



## Fire and Police Commission

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Memorandum

To: Honorable Members of the Milwaukee Common Council

From: Leon Todd, Executive Director  
Barbara Cooley, Research and Policy Analyst

Date: November 8, 2022

RE: MPD/MFD Call Wait Times Report, Q2 2022

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This memo is responsive to Common Council File 190001, Amendment 33, “Insert a footnote directing the Executive Director of the Fire & Police Commission to provide quarterly reports to the Common Council on 9-1-1 call wait times, as well as activities, training, and initiatives to reduce 9-1-1 call wait times.” Information in this memo has been provided by Tom Maureau of Winbourne Consulting, the City’s contractor for developing a PSEP (Public Safety Enhancement Program), with analysis by the FPC Research and Policy Analyst.

### **PSEP Project Progress**

The Public Safety Enhancement Program has numerous projects that are interrelated. Some of the projects are for new systems such as Solacom 9-1-1, Hexagon OnCall CAD/Mobile, new IT infrastructure (e.g., equipment, networks), GIS enhancement, interfaces and new workstations. Other projects are administrative and operational initiatives such as standing up the Department of Emergency Communication (DEC), consolidating MPD and MFD PSAPs (Public Safety Answering Points), enhancing PSAP staffing, improving MPD/MFD PSAP operations and Universal Call Taker (UCT).

The linchpin system to consolidating MPD and MFD PSAPs is the OnCall CAD/Mobile system. This is essential because MPD and MFD currently utilize two separate CAD/Mobile systems, workflows and business processes. Once MPD and MFD are on the same CAD/Mobile system, the City will realize numerous operational benefits.

Currently the projected time for the OnCall cutover is April 2023. It was hoped that the cutover would take place in Q4 2022, but further infrastructure testing must be completed before OnCall training of call takers can begin.

Note: A cutover date depends on all areas such as IT, GIS, MPD PSAP, MPD Operations, MFD PSAP, MFD Operations, training, project team, etc. having “Go/No Go” criteria. We are developing the mandatory cutover requirements and the dates each requirement will be completed. This will inform us when a committed cutover date can be obtained.

The OnCall CAD/Mobile system will have a positive effect on both call answer times and speed of dispatch:

- Call Answer Times – Currently, MPD and MFD Call Takers/Dispatchers must call each other to provide and ascertain information. The numerous phone calls have a negative effect on Call Answer times by removing the Call Taker from the queue. For example, there are only two MFD Call Takers per shift so quite often an MPD Call Taker can be on hold for a long time. The OnCall CAD system will allow a tremendous amount of information to be shared electronically between MPD and MFD in real-time thereby eliminating the need for some phone calls.
- Universal Call Taker (UCT) – The objective of UCT is to train/certify all Call Takers for Police, Fire and EMS calls. The UCT training program will require MFD personnel to learn Police call taking and MPD personnel to learn Fire/EMS call taking. Once all Call Takers are UCT trained, there will be no need to transfer 9-1-1 callers from MPD to MFD. Getting everyone UCT trained will be a lengthy process that will start in earnest in 2023. Dependencies to start UCT training are the OnCall CAD system and sufficient PSAP staffing.
- The Dispatch times to life critical incidents will improve due to the real-time information exchange and eliminating unnecessary duplication of effort.

### **Recommendation to Not Compare Post-Solacom 9-1-1 Reports to Previous 9-1-1 Reports**

We do not recommend making a direct comparison between FPC 9-1-1 Quarterly Reports that were created prior to March 31, 2021 and the new quarterly reports. There are significant differences between the Solacom 9-1-1 system and the previous 9-1-1 system that have a direct effect on statistical information. 9-1-1 system differences include:

1. Capabilities, functionality and features
2. How the systems were configured and implemented
3. System terminology
4. Statistical report applications

Additionally, previous FPC 9-1-1 Quarterly Reports included different interpretations regarding 9-1-1 data. The data in the new reports has been subjected to a formal validation process by personnel from the Telecom Unit, MPD, MFD and PSEP project team.

### **NENA Call Answer Standard**

In conjunction with the implementation of the Solacom 9-1-1 system, the PSEP Executive Steering Committee established two primary performance metrics that are National Emergency Number Association (NENA) standards:

1. 90% of all 9-1-1 calls arriving at the PSAP SHALL be answered within ( $\leq$ ) 15 seconds
2. 95% of all 9-1-1 calls arriving at the PSAP SHOULD be answered within ( $\leq$ ) 20 seconds

The Solacom 9-1-1 system monthly reports use the NENA standard as the foundation and then 15 second increments. The previous FPC 9-1-1 Quarterly Reports used a 10 second interval.

