

Measuring MC311 System Performance

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OLO Report 2019-15: Measuring MC311 System Performance

Executive Summary

The County Council asked the Office of Legislative Oversight to prepare a report on the metrics that the County currently uses to measure MC311 performance, explore other potential variables, and recommend what might be done to enhance the services provided by MC311.ⁱ

The “3-1-1” concept in many jurisdictions is rapidly evolving to encompass multiple channels of communication with residents. In this County, the MC311 system is comprised of the self-help Web Portal (which resides within the larger County website) and the Call Center (also referred to as the Customer Service Center). Performance of this system depends on partnerships and integrations with other County departments, including the servicing departments, the Department of Technology Services, the Office of Human Resources, and the Office of Management and Budget. From a customer perspective, MC311’s performance cannot be easily distinguished from the functions of the rest of County government, and in fact, 311 systems are designed to make it unnecessary for customers to make such distinctions.

In Chapter 2, OLO reviews how the County set three original goals for the MC311 system -- to streamline customer access by creating a one-stop contact center, to save costs by consolidating separate call centers, and to improve government accountability by collecting data on service requests and service delivery. OLO finds that, from a customer perspective, these goals often work in tandem but sometimes conflict with each other. In cases where the goals may conflict, it is unclear which goal takes priority.

In Chapter 3, OLO reviews the County’s current program performance measures for MC311. OLO finds that:

- *Average Speed to Answer* (Performance Measure #1) and *Abandoned Call Rate* (Performance Measure #6) are valuable measures of performance as currently calculated. OLO recommends providing additional metrics related to Call Center staffing and call handle times to provide more context for understanding factors driving these two performance measures. For example, any negative trends in Call Center turnover rates or available operators would offer a warning that staffing issues may impact customers’ access to the Call Center.
- *Customer Satisfaction* (Performance Measure #2) has significant limitations as currently assessed. OLO finds that this measure would be improved by surveying a more representative sample of MC311 customers.
- *Cost per Customer Contact* (Performance Measure #3) as currently calculated is an unreliable measure of MC311 performance in that this measure includes Web Portal contacts but not Web

ⁱ This report follows up and builds on two prior OLO reports on MC311: OLO Report 2016-8, *MC311 Performance and Data*, (released 7/12/2016); and OLO Report 2014-5, *An Examination of MC311 Calls by Preferred Language*, (released 3/4/2014).

Portal costs (nor all Call Center costs). OLO recommends revising the formula to either exclude Web Portal contacts or include Web Portal costs.

- *First Call Resolution* (Performance Measure #5) as currently calculated is an unreliable measure of how often residents must contact MC311 to get a question answered or a service fulfilled. At present, if a resident must follow up with MC311 about an unfulfilled service, it is not reflected in the First Call Resolution (FCR) results, and conversely, if a resident does have their service request fulfilled with just one call, it nevertheless appears to hurt the FCR results.
 - OLO recommends reformulating the FCR measure to capture data on the number of residents who had to contact MC311 more than once to get their question answered, service request completed, or issue resolved.
 - OLO recommends renaming the current formula as it does provide useful numbers about how many callers to MC311 are seeking information that can be provided by the Call Center versus how many MC311 callers are requesting services or information that must be fulfilled by a servicing department.

In Chapter 4, OLO offers a framework for assessing how the MC311 system is performing its role as a gateway to County services and information based on two broad areas: availability and accuracy.

- MC311 System Availability:
 - *Call Center:* Average Speed to Answer (Performance Measure #1) is a helpful indicator of availability; Customer Satisfaction (Performance Measure #2) and Abandoned Call Rate (Performance #6) can also help assess how customers perceive Call Center availability and accessibility.
 - *Web Portal:* Chapter 4 (Section A.2) discusses ways to consider the availability of the self-help Web Portal in terms of what services are requestable online and how easily users can navigate the Portal to find information or create service requests. OLO recommends:
 - Using web traffic analytics to glean information about who visits the Web Portal, how they are using it, and their ease of navigation. Results may suggest areas for outreach to residents who are underutilizing the Web Portal and opportunities to restructure the Web Portal for more ease of use.
 - Asking servicing departments to identify any impediments to making more of their services available for request via the self-help Web Portal.
- MC311 System Accuracy:

Chapter 4 (Section B) discusses how MC311 maintains the accuracy of the MC311 system. OLO finds that, up to this point, performance measures for MC311 have not focused on assessing accuracy. OLO offers some options and strategies to assess the accuracy of the MC311 system, as follows:

 - Add data to the knowledge base articles (KBAs) to better enable an external review of how well servicing departments are working with MC311 to ensure KBA accuracy;
 - Coordinate Department of Technology Services updates to GIS information with MC311 updates to the County knowledge base;
 - Ask CountyStat to audit knowledge base articles and GIS information for accuracy;

- Install online tools to solicit instant feedback from anyone who uses KBAs to more specifically assess if KBAs are clear, helpful, and accurate;
- Ask servicing departments to document certain service fulfillments with photos; and
- Enable the customer relationship management (CRM) system to automatically notify customers (who wish to be notified) by email or text when the service they requested has been completed and use any ensuing customer complaints as a source of accuracy verification.

Finally, OLO recommends for discussion how the County is using the Call Center as a gateway versus as a gatekeeper. Specifically,

1. To what extent should the County require residents to use MC311 to reach County offices? Should the County consider a policy that all servicing departments that list MC311 as their primary point of contact also list their own phone number as a secondary contact, along with an explanation for residents of how using MC311 can save costs and hold servicing departments more accountable for service delivery?
2. Who determines how far the Call Center should be expected to go in trying to answer resident questions? To what extent should MC311 be expected to try to answer questions versus triaging questions and then connecting callers with the best contact at the servicing departments?

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Chapter 1: Introduction

Many local governments in the U.S. and Canada use a 311 system. Originally, ‘3-1-1’ referred to a three-digit phone number for residents to dial a central government call center in their local jurisdiction. The term ‘311’ now refers to a jurisdiction’s larger system for managing resident requests by phone and Internet. A jurisdiction with a 311 system gives residents a way to request non-emergency local public services and information using a more centralized process.

Montgomery County’s 311 system, MC311, was established in June 2010. The County created MC311 to serve as a central gateway and information hub for County residents to easily find information about the County, request County services, and track the status of their service requests.

The MC311 system has two main components:

- **Call Center.** At the MC311 Customer Service Center (the “Call Center”), customer service representatives answer resident calls and create service requests Monday-Friday from 7:00 a.m. to 7:00 p.m.
- **Web Portal.** On the MC311 self-help Web Portal, which is available 24/7 on the Montgomery County Government website (www.montgomerycountymd.gov/mc311/), residents can find County information and request some (but not all) County services on their own.

This report reviews how the County currently measures the performance of its MC311 system and offers additional variables to monitor MC311 performance.

Section A: Authority, Scope, Organization, Methodology, and Acknowledgments

1) Authority, Scope, and Purpose

The County Council asked the Office of Legislative Oversight (OLO), as part of OLO’s Fiscal Year 2019 work program, to report on MC311 performance variables.ⁱⁱ This report describes the mission, purpose, and functions of MC311 and how the County currently measures MC311 performance. As part of the background research for this report, OLO investigated the performance measures used by other similar 311 systems in the U.S. and Canada. The focus of this report is an assessment of the County’s current measures of MC311 performance.

This report follows up and builds on two prior OLO reports on MC311:

- OLO Report 2016-8, *MC311 Performance and Data*, (7/12/2016); and
- OLO Report 2014-5, *An Examination of MC311 Calls by Preferred Language*, (3/4/2014).

ⁱⁱ Council Resolution 18-1187, Fiscal Year 2019 Work Program of the Office of Legislative Oversight, adopted July 24, 2018.

2) Organization and Methodology

This report is organized as follows:

Chapter 1. Introduction, describes the purpose and authority for this report, a brief history of when and why 311 systems were developed generally, and when and why MC311 was created in Montgomery County.

Chapter 2. MC311 Today, describes the current components of the MC311 integrated system and how MC311 is organized, funded, and staffed.

Chapter 3. How the County Measures MC311 System Performance, describes the variables presently used by Montgomery County Government to assess performance, presents OLO's findings about those measures, and recommends some revisions to how they are now formulated.

Chapter 4. Additional Ways to Measure MC311 System Performance, presents a framework for assessing a 311 system based on the availability and accuracy of its components and recommends some specific additional ways to assess availability and accuracy.

Chapter 5. Findings, Recommendations, and Questions for Discussion, summarizes this report's major findings and specific recommendations and offers questions for further discussion about the role of MC311 in the County.

Chapter 6. Agency Comments, presents the written comments received from the Montgomery County Chief Administrative Officer in their entirety.

OLO staff member Victoria (Tori) H. Hall conducted this project with assistance from Natalia Carrizosa, Blaise DeFazio, Danni Melton, Kelli Robinson, Carl Scruggs, Costis Torgas, and Aron Trombka. OLO gathered information for this report through interviews with County staff, analyses of MC311 data, document reviews, call center industry research more broadly, and interviews with 311 call center officials from other jurisdictions.

3) Acknowledgments

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Section B. The 411 on 311: A Brief History

In 1996, the City of Baltimore became the first jurisdiction to introduce 3-1-1 as a three-digit telephone number to divert non-emergency calls from the City’s overburdened 9-1-1 emergency call system and toward a central non-emergency call center. Shortly afterwards, the Federal Communications Commission approved the number as an option for jurisdictions nationwide. 311 call centers caught on quickly across the U.S. Soon, 311 evolved to be more than a telephone number.

The term ‘311’ now refers more broadly to a jurisdiction’s process for managing and monitoring requests from residents using many channels of communication for a wide array of services. The progression of 3-1-1 from a phone number to a broader 311 system encompasses three trendsⁱⁱⁱ.

1. How we communicate: 311’s evolution mirrors general changes in how residents communicate. “Call centers” are now often called “contact centers” because residents communicate by phone and over the Internet using many formats and devices. 3-1-1 call centers remain key, but in many jurisdictions 311 systems now offer residents options such as self-help web portals, mobile apps, texting capabilities and chatbots to communicate with local government.
2. What we communicate about: 311 now covers much more than nonurgent police reports. Many jurisdictions currently use their 311 system as a resident gateway to a broad array of local government services and information.
3. Using data to hold government accountable: The software used by 311 systems to manage service requests allows for an enterprise-wide view of these services and how they are delivered.¹ A 311 system enables data analysis about resident requests and local government’s effectiveness in meeting those requests far beyond what the original 3-1-1 phone number offered. Jurisdictions can aggregate data across all requests, track trends by request type, frequency and location, identify service gaps, bottlenecks, and hotspots, and thereby use 311 to improve the efficiency and equity of public services.

By design, 311 systems are public-facing and enterprise-wide. Yet, crucially, 311 systems neither fulfill service requests nor govern the information about services. 311 is not the enterprise; 311 is the gateway to and information hub for the enterprise. 311 systems should function as a reliable and streamlined conduit between residents and the local government’s services and information. Performance of a 311 system should therefore measure its effectiveness in its role as a conduit.

