



Fire and Police Commission

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Memorandum

To: Honorable Members of the Milwaukee Common Council

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

Date: November 8, 2023

RE: MPD/MFD Call Wait Times Report, Q3 2023

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.

Workflow Efficiencies Initiated

On October 11 & 12, 2022, a new Automatic Call Distribution (ACD) workflow was implemented which had a significant positive impact on 9-1-1 call answer performance metrics. This is the fastest way to answer a 9-1-1 call. The Automatic Call Distribution (ACD) automatically drops a 9-1-1 call into an available Call Taker’s headset. The call is preceded by two beeps to alert the Call Taker of the incoming call.

Other measures 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. MPD ECC management of call taking operations was improved.
3. A new Interactive Voice Response (IVR) message was implemented advising 9-1-1 callers to not hang-up and call back.
4. Several MFD initiatives improved the availability of MFD Call Takers thereby reducing the amount of time MPD Call Takers were on hold waiting for MFD to answer.
5. 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, and was followed by a recruitment approximately double the size of the previous recruitment.

Call Answer Standard

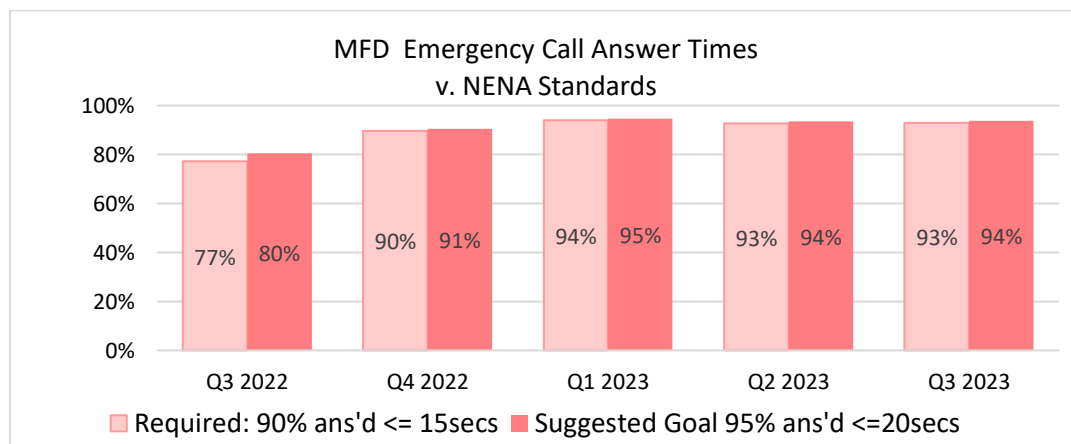
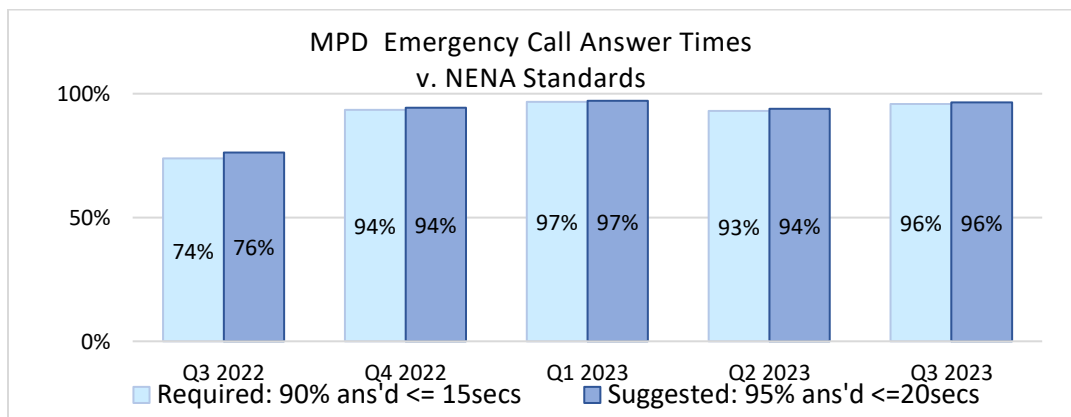
In conjunction with the implementation of the Solacom 9-1-1 system, the PSEP Executive Steering Committee established two primary performance metrics that are National Emergency Number Association (NENA) standards:

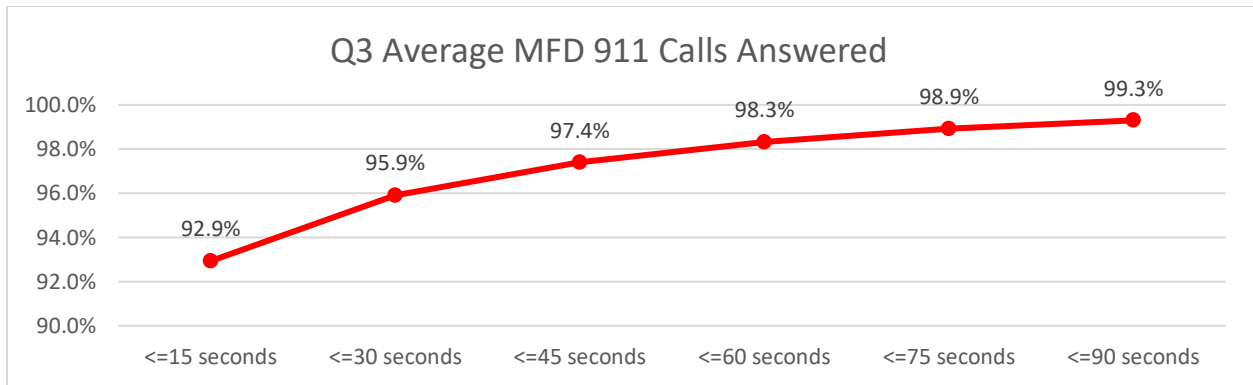
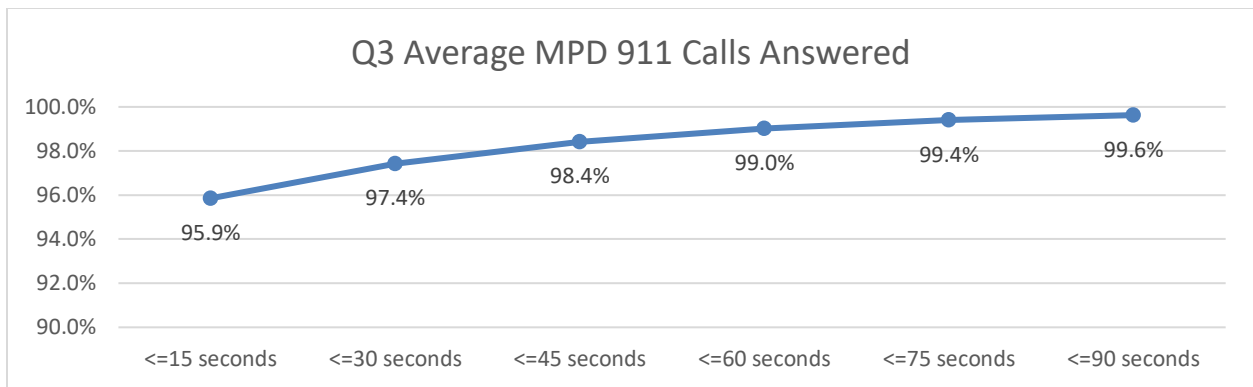
1. 90% of all 9-1-1 calls arriving at the PSAP SHALL be answered within (\leq) 15 seconds
2. 95% of all 9-1-1 calls arriving at the PSAP SHOULD be answered within (\leq) 20 seconds

The Solacom 9-1-1 system monthly reports use the NENA standard as the foundation and then 15 second increments.