### **9-1-1 System Data Not Available at This Time**

At this time, we are not able to provide some types of information that are in the 2020 FPC 9-1-1 Quarterly Reports due to system design issues.

### MPD/MFD Average 9-1-1 Caller Talk Time and Average 9-1-1 Total Talk Time

Total Talk Time has yet to be formally defined. For example:

1. Only include time that a Call Taker was communicating with a 9-1-1 caller (e.g., exclude call wait, hold and transfer times)
2. Total time a 9-1-1 caller was on the phone from the time the 9-1-1 call was initially answered to the time the 9-1-1 call was concluded
3. Calculate for MPD only, MFD only and/or both MPD and MFD when applicable

The Solacom system includes “hold time” in the Total Talk Time calculation. We are working with Solacom to develop a calculation that does not include “hold time”

### MPD/MFD 9-1-1 Abandoned Calls

An abandoned call is defined as 9-1-1 caller disconnecting prior to a Call Taker answering the 9-1-1 call. The Solacom system does not measure when a 9-1-1 caller hangs up. One issue is the Solacom system can identify when a phone number disconnects and then calls back. The system combines the data into one call. The system also uses a different calculation that does not provide an accurate statistic for this metric. We asked Solacom to develop a 9-1-1 abandoned report that meets City requirements but do not have a confirmation of if/when it will be completed.

### MPD/MFD Non-Emergency/Administrative Abandoned Calls

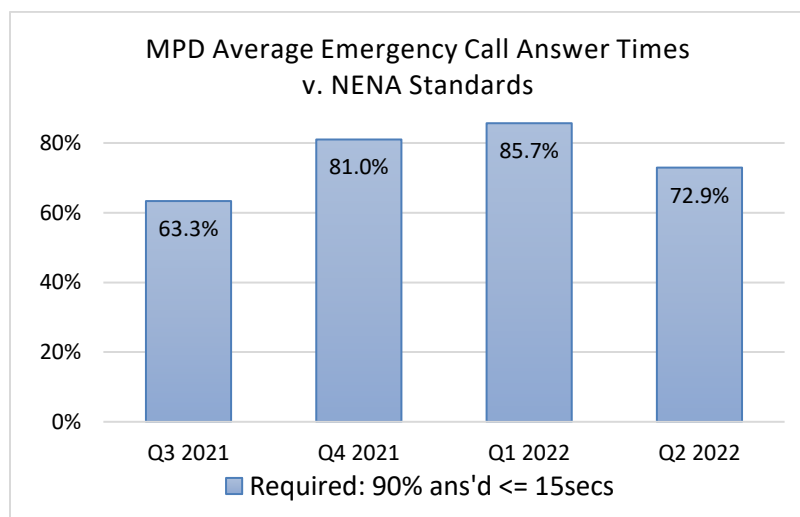
The Solacom system does not track received and abandoned/unanswered calls for non-emergency/administrative type calls.

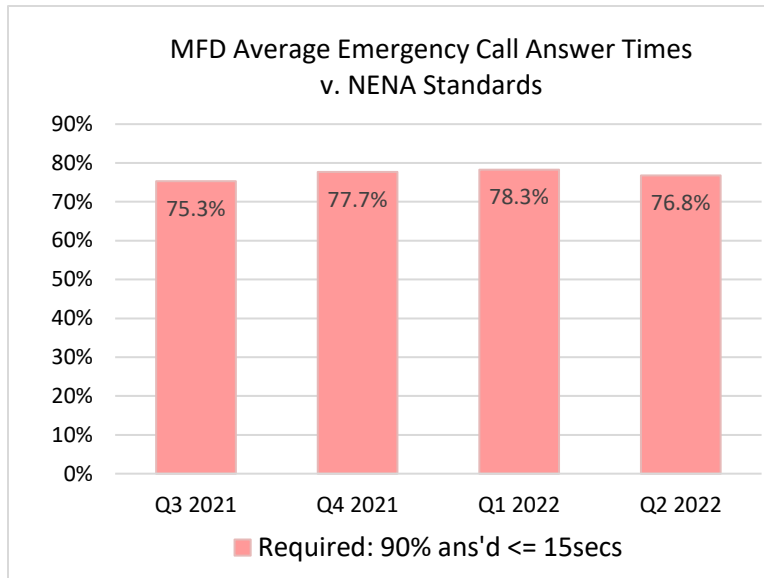
### MPD/MFD Non-Emergency/Administrative Total Talk Time

Same reasons for the above 9-1-1 Total Talk Time.