Evolution: from 3-1-1 to 311

‘311’ has rapidly evolved from a simple phone number to the term for a jurisdiction’s entire, unified system to manage resident requests for a wide array of information and services across multiple channels of communication. The historic evolution of 3-1-1 (the phone number) to 311 (the multi-channel multi-service system) can be described as follows:

ⁱⁱⁱ In this report, the term ‘3-1-1’ refers specifically to the three-digit phone number, whereas the term ‘311’ refers to a broader multi-channel system of communicating with residents.

1. Early Telephone Era: When Baltimore created 311 in 1996, ‘3-1-1’ referred to a three-digit phone number to report nonemergency issues.^{iv} Dialing 3-1-1 connected a resident with a call center operator who could answer public safety-related questions and prepare nonemergency police reports.

2. Expanded Service Era: In 1999, Chicago (quickly followed by other jurisdictions) expanded its 311 call center to cover all local government services and information, rather than just nonurgent police reports.^v Residents could now use 311 to request many services, check on prior requests, and learn about city programs and events.

Expanding 311 to serve as a general information desk meant residents no longer needed to hunt for local government phone numbers in the blue pages of a phone book. In fact, a resident need not even know which department to call. 311 operators could provide information about the entire jurisdiction and route service requests to any department.

To provide so much information, many larger 311 call centers built knowledge bases with hundreds or thousands of knowledge base articles about the policies and procedures of every servicing department so that operators could answer resident questions. Jurisdictions also developed hundreds of specialized service request intake forms. The time needed to train new CSRs to use these intake forms and knowledge base articles grew accordingly.

Expanding 311 also created a wealth of data. Now, public officials could use 311 data to see patterns and trends in resident requests, which departments got the most requests, when requests were made, how quickly servicing departments fulfilled requests, and where service requests seemed to be underreported relative to expected patterns.

3. Internet Era: Even as jurisdictions expanded the mission of their 311 call centers, greater change was afoot. Resident use of the Internet, social media, and smartphones skyrocketed. To use these new communication options, jurisdictions added 311 web portals, mobile apps, and social media accounts. 311 call centers evolved into broader 311 communication systems.^{vi}

The option to communicate with 311 using many devices and formats promised residents greater convenience, yet it did not eliminate the need for call centers. Complex service requests continued to require human operators to accurately complete the intake forms, and many residents still preferred to call a human.

Social media has presented opportunities and challenges for 311. On the one hand, social media platforms like Twitter, Facebook or Instagram give 311 systems another way to push public announcements and receive direct messages (DMs), and many residents like to use it. On the other hand, social media requires CSRs to swivel between phone calls and DMs and can be time inefficient.

^{iv} For example, “311, my cat is stuck in a tree.”

^v For example, “311, my cat is stuck in a tree. Also, I need a recycling bin.”

^{vi} For example, “@311, #MyCat is stuck in a tree.”

4. The Future of 311: Technology -- and resident preferences about it -- continue to change, and 311 is evolving as well.^{vii} Some newer capabilities for 311 systems serving some jurisdictions in the U.S. and Canada include the following:

- Interactive voice recognition (IVR) with queuing prompts:
Some 311 call centers use an automated IVR system to advise callers about the estimated wait time until they can reach a human operator. Some systems are additionally set up to let callers opt out of the queue and request a call back from a human operator during a less busy period.
- Voice recording:
Some 311 call centers record all calls. Recordings are used for staff training, supervision, and quality assurance. Recordings may also become part of the public record.
- Mobile applications:
Some 311 systems offer a mobile app in addition to their mobile-friendly web page (although some other jurisdictions are now moving away from mobile apps).
- Photo attachments:
Some 311 systems allow residents to attach photos to their service requests. When smartphones take a photo, they automatically record time and location in the image's metadata. That information, plus the image itself, can help servicing departments to assess and fulfill the service request.^{viii} Additionally, some jurisdictions require servicing departments to photographically document that they have completed a service request (such as taking before-and-after pictures of a pothole) for the purpose of improving departmental accountability.
- Artificial intelligence (AI):
Some 311 systems can use AI to analyze resident-provided photos and prompt a resident to more precisely complete their online service request form based on information the AI has deduced from the image.
- Chatbots
Some 311 systems allow residents to text (chat) with an automated public service bot (that is, an automated software program) to complete service request intake forms and receive an automated notice when the service request is fulfilled.

Overall, 311 systems have grown more complex. 311 systems now serve as a gateway and information desk for more kinds of information and services. They can encompass both human and automated interactions with residents. They can cover multiple channels of communication. They can connect with a jurisdiction's larger web presence and they rely significantly on IT infrastructure and smooth integration with legacy software systems.^{ix}

^{vii} For example, "Hey Google/Alexa/Siri, tell 311 my cat is stuck in a tree."

^{viii} E.g., potholes. Residents often do not know the difference between a pothole and a sinkhole, but the latter are much harder to fix. Also, a pothole's precise dimension and location affects how hard it is to fix. When residents can send a picture of the pothole, the servicing department can use the image and location data to better estimate what it will take to repair.

^{ix} Montgomery County's existing Oracle/Siebel management system can in theory be configured to support multiple communication channels including sharing photos, text messaging, and chat. However, fully implementing the system's capabilities requires expertise in system integration that may necessitate hiring additional DTS staff or contracting with a third-party vendor specializing in this.

Table 1. Timeline: History of 311²	
1996	Baltimore invents the 3-1-1 telephone number for nonemergency calls. The Baltimore Police Department first created the 3-1-1 phone number to divert nonemergency calls away from its busy 9-1-1 call system. The 3-1-1 call center concept quickly caught on across the U.S.
1997	The FCC reserves the 3-1-1 telephone number as an option nationwide. In February 1997, the Federal Communications Commission approved 3-1-1 as a toll-free number available to police departments nationwide to help distinguish between emergency and nonemergency calls and relieve congestion on 9-1-1 lines. Adoption is optional. ³
1999	Chicago launches the first comprehensive 311 system. In January 1999, Chicago implemented its 311 system as a 24/7 "one-stop shop" call center for residents to access <i>all</i> city services and information, rather than just nonemergency policing. In the process, the City eliminated several smaller call centers. Chicago residents could dial 3-1-1 to request public services, check the status of previous requests, and get information about City programs and events. Chicago's 311 system also used enterprise-wide software to route service requests to departments and track requests from intake to resolution. Chicago's goal was to shorten the time between a resident request and its resolution. It also used its 311 system as a management tool to track trends in resident requests, manage staff, monitor performance, and target efficiency needs.
2001	Baltimore expands 311 system to access all city services and to be web-enabled.
2003	New York City establishes NYC 311 Call Center.
2007	NYC 311 Call Center receives its 50 millionth call.
2009	Baltimore scales back its 311 call center hours to encourage residents to use website. As a cost-saving measure in 2009, Baltimore scaled back its overnight 311 call center hours. Residents were calling the center for information now available online. While still operating 24-hours a day, Baltimore reserved the 311 call center's overnight hours for "urgent requests of service."
2009	San Francisco enables residents to Tweet requests to 311. San Francisco, which had launched its 311 system in 2007, expanded access in 2009 by enabling residents to submit requests via social media. It was the first 311 to do so.
2010	NYC 311 Call Center receives its 100 millionth call.
2010	Washington, DC's 311 system develops the first Open 311 API Standard. DC developed the Open 311 Standard application programming interface (API) to allow 311 system interoperability with external software applications. San Francisco, New York City, and others follow suit and adopt the Open 311 API Standard. Many cities have used it to build mobile apps. ⁴
2010	Montgomery County, Maryland, Adopts 311 as MC311. In June 2010, the County established MC311 for residents to dial a central call center or access a self-help web portal. (The County had previously set up a Police Non-Emergency Number (301-279-8000) to report less serious crimes.)

Section C. 311 in Montgomery County: MC311

Montgomery County adopted its 311 system, called MC311, in 2010. The County's original program charter for MC311 read as follows:⁵

VISION STATEMENT: Single point-of-contact for enterprise customer service delivery and customer satisfaction. Improving functionality of existing systems and data quality across County Government.

PURPOSE: One of the Executive's eight overarching objectives is to create greater responsiveness and accountability in meeting the needs of a very diverse county. MC311 will provide Montgomery County Government (MCG) a single, one-stop phone number for complaints and requests, a user-friendly website, and an effective outreach process to hear from those who are not able to use these improved systems and services.

The County's original goals in establishing MC311 were threefold⁶:

1. Centralized access: streamline resident access to County information and services by developing a single, one-stop contact center for all government non-emergency, information, and referral requests for service;
2. Cost savings: save personnel costs by consolidating several departmental call centers; and eliminating multiple and/or redundant automated information systems;
3. Government accountability: hold County departments more accountable by using 311 data to measure their performance in delivering services. 311 data should enhance the County's ability to monitor and forecast requested services and thereby better allocate limited resources.

From its inception, MC311 has consisted of a Call Center and Web Portal where residents can find information and request services. The County Executive initially consolidated five departmental call centers into the MC311 Call Center. Over time, the County Executive transferred over employees from the following departments:⁷

- Department of Environmental Protection (DEP)
- Department of Finance, Division of Treasury (FIN)
- Department of Health and Human Services, Office of Eligibility and Support Services (DHHS)
- Department of Housing and Community Affairs, Housing Code Enforcement (DHCA)
- Office of Human Resources, Health Insurance Team (OHR)
- Department of Permitting Services, Building Construction Program (DPS)
- Department of Transportation, Division of Highway Services (DOT)

Chapter 1: Endnotes

¹ *What is 311?* by C. Wood (Government Technology Magazine, Aug. 4, 2016); retrieved from www.govtech.com/dc/articles/What-is-311.html.

² *3-1-1: A City Services Revolution*, by S. Goodyear (CityLab, The Atlantic Monthly Group, 2018); retrieved from www.citylab.com/city-makers-connections/311/#slide-1996.

³ *FCC Allows Nonemergency 311 Number*, Reuters (LA Times, Feb. 20, 1997); retrieved from www.latimes.com/archives/la-xpm-1997-02-20-mn-30674-story.html.

⁴ *What is 311?* by C. Wood (Government Technology Magazine, Aug. 4, 2016); retrieved from www.govtech.com/dc/articles/What-is-311.html.

⁵ *MC311 Program Charter, Draft* (Offices of the County Executive, October 2008), p. 4.

⁶ Prior to establishing MC311, Montgomery County had created a nonemergency police line (301-279-8000); therefore unlike Baltimore in 1996, MC311 was not established to divert nonemergency calls from 911.

⁷ *MC311 Constituent Contact Center: A Case Study*, prepared by Opus Group, LLC, 2013.

Chapter 2. MC311 Today

The MC311 system serves as the primary gateway to and information hub for the County. As described in Chapter 1, the County’s founding vision for MC311 was that it serve as a “single point-of-contact for enterprise customer service delivery and customer satisfaction.” Importantly, while MC311 gives residents access to and information about County services, MC311 does not deliver those services. To frame the discussion of MC311 performance measurement -- as distinct from the performance of servicing departments -- this chapter reviews the specific functions and current status of MC311.

Measuring MC311’s performance requires information about processes, inputs (or costs), and outputs.

^{1,2} This chapter describes these elements for MC311 as follows³:

- **Section A** provides an overview of the process for residents to request County services using MC311 (and other means). This section also describes the organizational structure of MC311.
- **Section B** describes inputs for MC311 in terms of personnel and operating costs and where these costs appear in the County budget.
- **Section C** describes MC311 outputs, which are primarily creating service requests, answering incoming calls and providing information about County services and resources.

