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CapSTAT

911

OUC • MPD • FEMS

Agenda



1. Process Map: From Call to Agency Arrival

2. Data Trends

- a) 911 Call Volume
- b) 911 Call Center Staffing
- c) 911 Events
- d) Breaking down the process
- e) Incorrect Address Dispatches
- f) Ambulance Transport Unit Availability and Drop Time
- g) Technology Tickets

3. Challenges

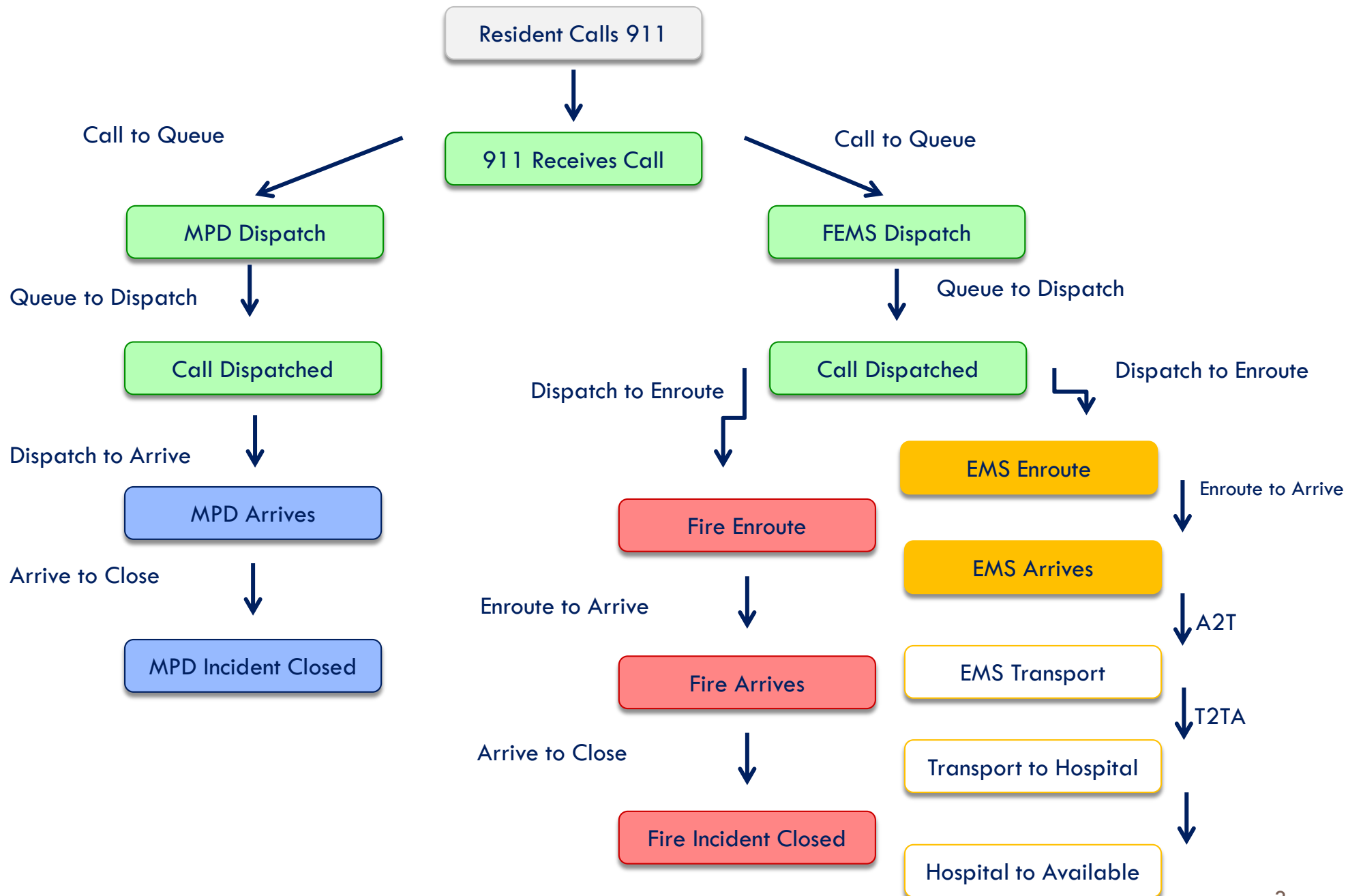
4. Recommendations

5. Questions and Next Steps

6. Appendix Slides



911 Process: From Call to Arrival



911: Calls Answered and Abandoned

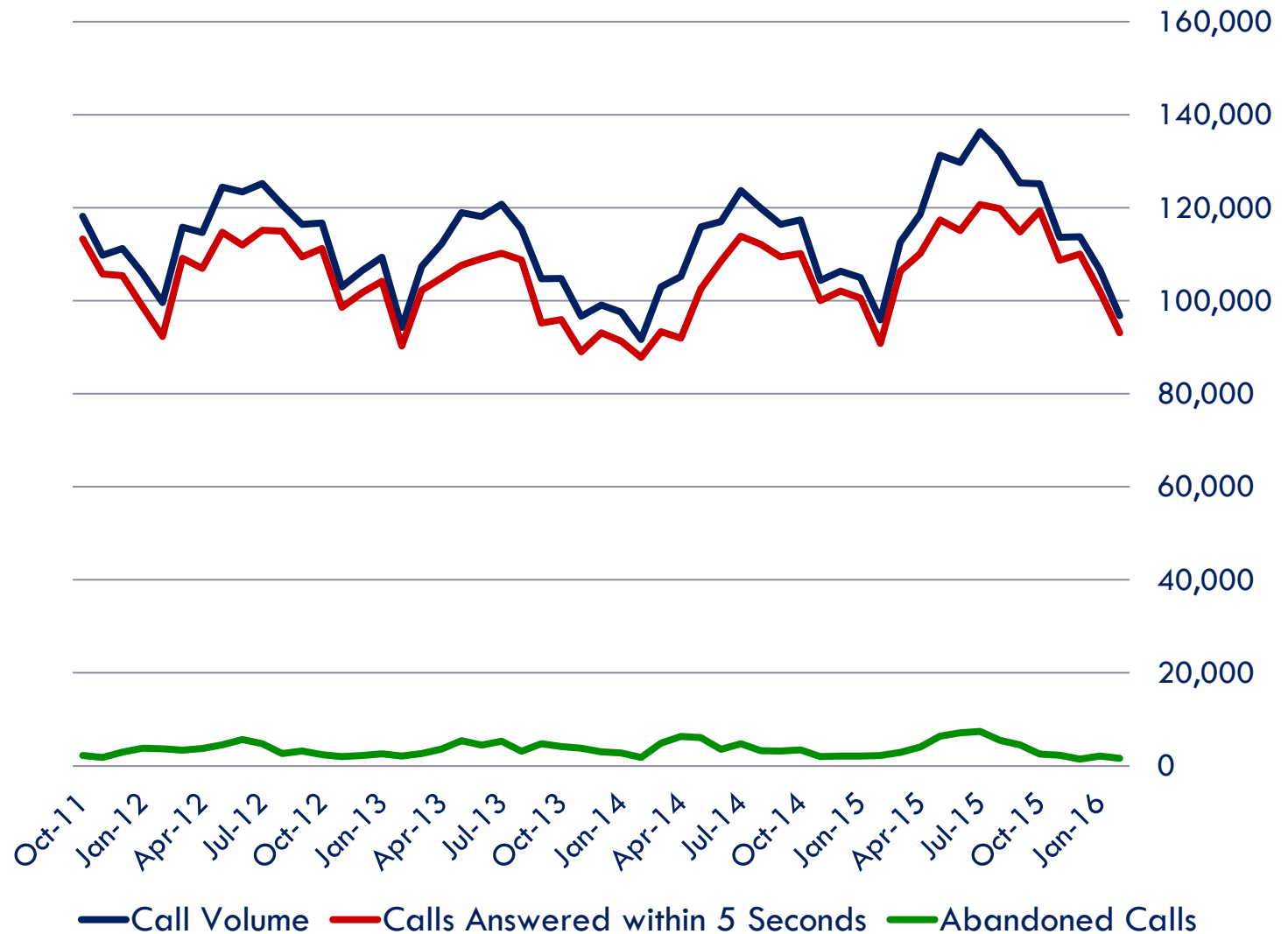


OUC handled more than 1.4 million 911 calls in FY 15 and answered 93% of calls within the service level, 5 seconds

Approximately 3% of calls were abandoned in FY 15: an abandoned call is a 911 call that has touched the Automatic Call Distributor and has been disconnected by the caller, before a call taker answers. This measure includes pocket dials and duplicate calls for active incidents.

Total call volume includes FEMS, MPD and other agencies (PSD, UCSD, DPW)

Call Volume, Answered and Abandoned



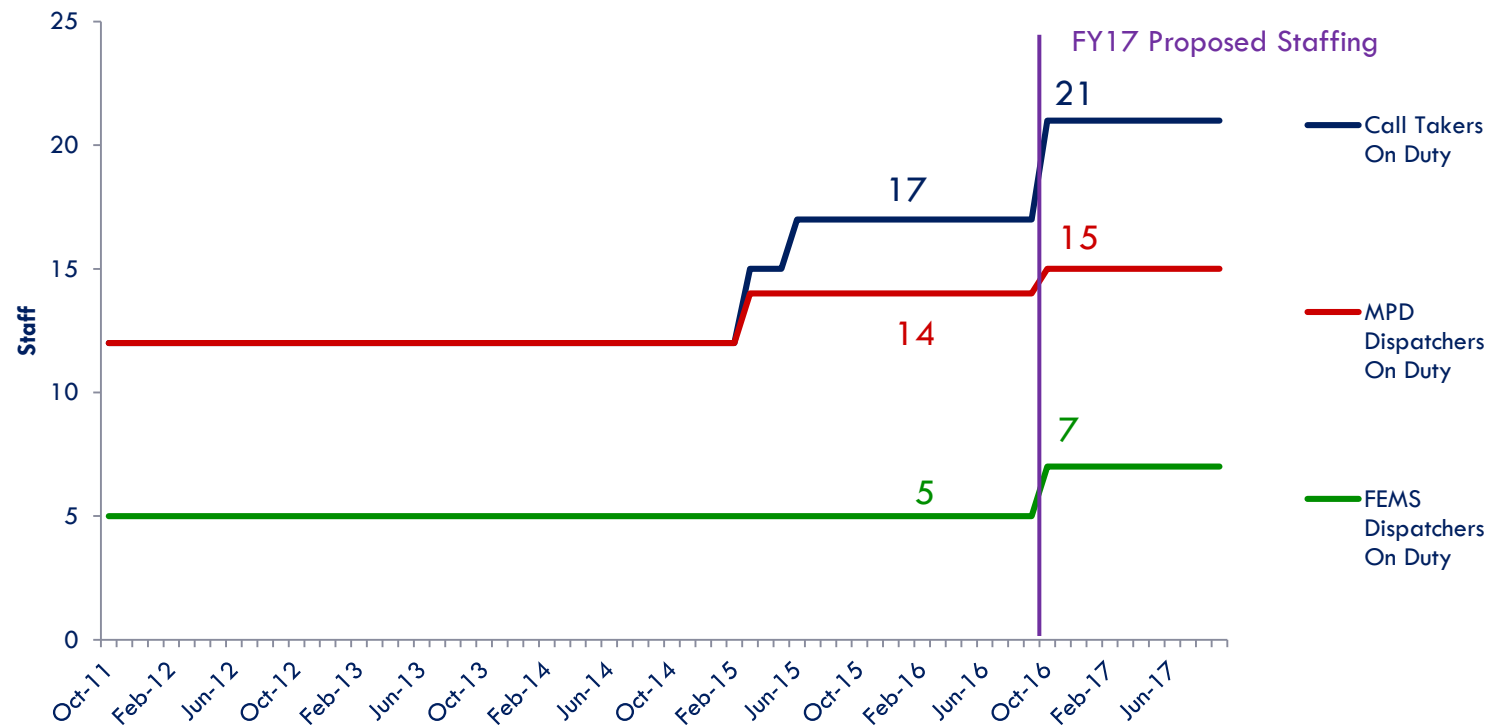
911: Call Center Staffing



Since 2012, there has been a 4% increase in 911 calls received.

From FY12 to February 2016, the average 911 call is answered in 2.14 seconds

911 Call Center Staffing Levels



OUC has requested 32 new positions for FY17: 2 shift supervisors; 8 dispatchers; and 22 call takers. The staffing graph above reflects the shift numbers if the request is approved.

OUC utilizes the Erlang C. call center staffing model. The model recommends 21 call takers to meet the 5 second answer SLA and 90 second processing SLA.

Total Computer Aided Dispatch (CAD) Events



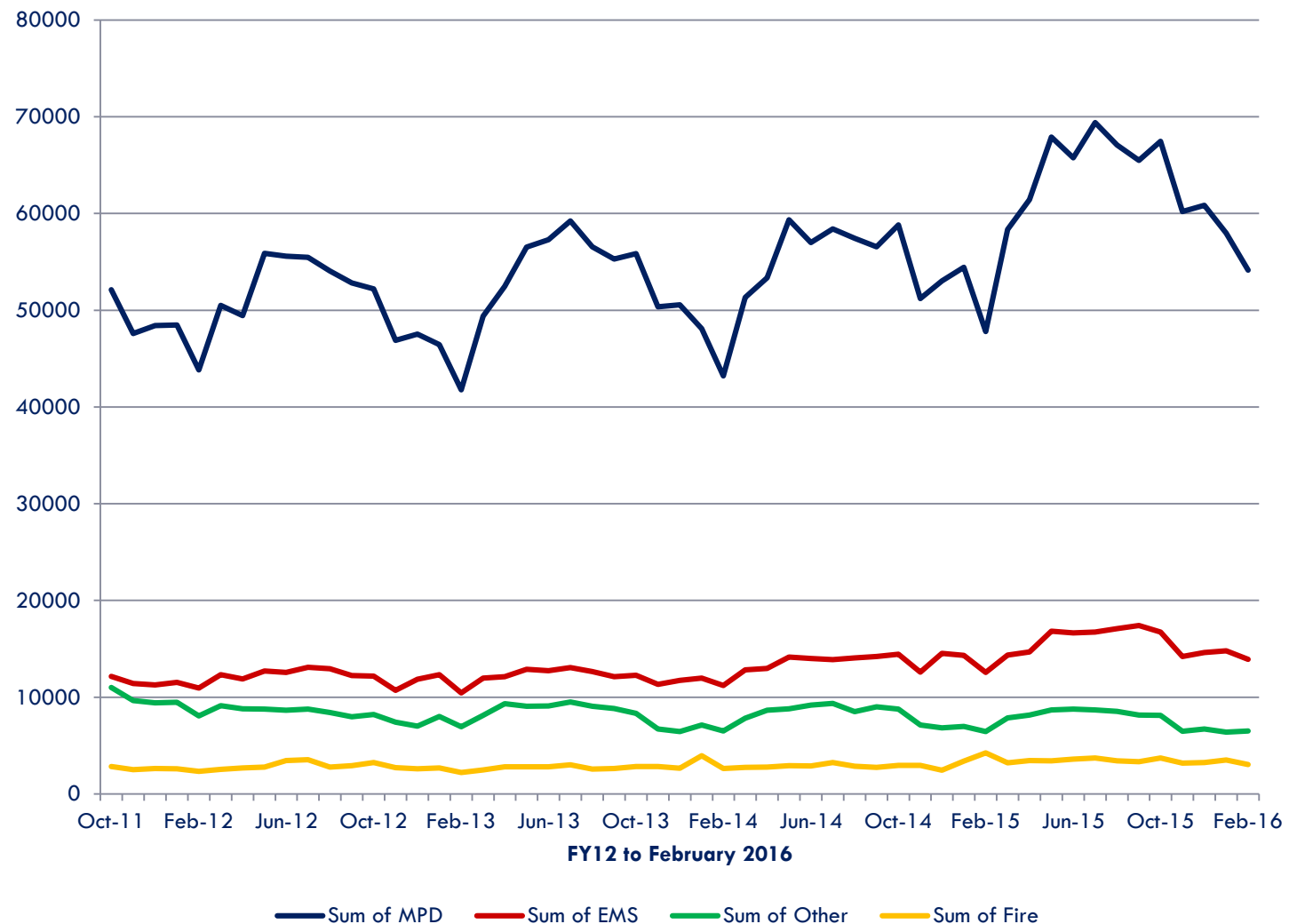
Events trend up in the spring and peak in the summer

MPD accounts for 70% of all CAD events, EMS: 16%, and Fire: 4%

Other Agencies: 10%

Other agencies include: DPW, PSD, SPEVFEMS, TRU, TT, USCP, OUC

CAD Events by Agency



**Alarm Company Address Validation CAD events are filtered out

FEMS CAD Events

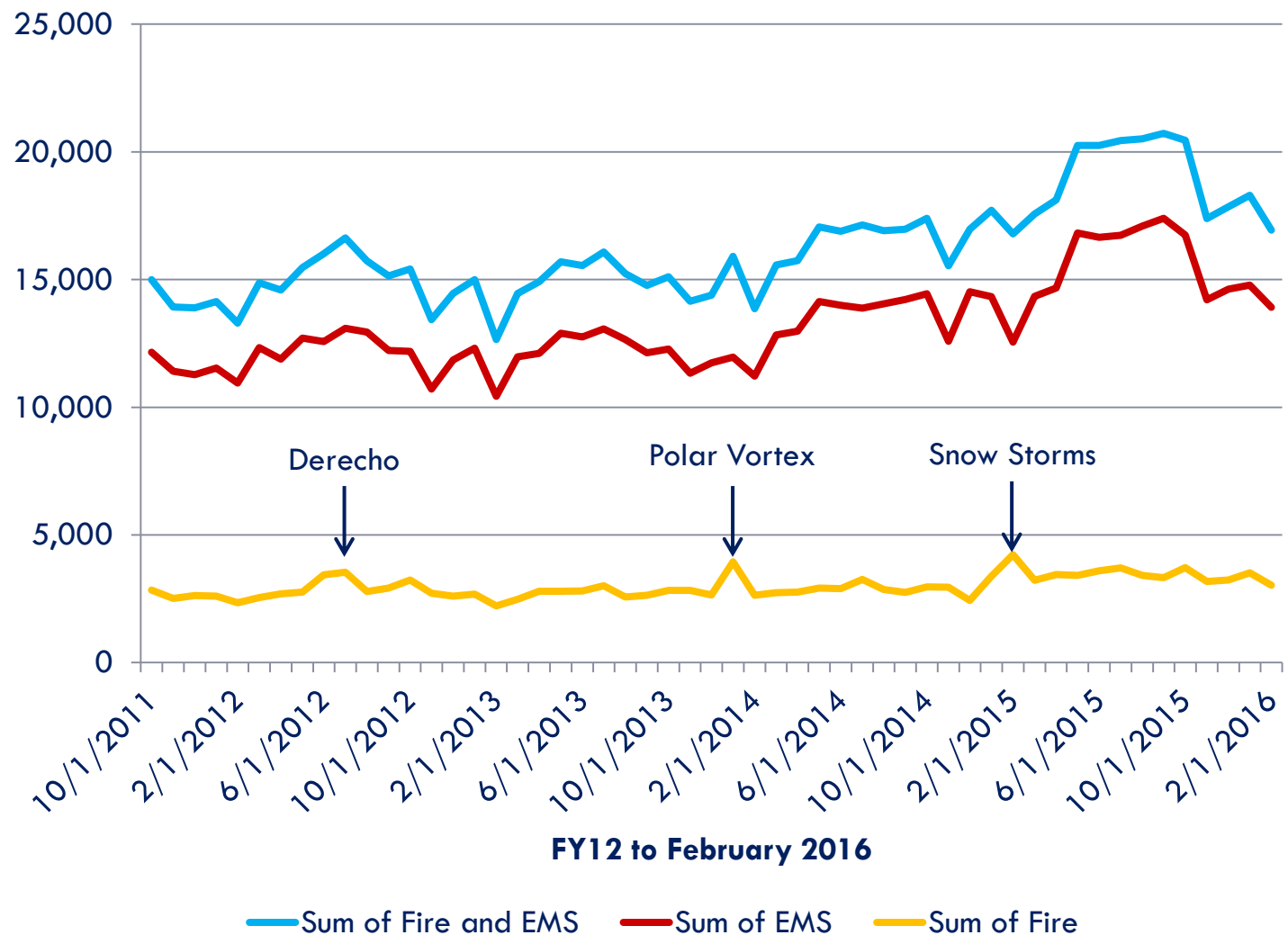


EMS accounts for 82% of FEMS CAD events, Fire 18%

EMS events trend up in the summer and down in the winter

Fire events “spike” during weather incidents:
Summer 2012
Derecho, Jan.
14 Polar Vortex, Feb.
15 snow storms

