Improving the efficiency of public safety services

Dallas Police Department Communications Review

September 2020

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Contents

Executive Summary

KPMG conducted a review of the Dallas Police Communications division over a five-week period starting in July 2020. The intent of the review was to identify opportunities for increased efficiency and effectiveness due to the division's critical importance within the Dispatch and Patrol process. The scope of the Communications operational and staffing review included:

1) Assessment of CAD/call demand, online reporting and expediter utilization
2) Analysis of staffing trends (e.g., attrition rate, sickness, overtime usage)
3) Review of operational processes, procedures, and policies including officer dispatching practices and alternative options
4) Analysis of staffing supply against demand to identify gaps in service levels

A key focus of the analysis was on staffing levels for both 911 call takers and dispatchers and the potential effect these levels could have on performance metrics. Based on the analysis of historical call volume against staffing and performance levels, it appears that the ***current funded staffing levels of 95 call taker and 54 dispatcher positions are largely appropriate to meet demand within the required performance metrics (pg. 23 and 27), suggesting that there needs to be an increased focus on staff performance, supervision, and quality assurance (pg. 54)*** to ensure that all staff are performing efficiently and maximizing the number of calls answered during each watch. Opportunities were also identified to realign staffing across watches to match changes in demand, ultimately helping to improve the overall performance against target.

As part of the analysis, it was also identified that efficiencies could be made in existing call taker and dispatcher workload and processes through enhanced demand management, which could improve performance. In particular it was found that ***the enhanced utilization of the existing expediter unit and the Dallas Online Reporting System (DORS) would significantly reduce the workload of dispatchers and patrol officers, for example if 50 percent of all calls allowed for diversion were diverted to an expediter or DORS this would reduce workload for 28 patrol officers (pg. 50)***. While these programs are currently in operation, they have been significantly underutilized, and the department should prioritize enhance utilization to improve demand management and focus patrol officers on responding to priority calls.

From an operational process perspective, some key insights were identified when reviewing call problem types and call priorities and specific recommendations have been made to streamline and standardize the call allocation processes and support staff in their day-to-day activities. Importantly, a lack of a formalized staff performance management and monitoring process was identified, which has a clear impact on DPD's performance metrics, staffing, hiring, and training challenges. As such it is recommended that a ***clear performance management process be implemented across all areas to support leadership in gaining enhanced oversight of performance through quality assurance, transparency, and accountability (pg. 54)***.

KPMG also identified a range of process efficiencies within the division. This includes the standardization of training processes, which play a key role in supporting DPD in achieving its performance targets, as well as supporting staff retention and career growth, which have been highlighted as key issues throughout the review. A number of inconsistencies were identified in both the training process, as well as the supervision of new staff, which was adversely affecting staff retention and new trainee success rates. It is therefore recommended that ***a thorough refresh of the training program be conducted (pg. 57)*** focusing on transitioning both classroom and on-the-floor training to be more modular and reality based, as well as implementing a new "train-the-trainer"

program. This new program would focus on equipping new and existing supervisory staff with the appropriate skills to both train and monitor their trainees for success. This would have beneficial impacts to both staff retention as well as performance and staffing needs. This has been successfully implemented in other agencies and helps to reduce the steep learning curve when trainees hit the floor, setting trainees—and DPD—up for success.

A total of 21 recommendations over a number of topics have been highlighted for DPD's consideration, as summarized in the table below. Many of the recommendations within this report were highlighted by staff during the interview process and validated through the data analysis. The organization should be commended for its participation in this study, which is not intended to criticize but to open the door to opportunities to improve overall performance. The individual recommendations have been prioritized based on priority, complexity, and level of effort to support DPD in identifying the key activities requiring immediate action.

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DPD Communications Services Review

Purpose and scope

KPMG conducted an initial review of the Dallas Police Department Patrol and Investigations Bureaus in 2019 and developed a series of strategic recommendations for the Department. As part of that review KPMG recommended that DPD conduct an operational and performance review of the Communications Services unit to include staffing, scheduling, call grading, and processes to identify opportunities for increased efficiency and effectiveness due to the divisions' critical importance within the Dispatch and Patrol process.

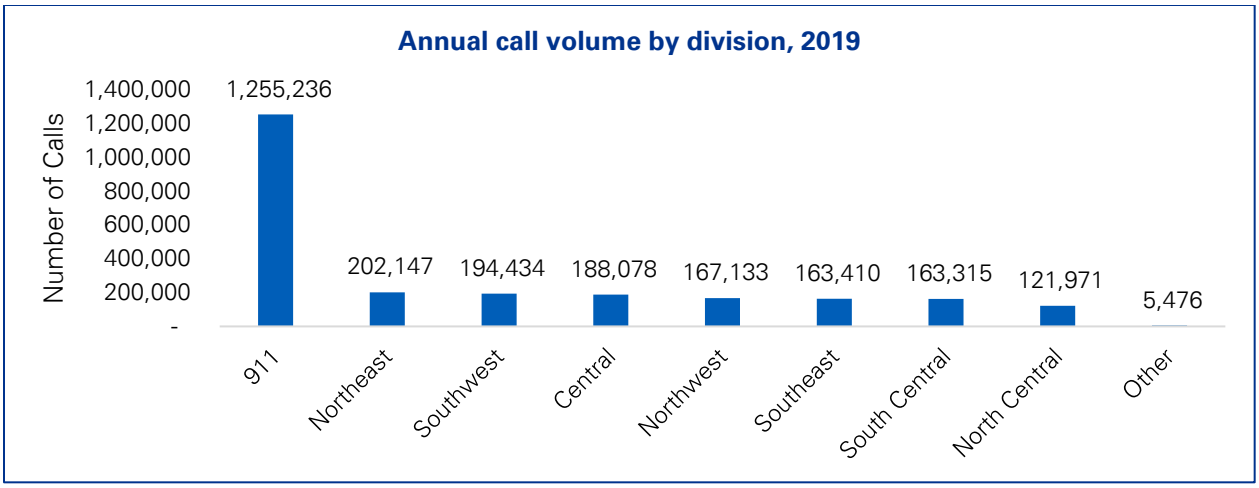
This report outlines the recommendations for the Communications Services division based on KPMG's analysis and evaluation of the division's operations, policies, procedures, and staffing and provides strategic insights to address the core requirement to improve performance and reduce response times.

Overview of DPD Communications Services Division

The City of Dallas is the ninth largest city in the United States, growing in population at an average of 1.7 percent per year since 2010. DPD is responsible for reducing crime and providing public safety for the City of Dallas. As per the DPD's mission statement, DPD strives to achieve its objectives by:

- Recognizing that its goal is to help people and provide assistance at every opportunity
- Providing preventive, investigative, and enforcement services
- Increasing resident satisfaction with public safety and obtaining community cooperation through the Department's training, skills, and efforts
- Realizing that the Police Department alone cannot control crime, but must act in concert with the community and the rest of the Criminal Justice System.

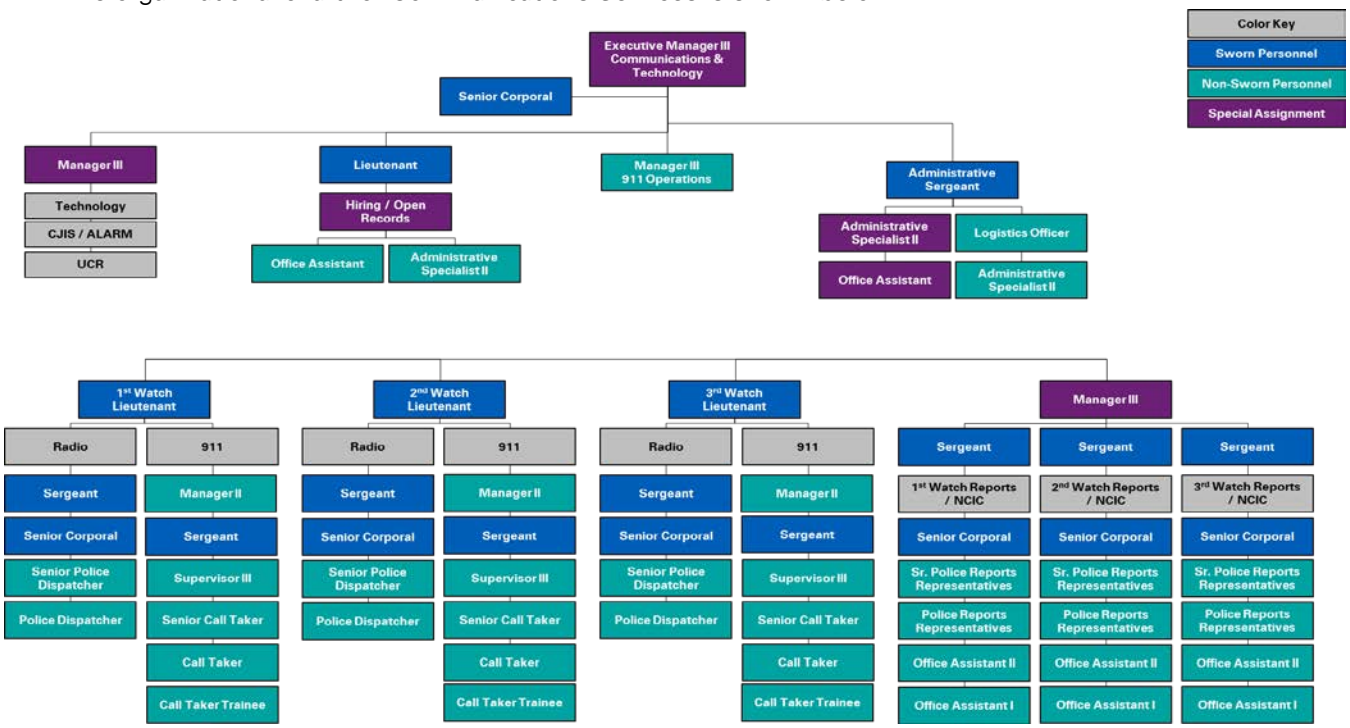
The Communications division is the critical link between community members calling in for assistance and the patrol officers in the field. They are responsible for handling all emergency and non-emergency calls as a first point of contact for the public, in addition to dispatching all priority calls for service to each of the City's seven patrol divisions. In 2019, the Communications division handled over 2,400,000 calls with over 1,200,000 of those calls handled by dispatch, and approximately 600,000 of those calls dispatched to officers. Below is a breakdown of calls by division and type from 2019.



**Other Category includes: Criminal Investigation, Expediter, Homeland Security, Jack Evans Headquarters Building, Special Investigation, and Traffic.*

Source: DPD Communications Call Volume Data

DPD's Communications Services is commanded by a Major of Police who reports to the Administrative Assistant Chief. Communications Services is comprised of the **Radio Room, 911 Call Center, National Crime Information Center (NCIC), Reports Unit, and Training Unit**. The Radio Room is divided into three watches, each of which is commanded by a Lieutenant of Police. Each Lieutenant reports directly to the Communications Major. The 911 Call Center is also divided into three watches, each of which is commanded by the Radio Room Lieutenant. Each watch in the 911 Call Center has a Manager II assigned who reports to the Radio Room Lieutenant. The Manager III over the Training Unit and the Manager III over the NCIC and Reports Unit also report directly to the Communications Major. The organizational chart for Communications Services is shown below.



Source: DPD Communications Services Organization Chart (as of June 3, 2020)

The table below illustrates DPD's Communications staffing as of September 2019 broken down by employee classification (i.e., civilian and sworn). As of September 2019, approximately 81 percent of DPD Communications employees were civilian officers. Sworn officers made up 19 percent of the DPD Communications workforce.

Group	Civilian	Sworn	Grand total
Total Communications Staff	223	51	274
Distribution of civilian and sworn staff	*81%*	*19%*	

Source: DPD Staffing Data

While the Communications division handles all calls for service from the public, not all calls are dispatched to patrol officers. DPD offers diversion options for certain non-urgent calls that can be handled over the phone. This can be conducted through the expediter unit, which takes telephone reports for incidents, or more recently DPD has implemented a new online reporting system, Dallas Online Reporting System (DORS), in March 2020. As part of this new system, specific call types considered eligible for diversion to online reporting are provided with the option to transfer to this new system. DORS allows residents to report crimes online 24/7 without the need for patrol officer presence.

Approach

The KPMG project team began their five-week review of Communication Services in July 2020. The project team review focused on opportunities for increased efficiency across 911 call taker, Dispatcher, supervisor, trainer, and expeditor positions. The review and analysis of DPD's Communications Services included a focus on staffing, scheduling, call signals, training, quality assurance (QA), and policy and process.

The project team incorporated both quantitative and qualitative analyses of relevant data and processes as part of the approach. A full list of data received by DPD and analyzed is included in Appendix A.

Interview and Shadowing Sessions

A series of interviews with relevant communications staff were undertaken to understand current processes, operational challenges, and opportunities for improvement. These are summarized in Appendix B. To ensure the project team had a thorough understanding of the day-to-day operations and activities of each position, separate virtual "shadowing" sessions for 911 call takers and dispatchers were also conducted. The shadowing sessions, alongside the interviews, were critical to gaining a clear picture of the current processes and procedures.

Data Analysis

KPMG's review of the Communications division relied heavily on data analysis in order to assess the performance and efficiency of the operations, in addition to assessing current staffing levels. The operational review was conducted through examination of performance against the current service levels (i.e., calls answered within ten seconds for call takers, and calls dispatched by dispatchers within two and four minutes for Priority one and two calls, respectively). The staffing review utilized a workload-based approach to evaluate the effectiveness of call taker and dispatch staffing. The workload approach estimates future staffing needs by modelling the level of current and historical activity which can assist in determining the need for additional resources or relocating existing resources (by time and location), and detecting trends in workload that may illustrate changing activity

levels and conditions.[1] This approach relies on an examination of calls for service received by the department, and these calls are modeled to understand demand and supply by time of day and call composition. Workload demands are modeled and then placed in context with other operational demands, minimum staffing requirements, and performance targets within the division. The result is a comprehensive assessment of workload through calls for service to estimate staffing needs. In addition, KPMG conducted a number of workload scenarios to determine staffing needs with increased utilization of the diversion methods such as the expediter unit and DORS, or increased diversion of certain problem types to other City agencies in light of recent national events.

[1] Police Staffing Allocation and Managing Workload Demand: A Critical Assessment of Existing Practices (Jeremy M. Wilson, and Alexander Weiss)

DPD Communication Services Recommendations

Overview

KPMG identified a set of 21 strategic recommendations for the Communications division that will help to improve the efficiency and effectiveness of the department as a whole. These recommendations have been grouped into specific topic areas to facilitate implementation. These topics include:

- Staffing
- Call Signals and Call Priorities
- Call Diversion
- Staff Process and Performance Management
- Training
- Hiring

These recommendations are not all intended to be implemented immediately and should be reviewed based on priority, complexity, benefit, and level of effort. As such, the next section of this report provides a summary of the 21 recommendations in order of recommended priority. For the top 3 prioritized recommendations, a high level implementation roadmap has also been included to provide a clear list of sequenced recommended tasks to guide their implementation. Finally, the detailed analysis and overall themes related to each specific recommendations are provided in the 'Detailed Recommendations' section.

Prioritized Recommendations

The suggested prioritized recommendations table on the following page highlights the identified recommendations that should be prioritized based on benefit, level of effort and risk, as well as time to implement. The project team recommends this near-term implementation timeline, as these recommendations present the greatest opportunities to optimize the use of DPD's current resources, and to define a strategy that will inform DPD's decision-making across numerous recommendations going forward.

Legend			
Priority	Near-term: within 6 months	Medium-term: 6–12 months	Long-term: >12 months
Complexity	L: low	M: medium	H: high
Level of Effort	1–3 months	3–6 months	6–12 months

#	Topic	Recommendation	Anticipated Benefits	Priority	Complexity	Level of Effort
1	Call Signal & Call Priorities	**Implement a full overhaul of the use of the "other" problem type** • Update training, quality assurance and SOPs to review and confirm the use of the "Other" category for call takers and how to update the type at the end of the call • Add the following six new problem type codes to reduce the use of the "other" category: Trespassing/Loitering, Welfare Check/Mental Health, Drugs, Homelessness, Civil Matter and Child/Custody Issue • Leveraging the refreshed training and QA process, ensure the following problem types are re-allocated to existing call signals at the end of each call: Theft, Accident/Emergency/Ambulance, Gun shots, Disturbance/Noise, Intoxication and Assault	• Improved accuracy in the categorization and tracking of calls • Increased support to patrol officers in the field	Near-term	M	1–3 months
2	Call Signal & Call Priorities	**Consolidation of duplicate and extraneous problem codes** • Combine all related "in progress" problem code types to their single parent type as detailed in the table in the preceding section • Remove the following non-use problem codes: 54 - Escort/Protection Detail, 68 - Verified Response Alarm, 12N - Burglar Alarm NonDisp, PSE/11B - Burg of Bus, MW - Most Wanted, TOW – TowRepo, 6X/01 Women's Shelter Dist., PSE/09V – UUMV (see full table in the preceding section)	• Streamline choice • Reduce number of errors	Near-term	L	1–3 months
3	Staffing	**Implement civilianization of Communications Division** • Carry our initial in-depth analysis of current roles, responsibilities and salaries at senior communications levels to create a clear baseline understanding of the current impact • Carry out further research and investigation into the feasibility of the civilianization of the communications division	• Reduced administrative burden on sworn staff • Career growth for civilian positions, • Reduced staff vacancies and attrition rates • Budgetary savings • Increased morale • Benefits to the entire city	Medium-term	H	6–12 months
4	Training	**Refresh the existing training process for new staff & increase the number of trainers:** • Classroom training to be modular and include reality-based training • Investigate and pilot optimal timing for on-the-floor training and consider reducing from 12 weeks to 8–9 weeks based on efficiencies arising from reality based training	• Improved outcomes for new trainees • Faster results • Standardized training process • Lower training costs • Staff retention • Reduced trainer workload	Near-term	M	3–6 months

#	Topic	Recommendation	Anticipated Benefits	Priority	Complexity	Level of Effort
		• Update 911 call taker On-the-Job training manual based on new processes (last updated in 2015) in line with new program • For classroom trainers, it is recommended that at least two trainers each for both dispatch and call taker classroom sessions be available to accommodate the numbers of trainees and account for potential sick days or leave • Analysis of existing "on the floor" training supervisors numbers against number of anticipated trainees and trainers time spent on training versus day job be undertaken to identify the appropriate number	• Improved performance management • Technology enablers • Decreased workload for trainers			
5	Call Diversion	**Actively promote diversion of calls to expeditors and / or DORS** • Review 911 call taker script and process to ensure diversion of appropriate call types • Enhance marketing and promotion of DORS to Dallas citizens • Review Expediter and Staff Review staffing levels based on enhanced utilization of diversion options	• Process standardization • Increased uptake in call diversion • Budgetary savings	Near-term	M	3–6 months
6	Staff Process and Performance	**Implement a more formalized and standardized performance management process for all staff:** • Leadership to conduct evaluations on a regular basis to identify specific challenge and opportunity areas • Establish performance measures or KPIs at individual level based on job type. These performance measures should be formally signed off by both supervisors and leadership to ensure accountability at all levels • Update existing SOPs and training manuals to reflect new staff level performance measures • Create standardized checklists for supervisors and staff across dispatch and 911 to ensure accurate information is recorded at the end of each watch	• Improved performance • Proactive action • Increase transparency and accountability • Issues resolved more quickly •	Near-term	M	3–6 months
7	Hiring	**Align the hiring process with civilian-specific application, documentation and sign off requirements** • Full review and amendment of disqualifiers for civilian hires • Full review and amendment of background documentation requirements for civilian positions	• Faster hiring process • Improved staff retention • Alignment with City HQ on hiring process	Near-term	L	1–3 months

#	Topic	Recommendation	Anticipated Benefits	Priority	Complexity	Level of Effort
		• Align with City HQ to ensure that Civilian background checks are conducted at the appropriate level for their position and are prioritized to reduce vacancy rates				
8	Hiring	**Instigate a formal process to proactively track the hiring process and flag any delays** • Regular reviews by leadership • Full review of existing sign-off process to streamline timing and responsibility • Formal progress tracking and regular reviews	• Faster hiring process	Near-term	M	3–6 months
9	Training	**Implement a new train-the-trainer program for new supervisors** • Emphasis on skills required for day-to-day training • Focus on consistent and strong QA • Create "refresher" programs to ensure continuous education	• Standardized approach to training • Improved QA and performance management • Better trainee outcomes	Near-term	L	1–3 months
10	Hiring	**Investigate redesigning the hiring process to an electronic system** • Facilitate digital sign-offs • Enable notifications by emails allowing	• Proactive identification of delays in the process • Faster hiring process • Decreased workload for signatories • Technology enablers	Near-term	M	3–6 months
11	Call Signal and Call Priorities	**Reclassification of priority 1 modes of response** – Authorize all priority one calls be a code three response	• Improved performance • Improved services level to citizens • Reduced travel time for priority 1 calls	Near-term	L	3–6 months
12	Staff Process & Performance	**Update the overtime reporting process** – Update the overtime charge submission process to require the time of day and day of week when the overtime occurred to be included in the timesheet submission, as well as the inclusion of a specific reason code for each instance of overtime occurrence	• Improved accuracy and reliability in monitoring overtime • Improved staff performance	Near-term	L	1–3 months
13	Staff Process and Performance	**Amend the dispatch policy to dispatch the nearest next available officer to an incident rather than the next available officer**. • Increase communications between the dispatchers and officers to ensure that dispatchers are aware of the status of in-progress incidents	• Improved performance • Proactive action • Increase transparency & accountability • Issues resolved more quickly	Medium-term	M	3–6 months

#	Topic	Recommendation	Anticipated Benefits	Priority	Complexity	Level of Effort
		• Close monitoring from supervisors in the field to ensure that officers are updating their availability as soon as they are close to closing or have closed an incident • Consider reintroducing division sectors to provide boundaries within which officers can respond to incidents				
14	Staffing	**Realign 911 Call Taker staffing levels and management** • Review potential opportunity to reduce the authorized funded staffing levels • Implement increased supervision and quality assurance of call takers • Review number of FTE per staff as indicated below: — Watch 1 (11:00 p.m.–7:00 a.m.): from 28 FTEs to 22 FTEs — Watch 2 (7:00 a.m.–3:00 p.m.): from 32 FTEs to 34 FTEs — Watch 3 (3:00 p.m.–11:00 p.m.): from 36 FTEs to 40 FTEs	• Improved performance • Budgetary savings • Maximize the number of calls answered during each watch	Medium -term	M	3–6 months
15	Staffing	**Realign Dispatcher staffing levels and management** • Implement a 30-minute watch overlap • Review potential of moving the weekend watches by one hour • Increase level of oversight and operational management of dispatch • Supervisors and management to enforce that all staff are ready and available to start their duties at the watch start time and that no one is logging off their watch early	• Improved performance • Improved continuity of operations • Increased efficiency of dispatch times and reduced volume of calls that are not dispatched within the target • Alignment of staff to call demand. • Reduced dispatch time during watch changes.	Medium -term	M	3–6 months
16	Hiring	**Amend process for exit interviews** to include detailed reasons for leaving and monitor for improvements and efficiencies in attrition rates	• Clear understanding of issues in staff retention • Monitoring and tracking of issues	Medium -term	L	1–3 months
17	Call Signal & Call Priorities	**Review process to improve target dispatch times** by implementing measures to reduce performance gaps during the beginning and end of each watch shift	• Improved performance • Improved staff performance	Medium -Term	M	3–6 months

#	Topic	Recommendation	Anticipated Benefits	Priority	Complexity	Level of Effort
18	Call Signal & Call Priorities	**Refresh process for swapped and multi-assigned calls** • Reset timers within the CAD system when an officer is swapped from one incident to another • Implement a new system to record the time from when the officer is ready and able to respond to the incident rather than the time that the incident is "pending" their response	• Improved accuracy in response time tracking •	Medium-term	L	3–6 months
19	Training	**Investigate the feasibility of a dedicated training division** – Investigate transferring training to the DPD training division specifically to handle training and QA matters	• Standardized approach to training • Improved QA and performance management • Better trainee outcomes	Long-term	H	6–12 months
20	Call Diversion	**Identify opportunities to divert calls to other City Agencies** – Continue to work with the City of Dallas to explore options for diversion of specific call types to other City agencies	• Increased uptake in call diversion • Budgetary savings	Long-term	M	3–6 months
21	Staffing	**Investigate new processes to manage sickness and days off** – Investigate the implementation of a rotational schedule for days off for all staff: • Initial investigation and analysis of current number of sick days being used per position and watch to evidence the outcome • Review of union agreements to ensure alignment • Maintenance of staff seniority to determine the best approach	• Improved staff morale • Reduction in the number of sick days being used	Long-term	M	1–3 months

Implementation Roadmap

A high-level implementation roadmap has been prepared to guide the implementation of the top three prioritized recommendations. This roadmap includes the activities and sequencing based on the estimated time to complete the recommendation. Please note: no implementation plan is provided for the civilianization recommendation, as this is already in progress and is included in future budget considerations.

Recommendation	Task	Month 1	Month 2	Month 3
Call signal and priorities #1 Implement a full overhaul of the use of the "other" problem type #2 Consolidation of duplicate and extraneous problem codes	Set-up meeting / workshop with relevant internal stakeholders to: • Review list of additional recommended signals and confirm terminology • Review list of recommended signals to be removed and confirm obsolescence • Review list of recommended signals to be consolidated and confirm new terminology / numbering			
	Remove reference to '/0 - in progress' codes in the CAD signal list for appropriate call signals			
	Update all relevant problem signals in the CAD system to reflect new coding and terminology			
	Create updated and finalized list of problem signals to be used moving forward			
	Update existing SOPs to include the new list of problem signals to be used			
	Set-up refresher session / training with 911 Call Takers and Dispatchers, supervisors and relevant stakeholders to explain the changes and confirm the new approach including marking of 'in progress' in notes			
	Create a new training session for supervisors to focus on how to QA call signals during watches and ensure all calls allocated to 'other' category are re-allocated and / or confirmed			
	Updated process roll-out: • 911 Call Takers to use and implement new call signal list • Supervisors to implement new QA monitoring on call signals			
	Update all future training sessions to include the updated call problem signal list and focus on a reduced use of the 'other' category with clear explanations as to why			

Milestone outcomes:
- Reduced number of call signal problem types
- Agreement and standardization in CAD call signal problems

Milestone outcomes:
- Engagement and buy-in from all stakeholders
- Standardized system & usage
- Refreshed training program

Milestone outcomes:
- Improved accuracy in the categorization and tracking of calls
- Increased support to patrol officers in the field
- Streamlined choices
- Reduced number of errors

Recommendation	Task	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
Training #4 Refresh the existing training process for new staff & increase the number of trainers	Carry out full analysis of current and future training needs to include: • Current number of trainers for both floor and classroom • Average numbers of trainees per session (floor and classroom) • Expected number of new hires incoming over the year • Feedback from relevant stakeholders (trainers and trainees) to inform the analysis						
	Carry out full analysis of trainer time spent on: • Training vs floor duties for on the floor trainers • In the classroom training vs other duties for classroom trainers • Feedback from trainers to inform the analysis						
	Modular training content: • Full review and summary of existing classroom training schedule and content to identify gaps and inconsistencies (to include time spent by topic) • Update and break training content into specific modules by audience type to be delivered in separate sessions						
	Best practice research to identify the optimal length of time for both classroom and on-the-floor training to support the best outcomes						
	Reality-based training: • Investigate options and costs to include reality-based training as part of the classroom curriculum • Develop business case to support the inclusion of reality-based training as a regular training element – including costs, benefits quick wins and must haves						
	Review and confirm recommended number of trainers required for both classroom and floor training to support optimal outcomes						
	Confirm the appropriate length of training time as appropriate to consider efficiencies from reality-based training						
	Implement a pilot study on new trainees to test new training program length, staffing and reality-based training						
	Update training manual based on new processes						
	Roll-out new modular and reality-based training program						

Milestone outcomes:
- Clear data-driven baseline understanding of the challenges to inform decision-making

Milestone outcomes:
- Fully tested refreshed training program with buy-in from stakeholders
- Training program aligned to current needs

Milestone outcomes:
- Improved outcomes for new trainees
- Faster results
- Standardized training process
- Lower training costs
- Staff retention
- Reduced trainer workload
- Decreased workload for trainers

Detailed Recommendations

This section provides more background and detail on each specific recommendation by topic area, focusing on the analysis results and insights.

Staffing

The overriding challenge identified through the Communications review process is that current performance targets are not being achieved with current staffing levels, this includes answering all calls for service within 10 seconds for call takers and dispatching priority one and two calls within two minutes and four minutes, respectively, for dispatchers. During the interview process the project team was told that overtime was often mandated to accommodate call volumes, and supervisors are having to review staffing availability at the beginning of every watch due to shortages. As such, the below analysis focuses on identifying the workload generated through historic demand trends and identifying the staffing needed to meet demand and performance targets.

Staffing Recommendation Summary

The following recommendations have been detailed to enhance the operations of the division:

	Staffing Recommendations
1	**Realign 911 Call Taker staffing levels** – a) Realign 911 call taker positions to achieve authorized position levels to meet demand b) Implement increased supervision and quality assurance of call takers to ensure they are performing efficiently and maximizing the number of calls answered during each watch (*see further detail in the Staff Process and Performance Management section*) c) Realign number of FTEs per watch to accommodate call volume and performance metrics, as indicated below: (1) Watch 1 (11:00 p.m.–7:00 a.m.): from 28 FTEs to 22 FTEs (2) Watch 2 (7:00 a.m.–3:00 p.m.): from 32 FTEs to 34 FTEs (3) Watch 3 (3:00 p.m.–11:00 p.m.): from 36 FTEs to 40 FTEs
2	**Realign Dispatcher staffing levels** - a) Implement a 30-minute watch overlap to improve the continuity of operations, increase the efficiency of dispatch times, and reduce the volume of calls that are not dispatched within the target b) Review potential of moving the weekend watches by one hour to match the change in call demand and ensure that staff are aligned to demand c) Increase level of oversight and operational management of dispatch to reduce the dispatch time during watch changes. Supervisors and management should enforce that all staff are ready and available to start their duties at the watch start time and that no one is logging off their watch early, which could also be contributing to reduced performance during these periods
3	**Investigate new processes to manage sickness and days off** – Further investigate the implementation of a rotational schedule for days off for all staff to benefit staff morale and reduce the number of sick days being used. In particular: a) Initial investigation and analysis of current number of sick days being used per position and watch to evidence the outcome b) Review of union agreements to ensure alignment c) Maintenance of staff seniority to determine the best approach
4	**Implement civilianization of the Communications Division** – Carry out further research and investigation into the feasibility of the complete civilianization of the communications division to

allow career growth for civilian positions, reduce staff vacancies, and attrition rates and contribute to cost savings

a) Carry out initial in-depth analysis of current roles, responsibilities, and salaries within communications leadership positions to create a clear baseline understanding of the operational and financial impact

1 - 911 Call Taker Staffing Levels

The current watch pattern for 911 call takers is outlined in the table below. Staff are distributed across three watches: the highest call volumes are experienced on average between 3:00 p.m. and 10:00 p.m. on watch three, and the busiest days of the week in terms of call volumes are Friday through Sunday.

Watch Pattern			
Role	**1**	**2**	**3**
911 Call Taker	11:00 p.m.–7:00 a.m.	7:00 a.m.–3:00 p.m.	3:00 p.m.–11:00 p.m.

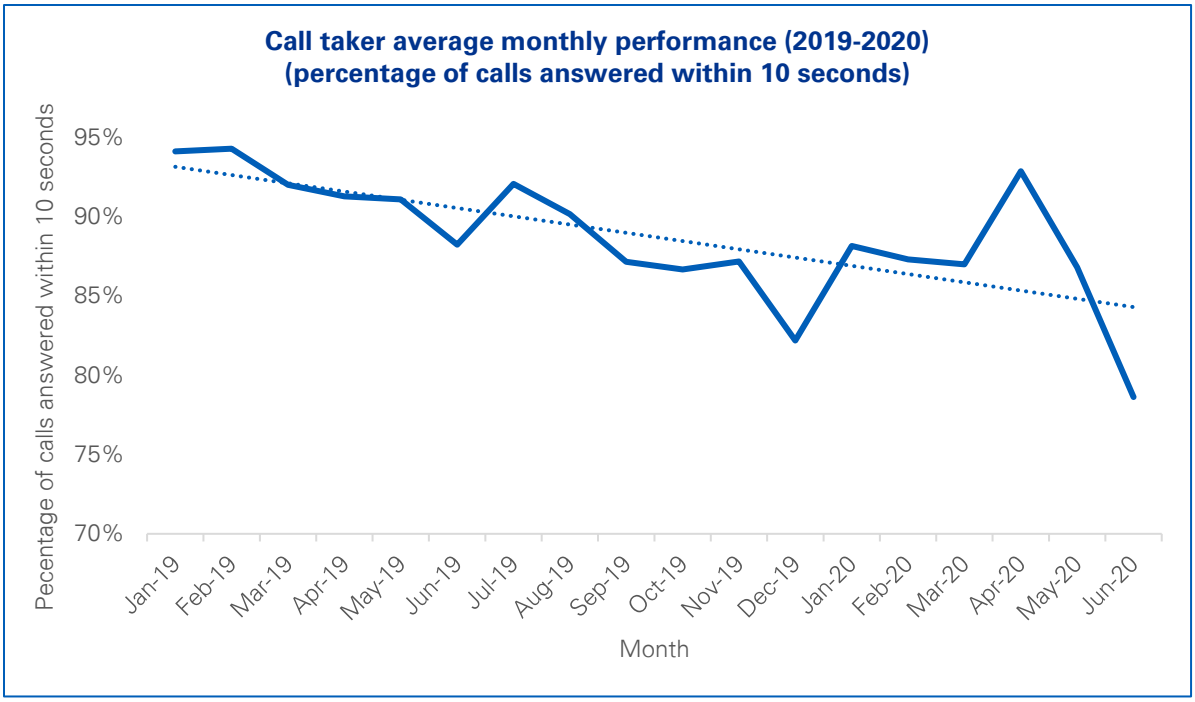
At the start of each watch, it is the responsibility of the supervisor to review minimum staffing levels for each watch based on prior watch call volumes and sickness levels. Currently supervisors review minimum staffing based on standards outlined in the standard operating procedures (SOPs) which have not been updated based on current demand. Current minimum and median 911 call taker staffing levels as identified in the Communications SOP are indicated in the table below for reference.

Role	Minimum Staffing Level	Median Staffing Level
911 Call Taker – First Watch	16 (weekdays); 22 (Fri–Sat); 27 (Sun)	27
911 Call Taker – Second Watch	21	33
911 Call Taker – Third Watch	23 (Sun–Wed); 25 (Thu–Sat)	36
Radio Room Supervisors	2 per area; 4 total	2 per area; 4 total
911 Call Center Supervisors	2 per area; 4 total	2 per area; 4 total

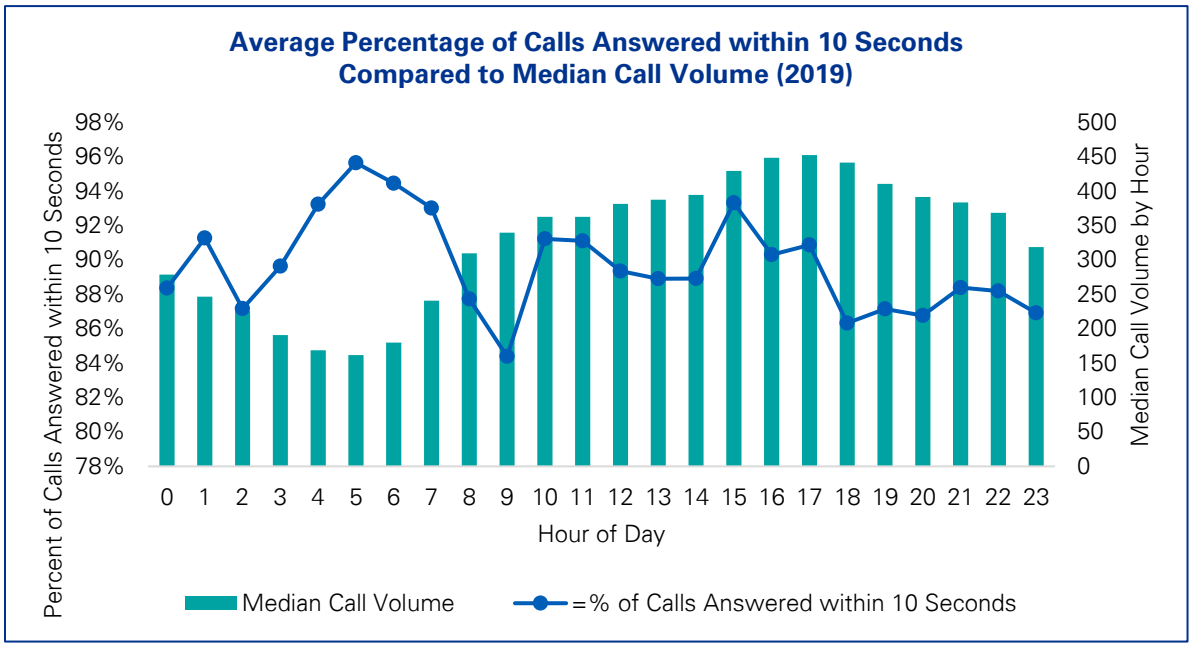
Source: DPD Staffing Schedule Samples (June 2020); Communications SOP (March 2019)

Performance analysis

Call taker performance is measured by how many calls are answered within 10 seconds, with a divisional budget performance measure (according to the Communications SOP) to have 90 percent of all incoming 911 calls answered within 10 seconds or less during the calendar year. Performance targets can be impacted by staffing levels and performance management of staff, and therefore a review of 911 call taker staffing levels against performance was conducted. An overview of call performance by month is summarized in the graph below. It is evident that there is a decreasing trend in the percent of calls answered within 10 seconds over the analyzed time period of January 2019 to June 2020. Most recently in June 2020 performance reached a low of 78.6 percent.



In order to further analyze the decreasing performance and identify potential causes or staffing constraints, analysis was conducted to compare performance against call volume by hour of the day. The data analysis, as summarized below, indicates fluctuations in the overall performance of call takers during specific times of day. Peak call performance appears to happen when the median call volume is at its lowest and staffing levels are also at their lowest and decreases as call volume increases. The data analysis suggests peak performance occurs between 4:00 a.m. and 7:00 a.m. with lowest performance at 9:00 a.m. and between 5:00 and 10:00 p.m. The dips in performance do not align to watch changes, which are often the cause of longer call answering times.



Low performance at 9:00 a.m. could potentially be due to the increasing number of incoming calls between 7:00 a.m. and 10:00 a.m., resulting in too many calls for call takers to handle within 10 seconds. However, based on a review of historic staffing levels, which increase around 8:00 a.m. from 27 to approximately 30 call takers, this decline in performance does not appear to be due to staffing levels. This suggests there may be a need for increased management oversight and an issue with the efficiency of current staffing.

Supply and demand analysis

Based on the results of the performance analysis and to specify potential staffing recommendations for 911 call takers, further analysis was carried out to evaluate how many 911 call takers would be needed to meet performance targets based on historical call volumes and the associated workload. The objective of this analysis is to develop the optimal number of call taker positions needed against current staffing levels to understand potential service gaps and areas for improvement. Three primary factors were considered as part of the analysis:

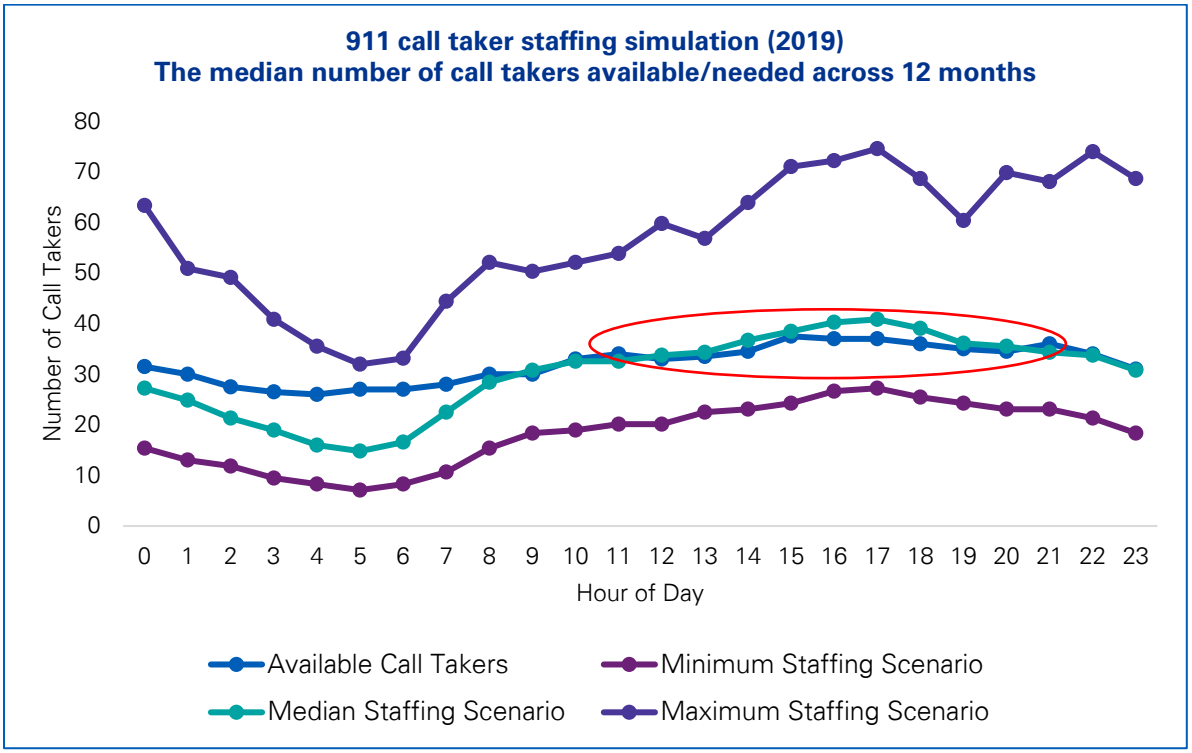
1) The time spent on each call (on average 1–2 minutes) including abandoned calls based on historic CAD data
2) Performance requirements (answering all calls within 10 seconds)
3) The distribution of calls within five-minute increments (calls are not generated evenly throughout the watch).

Based on these factors, the historic CAD data was used to derive a specific call volume schedule (using five-minute increments), to simulate the anticipated workload and the number of call takers required to meet the demand of all the incoming calls within the performance target set. In the simulation, it was assumed that each call taker spends two minutes on a call (one minute during the call and one minute after the call for reporting); as a result, the call taker would be available to take the next call after two minutes. In addition, each call was allowed to ring for at most 9 seconds, in order to ensure that all calls would be answered within the 10-second target. During the simulation, additional call takers were added if all current call takers were occupied or none were available to answer the call within 9 seconds. On the other hand, if any of the call takers were available within the constraints, no additional call takers were added. The result of the simulation was to determine the minimum (min), median (med), and maximum (max) number of call takers needed to meet historic demand.

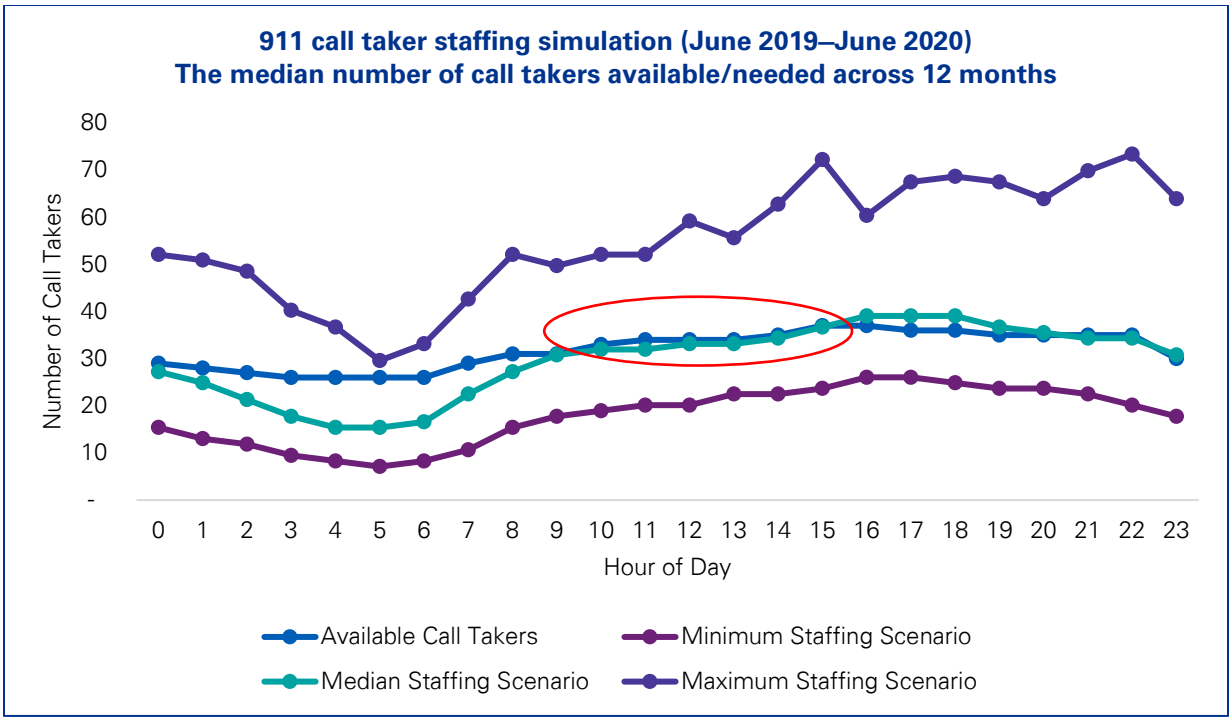
For each year, month, and hour of the day, the minimum, median, and maximum number of calls for a typical day were calculated and these were used to generate three potential staffing scenarios (min, med, max) to meet call taker requirements. The analysis also utilized pay code data to generate the productive hours for a call taker, which allowed the calculation of a relief factor to be included as part of the analysis to take into account the additional staffing needed to cover leave for vacation, sickness, training, etc. By applying the relief factor to the number of estimated call takers for each scenario, this provides the estimated number of staffing needed to meet demand. The estimated number of call takers by hour for each month and year were then aggregated for each scenario and each watch. The overall staffing level for call takers each month is the summation of staffing across the three watches. The complete staffing analysis overview, including assumptions and limitations can be found in Appendix C.

Some important assumptions should be considered as part of this analysis, firstly, the analysis used historical CAD data to determine "answered calls" to estimate call volume. In addition to answered calls there are also abandoned calls which account for approximately 3 to 7 percent of calls, therefore a 5 percent call volume assumption was used for abandoned calls. This simulation also assumes "perfect" compliance of each call taker, assuming each call taker will always be available after they finish each call. In reality, call takers could be unavailable due to other reasons in their normal working hours.

The summary of the analysis is described below. This graph shows the existing 911 call taker staffing by hour of day (blue line) compared to the three staffing scenarios (min, med, and max) based on call demand experienced in 2019. Any area where the blue line would fall below the green (median) line, would indicate a potential staffing shortage based on call volume at that time of day.



The same analysis was conducted based on June 2019 through June 2020 data. The analysis shows a similar trend despite a slightly decreased call volume experienced since March 2020 due to the COVID-19 pandemic. This analysis highlights that current staffing levels do not appear to be the significant driver of the missed performance targets as current staffing levels are in line with those estimated under the median scenario. This suggests that it may be the operational processes, management, and oversight of staffing that could increase performance.



The analysis shows that current call taker staffing levels are largely in line with historical needs, suggesting that performance dips are likely a result of factors other than staffing levels. However, the data does indicate that there is a level of "overstaffing" from 3:00 a.m. to 7:00 a.m., while there is a level of "understaffing" that peaks from 4:00 p.m. to 6:00 p.m. While staffing levels should be aligned to meet these peaks and troughs in demand, this also indicates that there may be a need for increased oversight and performance management of staff during each watch. The data analysis showed that call takers can have between 5 and 25 minutes between each call they answer, based on the levels of demand this suggests the call takers could be more efficient in responding to calls and may need enhanced supervision and QA across the watches to increase performance against targets.

Recommendations – While the data analysis conducted highlighted three scenarios, it is not recommended that the maximum scenario be used to determine staffing levels as that would not be an efficient use of resources and would increase the cost of operations exponentially. It is recommended that the median scenario be used to guide staffing decisions with the use of overtime to meet peaks in demand. The data analysis suggests there is not a need for increased call taker staffing overall to be able to meet demand within the required performance targets. The filled call taker staffing levels were approximately 93 FTEs in 2019, however, this has decreased to 78 FTEs in 2020, while the median staffing simulation estimates a need for approximately 96 FTEs under "perfect" compliance. There are currently 95 authorized FTEs which is in line with the FTEs needed to meet demand based on the median scenarios. Based on the 2019 data the analysis highlights a need for increased supervision and quality assurance of call takers to ensure they are performing efficiently and maximizing the number of calls answered during each watch. Further recommendations regarding quality assurance and performance management can be found later in the report.

In order to adjust staffing to meet demand, there appears to be an opportunity to reduce staffing during the first watch (11:00 p.m. to 7:00 a.m.) by approximately six staff, increase staffing during the second watch (7:00 a.m. to 3:00 p.m.) by two staff, and increase staff for the third watch (3:00 p.m. to 11:00 p.m.) by approximately four staff, to improve the overall performance against target. A staggered start to Watch 1 should be considered to allow staffing to reduce at approximately 3:00 a.m. in line with demand. The analysis suggests the following amendments:

Watch	Existing Staffing Levels	Suggested Staffing Levels
Watch 1 (11:00 p.m.–7:00 a.m.)	28	22
Watch 2 (7:00 a.m.–3:00 p.m.)	32	34
Watch 3 (3:00 p.m.–11:00 p.m.)	36	40

2 - Dispatcher Staffing Levels

Dispatchers are responsible for dispatching calls for service based on priority levels to patrol officers at each division. The demand for dispatchers is lower than that of call takers as not all calls for service require the dispatch of an officer, and calls are dispatched in a staggered manner based on call priority.

Due to the nature of the position and alignment of dispatch staff for a patrol division, dispatch staff are distributed relatively evenly across three watches. On average, of the 1.2 million calls handled by dispatchers approximately 600,000 of these calls are priority one through four and non-cancelled.

Watch Pattern			
Role	**1**	**2**	**3**
Dispatcher	10:30 p.m. – 6:30 a.m.	6:30 a.m. – 2:30 p.m.	2:30 p.m. – 10:30 p.m.

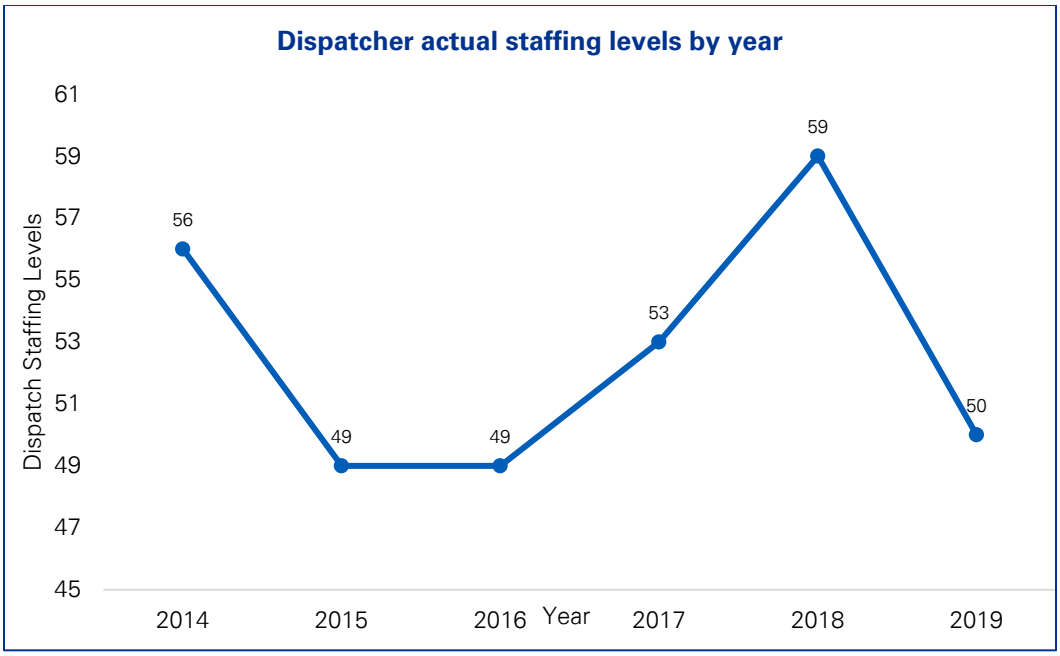
Current minimum staff levels for dispatchers are indicated in the table below.

Role	Minimum Staffing Level
Dispatcher	11 (8 division / 3 service desk and support)

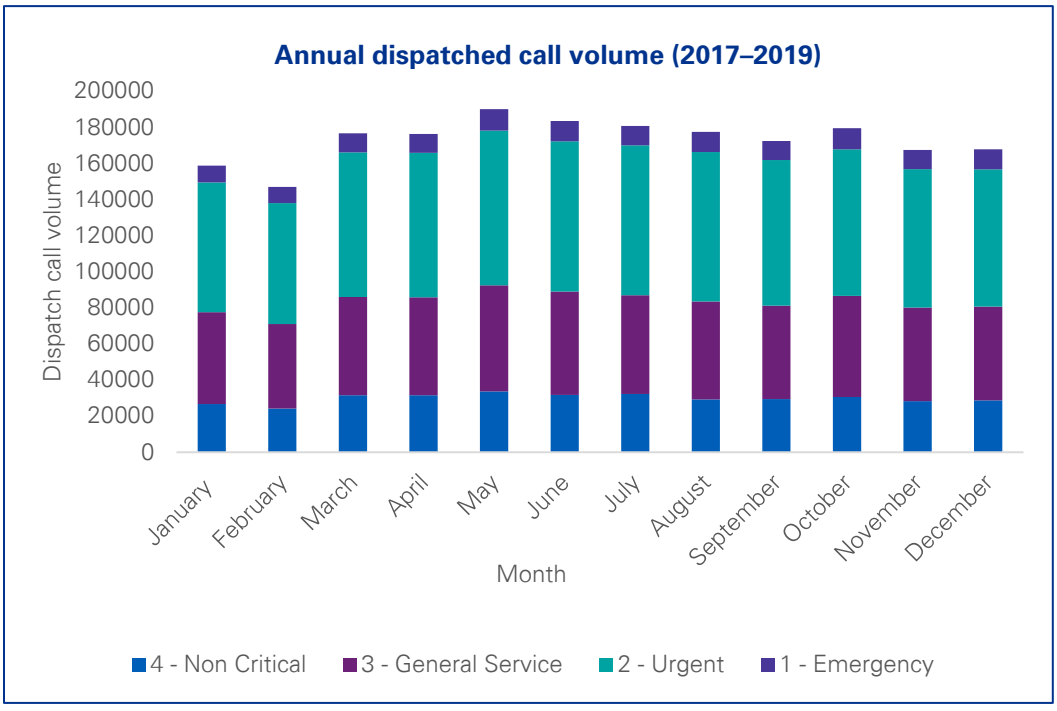
Source: DPD Staffing Schedule Samples (June 2020)

Dispatchers are required to fill fixed posts at all times (24/7). The requirement for a fixed post position is due to the dispatcher having responsibility for managing all calls across the division at any one time, this not only includes calls from the public that have been dispatched and also includes self-initiated activity and special assignments of officers, in addition to the management of radio discussion to coordinate officer movement. A workload based staffing model could be considered for dispatch, this would determine staffing based on the number of calls dispatched and could allow for more flexibility of dispatchers across channels however this would also need to take into account operational constraints and activities that may not be recorded within the CAD data.

There are 11 dispatcher posts in total, eight of which are assigned to each division and three of which cover the service desk and provide relief to dispatchers during breaks and other downtimes. Over the last number of years there has been an increase in staffing available within dispatch; however, this has been consistently below the authorized funded strength of 66 FTEs.



The busiest months of the year for dispatched calls are May through July, which also corresponds to when the highest volume of priority one and two calls occur, as shown in the graph below. It should be noted that this represents priority one to four calls for service; officers are also self-initiating their own activities, which account for 20 percent of all call demand and may impact performance levels due to lack of officer availability to attend priority calls.