Analysis by FPC Staff

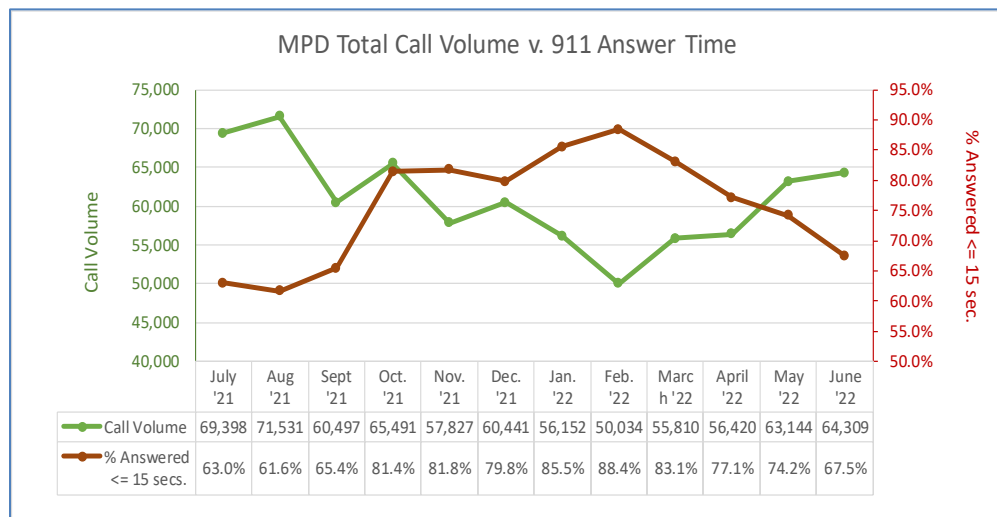
During Q3 2023, both MPD and MFD continued to exceed the NENA standard. MPD exceeded the goal by 6% and MFD by 3%. This continues to be a striking improvement for both departments over Q4 2021, when percentages of the NENA standard were 81% and 78% respectively. Overall in Q3, 99.6% and 99.3% of MPD and MFD 911 calls, respectively, were answered within 90 seconds.





Effect of Staffing Level on Answer Time

The following graph shows the relationship between MPD total call volume (emergency and non-emergency) and 911 call pickup time from Q3 2021 through Q2 2022. There is a clear inverse relationship between call volume and call pickup time. The staffing level during this period was relatively flat at just over 100 call takers. This result indicated that call takers were working at capacity and there was a need to hire more call takers to reduce call answer time.