FEMS CAD Events Breakout



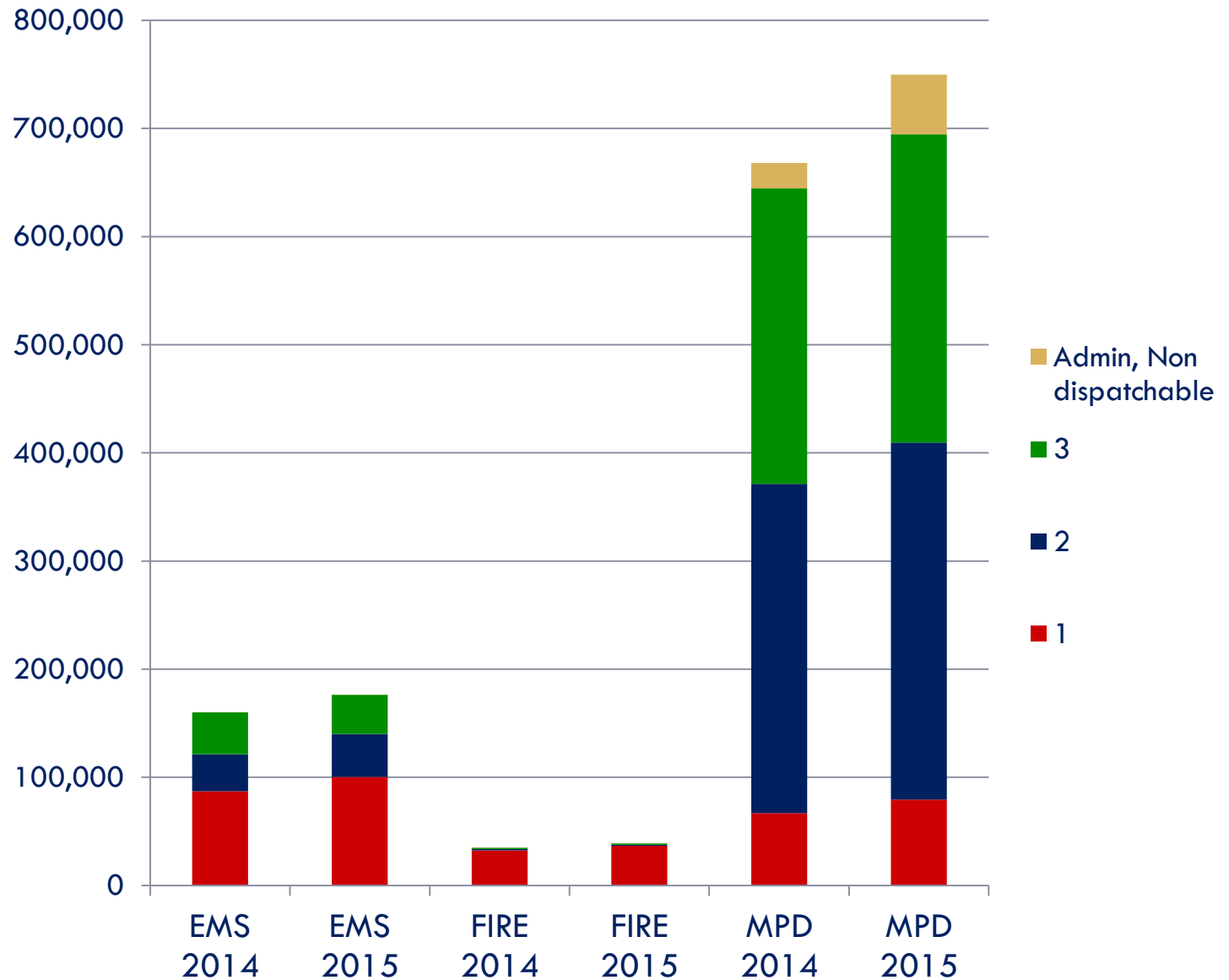
911: Type of Event (by priority level)



The majority of requests for FEMS events are classified as priority 1. MPD requests are primarily priority 2 and 3.

The 911 call center logs a number of non-dispatchable, administrative calls, primarily relating to MPD.

Approximately 700-800 calls are reprioritized each month (either higher or lower) once responders are on scene. This accounts for 1% of calls.





Most Frequent CAD Events [CY14 to 3.10.16]

FEMS	EVENT	Priority	% of Total
1	SICK PERSON (SPECIFIC DIAGNOSIS)	1 or 3	9.50%
2	BREATHING PROBLEMS	1	4.49%
3	ALARMS	1	4.36%
4	UNKNOWN PROBLEM (PERSON DOWN)	1 or 2	3.88%
5	UNCONSCIOUS / FAINTING	1 or 3	3.55%
6	TRAFFIC / TRANSPORTATION INCIDENTS	1 or 2	2.86%
7	FALLS	2 or 3	2.81%
8	CHEST PAIN / CHEST DISCOMFORT (NON-TRAUMATIC)	1	2.80%
9	ASSAULT / SEXUAL ASSAULT	1, 2, or 3	2.28%
10	NO PRIORITY SYMPTOMS	3	2.20%
MPD	EVENT	Priority	% of Total
1	DISORDERLY	2	13.88%
2	BURGLAR ALARM	2	4.21%
3	ACCIDENT PROPERTY DAMAGE ONLY	2 or 3	3.93%
4	OTHER	2 or 3	3.92%
5	TRAFFIC COMPLAINT	3	3.49%
6	TRAFFIC STOP	2	3.39%
7	BUSINESS / ALARM	2	3.36%
8	INVESTIGATE THE TROUBLE	2	3.22%
9	ASSIST	2 or 3	3.03%
10	FAMILY DISTURBANCE	2	2.93%



MPD / FEMS CAD Alarm Incidents [CY 2015]

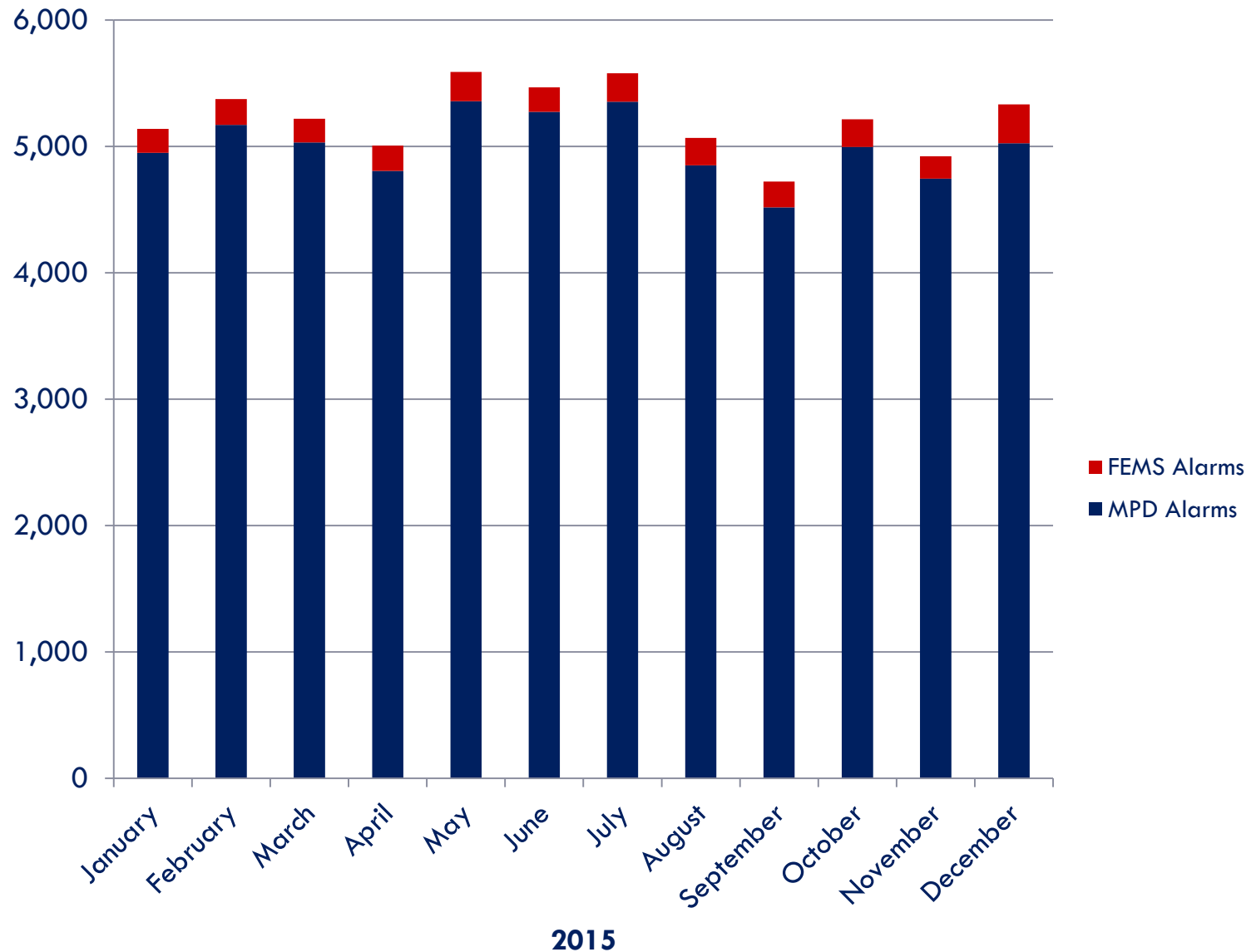
MPD accounts for 96% of all alarm incidents

MPD averages 5,006 alarm incidents a month

Burglar Alarm: 53% (MPD only)

Business Alarm: 37% (MPD only)

Alarm incidents trend up in May, June, July





Repeat Alarm Locations [CY 2015]

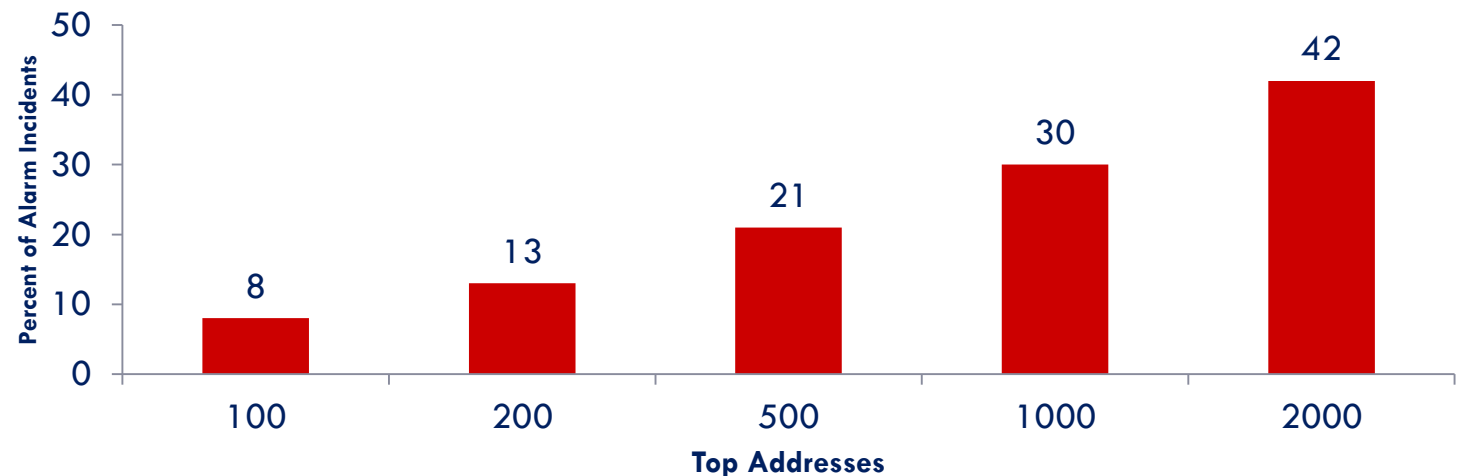
62,637 alarm incidents at 23,192 unique addresses in 2015

Less than 10% of these addresses accounted for more than 40% of the incidents

2 officers must respond to MPD alarm incidents, for officer safety

	Business / Description	Address	Ward	# of Incidents
1	Exxon Gas Station	1201 PENNSYLVANIA AVE SE DC	6	244
2	Union Station	50 MASSACHUSETTS AVE NE DC	6	128
3	Chipotle	3255 M ST NW DC	2	121
4	Mary McLeod Bethune Day Academy PCS	1404 JACKSON ST NE DC	5	121
5	DC USA Shopping Center	3100 14TH ST NW DC	1	119
6	Academia De La Porta Christian	7614 GEORGIA AVE NW DC	4	93
7	Sweetgreen	2200 WISCONSIN AVE NW DC	3	93
8	Family and Medical Counseling Services	2041 MARTIN LUTHER KING JR AVE SE DC	8	84
9	Costco	2441 MARKET ST NE DC	5	74
10	Apartment Building	1050 NEW JERSEY AVE NW DC	6	73

Repeat Addresses as Percent of Total Incidents





Call to Arrival: Overview

Percentage change in response time by agency, 2014-2015

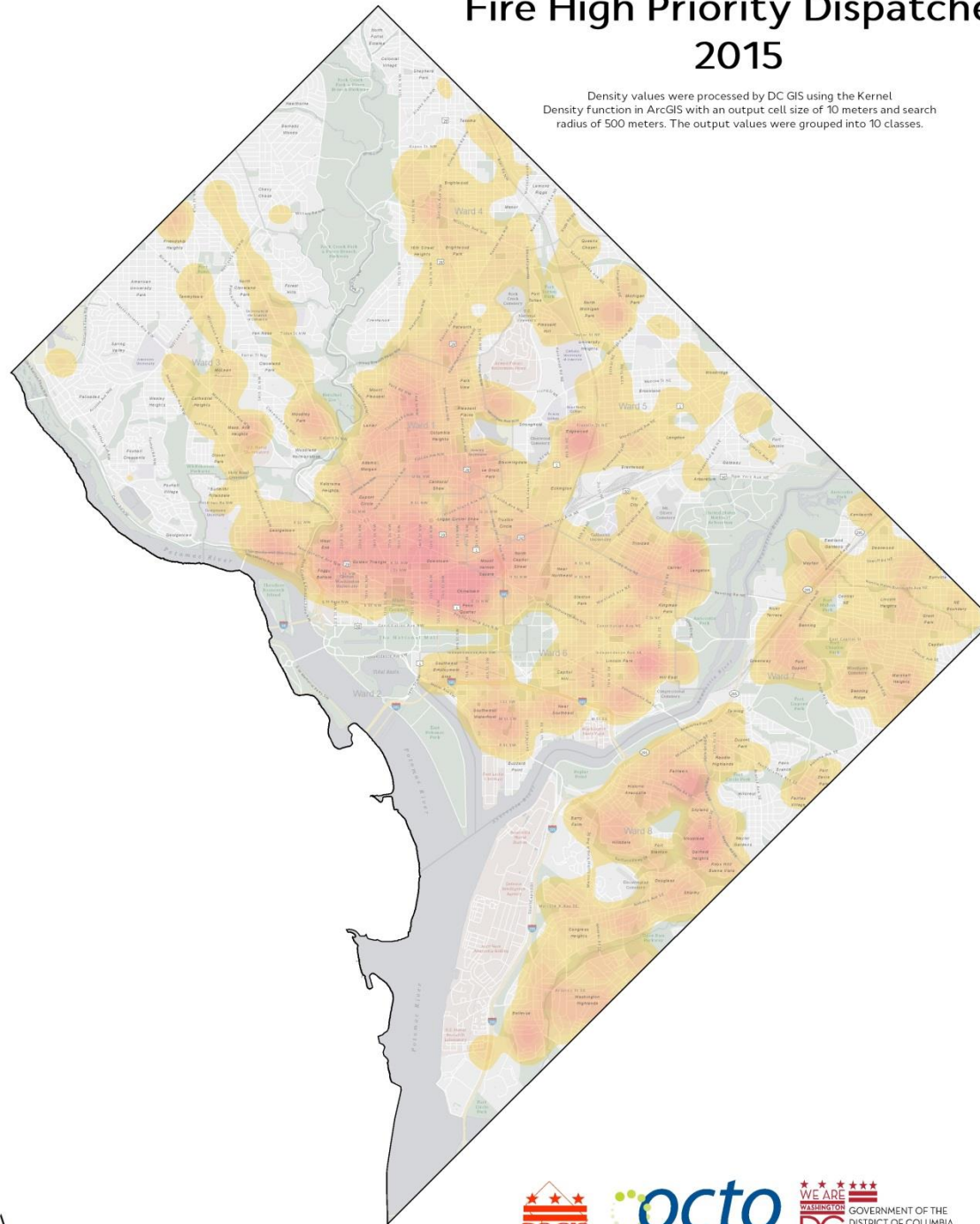


Agency	Priority	2014 Call to Arrival Times	2015 Call to Arrival Times	% change	2014 # of events	2015 # of events	% change
MPD	1	518	515	-0.5%	66,817	79,310	+18.7%
	2	691	690	-0.1%	304,533	330,230	+8%
	3	771	791	+2.5%	273,403	285,123	+4%
Fire	1	430	484	+12%	32,325	36,581	+13%
	2	295	322	+9%	1,247	1,099	-11.9%
	3	315	364	+15%	1,374	1,195	-13%
EMS	1	400	450	+12.5%	87,034	100,374	+15%
	2	494	537	+8%	34,286	39,699	+15.8%
	3	517	576	+11.4%	38,643	36,163	-6%



Fire High Priority Dispatches 2015

Density values were processed by DC GIS using the Kernel Density function in ArcGIS with an output cell size of 10 meters and search radius of 500 meters. The output values were grouped into 10 classes.