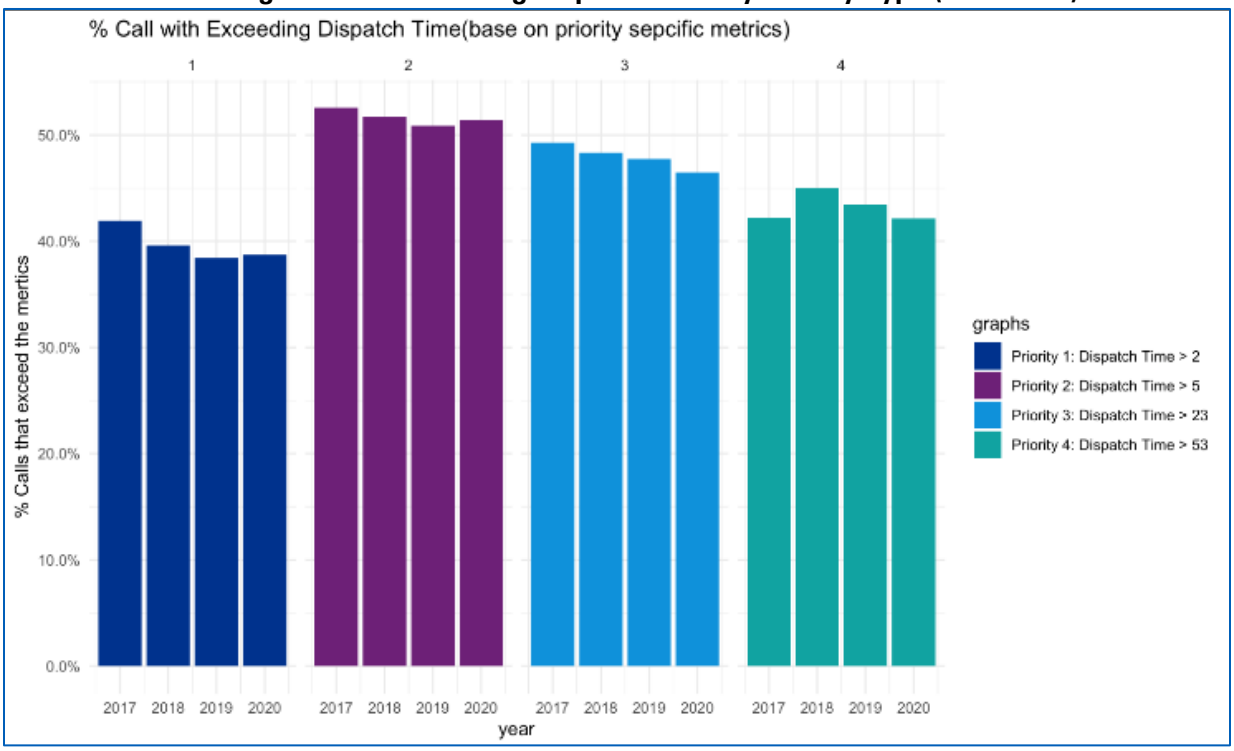


The target performance times for dispatchers are assigned by priority type and categorized as dispatch time and travel time to equate to total response time. These targets are indicated in the table below.

Target Response Time by Call Priority Type			
Priority Type	**Dispatch Time**	**Travel Time**	**Total Response Time**
Priority 1	2 minutes	6 minutes	8 minutes
Priority 2	5 minutes	7 minutes	12 minutes
Priority 3	23 minutes	7 minutes	30 minutes
Priority 4	53 minutes	7 minutes	60 minutes

As it specifically relates to the dispatch time targets, the graph below illustrates the historic performance levels as a measure of the percentage of calls which exceed the dispatch time targets. Historically, the most significant need for improvement in dispatch time can be found in priority two, where the percentage of calls that exceed target dispatch time remain over 50 percent.

Percentage of Calls Exceeding Dispatch Time by Priority Type (2017-2020)



In order to calculate the estimated staffing level required for dispatchers, an analysis was conducted to identify the productive hours of each dispatcher. Productive hours include the time spent for all work-related activities, excluding the time spent for the following categories: sickness, training, vacation, and disciplinary/suspension. As training hours were not captured in the data, an assumption was made to include 10 hours of annual training for each dispatcher. This assumption is based on the information received from DPD that licensed tele-communicators (which include police dispatchers and senior police dispatchers) are required to complete 20 hours of training every two years.

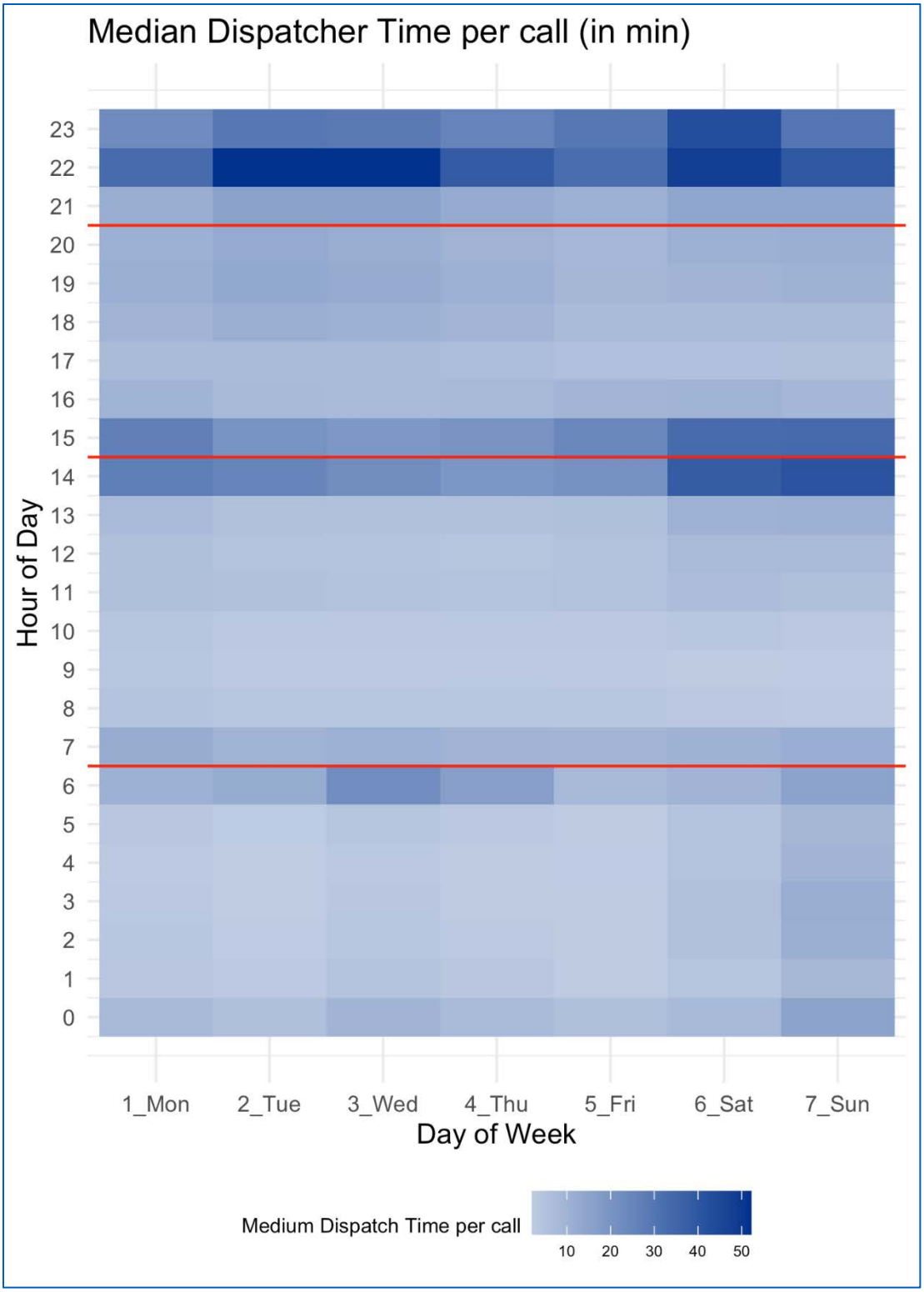
Based on the productive hours calculated for dispatchers (1,744 hours per year), a relief factor of 5.01 was calculated to understand how many FTEs would be needed to fill all fixed posts in a 24/7 environment. The difference between the staffing estimate generated for call takers and dispatchers is based on the need for fixed positions within dispatch, compared to call takers which is largely driven and can be predicted by call demand. Dispatchers are fixed-post positions as there is one dispatcher allocated to each channel to handle all calls for service to be dispatched within that division, and

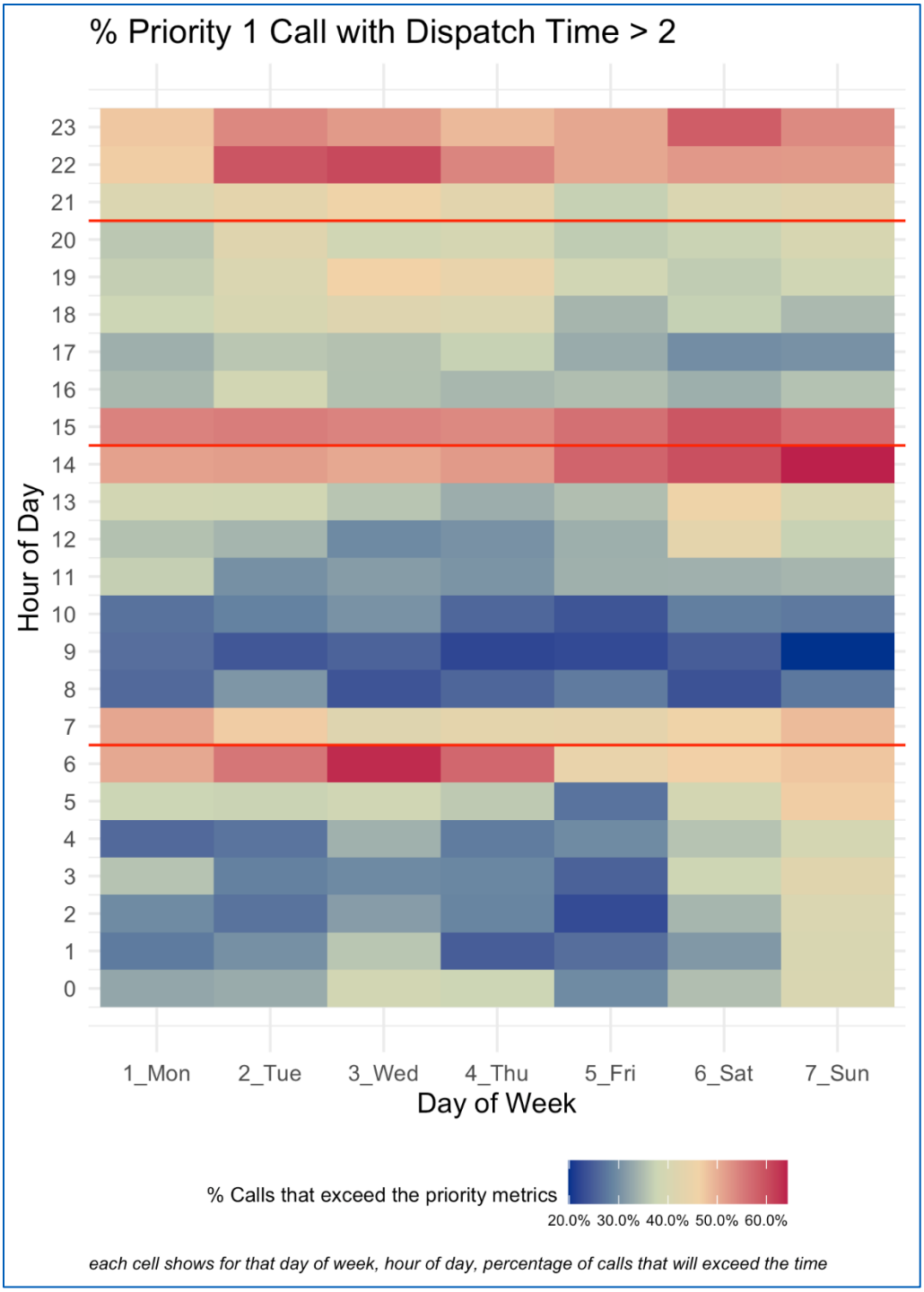
therefore that post needs to be filled at all times whether there is one call to dispatch or 50 calls. The staffing estimate generated was based upon the minimum required staffing levels, productive hours available, and performance targets. Based on the temporal analysis, the additional support staff may be required primarily on Saturday, Sunday, or Monday as this is when the highest workload for dispatchers occurs.

Historically, actual staffing levels for dispatchers have been between 49 to 59 FTEs over the past three years; however, historic authorized funded strength was 66 FTEs in 2019 before decreased to 54 FTEs in 2020. Based on the staffing estimates conducted, DPD needs approximately 55 FTEs within dispatch to cover the minimum staffing levels of 11 fixed posts. This analysis suggests that dispatch staffing levels are approximately sufficient, with the potential need to add one funded position, to meet the current call demand and performance targets, and there could be potential for budget reductions by reducing the number of authorized positions.

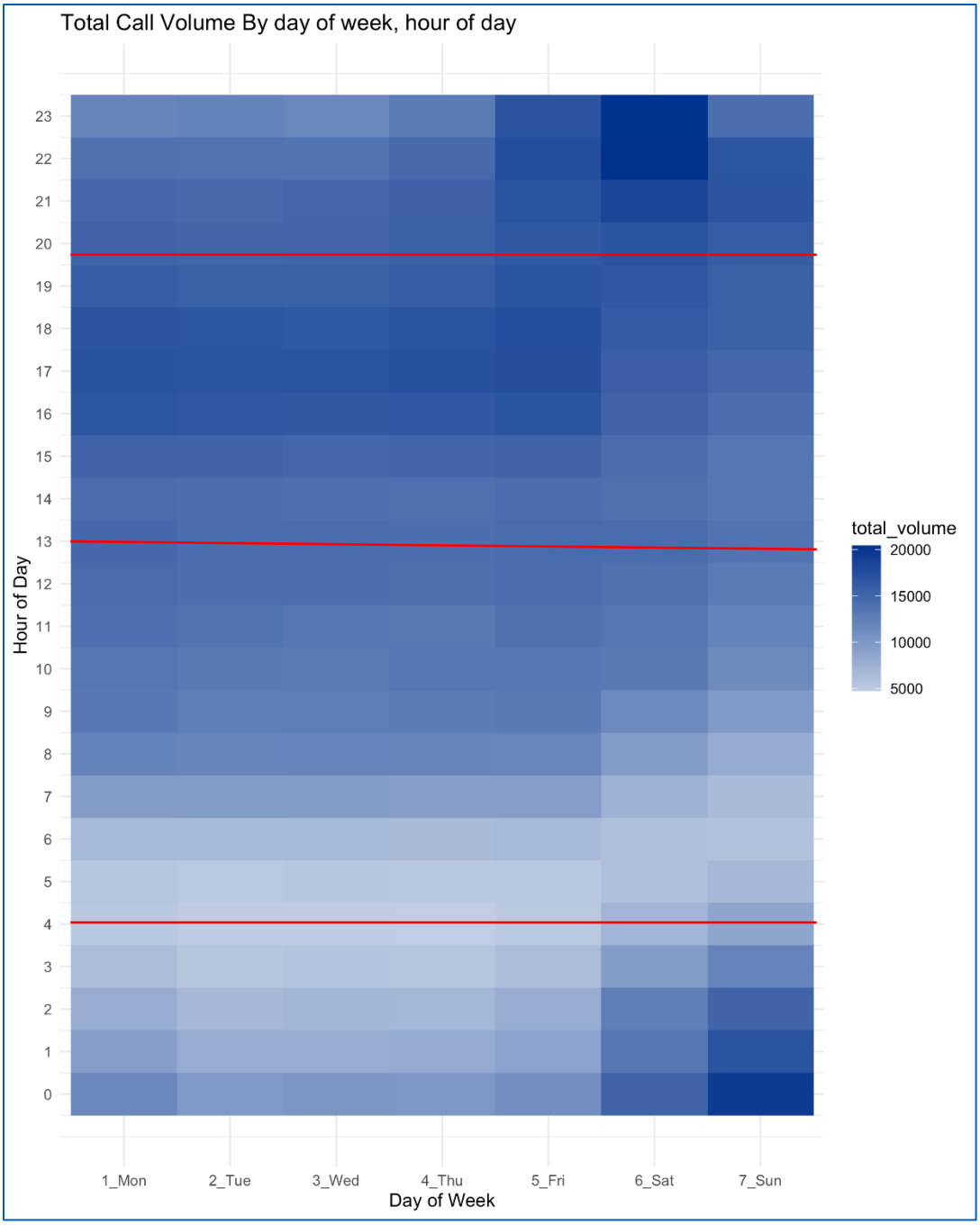
Dispatcher Staffing Estimates	FTEs Required
# fixed dispatcher posts	8
# fixed support posts	3
Total fixed posts required	11
Dispatcher productive hours	1,744
Dispatcher watch relief factor for 7 day post	1.67
Dispatcher relief factor for 1 post (3*8 hour watch pattern)	5.01
# FTE required to fill 8 dispatch posts	40.08
# FTE required to fill 3 support posts	15.03
Total FTEs required	**55.11**

Performance targets – A thorough analysis of dispatcher call time and performance against targets was undertaken to identify opportunities for improvement. Based on watch change times (6:30am, 2:30pm, and 10:30pm), the data shows longer dispatch times than usual just prior to and immediately after watch changes (see the heat map below). In addition, the watch change times seem to be where dispatchers most commonly fail to meet their dispatch time targets for priority one and two calls, two and four minutes respectively, with over 50 percent of priority one calls not meeting dispatch targets during watch change periods (as depicted in the second graphic). This has an important impact on DPD's ability to meet overall response time performance metrics. The graphic below illustrates the median dispatch time (in minutes) per call by day of week and hour of day; the darker blue boxes represent a longer median dispatch time. This may be due to inefficiencies while the watch change occurs (e.g. new dispatcher takes time to set up, prior dispatcher leaves early, etc.).


Median Dispatcher Time per call (in min)
Hour of Day
23
22
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
1_Mon
2_Tue
3_Wed
4_Thu
5_Fri
6_Sat
7_Sun
Day of Week
Medium Dispatch Time per call
10
20
30
40
50



In addition, when analyzing dispatch call volume by day of the week, it can be seen from the heat map below that peak call volume times are shifted by one to two hours during the weekend, depicted by the shifting gradient in call volume during weekends, for example call volumes start to increase at 7:00 a.m. Monday through Friday; however, on Saturday and Sunday, this increase does not appear until 9:00 a.m. Similarly at 4:00 p.m. Monday through Friday, call volumes increase further; however, this increase does not occur until approximately 8:00 p.m. on Saturday and Sunday. There is potential to apply different watch start times for the weekend, amending to start one to two hours later to match the call volume peak times. The red lines on the chart below denote the current watch start and end times.

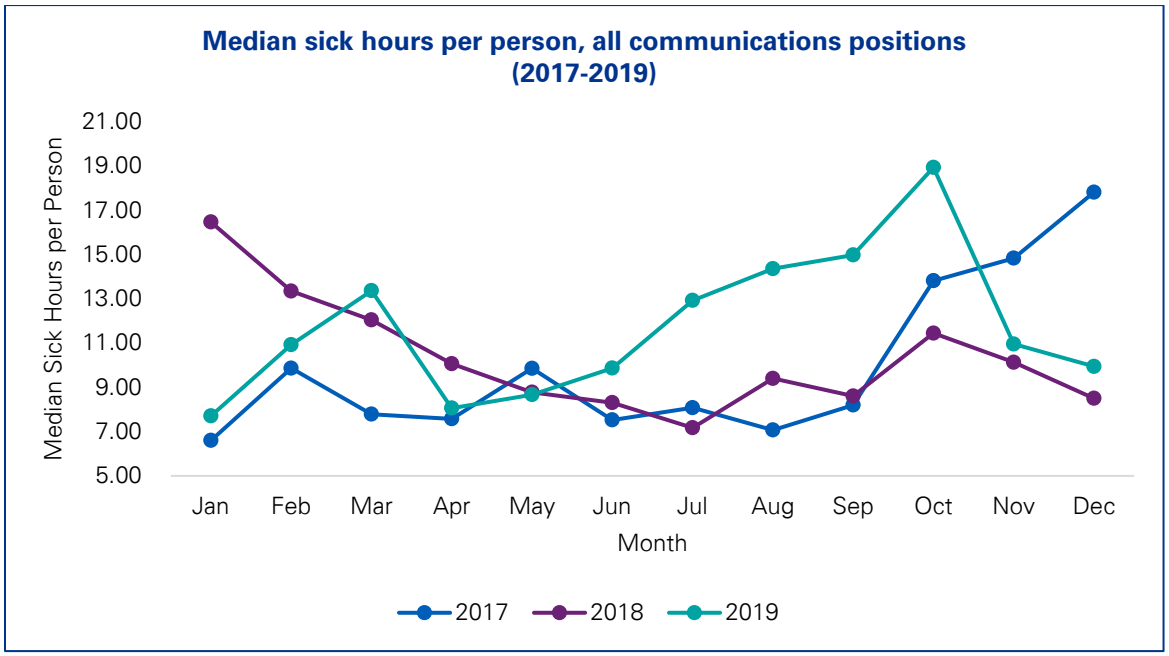


Recommendations – It is recommended that a 30-minute watch overlap would improve the continuity of operations, increase the efficiency of dispatch times, and reduce the volume of calls that are not dispatched within target. In addition, consideration should be given to moving the weekend watches by one hour to match the change in call demand and ensure that staff are aligned to demand.

In addition, the data suggests that increased oversight and operational management could reduce the dispatch times during watch changes. Supervisors and management should enforce that all staff are ready and available to start their duties at the watch start time and that no one is logging off their watch early, which could also be contributing to reduced performance during these periods.

3 - Sickness and Days Off

An additional factor to consider when evaluating the ability to meet demand is the unplanned time off of staff members due to sickness. The graph below depicts the median number of sick hours per person by each month over the last three years. Based on this data, the median number of sick hours per person has increased from 2017 to 2019, increasing from an annual number of sick hours per person of 119 hours in 2017 to 141 hours in 2019. Sick hours typically increase during winter months, increasing the importance of maintaining sufficient staff levels during this time and proactively mitigating against this when generating schedules.



During the interview process it was also noted that there is currently a lack of flexibility in the rotational schedules for staff days off, which contributes to burn-out and the use of sick days. Currently, junior staff have dedicated Monday–Tuesday (or Tuesday–Wednesday) as days off, whereas more senior staff get Friday–Saturday / Saturday–Sunday with these schedules being set for the year. This can lead to increased sickness during the weekends if requests for time off are unavailable or have been denied.

Recommendations – It is recommended that division leadership proactively monitor the use of sick time and call-off rates across all positions. Trends in sickness should also be used when generating schedules and planning use of overtime; while the trends vary slightly over the years, sickness rates typically beginning increasing from June and peak in October. This should be proactively built into schedules to reduce the reliance on overtime and reduce the risk of staffing shortages.

It is also recommended that a rotational schedule for days off for all staff be reviewed to benefit staff morale and reduce the number of sick days being used. As part of this review, staff seniority and union agreements should be thoroughly investigated to determine the best approach. In addition, a review of sick days being used per position and watch should also be carried to evidence the outcome.

4 - Civilianization of Communications Unit

The civilianization of functions within police departments has been a growing trend nationally, with civilian positions being utilized increasingly for specialized tasks previously conducted by sworn officers to allow sworn positions to focus on their core duties and mandates. This is particularly important for the Communications division where the expertise required is a vastly different skill set than the rest of

DPD. Current staffing figures show the Communications division as having a split of 81 percent civilian to 19 percent sworn staff, with the majority of sworn staff occupying senior leadership roles over both the 911 and dispatch functions. This results in there being limited career growth opportunities for civilian positions after a certain level, resulting in a negative impact on existing staff vacancy rates and attrition. In addition, it is noted that there can be significant turnover among the sworn leadership positions, and civilian staff often provide training and support to the sworn staff as they adjust to the new environment and operations. This also has a morale impact on staff due to the lack of long-term leadership and direction within the division. The civilianization of all positions within the Communications division could allow for an increase in morale, staff retention, and provide a financial benefit to DPD as civilian staff operate at a lower cost profile than sworn officers. As mentioned previously this is a trend that is being increasingly seen across the industry. For instance, the Albuquerque Emergency Communications Center has gradually civilianized their Communications Center. They have also recognized the importance to further emergency communications as a profession and offer enhanced training and accreditations to communications staff and leadership to promote the development of a career path.[2]

Recommendations – It is recommended that further research be carried out to investigate the complete civilianization of the Communications division. This would have the benefit of allowing career growth for civilian positions, reducing staff vacancies and attrition rates, as well as potential cost savings. An in-depth analysis of current roles, responsibilities, and salaries at senior communications levels would need to be carried out initially to create a clear baseline understanding of the current impact. It is also recommended that should civilianization be adopted, that leadership positions be offered industry accreditations and appropriate training to recognize the specialization of the positions.

[2] https://www.policeforum.org/assets/EmergencyCommunications.pdf

Call Signal and Call Priorities

When a call is received within the Communications division, it is the responsibility of the 911 call taker to assess the information and assign a problem type and an associated priority level. This information determines the speed of the response, the prioritization of the call, and the number of patrol officers deployed.

An analysis of CAD data for the period 2018 to 2020 was conducted to review the composition of demand by problem type and call priority. As per the table below, the data highlighted that only three percent of calls are priority one, 29 percent are priority two, 29 percent are priority three and four, and the remainder of demand generated is initiated by the patrol officer (note: non dispatch data is excluded from the table below as it represents <1 percent of the total). This data suggests that there is an opportunity to use other methods of call resolution for the 29 percent of calls that are deemed a lower priority and non-urgent (i.e., priority three and four calls). Historically, despite the presence of expediters, only 2 percent of calls are diverted to expediters; however, during the COVID-19 pandemic this has risen to 4 percent of calls. Similarly, since DORS was launched in March 2020, only one percent of calls have been diverted to the online reporting system. The enhanced utilization of these diversion programs would reduce the workload on call takers, dispatchers, and patrol officers.

1 - Emergency	3%
2 - Urgent	29%
3 - General Service	18%
4 - Non Critical	11%
5 - Expediter	1%
7 - Unit Initiated	37%

The problem type analysis highlighted that there are a total of 126 problem codes available for use by call takers (a full list is provided in Appendix D). Of these 126 problem codes, the top five most utilized include routine investigations, major disturbances, traffic stops, and "other" type calls, with the next five being utilized less than 3 percent of the time over the timescale of the analysis (see table below)

Top 10 used problem signals	Percent of calls
58 - Routine Investigation	24%
6X - Major Dist. (Violence)	12%
55 - Traffic Stop	8%
40 - Other	6%
40/01 - Other	6%
ODJ - Off Duty Job	3%
32 - Suspicious Person	3%
07 - Minor Accident	3%
12B - Business Alarm	2%
6M - Loud Music Disturbance	2%

The analysis also highlighted that 107 of these problem signals were being used less than 1 percent of the time, suggesting that the presence of 126 problem types can actually cause additional confusion for both call takers and dispatchers and there is an opportunity to streamline the problem types to improve the efficiency of the call taker and dispatcher process.

Call Signal and Call Priorities Recommendation Summary

The following recommendations have been detailed to enhance the operations of the division:

Call Signal and Call Priorities Recommendations
1 **Reclassification of "other" problem codes** – Implement a full overhaul of the use of the "other" problem type call signal to accurately categorize and track demand, as well as to support patrol officers in the field. In particular: a) Update training, quality assurance, and SOPs to review and confirm the use of the "Other" category for call takers and how to update the type at the end of the call b) Add the following six new problem type codes to reduce the use of the "other" category: Trespassing/Loitering, Welfare Check/Mental Health, Drugs, Homelessness, Civil Matter and Child/Custody Issue c) Leveraging the refreshed training and QA process, ensure the following problem types are reallocated to existing call signals at the end of each call: Theft, Accident/Emergency/Ambulance, Gun shots, Disturbance/Noise, Intoxication, and Assault
2 **Consolidation of duplicate and extraneous problem codes** – Consolidate existing list of problem codes to simplify choice by 911 Call Takers and avoid misuse of other codes. In particular: a) Combine all related "in progress" problem code types to their single parent type as detailed in the table in the preceding section b) Remove the following non-use problem codes: 54 - Escort/Protection Detail, 68 - Verified Response Alarm, 12N - Burglar Alarm NonDisp, PSE/11B - Burg of Bus, MW - Most Wanted, TOW – TowRepo, 6X/01 Women's Shelter Dist, PSE/09V – UUMV (see full table in the preceding section)
3 **Align schedule overlaps to improve target dispatch times** – Focus on improving target dispatch times to better support the overall response time performance by implementing measures to reduce performance gaps during the beginning and end of each watch
4 **Reclassification of Priority 1 modes of response** – Authorize all priority one calls to be a code three response to improve the department's ability to meet the eight-minute response time target for all priority one calls, improve the service level provided to citizens, and reduce the travel time for priority one calls by officers
5 **Refresh process for swapped and multi-assigned calls** – a) Reset timers within the CAD system when an officer is swapped from one incident to another to accurately reflect the response time and reduce the risk of skewing the response time data reported by the department b) Implement a new system to record the time from when the officer is ready and able to respond to the incident rather than the time that the incident is "pending" their response to allow the accurate response times to be recorded and reported by the department

1 - "Other" problem type call signals

Based on the problem type analysis the high utilization of the "other" category when managing incoming 911 calls was highlighted as a challenge, as 12 percent (292,946) of calls between 2018 and 2020 were being allocated to categories "40 – Other" or "40/01 – Other."

The selection of the problem type alerts the dispatcher to what type of response is required and it is therefore important that the correct allocation is selected. The problem type determines the call priority, how many officers respond, how fast they need to respond, and provides officers with the relevant information regarding the situation they will be attending. The "other" category does not provide the necessary transparency to dispatchers or patrol officers which can create an officer safety issue. In addition, the use of the "other" category contains a lot of "hidden demand" in that leadership cannot accurately view the demand that is being serviced and proactively manage that demand. Without recording this information accurately, DPD cannot accurately predict what workload may be diverted from DPD and transferred to other City agencies, which will impact the staffing levels across City agencies, which is especially critical given current national events.

A deep dive analysis was therefore conducted on the "other" call category to identify why this category is being disproportionately utilized and what demand it contained. In order to be able to identify the details of these calls to ascertain whether they were correctly allocated, a full review of the call taker commentary was analyzed to identify the primary call problem. This resulted in an exhaustive qualitative and quantitative search of over one million written comments. An initial search for targeted "keywords" allowed for the identification of keywords with the most word counts. This analysis was then further refined by identifying the primary problem for each master incident number. The below categories were identified as "primary keywords" in the comments sections of calls allocated to "other":

Primary Keyword	Percent
Trespassing / Loitering	16%
Theft	16%
Accident / Emergency / Ambulance	12%
Gun shots	9%
Welfare Check / Mental Health	8%
Drugs	6%
Homeless	5%
Disturbance / Noise	4%
Civil Matter	2%
Threats / Harassment	2%
Child / Custody Issue	2%
Intoxication	2%
Assault	1%

From this list, it is evident that many of the calls could have been allocated to an existing problem type. Additional categories such as "trespassing," "homelessness," and "welfare check" could be added to the problem code list to allow for accurate allocation. While, the analysis identified that there is a need for some additional problem types, and streamlining of existing problem types, it also emphasizes the need for refreshed training for call takers on problem type usage and allocation, in addition to enhanced quality assurance by supervisors to ensure appropriate usage and proactive correction where needed.

Recommendation – In order to accurately categorize and track demand, as well as to support patrol officers in the field, it is recommended that an overhaul of the use of the "other" problem type be instigated. In addition, based on the overall analysis of problem types, the below call signals are recommended to be either added or training provided regarding correct allocation to the relevant existing problem type. In addition, to support and underpin the importance of accurate assignment, it is recommended that more emphasis be placed on supervisors to QA the use of the "other" problem type to ensure these are accurately reported and the training module on call signals should be refreshed.

Primary Keyword	Recommend New Signal	Allocate to Existing Signal	Existing Signal
Trespassing/Loitering	✓		
Theft		✓	09 – Theft 09/01 – Theft 41/09 - Theft - In Progress PSE/09 - Theft
Accident/Emergency/Ambulance		✓	07 - Minor Accident 7X - Major Accident 7XF - Major Accident Freeway 6XE - Disturbance Emergency
Gun shots		✓	6G - Random Gun Fire
Welfare Check/Mental Health	✓		
Drugs	✓		
Homeless	✓		
Disturbance/Noise		✓	6M - Loud Music Disturbance
Civil Matter	✓		
Threats/Harassment	✓		
Child/Custody Issue	✓		
Intoxication		✓	08 - Intoxicated Person
Assault		✓	25 - Criminal Assault 41/25 - Criminal Aslt -In Prog

2 - Duplicate and extraneous call signals

From a review of the entire 126 available problem types, it became apparent that some of these were duplicate or underutilized and could be consolidated into a single entry to reduce confusion and streamline the allocation process. In addition, a number of problem codes were rarely used and could be removed. Recognizing that the /01 code refers to an incident in progress, our recommendation is to combine these codes, but ensure the appropriate priority is allocated and relevant information documented, thus reducing the use of incorrect problem signals and streamlining the process.

Recommendation – In order to simplify and consolidate the list of 126 problem types, it is recommended that a number of these be consolidated into a single category or removed to reduce the problem types from 126 to 86. This will support call takers with more efficient selection of problem type during calls and will also support the reduction of the use of the "other" category. The consolidation recommendations are provided below:

Problem type	Total call volume	Recommend consolidation
09 - Theft	23,050	
09/01 - Theft	7,038	✓
41/09 - Theft - In Progress	1,374	
PSE/09 - Theft	8,888	
09V - UUMV	28,214	
09V-01 UUMV Just Ocrd	3,208	✓
PSE/09V - UUMV	13	
41/09V - UUMV in Progress	705	
11B - Burg of Bus	8,696	
11B/01 - Burg of Bus	919	✓
PSE/11B - Burg of Bus	8	
41/11B - Burg Busn in Progress	2431	
11C - Burg Coin Oper	89	
PSE/11C - Burg Coin Op	17	✓
11C/01 - Burg Coin Oper	75	
11R - Burg of Res	17,194	
PSE/11R - Burg of Res	14	✓
11R/01 - Burg Of Res	3,320	
41/11R - Burg Res in Progress	7,603	
11V - Burg Motor Veh	28,987	
PSE/11V - Burg Motor Veh	4,558	✓
11V/01 - Burg Motor Veh	3,046	
12B - Business Alarm	54,890	✓
12N - Burglar Alarm NonDisp	6	
15 - Assist Officer	4,389	✓
15A - Assist Officer w/Amb	201	

Problem type	Total call volume	Recommend consolidation
16 - Injured Person	8,683	✓
16A - Injured Person w/Amb	1,609	
20 - Robbery	10,423	✓
20R - Robbery (report)+1hr	1,357	
30 - Prisoner	1996	✓
30/01 - ODO w/Prisoner	580	
30D - Prisoner Other Agency	796	
31 - Criminal Mischief	18,062	✓
31/01 - Crim Mis/Prog/Non Felo	2,778	
40 - Other	155,752	✓
40/01 - Other	137,198	
PSE/40 - Other	2,411	
41/40 - Other - In Progress	5,203	
6XE - Disturbance Emergency	12,850	✓
6XEA - Disturbance Emerg Amb	3,045	
7X - Major Accident	44,018	✓
7XCE - Major Acc City Equip	341	
7XF - Major Accident Freeway	11,960	
7XFCE - Major Acc Fwy City Eq	58	
AC - Animal Cruelty	843	✓
AC/01 - Animal Cruelty In Prog	354	

Problem type	Total call volume	Recommend removing
54 - Escort/Protection Detail	1	✓
68 - Verified Response Alarm	2	✓
12N - Burglar Alarm NonDisp	6	✓
PSE/11B - Burg of Bus	8	✓
MW - Most Wanted	9	✓
TOW - TowRepo	10	✓
6X/01 Women's Shelter Dist	12	✓
PSE/09V - UUMV	13	✓
ET - Executive Threat	14	✓
PSE/11R - Burg of Res	14	✓
PSE/11C - Burg Coin Op	17	✓
42 - Chase	18	✓

3 - Call Priority Performance Targets

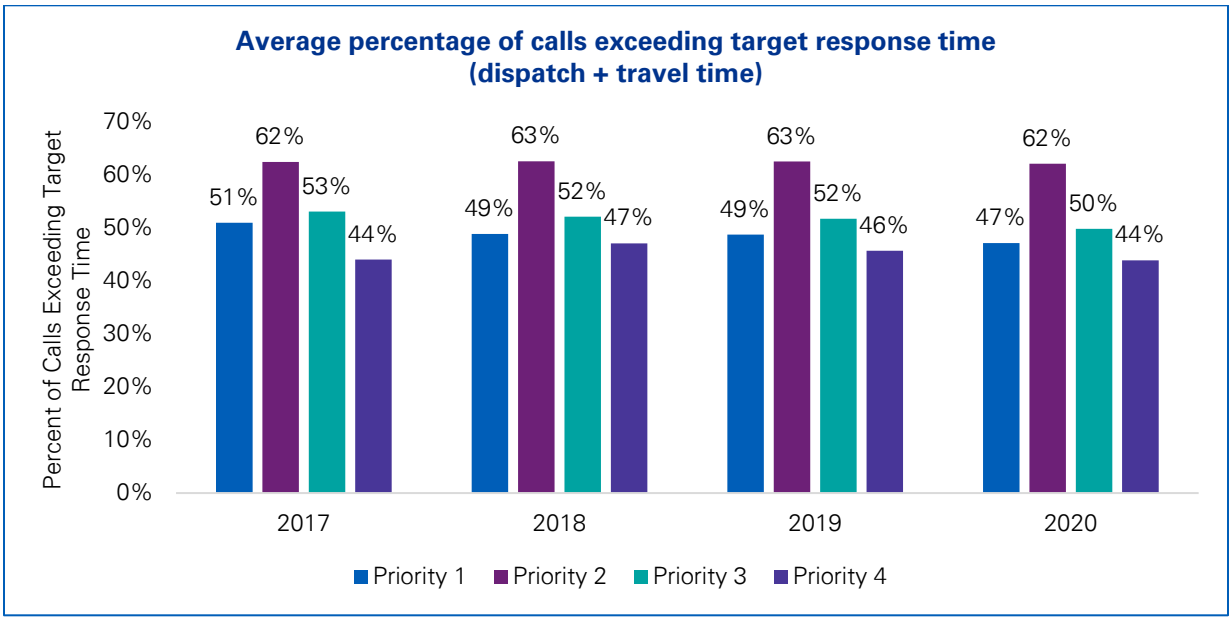
The call priority is an important component of call monitoring and dispatching as it signals the required urgency of the call, the response time, and the number of officers required to attend the call. In addition, the response time for priority one calls is a key performance metric for DPD which is reported on monthly, as it is an in-progress call that requires an urgent response. Priority one calls require an overall response time of eight minutes, which allows for a two-minute dispatch time and six-minute travel time for the patrol officers. The table below outlines the dispatch and travel times by priority type to determine the overall response time target.

Target Response Time by Call Priority Type			
Priority Type	**Dispatch Time**	**Travel Time**	**Total Response Time**
Priority 1	2 minutes	6 minutes	8 minutes
Priority 2	5 minutes	7 minutes	12 minutes
Priority 3	23 minutes	7 minutes	30 minutes
Priority 4	53 minutes	7 minutes	60 minutes

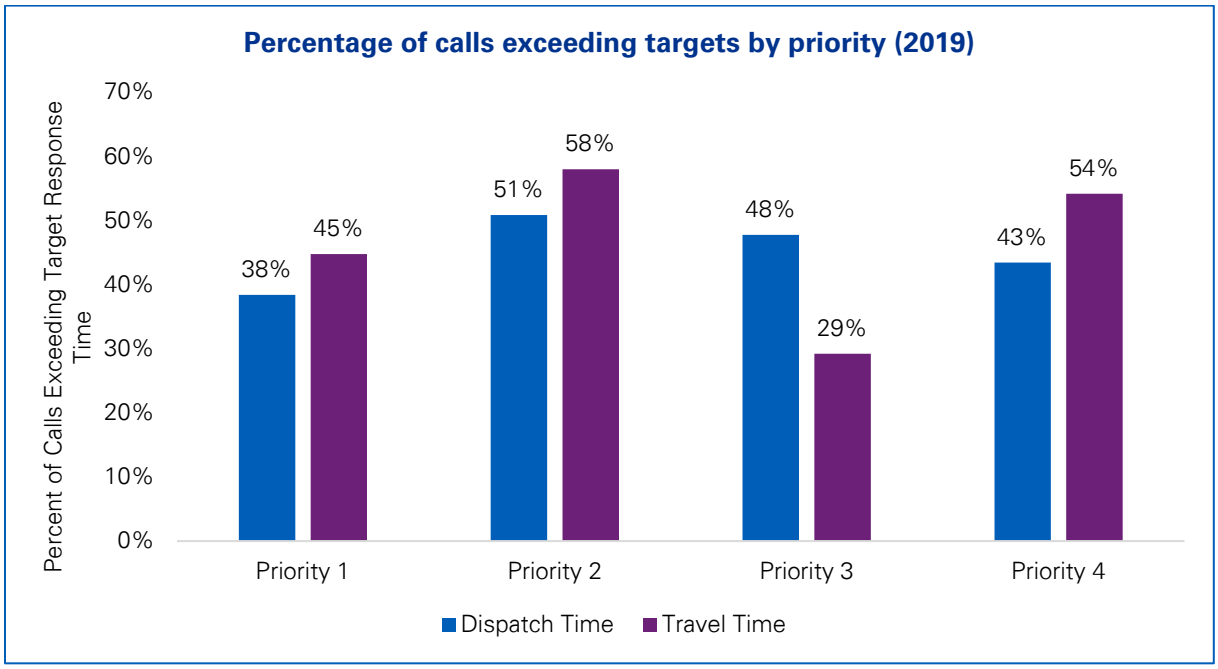
The percentage of calls which miss the target dispatch, travel, and response times by priority was analyzed to identify opportunities to improve current priority assignments and improve performance against targets. This analysis evaluated response times by time of day, day of week, and by division. Overall, the analysis suggests that dispatch time is not the primary driver of missed response times; rather it is the travel time, which most frequently exceeds the target.

To begin, the graph below illustrates the percentage of calls not meeting total response time (including both dispatch and travel time targets) between 2017 and 2020. It can be seen that priority two calls have the most significant levels of exceeding call time (both dispatch and travel time) on an annual

basis, likely due the high volume of priority two calls, while priority four calls meet target response times most frequently, likely as a result of a significantly longer target response time target.

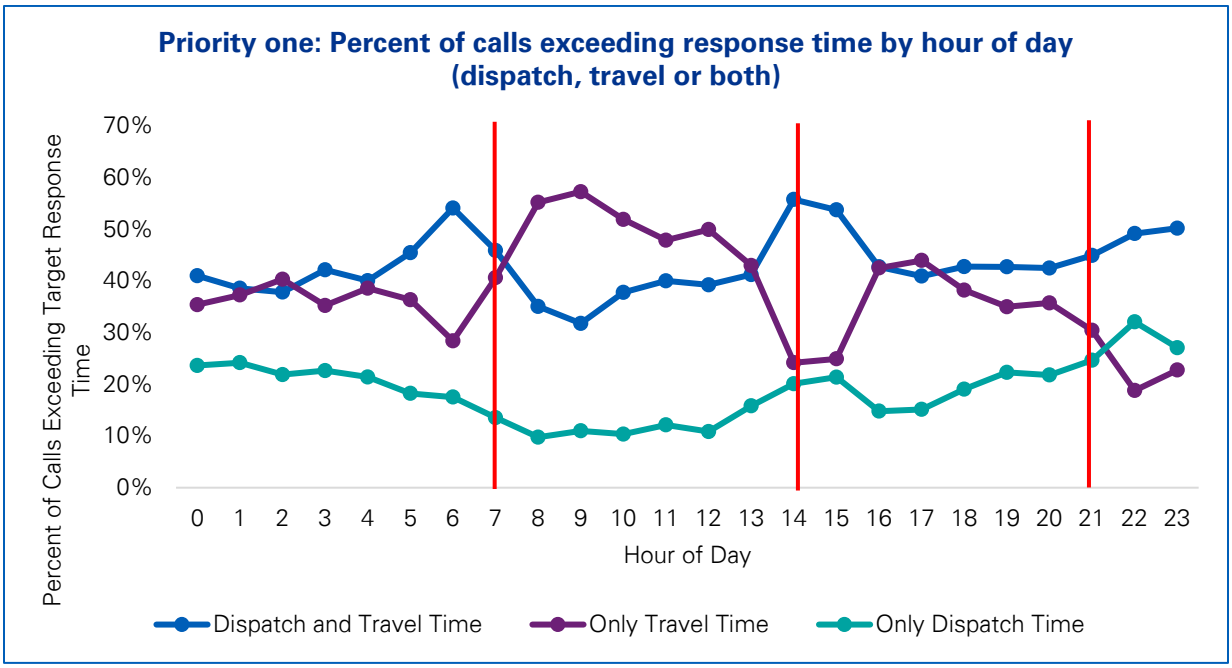


The graph below highlights the specific target category contributing to the overall percentage of calls which are not meeting targets. Based on the analysis, travel time is the primary driver for missed target response times for priorities one, two, and four. Dispatch time is only the primary drive for missed target response times for priority three calls. Across all priority types, the median percentage of calls which missed target due to dispatch is 46 percent, while the median percent for travel time is 49 percent. Historically, these trends and median percentages have remained consistent since 2017.

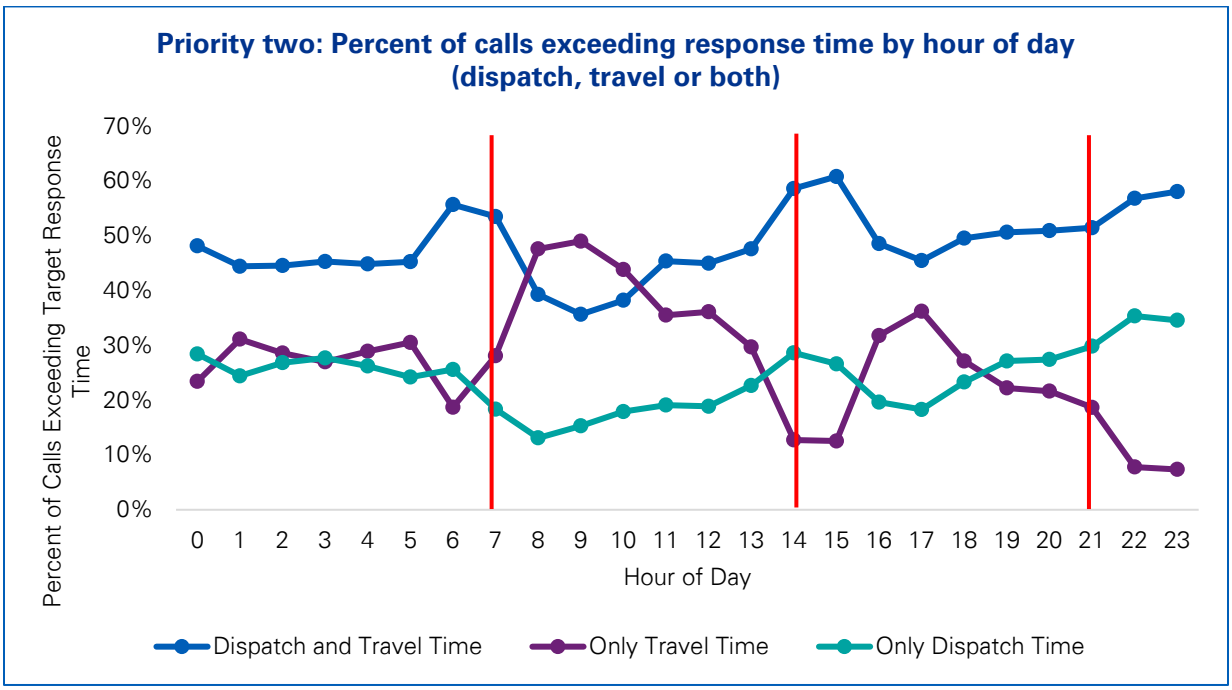


The analysis below illustrates the percentage of calls not meeting response time targets by reason: either dispatch time, travel time, or both. This analysis was conducted by day of week and hour of day to further examine potential factors that could be causing missed response times.

The following graph depicts the performance of dispatch and travel time by hour of day with red lines indicating dispatch watch times. Overall, there is a noted trend of an increasing number of missed target dispatch times during second and third watch changes; however, the opposite is true for first watch change. This trend may be a result of increasing number of priority one calls during second and third watch; however, it is important to note that there may be a potential impact to dispatch response time performance at the end and beginning of dispatcher watches during the watch change period.

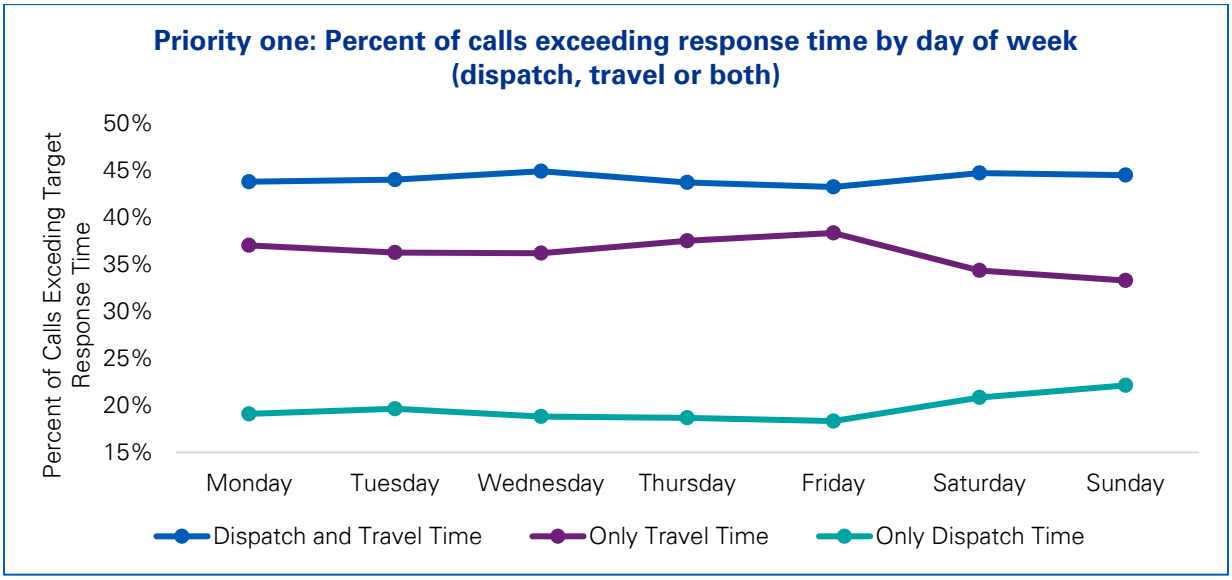


A similar trend is seen for priority two calls in which response time targets are increasingly not met during the transition of both second and third watch.

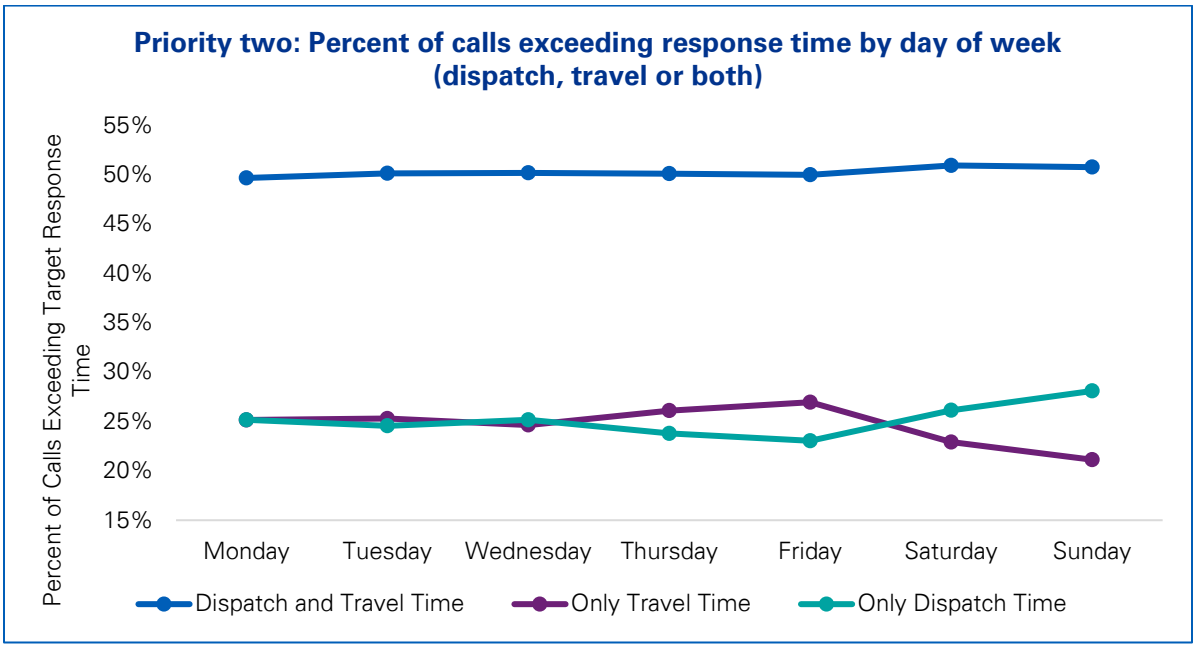


The graphs below illustrate the response time performance and reason for priority one and two calls by

day of the week. Overall, performance trends are consistent throughout the weekdays but tend to shift on the weekends. For priority one calls, dispatch time tends to miss target more frequently on Saturday and Sunday (up from approximately 19 percent missed target on weekdays to 22 percent on Sunday). This trend could be impacted the larger number of priority one calls occurring on weekends. Contrarily, travel time performance improves slightly on the weekends, from approximately 38 percent missed target on weekdays to 33 percent on weekends. The increased staffing of patrol officers over the weekend period could be a leading factor for the performance improvement.



Performance targets for priority two calls differ significantly in comparison to priority one with regard to day of the week. While the overall trajectory remains consistent (longer dispatch time and improved travel time performance on weekends), the average percentages differ. For priority two calls, travel time performance is significantly better than for priority one calls (an average of 25 percent missed target for priority two with an average of 37 percent for priority one). This may be due to slightly longer target response for priority two calls. Generally, dispatch and travel times are missing performance targets 45 to 50 percent of the time across the priority type.



Recommendation – Overall, the historic trends in response time indicate that travel time is the primary driver of not meeting response time performance targets rather than the dispatch time. The Communications division is unable to control the performance of travel times and therefore this should be a focus area of the patrol divisions. We recommend the Communications division continue to focus on improving target dispatch times to better support the overall response time performance. As identified in the data analysis, there is an opportunity to reduce performance gaps during the beginning and end of each watch as these times tend to negatively impact performance.

4 - Priority one mode of response

Priority one calls can currently be attended via two modes of response—code one or code three. Code three allows for the use of "lights and siren" to attend the call whereas code one does not authorize the use of this expedited response mode. Despite the different modes of response authorized, both code one and code three priority one calls are held to the same eight-minute response time. The data for priority one response times in 2020 show a 3.1-minute difference in the response times for code one compared to code three responses, 12.06 minutes and 8.96 minutes respectively.

Further analysis identified that if all priority one calls were authorized for a code three response then this could save approximately 51 travel hours for patrol officers per year, which based on productive hours of 1,630 equates to approximately two FTEs per year.

Year	Volume P1 Code 3 calls	Median P1 Code 3 travel time (mins)	Volume P1 Code 1 calls	Median P1 Code 1 travel time (mins)	Potential saved travel hours annually (hours)
2017	20,400	5.42	7,973	5.82	**52.28**
2018	19,722	5.30	7,744	5.62	**40.87**
2019	21,817	5.30	8,258	5.75	**62.55**
2020 (through July)	12,060	5.04	4,609	5.43	**30.57**

Recommendation – Based on the analysis of historic response times it is recommended that all priority one calls be authorized for a code three response. This will improve the department's ability to meet the eight-minute response time target for all priority one calls, improve the service level provided to citizens, and reduce the travel time for priority one calls by officers.

5 - Swapped and multi-assigned calls response time reporting

A swapped incident is designated as such when an officer is assigned to an incident and before they reach that incident are reassigned or "swapped" to another incident. For example, this may occur when an officer is responding to a priority two incident and is redirected to a priority one incident that requires an immediate response. In these cases the timestamp in the CAD system does not reset when the officer is swapped to the new incident and remains active from the time the officer began responded to the first incident they were assigned to. The result of this is that certain calls show significantly longer travel and response times which are not representative of the actual travel time of the incident. This can disproportionally impact the response and travel times reported for higher-priority calls, priority one and two calls, as an officer is more likely to be reassigned from a lower priority incident to a higher priority.

A similar challenge is experienced with multi-assigned incidents, which occurs when an officer is assigned to multiple incidents at the same time. While this is not common practice, this might occur when an officer requests to be assigned to an incident then they are in the same area or when they

know they will be closing an incident and will be available soon to handle the next incident within the same vicinity. As the officer is assigned to multiple incidents at one time, the CAD system records the timestamps from the time when the officer is assigned to the incident and do not reset when the officer actually begins to respond to the secondary incident they are assigned to. This impacts the response and travel times for these incidents, showing them to be significantly longer than the actual time taken to respond to the incident.