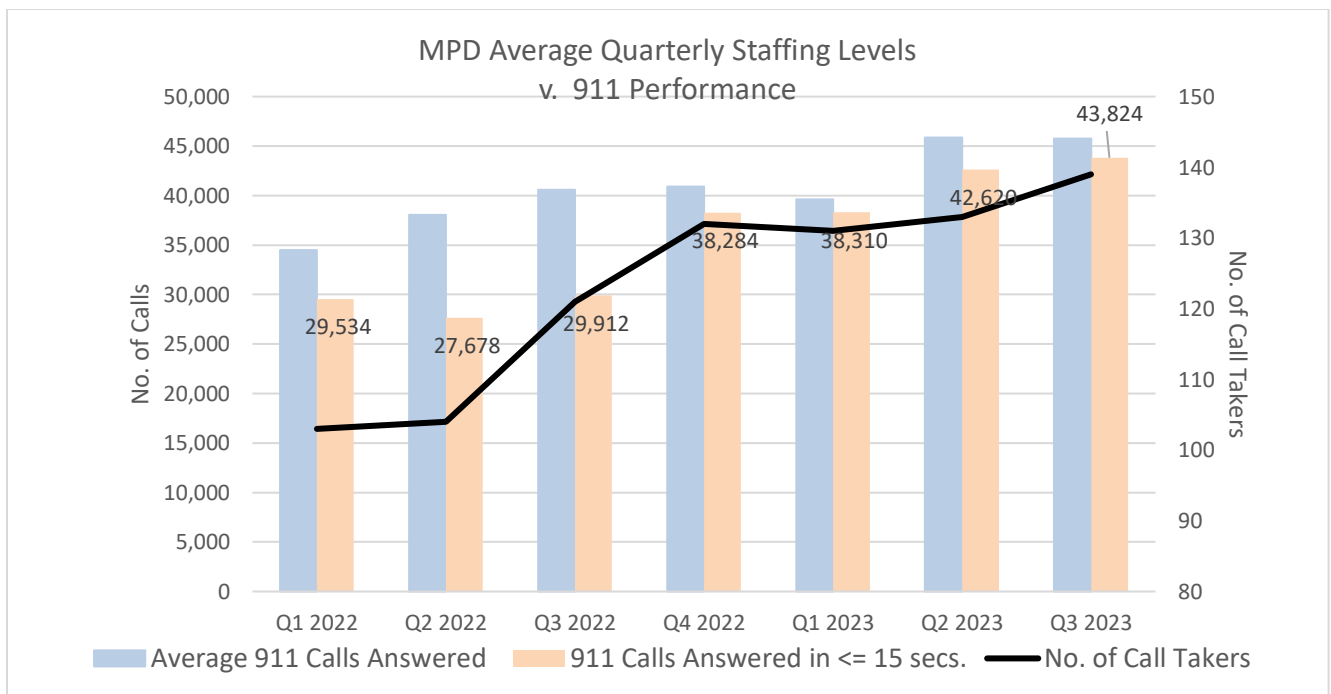
Note: "Total Call Volume" = Emergency + Administrative

Increasing Staffing Levels

The effort to increase the number of call takers for both MPD and MFD has resulted in much improved 911 call answer times, as can be seen in the chart below. That effort included an expedited hiring process as well as a pay increase for telecommunicators in early 2022. The first telecommunicator recruitment after that was more than twice the size of the last recruitment before the pay increase.

It takes 8 weeks from hire for telecommunicators to be fully trained: 5 weeks in classroom and 3 weeks on-the-job. Therefore, we saw the effects of the pay increase and expedited hiring process on call answer times during Q4 of 2022, and that level of performance has continued through Q3 of 2023. The increase in the number of call takers has been dramatic. In Q3 2023 there were 139 call takers, an increase of 6 from 133 in Q2 2023.

The R^2 value, a measure of correlation, in the data below between call takers and number of calls answered in ≤ 15 seconds is .845, which means that 84.5% of the call answer rate is explained by the number of call takers. This is higher than the 80% correlation in our Q2 report because as the number of instances (here, quarters) increases the calculation of correlation becomes more accurate.



Conclusion

Until Q3 2022, though the staff of about 100 call takers was working at capacity, NENA standards were not being met and there was a need to increase staffing. Measures put in place to do so included raising telecommunicator pay as well as improving processes, including an expedited hiring process. These were followed by an approximately doubled size of new telecommunicator applicants, a greatly increased number of hires and a much lower quit rate.

Since the end of Q4 2022, the percentage of 911 calls answered in 15 seconds or less has continued to meet or exceed the 90% NENA standard for both MPD and MFD.

Q3 2023 DATA

9-1-1/10-Digit Emergency Calls

MPD Q3 2023

Incoming MPD 9-1-1 Calls	July	August	September
All Received	50,308	46,055	44,465
Answered	48,801	44,789	43,628
Abandoned	1,507	1,266	828
Call Backs	1,321	1,125	712
MPD Answered 9-1-1 Calls	July	August	September
Average 9-1-1 Call Wait Time	0:00:03	0:00:02	0:00:01
Percent Answered Within 15 sec	94.9%	95.4%	97.2%

MFD Q3 2023

Incoming MFD 9-1-1 Calls	July	August	September
All Received	17,420	16,859	16,379
Answered	17,308	16,757	16,293
Abandoned	112	102	86
Call Backs	2	3	4
MFD Answered 9-1-1 Calls	July	August	September
Average 9-1-1 Call Wait Time	0:00:04	0:00:04	0:00:03
Percent Answered Within 15 sec	92.1%	92.9%	93.8%