0 1 2 3 4 Miles



Source: Office of the Chief
Technology Officer (OCTO)
Prepared by: dcgis.dc.gov



Date: March 2016
Coordinate System:
NAD 1983 State Plane
Maryland FIPS 1900



Information on this map is for illustration only. The user acknowledges and agrees that the use of this information is at the sole risk of the user. No endorsement, liability, or responsibility for information or opinions expressed are assumed or accepted by any agency of the DC Government.

911: Average Call to Arrival by Month, Fire



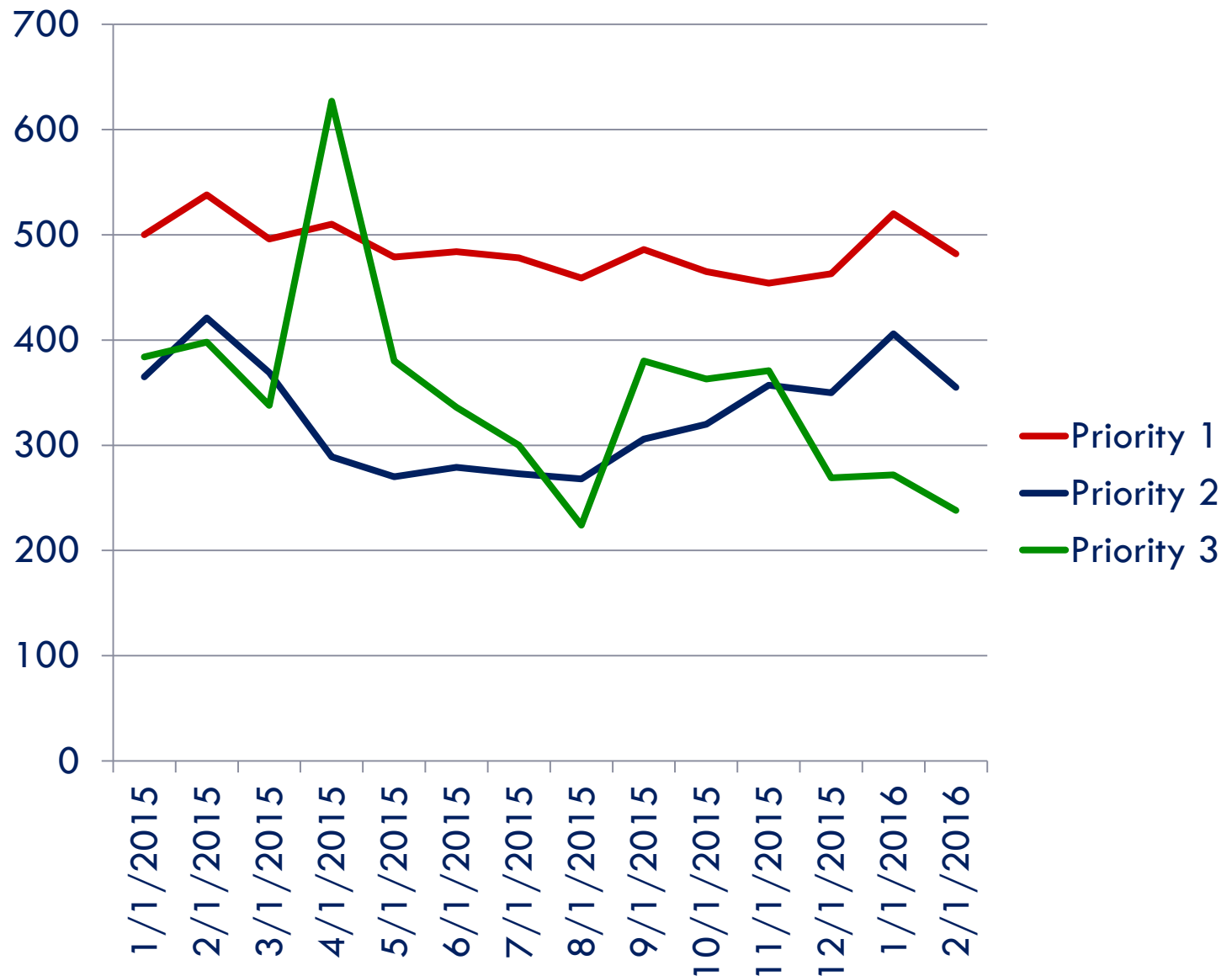
Average time from call to arrival
(January 2015 – February 2016):

Fire:

Priority 1:
486.7 seconds
(8.1 minutes)

Priority 2: 330
seconds (5.5
minutes)

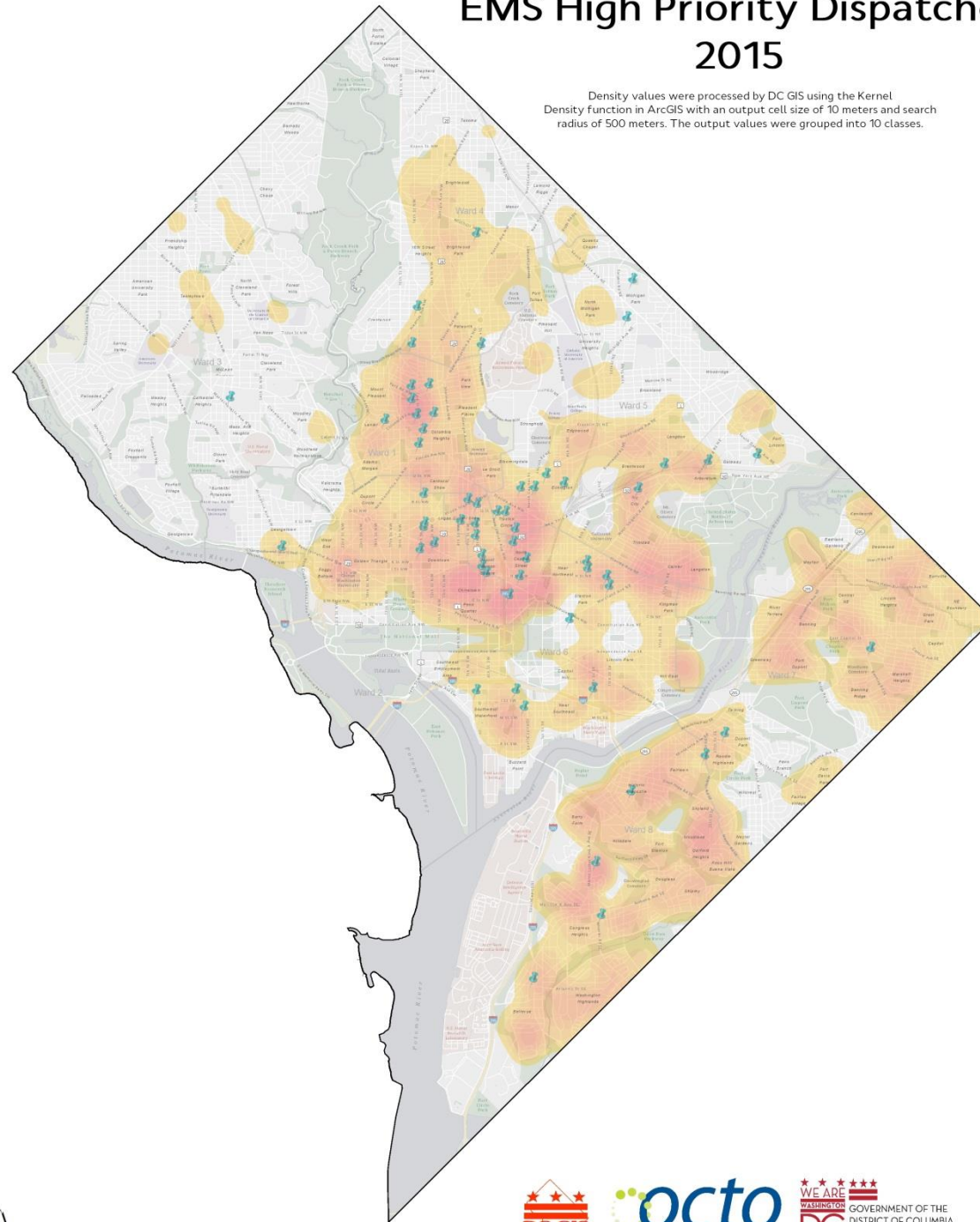
Priority 3: 348
seconds (5.8
minute)





EMS High Priority Dispatches 2015

Density values were processed by DC GIS using the Kernel Density function in ArcGIS with an output cell size of 10 meters and search radius of 500 meters. The output values were grouped into 10 classes.



Pins represent
DC shelter
locations



0 1 2 3 4 Miles



Source: Office of the Chief
Technology Officer (OCTO)
Prepared by: dcgis.dc.gov



Date: March 2016
Coordinate System:
NAD 1983 State Plane
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911: Average Call to Arrival by Month, EMS



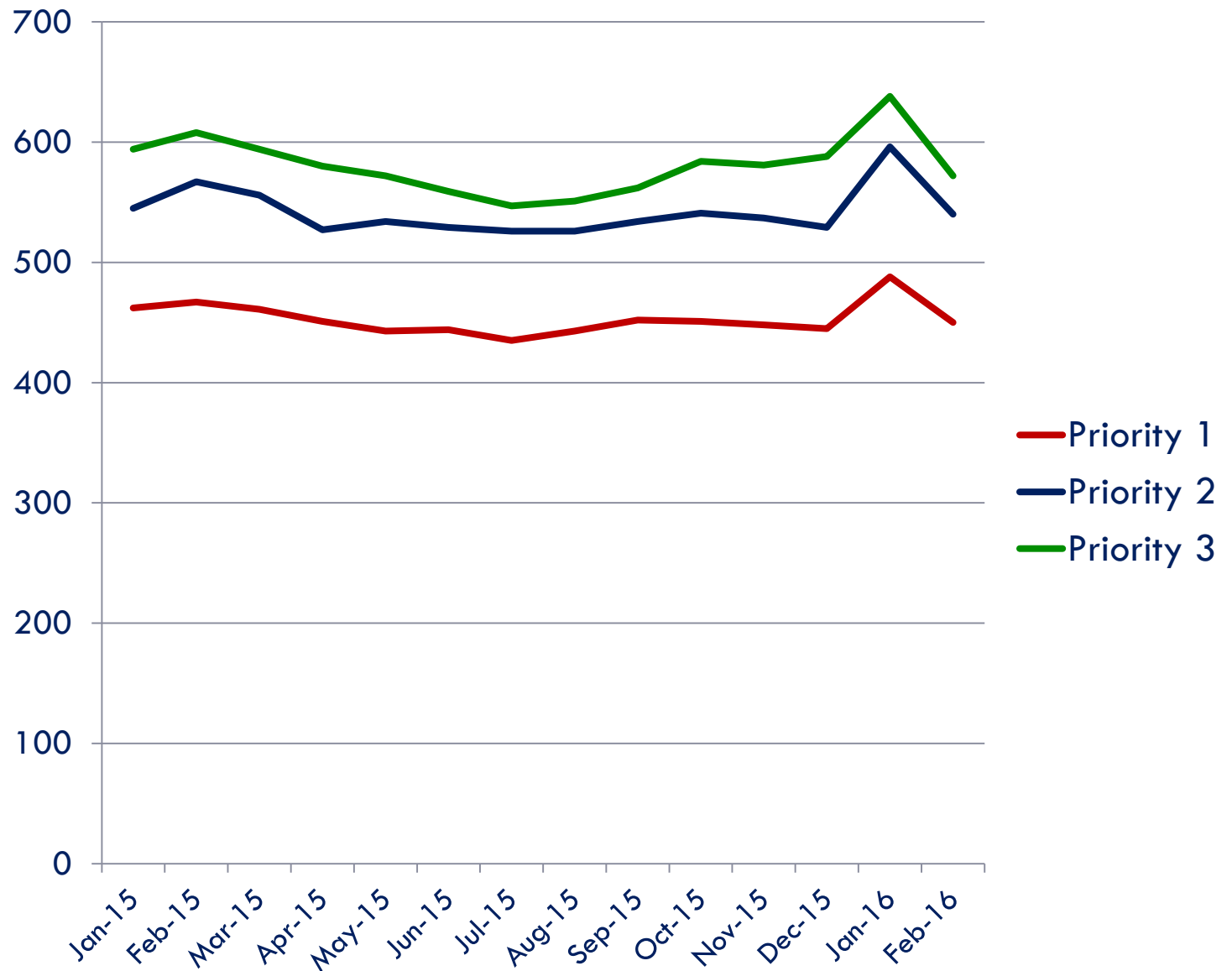
Average time
from call to
arrival
(January 2015
– February
2016):

EMS:

Priority 1: 452
seconds (7.5
minutes)

Priority 2:
541.9 seconds
(9 minutes)

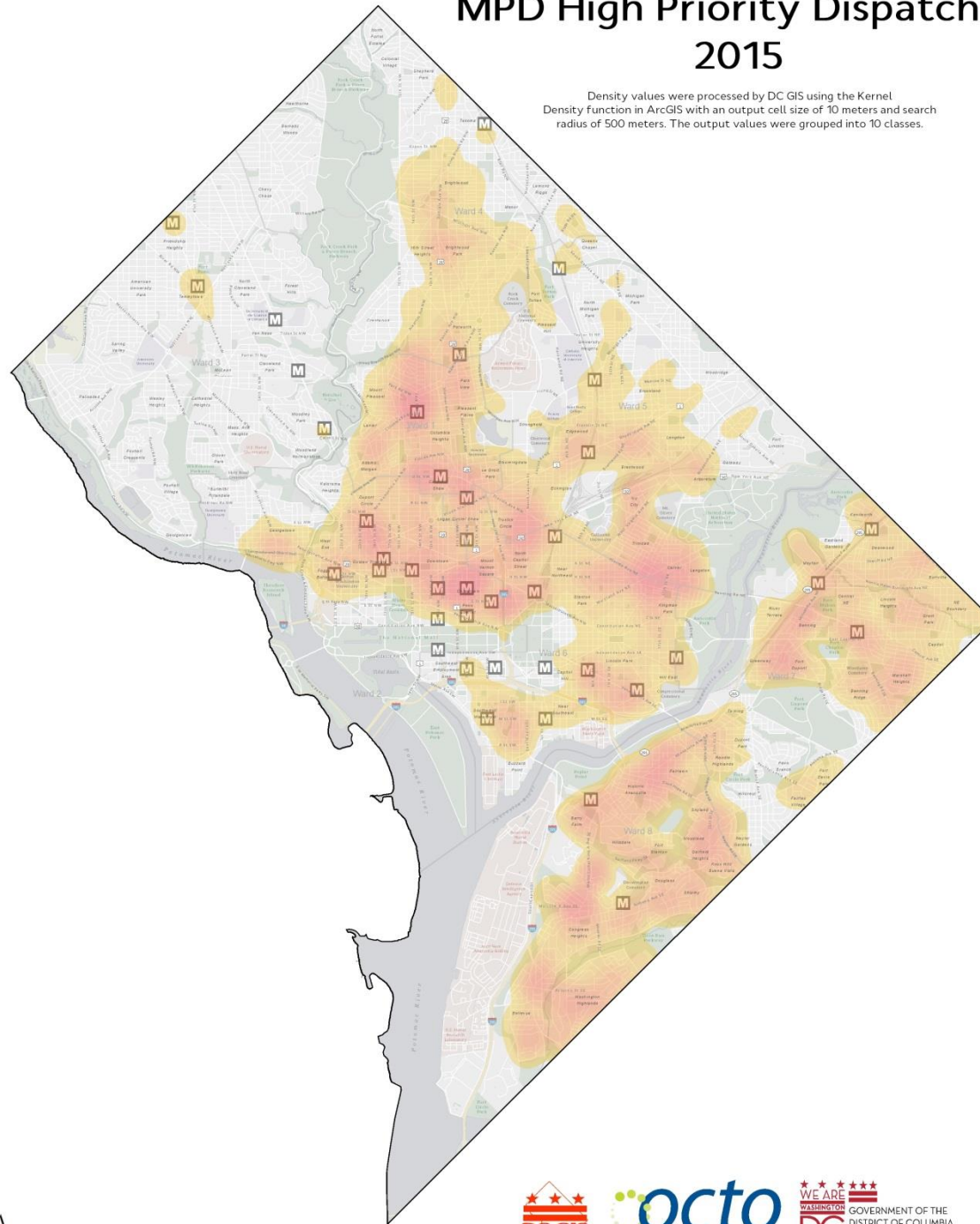
Priority 3:
580.7 seconds
(9.6 minutes)





MPD High Priority Dispatches 2015

Density values were processed by DC GIS using the Kernel Density function in ArcGIS with an output cell size of 10 meters and search radius of 500 meters. The output values were grouped into 10 classes.