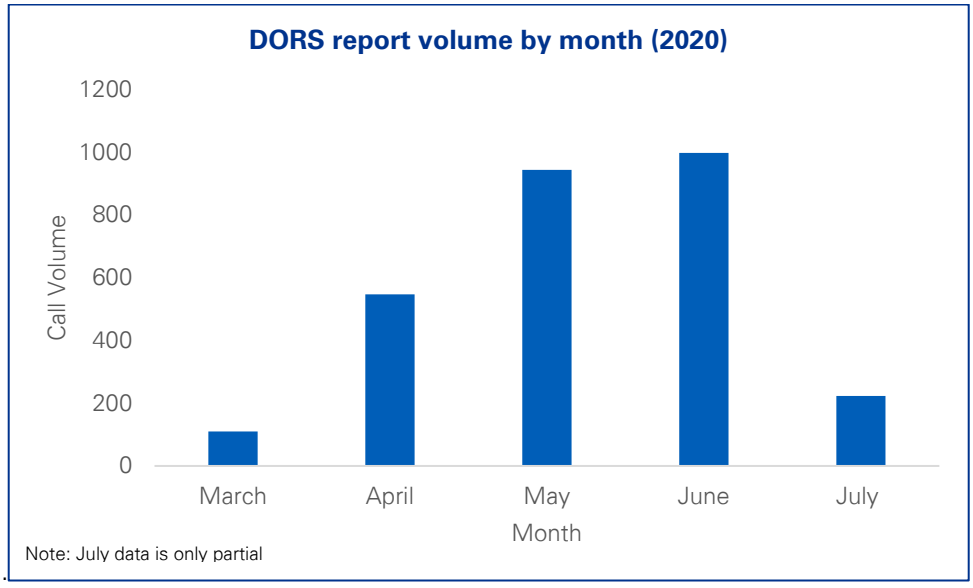
Recommendation – Based on the explanation above it is recommended that the timers within the CAD system reset when an officer is swapped from one incident to another to accurately reflect the response time and reduce the risk of skewing the response time data reported by the department. Similarly, for multi-assigned calls it is recommended that the system record the time from when the officer is ready and able to respond to the incident rather than the time that the incident is "pending" their response. This will allow the accurate response times to be recorded and reported by the department.

Call Diversion

While the Communications division handles all calls for service from the public, not all calls are dispatched to patrol officers. DPD offers diversion options for certain non-urgent calls that can be handled over the phone. This can be conducted through the expediter unit, which takes telephone reports for incidents, or more recently DPD has implemented a new online reporting system, Dallas Online Reporting System (DORS), in March 2020. The expediter unit has been operational for a number of years, however an expediter is not consistently staffed across each watch, and there is typically only one expediter on a watch at any time. Therefore the utilization of the expediter unit has been historically low and has been declining since 2017, on average only two percent of all calls are diverted to the unit annually; however, utilization has increased to 4 percent since April 2020 due to the COVID-19 pandemic and an increased focus on diversion of calls. There are currently three expediters funded within the unit, based on the call volume below and the assumption that each expediter call should take approximately 20 minutes, there should be opportunity to increase the utilization and productivity of current expediter staffing without adding any additional positions. There are scenarios outlined below that would require additional positions based on the level of diversion achieved.

Year	Number of calls diverted	Percentage of total calls
2017	12,840	2.1%
2018	9,239	1.5%
2019	5,547	0.9%
2020 (through June)	8,254	2.7%

As part of the new online reporting system, identified call types are considered eligible for diversion to online reporting and relevant calls are provided with the option to transfer to this new system. DORS allows residents to report crimes online 24/7, while the reports are reviewed and completed by members of the Staff Review unit. Since DORS was implemented in March 2020, 2,822 incidents have been reported through the system.



As the online reporting system is a relatively new process, and the historic utilization of expediters has been declining, the project team conducted a detailed scenario analysis to ascertain the impact of call diversion if it was utilized effectively. As 28 percent of calls were allocated to priority three or four

historically, this suggests a large percentage of calls that could be managed by DORS or expeditors rather than dispatched to officers. This analysis was conducted through examining the workload and staffing impact under four scenarios:

1) Impact of calls that could be diverted to Expediters only
2) Impact of calls that could be diverted to Expediters or DORS
3) Impact of calls that could be diverted to DORS only
4) Impact of calls that could be diverted to other City agencies.

For each scenario regarding diversion to expediters or DORS, a variation of problem types were examined based on current DPD policy, as shown in the table below. For diversion to other City agencies, this analysis was based on hypothetical problem types provided by DPD.

Diversion scenario	Problem types eligible for diversion	Impact analysis
Expediters only	▪ "09 - Theft" ▪ "09V - UUMV" ▪ "11V - Burg Motor Veh" ▪ "20R - Robbery (report)+1hr" ▪ "31 - Criminal Mischief" ▪ "09/01 - Theft" ▪ "11V/01 - Burg Motor Veh" ▪ "38 - Meet Complainant" ▪ "26 - Missing Person" ▪ "07 - Minor Accident"	Diversion to Expediters only: ▪ Calculated saved workload of dispatcher and patrol officer ▪ Additional workload: expediter
Expediters and/or DORS	▪ "09 - Theft" ▪ "09V - UUMV" ▪ "11V - Burg Motor Veh" ▪ "20R - Robbery (report)+1hr" ▪ "31 - Criminal Mischief" ▪ "09/01 - Theft" ▪ "11V/01 - Burg Motor Veh"	Diversion to Expediters: ▪ Calculated saved workload of dispatcher and patrol officer ▪ Additional workload: expediter Diversion to DORS: ▪ Calculated saved workload of expediter, dispatcher and patrol officer
DORS only	▪ "07 - Minor Accident" ▪ "09/01 - Theft" ▪ "09 - Theft" ▪ "09V - UUMV" ▪ "31 - Criminal Mischief" ▪ "38 - Meet Complainant" ▪ "11V - Burg Motor Veh" ▪ "20R - Robbery (report)+1hr" ▪ "11V/01 - Burg Motor Veh"	Diversion to DORS only: ▪ Calculated saved workload of expediter, dispatcher and patrol officer

Diversion scenario	Problem types eligible for diversion	Impact analysis
Other city agencies	▪ "23 - Parking Violation" ▪ "37 - Street Blockage" ▪ "6F - Fire Works Disturbance" ▪ "6M - Loud Music Disturbance" ▪ "PH - Panhandler" ▪ "SIP - Sleeping In Public" ▪ "22 - Animal Disturbance" ▪ "46 - CIT" ▪ "46A - CIT w/Ambulance" ▪ "DH - Drug House" ▪ "OADS - Open Air Drug Sales" ▪ "33 - Prostitution" ▪ "24 - Abandoned Property" ▪ "TOW - TowRepo"	Diversion to other City agencies: ▪ Calculated saved workload of dispatcher and patrol officer

The core methodology used is outlined below:

Estimated Saved Patrol Officer Workload
The workload for patrol officers was generated utilizing three components:

1) The number of calls that could be diverted to expediter unit or DORS
2) The median time one office spent on one call
3) The annual productive hours of an officer.

For each problem type the annual number of calls was calculated and multiplied by the historic median patrol officer time (travel and call duration) spent for each call, based on those calls not currently expedited. It was calculated that patrol officers have an average of 1,630 productive hours based on 2,080 available work hours.

Additional workload generated calculation
The calculation of saved or additional workload generated by diversion is based on historic annual workload associated with each problem type across all positions within the Communications divisions and patrol officers. There are three components to understand the workload in FTE for each role under each diversion scenario.

1) The number of calls that will be diverted from, or added to, a specific role
2) The average time the position spend per call
3) The annual productive hours for the position.

It is important to note that since the dispatcher position is a fixed-post, the workload saved for a dispatcher is outlined; however, it is not shown by FTE, this workload saved would allow the dispatcher to focus on dispatcher higher priority calls more efficiently.

The results of this analysis is summarized in the sections below along with associated recommendations.

Call Diversion Recommendation Summary

The following recommendations have been detailed to enhance the operations of the division:

	Call Diversion Recommendations
1	**Actively promote diversion of calls to expeditors and/or DORS** – Carry out a full review of the call-taker process to ensure that the option is consistently provided to non-priority calls. a) Review 911 call taker script and process to ensure diversion of appropriate call types b) Enhance marketing and promotion of DORS to Dallas citizens c) Review Expediter and Staff Review staffing levels based on enhanced utilization of diversion options
2	**Identify opportunities to divert calls to other City Agencies** – Continue to work with the City of Dallas to explore options for diversion of specific call types to other City agencies

1 - Diversion to Expeditors and/or DORS

Diversion to Expeditor only

The enhanced utilization of the existing expediter unit would reduce the workload of dispatchers and patrol officers. There would be minimal workload saved for 911 call takers and they would still have to answer the call and divert it to the expediter unit.

There are three components to calculate the additional workload for the Expediter unit:

1) The number of calls need to be diverted to an expediter: The historic CAD data was used to identify expedited calls (calls with Priority 5 within Police Agency Type) and identified the current percentage of expedited calls for each problem on an annual basis. The diversion scenarios were then conducted at various enhanced utilization levels, 50, 75, or 100 percent.
2) The median time per call for an expediter: For the problem types that have been historically diverted to the Expediter unit, the median expediter call time was used for that specific problem. This generated the expected workload per problem type for the expediter unit. The expediter time is defined as the time difference between "unit assigned" and "call closed" within the CAD system., and
3) The productive hours for the expediter position: Expediters are assumed to have same productive hour as the call-taker position, 1,757 productive hours based on 2,080 available work hours.

The additional expediter workload (in FTE) was then calculated between number of calls for diversion and the median expediter time per call divided by the annual productive hours.

Results

Based on 2018 and 2019 data, the analysis highlights that if 50 percent of calls within these 10 problems were diverted to expediters, there could be a saving of patrol officer workload that equates to approximately 19 to 20 FTEs and approximately 20,300–20,460 dispatcher hours. This would require approximately 20 additional expediter FTEs to cover the increase workload.

Year	Diversion target (%)	Call Volume	Currently Expedited Call Volume	Additional Expedited Call Volume	Potential Annual Need Additional Expediter in FTE	Potential Annual Dispatcher Workload Saved in hours	Potential Annual Patrol Officer Workload Saved in FTE
2017	50%	109,061	11,441	43,090	18	14,559	17
2017	75%	109,061	11,441	70,355	29	25,782	28
2017	100%	109,061	11,441	97,620	40	37,006	40
2018	50%	110,321	8,242	46,919	19	20,267	19
2018	75%	110,321	8,242	74,499	30	33,610	30
2018	100%	110,321	8,242	102,079	41	46,952	42
2019	50%	110,222	5,057	50,054	20	20,461	20
2019	75%	110,222	5,057	77,610	31	32,433	32
2019	100%	110,222	5,057	105,165	42	44,405	44
2020	50%	44,198	7,299	14,863	6	4,676	6
2020	75%	44,198	7,299	25,850	10	9,504	11
2020	100%	44,198	7,299	36,899	14	14,382	16

Diversion to Expediter and/or DORS

Similar to the analysis conducted above, there are a series of problem types that could be diverted to either the expediter unit or submitted through DORS. Under this scenario, both dispatchers and patrol officers workload would be reduced, alongside the potential to reduce the current workload of expediters through increased diversion to DORS. The same methodology was used to calculate the additional workload for expediters; however, under this scenario the additional workload for Staff Review who review the DORS reports was also generated.

To calculate the workload for Staff Review there were three components used:

1) The number of calls divert to DORS
2) The median time one staff review position spent reviewing a DORS report
3) The productive hours of a staff review position.

Due to limited data availability is was assumed that it takes approximately 20 minutes for a staff review position to review a DORS report. It was also assumed that the staff review position has the same productive hour as a call taker position, 1,757 productive hours based on 2,080 available work hours.

Based on the 2019 data the analysis highlights that there is a trade-off between diversion to the expediter unit and DORS. Diversion to the expediter unit creates increased workload for the expediters, while diversion to DORS reduces expediter and call taker workload but increases Staff Review workload. Under these scenarios the workload saved for dispatchers and patrol officers remains the same.

Results

Using 2019 data, should 25 percent of eligible calls be diverted to the Expediter unit while 75 percent are diverted to DORS, there is an opportunity to reduce dispatcher workload by 32,005 hours, and

reduce patrol officer workload by 28 FTEs. This would create a need for four additional Expediter positions and two additional staff review positions.

Year	Expediter Diversion Target (%)	DORS Diversion Target (%)	Call Volume	Current Expedited Call Volume	Additional Expedited Call Volume	Potential Annual Patrol Officer Workload Saved in FTE	Potential Annual Dispatcher Workload Saved in hours	Potential Annual Expediter addition in FTE	Potential Annual Saved Expediter in FTE	Potential Annual Staff Review addition in FTE
2017	0%	100%	57,921	9,461	0	32	33,791	0	43	0
2017	25%	75%	57,921	9,461	7,593	29	28,888	4	12	1
2017	50%	50%	57,921	9,461	19,500	28	27,066	9	0	4
2017	75%	25%	57,921	9,461	33,980	28	27,066	15	0	6
2017	100%	0%	57,921	9,461	48,460	28	27,066	21	0	9
2018	0%	100%	60,286	6,986	0	33	42,427	0	34	0
2018	25%	75%	60,286	6,986	8,829	30	37,388	4	3	2
2018	50%	50%	60,286	6,986	23,157	30	36,773	10	0	4
2018	75%	25%	60,286	6,986	38,229	30	36,773	17	0	7
2018	100%	0%	60,286	6,986	53,300	30	36,773	23	0	10
2019	0%	100%	55,334	4,151	0	31	34,889	0	24	0
2019	25%	75%	55,334	4,151	9,683	28	32,055	4	0	2
2019	50%	50%	55,334	4,151	23,516	28	32,055	10	0	4
2019	75%	25%	55,334	4,151	37,350	28	32,055	16	0	7
2019	100%	0%	55,334	4,151	51,183	28	32,055	22	0	10
2020	0%	100%	21,013	5,825	0	13	13,085	0	34	0
2020	25%	75%	21,013	5,825	2,093	11	10,927	1	16	0
2020	50%	50%	21,013	5,825	4,682	9	9,121	2	0	1
2020	75%	25%	21,013	5,825	9,935	9	9,121	4	0	2
2020	100%	0%	21,013	5,825	15,188	9	9,121	6	0	3

Diversion to DORS only

The same analysis was conducted as per the above scenario to look at diversion to DORS only. Diversion to DORS only would require additional staff review positions however would reduce workload across expediters, dispatchers and patrol officers.

Results

Based on the 2018 and 2019 data analysis, should 50 percent of calls within the 15 eligible problem types be diverted to DORS there is the opportunity to reduce expediter workload by 1.5 FTEs, reduce dispatcher workload by approximately 27,800 to 29,300 hours, and reduce patrol officer workload by approximately 26 to 28 FTEs. This would require the addition of approximately 10 staff review positions to manage the additional workload generated.

Year	DORS Diversion Target	Call Volume	Current Expedited Call Volume	Additional DORS Report Volume	Potential Annual Patrol Officer Workload Saved in FTE	Potential Annual Dispatcher Workload Saved in hours	Potential Annual Saved Expediter in FTE	Potential Annual Staff Review addition in FTE
2017	50%	104,274	11,018	52,137	25	23,324	2	10
2017	75%	104,274	11,018	78,206	38	34,987	3	15
2017	100%	104,274	11,018	104,274	50	46,649	4	20
2018	50%	105,592	8,140	52,796	27	29,370	1	10
2018	75%	105,592	8,140	79,194	40	44,054	2	15
2018	100%	105,592	8,140	105,592	53	58,739	3	20
2019	50%	104,508	4,587	52,254	27	27,853	1	10
2019	75%	104,508	4,587	78,381	41	41,780	1	15
2019	100%	104,508	4,587	104,508	55	55,707	2	20
2020	50%	42,237	6,869	21,119	10	9,328	1	4
2020	75%	42,237	6,869	31,678	16	13,992	2	6
2020	100%	42,237	6,869	42,237	21	18,656	3	8
2017	50%	104,274	11,018	52,137	25	23,324	2	10
2017	75%	104,274	11,018	78,206	38	34,987	3	15
2017	100%	104,274	11,018	104,274	50	46,649	4	20
2018	50%	105,592	8,140	52,796	27	29,370	1	10
2018	75%	105,592	8,140	79,194	40	44,054	2	15
2018	100%	105,592	8,140	105,592	53	58,739	3	20
2019	50%	104,508	4,587	52,254	27	27,853	1	10
2019	75%	104,508	4,587	78,381	41	41,780	1	15

Recommendation – To support the process of diverting calls to DORS or expeditors, a full review of the call taker process should be undertaken to ensure that the option is consistently provided to non-priority calls. This should include a full review and update to call taker SOPs and training, with a focus being on call takers offering an upfront initial diversion to DORS or expediters for identified problem types as the first choice. If the public refuses the use of these services then they should set the expectation of how long it may take for an officer to arrive due to the low priority of the call. This should support the uptake of call diversion. To monitor and support call takers with the process, it is recommended that the supervisor process be expanded to ensure the appropriate QA of calls to ensure this process is being followed.

In addition, the marketing and promotion of the DORS system should be renewed to help ensure that citizens of Dallas are aware of, and understand, the choices available to them and the level of service that will be provided.

Based on the analysis within these scenarios and the significant potential time and cost savings to officers, call takers and dispatchers, it is recommended that DPD review the existing expeditor and staff review staffing levels and increase these in line with demand for enhanced diversion.

2 - Diversion to other City agencies

Additional analysis was conducted given the current national movement to divert calls from police agencies to other City agencies that may be more equipped to handle certain problem types. The analysis investigated the impact on workload for dispatchers and patrol officers should that workload be diverted to other City agencies. The analysis scope focused on 14 specific problems types as provided by DPD (and described in Appendix C) which could potentially be diverted to other agencies.

Results

Based on the 2018 and 2019 data the analysis highlights that if 50 percent of calls within the 14 problems were diverted to another other city agency. There is the opportunity to reduce dispatcher workload by approximately 34,000 to 36,000 hours, and reduce patrol officer workload by approximately 12 to 15 FTEs. Should 100 percent of these calls be diverted, this could reduce patrol officer workload by up to 31 FTEs.

Year	Diversion Target	Call Volume	Call Volume Diverted to other City agencies	Potential Annual Patrol Officer Workload Saved in FTE	Potential Annual Dispatcher Workload Saved in hours
2017	50%	189,698	94,849	24	30,500
2017	75%	189,698	142,274	36	45,750
2017	100%	189,698	189,698	48	61,000
2018	50%	184,905	92,453	13	36,180
2018	75%	184,905	138,679	19	54,271
2018	100%	184,905	184,905	26	72,361
2019	50%	186,667	93,334	15	34,886
2019	75%	186,667	140,000	23	52,329
2019	100%	186,667	186,667	31	69,772
2020	50%	88,529	44,265	14	15,122
2020	75%	88,529	66,397	21	22,682
2020	100%	88,529	88,529	28	30,243

Recommendation – DPD should continue to work with the City and other agencies to explore the opportunities for diversion of calls to other agencies to ensure an appropriate response for the citizen. Similar analysis may need to be conducted once the problem type list is refined as there will be a staffing and budget impact for DPD and other agencies.

Staff Process and Performance Management

As a result of the shadowing and interview exercise, a number of process improvements across the Communications division were identified to support standardized processes and improved performance management. These are summarized below.

Staff Process and Performance Recommendation Summary

The following recommendations have been detailed to mitigate and improve on these challenges:

	Staff Process and Performance Recommendations
1	**Update the overtime reporting process** – Update the overtime charge submission process to require the time of day and day of week when the overtime occurred to be included in the timesheet submission, as well as the inclusion of a specific reason code for each instance of overtime occurrence. This will lead to more accurate and reliable monitoring of overtime which can be used against performance to manage staffing more appropriately
2	**Implement a Performance Management framework** – Implement a more formalized and standardized performance management process for all staff to improved performance, accountability, and action. In particular: a) Leadership to conduct evaluations on a regular basis to identify specific challenge and opportunity areas and to rapidly identify, address, and resolve any issues b) Establish performance measures or KPIs at individual level based on job type. These performance measures should be formally signed off by both supervisors and leadership to ensure accountability at all levels c) Update existing SOPs and training manuals to reflect new staff-level performance measures to ensure transparency and accountability d) Create standardized checklists for supervisors and staff across 911 and dispatch to ensure accurate information is recorded at the end of each watch, therefore enabling better performance monitoring and more rapid identification of any upcoming issues
3	**Amend and standardize the dispatch process** - Amend the dispatch policy to dispatch the nearest next available officer to an incident rather than the next available officer. a) Increase communications between the dispatchers and officers to ensure that dispatchers are aware of the status of in-progress incidents b) Close monitoring from supervisors in the field to ensure that officers are updating their availability as soon as they are close to closing or have closed an incident c) Consider re-introducing division sectors to provide boundaries within which officers can respond to incidents

1 - Overtime Reporting and Utilization

Overtime can be an efficient means to manage short or unpredictable peaks in demand. However, when used inefficiently, overtime can result in unnecessary departmental expenses. Overtime is currently being used regularly to bolster current staffing levels. However, there is limited ability to be able to track when this overtime is being used, and if it is being used effectively to meet demand as the overtime information is not being recorded accurately within the Lawson system.

There are two types of overtime that that are frequently utilized in the Communications division: planned overtime, where there is going to be a special event or known shortage of personnel, and unplanned overtime that arises due to unanticipated sick time or an emergency.

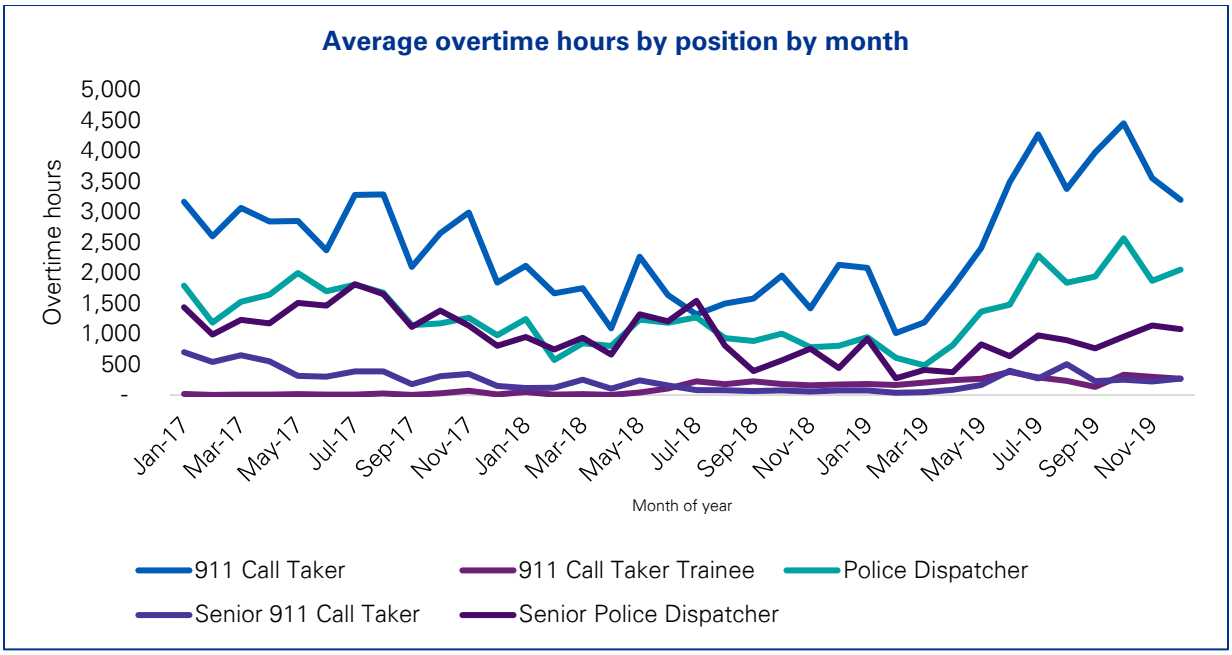
For planned overtime, a sign-up sheet will be created for the dates that employees can work overtime with an indication how many positions need to be filled. This sign-up list will be posted in the Radio Room and the 911 Call Center. Employees will be allowed to sign up on the sheet indicating their willingness to work a particular watch. If more than the necessary number of personnel sign up for a particular watch, the assignments will be given based on seniority going down the list until it is exhausted before starting at the top of the list again.

For unplanned overtime, the Watch Commander or Manager II will first offer overtime to employees on the preceding watch who are available to stay over. The most senior employee who volunteers will get the assignment. If an employee is not found on the previous watch to work the assignment, then calls will be made to employees on other watches or their days off.

Following an in-depth analysis of overtime data, it can be seen from the table below that total overtime hours across the Communications unit has increased from 45,201 hours 2018 to a 67,938 hours in 2019, a 50 percent increase between the years. The majority, approximately 50 percent of overtime is utilized for 911 call takers, followed by approximately 25 percent for police dispatchers. Given the staffing analysis conducted within this report, the current 911 call taker staffing appears to be sufficient to meet demand, therefore it seems that there is potential to reduce the level of overtime used or use it more effectively to meet peaks in demand. This would come through additional governance, supervision and QA of the call taker process.

	Total overtime hours				Percent of total			
Position	**2017**	**2018**	**2019**	**2020 (Jan-Mar)**	**2017**	**2018**	**2019**	**2020 (Jan-Mar)**
911 Call Taker	33,063	20,457	34,803	11,473	46%	45%	51%	50%
911 Call Taker Trainee	216	1,371	2,999	901	0%	3%	4%	4%
Senior 911 Call Taker	17,912	11,590	18,289	6,466	25%	26%	27%	28%
Police Dispatcher	4,828	1,427	2,570	1,492	7%	3%	4%	6%
Senior Police Dispatcher	15,739	10,357	9,278	2,797	22%	23%	14%	12%
Grand Total	**71,758**	**45,201**	**67,938**	**23,129**	**100%**	**100%**	**100%**	**100%**

The chart below illustrates the trending increase in total number of overtime hours charged per month by each staff position, with a noticeable increase in the number of overtime hours for 911 call takers and police dispatchers beginning in mid-2019. However overall annual overtime for police dispatchers and senior police dispatchers has declined by 47 and 41 percent respectively between 2017 and 2019.



The significant number of hours charged to overtime and increasing trends could signal a number of issues and corresponding actions:

- A potential need for increased staff to meet demand at certain times
- Sickness levels should be analyzed by position and person to determine the driving factors
- Overtime should be analyzed alongside the divisions demand profile to ensure it is being used effectively to meet peaks in demand
- Enhanced performance management to ensure staff are working as efficiently as possible.

Recommendation – As mentioned above, overtime can be an efficient means to manage short or unpredictable peaks in demand. However, when used inefficiently, overtime can result in unnecessary departmental expenses. Overall, the total number of annual overtime hours per position is increasing compared to historic figures, particularly among call taker trainees, which has increased 390 percent between 2017 and 2019. However, the metrics to track overtime are insufficient to be able to understand the time of day, watch, and day of week in which overtime is most frequently utilized and determine if this is being used effectively due to the current process for tracking overtime hours. For example, overtime hours are typically submitted once per week when a staff member submits their timesheet, this is often recorded in aggregate rather than at the granular daily level. In addition, overtime hours do not currently require a "reason" entry or "time period" for each overtime hour/day charged. This prevents DPD from fully understanding the gaps in staff supply as compared to demand for time of day and day of week. To better evaluate the effectiveness of overtime and be able to predict when it might be needed based on historic trends, we recommend updating the overtime charge submission process to require the time of day and day of week when the overtime occurred to be included in the timesheet submission. In addition, we recommend that a specific reason code for each instance of overtime occurrence be required to better understand the planned and unplanned overtime factors, for example; minimum staffing, sickness, special event, etc., and improve staffing capabilities in the future. This will lead to more accurate and reliable monitoring of overtime which can be used against performance to manage staffing more appropriately.

2 - Performance Management

A number of questions arose throughout the study around the processes and training available to both supervisors and staff to ensure adequate monitoring and QA of reports, in particular with regards to call grading and signal review, reporting, and inconsistency in the number of QAs required to be conducted by supervisors. The Communications division has some clear and monitored metrics related to communications performance (e.g., calls answered within 10 seconds); however, in addition to current technology constraints, there appears to be a lack of consistency or formality in staff-related performance management within the division. This does not help to foster a culture of high performance, accountability, or proactive action and can contribute negatively to achieving performance measures. This is especially important for new trainees and has knock-on effects throughout the 911 to dispatch to field elements.

Recommendation – It is recommended that DPD implement a more formalized and standardized performance management process for all staff to improve performance, accountability, and proactive management. This would involve in particular the following activities:

- Implement a formalized and standardized process across new trainees, 911 call takers, and dispatchers to routinely report performance upwards and take action where necessary. Performance management should be on an individual basis based on job type and follow standardized and consistent metrics for evaluation (e.g., number of QAs conducted by supervisors by watch). Leadership should be engaged in performance management and conduct evaluations on a regular basis to identify specific challenge and opportunity areas and to rapidly identify, address, and resolve any issues.
- Establish performance measures or KPIs at individual level based on job type (specific examples are provided in the table below). These performance measures should be formally signed off by both supervisors and leadership to ensure accountability at all levels. The establishment of performance measures will allow DPD leadership to monitor behaviors, activities, outcomes, and performance and drive decisions and actions based on this information. Overall, it will allow DPD a system to measure how the department is functioning to meet its communications-related performance metrics and identify areas of efficiencies and improvement.

Job Type	Example Performance Measure / KPI
Training Supervisor	— Number of daily observation reports reported at the end of each watch by training supervisors
Floor Supervisor	— Number of reports that undergo QA by supervisors at the end of each watch to ensure the correct call signal and grading was assigned
Call takers / dispatchers	— Attendance and time of arrival — Attendance at key training and maintains relevant certifications
Expeditors	— Number of reports completed by shift

- Update existing SOPs and training manuals to reflect new staff-level performance measures to ensure transparency and accountability
- Create standardized checklists for supervisors and staff across 911 and dispatch to ensure accurate information is recorded at the end of each watch, therefore enabling better performance monitoring and more rapid identification of any upcoming issues.

3 - Dispatch Process Standardization

Current dispatch policy states that dispatchers should dispatch the next available officer in order to maximize their ability to meet the dispatch and response time targets for all priorities. However, observations in the field and through the data analysis show that while this can positively impact the achievement of dispatch time targets, it can have a detrimental impact on officer travel time and the ability to meet overall response time targets. In order to dispatch the next available officer, officers can be assigned to an incident regardless of their location within the division boundaries. This means that officers are often travelling across the division geography to attend their next call, and officers are often passing each other to attend incidents. This is further emphasized by the lack of enforcement for division sectors and beats, which means that an officer can be assigned to incidents anywhere within the division. Many police departments operate a dispatch policy of not the next available officer but the nearest next available officer, considering the location of the officer alongside their availability in order to reduce travel times and help ensure efficient use of resources.

Recommendation – It is recommended the department consider amending the dispatch policy to dispatch the nearest next available officer to an incident rather than the next available officer. The dispatchers have access to automatic vehicle location (AVL) data on their terminals, which allows them to monitor an officer's location in relation to active and pending incidents, to determine the nearest available officer. This change in policy will require increased communications between the dispatchers and officers to ensure that dispatchers are aware of the status of in-progress incidents, alongside close monitoring from supervisors in the field to ensure that officers are updating their availability as soon as they are close to closing or have closed an incident.

In addition, consideration should be given to reintroducing division sectors to provide boundaries within which officers can respond to incidents. These boundaries could and should be crossed when officer support is required or if there are no other officers available when a priority incident needs to be responded to; however, for the majority of the watch, officers should operate within their sector in order to reduce travel time and response times across all priorities. The assignment of officers to sectors should be based on historic call demand and call composition data (i.e., volume of priority calls and analysis of problem types), and not evenly distributed across all sectors.

Training

Training is a vital element of the Communications division, both to ensure the competence of 911 call takers, dispatchers, and trainers, but also to support staff retention and career growth.

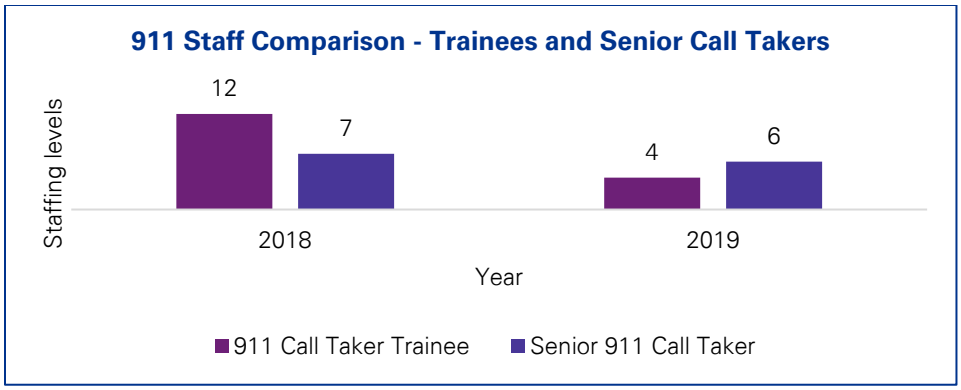
Training Recommendation Summary

The following recommendations have been detailed to improve the training process:

Training Recommendations
1 Refresh the existing training program and review the required number of trainers – Refresh the existing training process for new staff to support more efficient outcomes and better performance with quicker results and increase the number of classroom/on-the-floor trainers to increase direct supervision and improve outcomes a) Classroom training to be modular and include reality-based training b) Investigate and pilot optimal timing for on-the-floor training and consider reducing from 12 weeks to eight to nine weeks based on efficiencies arising from reality-based training c) Update 911 call taker on-the-job training manual based on new processes (last updated in 2015) in line with new program d) For classroom trainers, it is recommended that at least two trainers per group for both dispatch and call taker classroom sessions be available to accommodate the numbers of trainees and account for potential sick days or leave e) For on-the-floor trainers, it is recommended that an analysis of existing "on-the-floor" training supervisor staffing levels against volume of anticipated trainees and trainers time spent on training versus day job be undertaken to identify the appropriate number
2 Investigate the feasibility of a dedicated training division – Investigate transferring training to the DPD training division specifically to handle training and help ensure standardization
3 Implement a new Train-the-trainer program – Create a separate training program for new supervisors to standardize the approach to training and reporting and ensure trainers are more actively involved in trainee success a) Emphasis on skills required for day-to-day training b) Focus on consistent and strong quality assurance for new hires c) Create "refresher" programs to support continuous education

1 - Trainer availability & process

On a number of occasions, it was reported that there are currently not enough trainers or classroom supervisors available to support the volume of trainees within each session, resulting in disparate training processes, reduced training time, and recent hires leaving shortly after hiring. Currently there are only two classroom instructors (one for dispatchers and one for 911 call takers) and five trainers allocated across all three watches for on-the-floor-training (two morning, two day, and one night). This results in trainers being unavailable to fully support their new trainees. Senior call takers are primarily responsible for floor training; however, based on staff interviews, several non-senior call takers also participate in floor training. This is also supported by the data analysis, summarized in the graph below, which shows that in 2018 the number of trainees was nearly twice as large as the number of senior call takers; the gap decreased in 2019, but this is likely impacting the ability to fill vacancies and contributing to high attrition rates for trainees as described in a later section.



Recommendation – The qualitative information and data analysis clearly show that there are insufficient numbers of trainers for each trainee group at both the classroom and floor level. It is recommended that the number of trainers be increased to support increased demand for new hires, with a suggested number based on the number of floor / classroom trainees expected. For classroom trainers, it is recommended that there are at least two trainers each for both dispatch and call taker classroom sessions, to allow for additional hires and potential sick-days.

Trainer process

The training process (classroom and floor) is also considered lengthy and does not promote "real life" training, resulting in a slower learning curve for new trainees and more reliance on trainers for support. This contributes to additional pressures on both trainers and trainees in performing at their best and impacts staff retention. The current training curriculum is as follows:

Training	Schedule
911 Call Taker	• 12 weeks in the classroom (this includes the TCOLE licensing) • 12 weeks on the floor (OJT) – 3 rotations of 4 weeks
Police Dispatcher (with no experience and not an internal promotion)	• 2 ½ weeks classroom to get the TCOLE license • 2 week basic telecommunication classroom • 4 weeks of Dispatch specific training • 15 weeks on the floor – 4 rotations of 4 weeks with a final 3-week segment
Police Dispatcher (internal promotion)	• 4 weeks of dispatch specific training • 15 weeks on the floor – 4 rotations of 4 weeks with a final 3-week segment

Recommendation – In order to promote a faster learning curve for new trainees and support new hire staff retention, it is recommended that the classroom training elements be changed to a modular format with more emphasis on "reality-based training." This would require the full review of the existing training curriculum, including a review of the appropriateness of the 12-week 911 call taker floor training element, as well as the selection of appropriate reality-based training programs. Reality based training is vital to enhance the learning curve as a significant portion of the training happens on the job when on the floor. This will support new trainees to understand what happens on the floor prior to the floor training exercise, thereby reducing the need for a lengthy floor rotational. Modular reality based training is in line with what other agencies also carry out (e.g., New Orleans) and would have great benefits to trainee staff retention, trainer workload, and overall process management. For instance, the London Metropolitan Police Department partners with a vocational technical school that has a dispatch training center, where they train staff and have a dispatch center complete with mock

stations. The benefits are considered vast, especially with newer trainees who are technically savvy and have the early opportunity to understand the challenges of what they're getting into.

Once the classroom training refresh has been confirmed, DPD should investigate the optimal timing for on-the-floor training. With reality-based training as part of the classroom element, this could reduce the timing required from 12 weeks to approximately eight to nine weeks for 911 call takers with a similar timeframe for dispatch training.

2 - Training division

Additionally it has been seen that similar agencies utilize their training departments with dedicated full-time staff to support training (e.g., New Orleans). It is recommended that DPD investigate the potential transfer of classroom training to the training division to support staff retention, workload management, and standardization of the training process. Under this transfer, new hires would remain within Communications, but the classroom trainers would sit under the training division and support the development of full training curriculums for both classroom and on-the-floor training and quality assurance processes for new hires. A review of on-the-floor training supervisors would need to be undertaken to understand how many were dedicated full time to training versus those in dual roles, including an in-depth analysis of time spent on training versus day job.

3 - Training and QA for Trainers

A lack of training and consistent QA process for the trainers was identified as a challenge during our interview process. This is vital to ensure trainers are able to support the new trainees appropriately and manage the reporting process and reduce disparate processes across the watches. Feedback from staff interviews also suggests that roughly 50 percent of trainees do not pass floor training, which could be a result of trainer availability and consistency. For example, the 911 call taker on-the-job training manual was last updated in 2015.

Recommendation – In order to support trainers and trainees alike and promote staff retention and consistency in the training process, it is recommended that a new separate training program for new trainers (new hires and promotions) be instigated to ensure trainers are more actively involved in trainee success. The focus of the "train-the-trainer" module should be on day-to-day trainer management skills, as well as a strong emphasis on QA for new trainees during their on-the-floor training. In addition, a full refresh of the 911 call taker "on-the-job" training manual should be updated in line with new process, as this was last updated in 2015, as well as a process to accurately track trainee progress and outcomes.

Hiring

Hiring and staff retention has been identified as a key challenge across the Communications division with vacancy rates increasing annually.

Hiring Recommendation Summary

The following recommendations have been detailed to enhance the operations of the division:

	Hiring Recommendations
1	**Implement a process to proactively track hiring progress** – Instigate a formal process (regularly reviewed by leadership and the hiring manager) to proactively track the hiring process and flag any delays a) Full review of existing sign-off process to streamline timing and responsibility b) Formal progress tracking and regular reviews
2	**Align the hiring process to civilian position requirements** – Align the hiring process with civilian-position requirements, documentation, and sign-off requirements to promote a more efficient and timely hiring process and retain applicants a) Full review and amendment of disqualifiers for civilian hires b) Full review and amendment of background documentation requirements for civilian positions c) Align with City HQ to ensure that Civilian background checks are conducted at the appropriate level for their position and are prioritized to reduce vacancy rates
3	**Investigate the feasibility of implementing electronic sign-offs** – Investigate redesigning the hiring process to an electronic system to facilitate digital sign-offs and enable notifications by emails allowing for proactive identification of delays in the process
4	**Amend the process for exit interviews** – Amend process for exit interviews to include detailed reasons for leaving and monitor for improvements and efficiencies in attrition rates

One of the contributing factors in hiring and filling these historical and current vacancy rates was not just a difficulty in receiving applications for the vacant positions, but the process and length of time the hiring cycle takes, which can result in applicants leaving the process when they find other positions in the time it takes to move through the process with the department. In particular, it was identified that civilian hiring processes follows the same strict standards as sworn positions, while it is recognized that there is a process to be followed through TCOLE this is not the same as what is required for sworn positions, and this can result in longer background checks, and ultimately applicant drop-offs as they receive offers from competing agencies. A significant contributing factor to the length of time the current hiring process takes is also attributed to the manual and administrative process as all the paperwork and sign-offs are performed manually and sequentially and require various levels of sign-offs before a decision can be made and a candidate informed of the outcome. The cycle time of hiring is difficult to quantitatively evidence as there is a lack of data management around the process however anecdotal evidence suggested that the civilian hiring process can take up to three months for positions with high and consistent vacancy rates and as such this should be addressed as a priority.

Recommendations – It is recommended that in order to reduce the consistently high vacancy rates a significant overhaul of the hiring process is needed—at both the Communications and City HQ level—to align the process to requirements appropriate for civilian positions. This would involve two elements: (a) a refocus of the application review process in line with civilian requirements and (b) a move away from manual sign-offs towards the digitization of the administrative process.

As a first step, it is recommended that a formal process to track the timing of the hiring process and recording of milestone events throughout the process be instigated to proactively monitor progress

and identify where bottlenecks or delays are occurring. This should focus on the date the application was received, completion of the application paperwork, completion of interviews, instigation and completion of background checks, relevant sign-offs and required medicals, etc. and should be reviewed by leadership, as well as the hiring manager on a regular basis to proactively monitor any issues arising in the process.

In order to amend the process to align to civilian position requirements, a full review and amendment of background documentation requirements should take place to streamline the process and enable decision-makers to more rapidly review and qualify applications. To reduce the length of time the application process takes, it is recommended that an electronic hiring process, focusing on sign-off and notifications for signatories, be rolled out to facilitate digital sign-offs and enable notifications via email and ultimately minimize any delays in the process. The use of digital signatures is increasingly common across government agencies, it is a secure and efficient method to reduce the administrative burden on leadership and improve the cycle time of the overall process.

As it was noted, over 50 percent of Communications division staff cite personal reasons for leaving the unit; however, no further detail was available to describe the individual reason (e.g. salary, benefits, training, workload etc.). To better understand the drivers of attrition, and implement changes to proactively reduce attrition rates among communications staff, it is suggested that the exit interview process be reviewed to include detailed reasons for leaving. The hiring manager and leadership should regularly review this data to identify issues in training, QA, process, or other reasons in order to implement changes that may provide for more efficient operations and staff retention and well-being.

Appendix A - Data Log

The Dallas Police provided KPMG with the following datasets in order to conduct the Communications Review:

Data Topic	Short Description
911	Average Call Duration
911	Call Summary
911	Calls per Hour by Day of Week
911	Top Busiest Hours
911	Top PSAP Metrics – Answer Time
911	PSAP Ring Time
911	Call Ind, Call RO, Markout, Sample Calls
911	CAD_DORS
911 Call	Secs Relationship
911Call	Timestamp
911Call	Fields Explanation
911Call	Join with Call_Ind
911Call	2019–2020
Associations	18-1833 Meet and Confer Agreement Amend 12 12 2018
Associations	18 1834 B-4 and B-5 Executive Schedules
Associations	AD 3-72 Family and Medical Leave
Associations	December 12, 2018 Agenda Item 81 Attachment Memo 120718
Associations	Meet and Confer 2016 Final Signed Agreement
Associations	Personnel Rules 2017
Attrition	Attrition
Budget History	Budget vs Actual History
CAD	Problem & Priority Change
CAD	Agency Type, Jurisdiction
CAD	Expediter vs Online
CAD	Timestamps

Data Topic	Short Description
CAD	Timestamps order
CAD	Timestamps missing
CAD	Call Disposition
Dispatch Processes	On-the-Job Training Manual July 2015
Dispatch Processes	Text to 911 SOP Nov 9 2018
Dispatch Processes	Communications SOP March 2019
Dispatch Processes	Approved 911 Call Handling Guidelines June 2019
Hierarchy	Hierarchy; Communications Services - ORG Chart 6-3-2020
Hiring	Hiring Data
Leave & Staffing	Leave and Staffing
Leave & Staffing	Leave Policies
Leave & Staffing	Classification Breakdown
Markout	Level of detail
Markout	Agency Type
Markout	Emp_ID
Markout	Vehicle_ID
Markout	Radio_Name
Markout	Timestamp order
Markout	Source
Online Reporting	DORS Stats
Online Reporting	DORS Staff Review Manual
Payroll	Language Pay; Shift Assignment Pay
Payroll	Matching with RO data
Payroll	Work Schedule Code Lookup
Payroll	Sick, Work, Leave
RO	Unit_Disposition, Event_Disposition
RO	Agency Type
RO	Priority Number
RO	Cancel Reason
RO	Patrol vs non-Patrol
RO	Timestamps in order

Data Topic	Short Description
RO	Timestamps missing
RO	CaseNumber
RO	duplication
RO	Patrol vs non-Patrol
SampleCall	Filters applied
SampleCall	New columns
SampleCall	Key Calculation
Vacancies	Vacancies

Appendix B - Interview Schedule Summary

The following positions were interviewed in depth as part of the review process. Follow-up interviews were also held and a weekly project team meeting was held with DPD to provide status updates and validation of findings throughout the five-week period.

Role	Name	Date Interviewed
911 Floor Supervisor III	Brian Hansen	Wednesday July 15, 2020 – 10:00 a.m.
Supervisor III	Kealoha Hunt	Thursday July 16, 2020 – 10:00 a.m.
Dispatch Administrative Sergeant	Roberto Saldana	Thursday July 16, 2020 – 11:00 a.m.
Training Coordinator and 911 Floor Supervisor III	Kieyna Frank	Thursday July 16, 2020 – 1:00 p.m.
New Hire Instructor	Vicente Salas	Friday July 17, 2020 – 10:00 a.m.
Manager 3	Betty Wafer	Friday July 17, 2020 – 11:00 a.m.
Dispatcher Shadow		Thursday July 23, 2020 – 11:00 a.m.
911 Call Taker Shadow Session		Friday July 24, 2020 – 11:00 a.m.

Appendix C - Call Taker Staffing Analysis Assumptions, Limitations, and Outputs

Call Taker Staffing Levels

Input for Simulation: The key input for the simulation is down to the minute level call volume schedule. We used the CAD data to estimate this down to an every five minutes interval (which by experiment turns out to be a good interval). For each year, each month, each hour of the day, we estimate the minimum, median, and maximum calls that could come in for a typical day. These later become our three scenarios (min, med, max), as illustrated in the table below:

Call Taker Staffing Scenarios: Sample Output for Call Volume Schedule (April 2019; first 30 minutes)			
5 Minute Interval	**Minimum Call Volume**	**Maximum Call Volume**	**Medium Call Volume**
0	8	49	20.5
5	12	50	20
10	13	46	20
15	11	35	21
20	8	35	18.5
25	12	34	21.5
30	13	36	18.5
35	10	38	20
40	9	46	19
45	12	57	20.5
50	11	39	19.5
55	11	31	19

Output for Simulation: The analysis also utilized pay code data to account for call taker non-working hours and estimated that each call taker has approximately 1,757 productive hours annually. This is equivalent to a relief factor of 1.1838 (assuming five working days). When we have the number of estimated call takers for each scenario, we multiply by the relief factor to get the FTE call taker numbers. The table below provides a sample result from the simulation:

Call Taker Staffing Scenarios: Sample Output for Call Takers (April 2019; first 3 hours)			
Hour of Day	**Maximum FTE**	**Median FTE**	**Minimum FTE**
0	67.4	26.0	15.3
1	61.5	24.8	13.0
2	43.8	21.3	13.0

Once we have the number of call takers by hour for each month and year, we then aggregate the monthly level staffing required by solving for the median call takers need within each watch. The

overall staffing level for call takers each month will be the summation of the three watches. The table below provides an illustration:

Call Taker Staffing Scenarios: Median Simulation Result by Month (April 2019; first three months)					
Month	**Scenario**	**First Watch (in FTE)**	**Second Watch (in FTE)**	**Third Watch (in FTE)**	**Total Call Takers (in FTE)**
1	Median	15.3	25.4	29.5	70.4
2	Median	17.7	27.2	32.5	77.5
3	Median	23.0	31.9	36.6	91.7

Analysis Limitations: There are some implicit assumptions in this methodology. First, by using the CAD data, we are using the "answered calls" to estimate the actual incoming call volume. For example, we know there is approximately 3 to 7 percent of unanswered call in 2019. Moreover, the percentage of unanswered calls also varied by hour. Ideally, we would like to get an "incoming call volume" by every five minutes to improve the accuracy of the analysis; however, without this an assumption was made to include 5 percent of unanswered calls within the analysis. This simulation also applies "perfect" compliance of each call taker, assuming each will always be available after they finish their calls. In reality, call takers could be unavailable due to other reasons in their normal working hours. Another limitation of the analysis is that the findings cannot be compared with overtime usage because the overtime data does not identify which hour is more likely to be charged overtime.

The hourly and monthly outputs of the 911 call taker staffing analysis referenced on page 12 are outlined in the tables below. The analysis was conducted by hour of day and month of year to facilitate staffing decisions. It is not recommended that the Maximum scenario is used to generate staffing as that would not be an efficient use of resources. It is recommended that the Median scenario be used to guide staffing decisions with overtime used to meet peaks in demand.

2019 Hourly Call Taker Staffing Analysis

Hour of Day	Average call takers needed (Minimum Scenario)	Average call takers needed (Median Scenario)	Average of call takers needed (Maximum Scenario)	Average current call takers available
0	16.18	28.91	78.23	31.00
1	13.71	25.26	63.73	30.00
2	12.04	22.99	61.26	27.25
3	10.75	19.63	53.27	26.67
4	9.27	16.48	39.07	26.17
5	8.09	15.49	36.90	26.83
6	9.67	17.46	37.29	26.75
7	11.64	24.17	48.44	28.67
8	16.18	29.50	54.85	30.17
9	18.84	31.96	55.44	30.08
10	20.62	33.44	58.21	33.17

Hour of Day	Average call takers needed (Minimum Scenario)	Average call takers needed (Median Scenario)	Average of call takers needed (Maximum Scenario)	Average current call takers available
11	21.41	34.13	56.03	34.00
12	22.39	35.71	62.55	33.50
13	23.87	36.70	62.94	33.92
14	24.37	37.39	76.36	34.00
15	26.64	40.35	81.98	37.17
16	27.82	42.03	73.10	36.83
17	28.41	41.83	80.50	36.75
18	27.03	40.84	73.99	35.92
19	25.55	38.08	66.79	35.08
20	24.37	36.90	79.71	34.83
21	23.78	36.70	79.51	35.25
22	22.39	36.60	77.84	34.50
23	19.34	32.46	85.14	31.42
Grand Total	**19.35**	**31.46**	**64.30**	**32.08**

2020 Hourly Call Taker Staffing Analysis

Hour of Day	Average call takers needed (Minimum Scenario)	Average call takers needed (Median Scenario)	Average of call takers needed (Maximum Scenario)	Average current call takers available
0	16.57	28.61	83.07	32.00
1	14.40	26.64	66.29	30.67
2	12.43	22.89	59.98	29.83
3	10.06	18.74	49.13	29.00
4	9.27	15.78	36.70	29.00
5	8.29	15.78	31.77	28.50
6	9.08	16.77	37.69	29.00
7	11.84	21.90	41.63	29.67
8	16.18	27.62	46.17	31.33
9	17.36	30.78	53.86	31.33

Hour of Day	Average call takers needed (Minimum Scenario)	Average call takers needed (Median Scenario)	Average of call takers needed (Maximum Scenario)	Average current call takers available
10	19.53	32.16	55.64	32.83
11	20.52	33.74	56.82	34.00
12	21.70	34.73	58.01	34.33
13	22.30	35.12	57.61	34.33
14	23.08	35.71	64.91	34.33
15	24.27	38.28	73.99	39.33
16	27.03	39.86	62.55	39.67
17	27.23	40.05	67.87	39.00
18	26.04	40.65	67.28	39.17
19	24.47	37.29	70.04	38.67
20	23.87	37.09	62.94	38.50
21	25.06	37.29	68.86	38.00
22	20.32	36.11	69.25	38.00
23	18.55	31.77	62.35	32.67
Grand Total	**18.73**	**30.64**	**58.52**	**33.88**

2019 Monthly Call Taker Staffing Analysis

	Minimum Scenario Staffing Estimates			Median Scenario Staffing Estimates			Maximum Scenario Staffing Estimates		
Month of Year	Watch 1	Watch 2	Watch 3	Watch 1	Watch 2	Watch 3	Watch 1	Watch 2	Watch 3
January	8.29	16.57	19.53	16.57	27.82	31.96	83.46	49.72	55.05
February	10.06	17.76	21.31	18.94	29.00	34.33	42.03	50.90	63.34
March	11.84	20.13	26.64	24.86	34.33	39.07	55.64	58.60	68.66
April	12.43	20.13	26.04	21.90	34.33	39.07	50.90	55.64	72.21
May	11.84	23.08	27.23	21.90	35.52	41.43	44.99	59.78	81.68
June	13.02	24.27	29.00	22.49	35.52	42.62	49.13	60.38	87.60
July	11.25	23.08	27.82	21.31	36.11	42.03	69.25	64.52	96.48
August	12.43	21.90	27.82	21.90	36.70	40.84	48.54	57.42	76.95
September	12.43	21.31	27.82	24.27	35.52	40.84	50.31	64.52	76.95

	Minimum Scenario Staffing Estimates			Median Scenario Staffing Estimates			Maximum Scenario Staffing Estimates		
October	11.25	20.13	26.04	20.72	34.33	40.25	43.21	59.19	73.40
November	11.84	20.13	26.64	21.31	33.74	37.88	53.27	56.23	81.68
December	11.25	20.13	26.04	21.31	33.15	38.47	46.17	55.64	64.52
Grand Total	**11.49**	**20.72**	**26.00**	**21.46**	**33.84**	**39.07**	**53.08**	**57.71**	**74.88**

2020 Monthly Call Taker Staffing Analysis (through June 2020)

	Minimum Scenario Staffing Estimates			Median Scenario Staffing Estimates			Maximum Scenario Staffing Estimates		
Month of Year	**Watch 1**	**Watch 2**	**Watch 3**	**Watch 1**	**Watch 2**	**Watch 3**	**Watch 1**	**Watch 2**	**Watch 3**
January	11.25	18.94	25.45	20.72	32.56	38.47	86.42	55.64	65.11
February	10.65	21.31	25.45	21.31	34.33	39.07	42.03	56.82	64.52
March	11.84	19.53	23.68	21.31	33.15	38.47	46.76	54.46	63.34
April	11.25	18.94	22.49	20.72	32.56	36.11	40.25	52.68	72.21
May	11.84	19.53	27.23	21.31	33.15	39.07	44.39	55.64	72.81
June	11.25	21.31	24.86	19.53	31.96	39.07	43.80	52.09	66.89
Grand Total	**11.35**	**19.93**	**24.86**	**20.82**	**32.95**	**38.38**	**50.61**	**54.56**	**67.48**

Appendix D - Existing CAD Data Problem Codes

Problem Type Code	Volume
**PD Requested by Fire	9,985
04 - 911 Hang Up	21,793
06 - Minor Disturbance	17,631
07 - Minor Accident	71,699
08 - Intoxicated Person	1,945
09 - Theft	23,050
09/01 - Theft	7,038
09V - UUMV	28,214
09V-01 UUMV Just Ocrd	3,208
11B - Burg of Bus	8,695
11B/01 - Burg of Bus	919
11C - Burg Coin Oper	89
11C/01 - Burg Coin Oper	75
11R - Burg of Res	17,194
11R/01 - Burg Of Res	3,320
11V - Burg Motor Veh	28,987
11V/01 - Burg Motor Veh	3,046
12 - Burglar Alarm Unknown	2,651
12B - Business Alarm	54,890
12N - Burglar Alarm NonDisp	6
12R - Residential Alarm	31,882
13 - Prowler	11,876
14 - Stabbing, Cutting	2,326
15 - Assist Officer	4,389

Problem Type Code	Volume
15A - Assist Officer w/Amb	201
16 - Injured Person	8,683
16A - Injured Person w/Amb	1,609
17 - Kidnapping in Progress	689
17C - Child Abduction	195
18 - Structure Fire	2,104
18A - Vehicle Fire	76
19 - Shooting	2,609
20 - Robbery	10,423
20R - Robbery (report)+1hr	1,357
21B - Business Hold Up	7,544
21R - Res Panic Alarm	6,408
22 - Animal Disturbance	5,648
22A - Animal Attack	1,001
23 - Parking Violation	5,801
24 - Abandoned Property	26,620
25 - Criminal Assault	3,813
26 - Missing Person	9,157
26/01- Missing Person-Critical	4,952
27 - Dead Person	248
28 - Open Carry	59
29 - Open Building	1,845
30 - Prisoner	1,996
30/01 - ODO w/Prisoner	580
30D - Prisoner Other Agency	796
31 - Criminal Mischief	18,062
31/01 - Crim Mis/Prog/Non Felo	2,778
32 - Suspicious Person	77,331
33 - Prostitution	2,057
34 - Suicide	7,311

Problem Type Code	Volume
36 - Abandoned Child	398
36/01 - Aband Child Critical	2,933
37 - Street Blockage	32,123
37F - Freeway Blockage	18,517
38 - Meet Complainant	12,296
39 - Speeding/Racing	12,691
40 - Other	155,750
40/01 - Other	137,196
41/09 - Theft - In Progress	1,374
41/09V - UUMV in Progress	705
41/11B - Burg Busn in Progress	2,431
41/11R - Burg Res in Progress	7,603
41/11V - BMV-In Progress	2,453
41/20 - Robbery - In Progress	2,007
41/25 - Criminal Aslt -In Prog	445
41/31 - Crim Mis/Progress/Felo	323
41/40 - Other - In Progress	5,202
42 - Chase	18
42FP - Foot Pursuit	107
43 - Road Rage	1,485
44 - Person in Danger High Wtr	1,028
46 - CIT	26,277
46A - CIT w/Ambulance	5,552
54 - Escort/Protection Detail	1
55 - Traffic Stop	201,251
58 - Routine Investigation	572,515
62 - Public Service	48
68 - Verified Response Alarm	2
6F - Fire Works Disturbance	5,306
6G - Random Gun Fire	38,000

Problem Type Code	Volume
6M - Loud Music Disturbance	50,930
6S - School Dist (Violence)	249
6X - Major Dist (Violence)	285,101
6X/01 Women's Shelter Dist	12
6XA - Major Dist Ambulance	12,681
6XE - Disturbance Emergency	12,850
6XEA - Disturbance Emerg Amb	3,045
70 - ETS Activation	115
76 - Warrant Service	2,172
7CE - City Equipment Accident	4,582
7X - Major Accident	44,018
7XCE - Major Acc City Equip	341
7XF - Major Accident Freeway	11,960
7XFCE - Major Acc Fwy City Eq	58
AC - Animal Cruelty	843
AC/01 - Animal Cruelty In Prog	354
BCA - Bait Car Activation	397
DAEF-Dist Armed Encounter Foot	6,578
DAEV-Dist Armed Encounter Veh	2,785
DASF-Dist Active Shooter Foot	3,097
DASV-Dist Active Shooter Veh	2,793
DH - Drug House	3,124
ET - Executive Threat	14
MW - Most Wanted	9
OADS - Open Air Drug Sales	8,433
ODJ - Off Duty Job	79,461
PH - Panhandler	13,602
PK - Park Check	37,085
PSE/09 - Theft	8,888
PSE/09V - UUMV	13

Problem Type Code	Volume
PSE/11B - Burg of Bus	8
PSE/11C - Burg Coin Op	17
PSE/11R - Burg of Res	14
PSE/11V - Burg Motor Veh	4,558
PSE/24 - Lost Property	172
PSE/26 - Missing Person	3,493
PSE/31- Criminal Mischief	3,317
PSE/40 - Other	2,411
PSE/58CL - Cop Logic	150
SIP - Sleeping In Public	245
TOW - TowRepo	10
WIC - Walk In CASE #	930

Appendix E - Data Analysis by Station

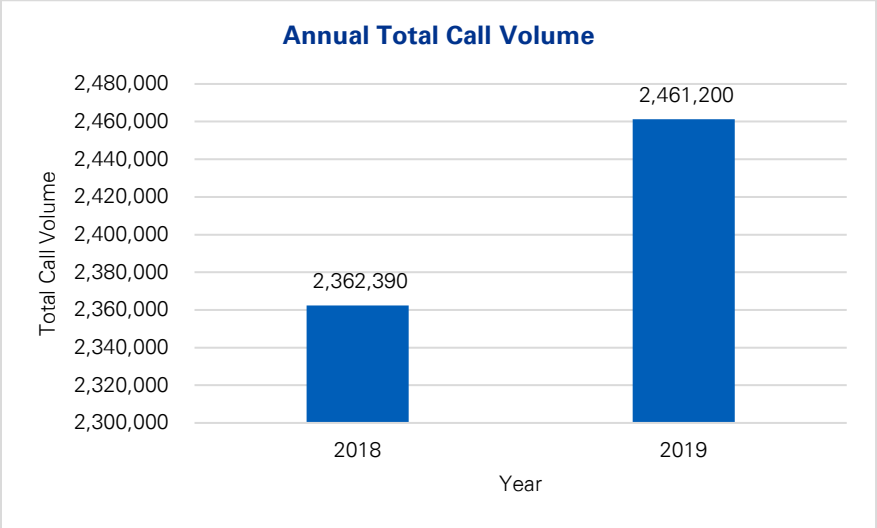
Overview

The graphs below show the data analysis for all stations combined by topic.