9-1-1/10 Digit Call Answer Time

MPD Q3 2023

MPD Emergency TIME INCREMENT	July			August			September		
	MPD CALLS ANSWERED	Individual % of Calls	Cumulative % of Calls	MPD CALLS ANSWERED	Individual % of Calls	Cumulative % of Calls	MPD CALLS ANSWERED	Individual % of Calls	Cumulative % of Calls
0 - 15 Seconds	46,302	94.9%	94.9%	42,746	95.4%	95.4%	42,425	97.2%	97.2%
16 - 30 Seconds	1,001	2.1%	96.9%	747	1.7%	97.1%	429	1.0%	98.2%
31 - 45 Seconds	612	1.3%	98.2%	483	1.1%	98.2%	295	0.7%	98.9%
46 - 60 Seconds	359	0.7%	98.9%	277	0.6%	98.8%	180	0.4%	99.3%
61 - 75 Seconds	231	0.5%	99.4%	194	0.4%	99.2%	110	0.3%	99.6%
76 - 90 Seconds	115	0.2%	99.6%	135	0.3%	99.5%	64	0.1%	99.7%
91 - 105 Seconds	60	0.1%	99.8%	78	0.2%	99.7%	47	0.1%	99.8%
106 - 120 Seconds	38	0.1%	99.8%	43	0.1%	99.8%	23	0.1%	99.9%
121 - 150 Seconds	35	0.1%	99.9%	46	0.1%	99.9%	31	0.1%	99.9%
151 - 180 Seconds	24	0.0%	100.0%	29	0.1%	100.0%	13	0.0%	100.0%
181 - 210 Seconds	10	0.0%	100.0%	8	0.0%	100.0%	3	0.0%	100.0%
211 - 240 Seconds	7	0.0%	100.0%	1	0.0%	100.0%	4	0.0%	100.0%
241 - 270 Seconds	5	0.0%	100.0%	1	0.0%	100.0%	4	0.0%	100.0%
271 - 300 Seconds	2	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
301 - 330 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
331 - 360 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
361 - 390 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
391 - 420 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
421 - 450 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
451 - 480 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	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%	0	0.0%	100.0%
541 - 570 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	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%
Total Answered Calls	48,801	100.0%		44,788	100.0%		43,628	100.0%	

MFD Q3 2023

TIME INCREMENT	July				August				September			
	MFD CALLS ANSWERED		Individual % of Calls		MFD CALLS ANSWERED		Individual % of Calls		MFD CALLS ANSWERED		Individual % of Calls	
	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	MFD CALLS ANSWERED	Individual % of Calls	Cumulative % of Calls
0 - 15 Seconds	15,934	92.1%	92.1%	15,569	92.9%	92.9%	15,284	93.8%	93.8%	15,284	93.8%	93.8%
16 - 30 Seconds	548	3.2%	95.2%	514	3.1%	96.0%	442	2.7%	96.5%	442	2.7%	96.5%
31 - 45 Seconds	314	1.8%	97.0%	227	1.4%	97.3%	209	1.3%	97.8%	209	1.3%	97.8%
46 - 60 Seconds	197	1.1%	98.2%	134	0.8%	98.1%	138	0.8%	98.6%	138	0.8%	98.6%
61 - 75 Seconds	121	0.7%	98.9%	103	0.6%	98.8%	75	0.5%	99.1%	75	0.5%	99.1%
76 - 90 Seconds	78	0.5%	99.3%	71	0.4%	99.2%	45	0.3%	99.4%	45	0.3%	99.4%
91 - 105 Seconds	40	0.2%	99.6%	50	0.3%	99.5%	36	0.2%	99.6%	36	0.2%	99.6%
106 - 120 Seconds	32	0.2%	99.7%	31	0.2%	99.7%	26	0.2%	99.8%	26	0.2%	99.8%
121 - 150 Seconds	24	0.1%	99.9%	36	0.2%	99.9%	23	0.1%	99.9%	23	0.1%	99.9%
151 - 180 Seconds	13	0.1%	100.0%	9	0.1%	99.9%	9	0.1%	100.0%	9	0.1%	100.0%
181 - 210 Seconds	5	0.0%	100.0%	8	0.0%	100.0%	4	0.0%	100.0%	4	0.0%	100.0%
211 - 240 Seconds	2	0.0%	100.0%	0	0.0%	100.0%	1	0.0%	100.0%	1	0.0%	100.0%
241 - 270 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	1	0.0%	100.0%	1	0.0%	100.0%
271 - 300 Seconds	0	0.0%	100.0%	2	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
301 - 330 Seconds	0	0.0%	100.0%	1	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
331 - 360 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
361 - 390 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
391 - 420 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
421 - 450 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
451 - 480 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
481 - 510 Seconds	0	0.0%	100.0%	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%	0	0.0%	100.0%	0	0.0%	100.0%
541 - 570 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
571 - 600 Seconds	0	0.0%	100.0%	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%	0	0.0%	100.0%
1201 - 1800 Seconds	0	0.0%	100.0%	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%	0	0.0%	100.0%
Total Answered Calls	17,308	100.0%		16,755	100.0%		16,293	100.0%		16,293	100.0%	