0 1 2 3 4 Miles



Source: Office of the Chief
Technology Officer (OCTO)
Prepared by: dcgis.dc.gov



Date: March 2016
Coordinate System:
NAD 1983 State Plane
Maryland FIPS 1900



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911: Average Call to Arrival by Month, MPD



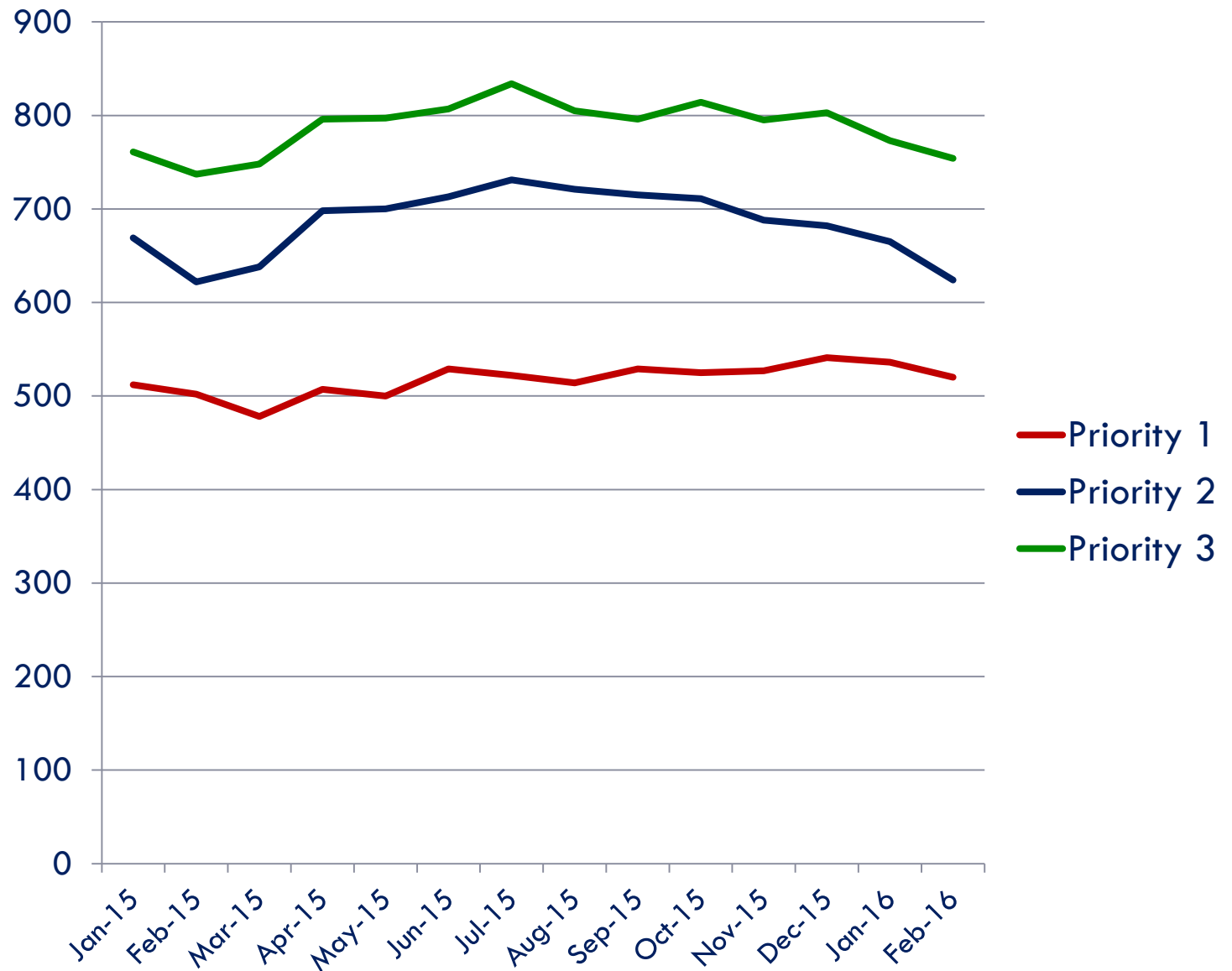
Average time
from call to
arrival
(January 2015
– February
2016):

MPD:

Priority 1:
517.2 seconds
(8.6 minutes)

Priority 2: 684
seconds (11.4
minutes)

Priority 3: 787
seconds (13.1
minutes)





Call to Arrival Breakdown

1: Call to Queue

911: Average Call to Queue by Month, Fire



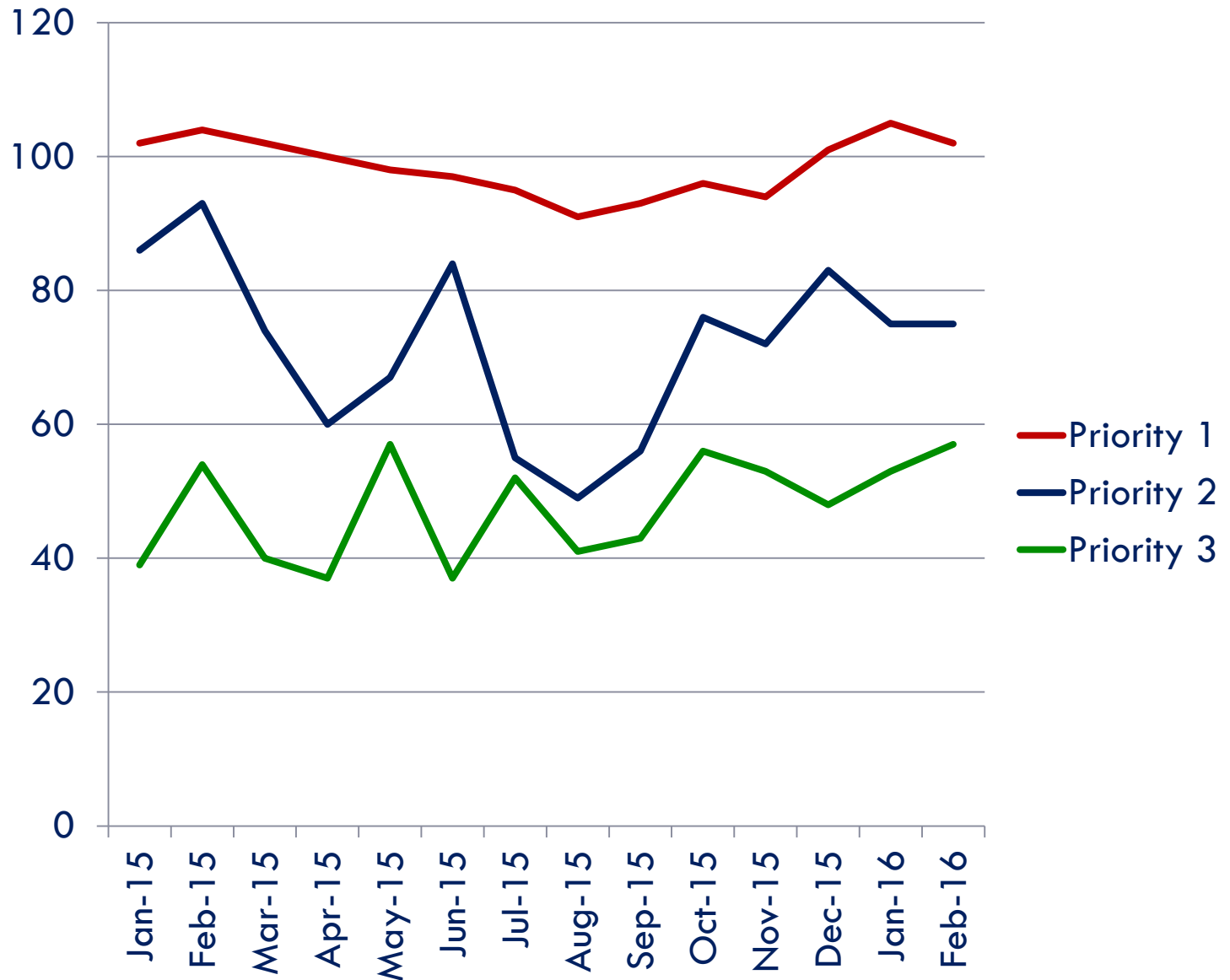
Average time to queue a call over the past calendar year (January 2015 – February 2016):

Fire:

Priority 1:
98.6 seconds

Priority 2:
71.8 seconds

Priority 3:
47.6 seconds



911: Average Call to Queue by Month, EMS



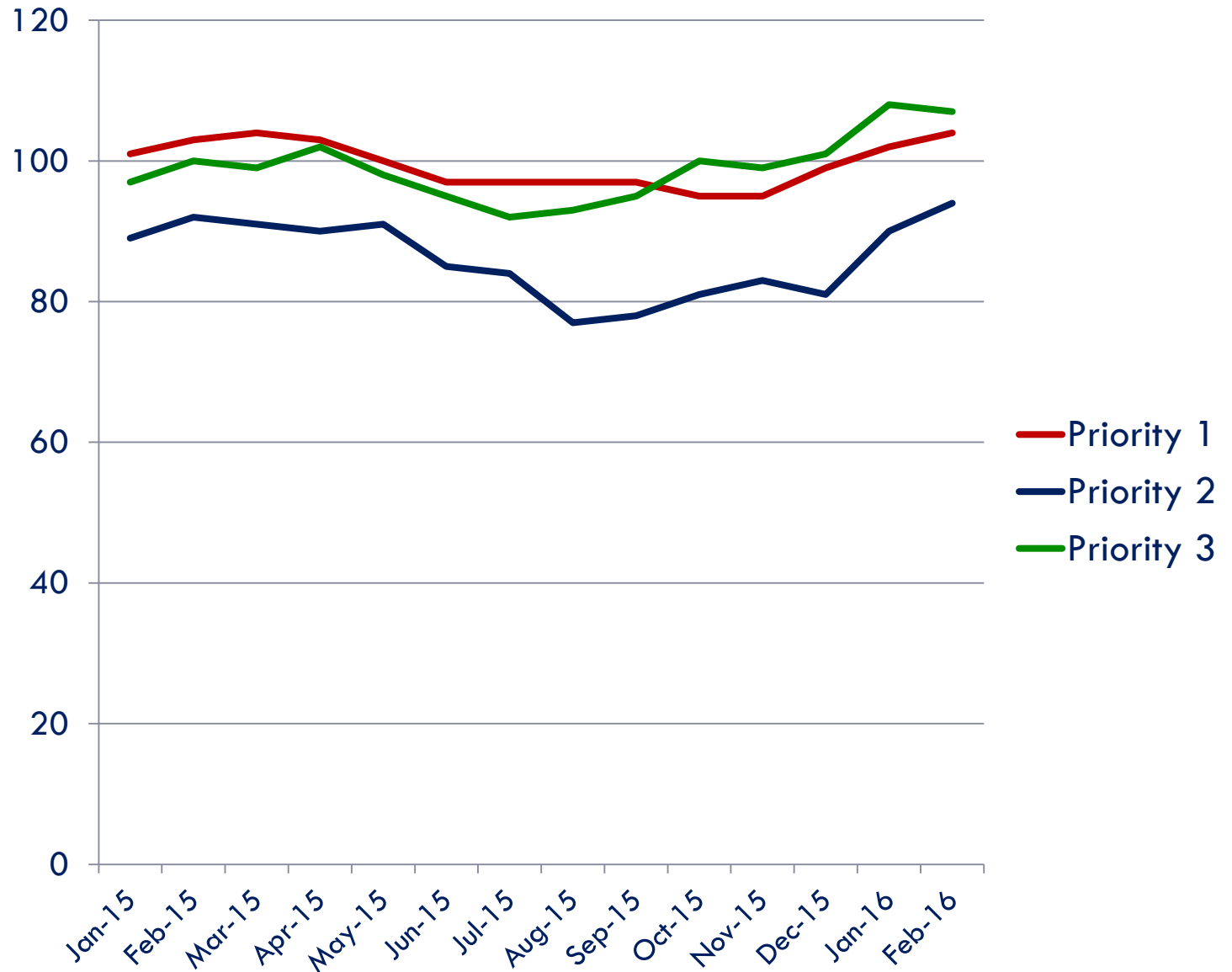
Average time to queue a call over the past calendar year (January 2015 – February 2016):

EMS:

Priority 1:
99.6 seconds

Priority 2:
86.1 seconds

Priority 3: 99 seconds



911: Average Call to Queue by Month, MPD



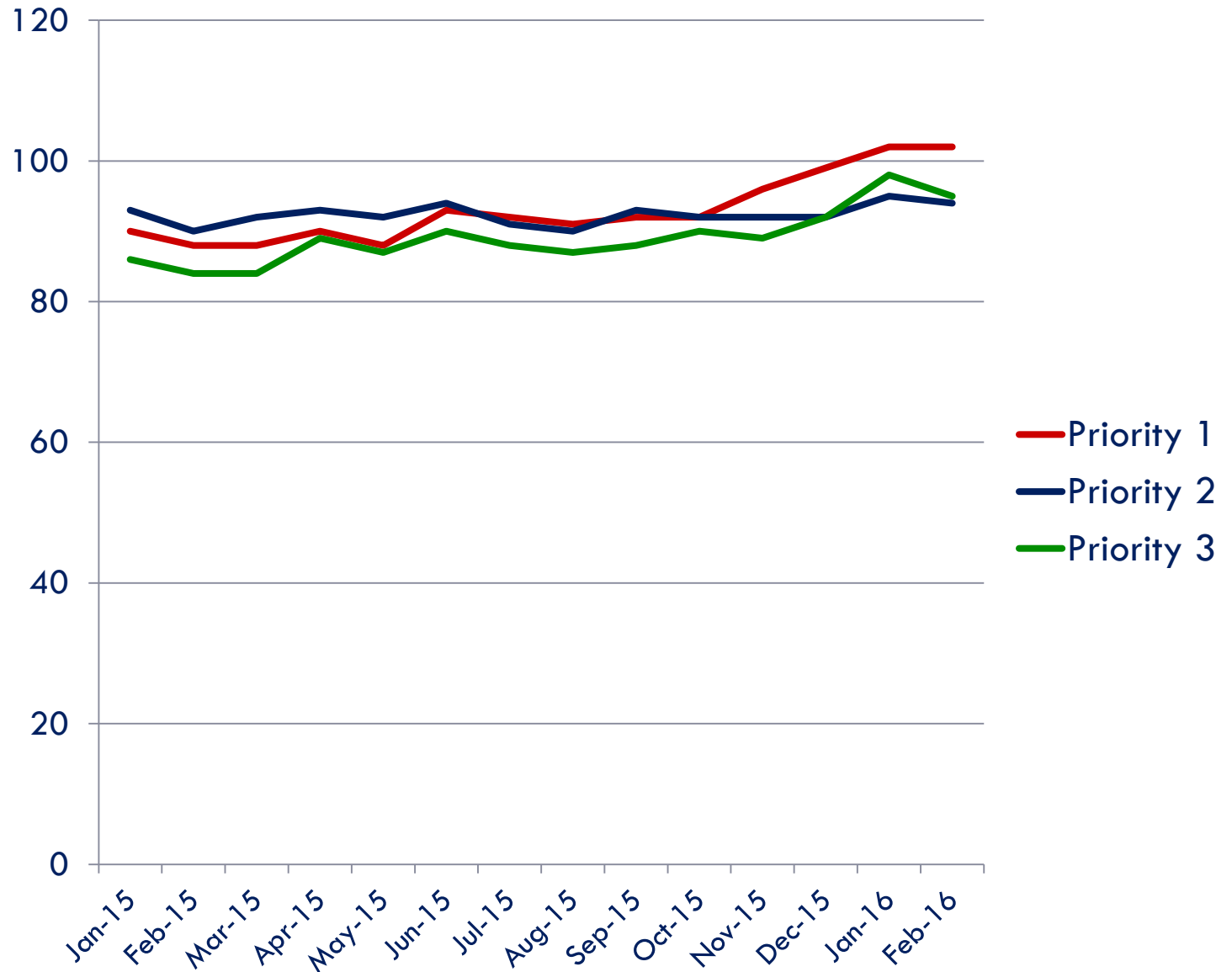
Average time to queue a call over the past calendar year (January 2015 – February 2016):

MPD:

Priority 1: 93 seconds

Priority 2: 92.3 seconds

Priority 3: 89 seconds





Call to Arrival Breakdown

2: Queue to Dispatch



911: Average Queue to Dispatch by Month, Fire

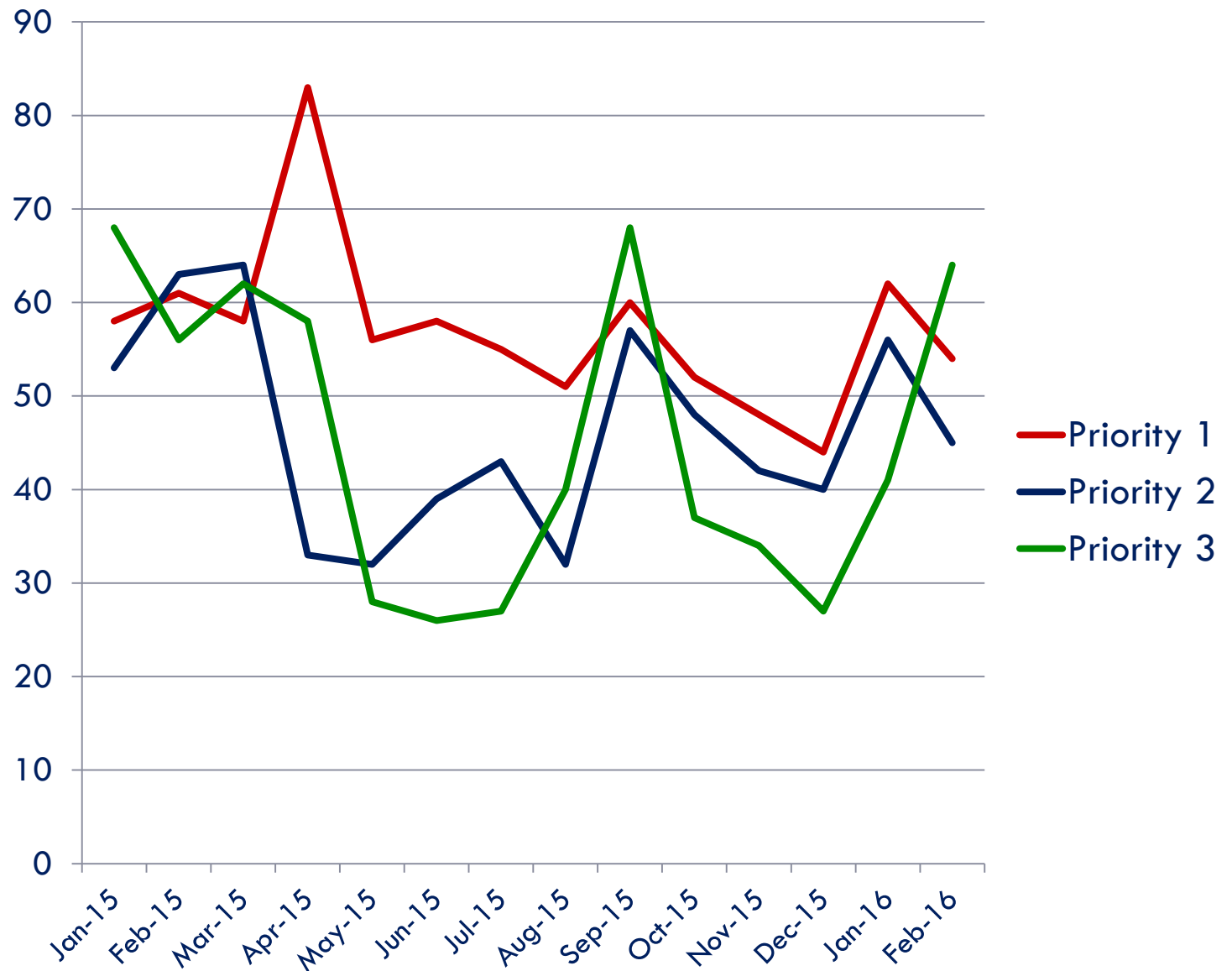
Average time to dispatch a queued call over the past calendar year (January 2015 – February 2016):

Fire:

Priority 1:
57.1 seconds
(<1 min)

Priority 2:
46.2 seconds
(<1 min)

Priority 3:
45.4 seconds
(<1 min)