A discussion of how the County currently measures MC311 performance follows in Chapter 3.

Section A. Process and Organization

1) Process: How a Resident Can Request County Services and Information

Although MC311 is intended to serve as the main gateway to and information desk for the County, in practice residents can contact the County to request information and services in several ways. Residents can choose to contact the MC311 Call Center, visit the MC311 Web Portal, or bypass MC311 and contact a servicing department directly. Using any of those pathways, that interaction starts a County process for answering the resident’s question or fulfilling the requested services. The service fulfillment process can differ depending on how the resident initially contacts the County.

As illustrated in Figure 1 (p. 2-4) and described below, residents have several options for contacting the County:

(1) Call or Tweet¹ the MC311 Customer Service Center (“Call Center”).

When a resident contacts the County via the Call Center, a Customer Service Representative (CSR) will create one of two types of service requests (SRs) for the resident:

- a) **SR-Fulfillment:** For residents seeking services, or seeking information that a CSR cannot provide, the CSR will create a service request categorized as SR-Fulfillment and route it to the

¹ Although customers may call or Tweet the MC311 Call Center, in practice Tweets are rare. E.g., in FY19 MC311 received more than 475,000 calls -- and 115 Tweets. Therefore, this report focuses on calls when referring to customer interactions with the MC311 Call Center.

servicing department for fulfillment. Servicing departments close these SRs after they have been completed.

- b) SR-General Information: For residents seeking information that a CSR can provide, the CSR will create a service request categorized as SR-General Information and then close the SR at the end of the call.

(2) Go Online to Visit the MC311 Web Portal.

MC311's self-help Web Portal is housed within the larger Montgomery County Government website. Residents can use the Web Portal to request services and find information, but there are some procedural differences as compared to contacting the Call Center:

- a) County Services: When a resident visits the Web Portal, for certain (but not all) County services they may choose to complete an intake form and create a service request. All self-help service requests created via Web Portal are categorized as 'SR-Fulfillment'. The Siebel customer relationship management (CRM) system automatically routes these SRs to the servicing departments for completion. Customer Service Representatives (CSRs) at the Call Center have no role in creating or forwarding SR-Fulfillment requests from the Web Portal. Servicing departments choose which of their services a resident can request through the Web Portal. Generally, servicing departments do not allow Web Portal submissions for more complex requests that are prone to error or misinterpretation, complaints that require a CSR to gather more details, or service requests that require verifying customer identity.²
- b) County Information: When residents visit the Web Portal for information, the system does not generate a service request. (In contrast, when residents contact the Call Center for information, a SR-General Information request is created.)

(3) Bypass MC311 and Contact Departments Directly.

Residents may try to bypass MC311 by calling or emailing a servicing department directly, visiting a servicing department's webpage directly, or walking directly into a County office. (For some departments, however, this is more difficult for a resident to do because the department lists MC311 as the only way to reach them.)

When residents choose to bypass MC311, the contacted department may do one of the following:

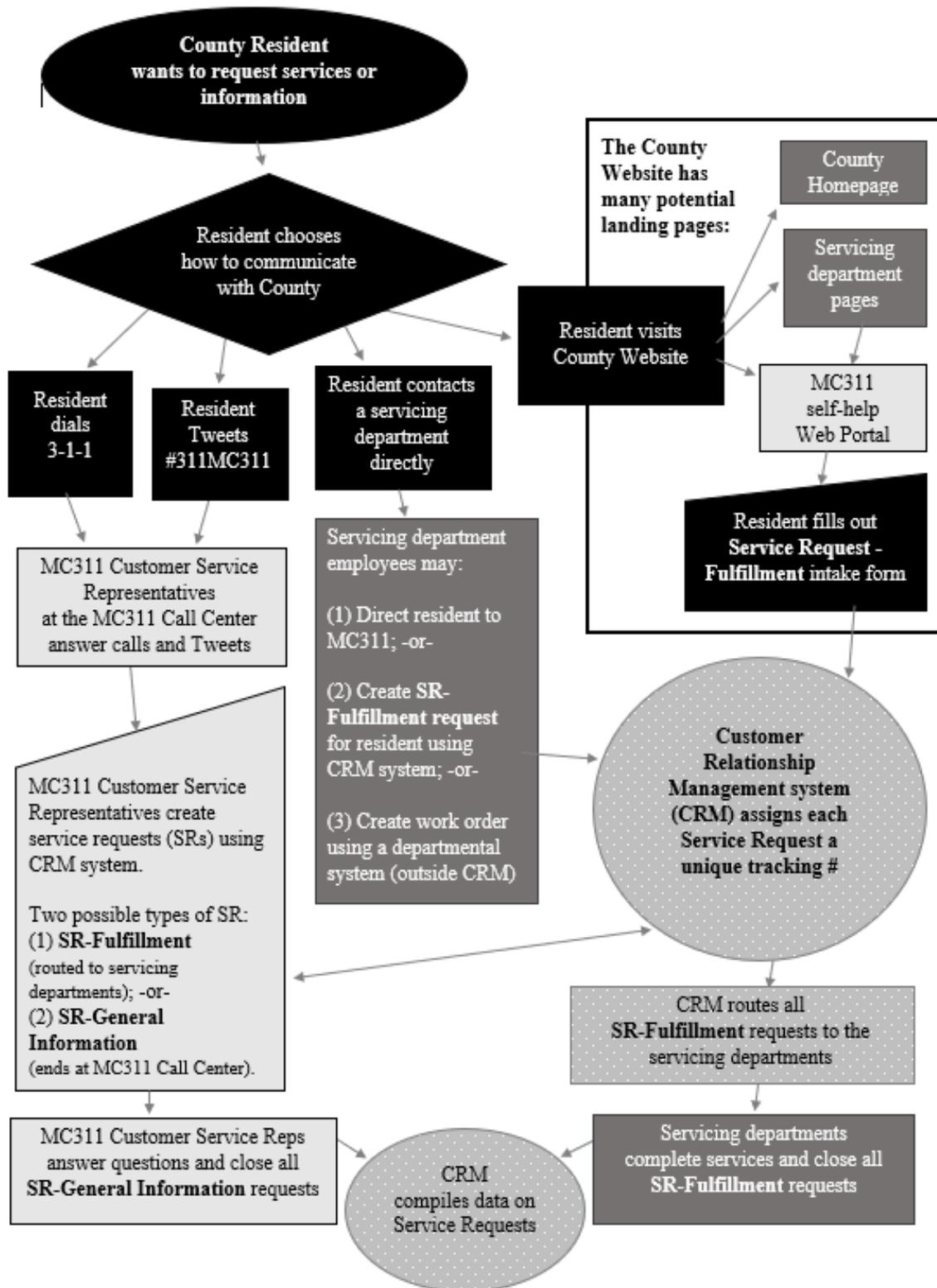
- Direct residents back to the MC311 Call Center or Web Portal;
- Create an internal (County employee-generated) service request for the resident using the same Siebel CRM system used by MC311. The service request enters the queue for

² Examples of services that would be harder to make requestable on the Web Portal include: Calculation of Property Tax Credit for Elderly Individuals and Military Retirees; Status of Renewable Energy Devices Tax Credit Application; or Confirmation of Receipt of Tax Refund Claim Form or Fax Sent to Treasury.

fulfillment by the servicing departments in the same way as for residents who interacted with the MC311 system; or

- Create a work order using a departmental work order system. Unless the department has integrated its work order system with the Siebel CRM system, such service work orders cannot be counted or tracked as service requests by the Siebel CRM system. Similarly, resident calls to departments for information are not counted as service requests (as they are at the Call Center), unless the servicing department chooses to record it as such.

Figure 1. Flow Chart of Process for Resident to Request County Services or Information



Process Question: Should MC311 Serve as a Gateway, a Gatekeeper, or Both?

Based on observations of contacts between CSRs and residents at the Call Center, conversations with stakeholders, and a review of County department web pages, OLO found cases where the County uses MC311 as a gateway and a gatekeeper. MC311 acts as a centralized gateway when it helps residents access services and information more efficiently. MC311 acts as a centralized gatekeeper when the County requires residents to use it, even when it slows down resident access to County employees in the servicing departments. OLO also found that some stakeholders perceive MC311 to be acting as a gatekeeper when it attempts to answer all questions from callers rather than connecting a caller to a servicing department.

Some County offices require residents to use MC311 to reach County staff -- even when a resident knows the most relevant departmental contact, such as their assigned case manager. Some County department webpages now list MC311 (the Call Center and/or the Web Portal) as the first point of contact for residents, and some list MC311 as the only means of contact -- effectively mandating that residents use MC311 to reach them.

Requiring residents -- rather than merely encouraging them -- to use MC311 to reach County offices, can put the County's original goals³ for MC311 in conflict with each other in the following ways:

- 1. Centralizing resident access may also streamline resident access -- but sometimes not.* If residents do not know whom in the County to call for services or information, then mandating that they use a centralized Call Center can in fact streamline their access by relieving them from placing multiple calls to different offices. But if the resident already knows whom to call, then mandating that they nevertheless first call MC311 is the opposite of streamlining access: the requirement distances the resident from the servicing department and can feel off-putting and needlessly time-consuming.
- 2. Using a central gateway to collect data can hold servicing departments more accountable -- but sometimes at the expense of resident access.* Requiring residents to use MC311 to reach County offices enables the County to collect data that can hold servicing departments accountable for service delivery and help the departments themselves to monitor trends or backlogs in resident requests. For example, if a resident must create an MC311 service request to speak with their case manager, that service request will hold the case manager accountable for meeting the service level agreement (SLA) to contact the resident within a certain timeframe. But such a requirement can set up a conflict between the goals of holding departments accountable and streamlining resident access. In this same example, requiring a resident to contact their case manager via MC311 inserts a middleman into the communication process which can feel unnecessary and time-consuming to the resident, particularly if the resident is unaware that the case manager must meet the SLA with MC311.
- 3. A central gateway relieves servicing departments of having their own call centers -- but also requires servicing departments to both maintain their own internal business processes and update the knowledge base articles used by MC311.* From a servicing department perspective, a

³ Original goals: (1) centralize resident access; (2) save costs; and (3) improve government accountability.

centralized gateway like MC311 presents a tradeoff between diverting resident calls away from the servicing departments while also requiring the servicing departments to review and update the MC311 knowledge base articles.

As presented at the conclusion of Chapter 5, OLO suggests as topics for further discussion:

1. In cases where the goals for MC311 – to streamline resident access by creating a one-stop contact center, save costs through consolidating separate call centers, and improve government accountability through data collection – may be in conflict with each other, how should the County prioritize these goals?
2. To what extent should the County make using MC311 optional or required for County residents to reach County offices?
3. To what extent should the County expect MC311 to try to answer questions versus triaging the complexity of a question and connecting callers with a contact at the servicing departments?