## Analysis by FPC

### Call Answer Times 12-Month Trend:





A noticeable improvement can be seen in MPD call answer time between Q3 and Q4 2021. Improvement continued at a slower rate in Q1 2022 but dropped off at a rate of 14.9% between Q1 and Q2.

Fire Department call answer time has held fairly steady, between 75.3 % and 78.3% of calls answered in <=15 seconds from Q3 2021 to Q2 2022.

Initiatives over the past 12 months to improve call answer times have included:

1. The PSEP Executive Steering Committee approved the utilization of overtime to ensure MPD had a minimum mandatory number of Call Takers.
2. New workflows were implemented to ensure there were dedicated MPD 9-1-1 Call Takers and to increase MPD 9-1-1 Call Taker availability.
3. New procedures were implemented that prioritized 9-1-1 calls over non-emergency/admin calls.
4. MPD ECC management of call taking operations was improved.
5. A new Interactive Voice Response (IVR) message was implemented advising 9-1-1 callers to not hang-up and call back.
6. An MFD initiative improved the availability of MFD Call Takers thereby reducing the amount of time MPD Call Takers were on hold waiting for MFD to answer.

In addition to these initiatives, an increase in telecommunicator pay was approved by the City in March 2022 to improve recruitment and retention of telecommunicators going forward. The increase appeared in May 26, 2022 paychecks, retroactive to February 20, 2022.

Availability of Bilingual Call Takers

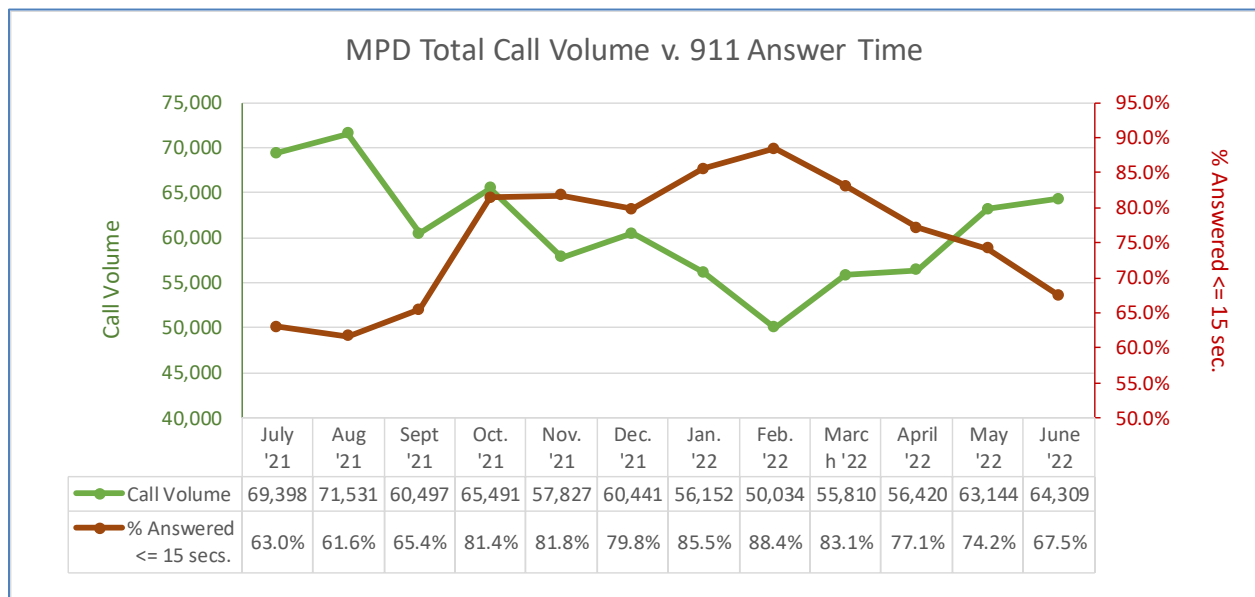
MPD has eight Spanish speaking call takers assigned to various shifts. Any non-Spanish speaking member who takes a call from a Spanish-only caller can transfer the call to a Spanish-speaking member.