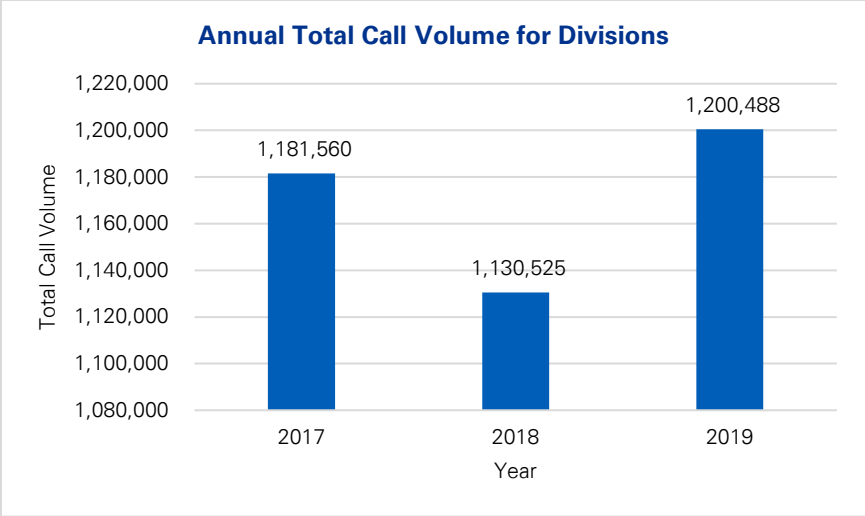
Call Volume

Annual Total Call Volume

The graph below illustrates annual total call volume. From 2018 to 2019, total call volume grew by 4.2 percent. Call volume includes 911, all seven divisions, and other call categories including Criminal Investigation, Expediter, Homeland Security, Jack Evans Headquarters Building, Special Investigation, and Traffic.

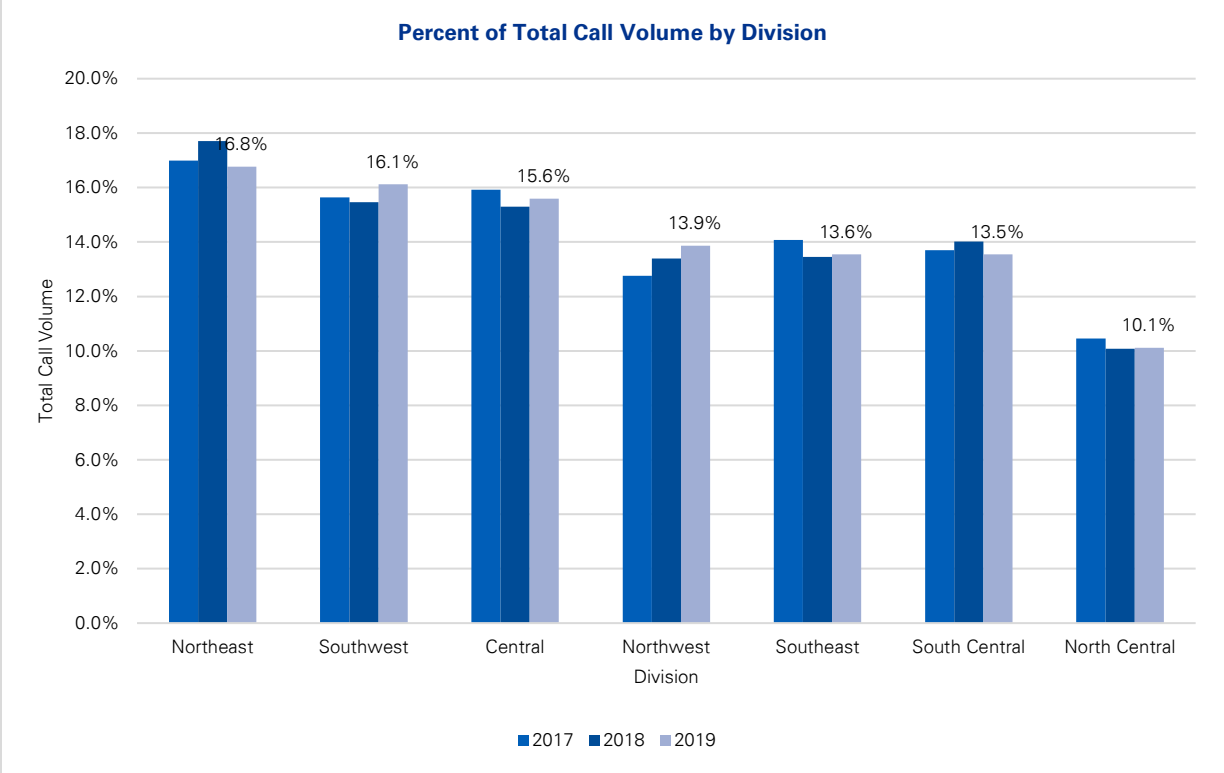


The graph below illustrates annual total call volume for divisions only.



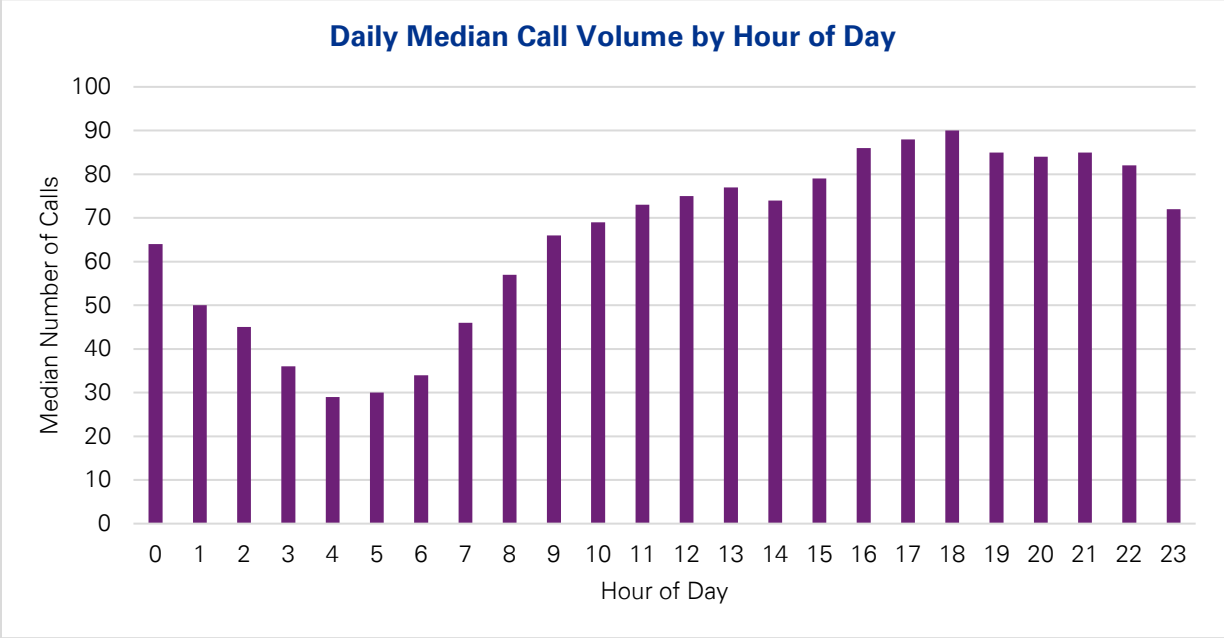
Percent of Total Call Volume by Division

The graph below illustrates the percentage of annual call volume by division.



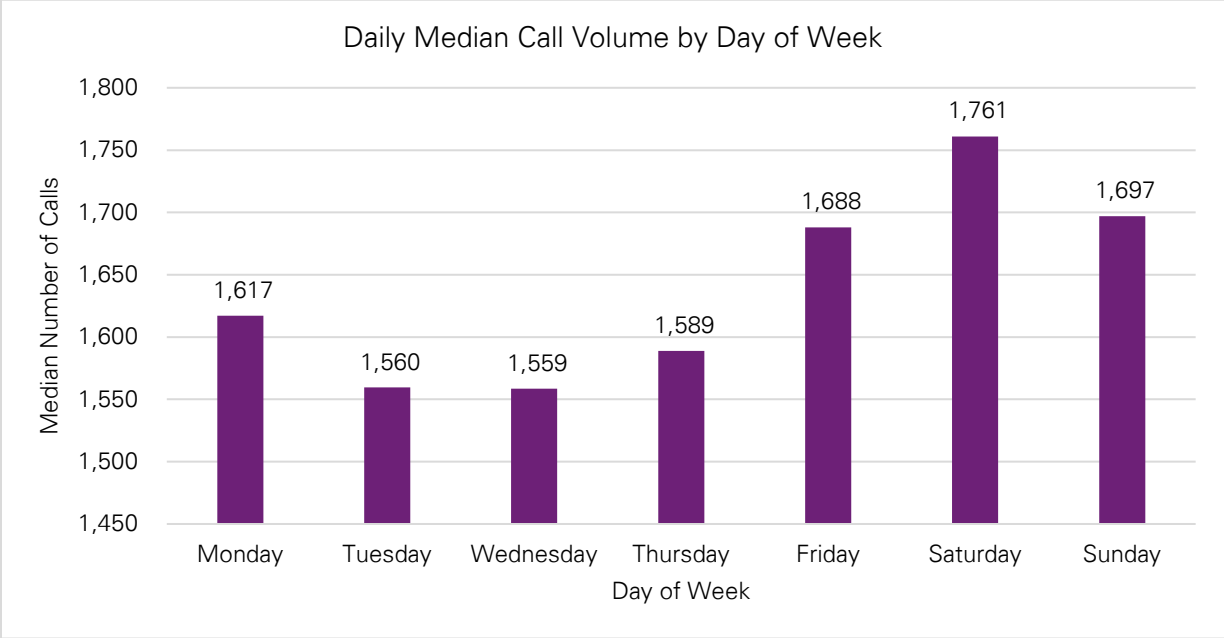
Median Call Volume by Hour of Day

The graph below illustrates median call volume by hour of day for all divisions.



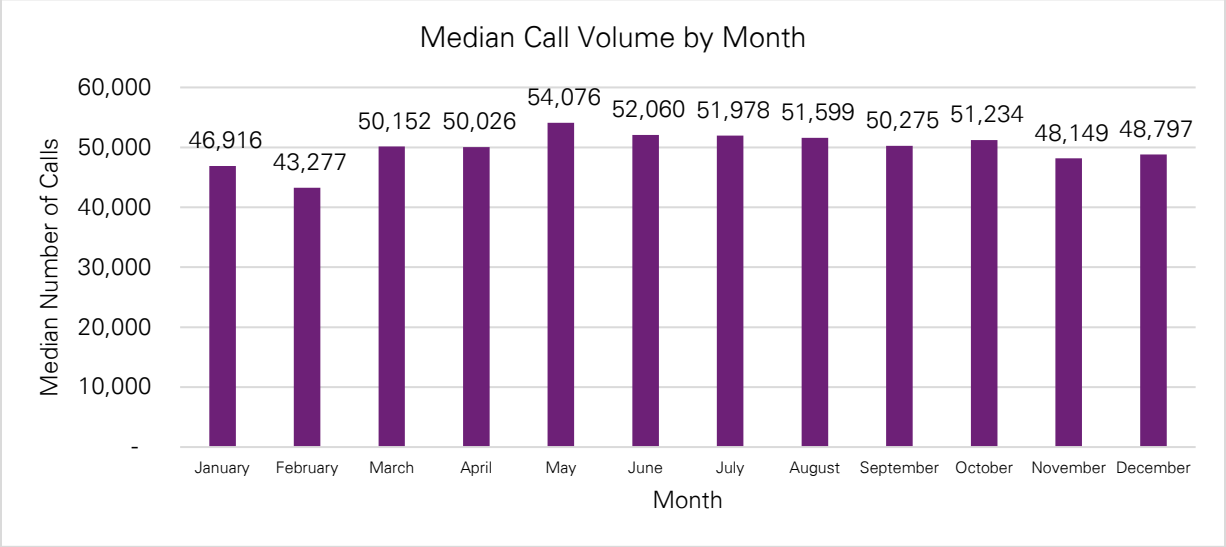
Median Call Volume by Day of Week

The graph below illustrates median call volume by day of week for all divisions.



Median Call Volume by Month

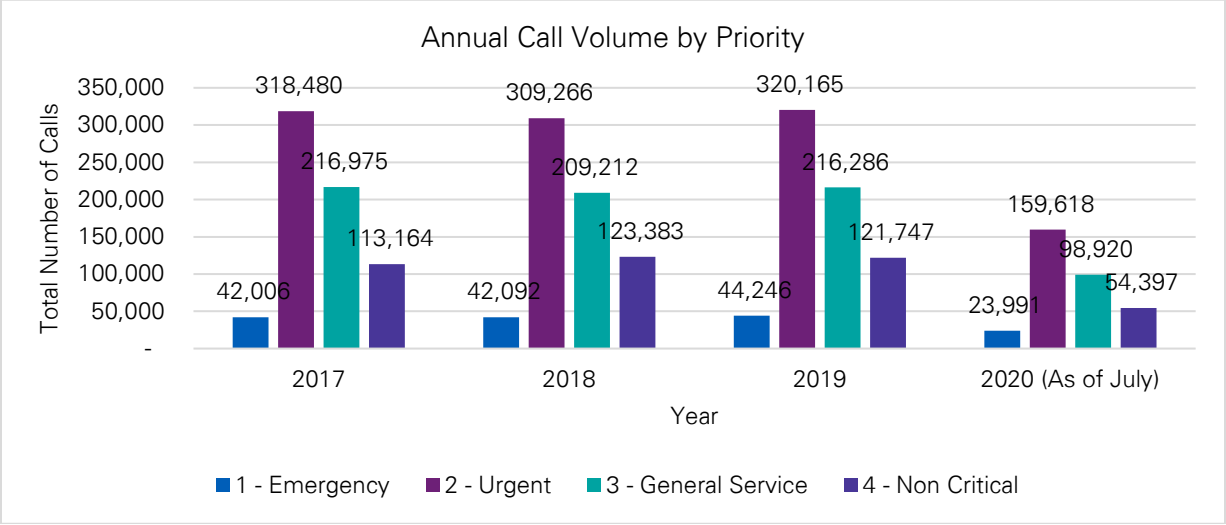
The graph below illustrates median call volume by month for all divisions.



Priority

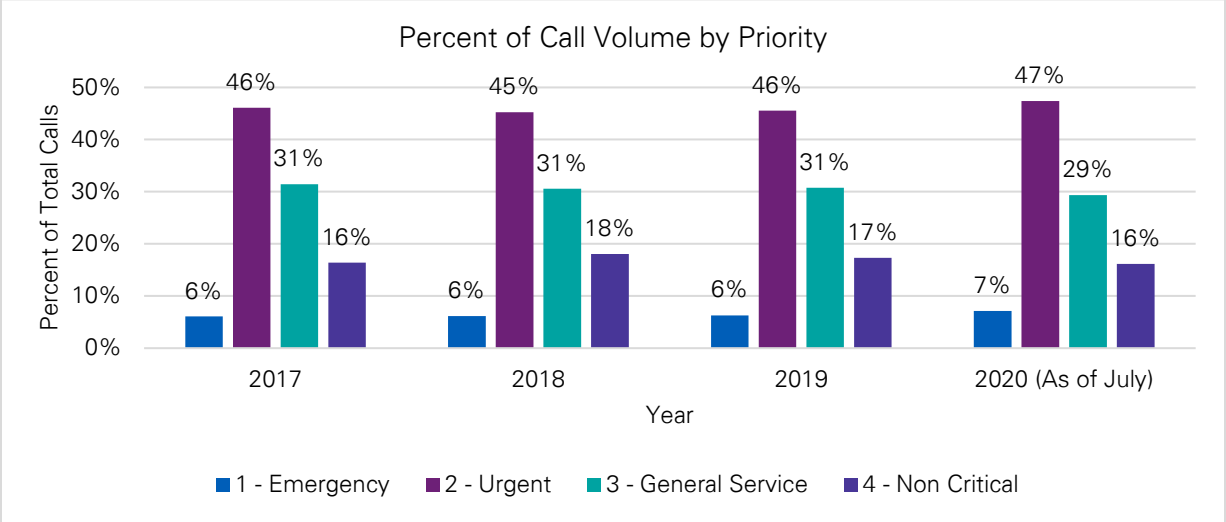
Annual Call Volume by Priority

The graph below illustrates annual call volume by priority for all divisions.



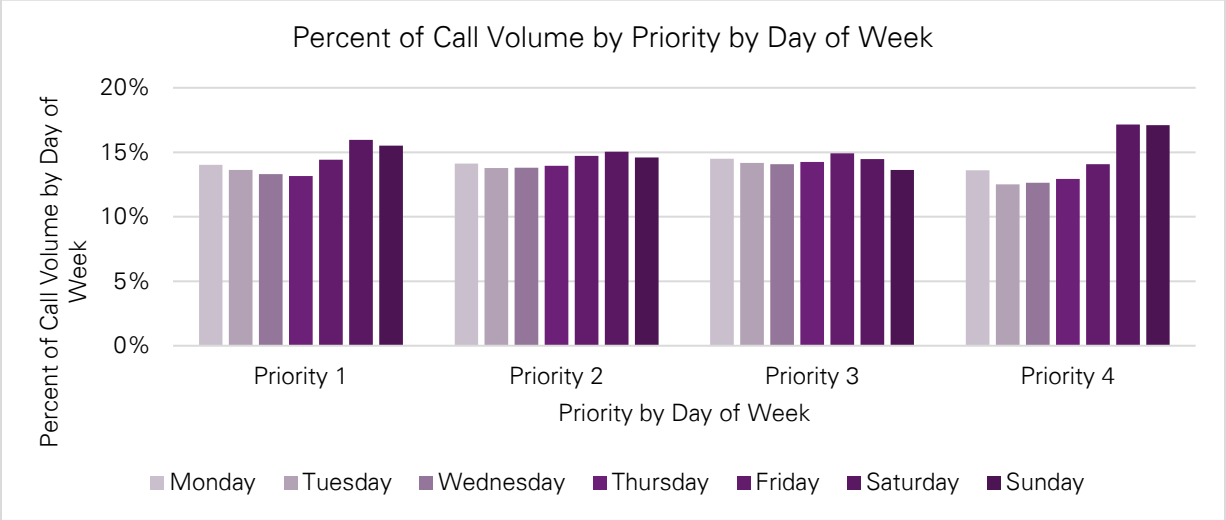
Percent of Call Volume by Priority

The graph below illustrates percent of total call volume by priority for all divisions.



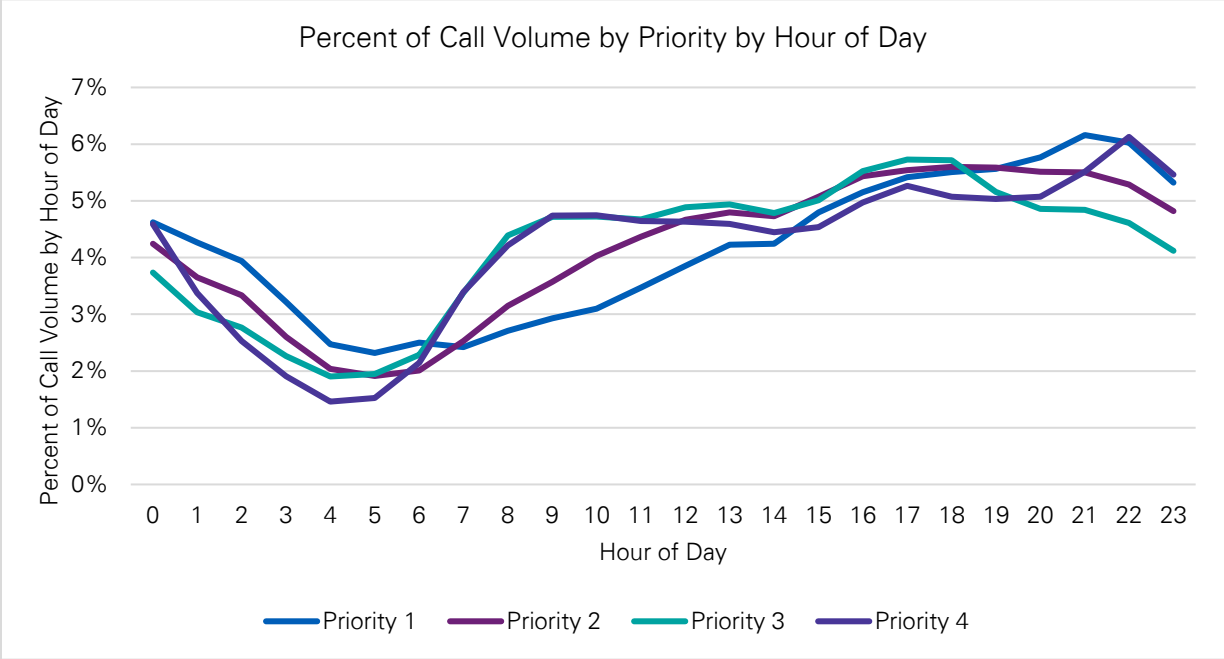
Percent of Call Volume by Priority by Day of Week

The graph below illustrates percent of total call volume by priority by day of week.



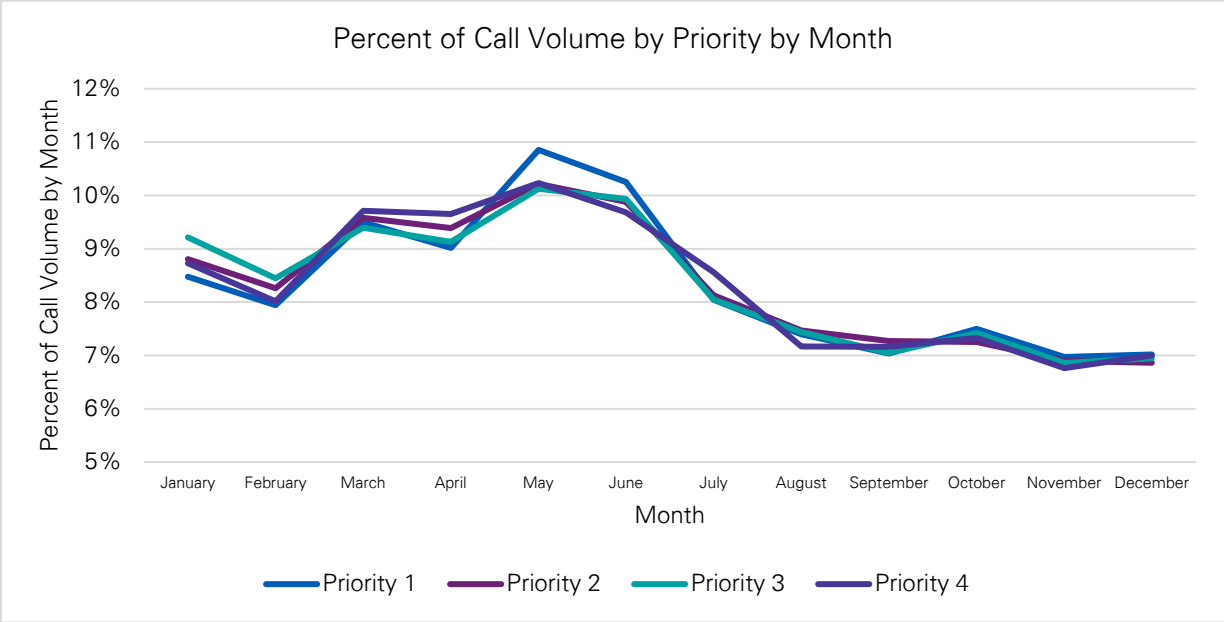
Percent of Call Volume by Priority by Hour of Day

The graph below illustrates percent of total call volume by priority by hour of day.



Percent of Call Volume by Priority by Month

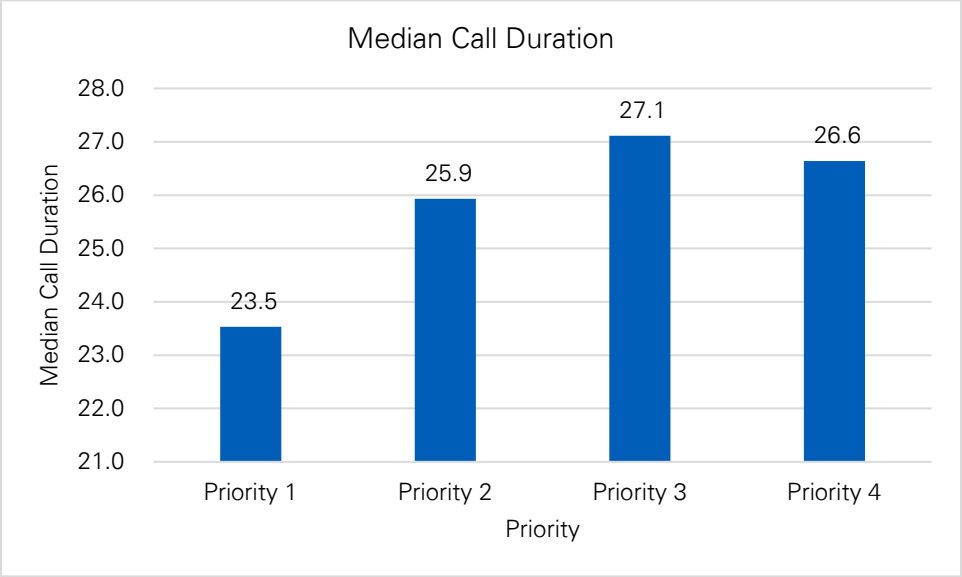
The graph below illustrates percent of total call volume by priority by month.



Performance

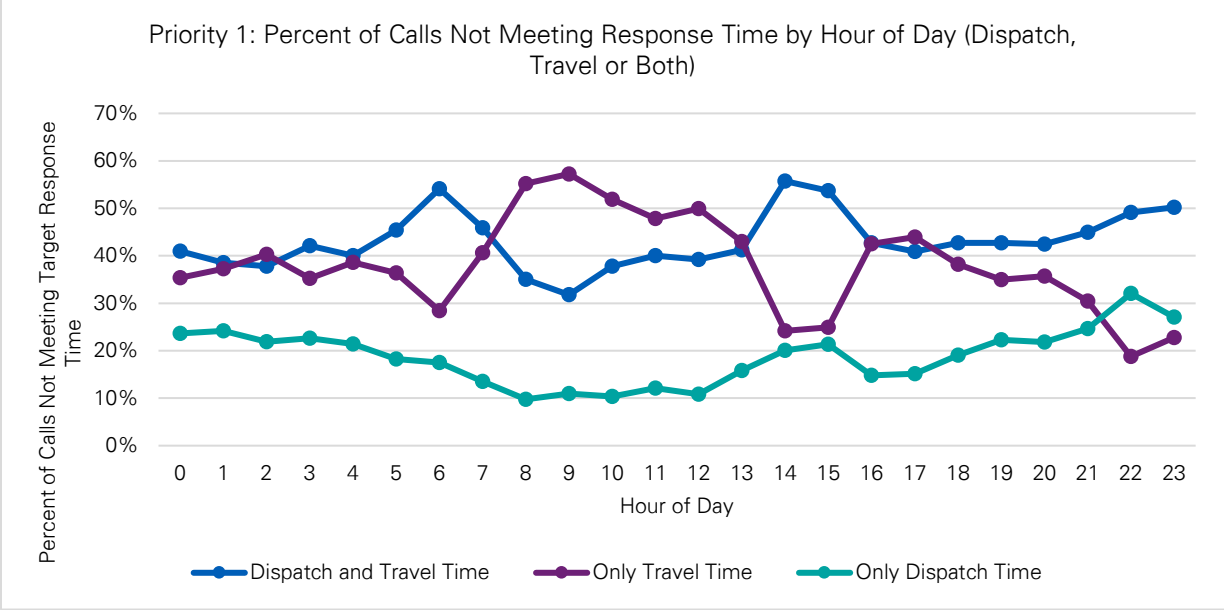
Median Call Time

The graph below illustrates the median call duration by priority for all divisions.



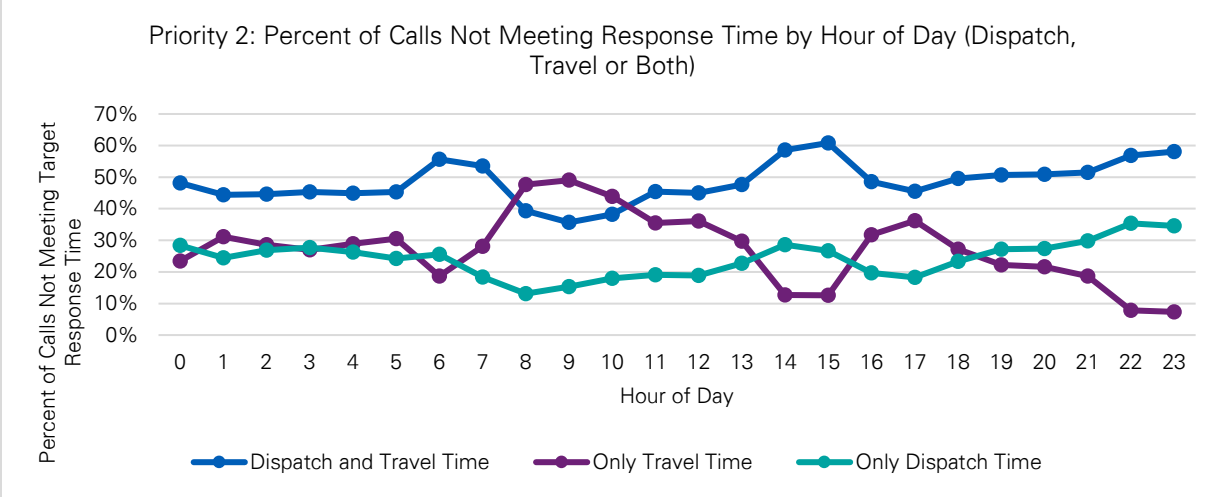
Percent of Calls Not Meeting Response Time by Hour of Day (Priority 1)

The graph below illustrates percent of calls failing to meet target Priority 1 response time by hour of day for all divisions.



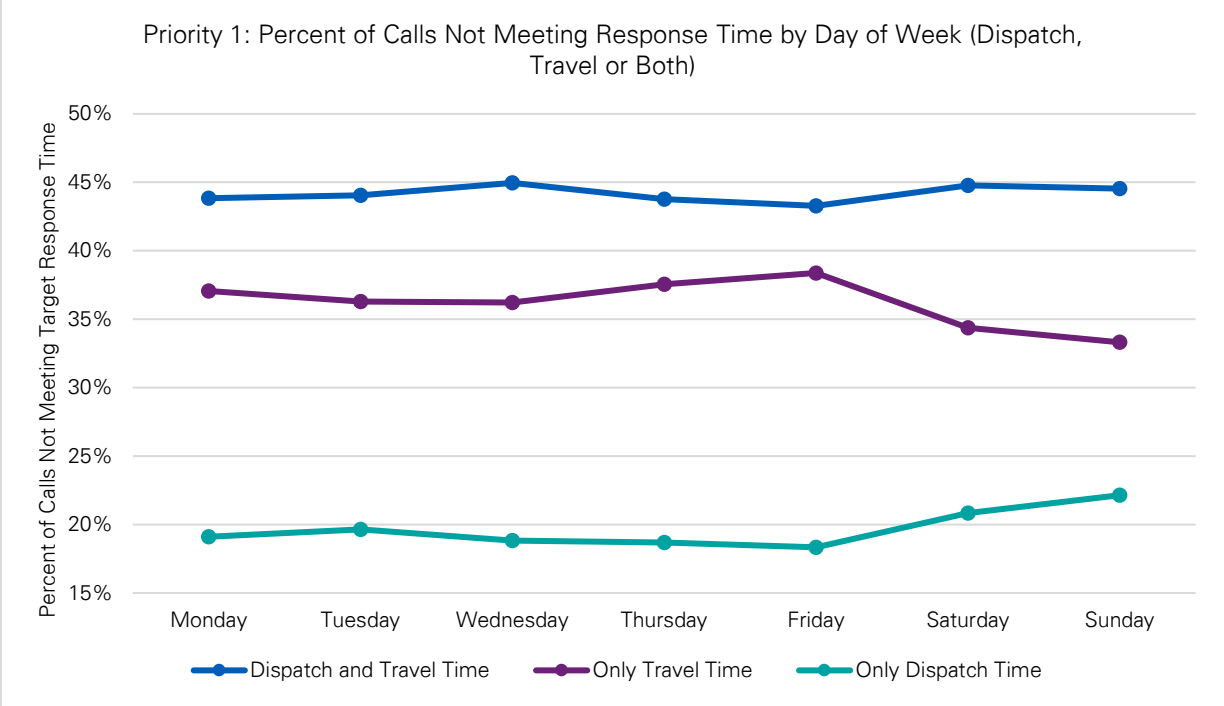
Percent of Calls Not Meeting Response Time by Hour of Day (Priority 2)

The graph below illustrates percent of calls failing to meet target Priority 2 response time by hour of day for all divisions.



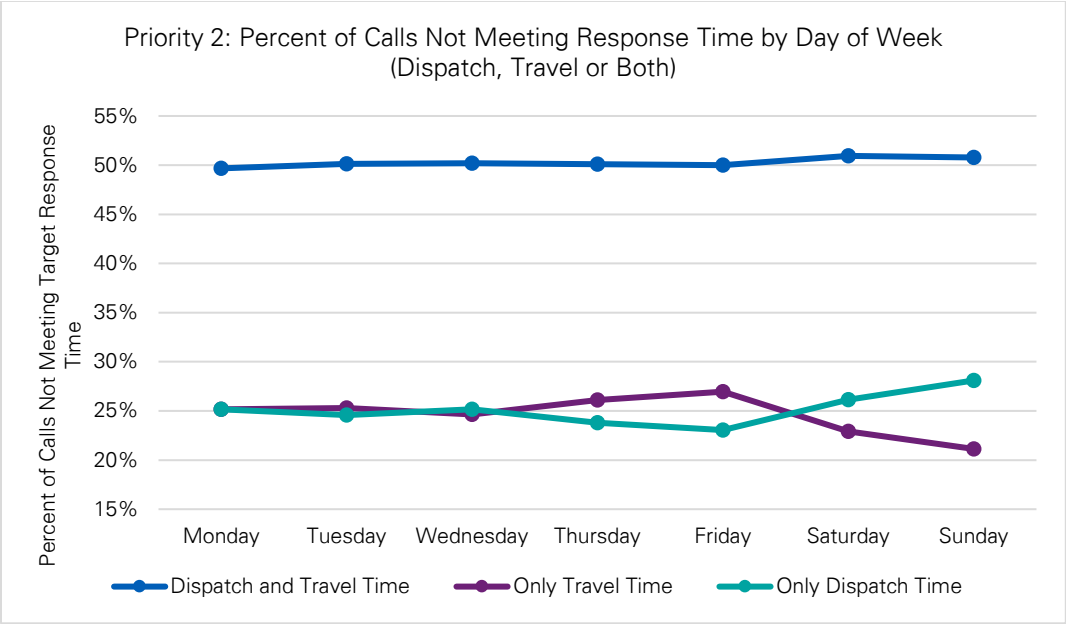
Percent of Calls Not Meeting Response Time by Day of Week (Priority 1)

The graph below illustrates percent of calls failing to meet target Priority 1 response time by day of week for all divisions.



Percent of Calls Not Meeting Response Time by Day of Week (Priority 2)

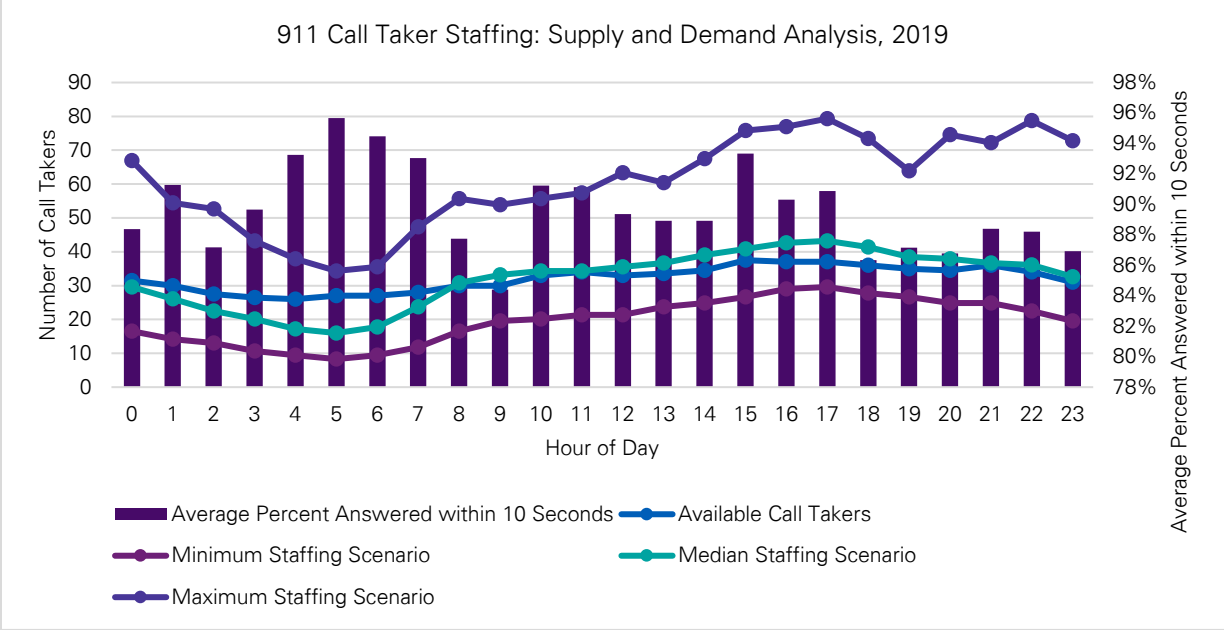
The graph below illustrates percent of calls failing to meet target Priority 2 response time by day of week for all divisions.



Staffing Supply and Demand

911 Call Taker Supply and Demand by Scenario

The graph below illustrates 911 call taker availability in comparison to call demand levels.



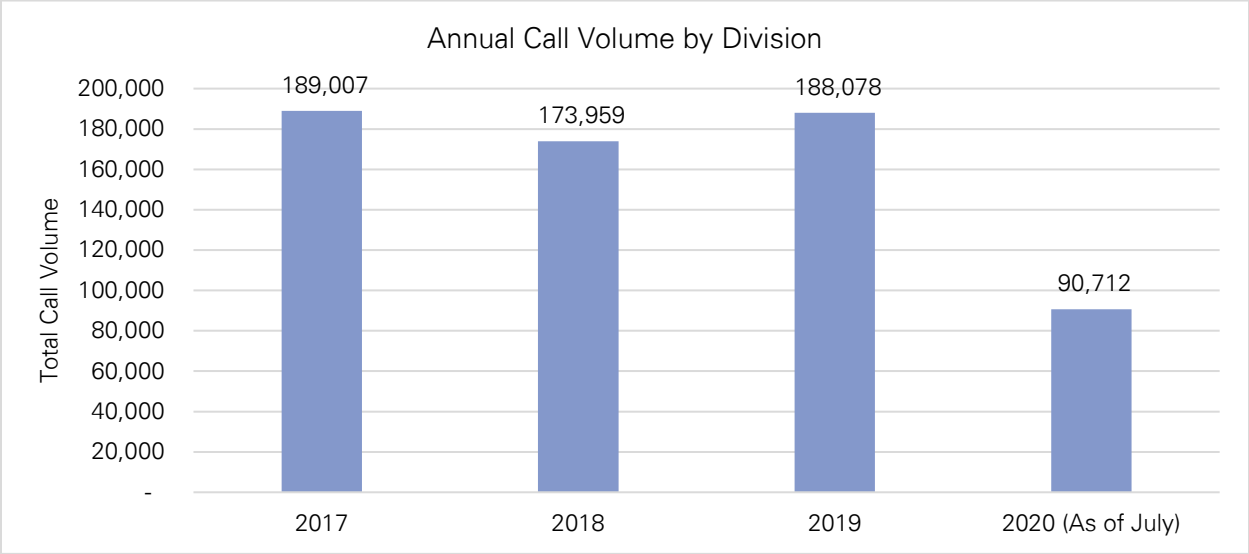
Central Division

The graphs below show the data analysis for the Central division by topic.

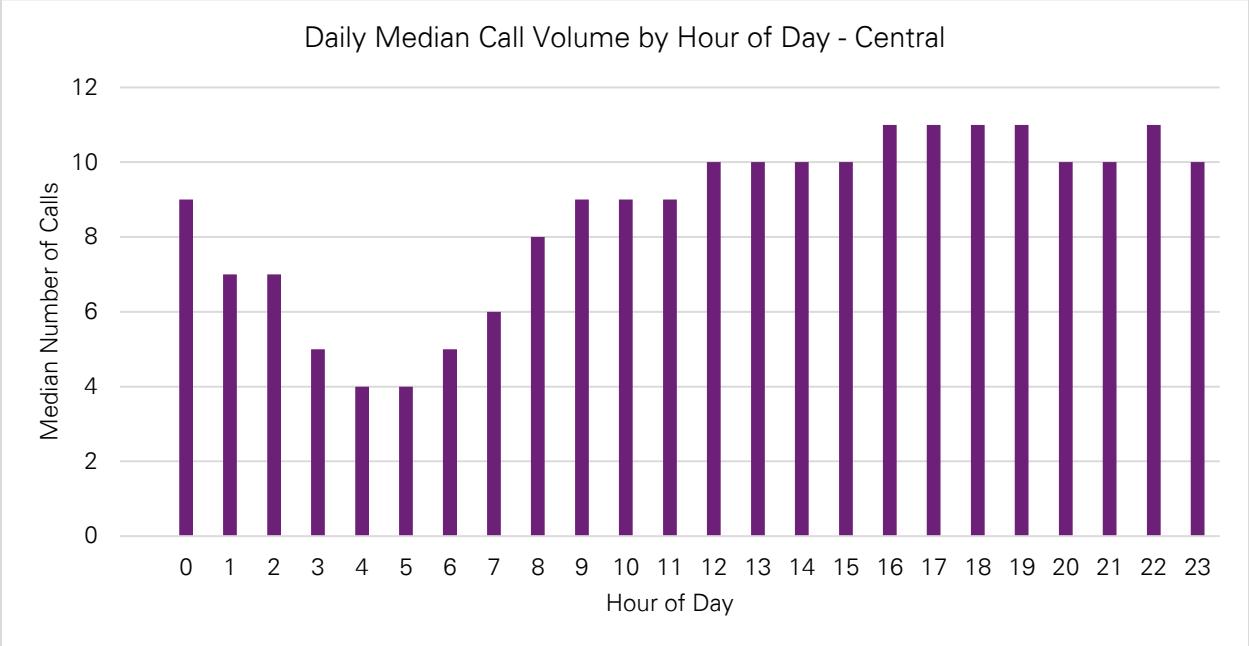
Call Volume

Annual Total Call Volume

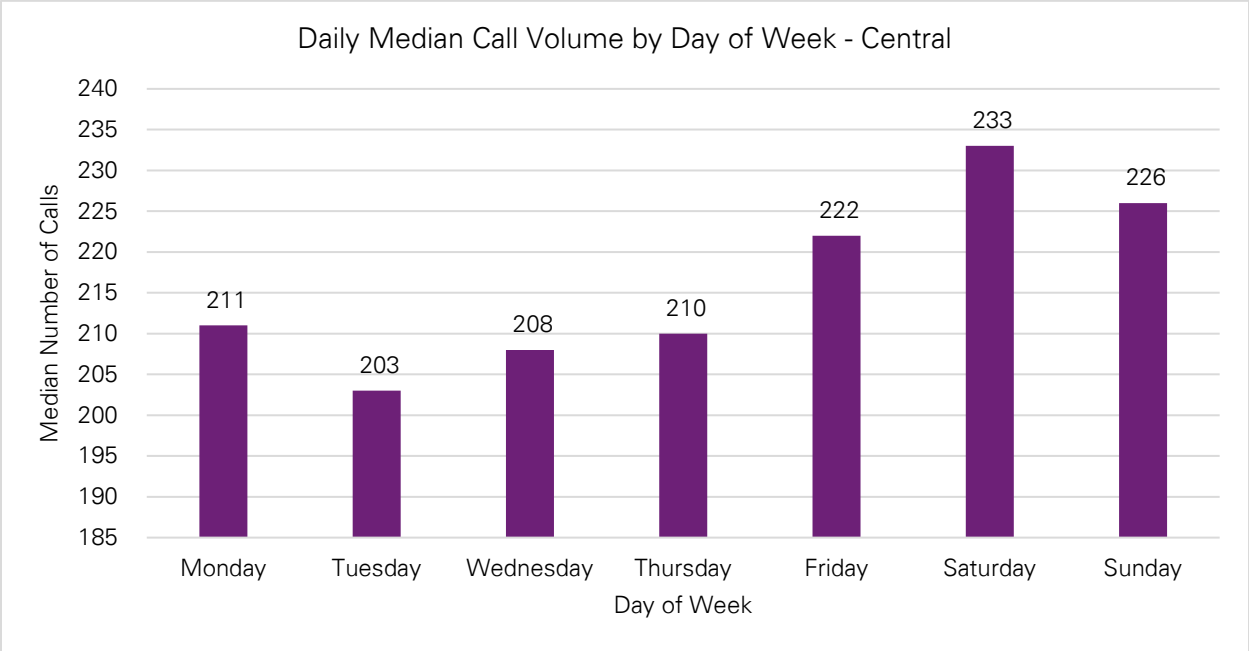
The graph below illustrates the annual call volume for the Central division.



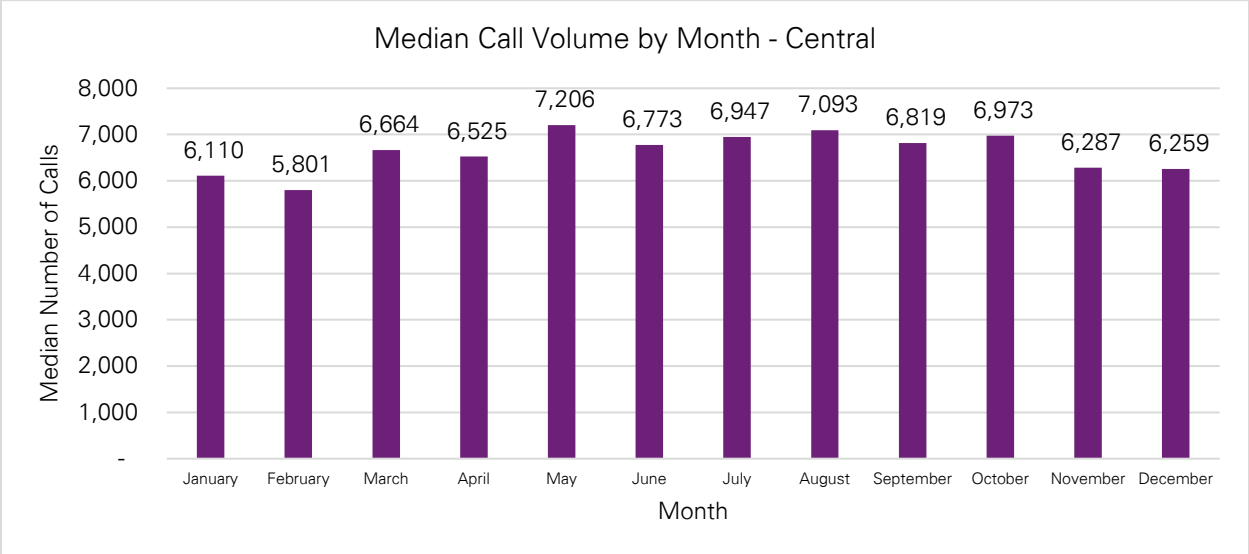
Median Call Volume by Hour of Day



Median Call Volume by Day of Week



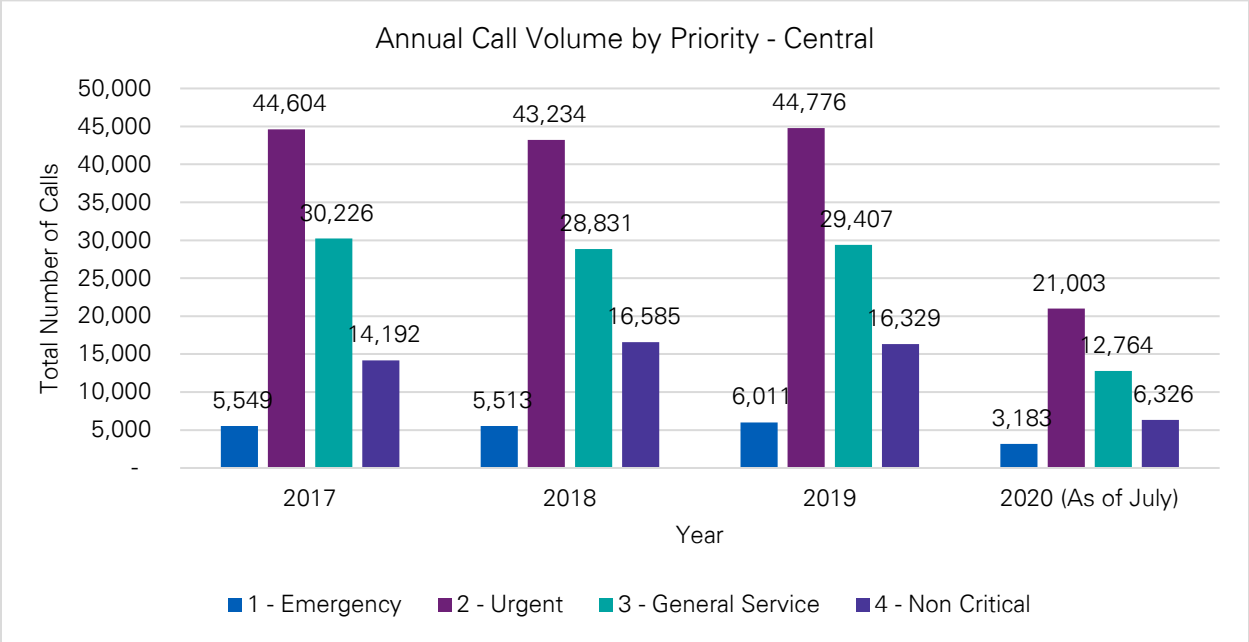
Median Call Volume by Month



Priority

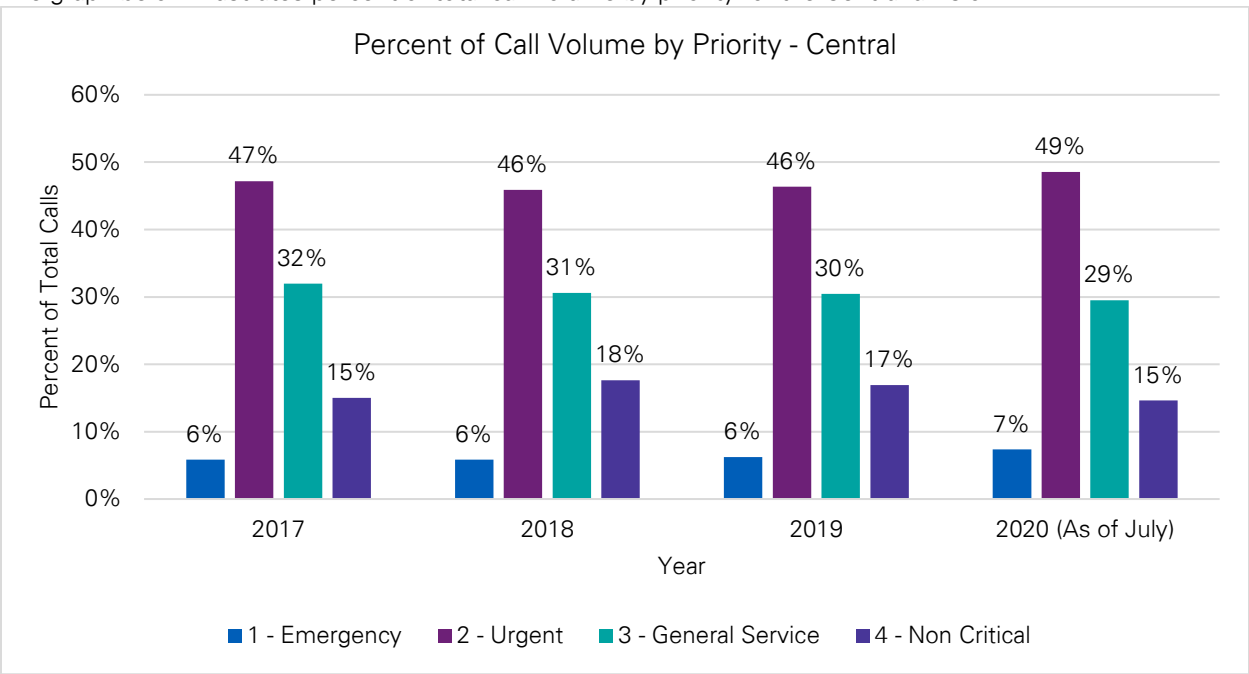
Annual Call Volume by Priority

The graph below illustrates annual call volume by priority for the Central division.