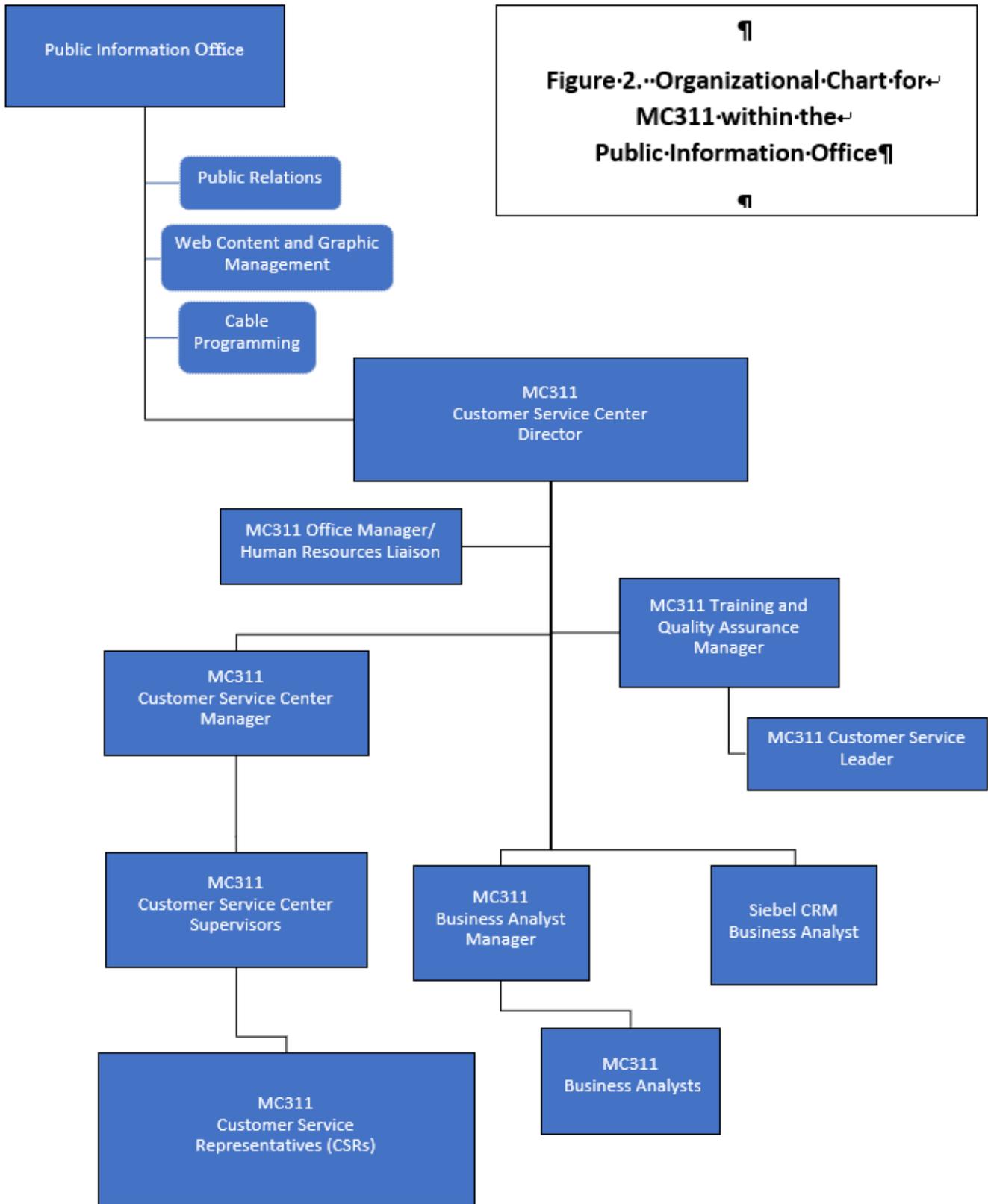
2) Organizational Structure

Organizationally, MC311 is managed through the Public Information Office (PIO). The PIO's mission is to provide timely, accurate, and effective communication with the public, County elected officials, County employees, and every other segment of the County community.⁴ Figure 2 on the following page depicts the organizational structure of MC311, within the Public Information Office.

The PIO is physically located in the County Executive Office Building. MC311's components are sited elsewhere, as follows:

- The MC311 Customer Service Center ("Call Center") is physically separated from the PIO at an office building on Rockville Pike.
- The MC311 Web Portal is a landing page within the larger Montgomery County Government website (<www.montgomerycountymd.gov/mc311>), which is maintained by the Department of Technology Services (DTS).

While the MC311 Web Portal is an integral part of the MC311 system, and therefore organizationally it is under the PIO, as a practical matter the Web Portal is also managed by DTS. The PIO's role in managing the Web Portal mainly relates to the content of the MC311 knowledge base that residents see on the Web Portal. MC311 Business Analysts (BAs) work with servicing departments to maintain the knowledge base content. MC311 BAs also work with the servicing departments to determine which County services a resident can request via the Web Portal versus those that must be requested using the Call Center. DTS web developers and IT specialists maintain the platform upon which the Web Portal operates. DTS employees determine the format and layout of the Web Portal to ensure it has a look and feel consistent with other MCG web pages, is responsive to mobile or desktop devices, and is accessible to automated screen readers. Any department may request that DTS allow them to revise the layout and navigation of their pages.



¶
Figure 2. Organizational Chart for MC311 within the Public Information Office
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Section B. Inputs: Budgeting for the MC311 System

Costs for operations and personnel to run the MC311 system are budgeted in three areas:

- (1) Public Information Office (PIO),
- (2) The servicing departments charged back for positions at the MC311 Call Center, and
- (3) Department of Technology Services (DTS).

Most Call Center expenditures appear in the PIO’s budget. However, expenditures to purchase and maintain the hardware and software systems essential to the entire MC311 system, including the Call Center, are budgeted through DTS’ Enterprise Services.

1.) PIO Budget for MC311

For each of fiscal years 2018-20, over 70 percent (or about \$3.8 million in FY20) of the PIO’s budget has been designated for running the MC311 Call Center, as shown in Table 2.

Table 2. Public Information Office (PIO) Expenditures, FYs 2018-2020⁵						
	FY18		FY19		FY20	
	Actual Expend.	% of FY total	Approved Expend.	% of FY total	Approved Expend.	% of FY total
Public Information Office: total	\$4,973,207	100%	\$5,361,431	100%	\$5,369,312	100%
MC311 Customer Service Center (“Call Center”)	\$3,531,658	71%	\$3,857,696	72%	\$3,812,471	71%
Public Relations	\$1,437,308	29%	\$1,357,049	25%	\$1,402,642	26%
Web Content and Graphic Management	\$4,241	<1%	\$146,686	3%	\$154,199	3%

Most of the PIO budget is personnel costs, and most positions budgeted for the PIO are for MC311 operations. For FY20, the full-time equivalent (FTE) positions nets to 52.6 personnel in the budget. OMB charges 17.9 FTEs (\$1.8 million) back to seven funds in six County departments. Yet, importantly for the Call Center, the number of customer service representatives (CSRs) employed is fewer than the number of budget-approved CSR positions. Due to the County hiring freeze and staff turnover in the Call Center, some budget-approved CSR positions were vacant for periods of FY19, as detailed in Chapter 4, Section A.

2.) DTS Budget for MC311

The Department of Technology Services (DTS) is mainly responsible for maintaining the infrastructure (hardware and software) on which the MC311 system relies. DTS-maintained components of the MC311 system include:

- The Siebel customer relationship management (CRM) software that routes service requests (from both the Call Center and the Web Portal) to the servicing departments;
- GIS information to verify service request locations;
- Telephony for the MC311 Call Center (currently, Avaya); and
- The software platform for the MC311 Web Portal (which resides within the larger MCG website), the structure and appearance of the Web Portal, and data analytic tools and staff to track Web Portal usage.
- OBIEE (Oracle Business Intelligence Enterprise Edition), which is the data warehouse that aggregates data from the telephony system, the Web Portal, and the Siebel CRM software.

These enterprise-wide components appear in the DTS budget under the Enterprise Telecommunications Services Division and the Enterprise Systems and Operations Division. The portion of the DTS budget expenditures for MC311-related infrastructure and personnel, however, are not specifically broken out.⁶ Nevertheless, MC311 relies on DTS to function, and therefore the PIO's budget expenditures do not reflect all costs to run the MC311 system.

Section C. MC311 Output: Creating Service Requests, Answering Calls

Performance measurement refers to the “ongoing monitoring and reporting of program accomplishments, particularly progress toward established goals.”⁷ Information relevant to performance includes: processes, inputs or costs, outputs, and outcomes.⁸ This section describes performance measures that assess MC311 outputs (that is, the direct product or service it delivers). These include service requests from residents, the number of incoming calls to the Call Center, and the number of pageviews and unique users of the MC311 Web Portal.

Service Requests. Since its inception, MC311 has received more than half a million service requests (SRs) each year. Most service requests originate from the MC311 Call Center and the MC311 self-help Web Portal. (Other internal SR sources include the Department of Liquor Control and departments that use the Siebel customer relationship management (CRM) system to manage their internal requests; these SRs do not pertain to MC311 output.)

The Siebel CRM system categorizes service requests as either SR-Fulfillment or SR-General Information. Thus, MC311 output as measured by the number of service requests from residents can be categorized by source (where the SRs originated) and by type (either SR-General Information or SR-Fulfillment).

Subsections 1.), 2.), and 3.) in the pages that follow discuss service request categorizations in greater detail. Table 3 below presents all service requests categorized by both source and type for calendar year 2018.

Table 3. Service Requests by Source and by Type, Calendar Year 2018				
Siebel Customer Relationship Management (CRM) Service Requests (SRs)	Source: MC311 Call Center	Source: MC311 self-help Web Portal	Source: Other (Internal)	Total SRs by Source
Type: SR-Fulfillment	131,133	82,643	12,929	226,705
Type: SR-General Information	341,256	399	10,330	351,985
Total SRs by Type	472,389	83,042	23,259	578,690