If no Spanish-speaking members happen to be working, the Language Line can be utilized to provide translation for a considerable number of languages. In the past it has been used to translate at least 15 different languages, including Rohingya, Mandarin, Somali and Korean.

MFD has no Spanish speaking call takers, but does make use of the Language Line whenever needed.

Effect of Call Volume on Answer Time

The following graph shows the relationship between MPD total call volume (emergency and non-emergency) and 911 call pickup time. It is clear that greater call volume results in a lower percentage of emergency calls being picked up within the required 15 seconds. It is reasonable to expect that the staffing increases becoming effective July 2022 will reduce call answer time overall. (Note that the graph has a false zero, at 40,000 calls and 50% answer time rate.)

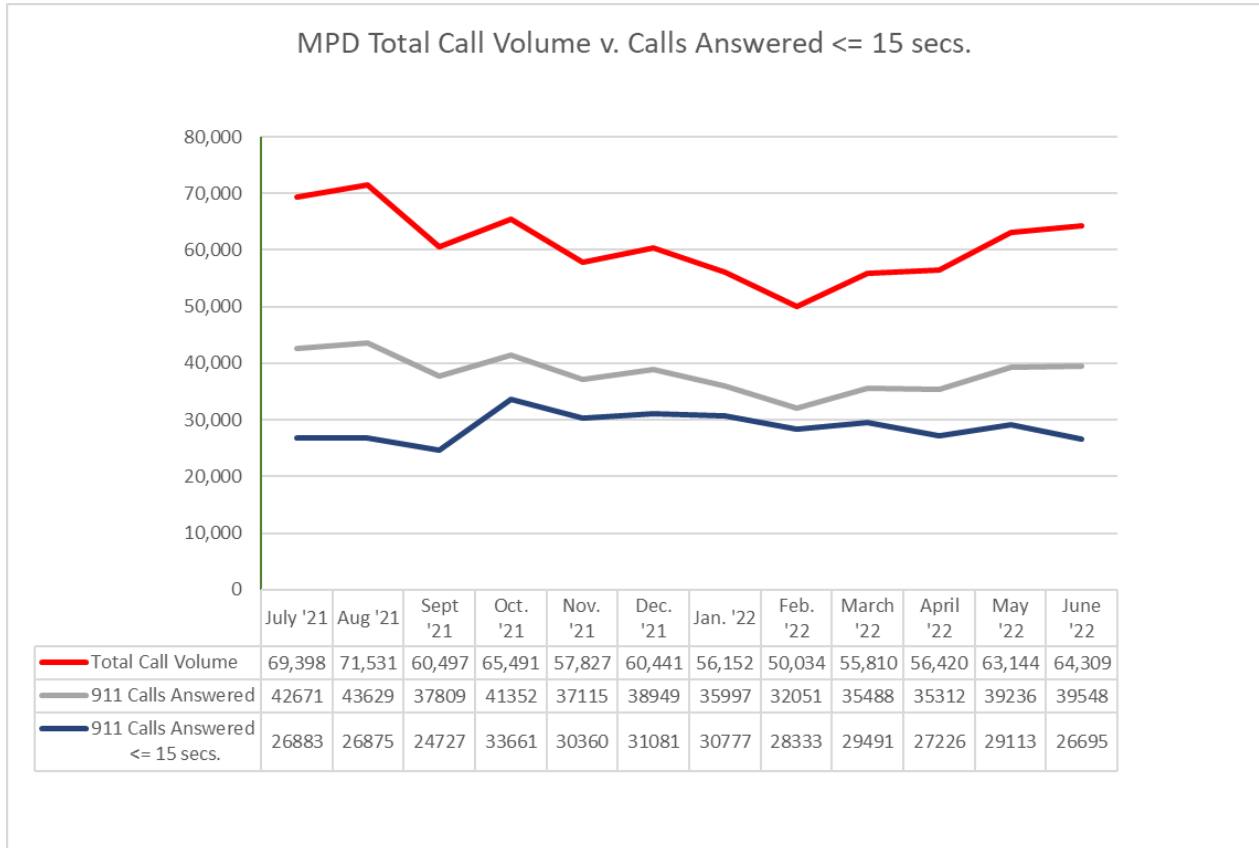


*Note: "Total Call Volume" = Emergency + Administrative*

It is clear from the above graph that there is a negative relationship between call volume and call answer time. The greater the total call volume, the longer it takes to answer each 911 call. This indicates a need for more call takers.



