule results in 27 full weekends off per year. When considering additional leave, one vacation day results in a 5-day break and two vacation days will result in a 10-day break. Extra Duty and trades are similarly available as our current schedule. Personnel will have 15 sleep in days a month where they will wake up in their own bed and NOT have to begin a shift. A 48 – 96 Shift Schedule results in 5 commutes per month or 60 commutes per year (50% of current commutes). If schedules allow, the second shift could result in a “sleep-in” shift.

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Cons: The 48 - 96 Shift Schedule results in a significant change to the current 5 – 6 Shift Schedule. The 48 - 96 Shift Schedule requires 48-hours of straight work and can result in significant impact on sleep patterns and sleep debt and deficit before an adequate 4-day break. In some instances, the busiest companies will face sleep deprivation when personnel are awake for up to 48 straight-hours within the 48-hour work cycle. Operating large emergency response vehicles or performing high risk activities while sleep deprived creates a significant safety concern. Busy crews will require major parts of their second work day for rest reducing training and other activities. An additional impact on personal lives is the result of being away from home for 48-hours straight. Lastly, nine times a year, personnel will work a full weekend. In addition, for some shifts there will be times when the work cycle covers Christmas Eve and Christmas Day.

Note from the Union President

I wanted to start by personally thanking each committee member for their time commitment and dedication to such an important situation regarding our membership. Also to the 2 Chairs of the Committee, Chief Wallentine and Mario Carrasco for their leadership and guidance through the process.

To even open the discussion of a shift schedule change was an enormous step for our membership. The 5-6 is the only schedule we have ever known and to suggest we consider an alternative because of the tremendous call volume and demand on our members was a daunting first step. Because of the incredible diversity and individual needs of our members, I realize that not one schedule will be a perfect fit for everyone. Many people could be impacted negatively by a change and that's not lost on me. The entirety of this committee was to consider the health, safety and wellness of our members. The 5-6 has been shown to be a very demanding schedule on

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firefighters because of high call volumes and the negative long term health effects that follow. An alternative needed to be discussed. Our members gave direction to Union Leadership to create a committee to consider alternative schedules. The research has been done and the information has been provided in this document. The 5-6 remains an option if that is the direction of this union.

The committee has put together as perfect of a comparison as we could have asked for. The study remains objective and is only meant to educate our firefighters as to the pros and cons of alternative schedules. I ask that you all keep an open mind as you review the study and really consider the true reason for this conversation.

As you review, please remember a few things. First and most important, a change in shift schedule will only be achieved by a vote of this union. Second, we do have the option to pilot a schedule if we chose. And, lastly, we will continue to work with the Fire Chief and his staff on ways to reduce or distribute the amount of calls we are responding to. I realize a schedule change will not reduce the amount of calls we are responding to at night, however, if there is a safer alternative to the long-term sleep effects of the 5-6, then I believe it deserves a conversation.

We will not stop in our endless effort to provide a better and safer quality of life for our firefighters.

Note from the Fire Chief

The subject of our shift schedule is nearly sacred. As far back as I can remember discussing any change to the 5/6 schedule was sacrilegious. That does not seem to be the case today. As our suppression crews experience increased call loads and decreased resources, the physical and emotional toll of the 5/6 schedule has become a

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significant concern for many employees as well as the department. Sleep deprivation research in the fire service has identified many health risks from increase in cardiovascular disease to a decrease in immune system efficiency. In addition, a sleep deprived person has a similar physical response to activity as an intoxicated person.

I wanted to share my position on this subject. Each schedule offers some benefits and challenges. The best for sleep deprivation is the 1-2 schedule but leaves the employee always feeling like he or she is either going to, or coming from work and OT or trades are challenging. The 48/96 allows employees to cram a lot of work hours into a short period but creates an unacceptable safety risk to the employee and the community. The 4-4-4-6 provides very little relief to employees but complicates the management of scheduling. The 3-4 schedule provide some relief from sleep deprivation by providing a multi-day break after three shifts instead of five. The 3-4 schedule provides similar benefit as the 5-6 without the long tours. I believe that the 3-4 schedule helps accomplish the goal of providing employees relief from busy shifts while not generating such a major change to employee's work schedule.