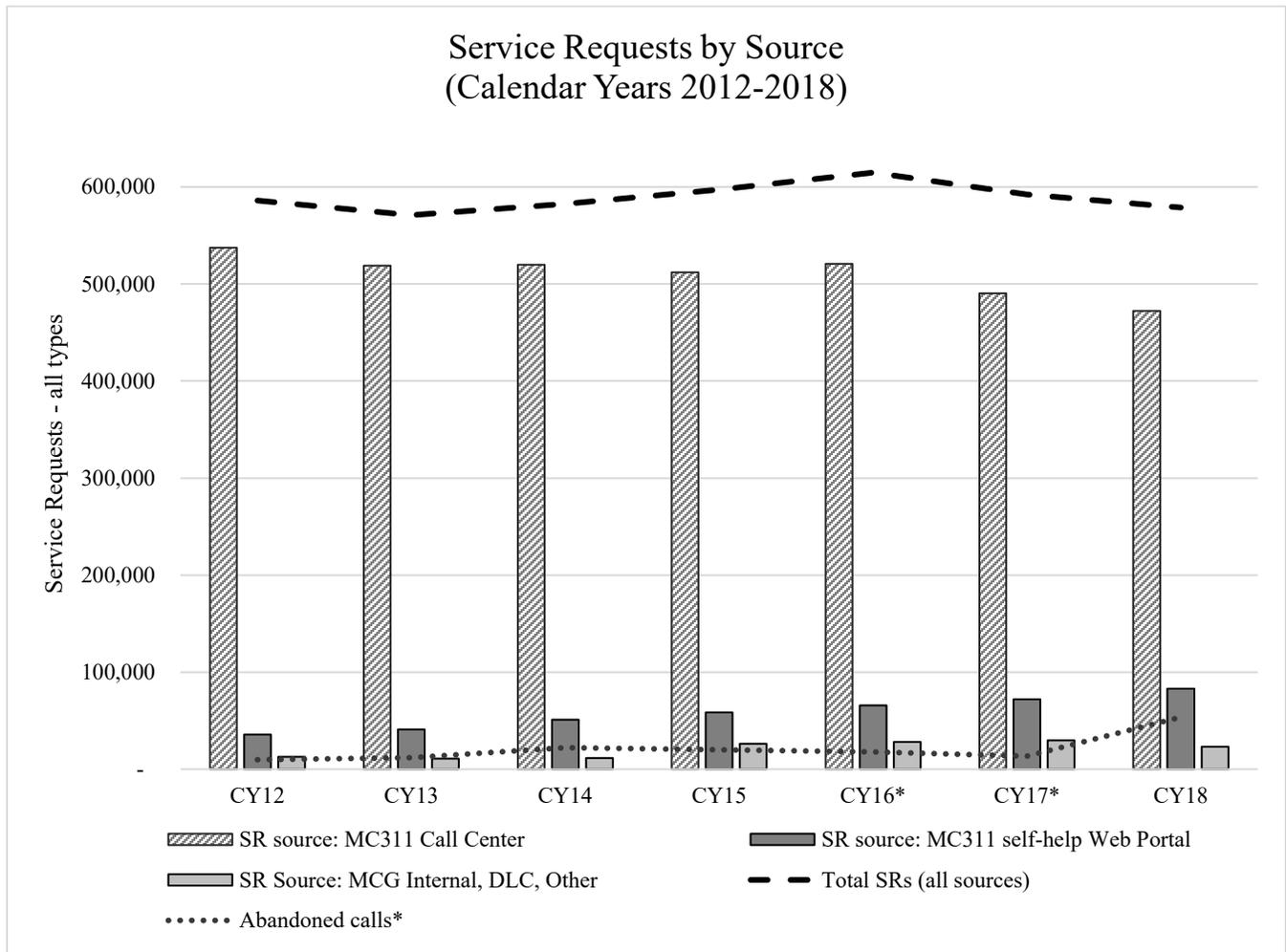
1.) Service Requests by Source

County residents are the source of most MC311 service requests. Residents may originate those requests by phone, Tweet (although rare), or online. Service requests originating from a resident contact (mainly, phone calls) to the MC311 Call Center are created by customer service representatives (CSRs) on behalf of residents. Service requests originating from the MC311 Web Portal are created by residents

themselves as self-help service requests. CSRs are not involved in creating SRs originating from the Web Portal.⁴

Figure 3 below shows all service requests categorized by original source for the period CYs 2012-18. For example, of all the SRs generated in CY18, 82 percent originated from the MC311 Call Center, 14 percent originated from the MC311 self-help Web Portal, and the remaining four percent originated outside the MC311 system.

Figure 3. Service Requests by Source, Calendar Years 2012-2018.⁵



The number of SRs originating from the MC311 Web Portal has grown steadily since CY12. Over the 2012-2018 period, the portion of SRs originating from the Web Portal has grown by an average of 15

⁴ NB: Visits to the MC311 Web Portal for information only do not generate a service request in the Siebel CRM system.

⁵ *Following the MC311 Call Center relocation in 2016, the customer relationship management (CRM) system maintained by the Department of Technology Services inaccurately counted abandoned calls for 15 months. As a result, the count of abandoned calls for August 1, 2016, through October 29, 2017, is unreliable.

percent (or roughly 8,000 SRs) per year. In CY18, the SRs from the Web Portal represent about 14% of all SRs.

In comparison, the number of SRs originating from the Call Center has shown an average decrease of about two percent per year over the 2012-2018 period. At the same time, abandoned calls to the Call Center increased to over 53,000 in CY18. If the abandoned calls had been answered, the Siebel CRM system would have recorded them as service requests originating from the MC311 Call Center.⁶ When the number of abandoned calls is combined with the number of SRs originating from the Call Center, it suggests that the decreasing number of SRs from the Call Center would have been less pronounced (averaging less than one percent per year over the 2012-2018 period) if all calls had been answered.

While there is likely a relationship between the number of service requests originating from the Call Center versus the Web Portal, many factors can contribute. For example, residents who initially used only the Call Center may gradually become more comfortable requesting County services using the Web Portal; however, no matter how eager residents may be to use the self-help Web Portal, only a subset of County services can be requested on the Web Portal.

2.) Service Requests by Type

The Siebel CRM system categorizes all service requests from residents as either SR-Fulfillment or SR-General Information. The County defines the SR types as follows:

SR-Fulfillment. Service requests categorized as SR-Fulfillment are those routed to servicing departments for fulfillment. SR-Fulfillment requests may originate from the MC311 Call Center, the MC311 Web Portal, or other internal County sources unrelated to MC311.

SR-General Information. SR-General Information requests typically represent a record of every customer interaction with the Call Center where the caller requested information that could be provided by a CSR at the Call Center. Virtually all requests to MC311 categorized as SR-General Information are created and closed at the Call Center and do not require any follow up by servicing departments.⁷

In recent years, about 60 percent of all service requests recorded in the Siebel CRM system are SR-General Information calls by residents to the MC311 Call Center. Notably, when a resident visits the MC311 Web Portal for information only, no service request is generated. The MC311 Web Portal can only generate service requests categorized as SR-Fulfillment, and then only if a resident completes an intake form. Therefore, we cannot use service request volumes alone to compare how residents use the Call Center versus the Web Portal to find County information. (As discussed in Chapter 4, Section A.2),

⁶ Following the MC311 Call Center relocation in 2016, the customer relationship management (CRM) system maintained by the Department of Technology Services inaccurately counted abandoned calls for 15 months. As a result, the count of abandoned calls for August 1, 2016, through October 29, 2017, is unreliable.

⁷ Some customer conversations with a CSR could result in both an SR-Fulfillment and an SR-General Information, depending on the extent of the caller's queries and requests.

web analytic tools that track and report website traffic are necessary to assess Web Portal usage other than that resulting in a SR-Fulfillment request.)

Figure 4. Service Requests by Type, Calendar Years 2012-2018.

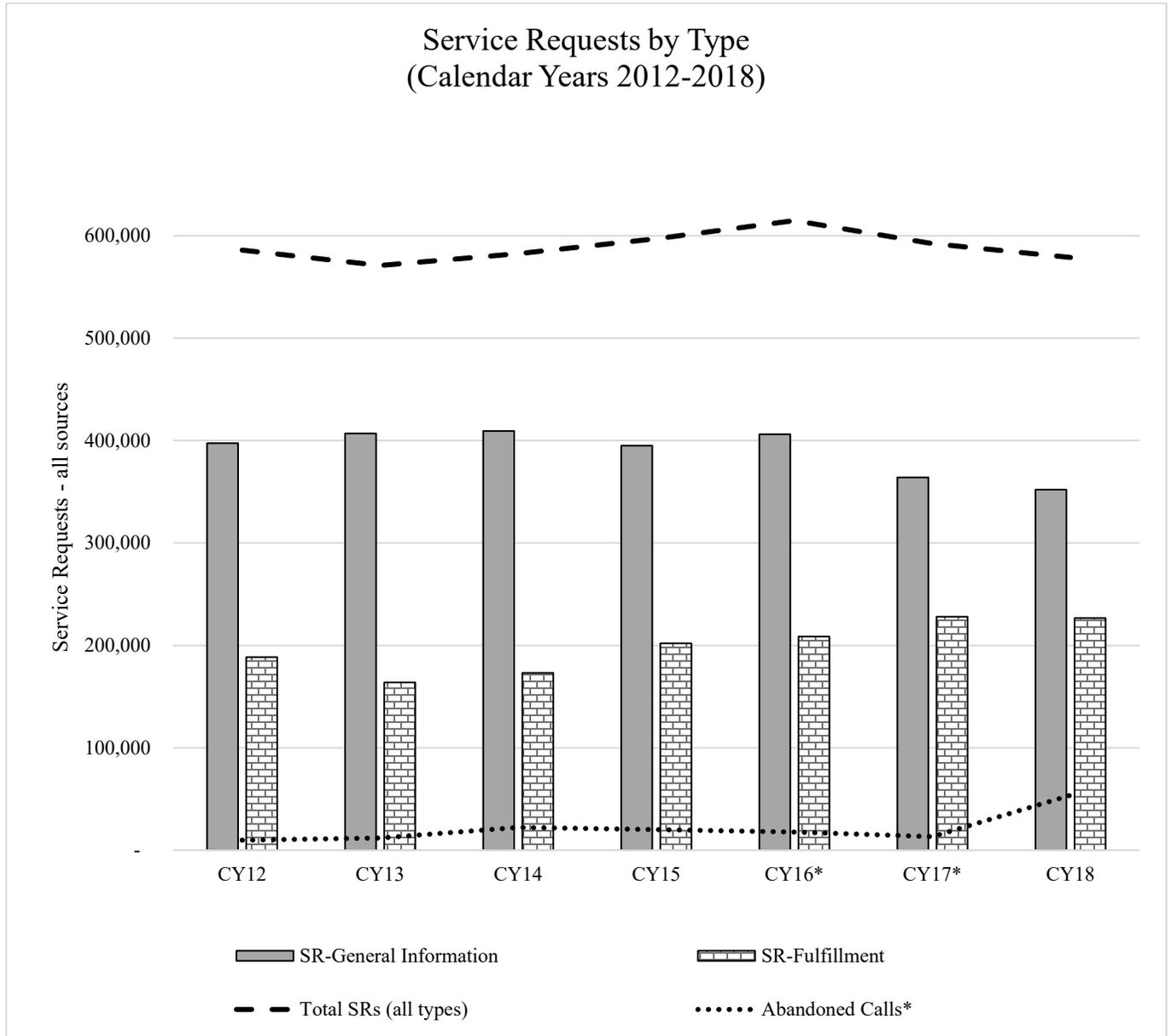
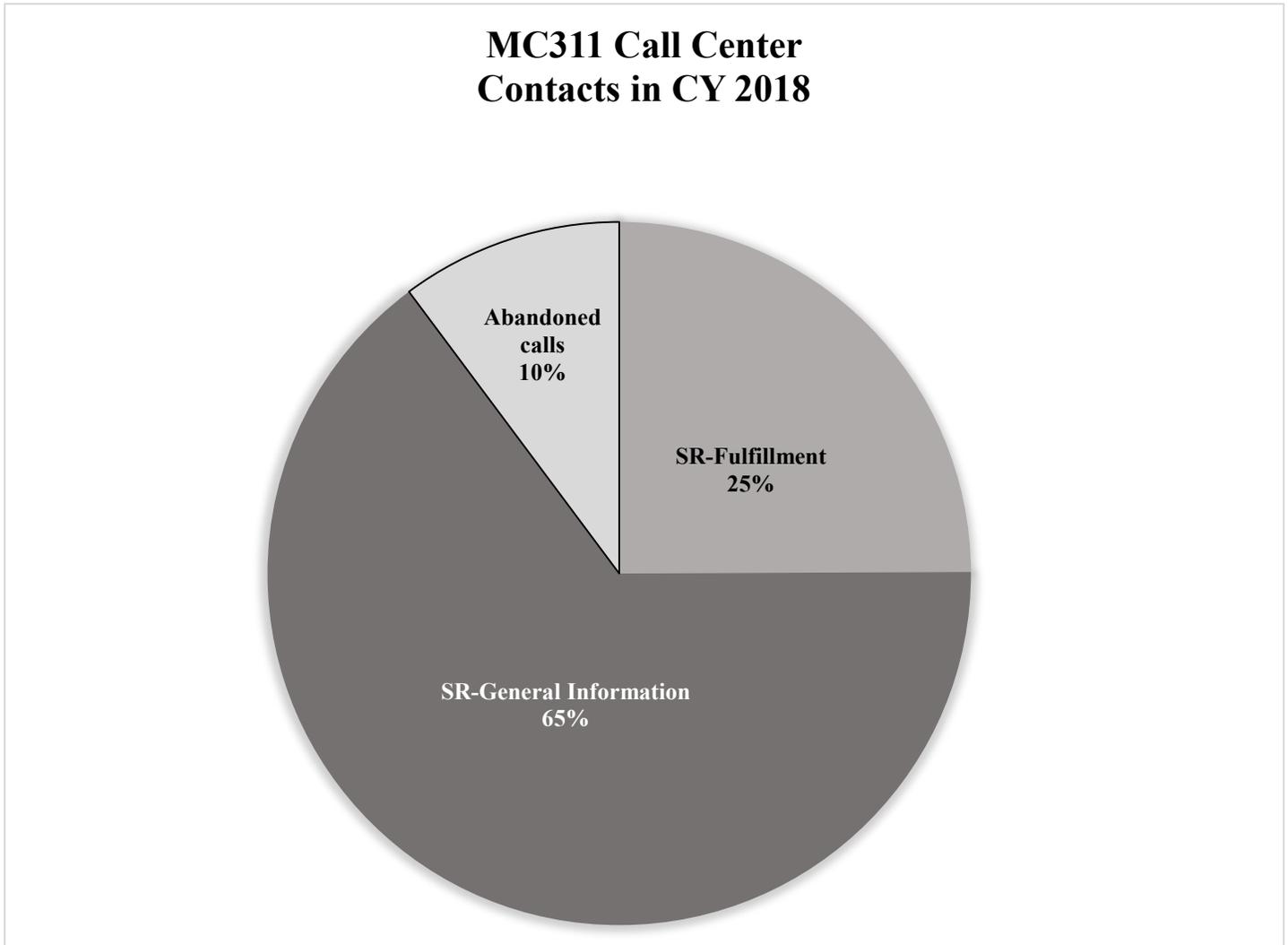