The following graph confirms this. The number of MPD call takers has remained fairly steady over the 12 months shown below, at just over 100, in spite of a considerable turnover rate (see “Call Taker Turnover Rate” below), and so has the number of emergency calls answered within the 15 second parameter. Therefore, when the total call volume is higher, the proportion of total 911 calls received which are answered in the recommended interval decreases. This indicates that call takers are working at capacity.



Note: “Total Call Volume” = Emergency + Administrative

### Effect of Call Taker Turnover Rate

Call taker retention has been a concern, as can be seen in the table below:

MPD QUIT RATE (No Retirements)

	All Call Takers			Dispatchers			Telecommunicators		
	Average # of employees	# of Resignations	Quit Rate	Average # of employees	# of Resignations	Quit Rate	Average # of employees	# of Resignations	Quit Rate
Q3+Q4, 2021	105.5	10	9.5%	73.5	7	9.5%	32	3	9.4%
Q1+Q2, 2022	103.5	11	10.6%	69.5	4	5.8%	34.5	7	20.3%
Q3 2021 through Q2 2022 (12 mos.)	104.5	21	20.1%	73	11	15.1%	31.5	10	31.7%



The quit rate for telecommunicators has been particularly high, at 31.7% for the 12-month period. It has increased during 2022 to double the rate of Q3 + Q4 2021. Note that telecommunicators are the newest group of call takers, as those who have been with MPD for at least 16 weeks have almost all become dispatchers, who also serve as call takers. Q3 2021 and Q1 2022 had the greatest number of resignations of all call takers at 7 in each quarter.

The 12-month quit rate for telecommunicators - 31.7% - has been closer to the 2021 U.S. national overall quit rate from the Bureau of Labor Statistics as seen below - 32.7% - than to the 12.2% quit rate for government nationally. The dispatcher quit rate for the same period, 15.1%, is closer to the national quit rate for government.

US ANNUAL QUIT LEVELS, 2021	
Total	32.7%
All private industry	36.6%
All Midwest	33.3%
State and local gov't, excluding education	12.2%

<https://www.bls.gov/news.release/jolts.t18.htm>

### Increasing Staffing Levels

Efforts are underway to increase the number of call takers for both MPD and MFD. The hiring process has been streamlined to shorten its duration.

The first recruitment since the pay increase was approved, which closed on April 1, 2022 with 292 applicants, was more than twice the size of the last recruitment before the pay increase, which had 123 applicants. Telecommunicator classes since the pay increase have increased in size at approximately the same rate.

- The recruitment prior to the April 1 recruitment yielded a class of 9 MPD telecommunicators which began training on May 16 and an MFD telecommunicator class which began on May 31 with 2 new recruits.
- The April recruitment has yielded telecommunicator classes which began July 11 with 30 MPD recruits and 4 MFD recruits, and on September 19 with 18 MPD recruits and 4 MFD recruits.

It takes 8 weeks from hire for telecommunicators to be fully trained: 5 weeks in classroom and 3 weeks on-the-job. Therefore we would not expect to see the first effects of increased staffing on call answer times until at least Q3 of 2022.

### Conclusion

The relatively flat absolute number of 911 calls answered within 15 seconds, only slightly affected by total call volume, indicates that current staff are working at capacity. The increase in

telecommunicator pay has approximately doubled the size of new telecommunicator classes, but that increase has not yet been reflected in the numbers, largely due to the length of the testing and hiring process.

We may expect that as the new groups of telecommunicators become full call takers, we will see an increase in 911 calls being answered within the recommended 15 seconds.



**Q2 2022 DATA PRESENTED IN THE FORMAT OF EARLIER REPORTS**

Tom Maureau of Winbourne Consulting presented the full Q2 2022 data in the same format as earlier reports, to the extent possible. Those tables are presented below. We have eliminated the percentage of administrative/non-emergency calls answered within 10-15 seconds, as there is no industry standard to answer administrative/non-emergency calls within these time frames..