911: Average Queue to Dispatch by Month, EMS

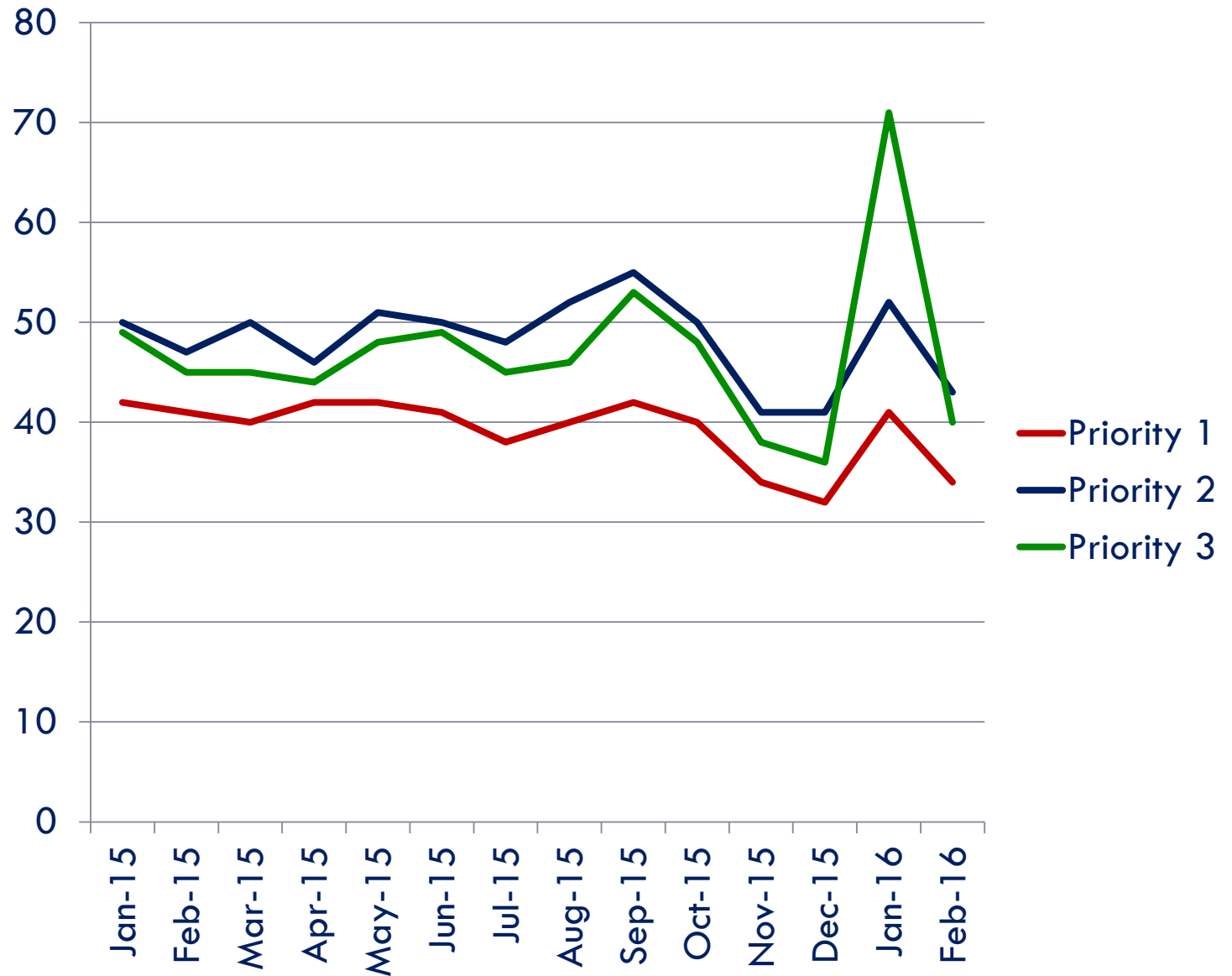
Average time to dispatch a queued call over the past calendar year (January 2015 – February 2016):

EMS:

Priority 1:
39.2 seconds
(<1 min)

Priority 2: 48
seconds
(<1 min)

Priority 3: 46
seconds
(<1 min)





911: Average Queue to Dispatch by Month, MPD

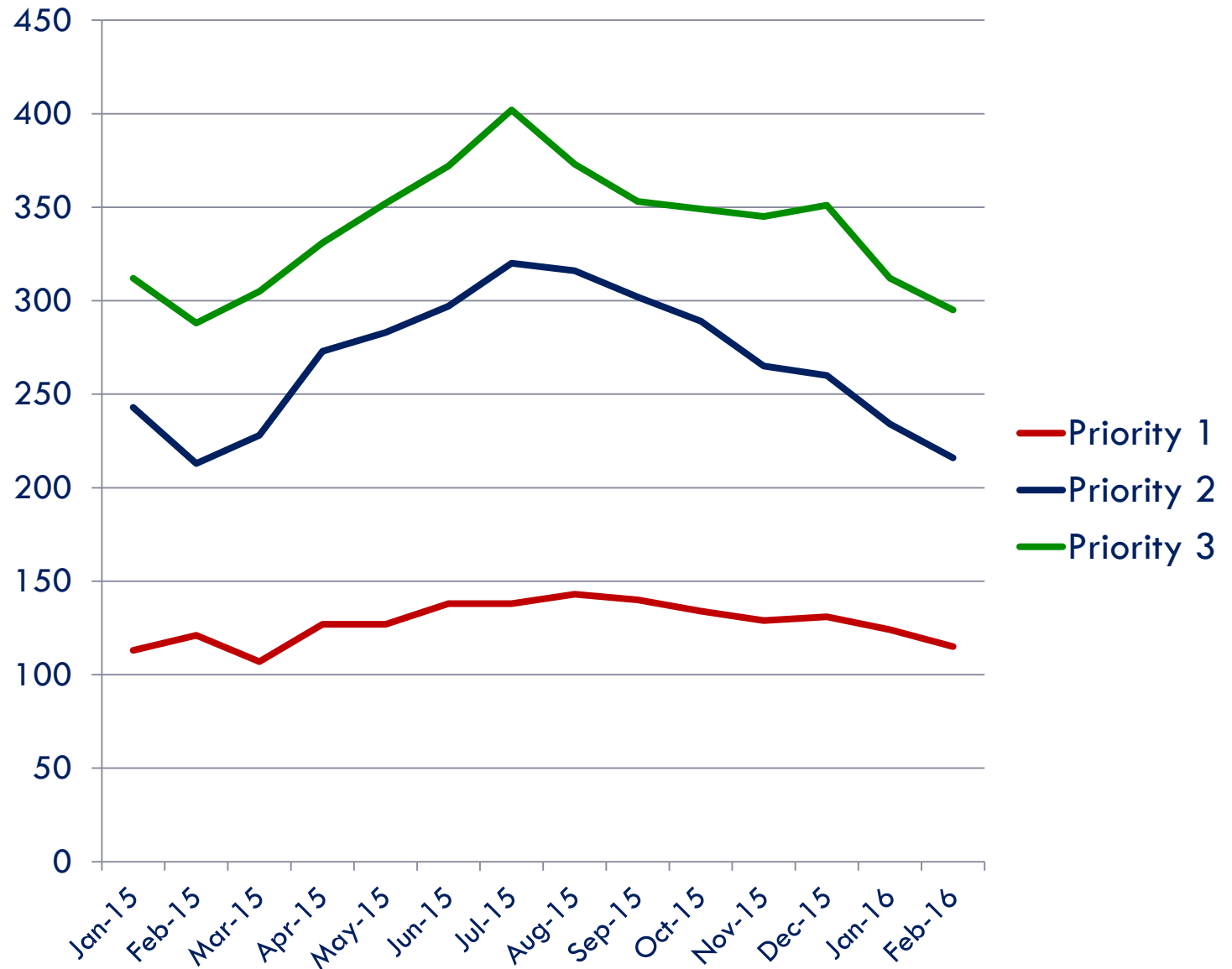
Average time to dispatch a queued call over the past calendar year (January 2015 – February 2016):

MPD:

Priority 1: 127.6 seconds (2.1 mins)

Priority 2: 267 seconds (4.5 mins)

Priority 3: 338.6 seconds (5.6 mins)



911: Dispatched to Incorrect Address



All incorrectly dispatched calls were the result of call taker error / call taker failing to follow procedure, except for one EMS/Medical incident in CY12 which was the result of dispatcher error.

	CY 2012	CY 2013	CY 2014	CY 2015	CY 2016
Fire	2	1	0	2	1
Medical	4*	5	1	2	0
Police	2	0	1	1	0



Call to Arrival Breakdown

3: Dispatch to Arrival



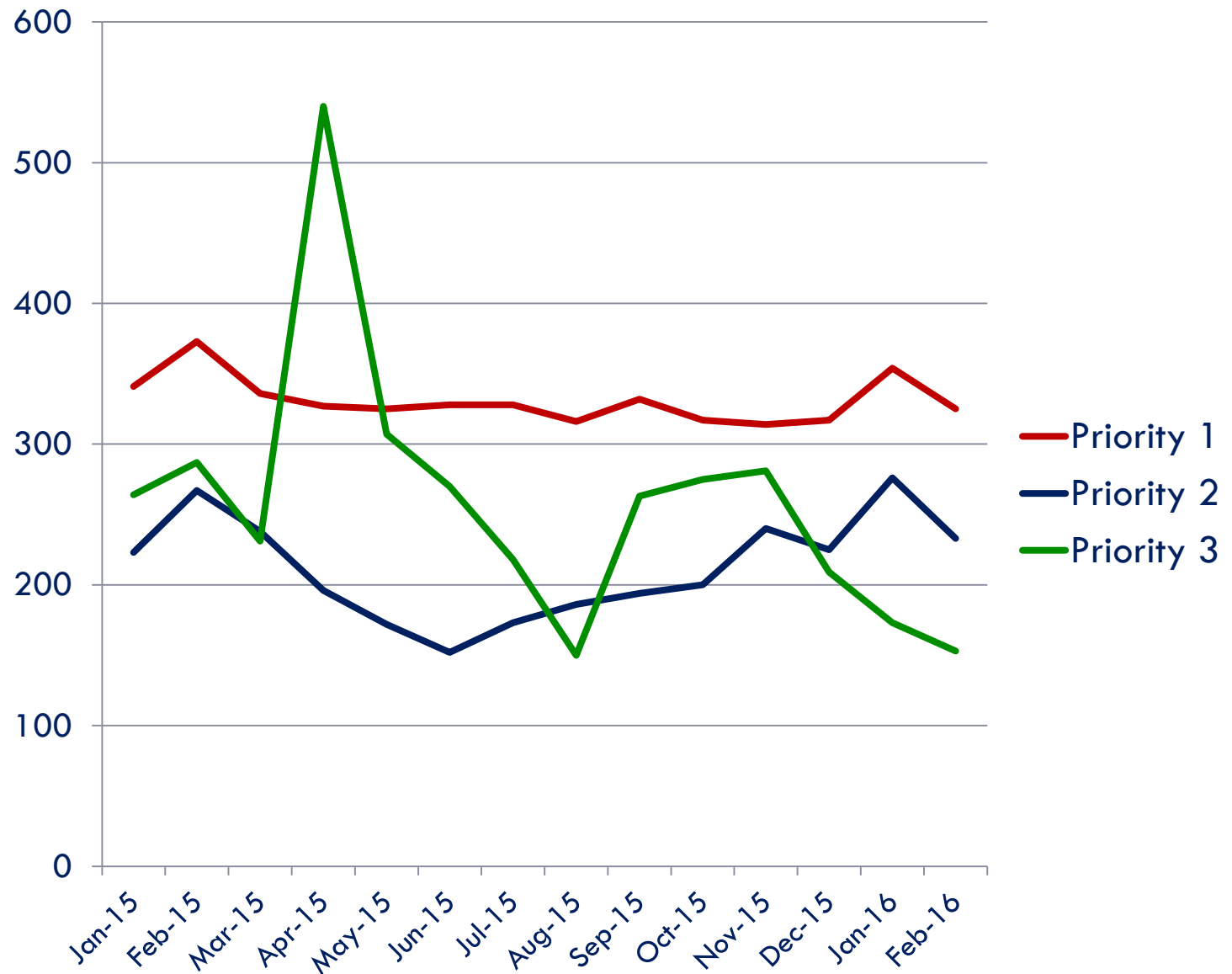
911: Average Dispatch to Arrival by Month, Fire

Average time from dispatch to arrival for Fire calls, by priority over the past calendar year (January 2015-February 2016):

Priority 1: 330 seconds (5.5 minutes)

Priority 2: 212.5 seconds (3.5 minutes)

Priority 3: 258 seconds (4.3 minutes)



Average dispatch to arrival times by Month by Ward, Fire



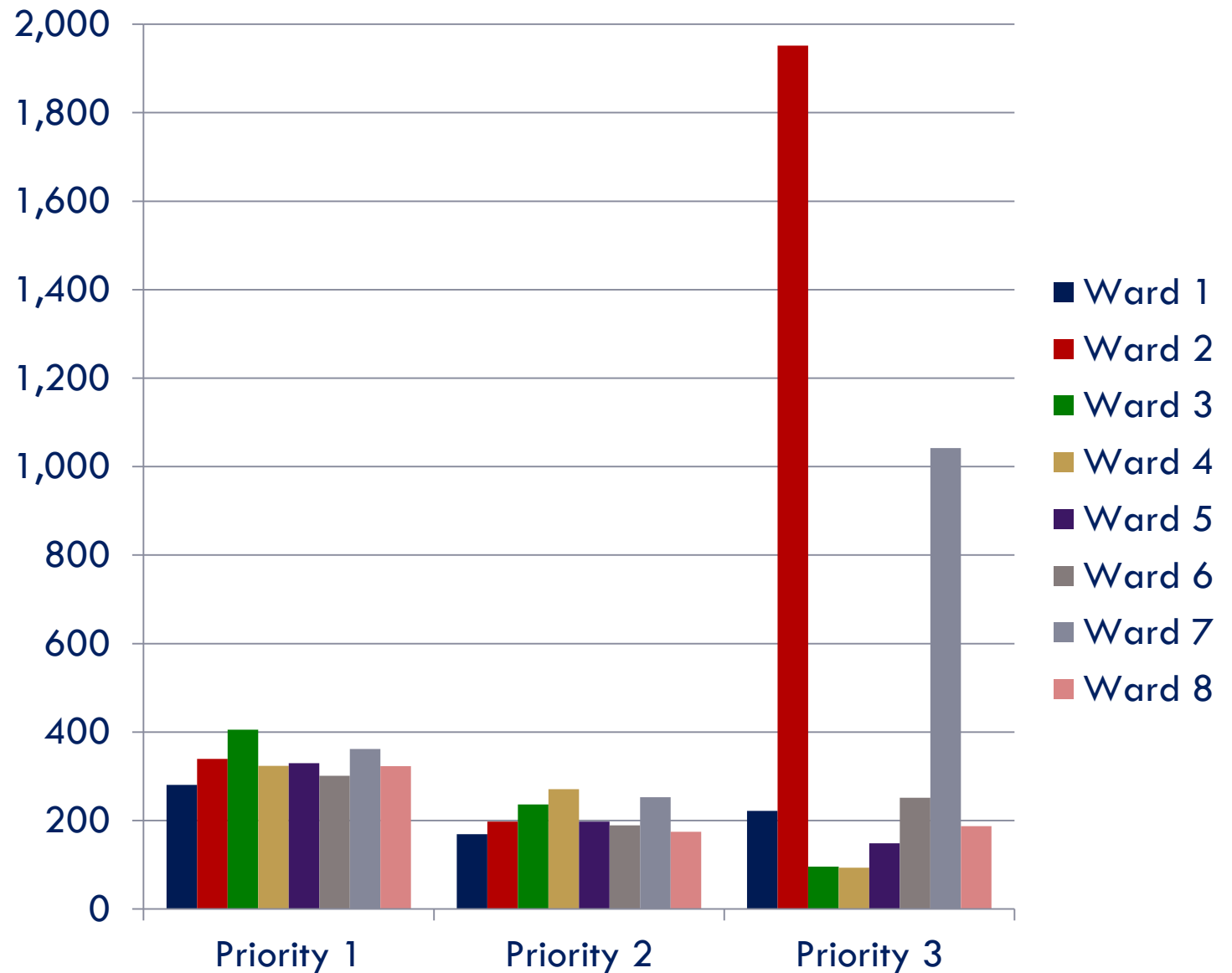
Average time (in seconds) from dispatch to arrival on scene, for Fire.