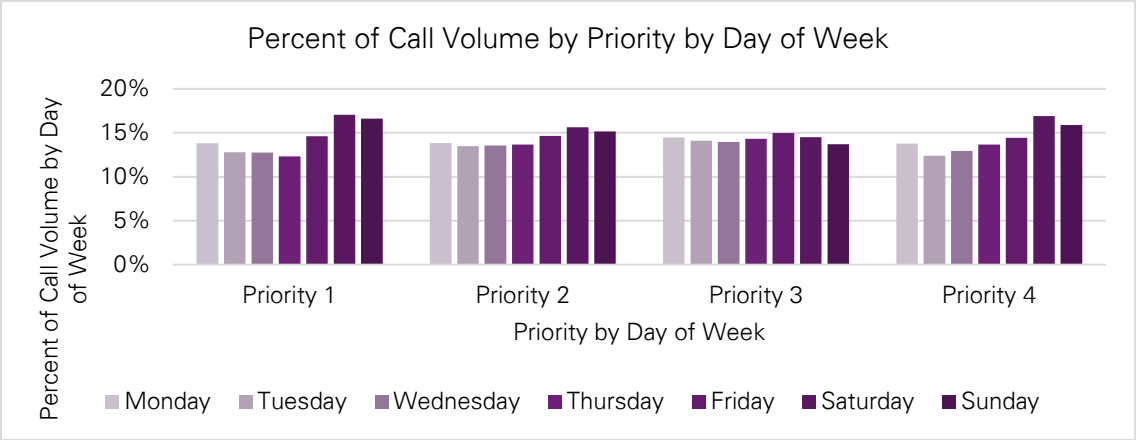


Percent of Total Call Volume by Priority

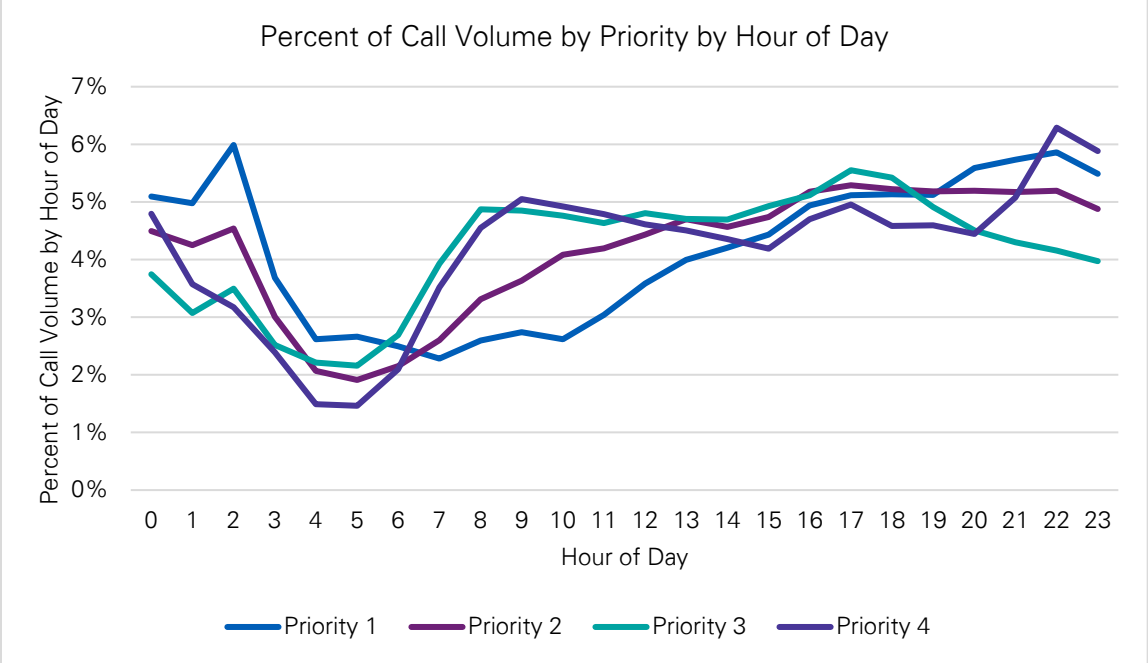
The graph below illustrates percent of total call volume by priority for the Central division.



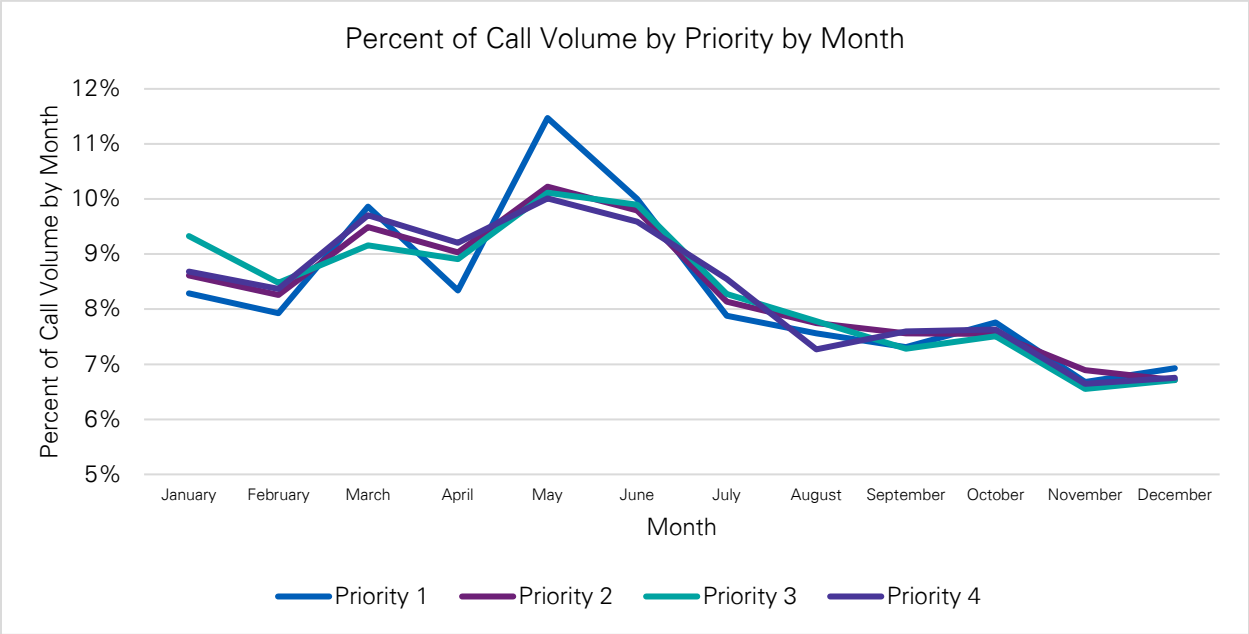
Percent of Call Volume by Priority by Day of Week



Percent of Call Volume by Priority by Hour of Day



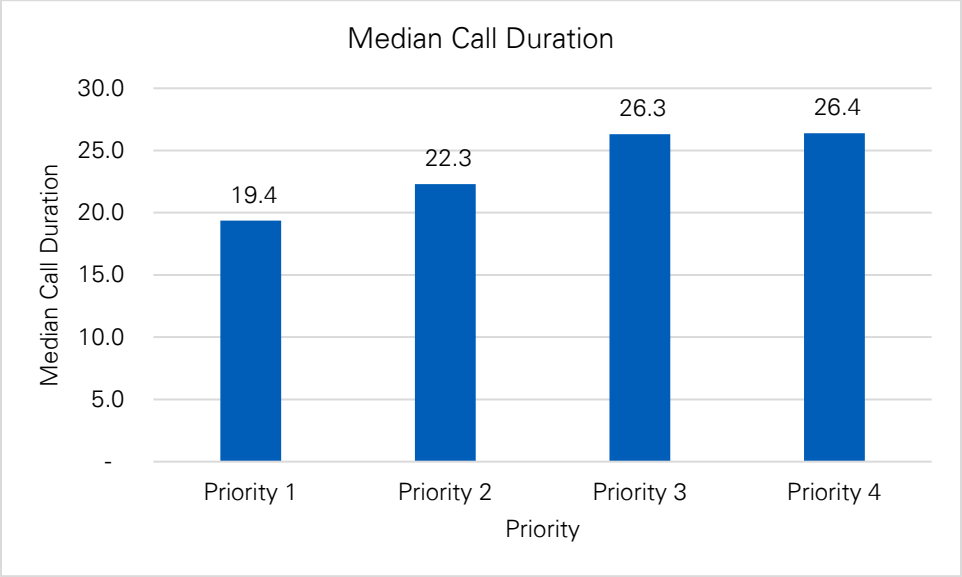
Percent of Call Volume by Priority by Month



Performance

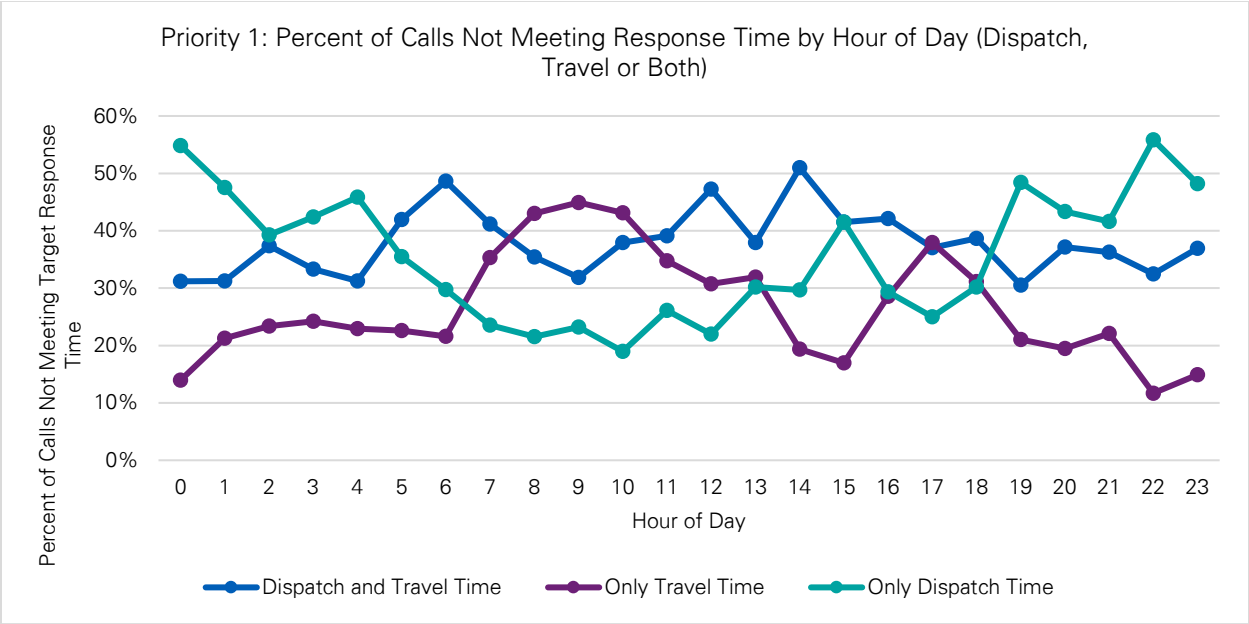
Median Call Time

The graph below illustrates the median call duration by priority for the Central division.

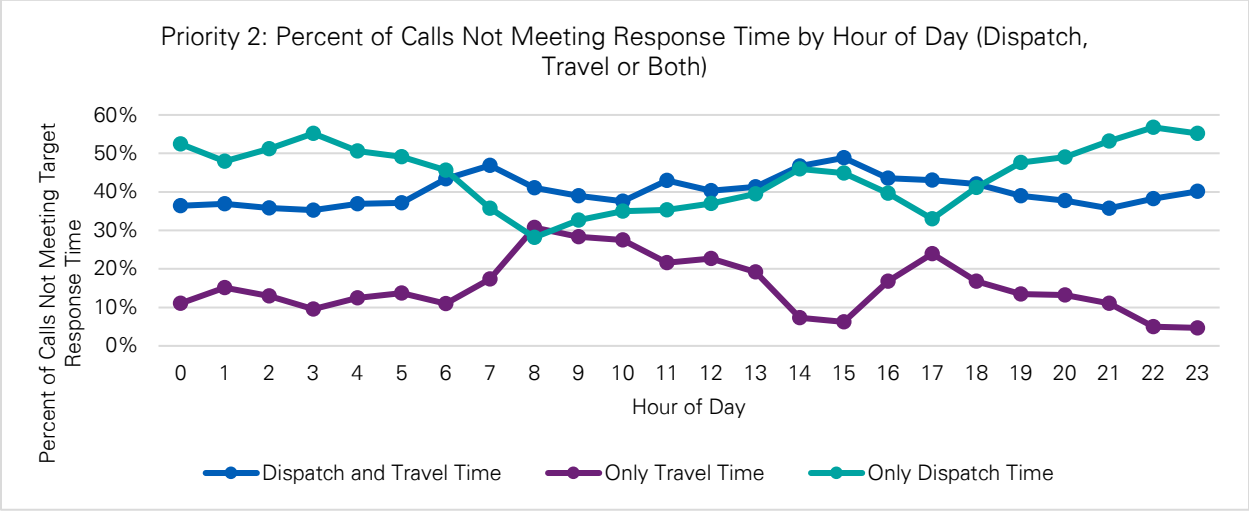


Percent of Calls Not Meeting Response Time by Hour of Day (Priority 1)

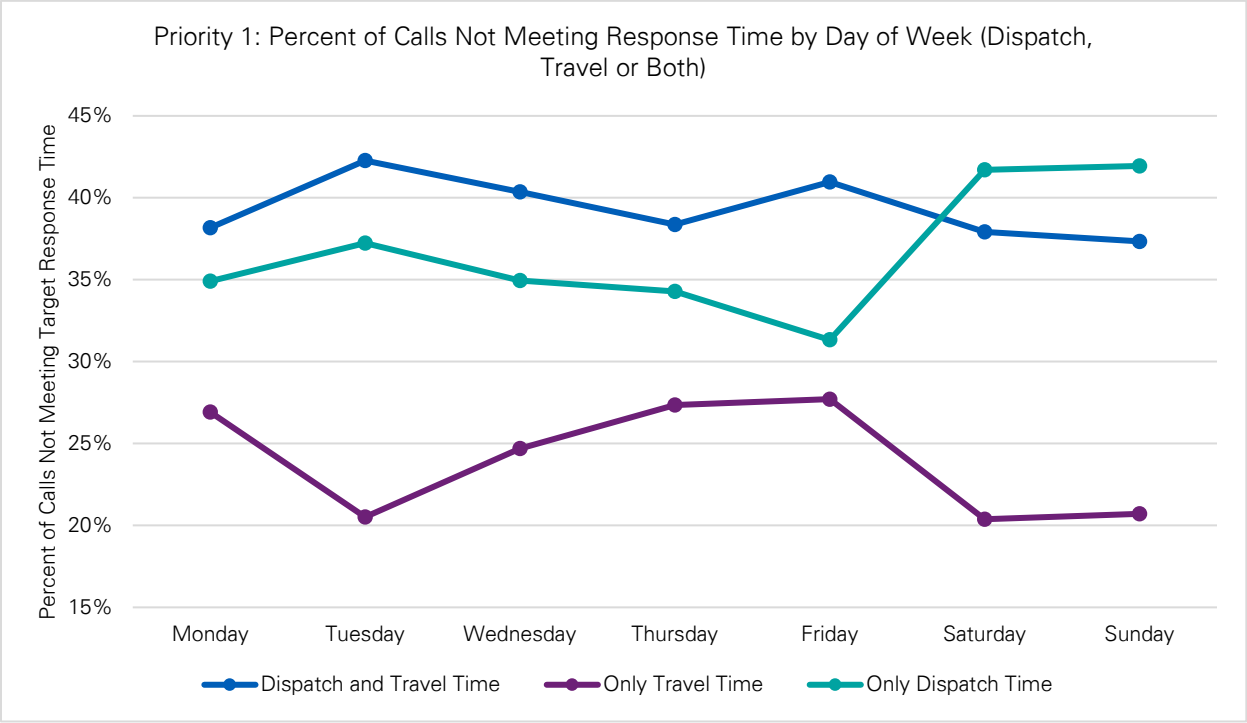
The graph below illustrates percent of calls failing to meet target Priority 1 response time by hour of day for the Central division.



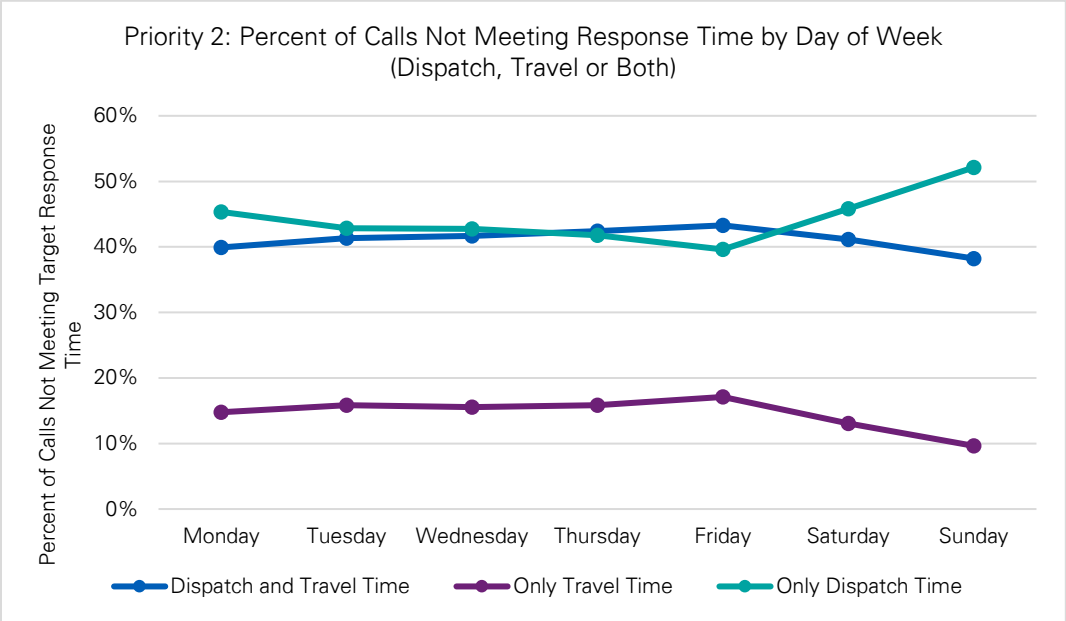
Percent of Calls Not Meeting Response Time by Hour of Day (Priority 2)



Percent of Calls Not Meeting Response Time by Day of Week (Priority 1)



Percent of Calls Not Meeting Response Time by Day of Week (Priority 2)



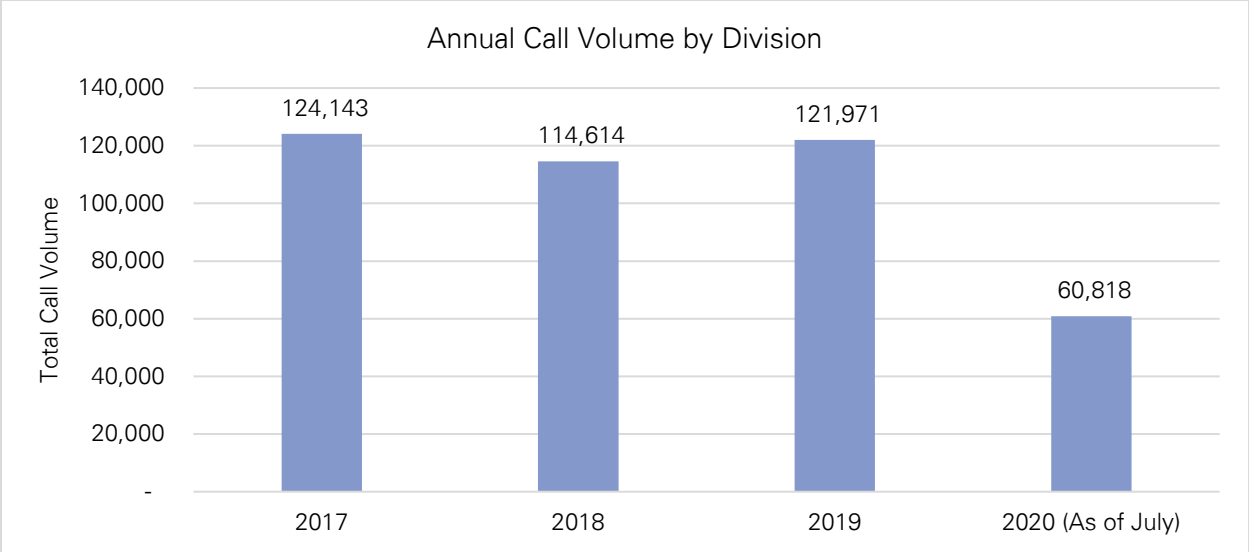
North Central Division

The graphs below show the data analysis for the North Central division by topic.

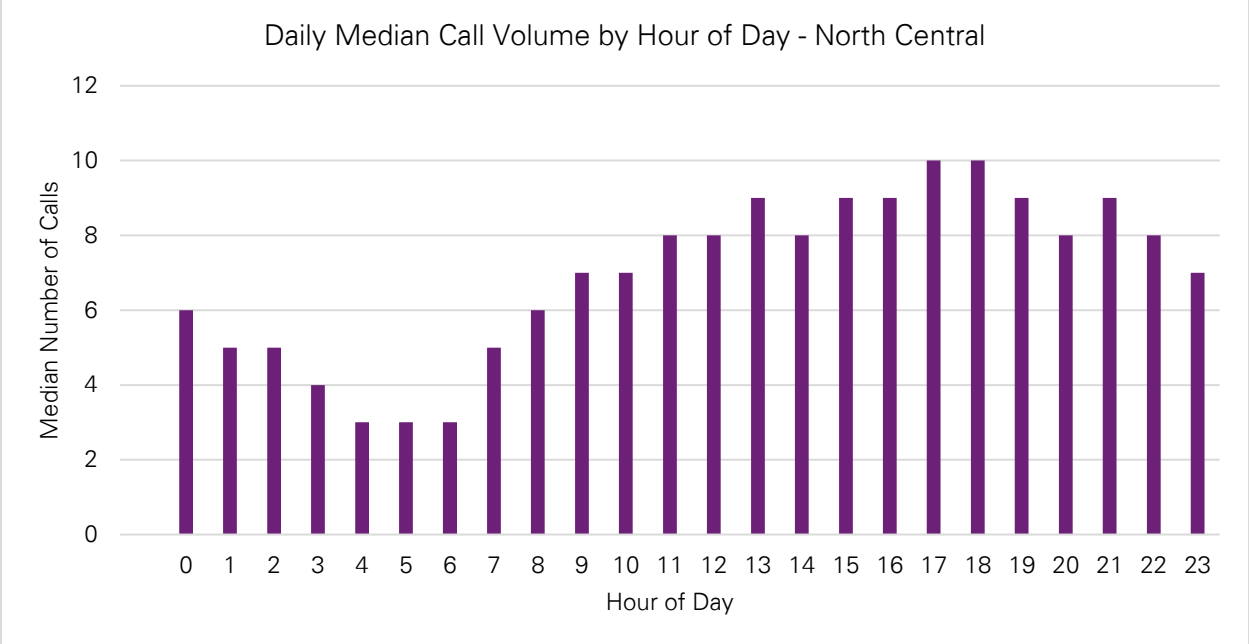
Call Volume

Annual Total Call Volume

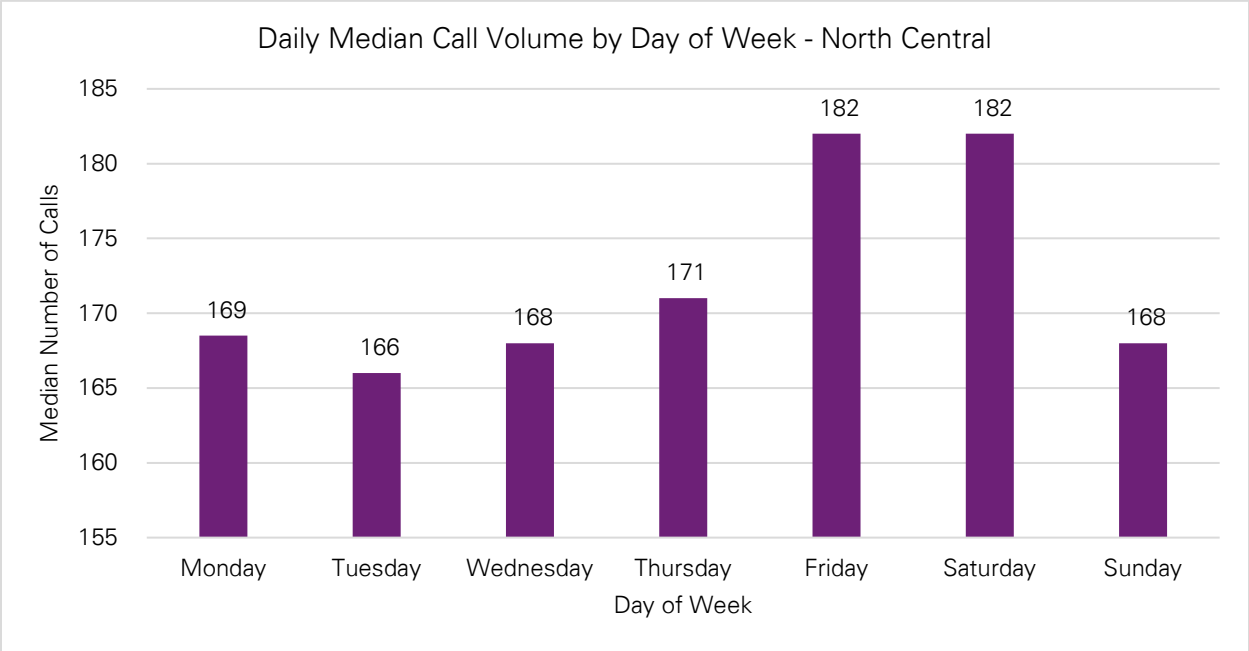
The graph below illustrates the annual call volume for the North Central division.



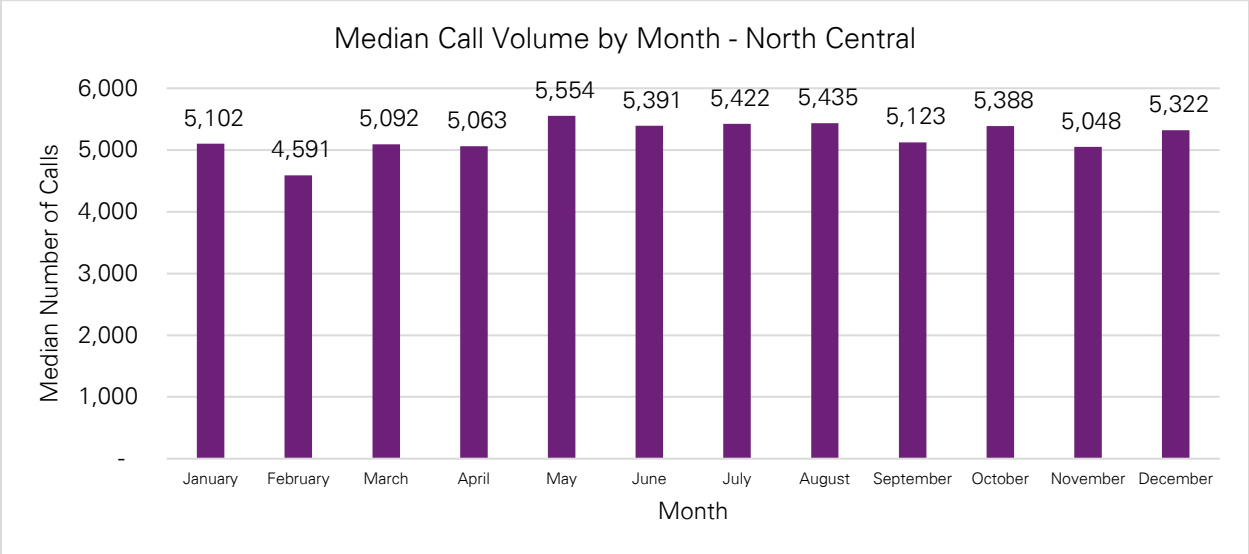
Median Call Volume by Hour of Day



Median Call Volume by Day of Week



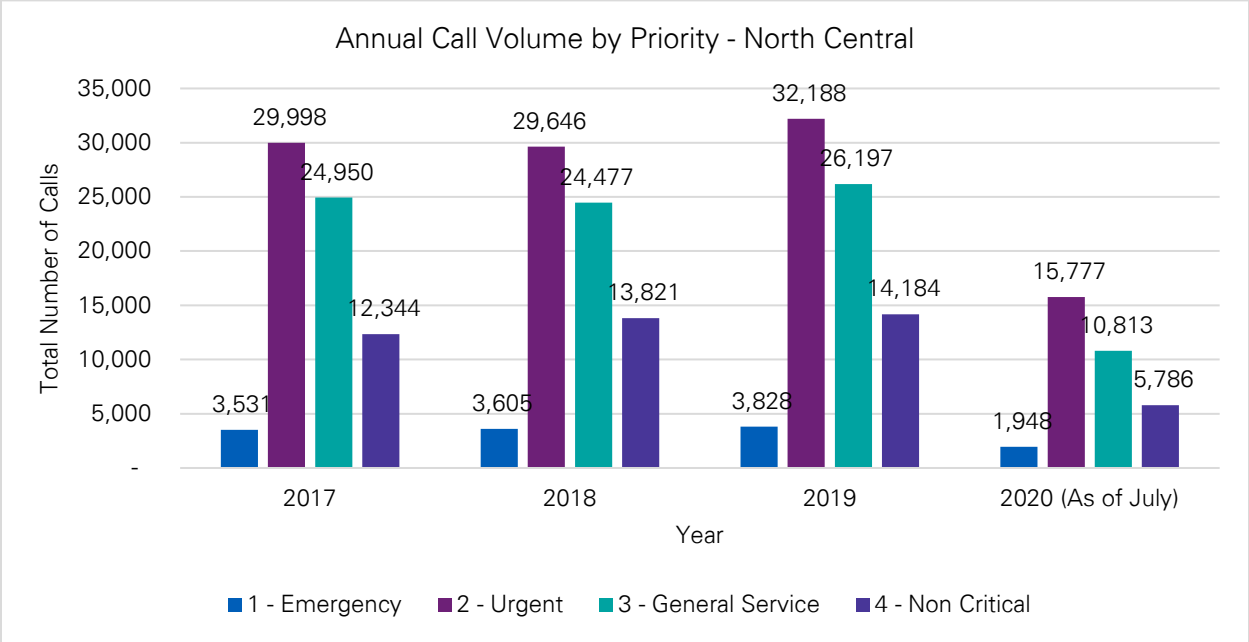
Median Call Volume by Month



Priority

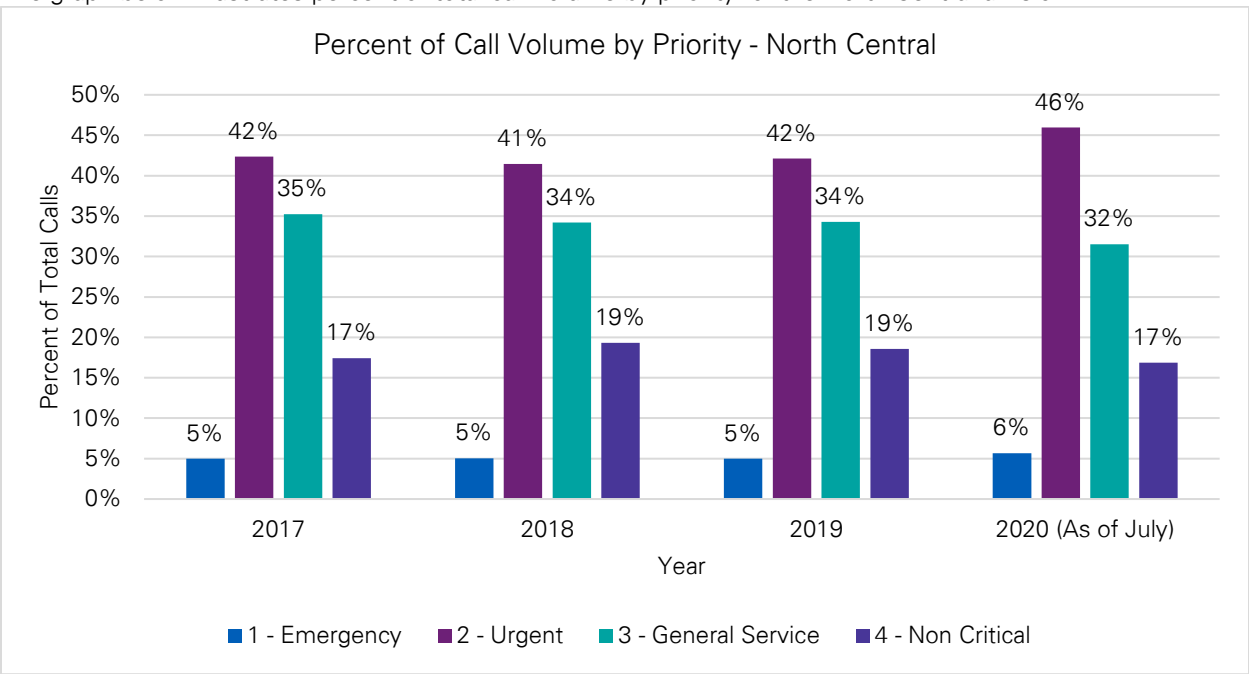
Annual Call Volume by Priority

The graph below illustrates annual call volume by priority for the North Central division.

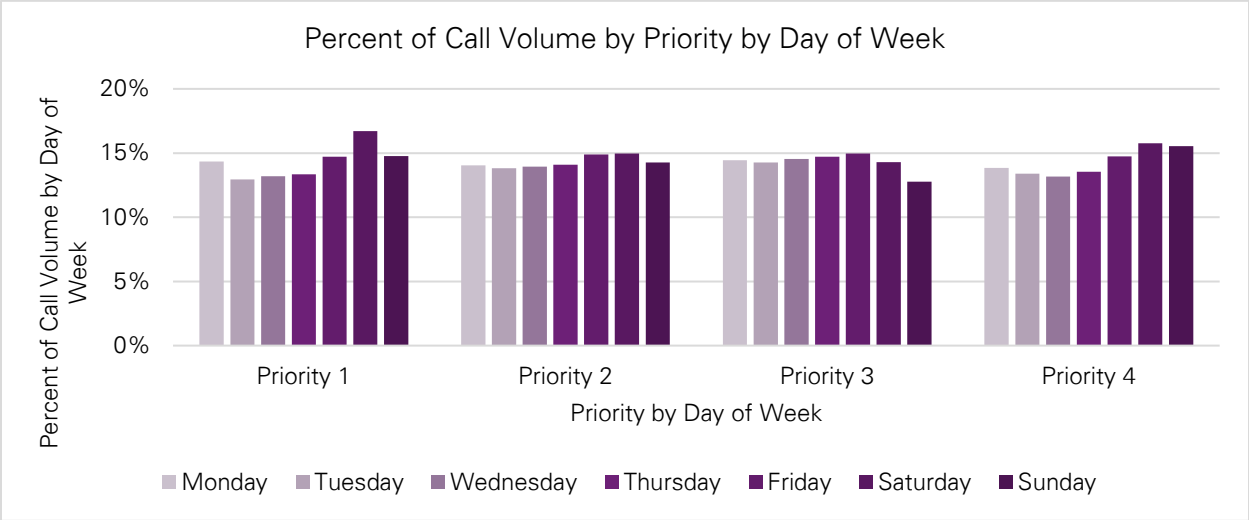


Percent of Total Call Volume by Priority

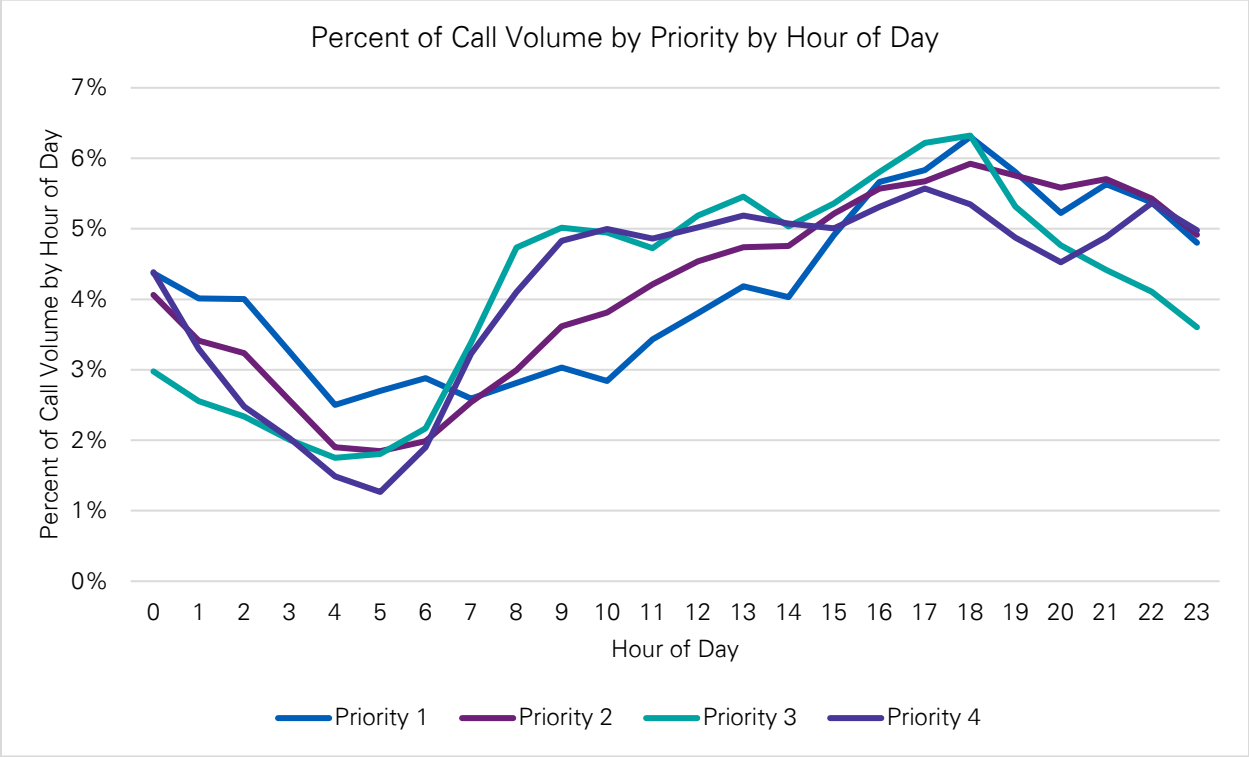
The graph below illustrates percent of total call volume by priority for the North Central division.



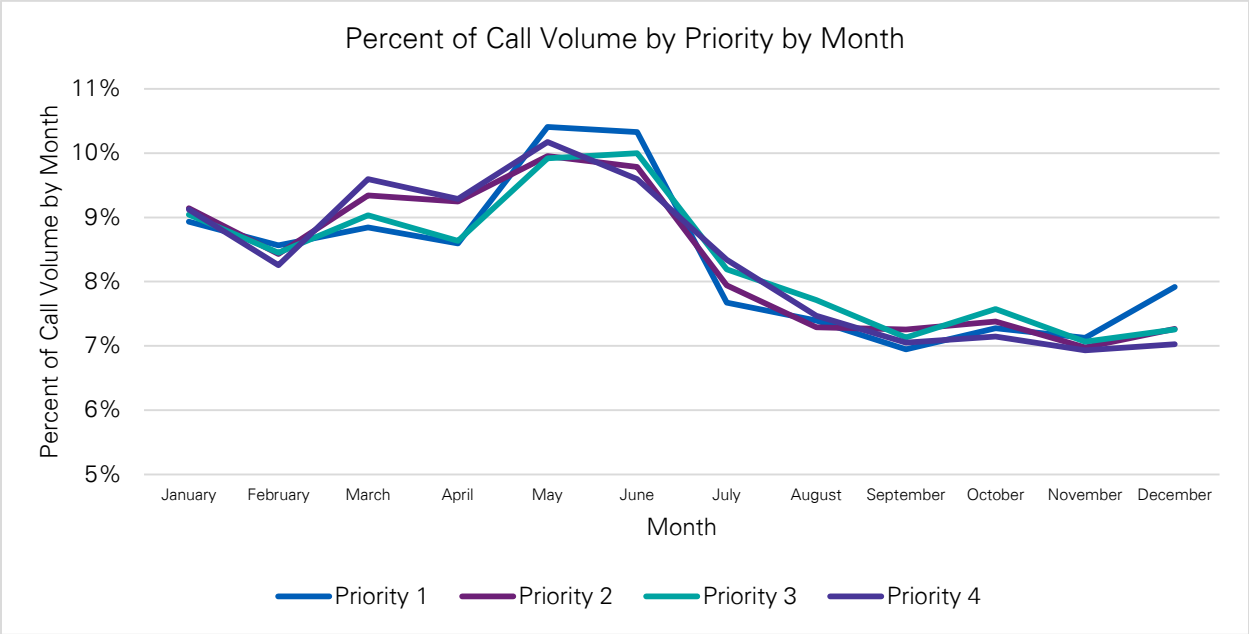
Percent of Call Volume by Priority by Day of Week



Percent of Call Volume by Priority by Hour of Day



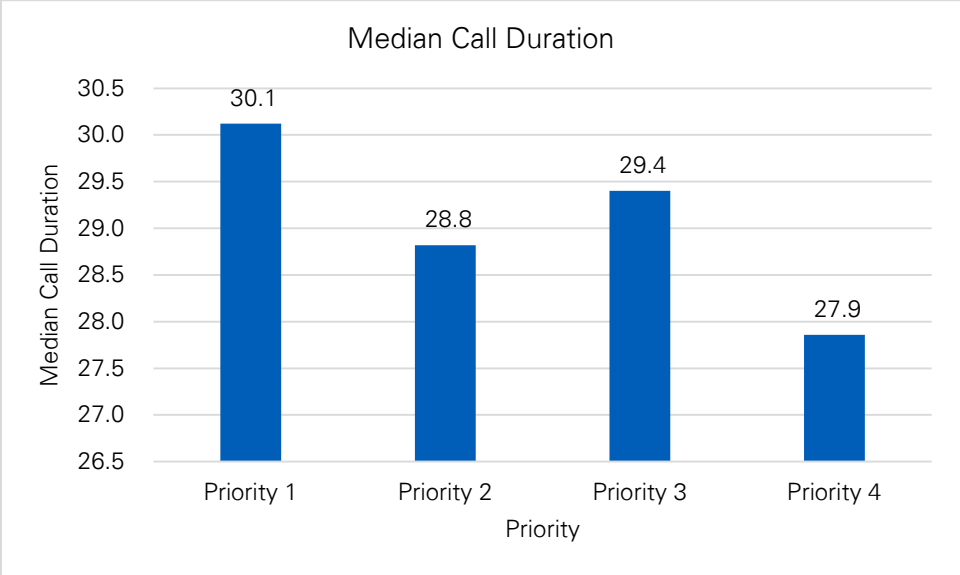
Percent of Call Volume by Priority by Month



Performance

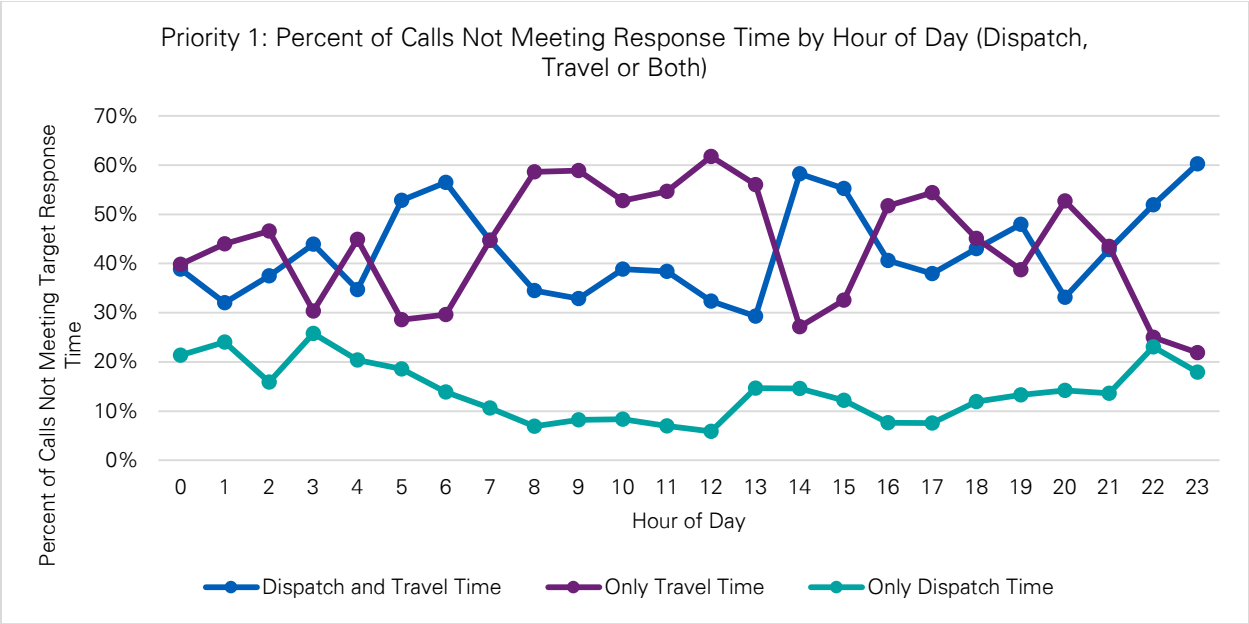
Median Call Time

The graph below illustrates the median call duration by priority for the North Central division.

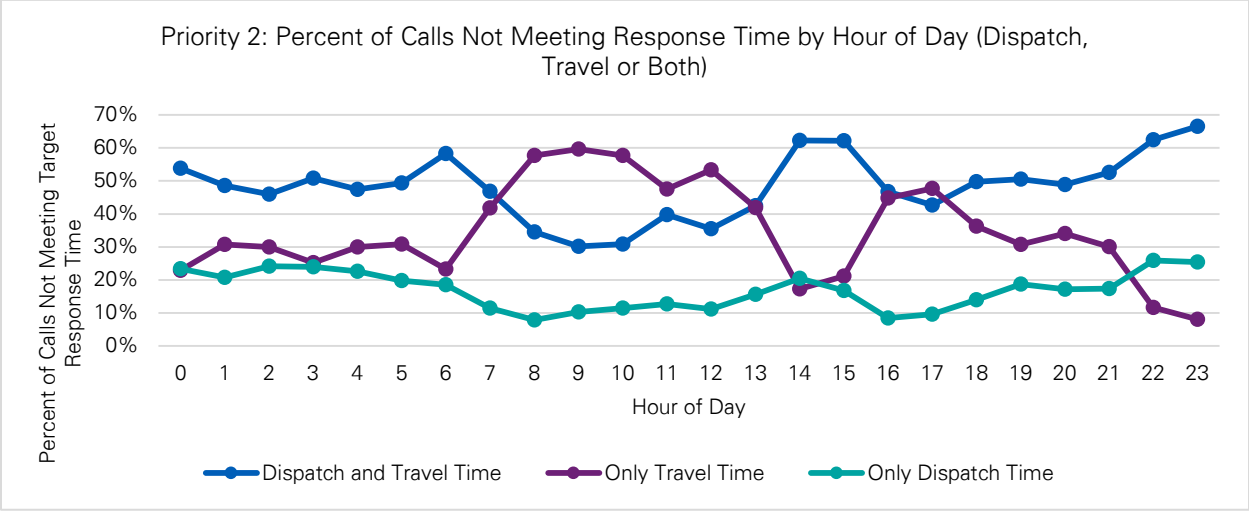


Percent of Calls Not Meeting Response Time by Hour of Day (Priority 1)

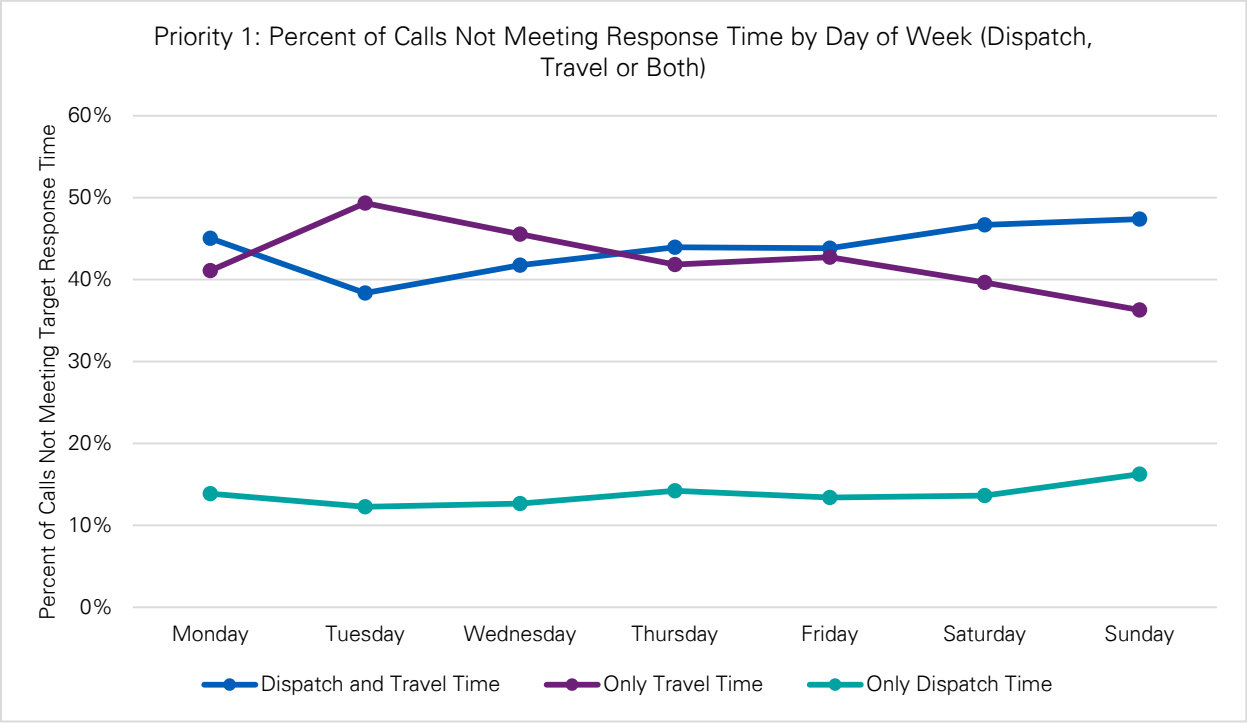
The graph below illustrates percent of calls failing to meet target Priority 1 response time by hour of day for the North Central division.



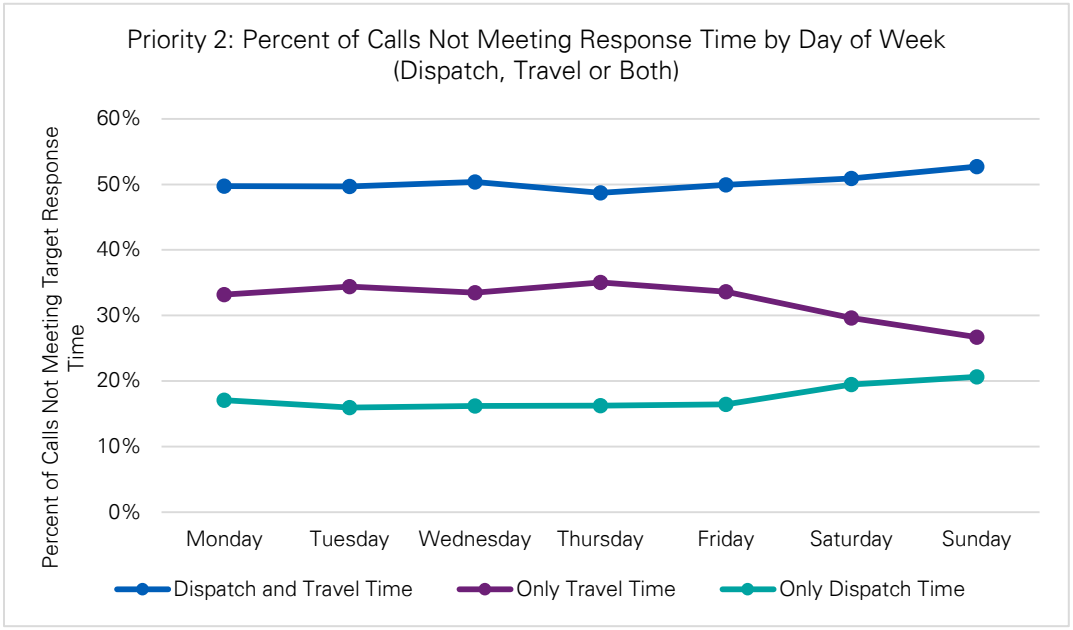
Percent of Calls Not Meeting Response Time by Hour of Day (Priority 2)



Percent of Calls Not Meeting Response Time by Day of Week (Priority 1)



Percent of Calls Not Meeting Response Time by Day of Week (Priority 2)



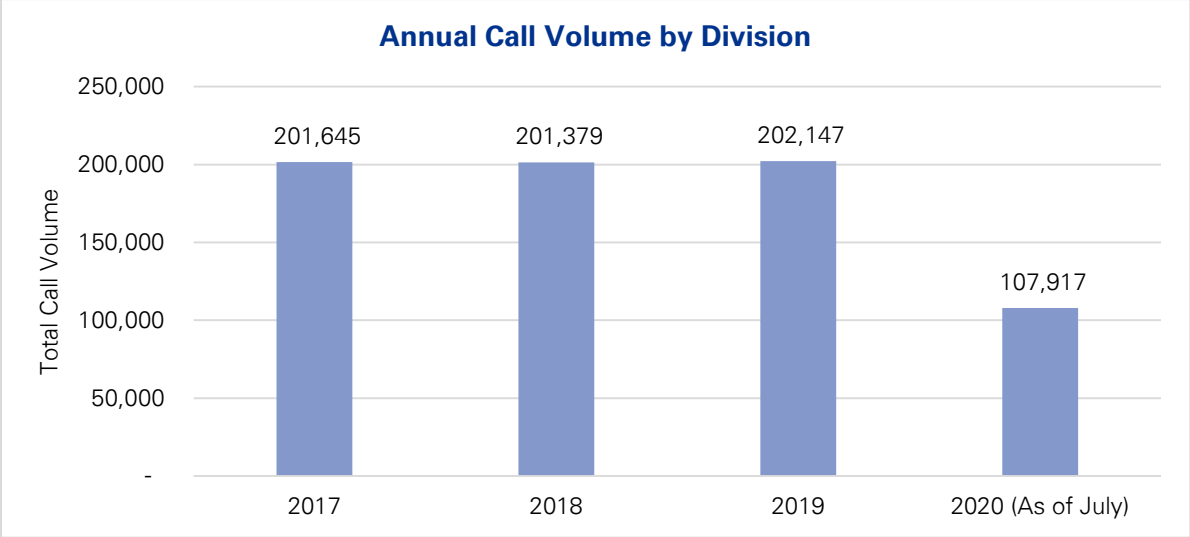
Northeast Division

The graphs below show the data analysis for the Northeast division by topic.