Figure 5 below focuses on service requests originating from the MC311 Call Center in calendar year 2018 categorized by type of service request. Note that calls to the MC311 Call Center that are abandoned would have been recorded as some type of service request if the Call Center had answered them.⁸ In theory, some (or all) of the callers who hung up may have called back later and are included in the recorded service requests in Figure 5, but the actual number is unknown.

Figure 5.



⁸ *Following the MC311 Call Center relocation in 2016, the customer relationship management (CRM) system maintained by the Department of Technology Services inaccurately counted abandoned calls for 15 months. As a result, the count of abandoned calls for August 1, 2016, through October 29, 2017, is unreliable.

3.) Call Center Output: Answering Incoming Calls

At the MC311 Call Center, the total number of incoming calls is a combination of answered calls (ACD calls) and abandoned calls. Table 4 below compares the calls for the first six months of calendar years 2018 and 2019.

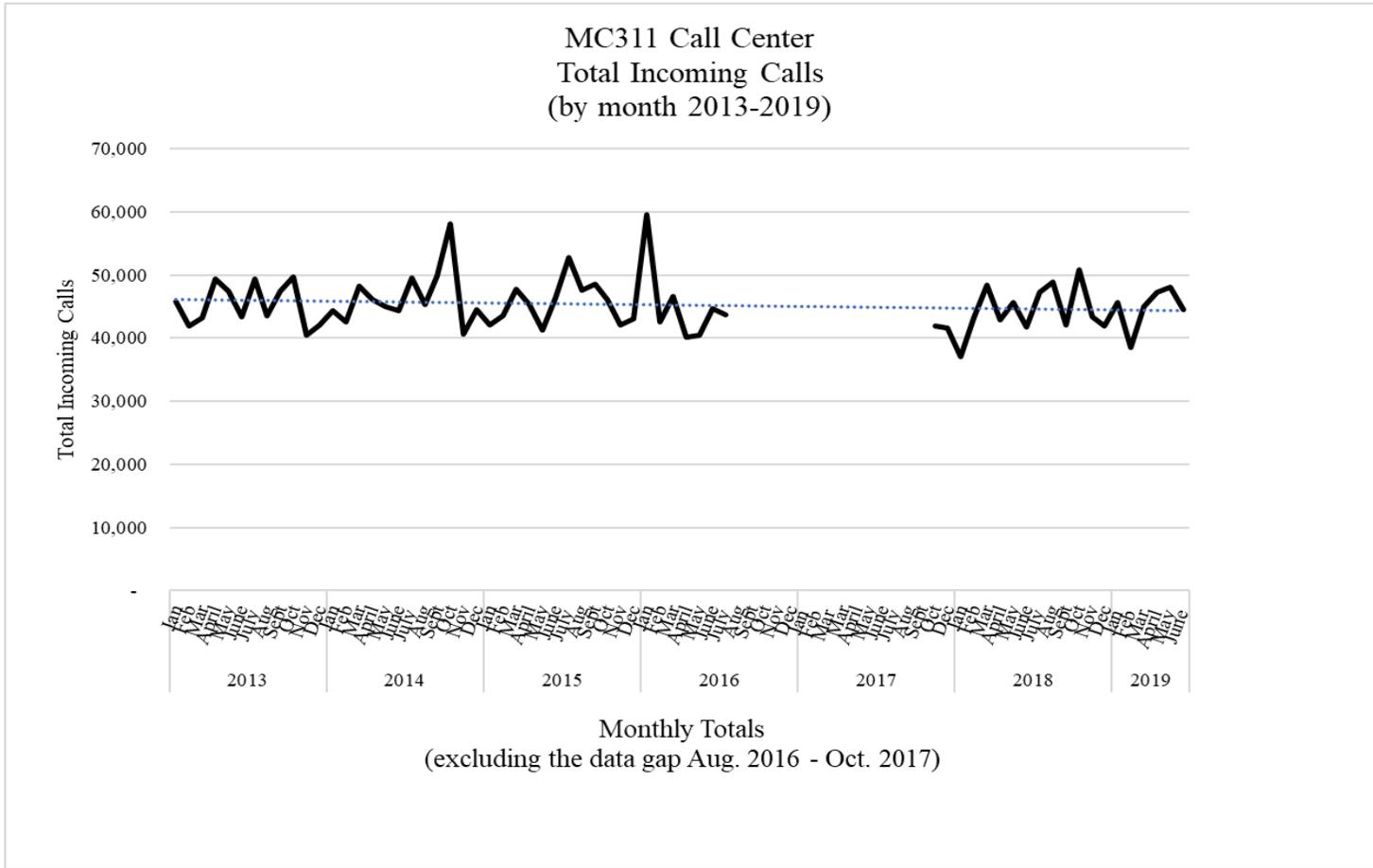
Table 4. MC311 Incoming Calls, Comparison of First Six Months of CYs 2018 and 2019.

2018				2019			
	ACD calls	Abandoned Calls	Total Incoming Calls		ACD calls	Abandoned Calls	Total Incoming Calls
Jan	34,445	2,634	37,079	Jan	41,204	4,444	45,648
Feb	40,981	2,255	43,236	Feb	35,562	2,952	38,514
Mar	43,634	4,746	48,380	Mar	40,000	4,947	44,947
April	38,605	4,336	42,941	April	42,812	4,393	47,205
May	39,860	5,784	45,644	May	41,549	6,554	48,103
June	37,619	4,077	41,696	June	41,129	3,351	44,480
6-month sum	235,144	23,832	258,976	6-month sum	242,256	26,641	268,897

Change: 2018 to 2019						
	ACD Calls		Abandoned Calls		Total Incoming Calls	
	# change	% change	# change	% change	# change	% change
Jan	6,759	20%	1,810	69%	8,569	23%
Feb	(5,419)	-13%	697	31%	(4,722)	-11%
Mar	(3,634)	-8%	201	4%	(3,433)	-7%
April	4,207	11%	57	1%	4,264	10%
May	1,689	4%	770	13%	2,459	5%
June	3,510	9%	(726)	-18%	2,784	7%
6-month sum	7,112	3%	2,809	12%	9,921	4%

Comparing the first six months of 2018 and 2019, the Call Center experienced a four percent increase in total incoming calls in 2019. Abandoned calls also increased over this period, as we would expect if the Call Center was already at capacity. But while the month-to-month variations are striking, a longer comparison of monthly call volumes over the 2013-2019 period shows that such volatility has occurred since the Call Center’s inception. Fig. 6 depicts the monthly incoming calls (with the exception of the telephony data gap from Aug. 2016 – Oct. 2017). Overall, the trend in calls is down over the multiyear period.

Figure 6. Total Incoming Calls to MC311, by month (2013-2019).



4.) MC311 Web Portal Output: Pageviews and Unique Visitors

In addition to counting service requests, the output of the self-help Web Portal can be measured based on the number of pageviews, unique visitors, and other variables for web traffic. As discussed in Chapter 4, measures of website traffic can offer insights into who is visiting the Web Portal, how they are using it, whether the site’s content is relevant to customers, and whether the structure of the Web Portal allows users to navigate the site with ease.

DTS uses Google Analytics to track web traffic across all County web pages, including the web portal. However, OLO found that the data being collected did not exclude pageviews and visits generated by automated computer programs (e.g., “bots” and “spiders”) and was likely overestimating pageviews and visits by County residents. Beginning in July 2019, DTS began collecting web traffic data that filters traffic from bots and spiders.

Web analytics offers a significant opportunity for DTS and MC311 to understand how residents currently use the Web Portal and find opportunities to streamline the Web Portal’s ease of use for residents.

Chapter 2: Endnotes

¹ *Performance Measurement and Evaluation: Definitions and Relationships*, United States Government Accountability Office, GAO-11-646SP, May 2011; retrievable from www.gao.gov.

² *OLO Report 2016-8: MC311 Performance and Data*, S. Bryant and N. Carrizosa (Office of Legislative Oversight, July 12, 2016), p. 2; retrievable from www.montgomerycountymd.gov/OLO/Reports/CurrentOLOReports.html.

³ For greater detail, please see *OLO Report 2016-8, MC311 Performance and Data*, (July 12, 2016) for a thorough background on MC311 and how departments interact with MC311, including a discussion of: MC311 Customer Service Center (“Call Center”) operations (Chapter 2); The MC311 service request process and County department processes for fulfilling MC311 service requests (Chapter 3 and Appendix B); and how MC311’s Siebel database integrates with case management systems in the County departments (Appendix E). In addition, *OLO Report 2014-5, An Examination of MC311 Calls by Preferred Language*, (March 4, 2014) reviews cultural competency and MC311 interactions with individuals with limited English proficiency; it includes a description of MC311 Services, Staffing and Operations (Chapter III).