Average is over the past calendar year (March 2015-March 2016)

Spike in times for priority 3 calls in Ward 2 are across all months; spike in Ward 7 primarily driven by February 2016

400 seconds is 6.6 min

600 seconds is 10 min





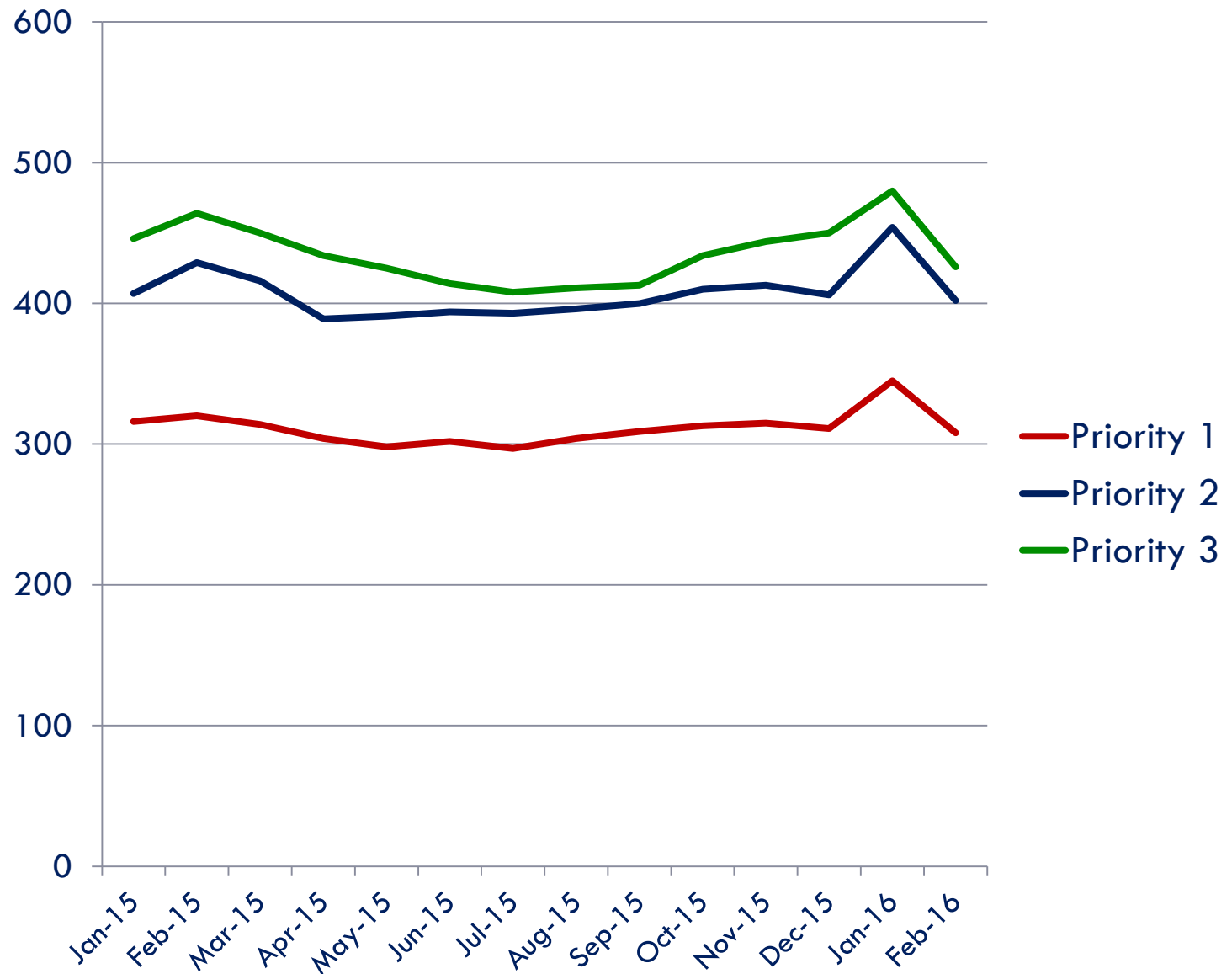
911: Average Dispatch to Arrival by Month, EMS

Average time from dispatch to arrival for EMS calls, by priority over the past calendar year (January 2015-February 2016):

Priority 1: 311 seconds (5.2 minutes)

Priority 2: 407 seconds (6.7 minutes)

Priority 3: 435.6 seconds (7.2 minutes)



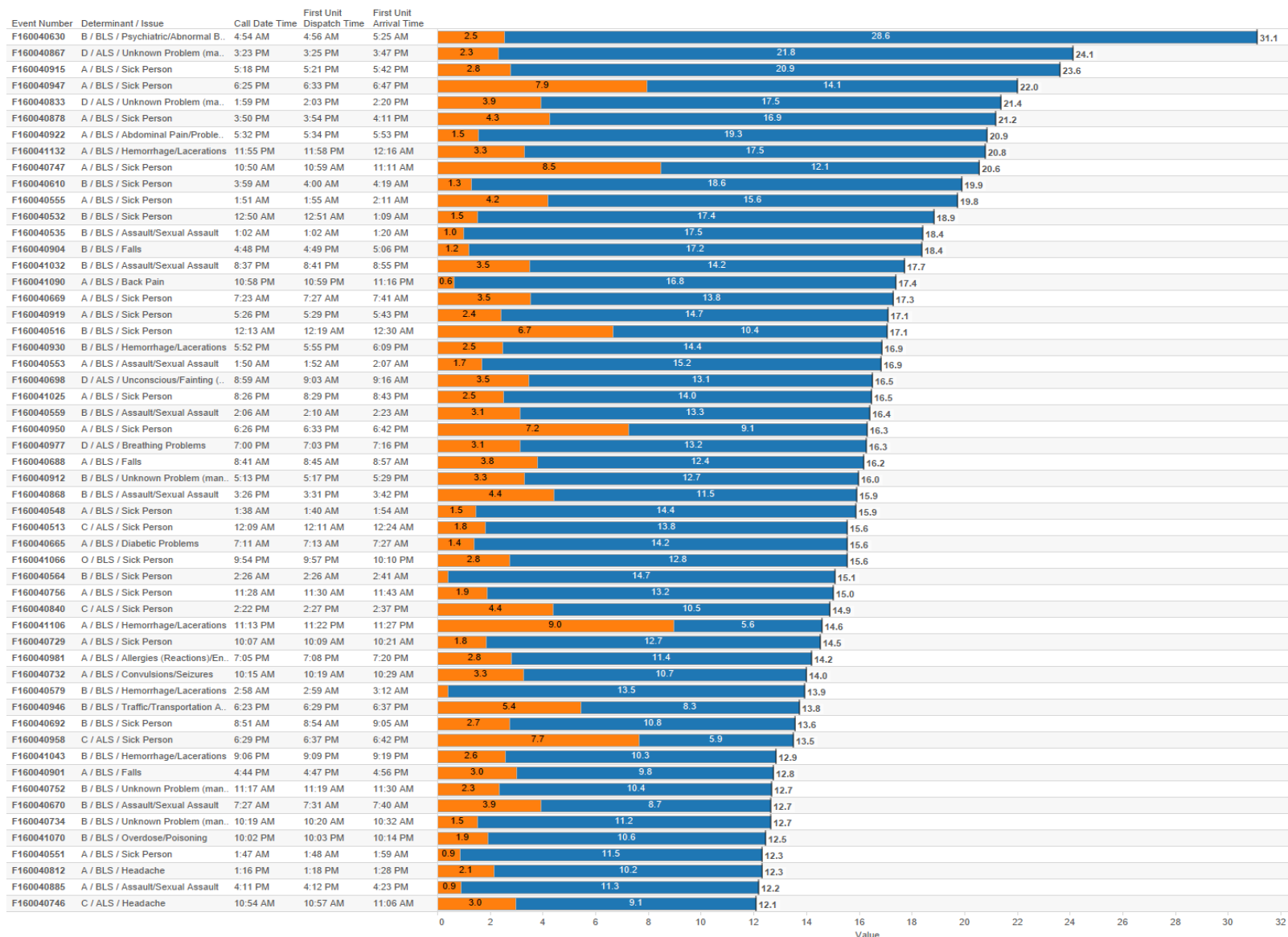
Calls with First Responding Unit taking Longer Than 12 minutes



Average call response times are generally between 7-8 minutes, but some calls still take more than 12 minutes to respond.

Orange represents call to dispatch; blue represents dispatch to arrival.

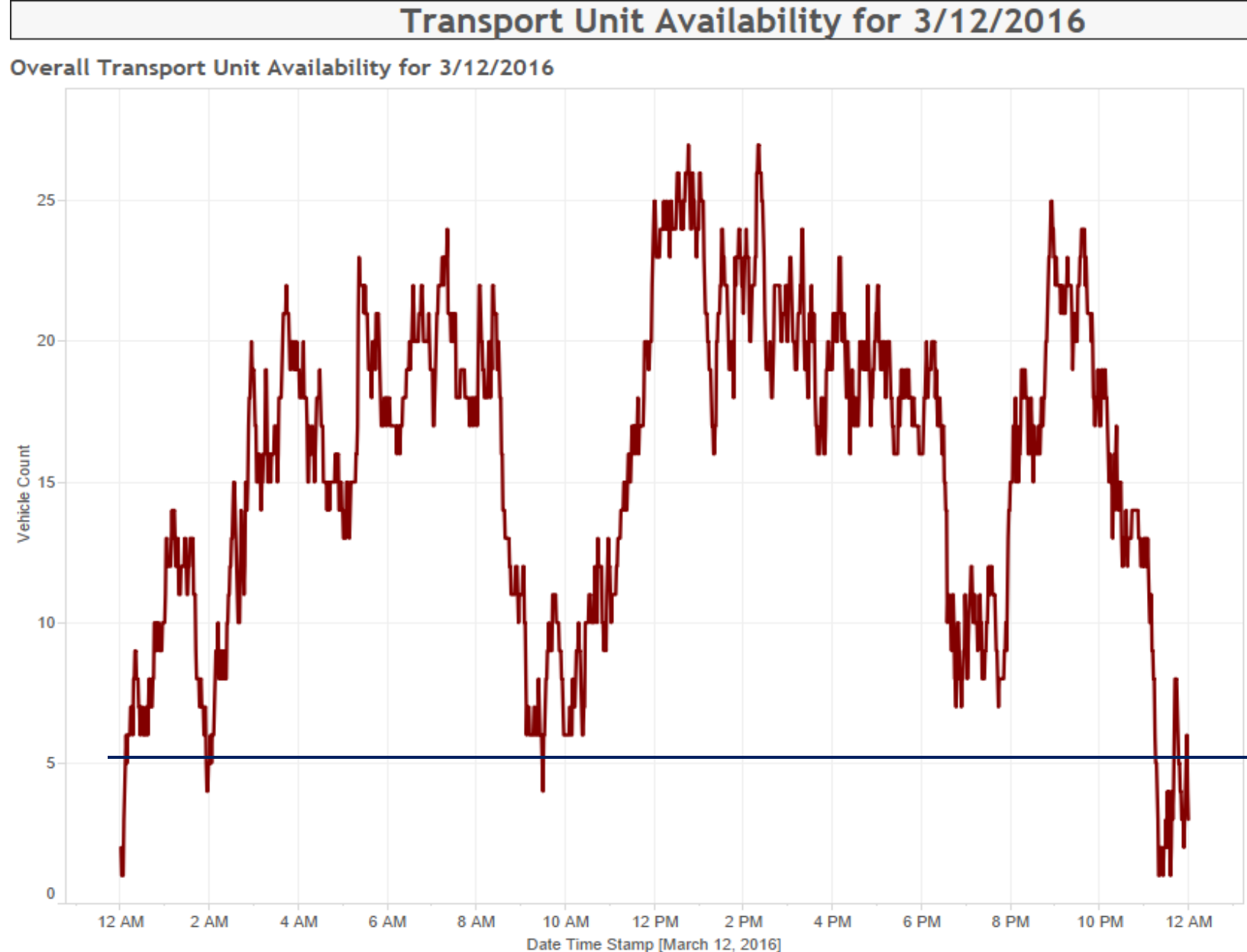
All EMS Calls with First Responding Unit in Excess of 12 Minutes on 3/12/2016



Transport Unit Availability (March 12)



Alpha hold is
at fewer than
5 available
transport units



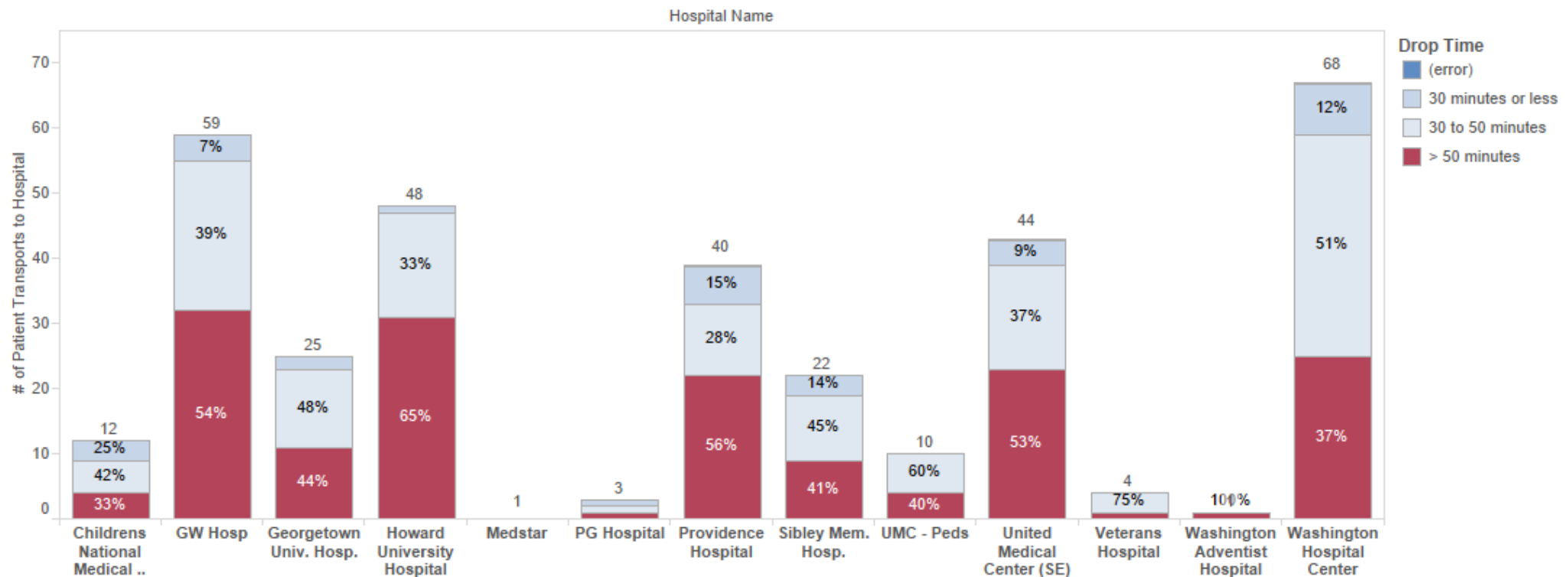
Hospital Drop Time



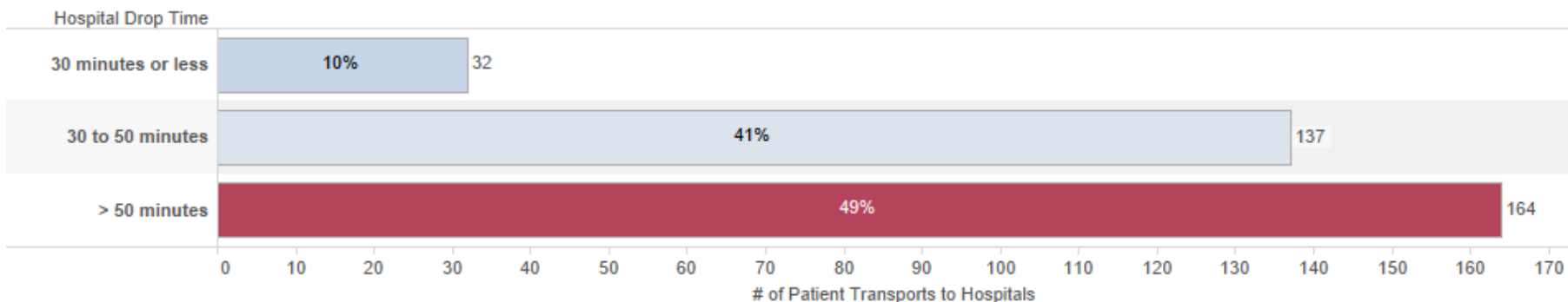
Patient Transport Summary and Hospital Drop Times for 3/12/2016

Report Date
3/12/2016

Drop Time Summary by Hospital



Hospital Drop Summary for All Hospitals





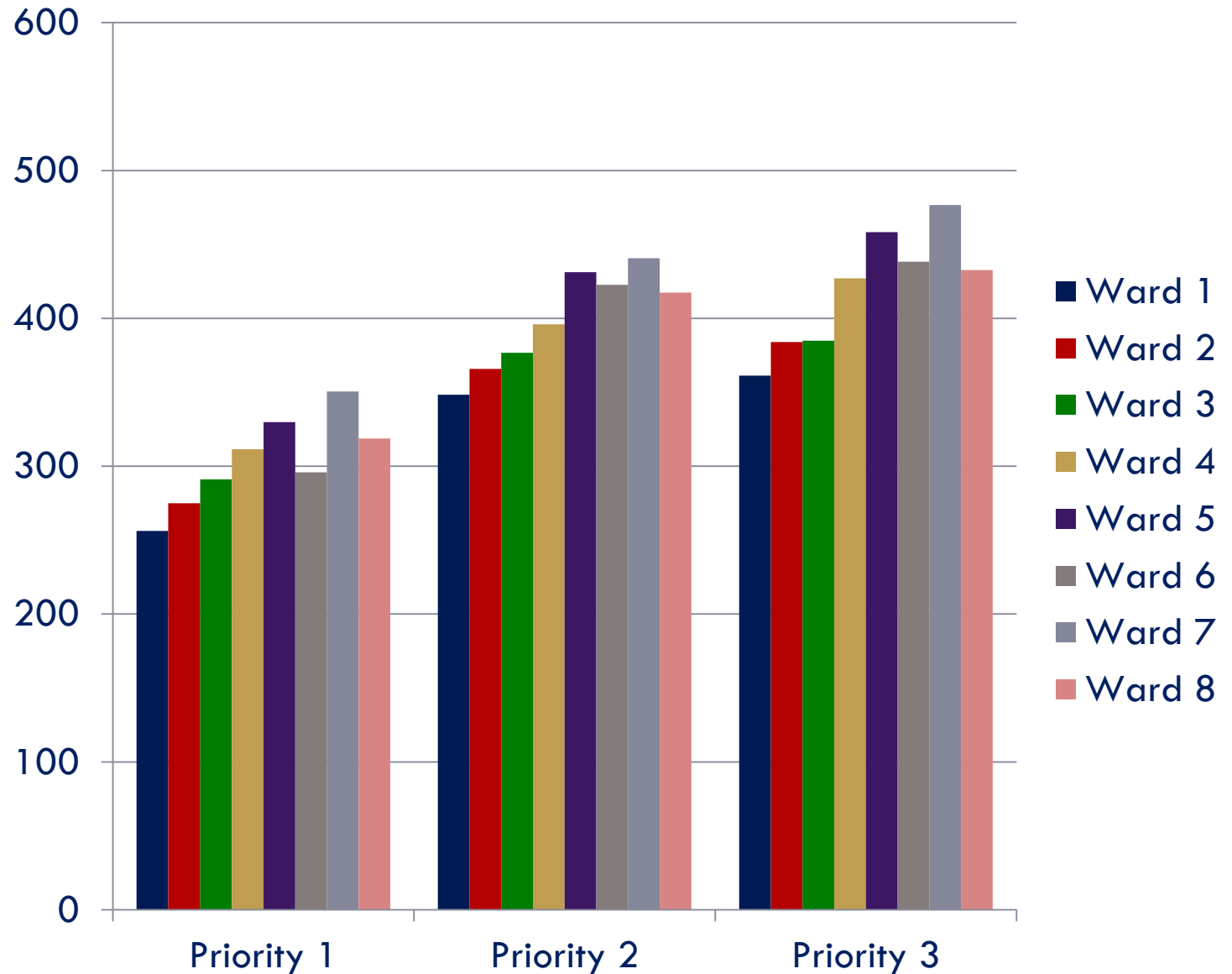
Average dispatch to arrival times by Month by Ward, EMS

Average time
(in seconds)
from dispatch
to arrival on
scene, for
EMS.