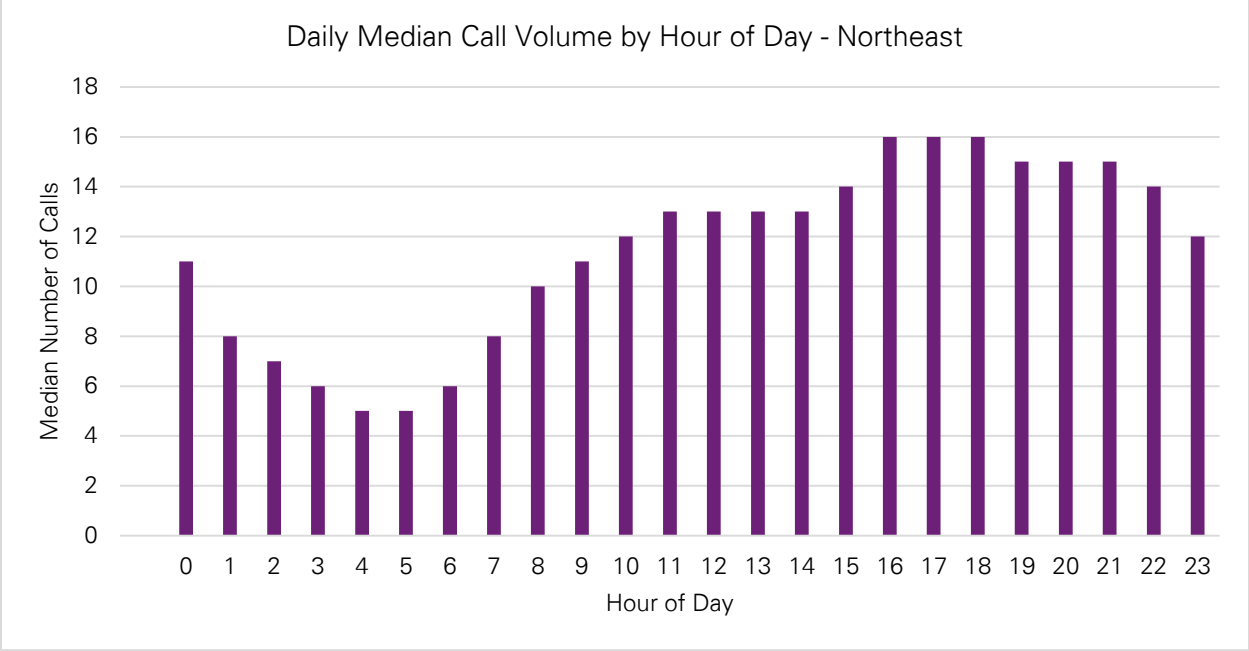
Call Volume

Annual Total Call Volume

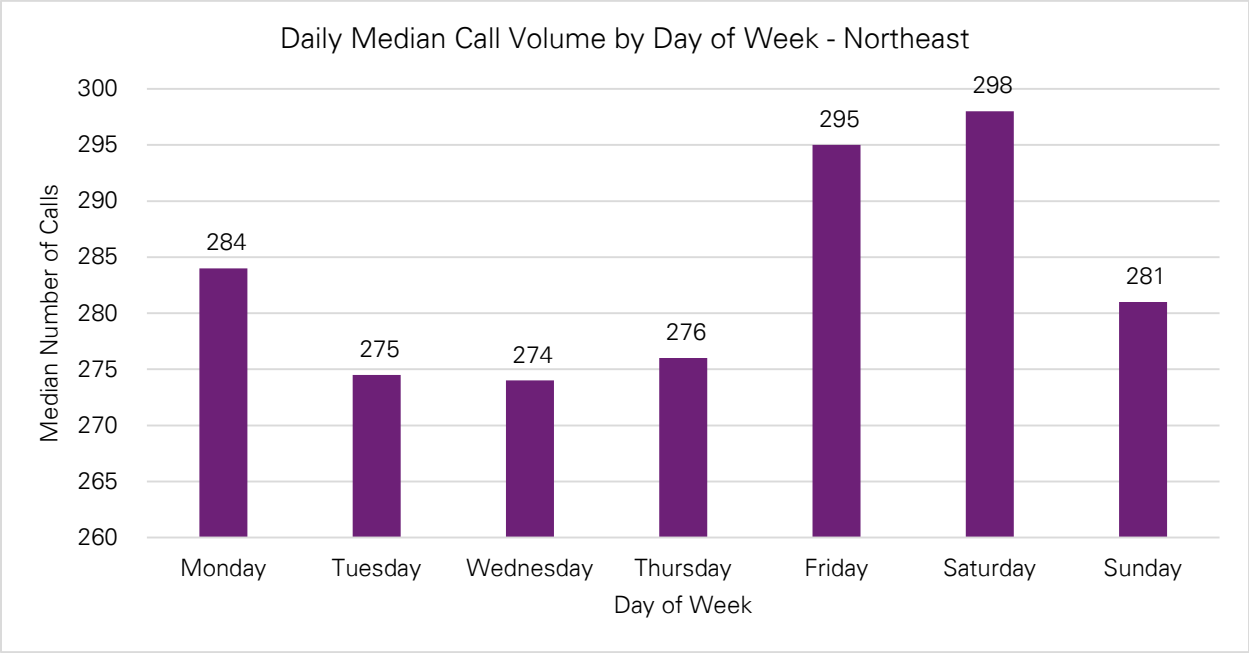
The graph below illustrates the annual call volume for the Northeast division.



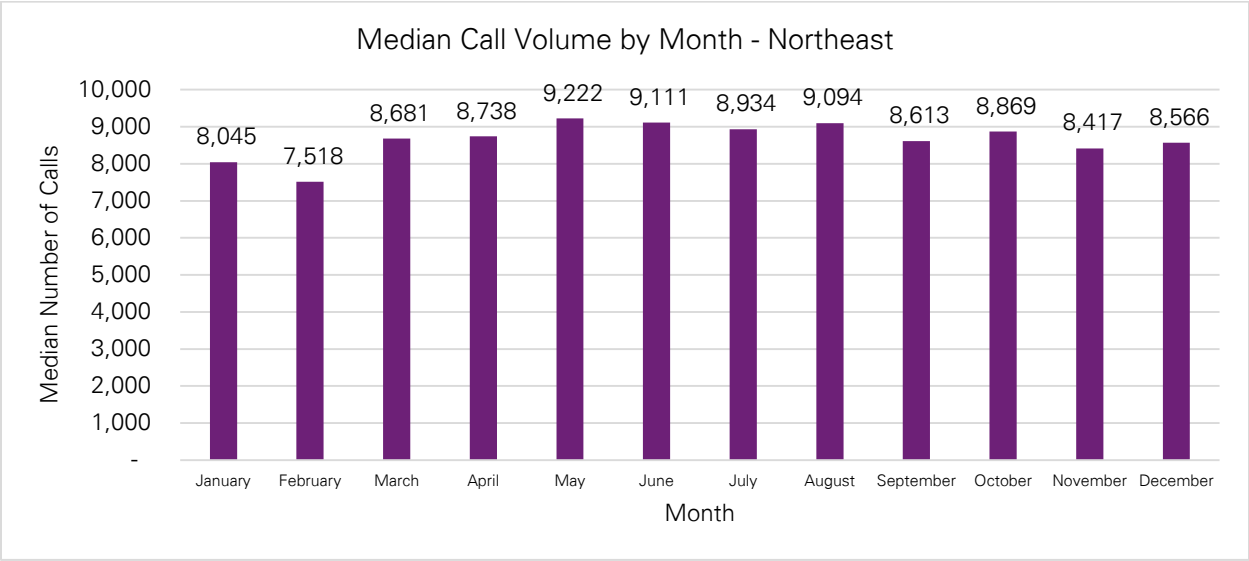
Median Call Volume by Hour of Day



Median Call Volume by Day of Week



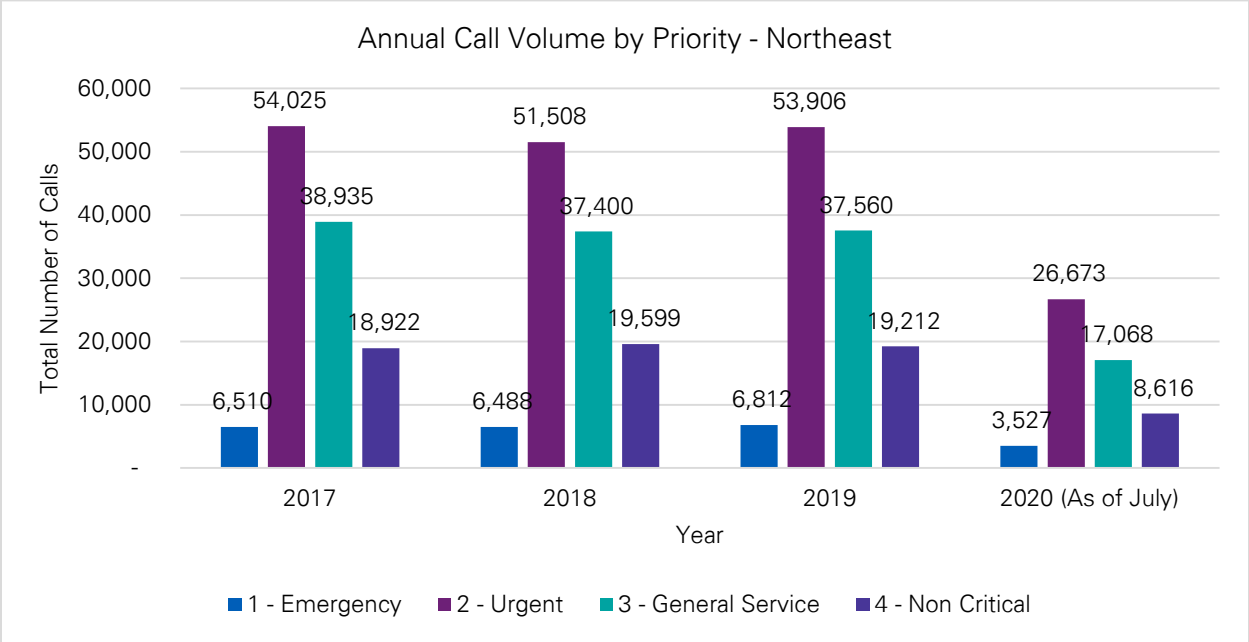
Median Call Volume by Month



Priority

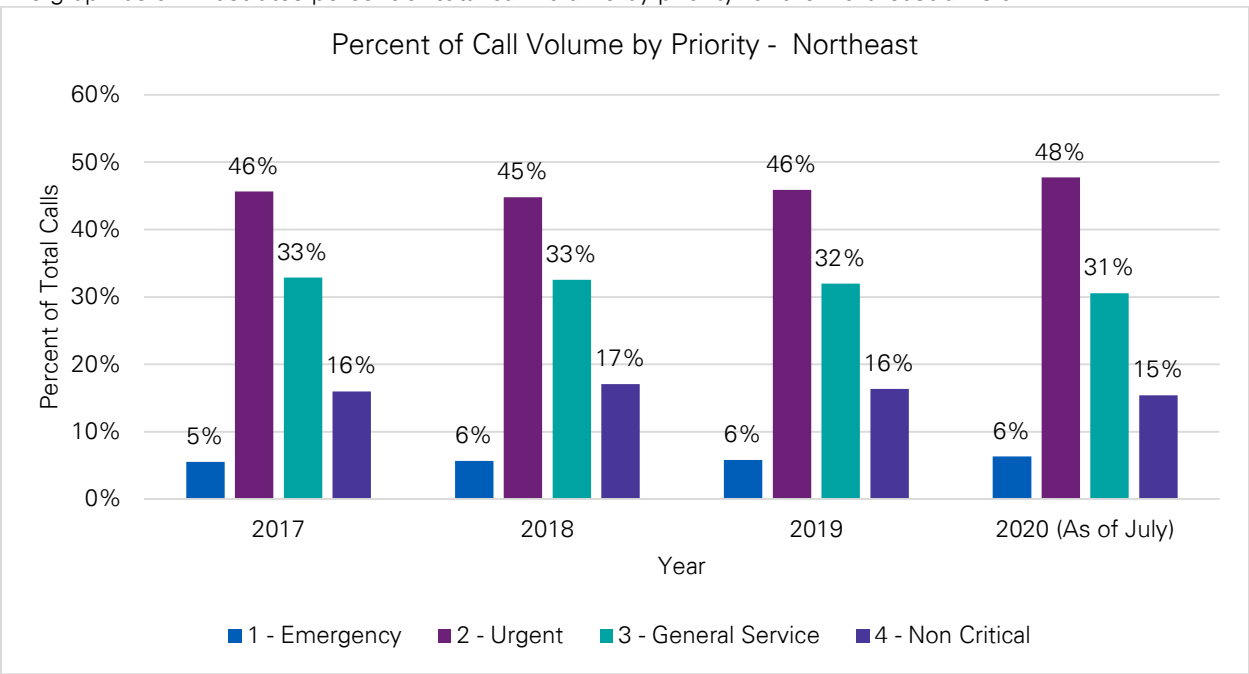
Annual Call Volume by Priority

The graph below illustrates annual call volume by priority for the Northeast division.

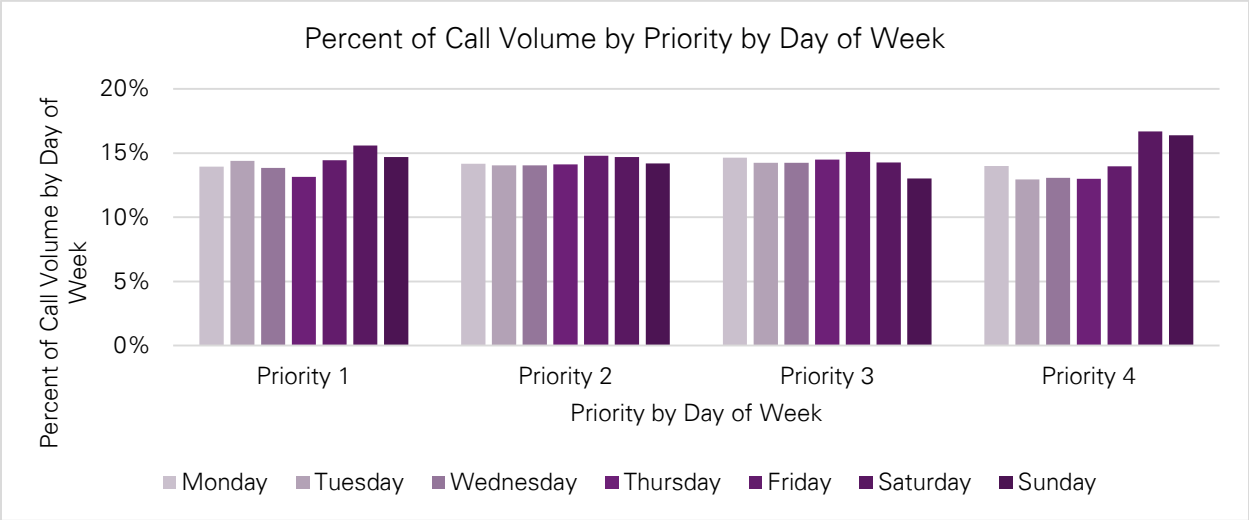


Percent of Total Call Volume by Priority

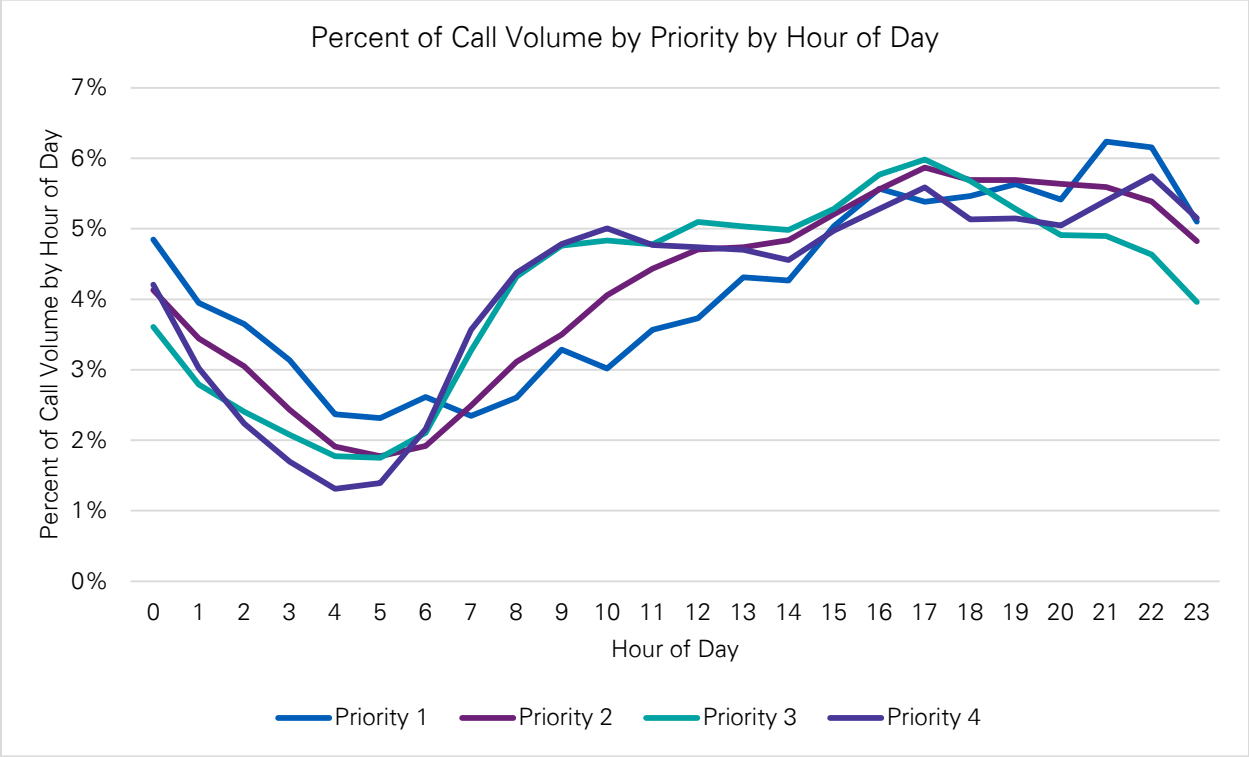
The graph below illustrates percent of total call volume by priority for the Northeast division.



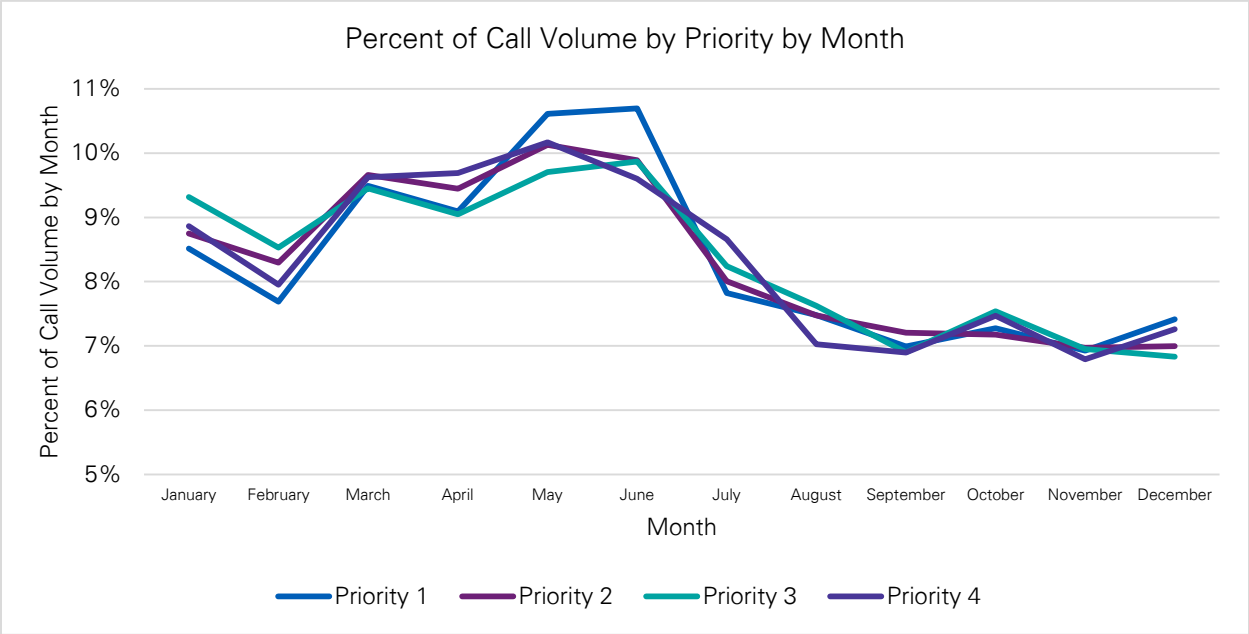
Percent of Call Volume by Priority by Day of Week



Percent of Call Volume by Priority by Hour of Day



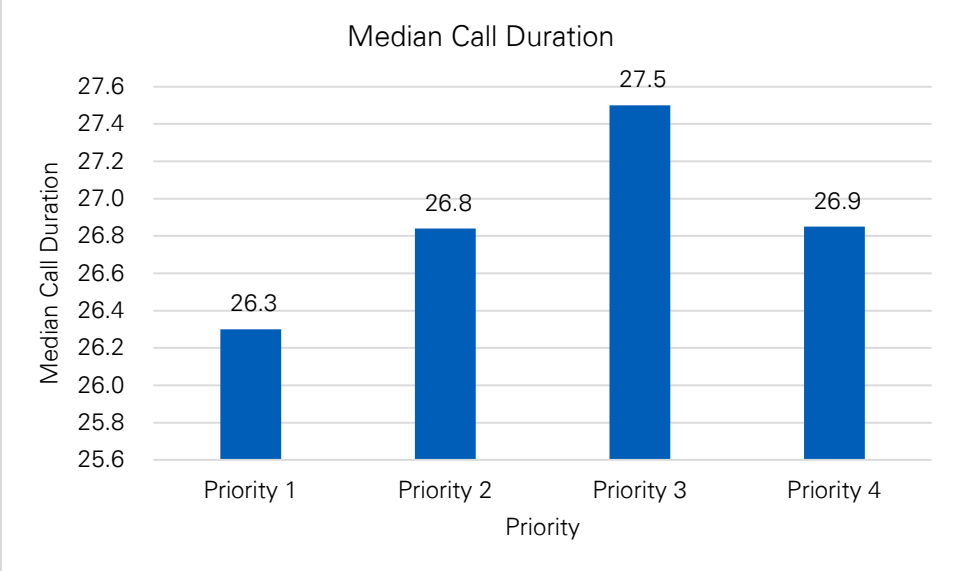
Percent of Call Volume by Priority by Month



Performance

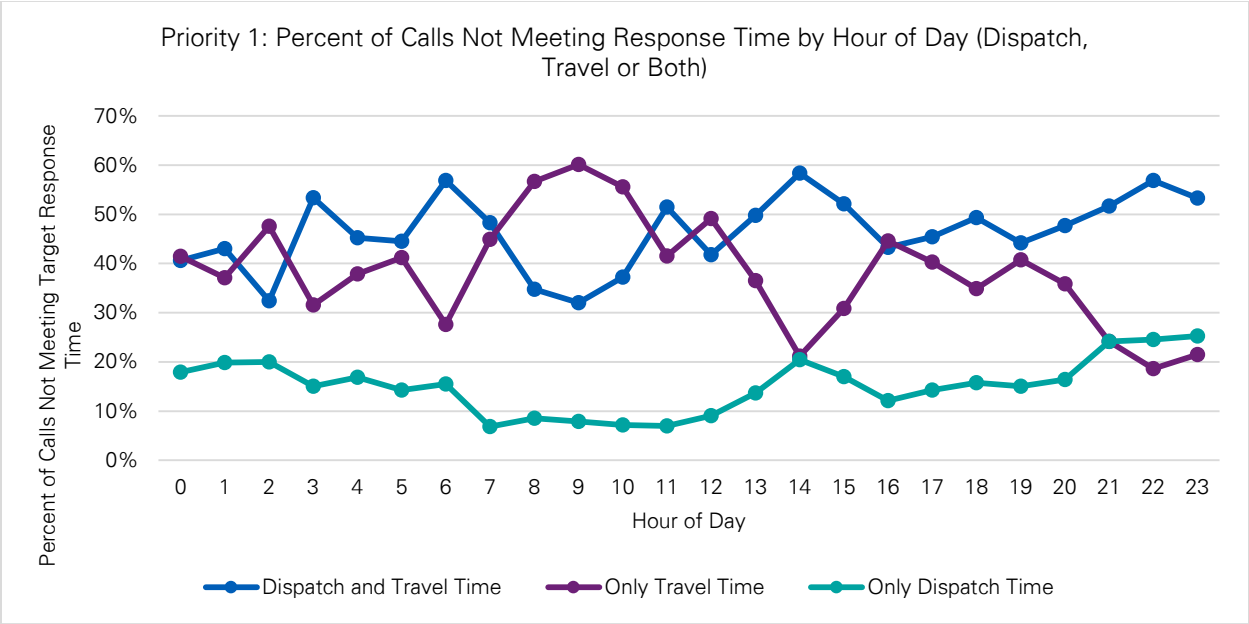
Median Call Time

The graph below illustrates the median call duration by priority for the Northeast division.

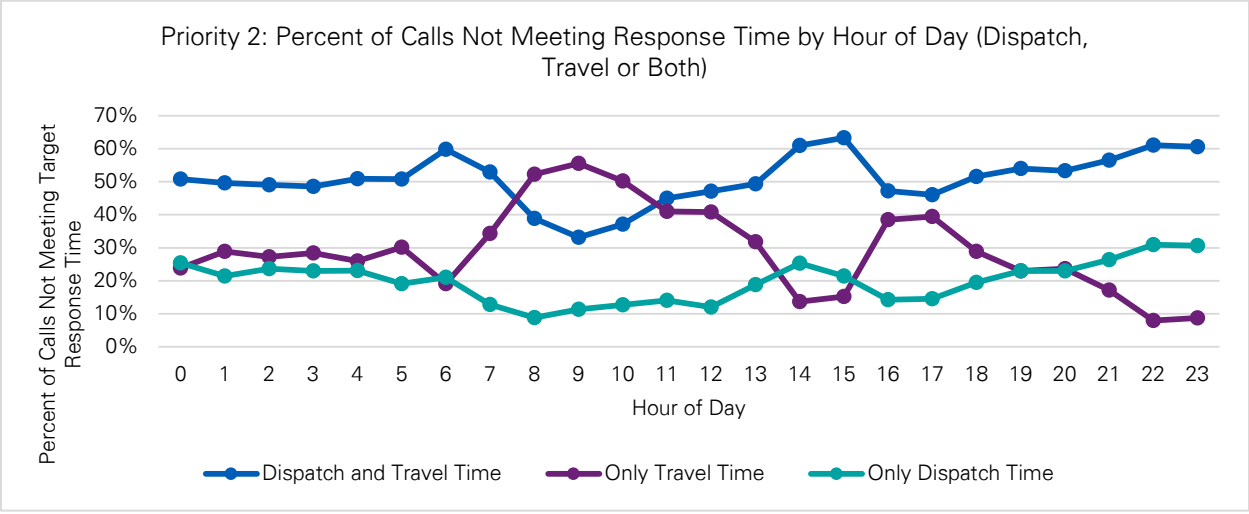


Percent of Calls Not Meeting Response Time by Hour of Day (Priority 1)

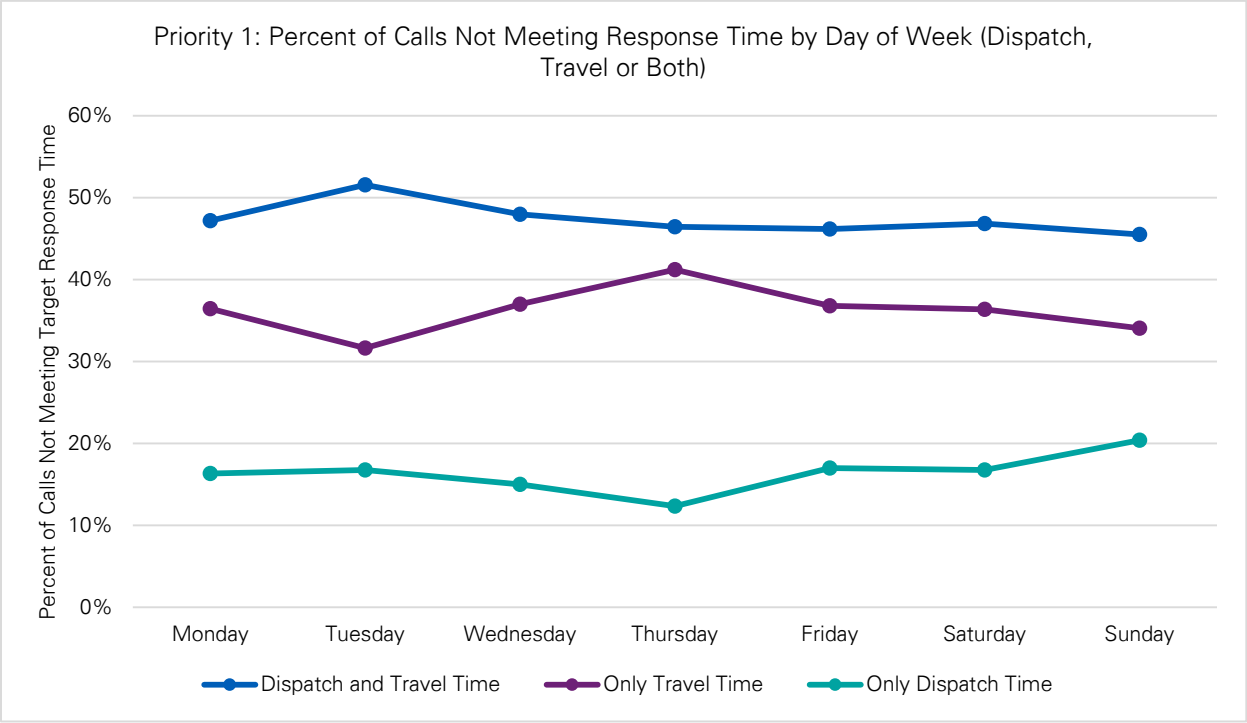
The graph below illustrates percent of calls failing to meet target Priority 1 response time by hour of day for the Northeast division.



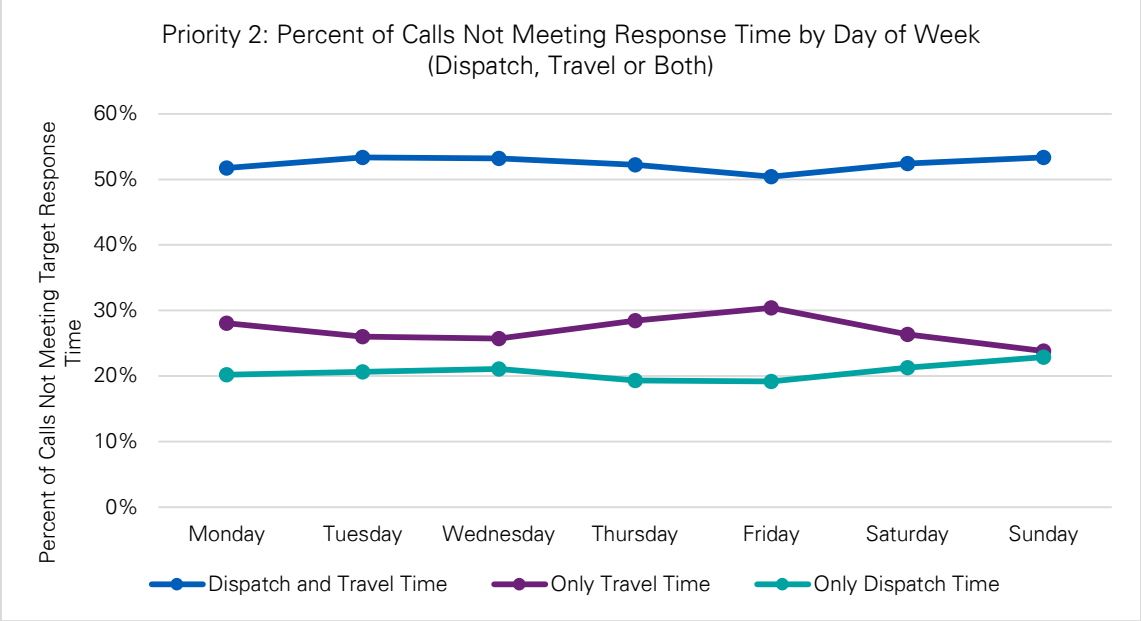
Percent of Calls Not Meeting Response Time by Hour of Day (Priority 2)



Percent of Calls Not Meeting Response Time by Day of Week (Priority 1)



Percent of Calls Not Meeting Response Time by Day of Week (Priority 2)



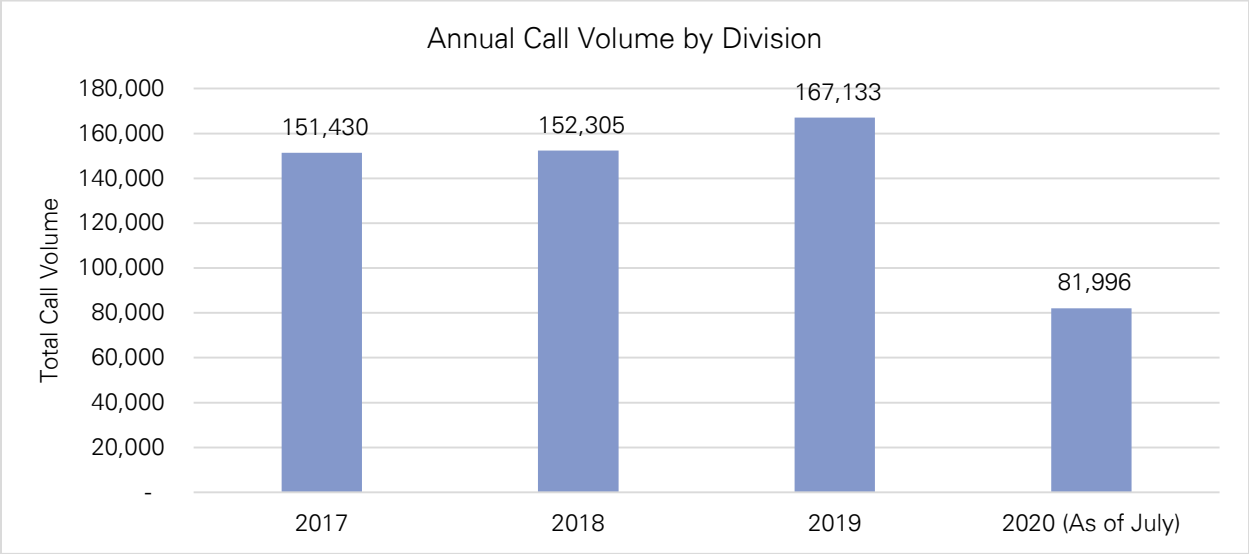
Northwest Division

The graphs below show the data analysis for the Northwest division by topic.

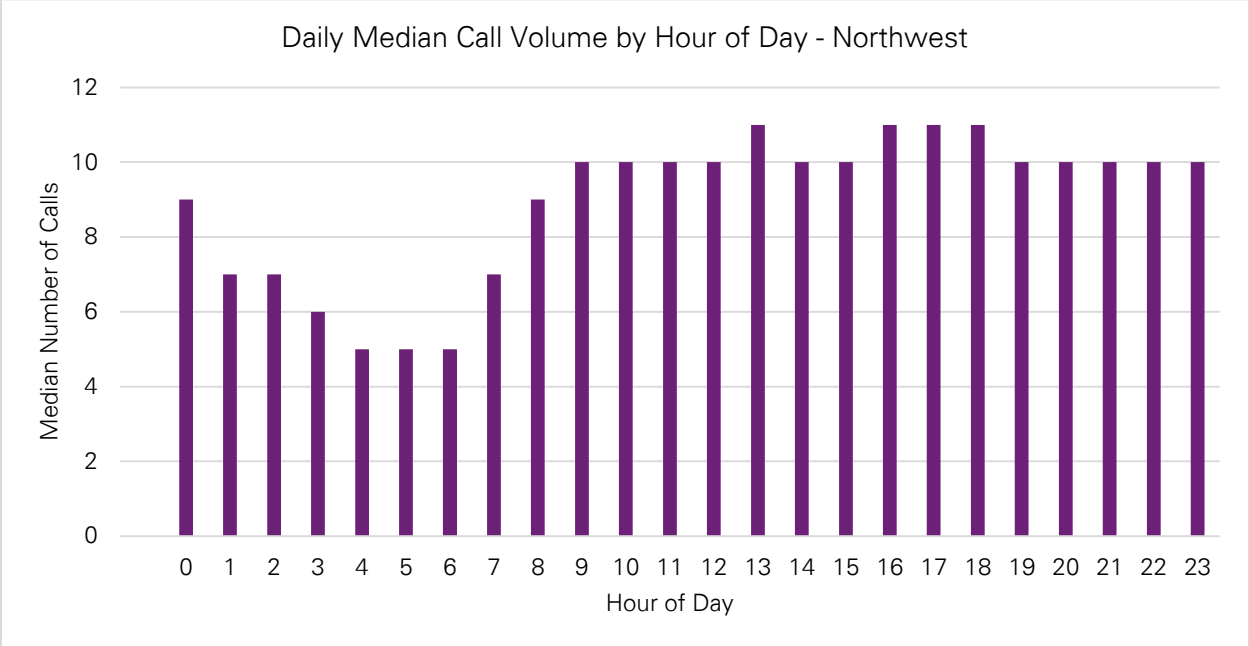
Call Volume

Annual Total Call Volume

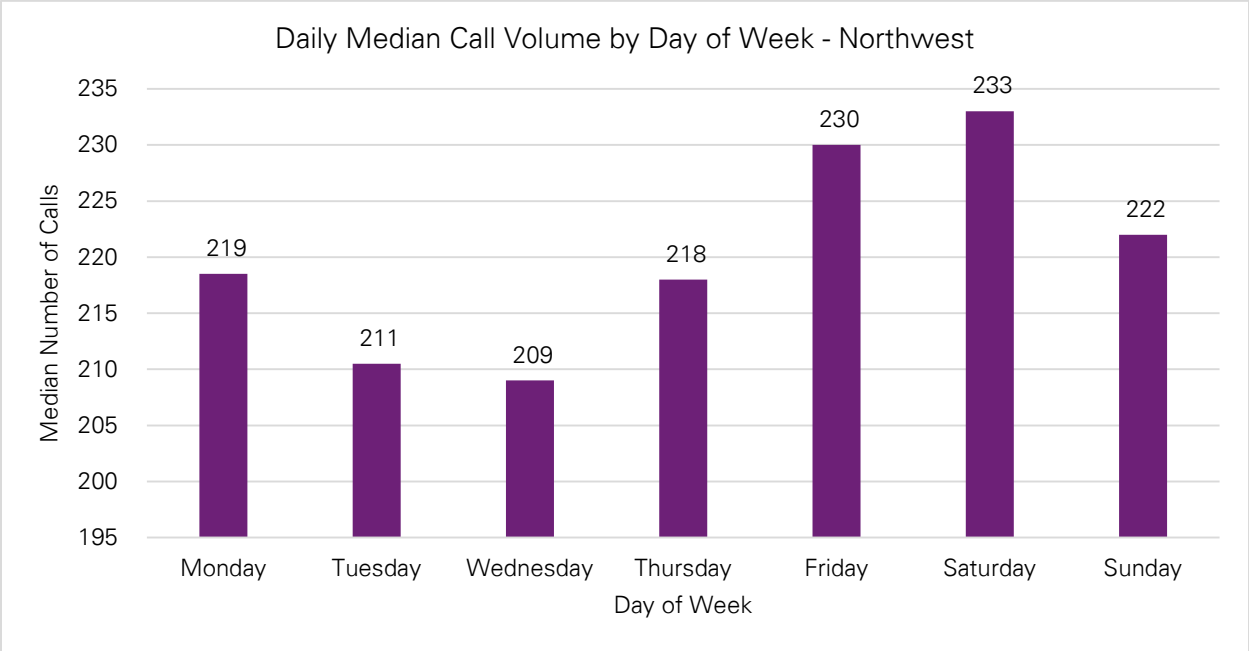
The graph below illustrates the annual call volume for the Northwest division.



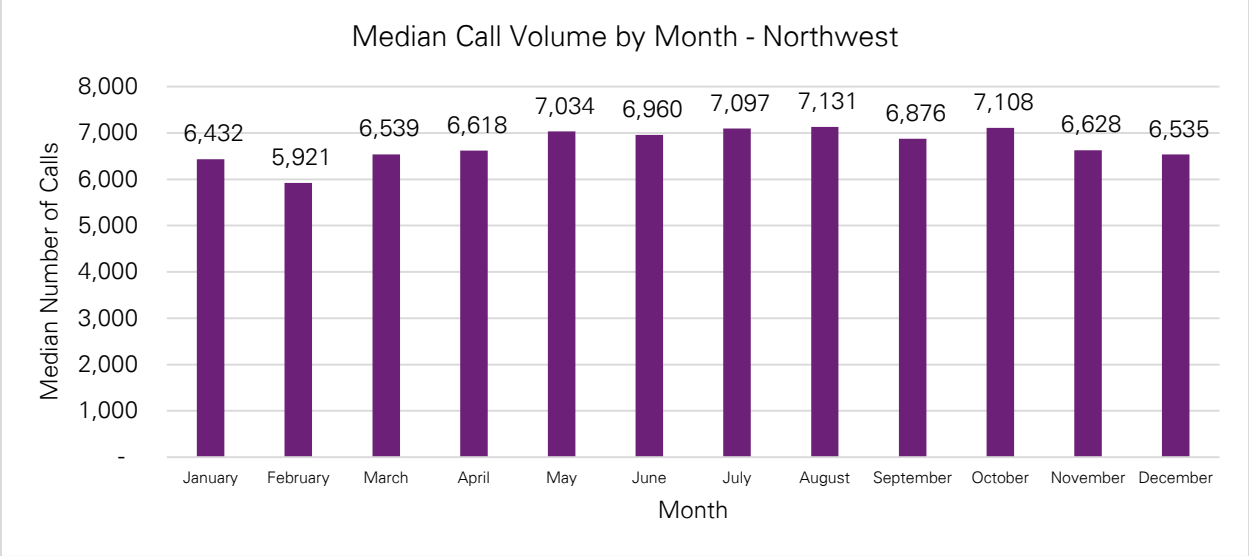
Median Call Volume by Hour of Day



Median Call Volume by Day of Week



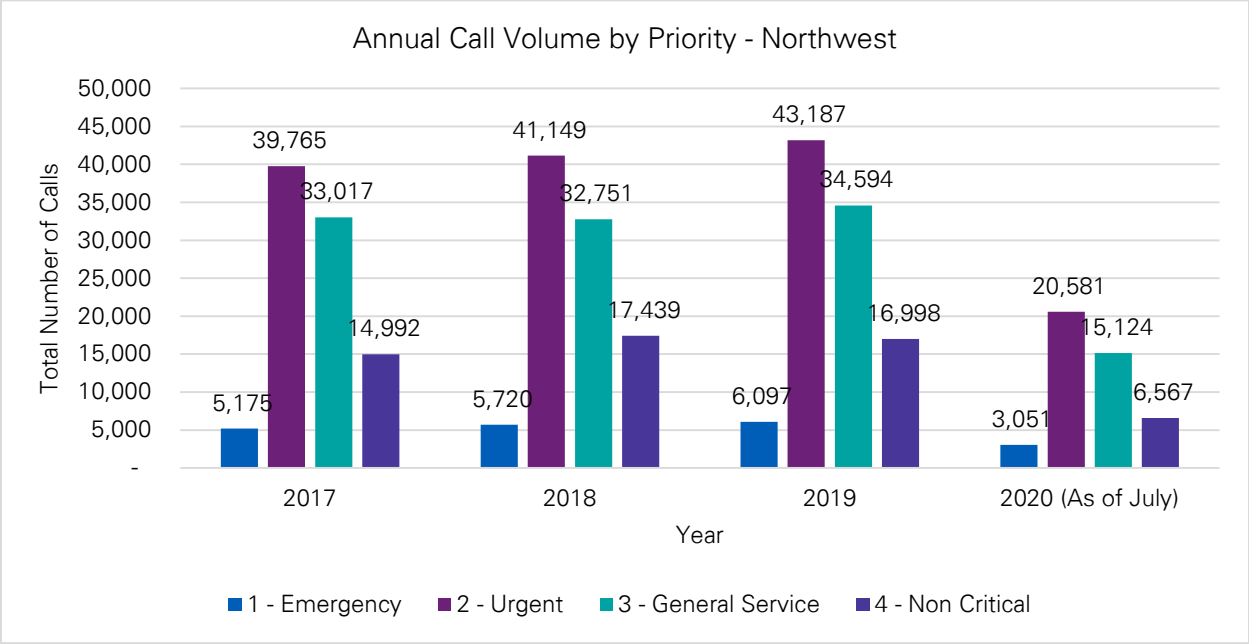
Median Call Volume by Month



Priority

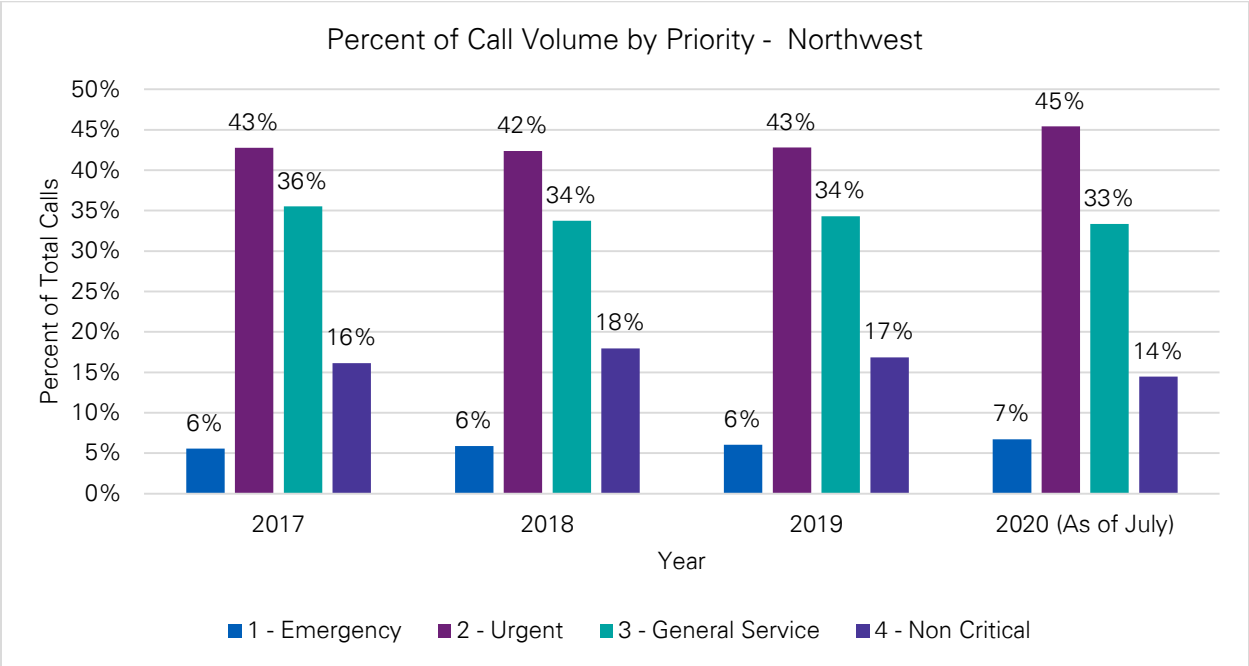
Annual Call Volume by Priority

The graph below illustrates annual call volume by priority for the Northwest division.

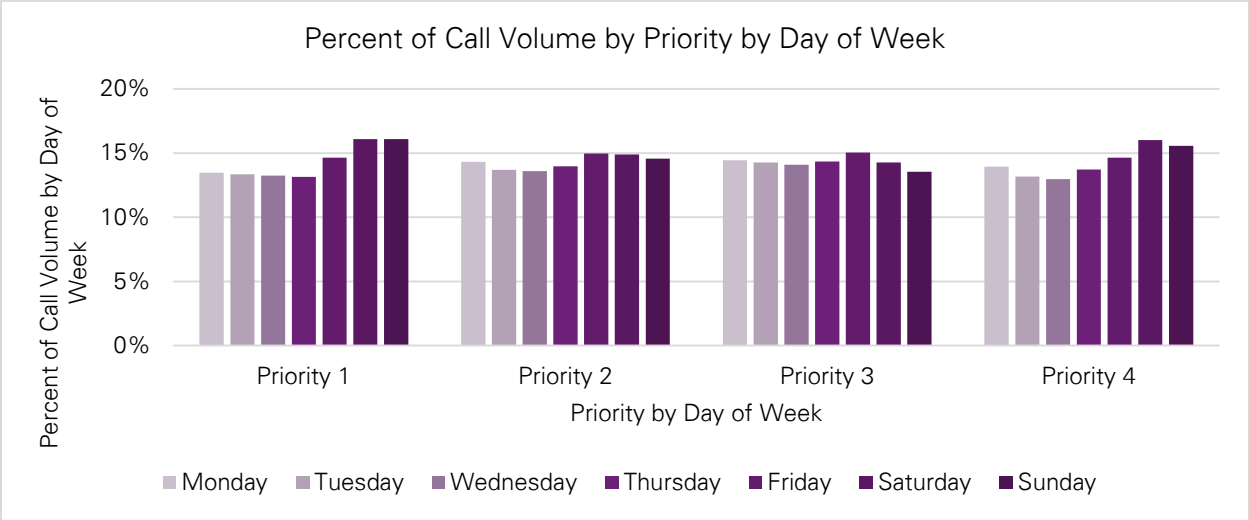


Percent of Total Call Volume by Priority

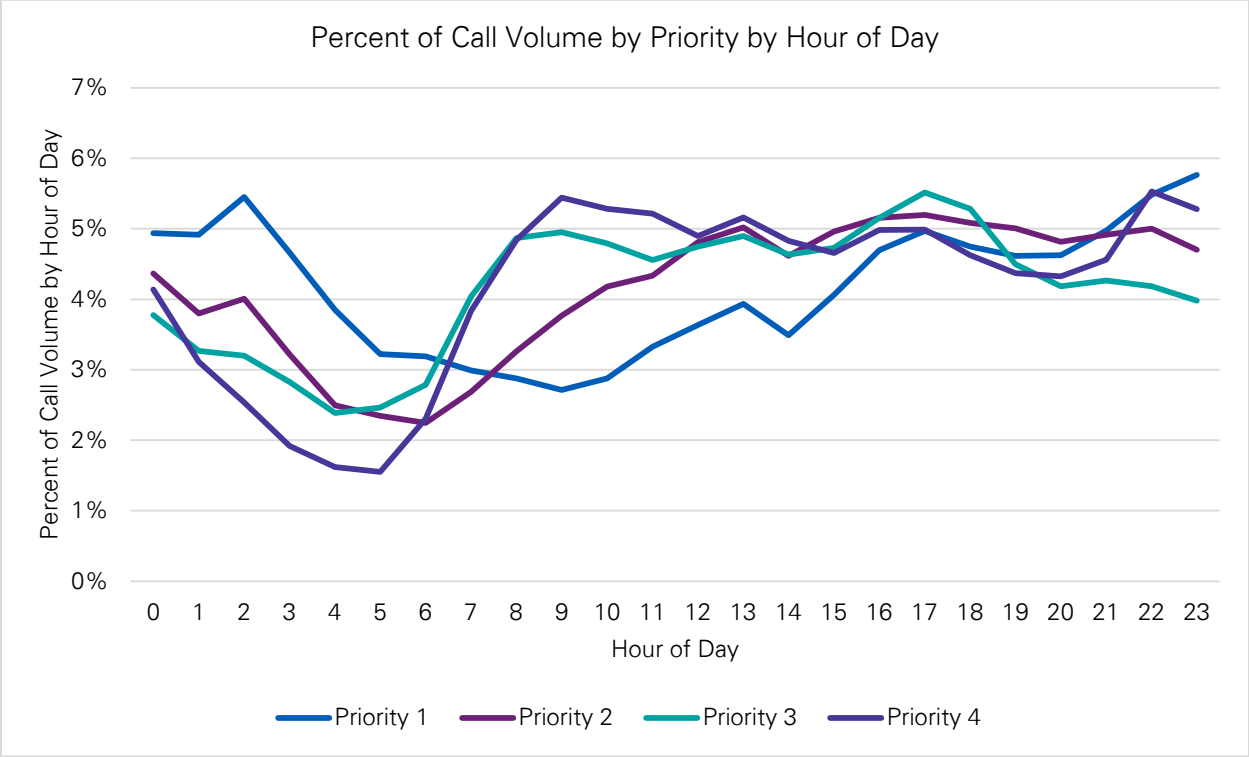
The graph below illustrates percent of total call volume by priority for the Northwest division.



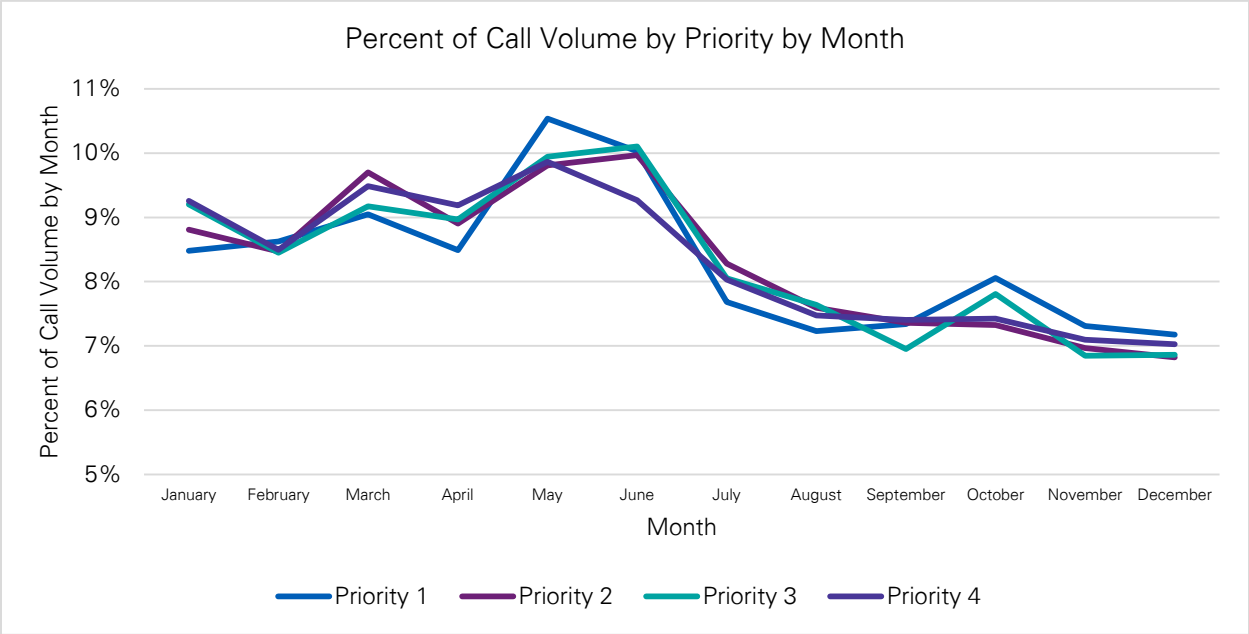
Percent of Call Volume by Priority by Day of Week



Percent of Call Volume by Priority by Hour of Day



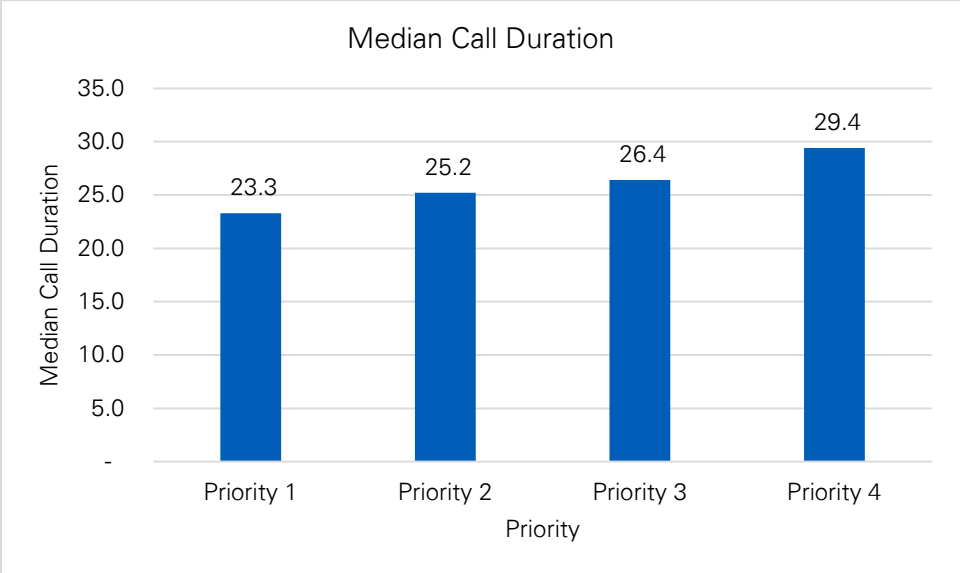
Percent of Call Volume by Priority by Month



Performance

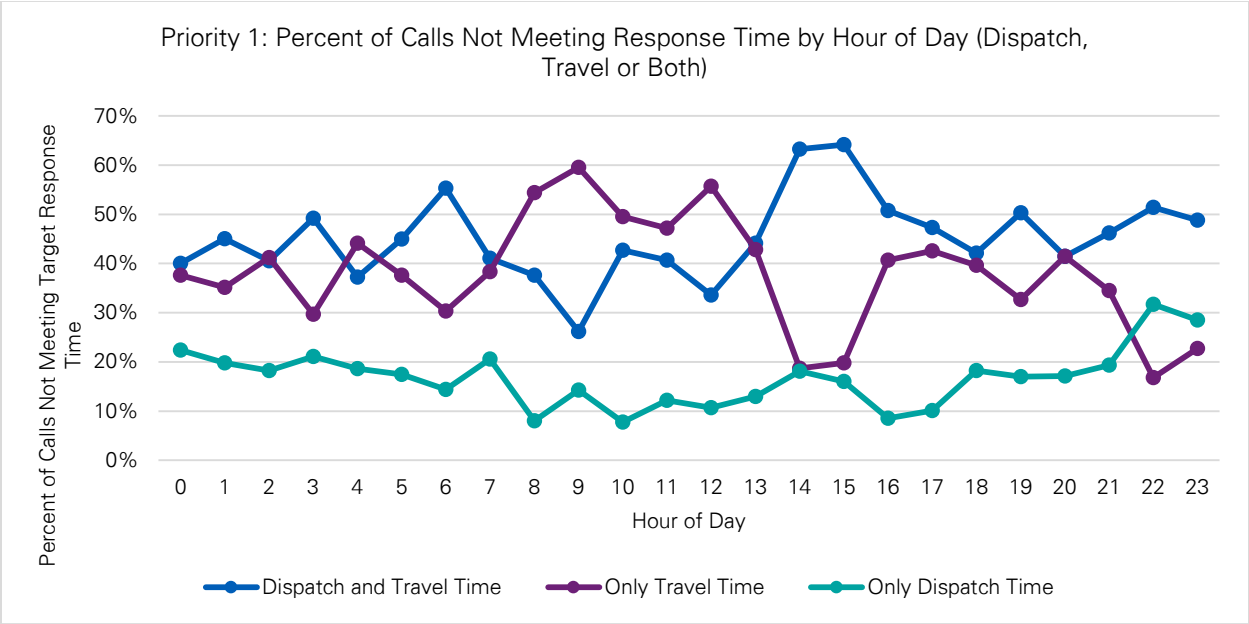
Median Call Time

The graph below illustrates the median call duration by priority for the Northwest division.