⁴ FY20 Budget p. 37-1

⁵ *County Executive’s FY20 Recommended Operating Budget*, (Montgomery County Office of Management and Budget, March 2019), General Government: Public Information pp. 37-1 thru 37-7.

⁶ *County Executive’s FY20 Recommended Operating Budget*, (Montgomery County Office of Management and Budget, March 2019), General Government: Department of Technology Services, Enterprise Systems, pp. 38-3 thru 38-4.

⁷ *Performance Measurement and Evaluation: Definitions and Relationships*, U.S. Government Accountability Office, GAO-11-646SP, May 2011.

⁸ *OLO Report 2016-8: MC311 Performance and Data*, S. Bryant and N. Carrizosa (Office of Legislative Oversight, July 12, 2016), p. 2.

Chapter 3. How the County Measures MC311 Performance Now

Performance Measure Overview

This chapter reviews the County's current performance measures for MC311. It introduces common terminology for performance measures used in many larger 311 systems. This chapter then describes how Montgomery County specifically defines and calculates those measures as a way to assess MC311 performance and discusses some advantages and disadvantages of the current measures.

This chapter is organized as follows:

Section A introduces common measures of output and performance used by many larger 311 systems. While the terminology is common, specific definitions and formulas can vary.

Section B describes the County's current performance measures for MC311 as reported by OMB and CountyStat. In this section, OLO finds that:

- Average Speed to Answer (Performance Measure #1) and Abandoned Call Rate (Performance Measure #6) are valuable measures of performance as currently calculated. Providing additional metrics related to Call Center staffing and call handle times could provide more context for understanding the trends in these two performance measures.
- Customer Satisfaction (Performance Measure #2) has significant limitations as currently assessed. Surveying a more representative sample of MC311 customers would improve the quality of this measure.
- Cost per Customer Contact (Performance Measure #3) as currently calculated is an unreliable measure of MC311 performance. OLO recommends that the Council ask the Executive Branch to revise the formula.
- First Call Resolution (Performance Measure #5) as currently calculated is an unreliable measure of how often residents may have to contact MC311 more than once to get a question answered or a requested service completed. OLO recommends that the Council ask the Executive Branch to revise the formula.

Section C highlights CountyStat's periodic performance reviews of MC311 and how it uses MC311 data as the basis of performance reviews of servicing departments.

Section D describes MC311 operational data collected on an ongoing basis by the Oracle/Siebel CRM software system that is not otherwise reported as part of the performance measures described in Sections B and C.

The County uses its performance measures for MC311 in three main contexts: the annual budget development process, periodic CountyStat performance reviews, and management of day-to-day MC311 operations.

Section A. Performance Measures Commonly Used by Call Centers

OLO found that most sizeable 311 and private sector call centers use customer relationship management (CRM) software and management processes that track common variables. To introduce the discussion of MC311 performance measures, the table below describes common industry terms used for these variables, as follows.¹

Table 5.	Common Call Center Performance Measures
Standard Greeting Time	The duration in seconds of the automated welcome greeting that every caller hears before they enter the call queue.
Average Speed to Answer (ASA)	The average number of seconds it takes for a call to be answered by a human operator after it enters the call queue.
Speed to Answer Service Level Performance	The percentage of calls answered by an operator within a target number of seconds. A call center sets a service level performance goal expressed as the percentage of incoming calls in the queue that it intends to answer within a target number of seconds. (E.g., if its service level goal is “80/40,” it aims to answer 80 percent of incoming calls within 40 seconds). A service level performance of 50% would mean that half of the incoming calls entering the queue were answered by an operator within the target.
Abandoned Call Rate (ACR)	The number of calls in the queue where the caller hangs up before connecting to an operator, divided by the total number of incoming calls. Abandoned calls tend to increase with the length of time callers must wait to reach an operator. ⁱ ACR can be seen as an indicator of callers’ tolerance to wait on hold.
Average Handle Time (AHT)	AHT is the sum of average talk time (ATT) for an operator to speak to customers plus the time required of an operator for after-call work (ACW) for every call.
First Call Resolution (FCR)	The percentage of calls where the initial call resolved the customer’s question or request without need for follow-up. Specific definitions of “follow-up” differ. Some organizations refer to FCR as ‘First-Contact Resolution’ because they have multiple channels of communication; these organizations track whether customers have their issue resolved on first contact (whether on the website, via chat, or by phone).
Call Quality	A score of the operator based on a set of customer service criteria. For organizations with multiple channels of communication, this metric can apply to how an operator handles calls, emails, and texts/chats with customers.
Occupancy Rate	The percentage of time that operators are occupied with calls. An occupancy rate of 70 percent would mean that the operators who were available to take

ⁱ Note: ‘Abandoned calls’ are counted separately from ‘dropped calls’ which are defined as calls answered by an operator but dropped part way through the conversation.

	calls were occupied with calls 70 percent of the time. A low occupancy rate means idle operators. A high occupancy rate risks over-extending operators.
Turnover (attrition)	Turnover measures the number of CSRs to leave their employment divided by the total number of CSR positions over a given time period.
Shrinkage	The percentage of time for which staff are paid to work that they are not available to take calls due to off-line activities including: training, coaching, team meetings, scheduled breaks during the work day, annual leave, sick leave, and Family and Medical Leave Act (FMLA)-related leave. ²
Attendance and Punctuality	Attendance measures the portion of operators who report for work on their scheduled day. Punctuality measures the portion who report for work on time.
Cost per Call (or Cost per Contact)	Call centers calculate cost per call in different ways. A basic approach is to divide the number of calls per hour by an operator’s hourly wage. A fully-loaded way to calculate cost per call is to divide all annual operating costs for a call center by the total number of annual calls.

Comparisons should be made with caution. OLO found significant differences between 311 systems themselves that can make comparisons based on these variables misleading. For example:

- *Hours of Operation.* Some 311 call centers operate 24/7, while others operate on a more standard work week like the MC311 Call Center. Thus, centers with similar overall call volumes can have very different call volumes by hour, which affects staffing requirements.
- *Labor Representation.* Some 311 call centers employ unionized operators, such as in Montgomery County, while operators in other systems are unrepresented. This difference pertains, for example, to pay rates (affecting cost per call), amount of leave available to operators (affecting shrinkage), and options for staff scheduling.
- *Services Offered Through 311.* The services and information covered by 311 systems (online and phone) vary significantly among jurisdictions. This can affect the size and complexity of the knowledge base, the time needed to train new CSRs to staff the call center, the need for CSRs who are subject matter experts, and average call handle time (AHT).
- *Taking Payments.* Some 311 systems (online or phone) take payments from customers, such as utility payments, license/permit fees, or payments for documents like birth certificates, whereas MC311 does not. This difference can affect how long customers are willing to wait on hold. If a customer faces having a utility shut off for failure to pay, for example, they may be willing to wait on hold quite a while.

OLO has observed that many jurisdictions do not go as far as Montgomery County in publishing the performance measures for their 311 systems, which speaks to this County’s intention to be accountable to residents. The following section offers observations and options to continue improving how the County measures its MC311 system performance.

Section B. Current County Performance Measures for MC311

CountyStat currently publishes seven “Headline Performance Measures for MC311 on its website.³ Established in 2007, CountyStat is the performance management and data analytics team within the County Executive’s Office. CountyStat’s roles and responsibilities for performance management encompass data analytics, process reviews, and internal and external satisfaction surveys. Departments work with CountyStat to identify their customer base, services, and achievable outcomes, and then identify performance measures to gauge the extent to which they are achieving desired results efficiently.

As part of the County Executive’s annual budget development process, the Office of Management and Budget (OMB) reports seven “Program Performance Measures” for MC311 that are equivalent to the CountyStat Headline Performance Measures. Table 6 shows the performance measures for MC311 as reported by OMB in the FY20 Operating Budget.⁴

Although OMB and CountyStat use different names for each measureⁱⁱ, how each measure is calculated is the same. The following pages detail how the County defines and calculates each measure.

Table 6. County Performance Measures for MC311, as reported in the FY20 Operating Budget (Source: OMB, March 2019)⁵

		Actual FY17	Actual FY18	Est. FY19	Target FY20	Target FY21
1.	Average speed to answer (time it takes to reach a Customer Service Representative after the welcome announcement, in seconds)	N/A*	N/A*	20	20	20
2.	Customer satisfaction	86%	85%	86%	87%	88%
3.	Cost per customer contact	\$4.02	\$3.80	\$3.90	\$3.90	\$3.90
4.	Rate of Service Requests created on the MC311 web portal	32.25%	36.92%	34%	34%	34%
5.	Rate of first call resolution	72.17%	72.61%	73.5%	75%	75%
6.	Abandoned call rate (calls that come into 311, but are not answered by a Customer Service Representative)	N/A*	8.14%	4.12%	4.0%	4.0%
7.	% of callers requesting to speak Spanish	4.12%	3.76%	4.12%	4.0%	4.0%

**See footnote on data gap from Aug. 1, 2016, through Oct. 29, 2017.*

ⁱⁱ See Appendix E for a crosswalk of the performance measure titles.

**Performance Measure #1:
Average Speed to Answer (ASA)**

Performance Measure as reported in the FY20 Operating Budget:

Actual FY17	Actual FY18	Est. FY19	Target FY20	Target FY21
N/A*	N/A*	20	20	20

****There is a gap in data from August 2016 – October 2017, due to technical issues, therefore actuals for FY17 and FY18 are not available. Two new CSR positions created in FY17 were filled in FY18.*

Description:

The County calculates Average Speed to Answer (ASA)ⁱⁱⁱ as follows:

$$\text{ASA} = \frac{\text{Total Time in Queue for Answered Calls}}{\text{Total Number of Answered Calls}}$$

Time in queue refers to the time a caller waits on hold after the automated welcome greeting. Every caller to MC311 first hears a standard, pre-recorded welcome greeting that allows them to proceed in English or Spanish and to enter a service request number to check the status of an earlier service request.^{iv} After hearing these automated options, the caller enters the call queue for the next available customer service representative (CSR). The average time that calls wait in the queue (excluding the time for the automated greeting) is referred to as ‘Average Speed to Answer’. The County’s target ‘Average Speed to Answer’ is 20 seconds. The ASA formula does not count waiting time for calls in queue that are abandoned by the caller before being answered by a CSR.

Data for this calculation is collected by the Avaya telecommunications system maintained by the Department of Technology Services. Collected data feeds into the Oracle/Siebel CRM system, which allows MC311 managers to view the ASA on the Oracle/Siebel CSC Scorecard and to calculate the ASA for various time periods (e.g., work-day, work-week, fiscal year, etc.).

Table 7 shows the ASA for the Call Center for Fiscal Years 2012-2019. ASA increased significantly in 2019 as compared to 2012-2016.

ASA (in seconds) [Target: 20 secs.]	FY12	FY13	FY14	FY15	FY16	FY17*	FY18*	FY19
	14	13	15	17	22	N/A*	N/A*	87

*Due to the data gap for 8/2/16-10/29/17, the ASA for FYs 2017 and 2018 is not reported here.

ⁱⁱⁱ See Appendix E for a crosswalk of performance measure titles. OMB titles this measure ‘MC311 – Average amount of time it takes to reach a Customer Service Representative after the welcome announcement (in seconds).’ CountyStat titles it ‘Average Time to Reach 311 Rep.’ The Oracle/Siebel CSC Scorecard titles it ‘Average Speed to Answer,’ which is the more typical term used by call centers.