Average is
over the past
calendar year
(March 2015-
March 2016)

400 seconds is 6.6
min

600 seconds is 10 min





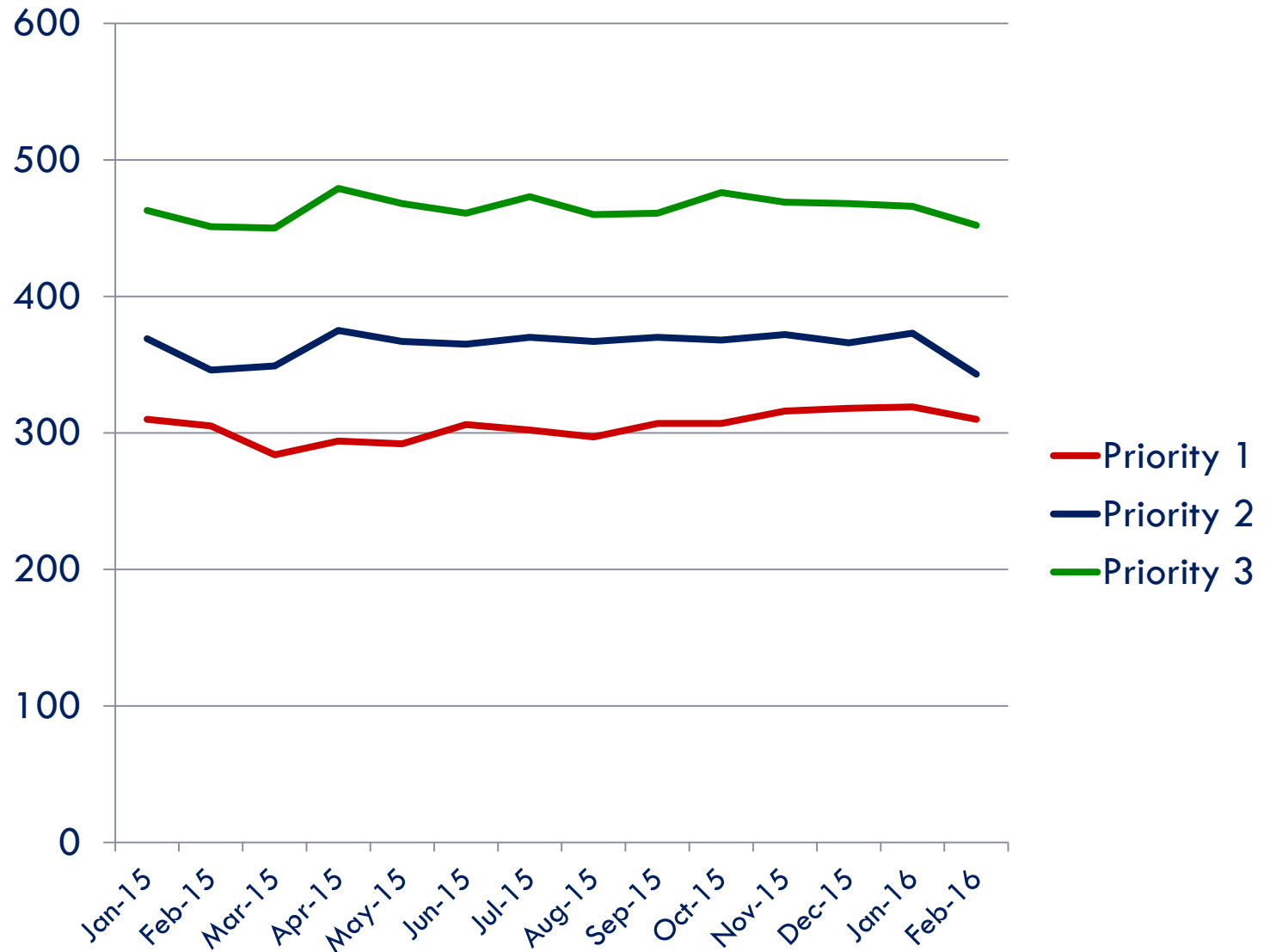
911: Average Dispatch to Arrival by Month, MPD

Average time from dispatch to arrival for MPD calls, by priority over the past calendar year (January 2015-February 2016):

Priority 1: 304 seconds (5 minutes)

Priority 2: 364.2 seconds (6 minutes)

Priority 3: 464 seconds (7.7 minutes)



Average dispatch to arrival times by District, MPD

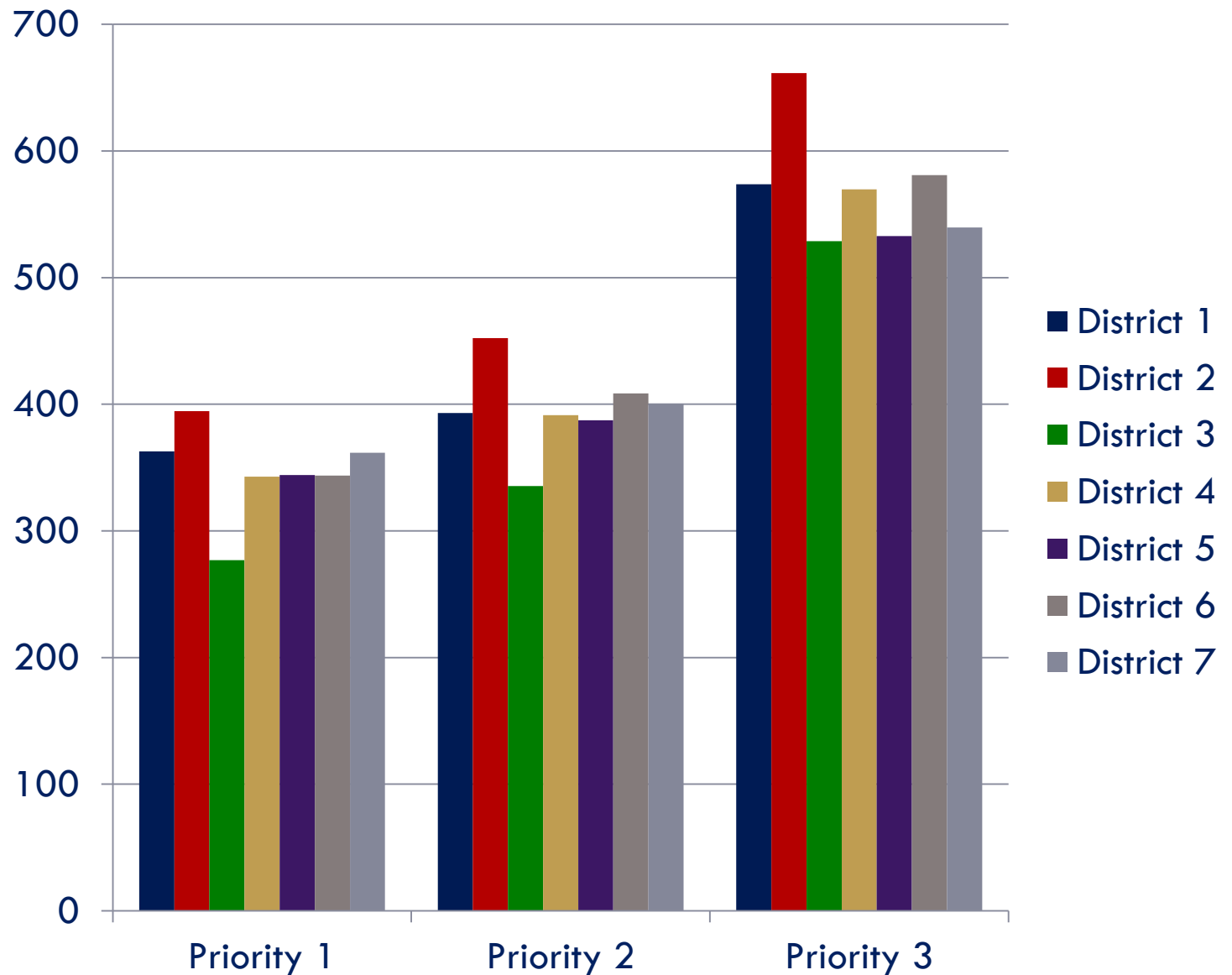


Average time
(in seconds)
from dispatch
to arrival on
scene, for MPD.

Average is over
the past
calendar year
(March 2015-
March 2016)

400 seconds is 6.6
min

600 seconds is 10
min





Technology Tickets

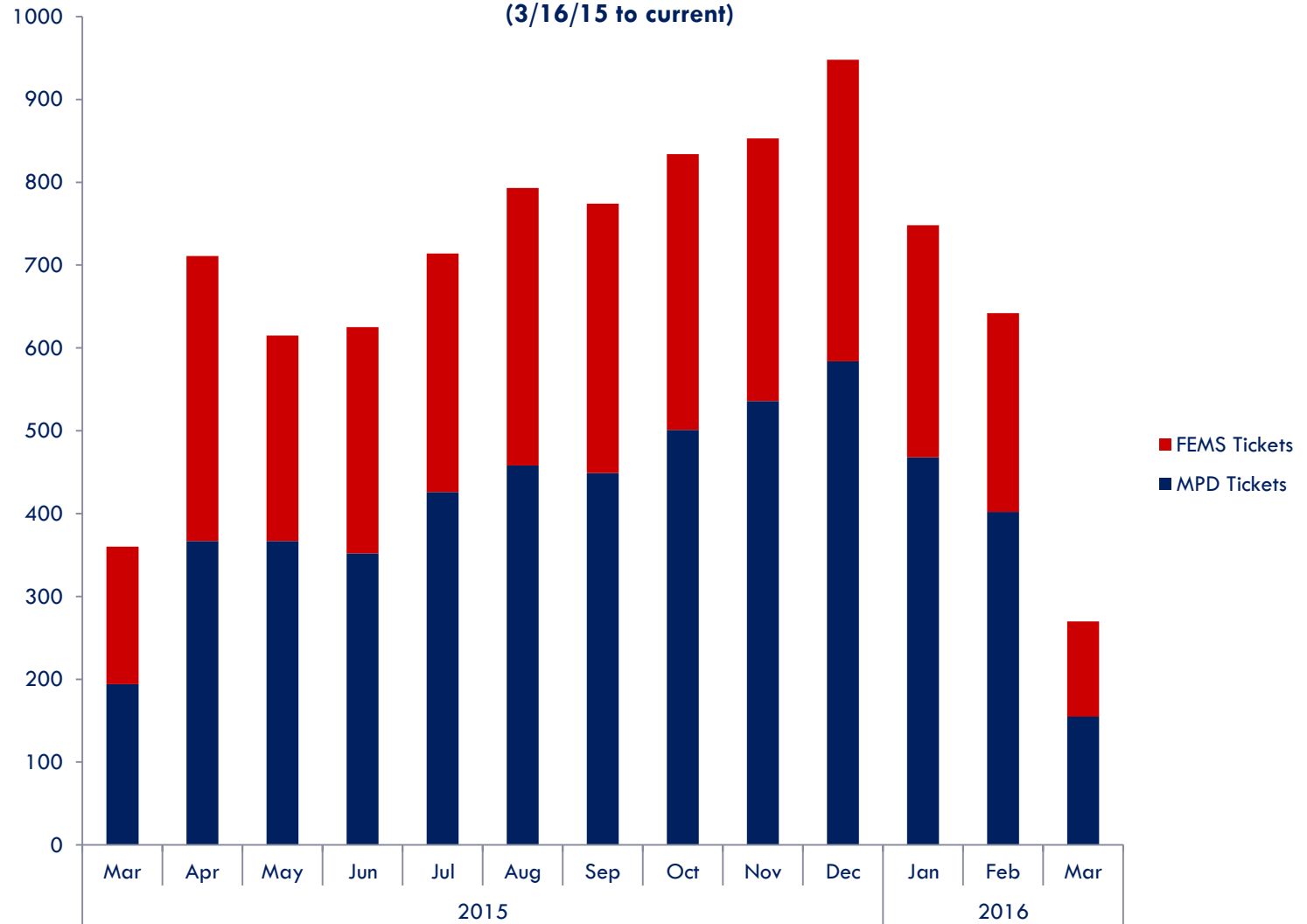
MPD accounts for 60% of tickets; FEMS for 40%

MPD averages 446 tickets a month; FEMS 304

Top 3 MPD tickets: Getac Tablet, MVPN Login, MPS Login

Top 3 FEMS tickets: Getac Tablet, MVPN Login, Tablet Stylus

FEMS & MPD OCTO Tickets
(3/16/15 to current)



Challenges



OUC:

- Training
- Staffing levels
- Proper entry of status for emergency vehicles

MPD:

- Responding to false alarms
 - Repeat false alarms
- Expectation setting for residents for non-priority one calls
- Ability to get foot, bike and Segway patrol officers dispatched
- GPS chip in radios (only updates every 20 min.)
- Calls not for MPD or wanting to move them to a higher priority
- Dispatch to Enroute as a Performance Measure

FEMS:

- Quick response dispatch
- Drop time at hospitals
- Response package updates to remove certain types of events from priority level so that we don't have a high priority dispatch, but not a high priority event
- Frequent fliers

Tech and Information:

- GPS signals
- No consistent data report across all three major emergency response agencies



Recommendations

OUC:

- Increased staffing
 - Staffing levels to mirror call volume changes through month/day
- New in-house training focus
- In-house QA/QC
- Dead zones

MPD:

- Ability to dispatch foot, bike and Segway patrol officers
 - New mobile app with
- Upgrade radio chips in GPS
- Alarm responses

FEMS:

- Increased use of quick dispatch
- Response packages updates
- Citywide map at OUC of all dispatched and dispatchable units

Cross agency training

Standardized reporting



- 1) Navy Yard After Action Items for OUC
- 2) Priority Definitions
- 3) Response Packages
- 4) Total CAD Incidents by Agency by Year
- 5) Dispatch to Enroute and Enroute to Arrival for Fire and EMS

Navy Yard: OUC After Action Report



	After Action Item	Status
1.1	Military installations to review their emergency call-taking procedures and policies to ensure they include guidelines for actions in the event of a large-scale incident.	Incumbent upon Military to follow up
1.2	Military installations should establish strong relationships with their local jurisdiction's 911 services agency. Both parties should be familiar with the other's emergency procedures.	The Navy Yard and OUC had relationship in place. Unknown if OUC has continued to improve in this area.
1.3	Emergency call-takers and dispatchers from the military installation's communications center should train with the local jurisdiction's emergency communications personnel.	OUC Dispatchers have participated in training exercises with MPD, as well as two major Active Shooter exercises conducted at Navy Yard and old Walter Reed complex.
2.1	Conduct a review of the scripted call-taking procedures and policies. Determine if there should be prudent best-practice or innovative approaches ("tactical dispatching") implemented for exigent circumstances, such as an ongoing active shooter.	OUC has established a "Script" for Dispatchers during an Active Shooter incident.
2.2	Ensure that all street names and addresses of internal or gated complexes are included in the city's computer aided dispatch (CAD) system. Review and update on a regularly scheduled basis.	MPD provided OUC with all street names for closed campuses in the District and they were uploading them into CAD system.
2.3	It is the police department's responsibility to engage the emergency call center in training and work with them to jointly develop applicable policies and procedures. Law enforcement should ensure 911 call takers and dispatchers are included in training exercises along with the emergency medical and police personnel. Exercise and test "tactical dispatching" procedures in an active shooter scenario.	MPD has conducted joint training with OUC supervisors and MPD Officials on Incident Command, as well as joint training with Dispatchers on Tactical Dispatching during training scenarios. OUC installed a radio base station in MPD's Tactical Training center to conduct this joint training.
3.1	Review and update policies and procedures to ensure that 911 operators follow-up with all callers in order to obtain any potentially valuable information. Callers may be able to provide first responders with additional real-time intelligence or details of the incident. Information provided by callers may also be pertinent to the subsequent investigation of the incident.	This suggestion was shared with OUC Supervisors.

Priority Definitions



Priority	Definition
1	Involve situations where there is an imminent threat to the safety of persons or the imminent potential for serious property damage (Immediate Dispatch)
2	Are defined as those calls that require immediate dispatch and response but most do not involve any imminent threat to the safety of a person or the potential for serious property damage threat (Unless imminent threat is present, dispatch within 15mins)
3	Involve routine requests for police service that do not involve any imminent threat to the safety of persons or the potential for major property damage. (Dispatched within 30 mins)

Response Packages



Agency	Response Package
MPD	<ul style="list-style-type: none"> • All priority 1 calls get dispatched 10-4 (which is 2 officers at least—regardless of whether it is 1 vehicle with 2 officers or 2 vehicles, each with 1 officer) • Depending on the situation, a supervisor may immediately get on the radio and dispatch more units or specialized units or vehicles; officers may also request more units after being dispatched. • As soon as MPD receives a dispatch and understands the situation, a response package is customized • Non-priority calls get one officer. • Note, burglar alarms get dispatched 10-4 for officer safety reasons.
Fire	<ul style="list-style-type: none"> • Structure Fire/Triple Local Alarm: 3 engines, 1 ladder truck, battalion chief • Metro Incident/Station Box: 5E, 2T, 1BC, BC special operation, 1BC (OCC), 1 rescue squad, 1BLS, 1ALS, EMS supervisor, safety officer • Accident/MVA w/Entrapment: 1E, 1T, 1BC, 1RS, 1BLS, 1ALS, EMSS • Bus Fire: 1E, 1T, 1BC, 1FU
EMS	<ul style="list-style-type: none"> • First Response Units (FRU) shall include Engines, PECs and Trucks. • Medical Local 3: These are generally Alpha, Bravo Omega and Charlie. Dispatch BLS transport unit only ≤ 6 minutes away; if BLS transport unit > 6 minutes then add closest FRU. Between 0100 hours and 0700 hours add closest FRU and closest BLS transport unit. • Medical Local 2: These are generally Charlie, which can be either BLS or ALS: If the determination is a BLS use ML 3 for dispatch protocols. If the determination is an ALS use ML1 for dispatch protocols. • Medical Local 1: These are generally for Charlie, Delta and Echo (ALS): Dispatch closest FRU and ALS transport unit; if ALS Transport unit is > 9 minutes, add closest PEC if not already dispatched as FRU and a BLS transport unit if closer than ALS transport unit. • Medical Local 1+: Adds an EMS supervisor onto ML1 calls: cardiac arrest, Multiple Patients, Target Hazards

CAD Events by Agency



Percent of total
CAD events:

MPD: 70%

DCFEMS: 20%

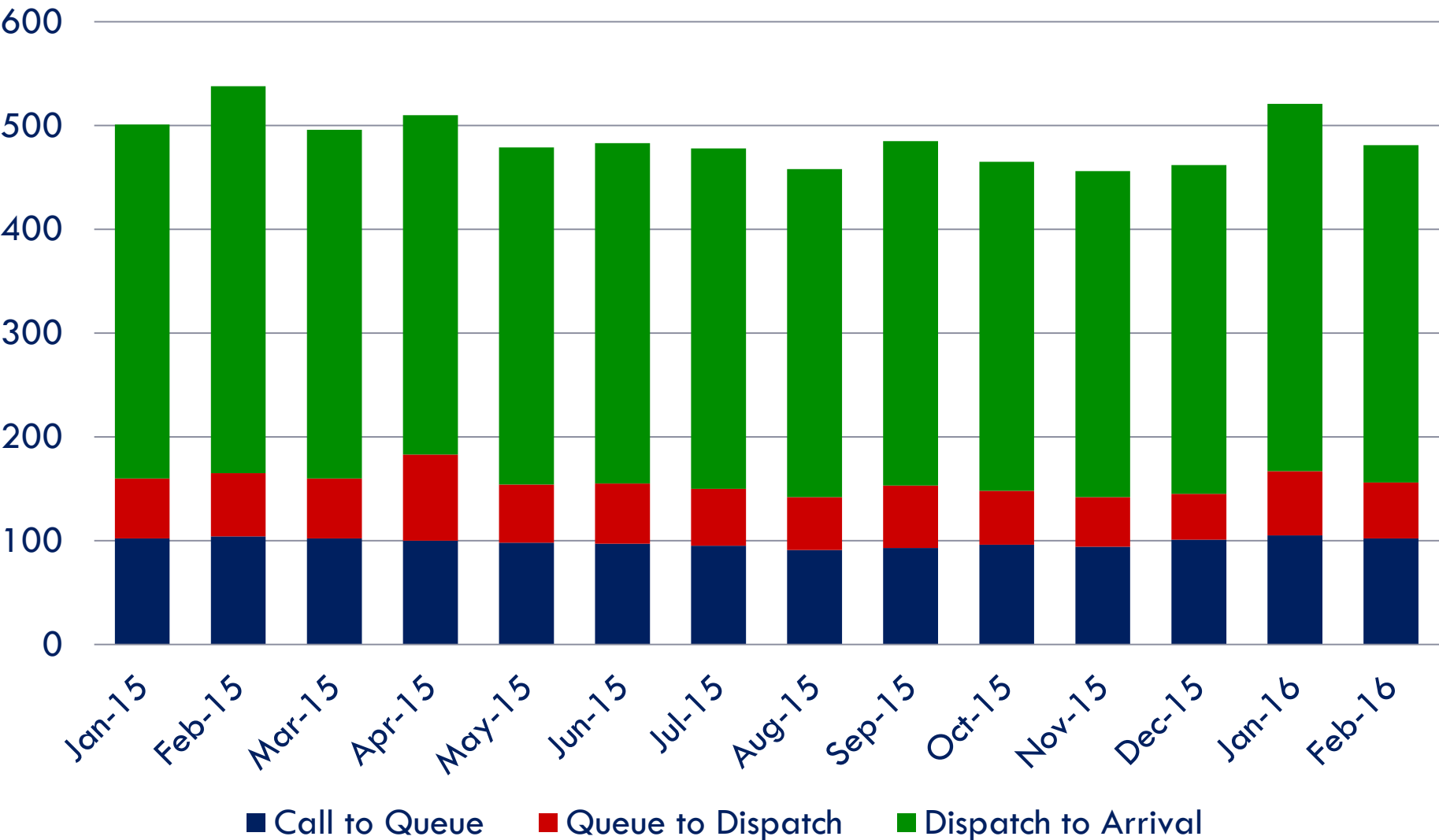
DPW: 5%

Agency/ Year	2012	2013	2014	2015	2016	Total:
DCFEMS	179,190	178,003	195,125	215,192	39,481	806,991
DPW	50,531	48,852	51,866	55,530	8,827	215,606
MPD	615,458	635,963	668,030	749,919	130,304	2,799,674
OUC			74	38		112
PSPD	11,708	12,370	10,576	184	15	34,853
SPEVFEMS	1	256	28	6	2	293
TRU	24,414	23,249	20,835	20,313	3,491	92,302
TT	14,034	14,640	14,042	15,114	2,612	60,442
USCP	23	83	122	101	12	341
Total:	895,359	913,416	960,698	1,056,397	184,744	4,010,614

Breakdown of Call to Arrival, Fire Priority 1



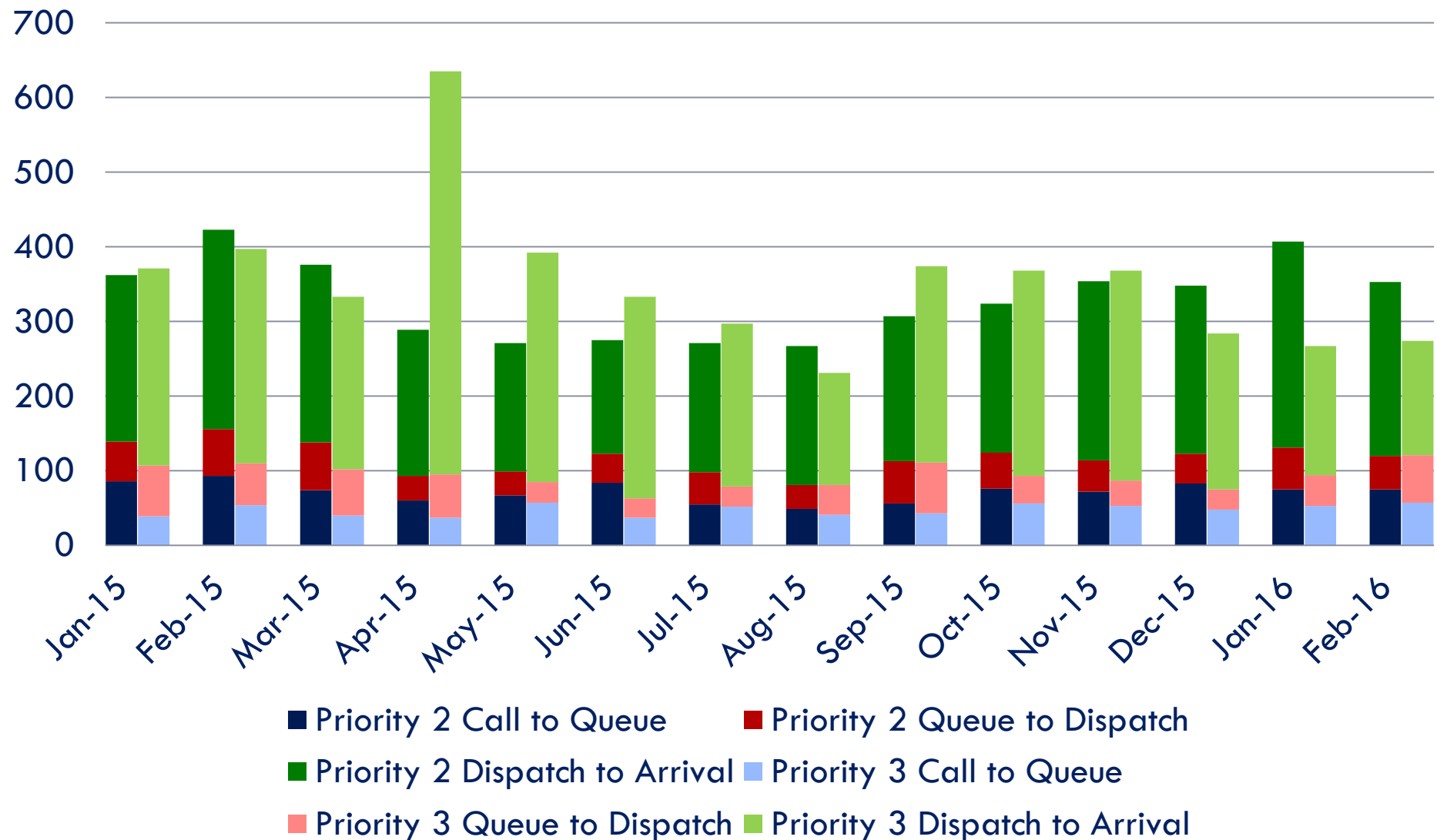
Call to Arrival, Fire, Priority 1



Breakdown of Call to Arrival, Fire Priority 2,3



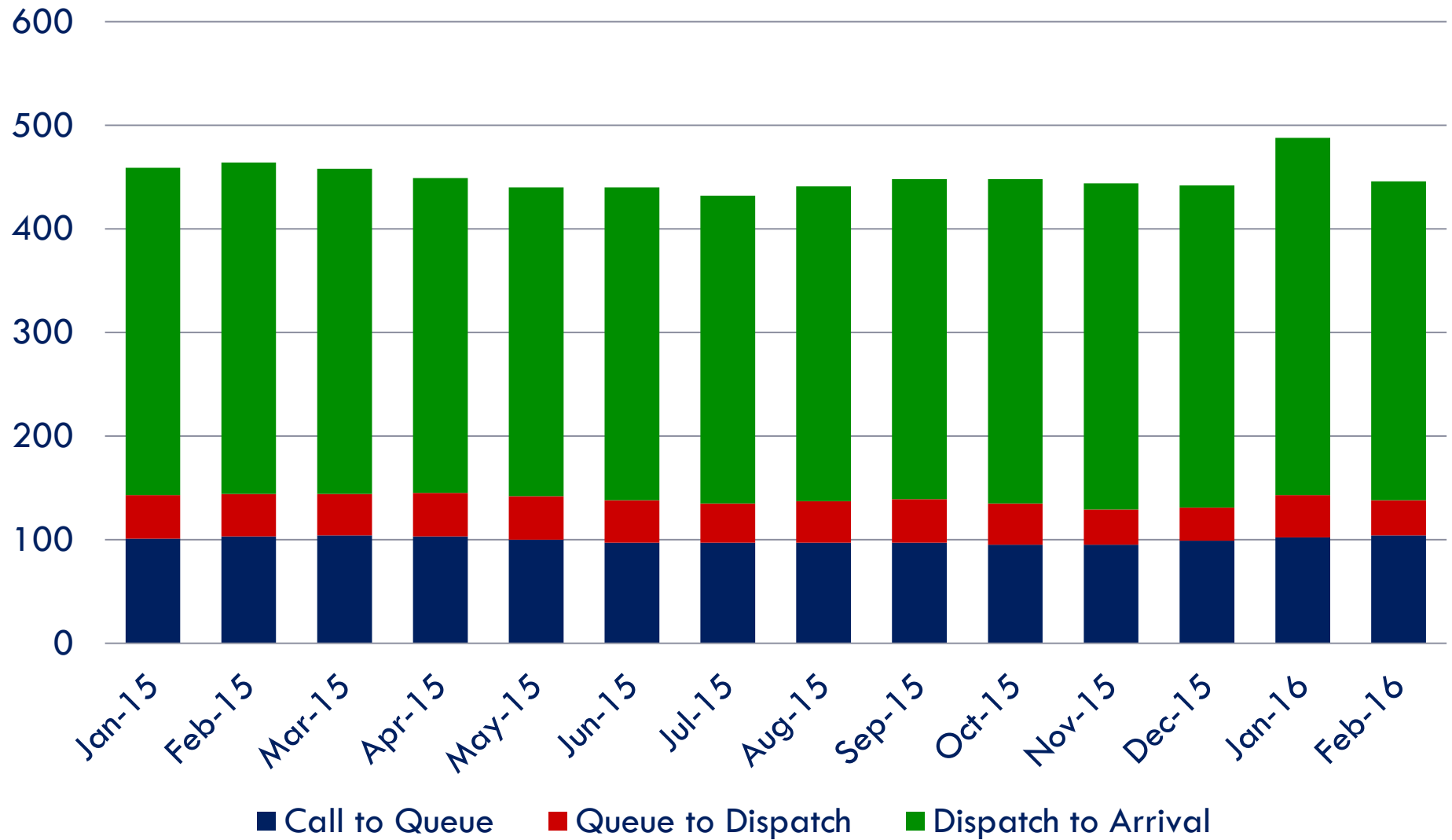
Priority 2 and 3, Fire, Call to Arrival Breakdown



Breakdown of Call to Arrival, EMS Priority 1



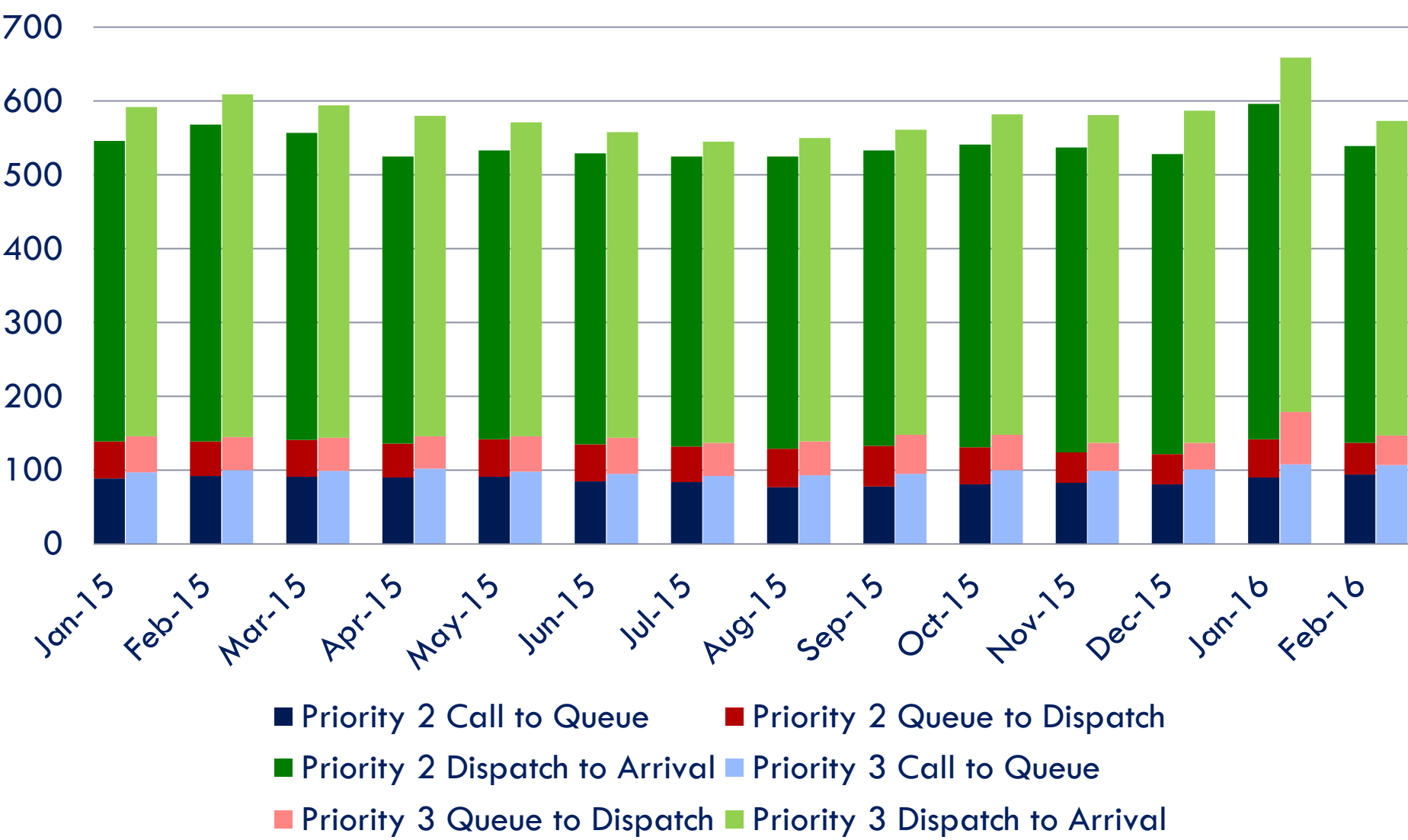
Call to Arrival, EMS, Priority 1



Breakdown of Call to Arrival, EMS Priority 2,3



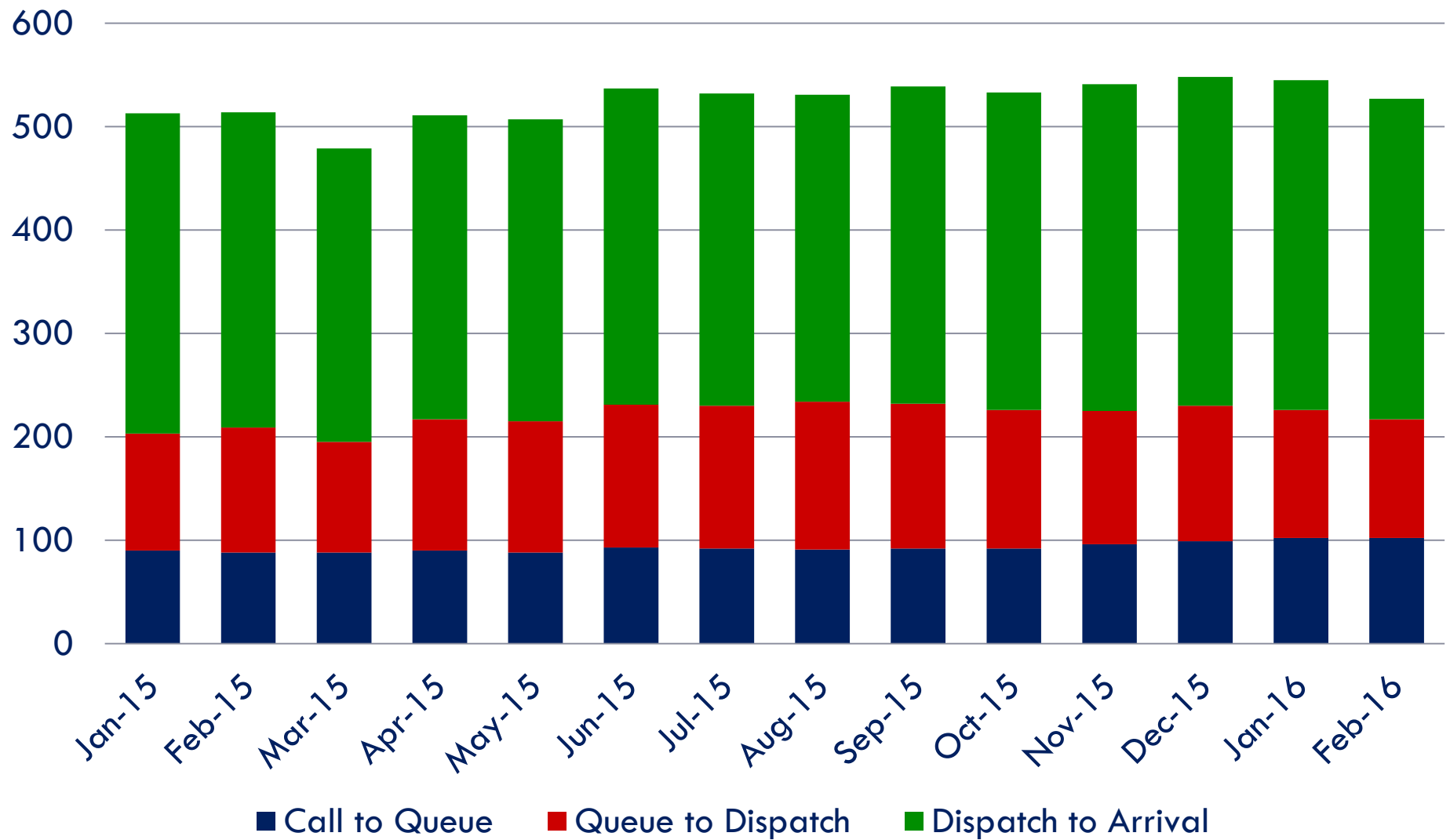
Priority 2 and 3, EMS, Call to Arrival Breakdown



Breakdown of Call to Arrival, MPD Priority 1



Call to Arrival, MPD, Priority 1



Breakdown of Call to Arrival, MPD Priority 2,3



Priority 2 and 3, MPD, Call to Arrival Breakdown