**9-1-1/10-Digit Emergency Calls****MPD Q2 2022**

<b>Incoming MPD 9-1-1 Calls</b>	<b>April</b>	<b>May</b>	<b>June</b>
All Received	41,651	46,711	49,008
Answered	35,312	39,236	39,548
Abandoned	6,339	7,475	9,460
Call Backs	5,245	6,225	8,074
<b>MPD Answered 9-1-1 Calls</b>	<b>April</b>	<b>May</b>	<b>June</b>
Average 9-1-1 Call Wait Time	0:00:18	0:00:24	0:00:30
Average 9-1-1 Caller Talk Time	n/a	n/a	n/a
Average 9-1-1 Total Call Time	n/a	n/a	n/a
Percent Answered Within 10 sec	n/a	n/a	n/a
Percent Answered Within 15 sec	77.1%	74.2%	67.5%

**MFD Q2 2022**

<b>Incoming MFD 9-1-1 Calls</b>	<b>April</b>	<b>May</b>	<b>June</b>
All Received	12,617	14,548	15,841
Answered	12,319	14,336	15,310
Abandoned	298	212	531
Call Backs	17	5	4
<b>MFD Answered 9-1-1 Calls</b>	<b>April</b>	<b>May</b>	<b>June</b>
Average 9-1-1 Call Wait Time	0:00:18	0:00:18	0:00:24
Average 9-1-1 Caller Talk Time	n/a	n/a	n/a
Average 9-1-1 Total Call Time	n/a	n/a	n/a
Percent Answered Within 10 sec	n/a	n/a	n/a
Percent Answered Within 15 sec	77.6%	78.2%	74.7%

**9-1-1/10 Digit Call Answer Time**

MPD Q2 2022

MPD Emergency TIME INCREMENT	April		May		June	
	MPD CALLS ANSWERED	Individual % of Calls	MPD CALLS ANSWERED	Individual % of Calls	MPD CALLS ANSWERED	Individual % of Calls
0 - 15 Seconds	27,233	77.1%	29,105	74.2%	26,695	67.5%
16 - 30 Seconds	2,121	6.0%	2,589	6.6%	2,972	7.5%
31 - 45 Seconds	1,564	4.4%	1,944	5.0%	2,222	5.6%
46 - 60 Seconds	1,169	3.3%	1,460	3.7%	1,772	4.5%
61 - 75 Seconds	887	2.5%	1,000	2.5%	1,335	3.4%
76 - 90 Seconds	608	1.7%	750	1.9%	1,022	2.6%
91 - 105 Seconds	456	1.3%	560	1.4%	760	1.9%
106 - 120 Seconds	321	0.9%	397	1.0%	575	1.5%
121 - 150 Seconds	451	1.3%	571	1.5%	867	2.2%
151 - 180 Seconds	223	0.6%	346	0.9%	491	1.2%
181 - 210 Seconds	97	0.3%	195	0.5%	259	0.7%
211 - 240 Seconds	77	0.2%	149	0.4%	209	0.5%
241 - 270 Seconds	46	0.1%	68	0.2%	128	0.3%
271 - 300 Seconds	27	0.1%	35	0.1%	84	0.2%
301 - 330 Seconds	13	0.0%	23	0.1%	45	0.1%
331 - 360 Seconds	8	0.0%	21	0.1%	39	0.1%
361 - 390 Seconds	2	0.0%	7	0.0%	22	0.1%
391 - 420 Seconds	3	0.0%	4	0.0%	13	0.0%
421 - 450 Seconds	5	0.0%	6	0.0%	10	0.0%
451 - 480 Seconds	1	0.0%	4	0.0%	11	0.0%
481 - 510 Seconds	0	0.0%	1	0.0%	7	0.0%
511 - 540 Seconds	0	0.0%	1	0.0%	2	0.0%
541 - 570 Seconds	0	0.0%	0	0.0%	3	0.0%
571 - 600 Seconds	0	0.0%	0	0.0%	1	0.0%
601 - 1200 Seconds	0	0.0%	0	0.0%	4	0.0%
1201 - 1800 Seconds	0	0.0%	0	0.0%	0	0.0%
> 1800 Seconds	0	0.0%	0	0.0%	0	0.0%
<b>Total Answered Calls</b>	<b>35,312</b>	<b>100.0%</b>	<b>39,236</b>	<b>100.0%</b>	<b>39,548</b>	<b>100.0%</b>