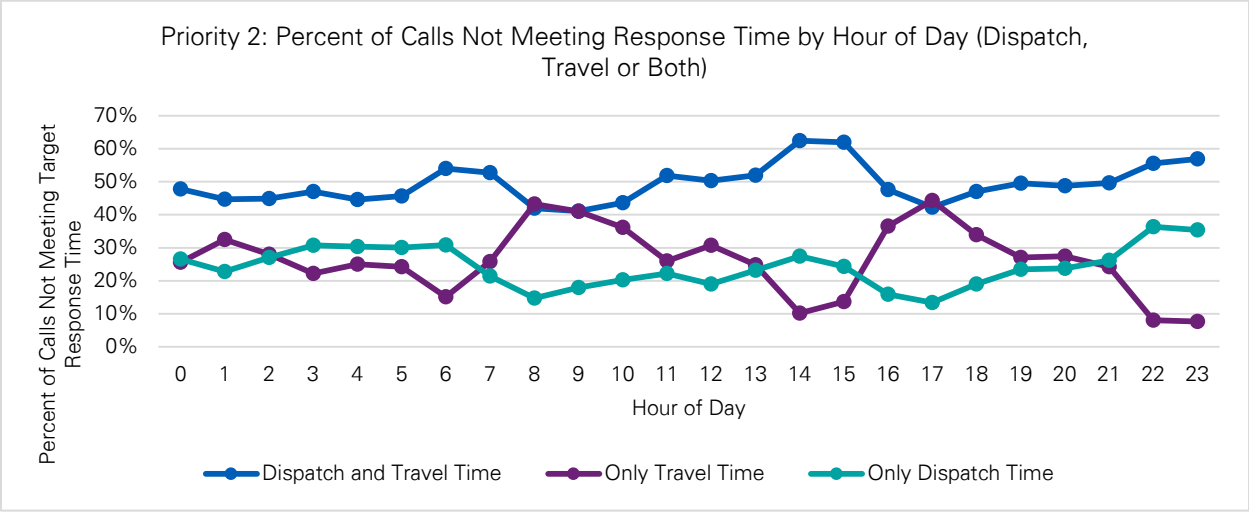


Percent of Calls Not Meeting Response Time by Hour of Day (Priority 1)

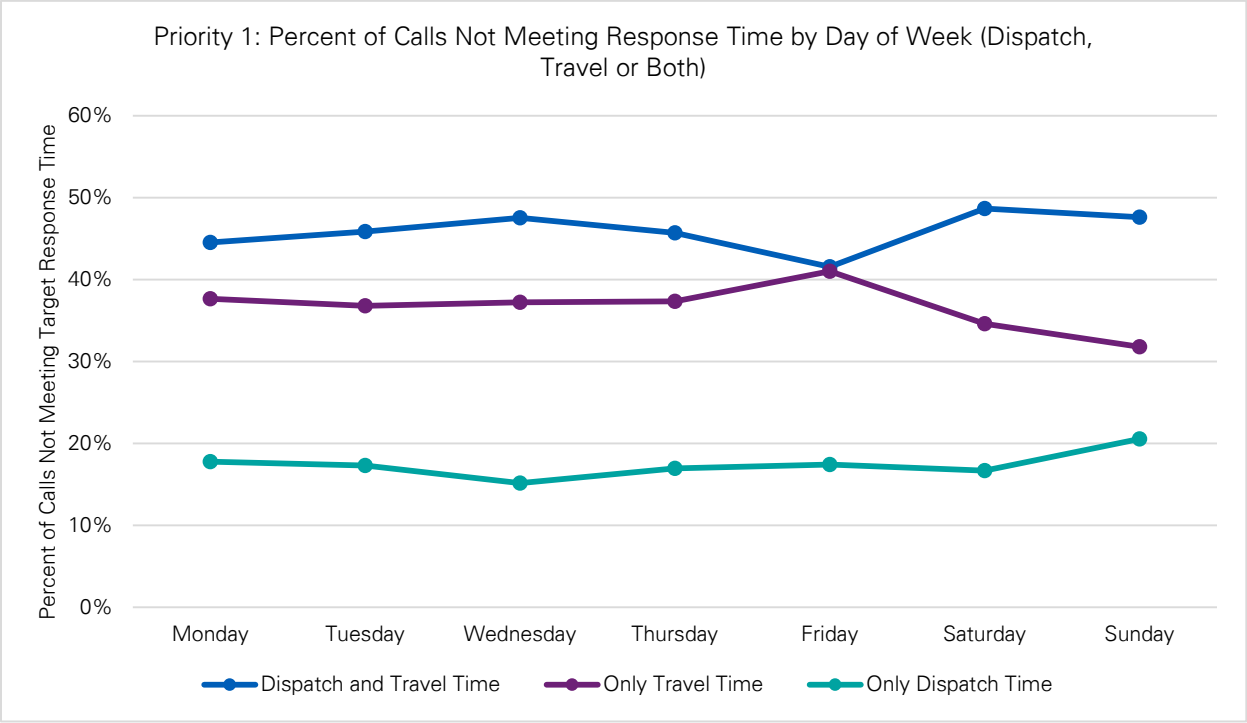
The graph below illustrates percent of calls failing to meet target Priority 1 response time by hour of day for the Northwest division.



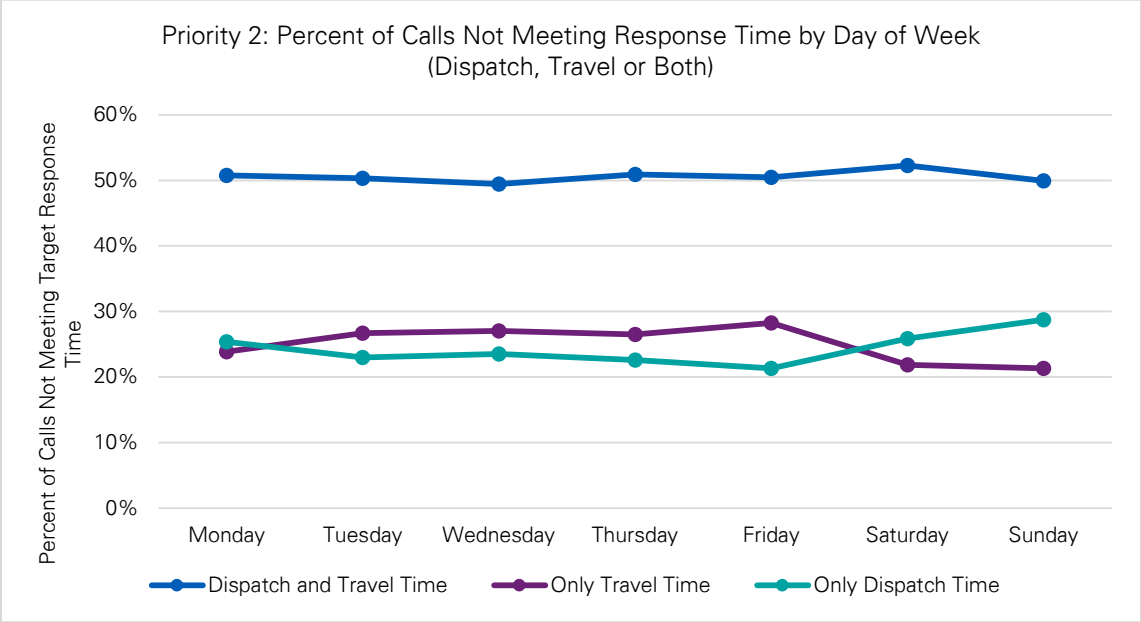
Percent of Calls Not Meeting Response Time by Hour of Day (Priority 2)



Percent of Calls Not Meeting Response Time by Day of Week (Priority 1)



Percent of Calls Not Meeting Response Time by Day of Week (Priority 2)



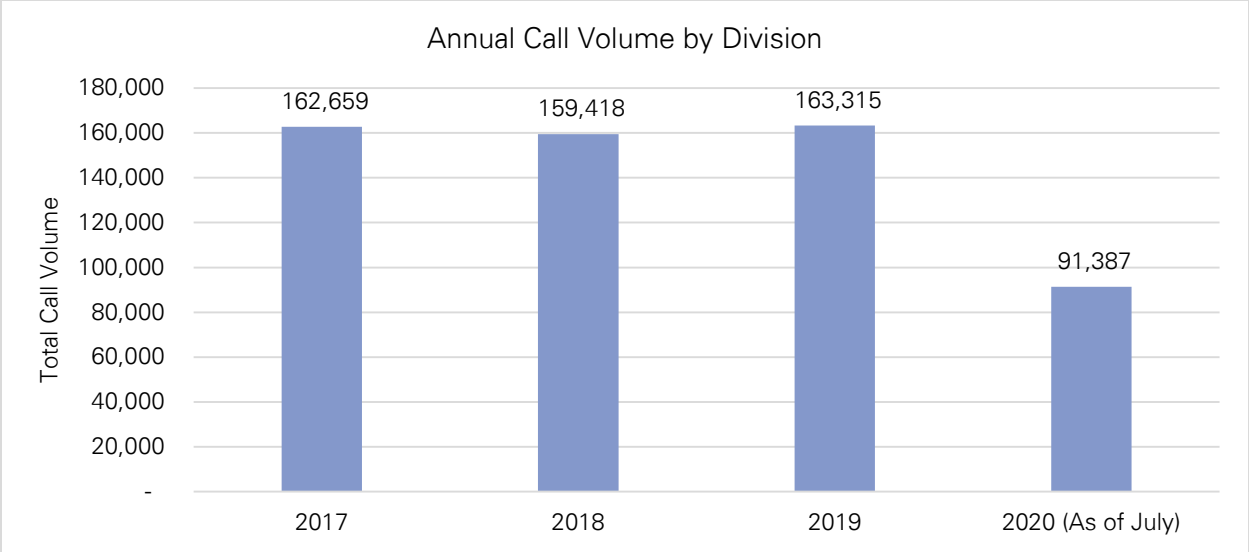
South Central Division

The graphs below show the data analysis for the South Central division by topic.

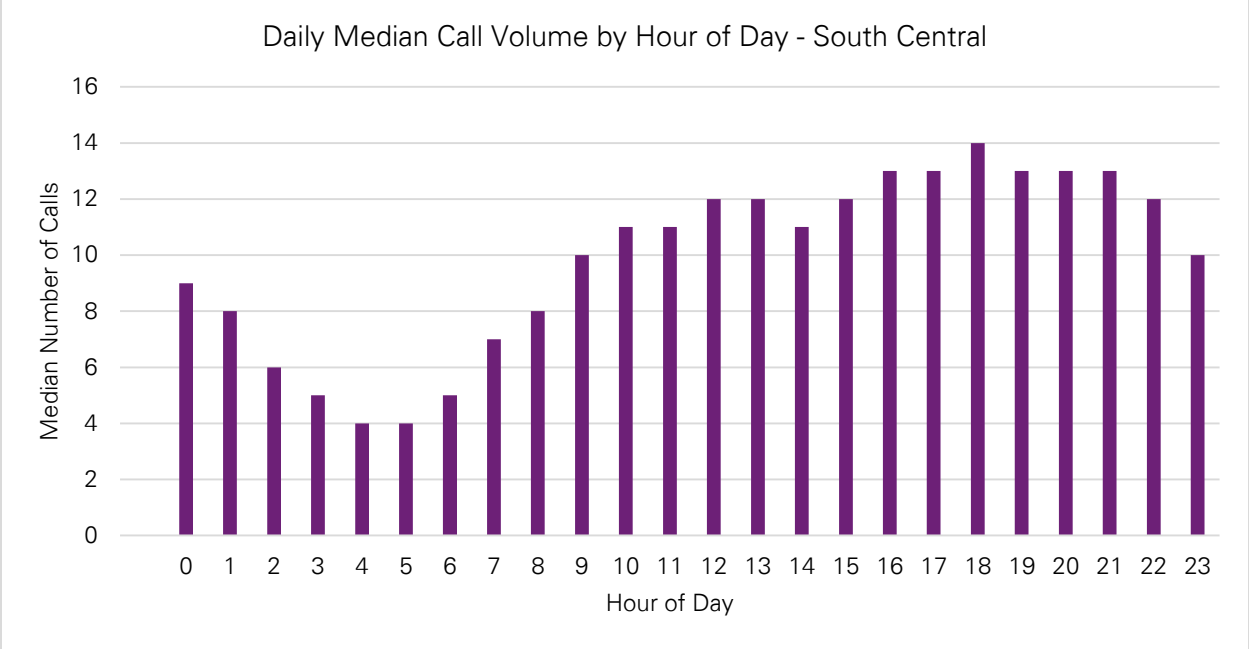
Call Volume

Annual Total Call Volume

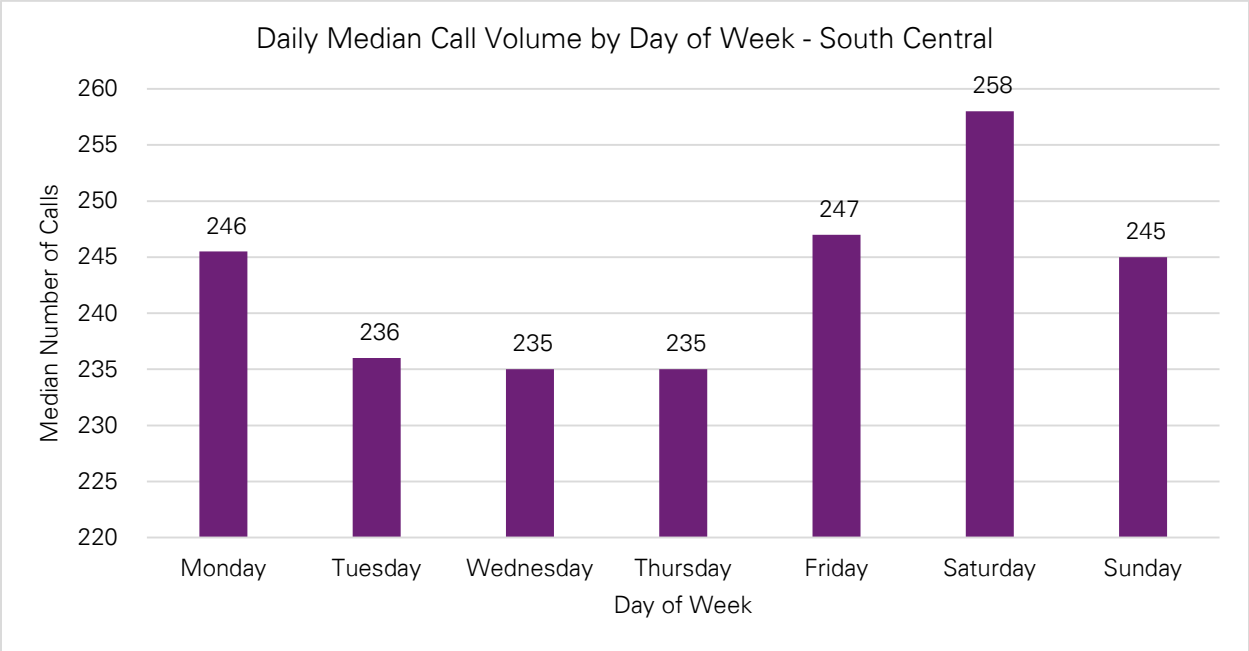
The graph below illustrates the annual call volume for the South Central division.



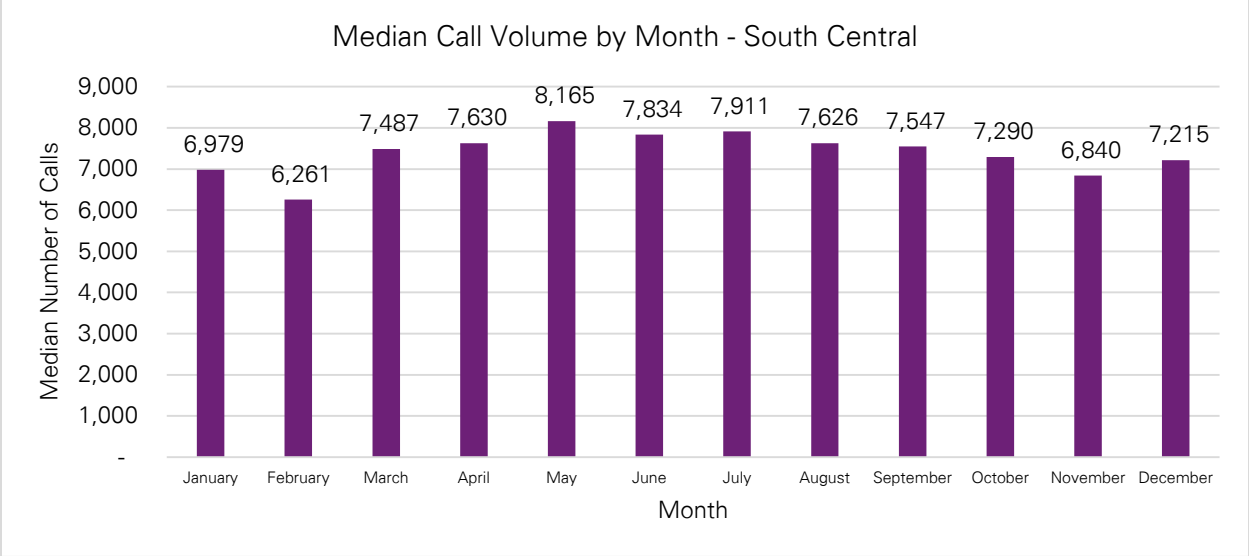
Median Call Volume by Hour of Day



Median Call Volume by Day of Week



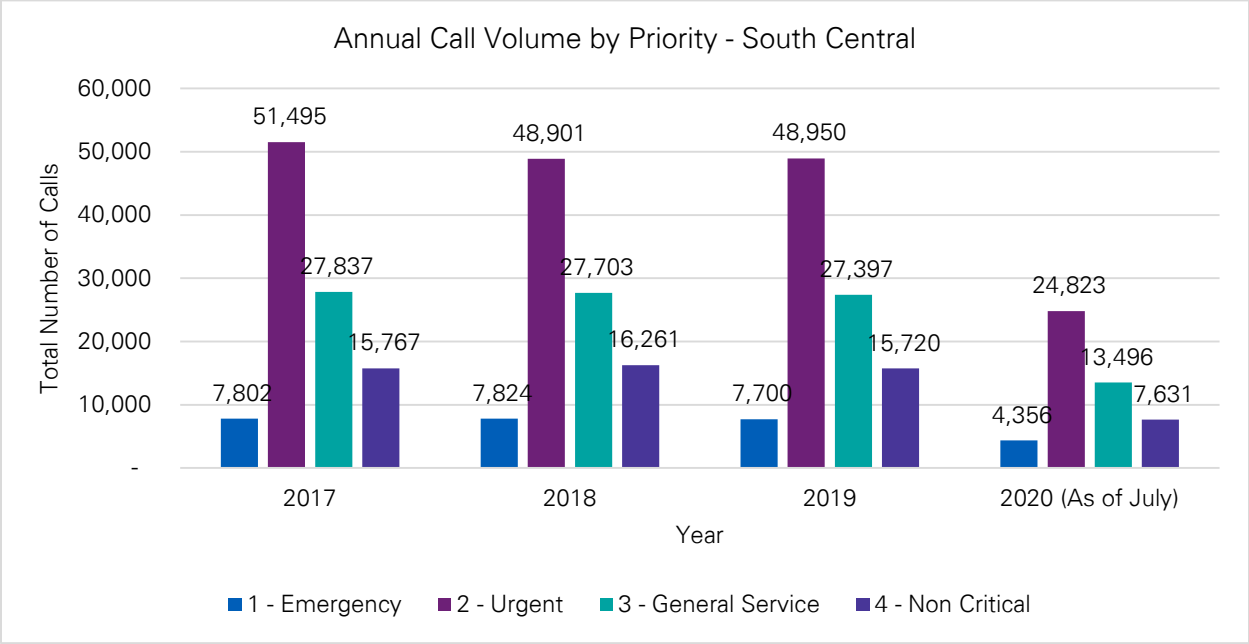
Median Call Volume by Month



Priority

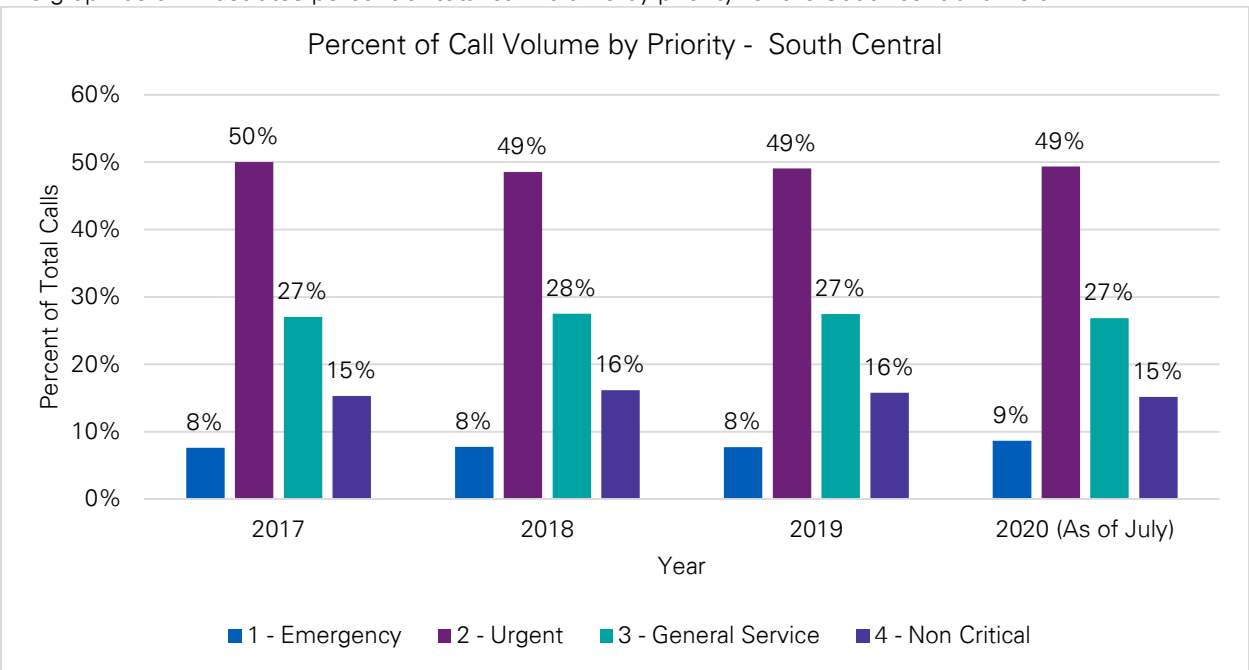
Annual Call Volume by Priority

The graph below illustrates annual call volume by priority for the South Central division.

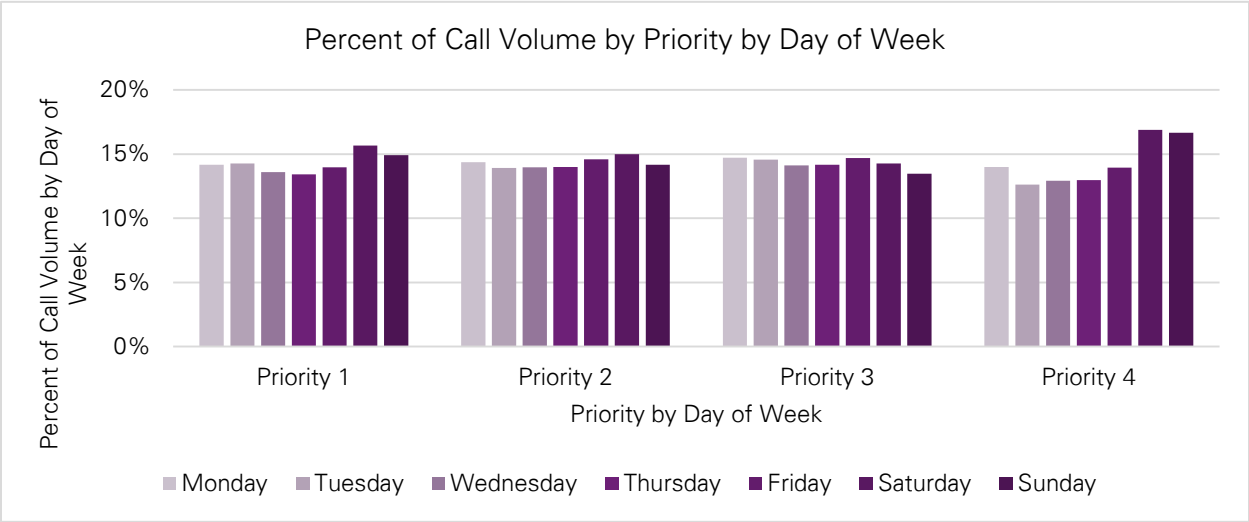


Percent of Total Call Volume by Priority

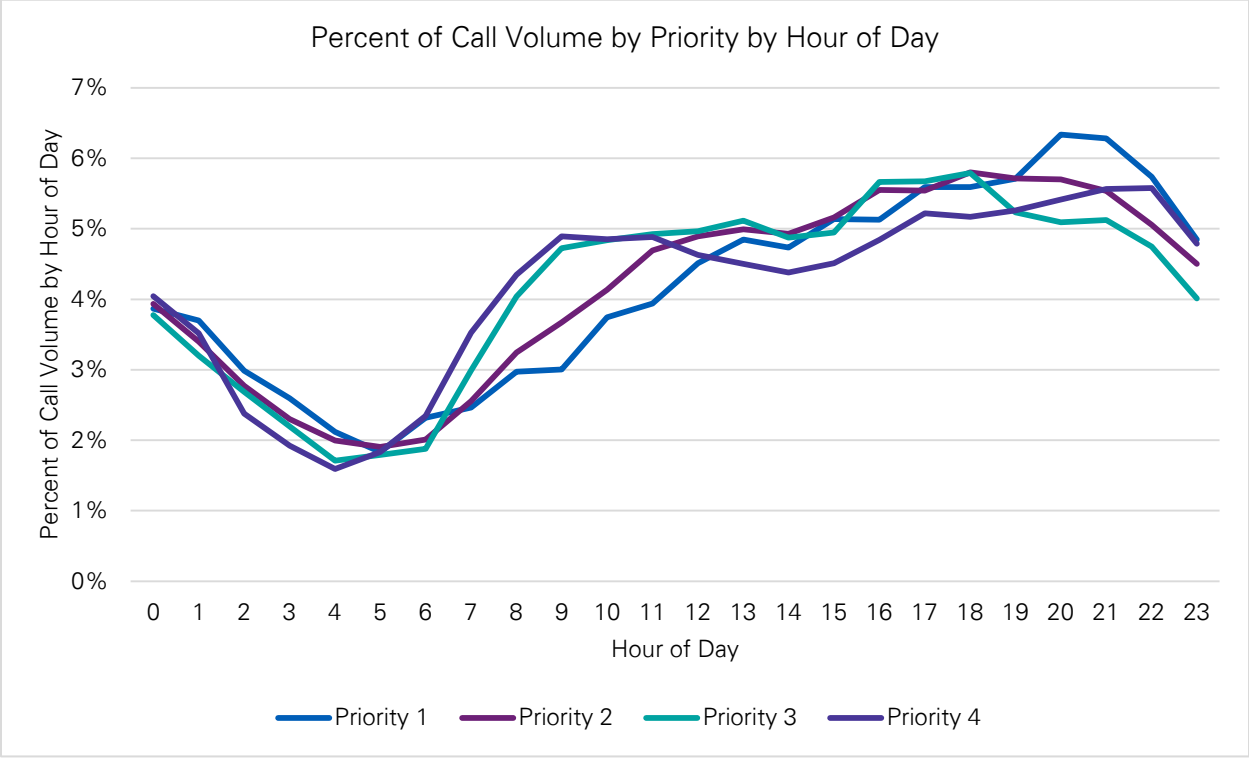
The graph below illustrates percent of total call volume by priority for the South central division.



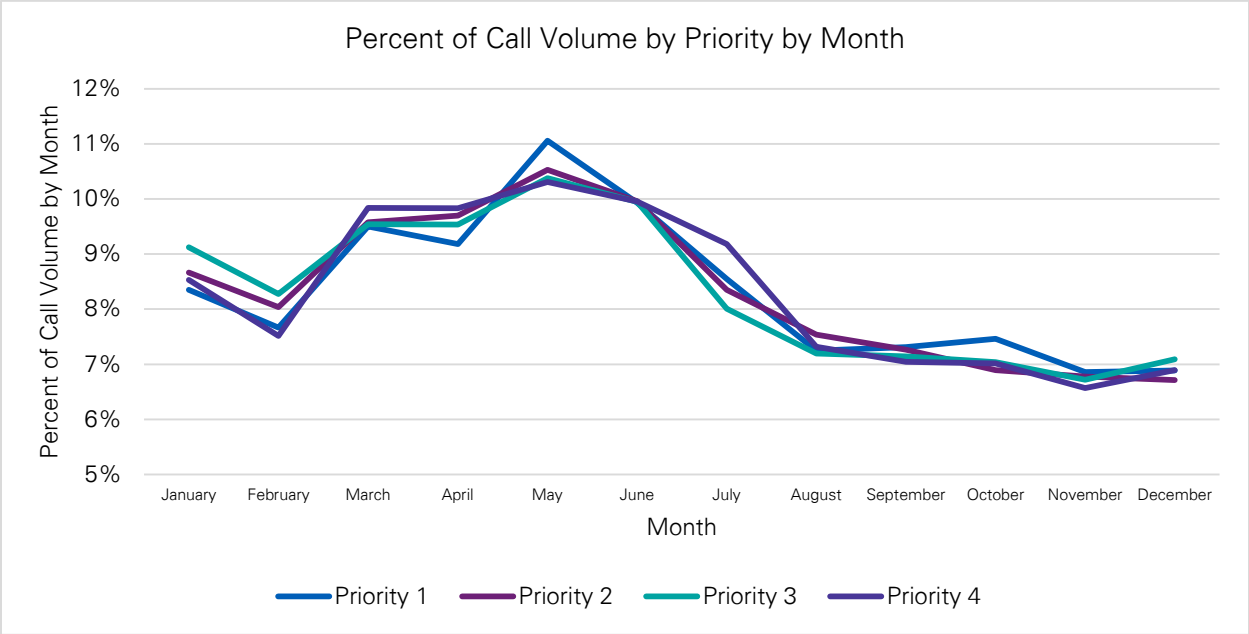
Percent of Call Volume by Priority by Day of Week



Percent of Call Volume by Priority by Hour of Day



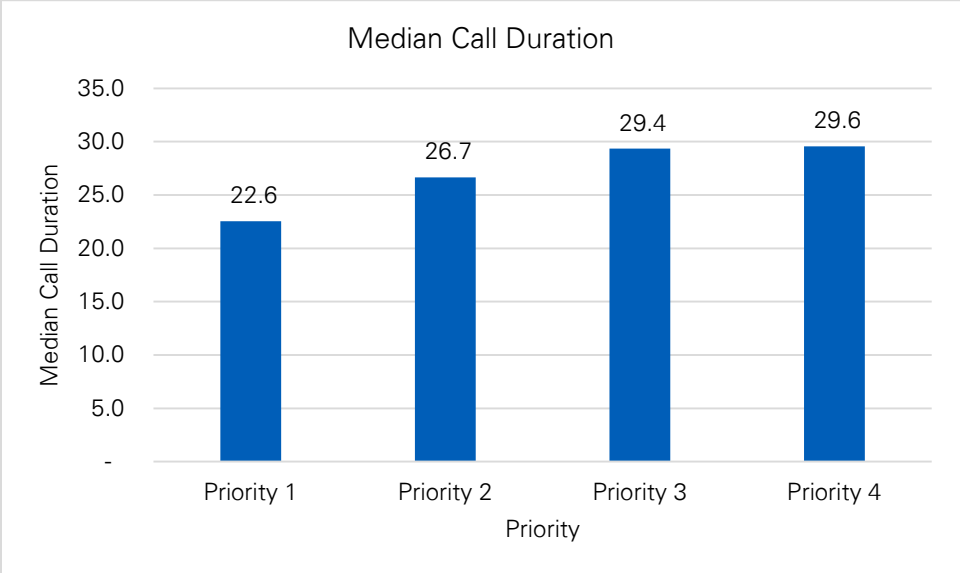
Percent of Call Volume by Priority by Month



Performance

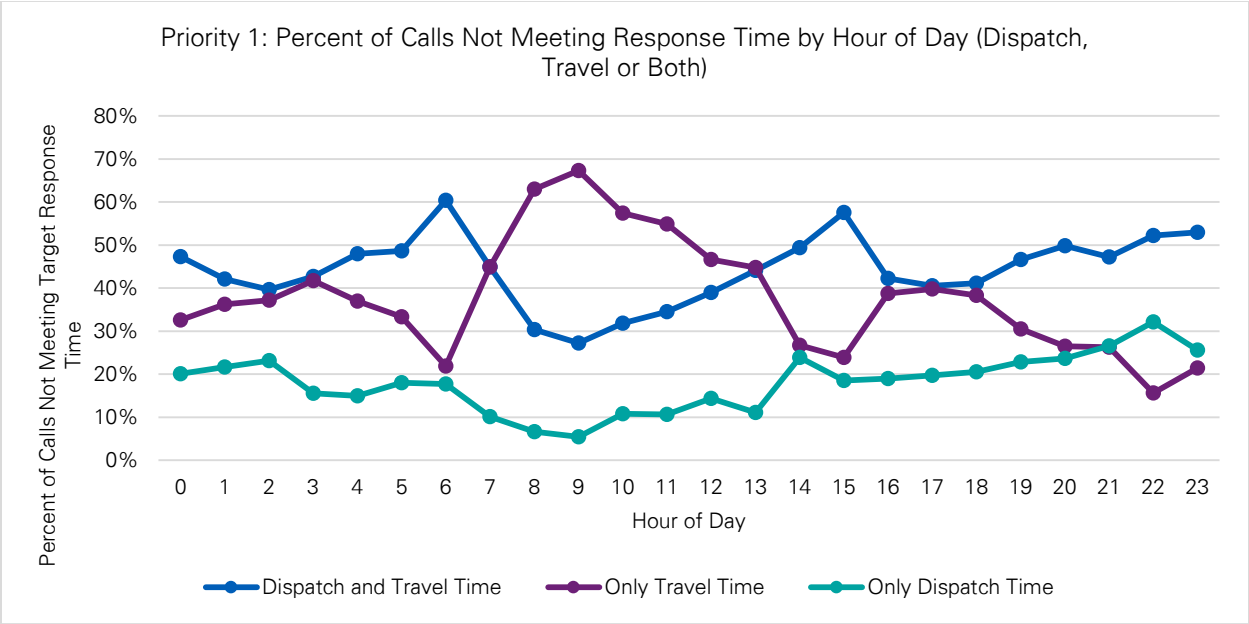
Median Call Time

The graph below illustrates the median call duration by priority for the South Central division.

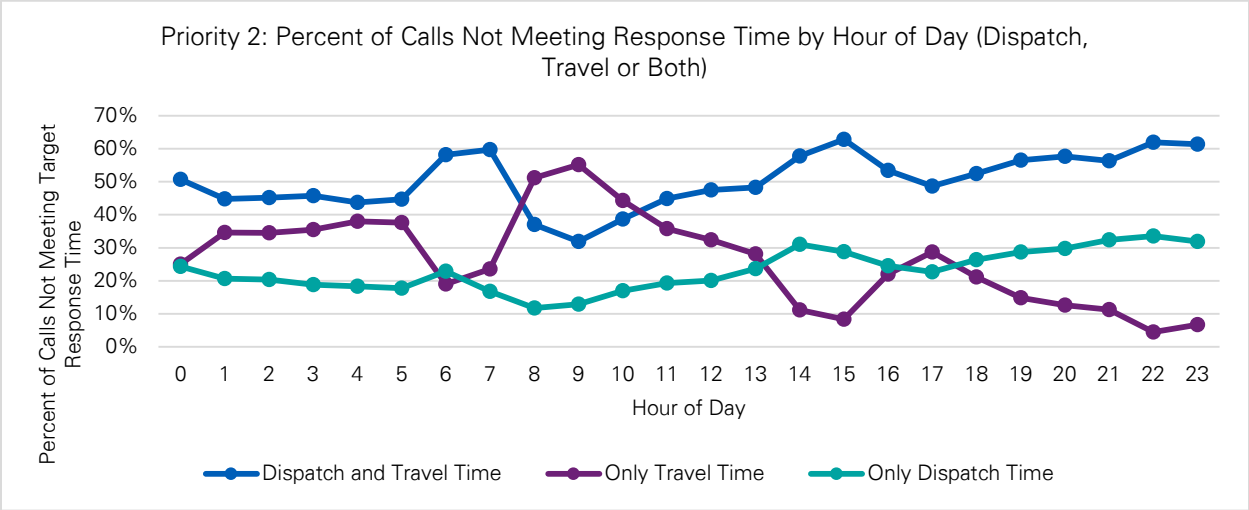


Percent of Calls Not Meeting Response Time by Hour of Day (Priority 1)

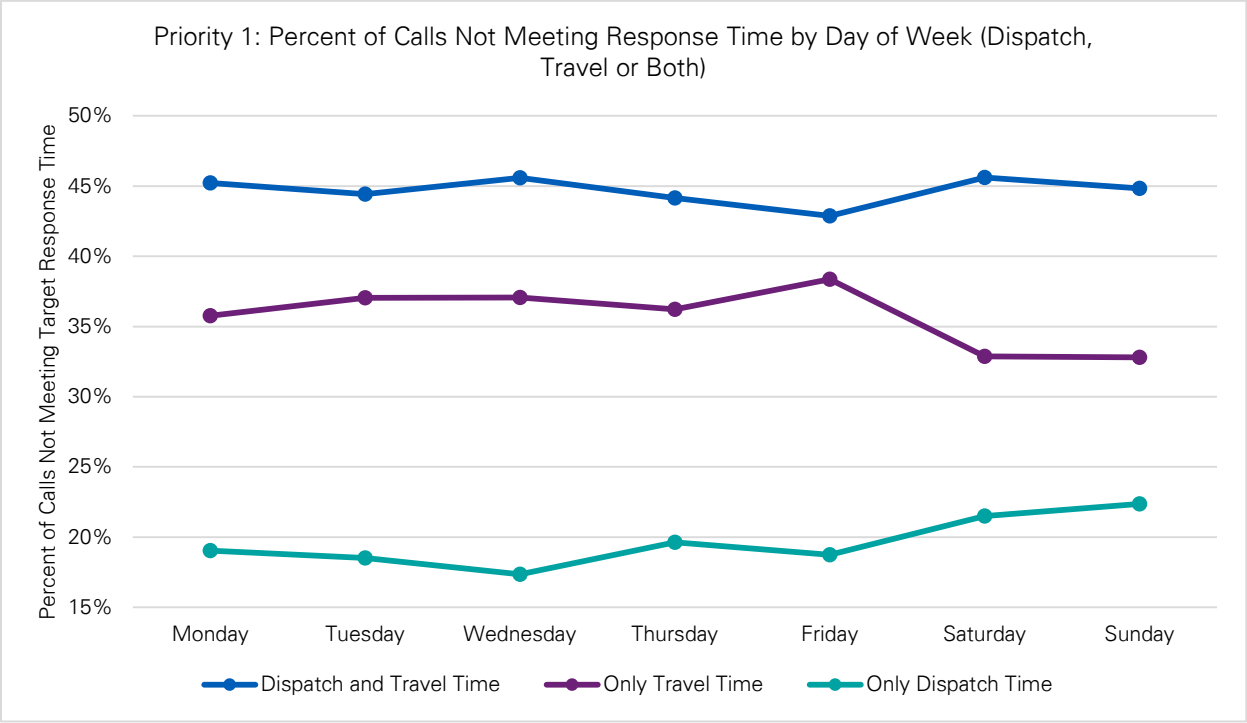
The graph below illustrates percent of calls failing to meet target Priority 1 response time by hour of day for the South Central division.



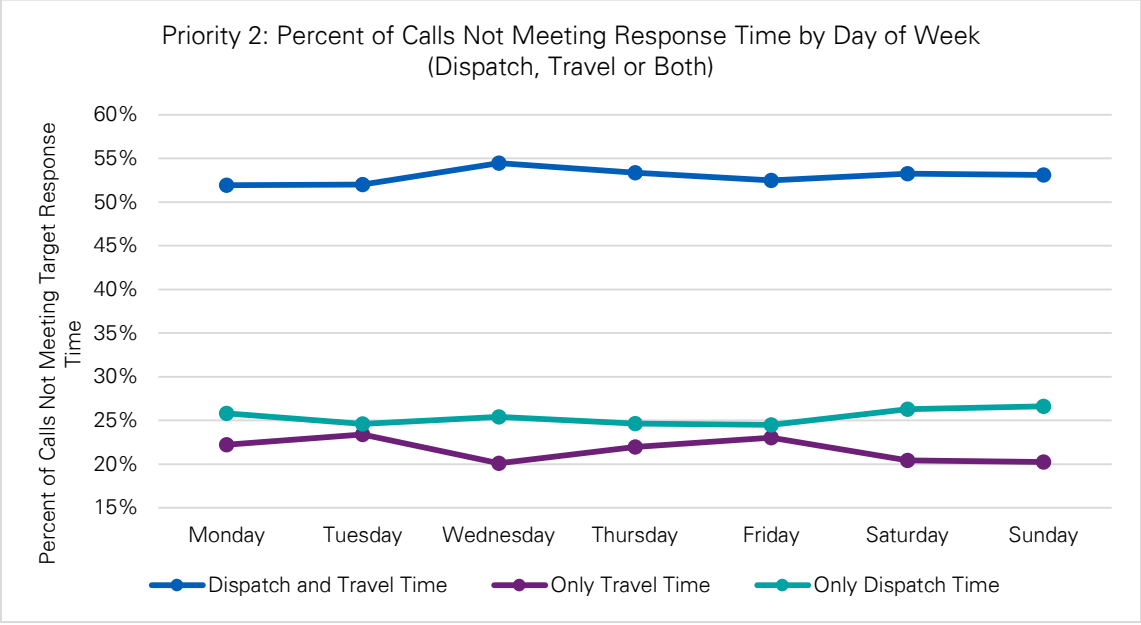
Percent of Calls Not Meeting Response Time by Hour of Day (Priority 2)



Percent of Calls Not Meeting Response Time by Day of Week (Priority 1)



Percent of Calls Not Meeting Response Time by Day of Week (Priority 2)



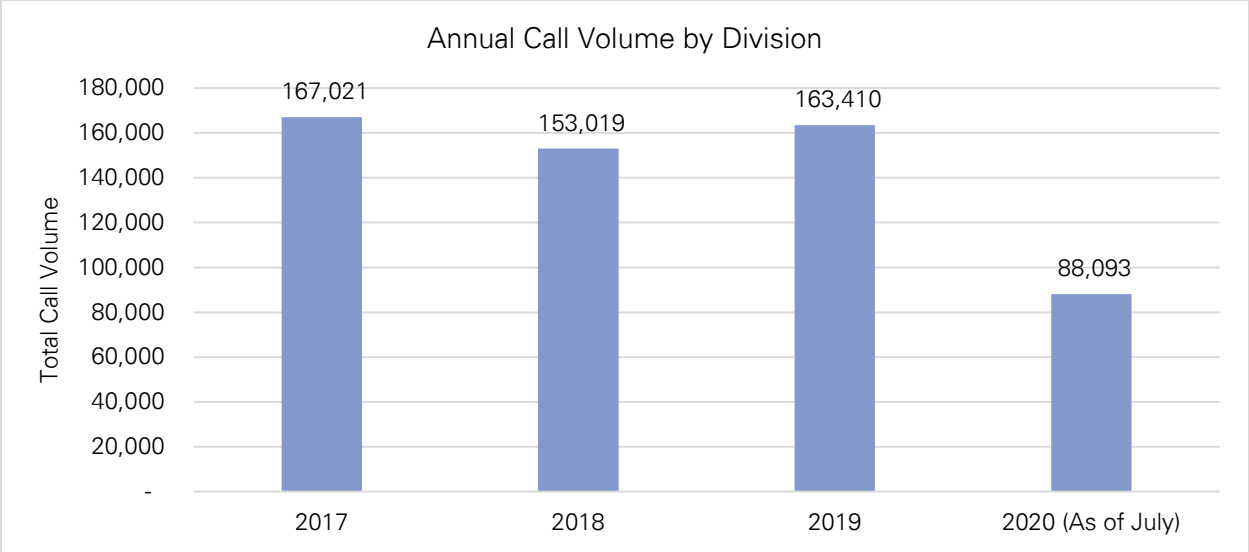
Southeast Division

The graphs below show the data analysis for the Southeast division by topic.

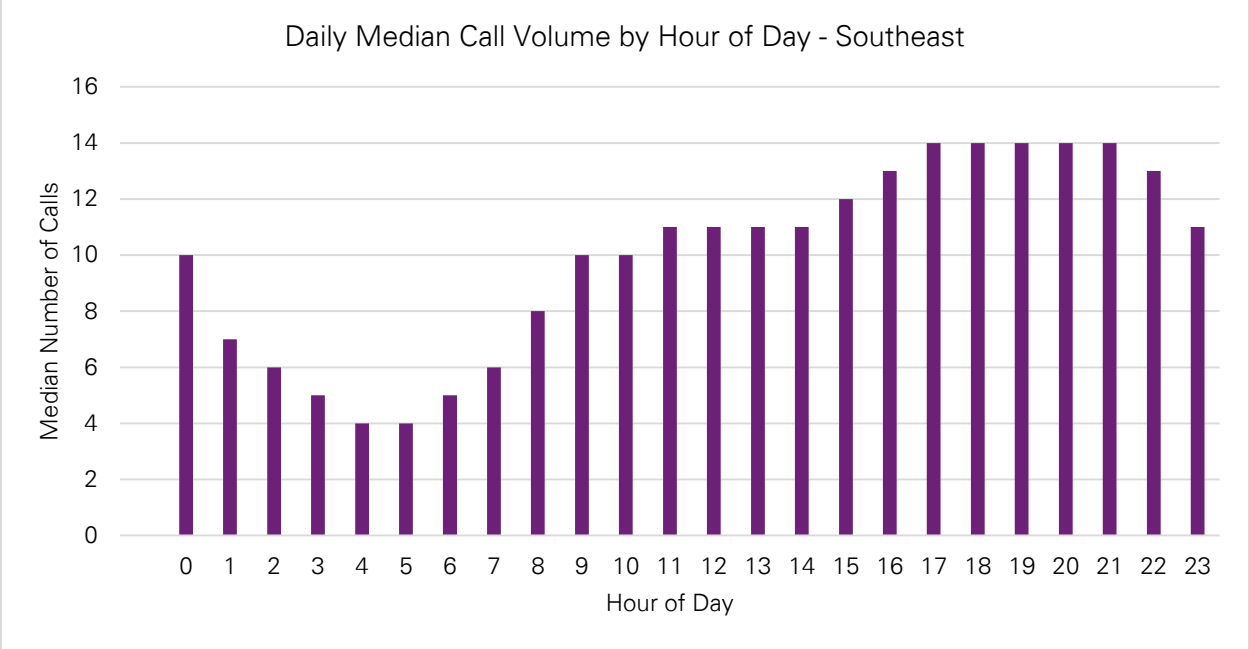
Call Volume

Annual Total Call Volume

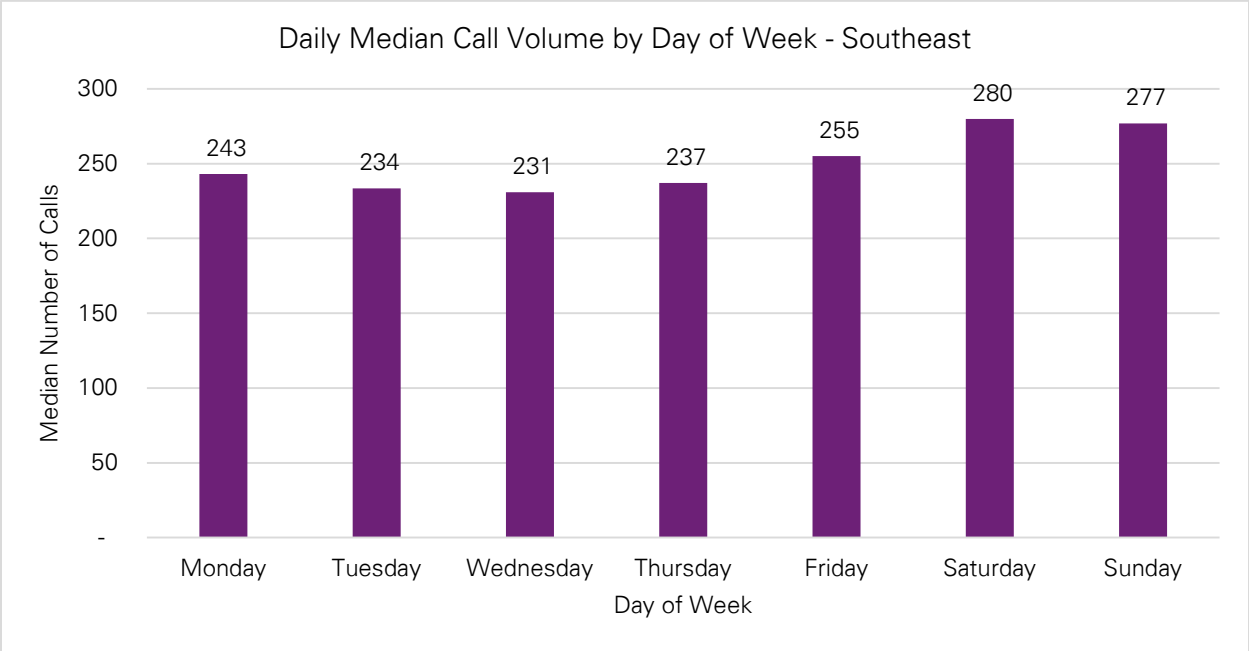
The graph below illustrates the annual call volume for the Southeast division.



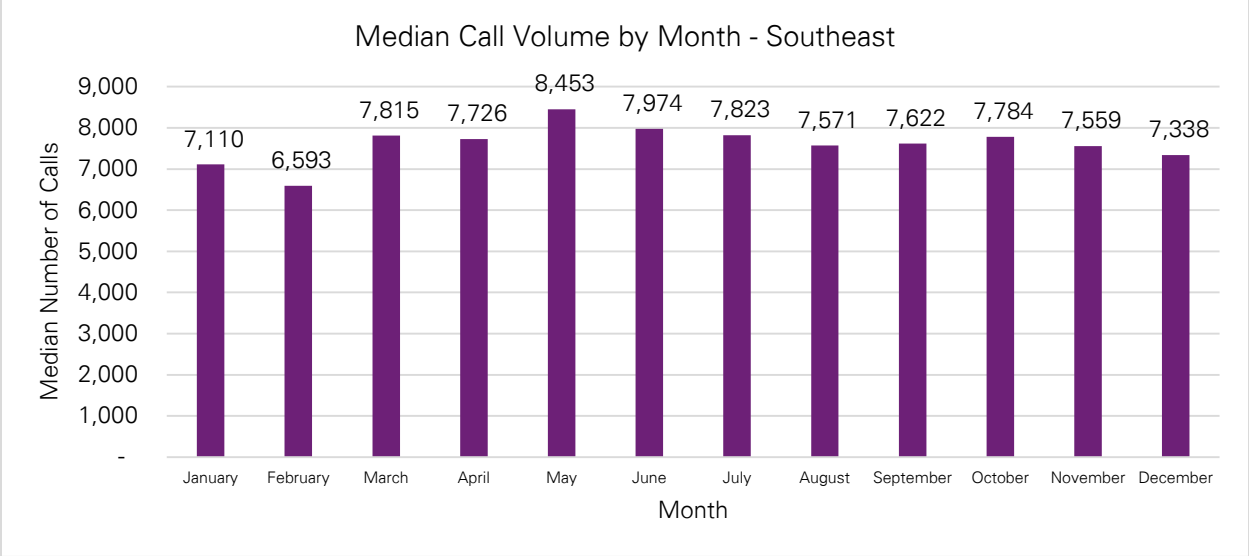
Median Call Volume by Hour of Day



Median Call Volume by Day of Week



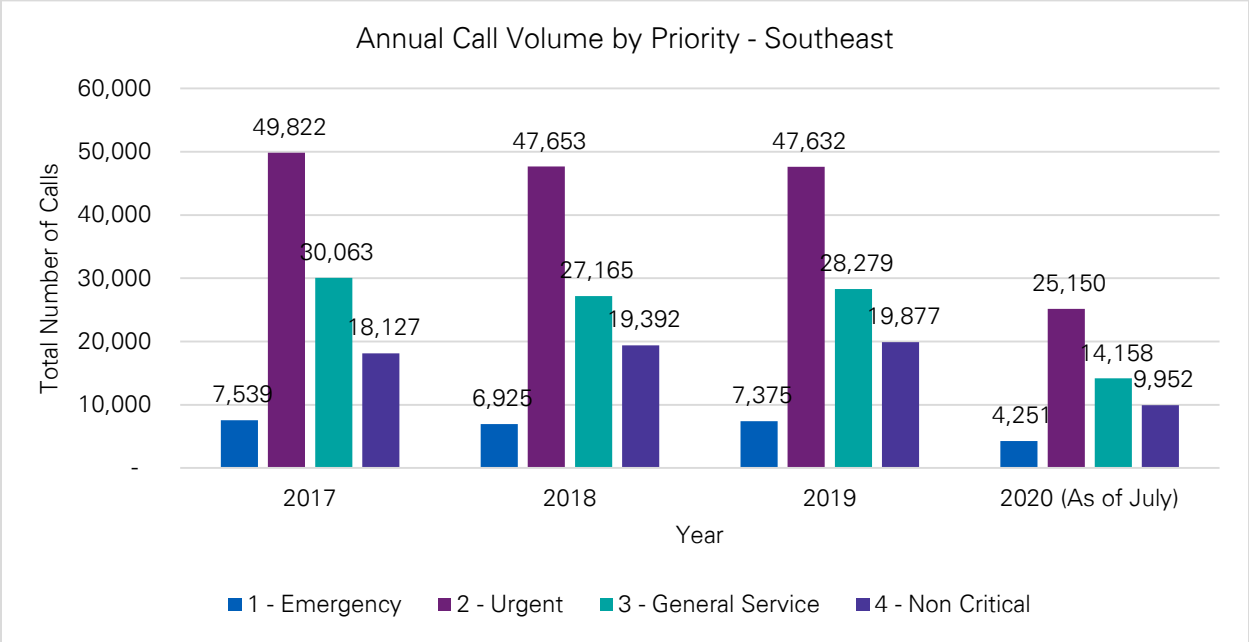
Median Call Volume by Month



Priority

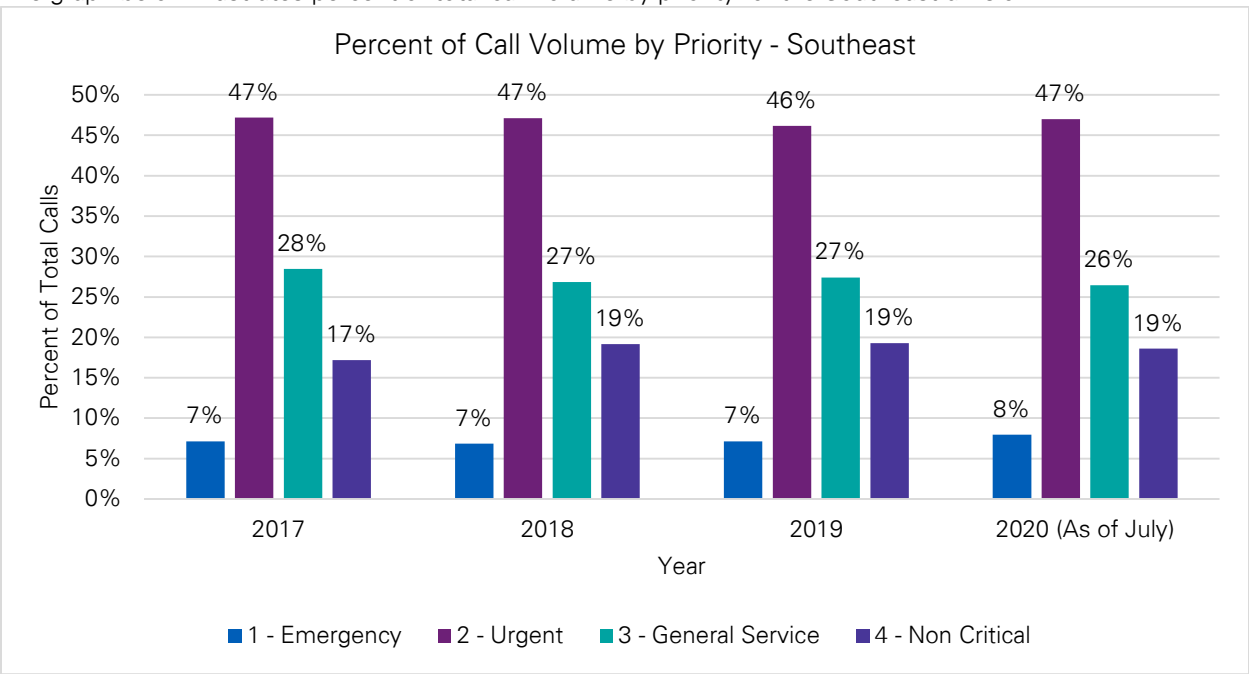
Annual Call Volume by Priority

The graph below illustrates annual call volume by priority for the Southeast division.