Non-Emergency/Administrative Calls

MPD Q3 2023

Incoming MPD Non-Emergency Calls	July	August	September
Answered**	19,384	19,029	18,610
MPD Answered Non-Emergency Calls	July	August	September
Average Non-Emergency Call Wait Time	0:00:38	0:00:35	0:00:20

MFD Q3 2023

Incoming MFD Non-Emergency Calls	July	August	September
Answered**	1,863	2,030	1,934
MFD Answered Non-Emergency Calls	July	August	September
Average Non-Emergency Call Wait Time	0:00:06	0:00:05	0:00:03

Non-Emergency/Administrative Call Answer Time

MPD Q3 2023

MPD Admin	July			August			September		
	MPD CALLS ANSWERED	Individual % of Calls	Cumulative % of Calls	MPD CALLS ANSWERED	Individual % of Calls	Cumulative % of Calls	MPD CALLS ANSWERED	Individual % of Calls	Cumulative % of Calls
0 - 15 Seconds	14,192	73.2%	73.2%	15,569	92.9%	92.9%	15,339	82.4%	82.4%
16 - 30 Seconds	653	3.4%	76.6%	514	3.1%	96.0%	489	2.6%	85.1%
31 - 45 Seconds	584	3.0%	79.6%	227	1.4%	97.3%	424	2.3%	87.3%
46 - 60 Seconds	480	2.5%	82.1%	134	0.8%	98.1%	335	1.8%	89.1%
61 - 75 Seconds	432	2.2%	84.3%	103	0.6%	98.8%	298	1.6%	90.7%
76 - 90 Seconds	373	1.9%	86.2%	71	0.4%	99.2%	232	1.2%	92.0%
91 - 105 Seconds	324	1.7%	87.9%	50	0.3%	99.5%	224	1.2%	93.2%
106 - 120 Seconds	253	1.3%	89.2%	31	0.2%	99.7%	206	1.1%	94.3%
121 - 150 Seconds	420	2.2%	91.4%	36	0.2%	99.9%	285	1.5%	95.8%
151 - 180 Seconds	363	1.9%	93.2%	9	0.1%	99.9%	193	1.0%	96.9%
181 - 210 Seconds	281	1.4%	94.7%	8	0.0%	100.0%	154	0.8%	97.7%
211 - 240 Seconds	190	1.0%	95.7%	0	0.0%	100.0%	116	0.6%	98.3%
241 - 270 Seconds	155	0.8%	96.5%	0	0.0%	100.0%	79	0.4%	98.7%
271 - 300 Seconds	106	0.5%	97.0%	2	0.0%	100.0%	45	0.2%	99.0%
301 - 330 Seconds	98	0.5%	97.5%	1	0.0%	100.0%	52	0.3%	99.3%
331 - 360 Seconds	73	0.4%	97.9%	0	0.0%	100.0%	25	0.1%	99.4%
361 - 390 Seconds	71	0.4%	98.3%	0	0.0%	100.0%	19	0.1%	99.5%
391 - 420 Seconds	48	0.2%	98.5%	0	0.0%	100.0%	16	0.1%	99.6%
421 - 450 Seconds	49	0.3%	98.8%	0	0.0%	100.0%	16	0.1%	99.7%
451 - 480 Seconds	35	0.2%	98.9%	0	0.0%	100.0%	18	0.1%	99.8%
481 - 510 Seconds	31	0.2%	99.1%	0	0.0%	100.0%	13	0.1%	99.8%
511 - 540 Seconds	21	0.1%	99.2%	0	0.0%	100.0%	8	0.0%	99.9%
541 - 570 Seconds	20	0.1%	99.3%	0	0.0%	100.0%	3	0.0%	99.9%
571 - 600 Seconds	18	0.1%	99.4%	0	0.0%	100.0%	3	0.0%	99.9%
601 - 1200 Seconds	114	0.6%	100.0%	0	0.0%	100.0%	18	0.1%	100.0%
1201 - 1800 Seconds	1	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%
Total Answered Calls	19,385	100.0%		16,755	100.0%		18,610	100.0%	