MFD Q2 2022

MFD Emergency TIME INCREMENT	April			May			June		
	MFD CALLS ANSWERED	Individual % of Calls	Cumulative % of Calls	MFD CALLS ANSWERED	Individual % of Calls	Cumulative % of Calls	MFD CALLS ANSWERED	Individual % of Calls	Cumulative % of Calls
0 - 15 Seconds	9,552	77.6%	77.6%	11,207	78.2%	78.2%	11,436	74.7%	74.7%
16 - 30 Seconds	1,014	8.2%	85.8%	1,023	7.1%	85.3%	1,125	7.3%	82.0%
31 - 45 Seconds	421	3.4%	89.2%	525	3.7%	89.0%	591	3.9%	85.9%
46 - 60 Seconds	294	2.4%	91.6%	394	2.7%	91.7%	461	3.0%	88.9%
61 - 75 Seconds	273	2.2%	93.8%	276	1.9%	93.6%	358	2.3%	91.3%
76 - 90 Seconds	163	1.3%	95.2%	211	1.5%	95.1%	290	1.9%	93.1%
91 - 105 Seconds	148	1.2%	96.4%	175	1.2%	96.3%	238	1.6%	94.7%
106 - 120 Seconds	121	1.0%	97.4%	112	0.8%	97.1%	178	1.2%	95.9%
121 - 150 Seconds	152	1.2%	98.6%	162	1.1%	98.2%	249	1.6%	97.5%
151 - 180 Seconds	69	0.6%	99.1%	116	0.8%	99.1%	146	1.0%	98.4%
181 - 210 Seconds	48	0.4%	99.5%	65	0.5%	99.5%	82	0.5%	99.0%
211 - 240 Seconds	29	0.2%	99.8%	31	0.2%	99.7%	57	0.4%	99.4%
241 - 270 Seconds	15	0.1%	99.9%	18	0.1%	99.9%	34	0.2%	99.6%
271 - 300 Seconds	4	0.0%	99.9%	11	0.1%	99.9%	28	0.2%	99.8%
301 - 330 Seconds	3	0.0%	100.0%	6	0.0%	100.0%	16	0.1%	99.9%
331 - 360 Seconds	2	0.0%	100.0%	1	0.0%	100.0%	9	0.1%	99.9%
361 - 390 Seconds	2	0.0%	100.0%	0	0.0%	100.0%	6	0.0%	100.0%
391 - 420 Seconds	1	0.0%	100.0%	2	0.0%	100.0%	2	0.0%	100.0%
421 - 450 Seconds	1	0.0%	100.0%	1	0.0%	100.0%	0	0.0%	100.0%
451 - 480 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	1	0.0%	100.0%
481 - 510 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
511 - 540 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	2	0.0%	100.0%
541 - 570 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	1	0.0%	100.0%
571 - 600 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
601 - 1200 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
1201 - 1800 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
> 1800 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
<b>Total Answered Calls</b>	<b>12,312</b>	<b>100.0%</b>		<b>14,336</b>	<b>100.0%</b>		<b>15,310</b>	<b>100.0%</b>	



**Non-Emergency/Administrative Calls**

**MPD Q2 2022**

<b>Incoming MPD Non-Emergency Calls</b>	<b>April</b>	<b>May</b>	<b>June</b>
Received	n/a	n/a	n/a
Answered	14,769	16,433	15,301
Unanswered	n/a	n/a	n/a
<b>MPD Answered Non-Emergency Calls</b>	<b>April</b>	<b>May</b>	<b>June</b>
Average Non-Emergency Call Wait Time	0:02:01	0:02:04	0:03:00
Average Non-Emergency Caller Talk Time	n/a	n/a	n/a
Average Non-Emergency Total Call Time	n/a	n/a	n/a

**MFD Q2 2022**

<b>Incoming MFD Non-Emergency Calls</b>	<b>April</b>	<b>May</b>	<b>June</b>
Received	n/a	n/a	n/a
Answered	1,619	2,170	1,928
Unanswered	n/a	n/a	n/a
<b>MFD Answered Non-Emergency Calls</b>	<b>April</b>	<b>May</b>	<b>June</b>
Average Non-Emergency Call Wait Time	0:00:02	0:00:20	0:00:30
Average Non-Emergency Caller Talk Time	n/a	n/a	n/a
Average Non-Emergency Total Call Time	n/a	n/a	n/a