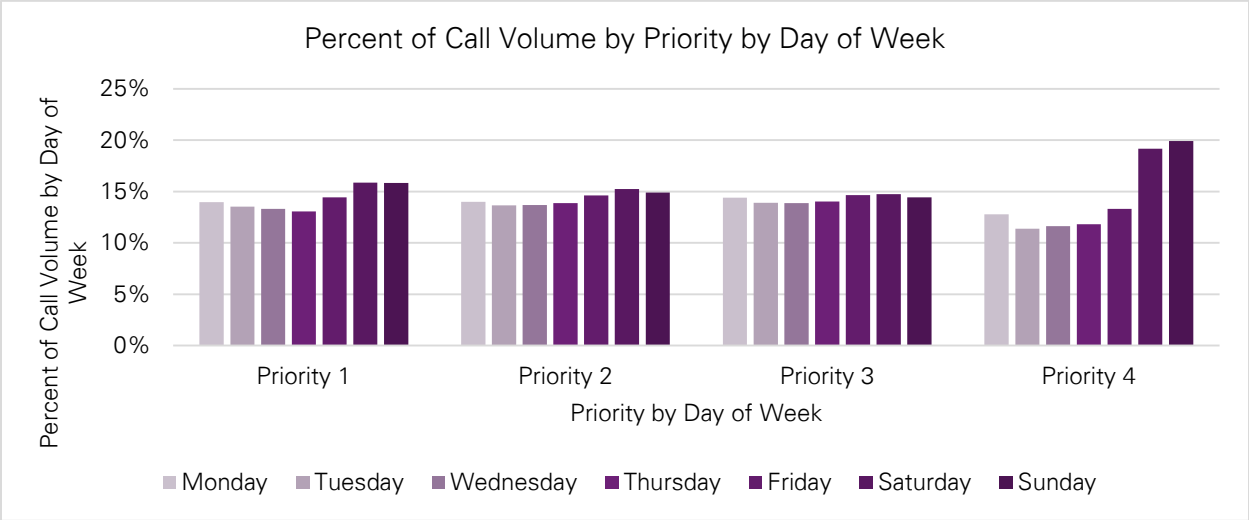


Percent of Total Call Volume by Priority

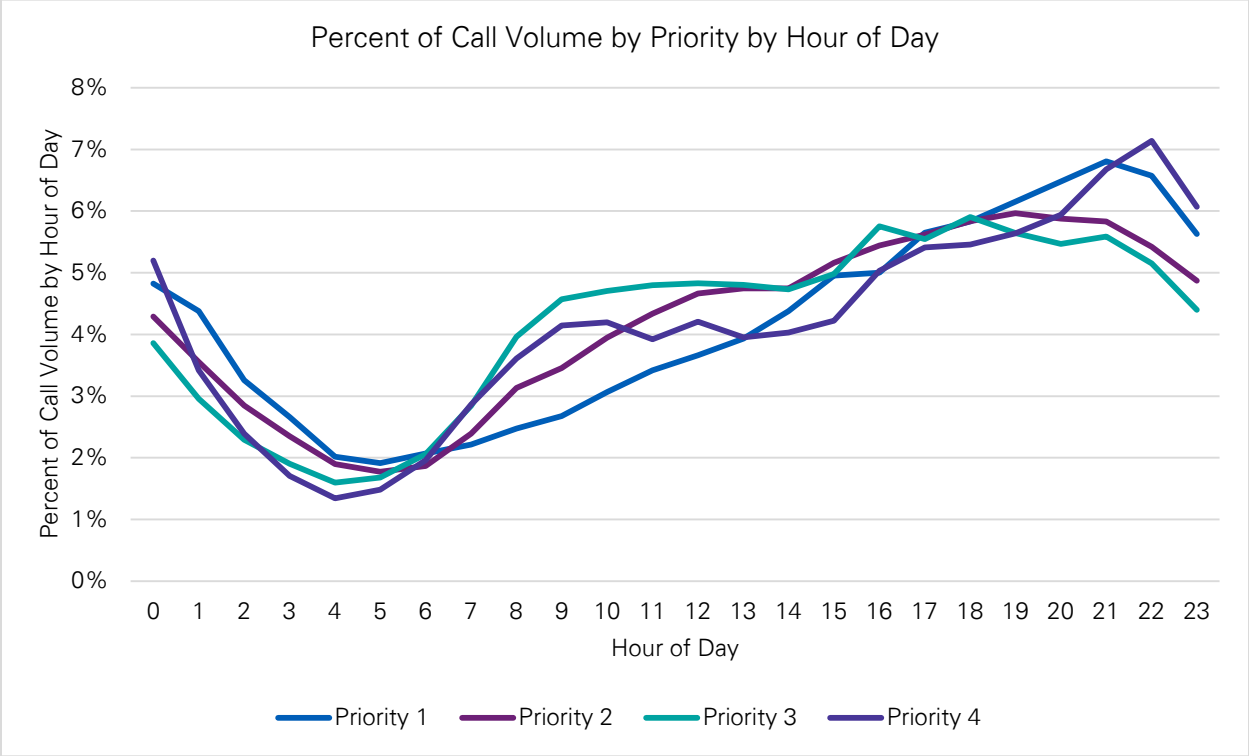
The graph below illustrates percent of total call volume by priority for the Southeast division.



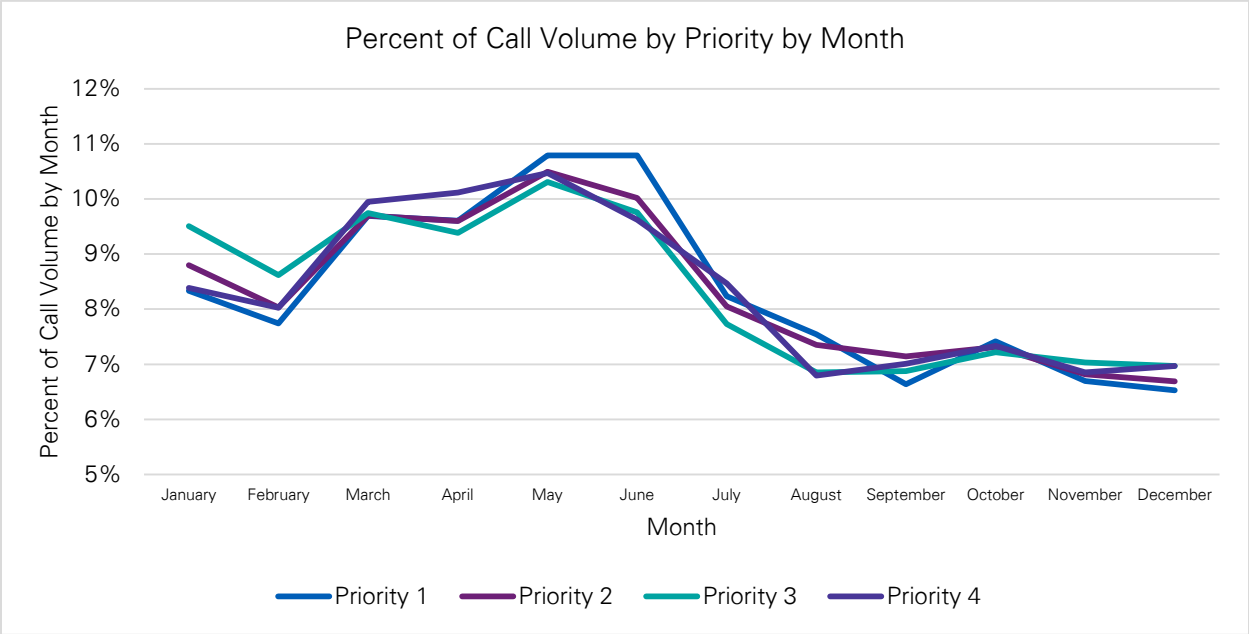
Percent of Call Volume by Priority by Day of Week



Percent of Call Volume by Priority by Hour of Day



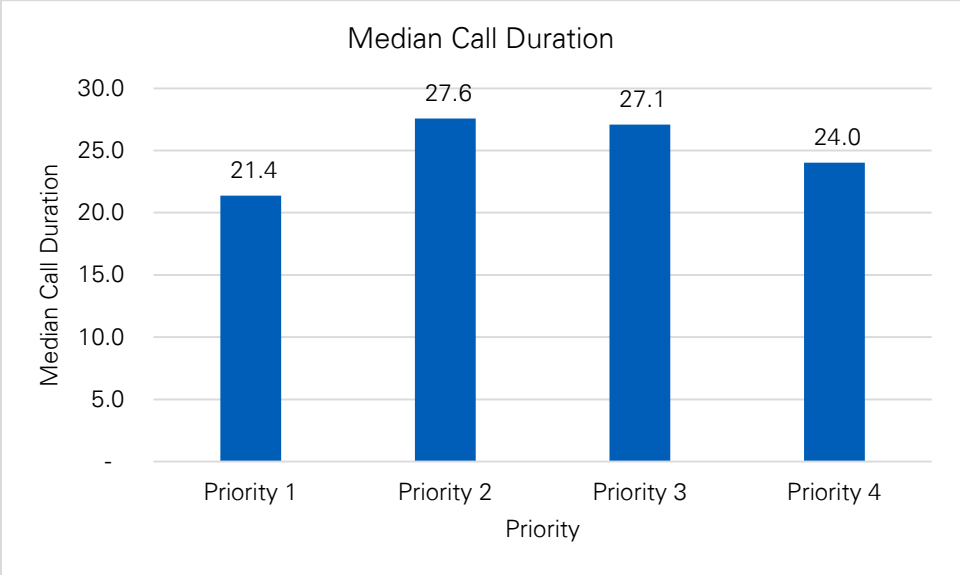
Percent of Call Volume by Priority by Month



Performance

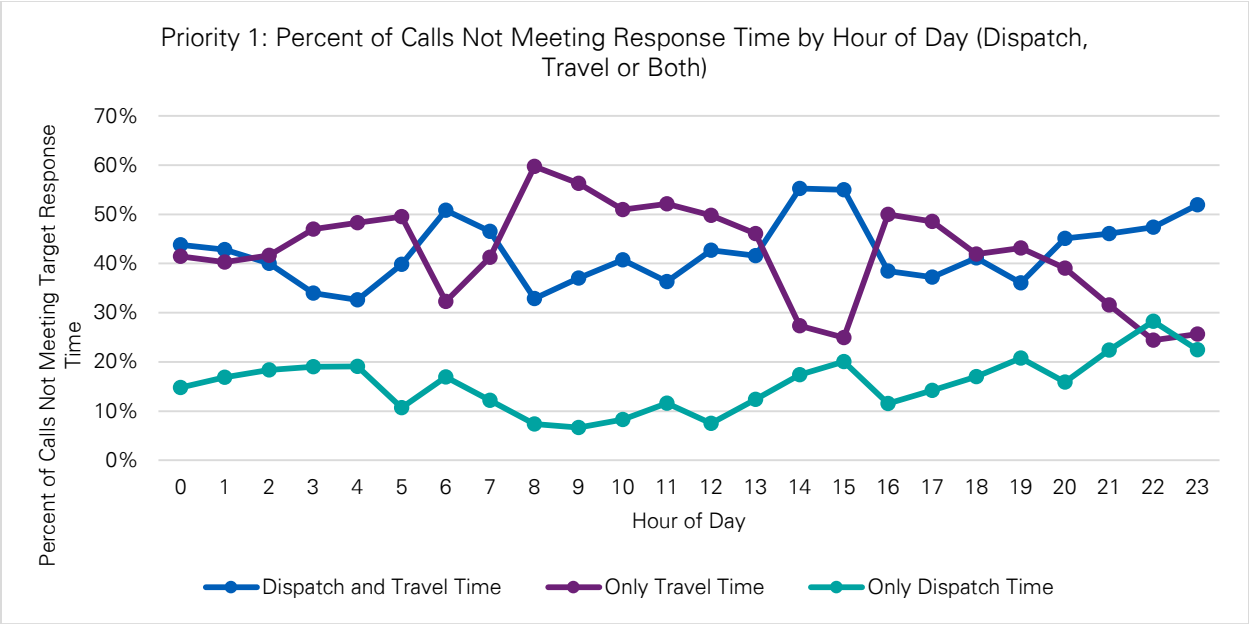
Median Call Time

The graph below illustrates the median call duration by priority for the Southeast division.

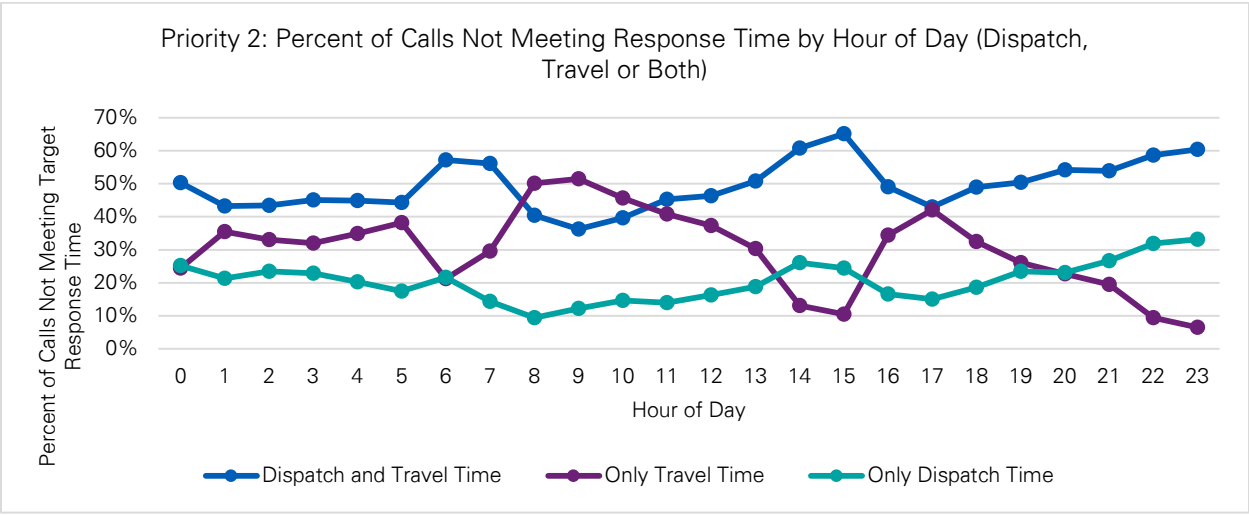


Percent of Calls Not Meeting Response Time by Hour of Day (Priority 1)

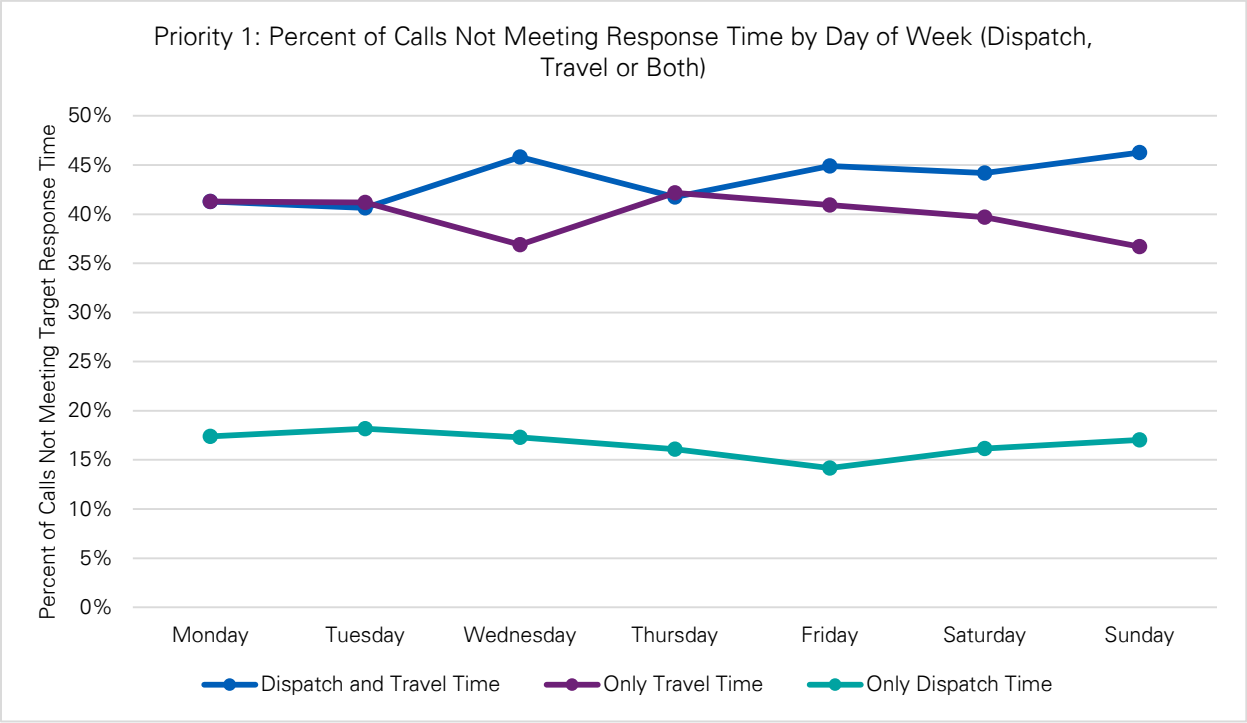
The graph below illustrates percent of calls failing to meet target Priority 1 response time by hour of day for the Southeast division.



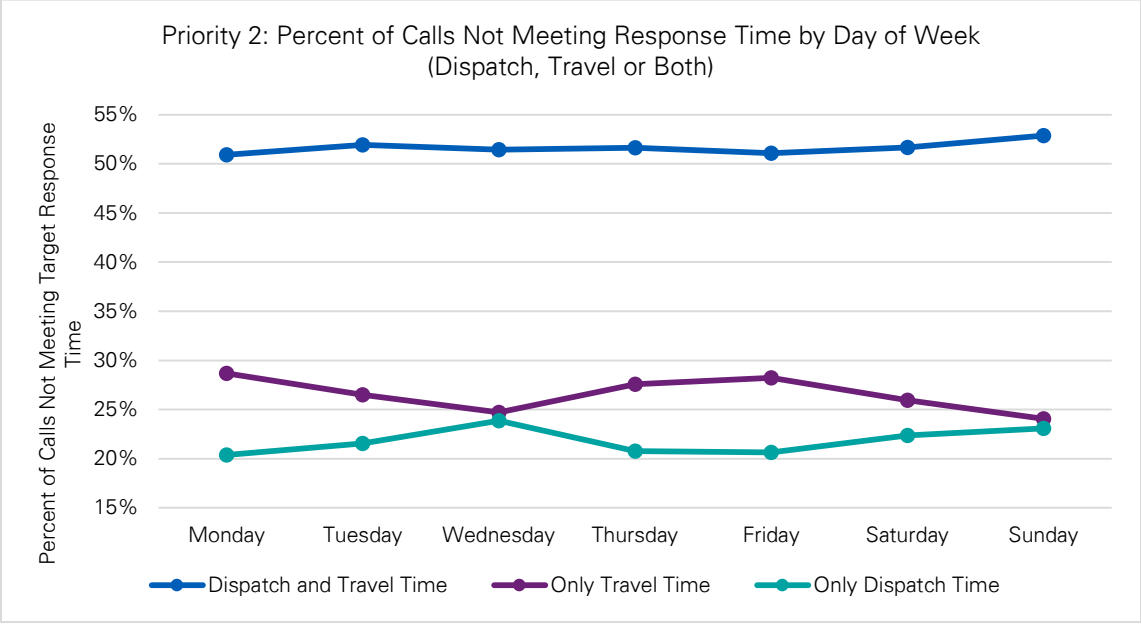
Percent of Calls Not Meeting Response Time by Hour of Day (Priority 2)



Percent of Calls Not Meeting Response Time by Day of Week (Priority 1)



Percent of Calls Not Meeting Response Time by Day of Week (Priority 2)



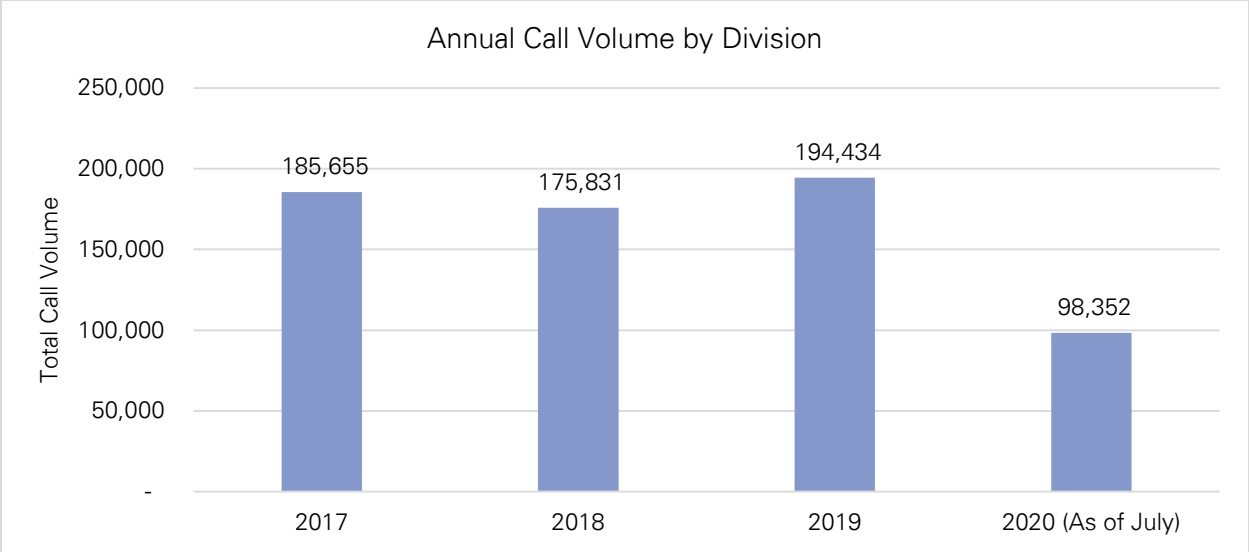
Southwest Division

The graphs below show the data analysis for the Southwest division by topic.

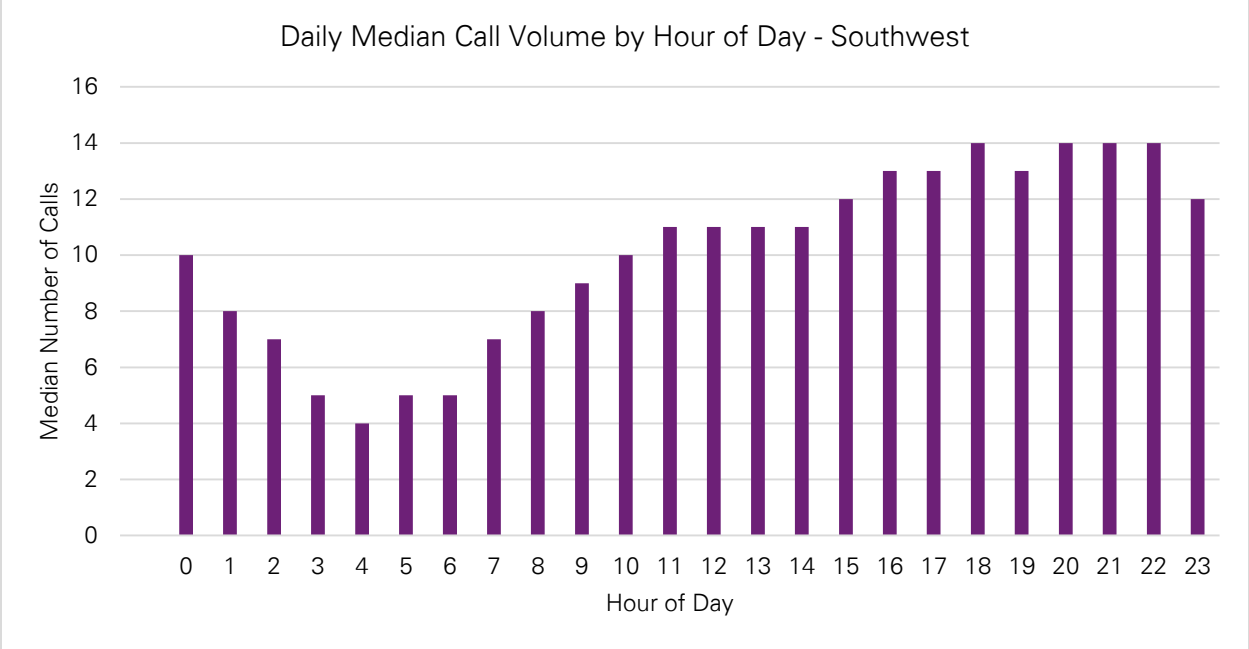
Call Volume

Annual Total Call Volume

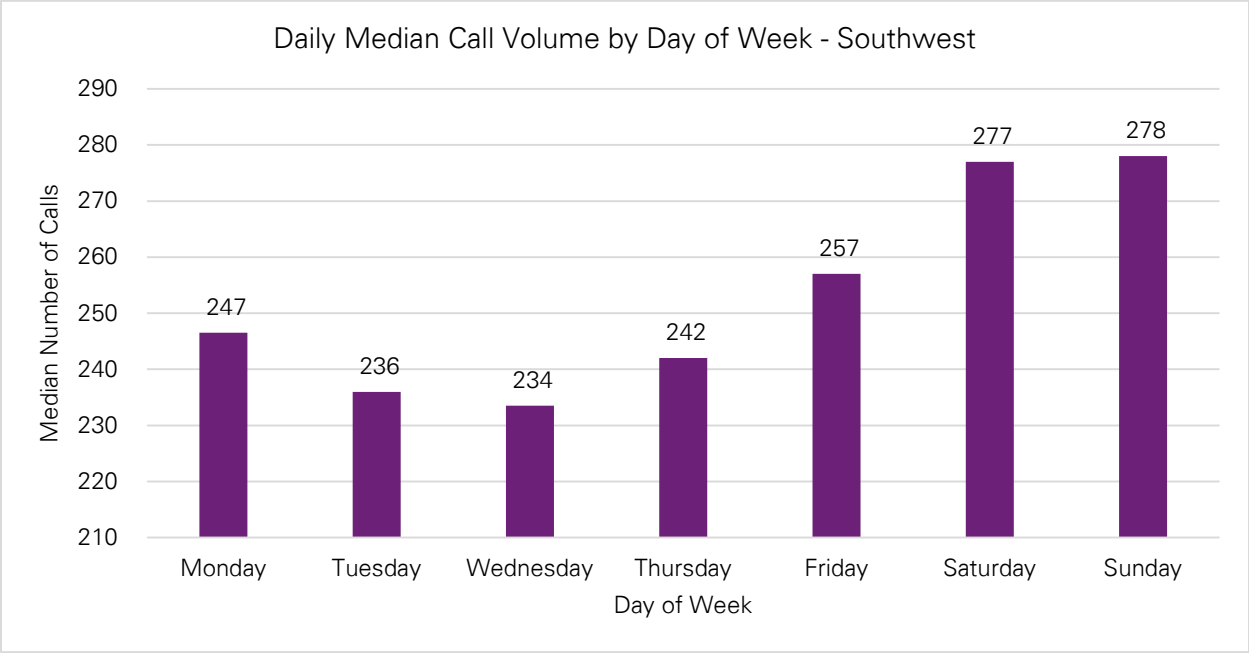
The graph below illustrates the annual call volume for the Southwest division.



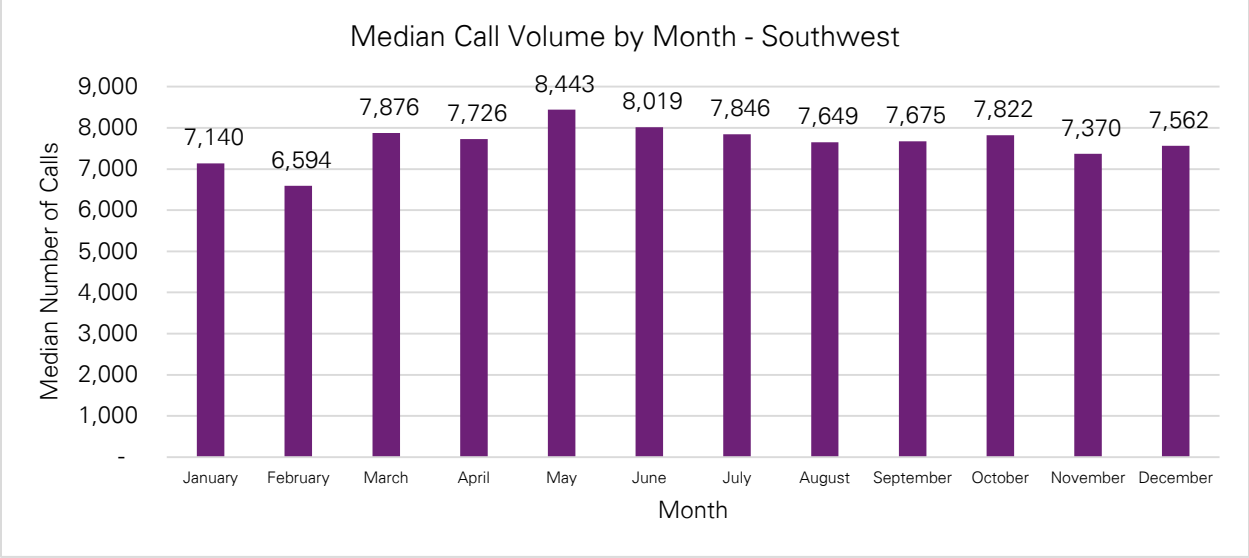
Median Call Volume by Hour of Day



Median Call Volume by Day of Week



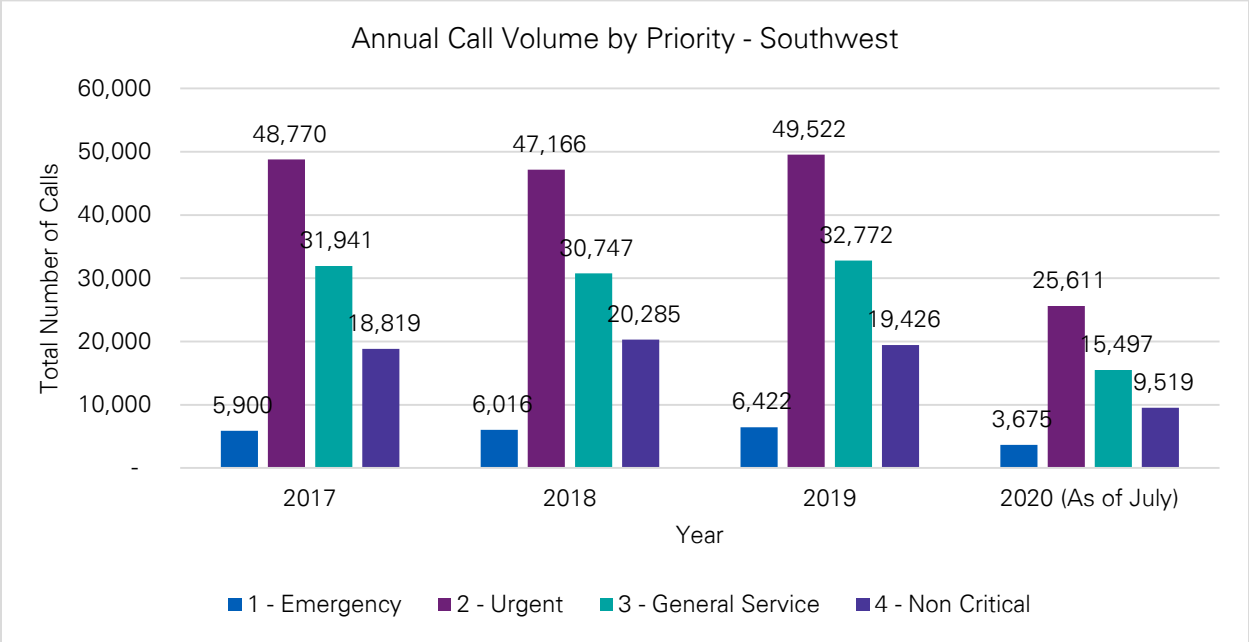
Median Call Volume by Month



Priority

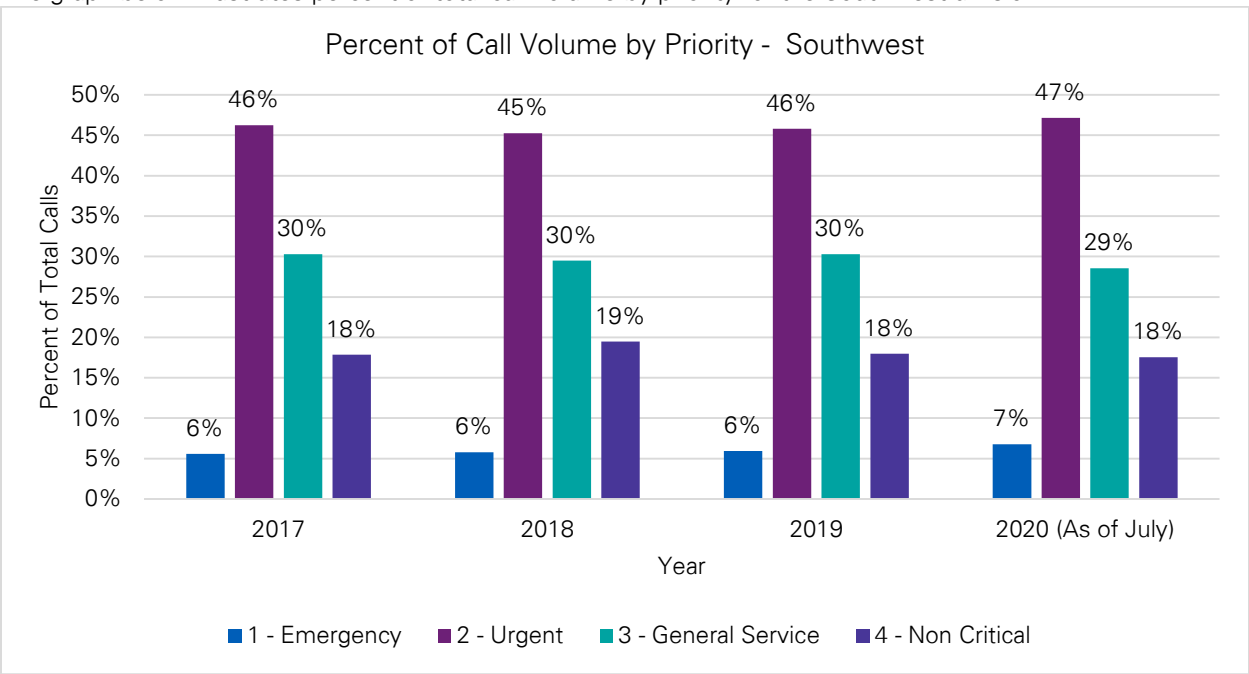
Annual Call Volume by Priority

The graph below illustrates annual call volume by priority for the Southwest division.

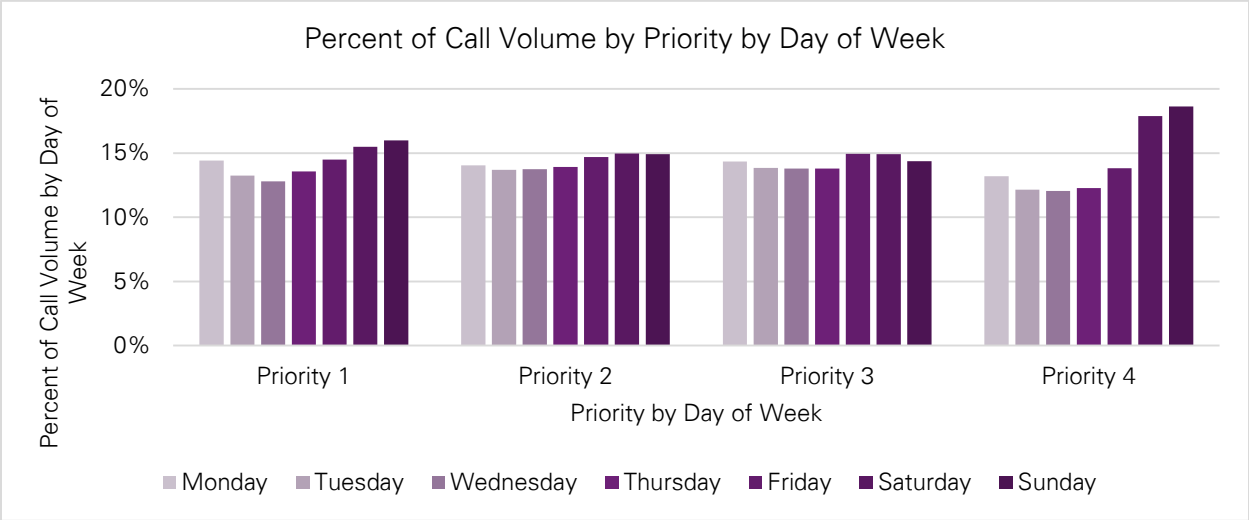


Percent of Total Call Volume by Priority

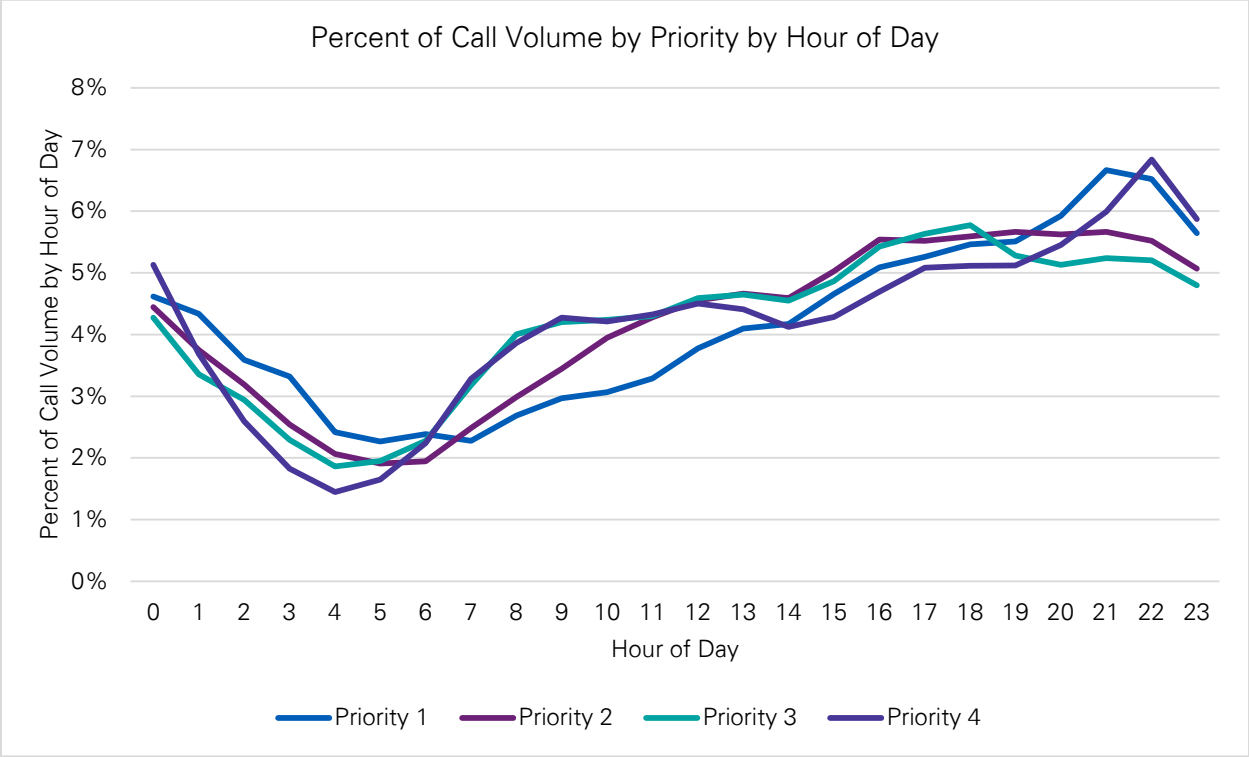
The graph below illustrates percent of total call volume by priority for the Southwest division.



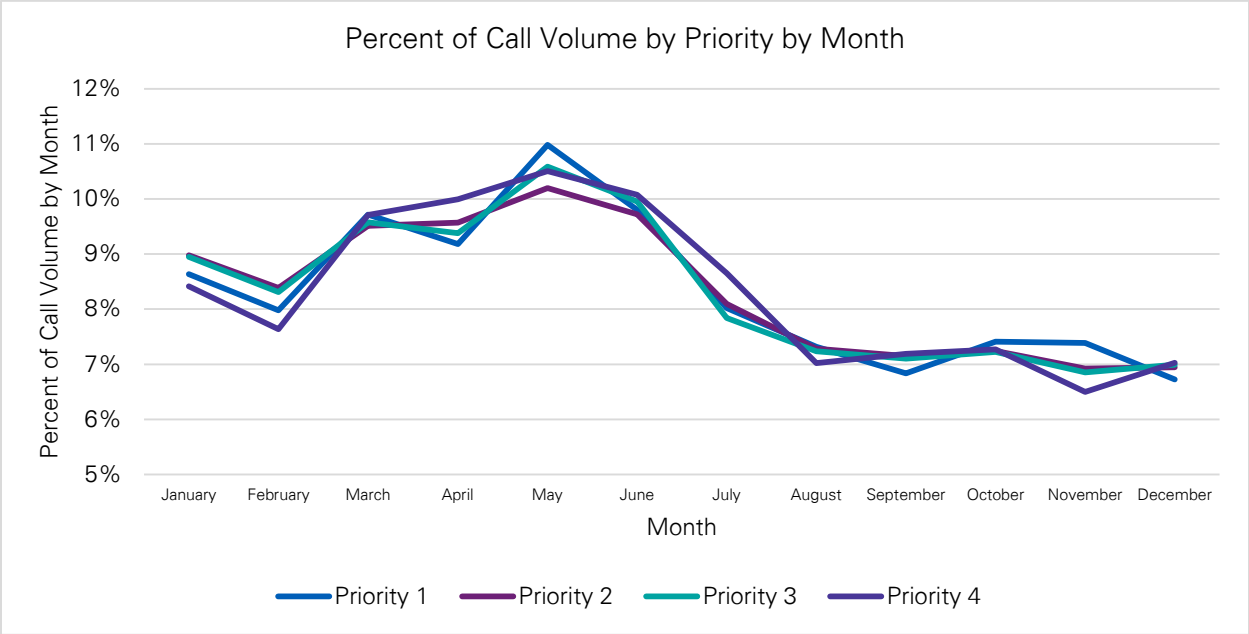
Percent of Call Volume by Priority by Day of Week



Percent of Call Volume by Priority by Hour of Day



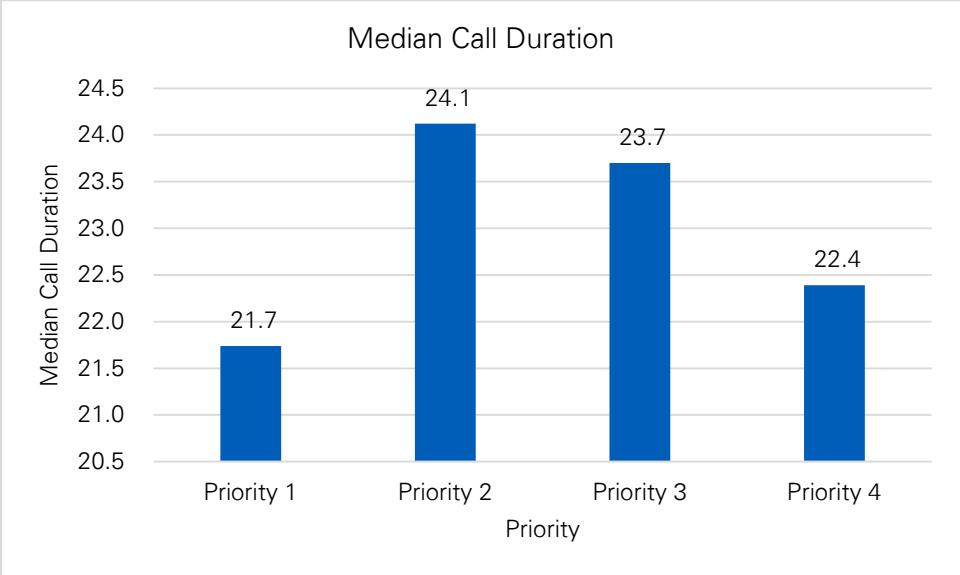
Percent of Call Volume by Priority by Month



Performance

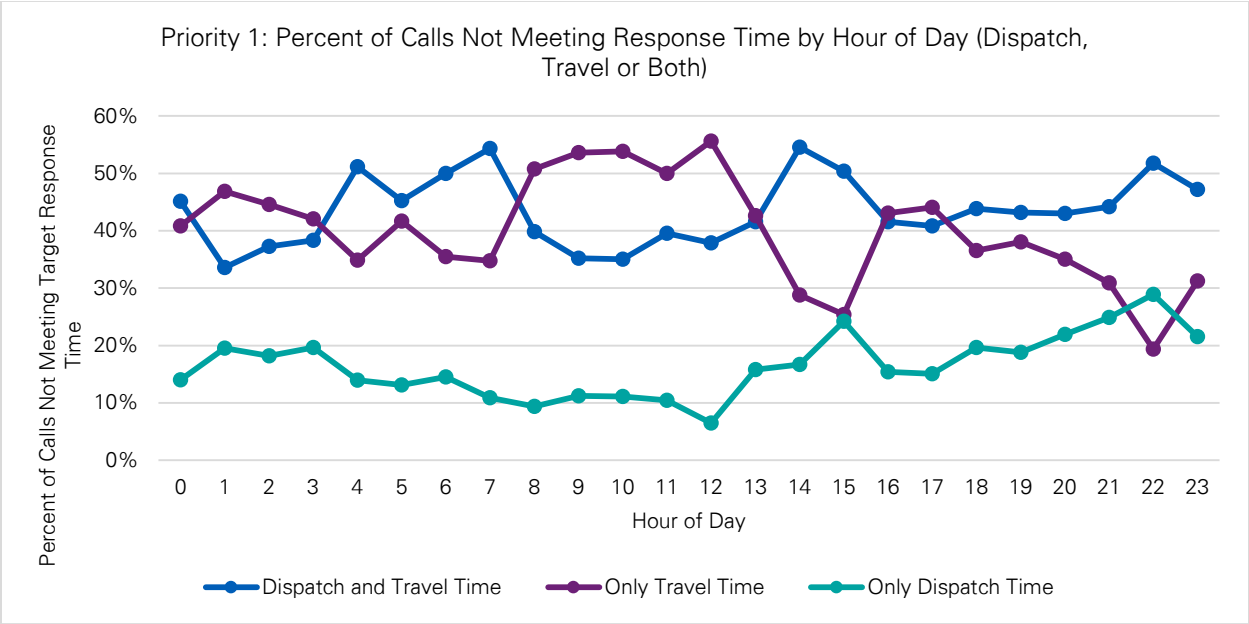
Median Call Time

The graph below illustrates the median call duration by priority for the Southwest division.

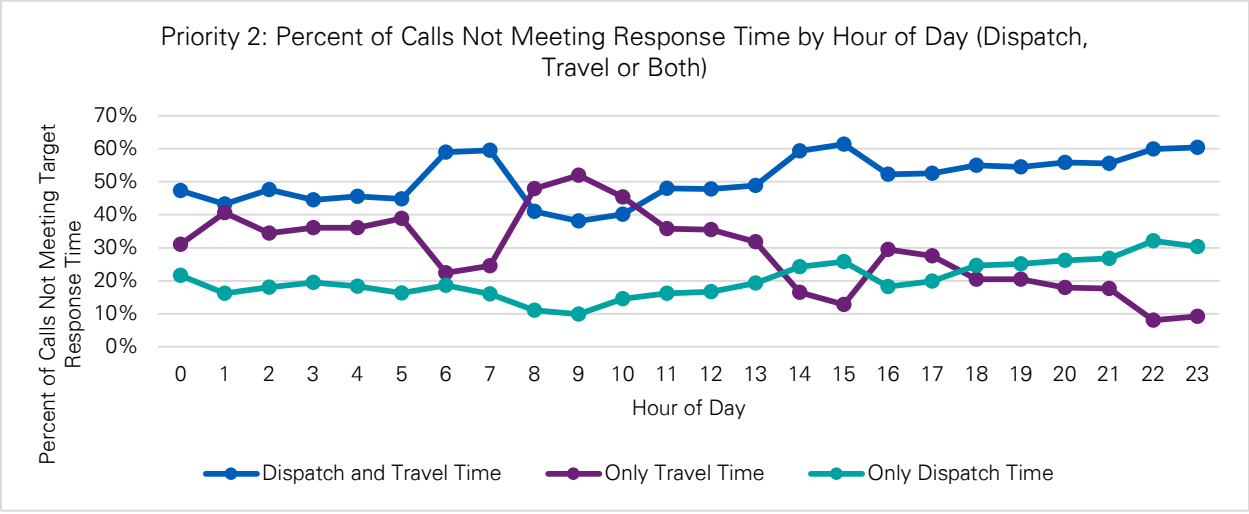


Percent of Calls Not Meeting Response Time by Hour of Day (Priority 1)

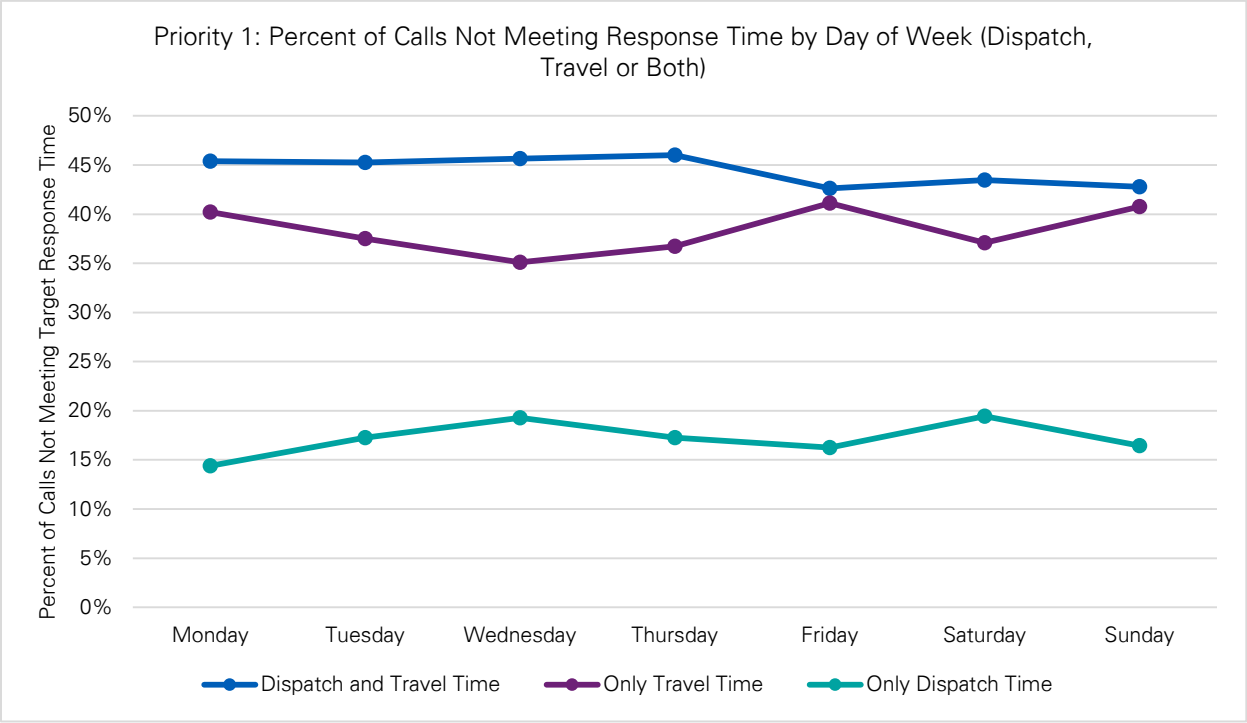
The graph below illustrates percent of calls failing to meet target Priority 1 response time by hour of day for the Southwest division.



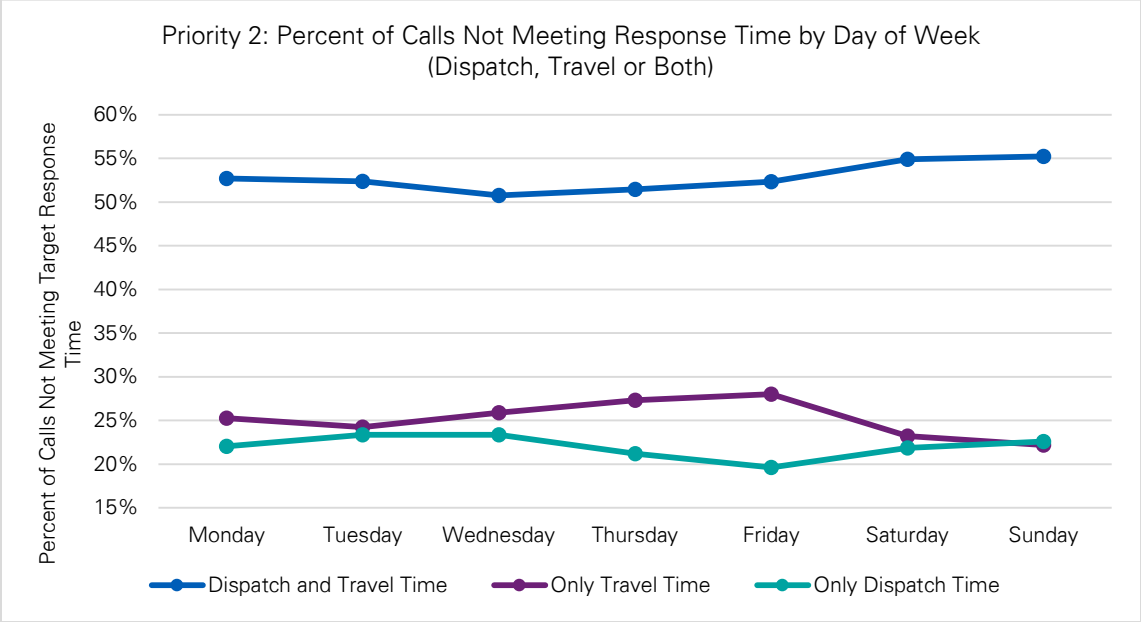
Percent of Calls Not Meeting Response Time by Hour of Day (Priority 2)



Percent of Calls Not Meeting Response Time by Day of Week (Priority 1)



Percent of Calls Not Meeting Response Time by Day of Week (Priority 2)



Dallas Police Department

Southeast & Northeast Division Pilot

Southeast Division Pilot: 05/01/2020-07/31/2020
Northeast Division Pilot: 09/16/2020-10/11/2020

Executive Summary

The pilot periods measured factors and performance in three areas:

Demand	Capacity	Response
The volume, nature, and timing of calls for service	*Who is on shift and available to respond and what they are spending time on*	*How well we meet our targets for different priorities, problems, and times of day and week*
Overall demand was 1% higher than the baseline periods and 6% higher for P1 calls. Although the % of P1 calls increased, the Divisions' overall average response time for P1 calls improved by 12%.	Schedule fulfillment was 57% for the pilot periods with only 45% of those Officers who showed up responding to calls. The schedule considers that 100% of available officers should be responding to calls.	Target response time improved 12% for P1 calls and 9% for P2 calls from baseline. — 66% of P1 calls were in target — 37% of P2 calls were in target

Observation	Opportunity
Schedule fulfillment to the bid schedule was below the 90% target; further, the percentage of present officers that were available to respond to calls was averaging 45%.	Improve schedule fulfillment to better assess pilot performance for potential refinement and adoption. Consider modifying the schedule model's parameters to better fit today's reality (e.g., workforce size).
DORS-initiated calls have averaged 2% of total P1-P4 calls addressed by both Divisions.	Assess inhibitors/dynamics that influence community utilization of DORS (e.g., outreach, nature of calls), as well as strategies to employ other diversion techniques (e.g., community policing). Determine approach to measure true diversion rates as DORS is not a complete measure of call diversion.
An average of 47% of responding vehicles were in a 2-man format during the pilot durations, effectively lowering the capacity to respond to more calls. Although some calls do require two persons or more to respond, the vast majority of calls do not.	Evaluate the factors (e.g., fleet availability, call types necessitating 2-man response, officer training/experience) and impacts (i.e., benefits and tradeoffs) of 2-man vehicles on call response time and resolution time against demand to determine whether this format constricts response time and agility.
P7 tasks comprise 30% of all work by volume. 58 – Routine Investigation comprised 70% of all P7 tasks and a significant portion of officer workload for the pilot durations.	Perform a deep dive into these tasks to assess task durations, impact of timing on response performance, and material outcomes of effort invested (e.g., resulting case numbers).
Trainees are more utilized over the weekend than the weekdays.	Evaluate effect of increased use of trainees on weekends to average response time.
There are a few beats with high call volumes and high workload, which also have high travel times.	Assess response and responding force dynamics in more detail to evaluate opportunity for potential staging strategy.
There have been some high workload (hours spent on scene) incidents that appear to have detracted from the response time of P3 and P4 calls during and shortly after the incident time, which might be expected.	Evaluate level of response (i.e., "crewing") for these high workload incidents.