MFD Admin	July			August			September		
	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	1,718	92.2%	92.2%	1,913	94.3%	94.3%	1,847	95.5%	95.5%
16 - 30 Seconds	33	1.8%	94.0%	18	0.9%	95.2%	25	1.3%	96.8%
31 - 45 Seconds	22	1.2%	95.2%	27	1.3%	96.5%	15	0.8%	97.6%
46 - 60 Seconds	28	1.5%	96.7%	20	1.0%	97.5%	15	0.8%	98.3%
61 - 75 Seconds	15	0.8%	97.5%	12	0.6%	98.1%	8	0.4%	98.8%
76 - 90 Seconds	9	0.5%	98.0%	8	0.4%	98.5%	7	0.4%	99.1%
91 - 105 Seconds	4	0.2%	98.2%	6	0.3%	98.8%	2	0.1%	99.2%
106 - 120 Seconds	3	0.2%	98.3%	6	0.3%	99.1%	2	0.1%	99.3%
121 - 150 Seconds	13	0.7%	99.0%	3	0.1%	99.3%	5	0.3%	99.6%
151 - 180 Seconds	8	0.4%	99.5%	6	0.3%	99.6%	3	0.2%	99.7%
181 - 210 Seconds	4	0.2%	99.7%	4	0.2%	99.8%	1	0.1%	99.8%
211 - 240 Seconds	3	0.2%	99.8%	0	0.0%	99.8%	3	0.2%	99.9%
241 - 270 Seconds	1	0.1%	99.9%	2	0.1%	99.9%	1	0.1%	100.0%
271 - 300 Seconds	0	0.0%	99.9%	0	0.0%	99.9%	0	0.0%	100.0%
301 - 330 Seconds	1	0.1%	99.9%	1	0.0%	99.9%	0	0.0%	100.0%
331 - 360 Seconds	0	0.0%	99.9%	0	0.0%	99.9%	0	0.0%	100.0%
361 - 390 Seconds	1	0.1%	100.0%	1	0.0%	100.0%	0	0.0%	100.0%
391 - 420 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
421 - 450 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
451 - 480 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	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%	1	0.0%	100.0%	0	0.0%	100.0%
541 - 570 Seconds	0	0.0%	100.0%	0	0.0%	100.0%	0	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%
Total Answered Calls	1,863	100.0%		2,028	100.0%		1,934	100.0%	