^{iv} MC311 managers change the greeting occasionally, but OLO observed that typically the welcome greeting lasts 45-60 secs.

A hardware-related error resulting from the Call Center's physical move in August of 2016 from 51 Monroe Street to their current location on Rockville Pike resulted in a gap in ASA data for the period August 2, 2016, through October 29, 2017. CountyStat and MC311 staff report that call center data is correct from October 30, 2017, forward.

To better convey the day-to-day variation in incoming call volumes ASA, Figures 7 and 8 (on p. 3-7) show these metrics for Call Center workdays during FY 2016 and FY 2019. Although call volumes were similar, the ASA increased significantly in FY 2019.

Chapter 4, Section 1 discusses staffing issues at the Call Center that relate to this decline in ASA performance.

Figure 7:

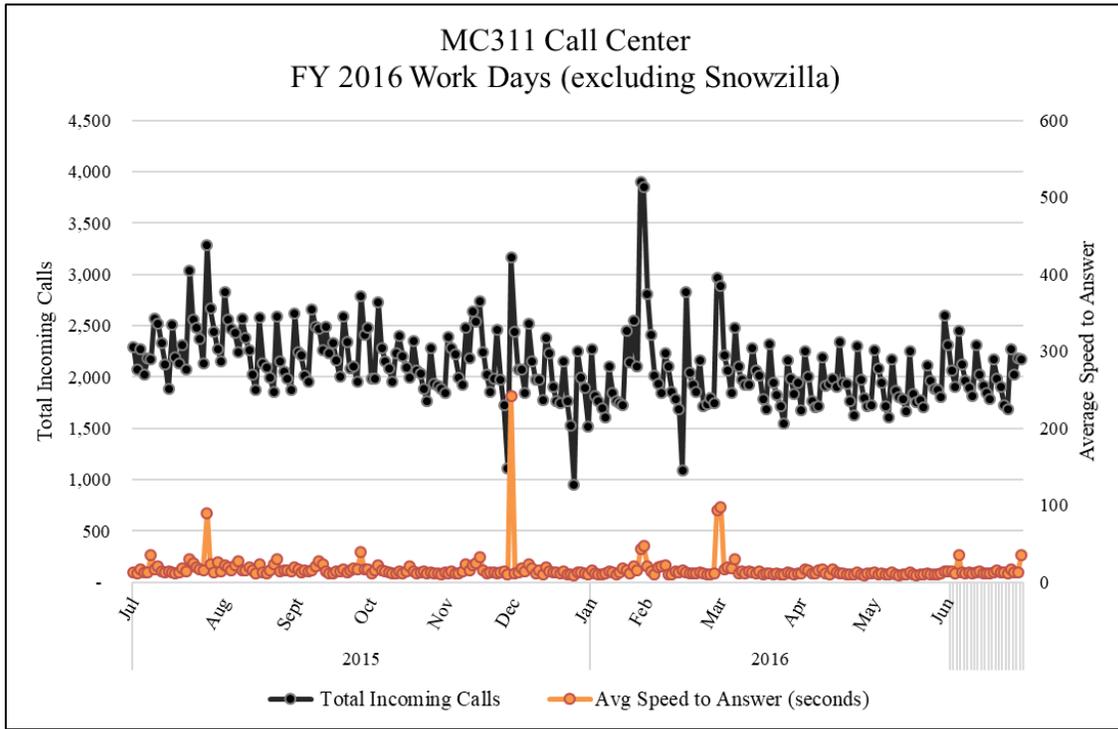
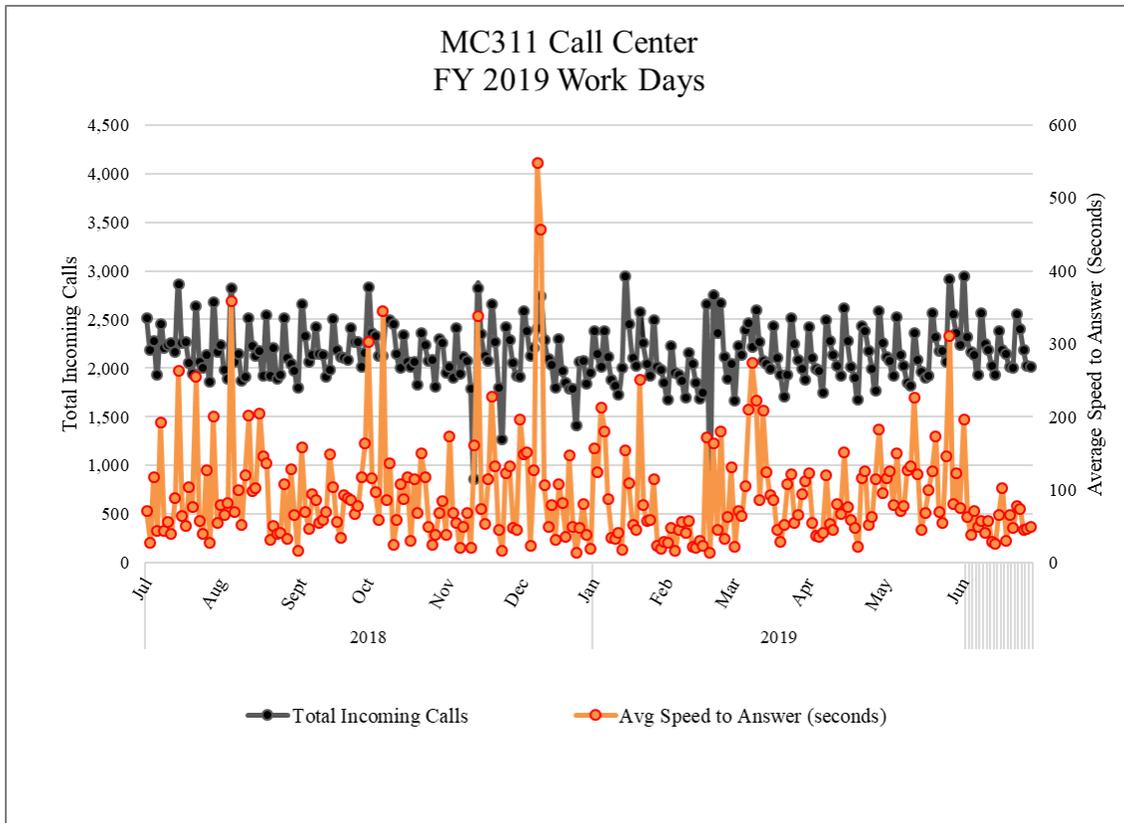


Figure 8:



Discussion:

The call center industry considers ASA a key performance indicator because it also affects other performance measures, including the abandoned call rate, customer satisfaction, average handle time, and cost per contact.⁶ ASA is often used by call center managers to assess their team's efficiency, performance, and availability to customers.

At the same time, ASA has the following limitations as a performance measure:

1. *As an average, the ASA can influence the full picture of wait times experienced by all callers.* For example, when ASA is averaged over a short time period, just a few callers who waited a very long time before reaching a CSR can push the ASA outside the target range. Yet when ASA is averaged over a long time period, an ASA closer to the target range may mask that some callers waited an unacceptable amount of time in the queue. To illustrate, there were seven days in Calendar Year 2018 when the daily ASA for the MC311 Call Center exceeded five minutes; knowing that may be as important to managers as knowing that the Call Center's ASA for Calendar Year 2018 averaged 83 seconds (one minute and 23 seconds).
2. *ASA typically excludes abandoned calls.* For example, if a caller enters the call queue, waits for five minutes, and then hangs up before a CSR answers the call, that wait time before the abandonment is not counted in the ASA and therefore does not negatively influence the ASA. As a result, Call Center managers review the ASA together with the abandoned call rate (ACR) and other performance measures for a more complete picture of Call Center operations.

As discussed in Chapter 4, Section 1, OLO recommends that the Council ask the Executive Branch to add metrics related to Call Center staffing (such as turnover and shrinkage) and average handle time to provide more context for understanding the factors driving ASA.

**Performance Measure #2:
Customer Satisfaction**

Performance Measure as reported in the FY20 Operating Budget				
Actual FY17	Actual FY18	Est. FY19	Target FY20	Target FY21
86%	85%	86%	87%	88%

Description:

The County calculates customer satisfaction by compiling responses to feedback surveys that MC311 emails to its external customers. The County’s target is that 85 percent of external survey respondents are satisfied with MC311. MC311 also conducts an internal survey of County departments, but the internal survey responses are not included in this customer satisfaction measure.

MC311 conducts both internal and external customer surveys.⁷ External surveys, which are sent to customers of both the Call Center (who provide an email address) and the Web Portal, are solicited two ways:

- (1) Twice-yearly surveys emailed to customers who had created a service request in the 45-60 days preceding the survey date, and
- (2) Ongoing surveys collected as part of e-mailed service request confirmations.

According to CountyStat, comparing customer satisfaction performance over time should be done with caution because the surveys themselves have changed over time. For example, in some years the surveys have asked respondents to rate their satisfaction on a scale, whereas in other years the surveys have offered only “Satisfied” or “Dissatisfied” as a response option.⁸

For FYs 2017 and 2018, the County tabulated the results for this performance measure as follows:

<p>Customer Service Satisfaction Performance Calculation:</p> <p>[Number of respondents who answered selected survey questions with a response of "Excellent", "Good" or "Average"] / [Total number of respondents who answered selected survey questions] *100</p>

^v Separately, the County arranges for a biannual National Citizen Survey that includes MC311 as part of a broader assessment of the quality of County services; those survey results are not reflected in this performance measure.

Customer satisfaction for Fiscal Year 2018 is shown in Table 8 below:^{vi,vii}

Table 8. MC311 External Customer Satisfaction Survey Responses, Fiscal Year 2018.								
Satisfaction with MC311	Responses:					Total responses	Sum of Selected Questions with answers E/G/A	Sum of Selected Questions with answers E/G/A: % of total
	Excellent	Good	Average	Below Average	Poor			
FY18 Survey 1 (Jan. 25, 2018)								
Call Center	267	89	32	28	28	444	388	87%
Web Portal	258	123	42	17	21	461	423	92%
Twitter	2	1	1	2	0	6	4	67%
FY18 Survey 2 (June 18, 2018)								
Call Center	176	64	27	21	34	322	267	83%
Web Portal	25	19	6	6	10	66	50	76%
Twitter	1	2	2	1	0	6	5	83%
Total	729	298	110	75	93	1,305	1,137	87%

Discussion:

OLO finds that Customer Satisfaction is a key performance indicator but that this measure has significant limitations as currently assessed.

Customer surveys serve two purposes: they allow the County government to collect valuable information from anonymous MC311 customers, and they simultaneously reinforce the broader message that County government genuinely cares about the opinions and experiences of its MC311 customers. The current MC311 survey results, however, do not reflect feedback from persons who:

- Made a service request via the Call Center but chose not to provide an email address;
- Hung up before generating a service request;
- Accessed information via the MC311 Web Portal but did not make a service request; or

^{vii} Due to a math error, the 85% customer satisfaction rate for FY18 understated the percent of customers satisfied, as it was to be calculated under the County formula; the formula result should have been reported as 87% for FY18.

- Are not yet MC311 customers.

More specifically, the MC311 survey used to report this performance measure has the following limitations:

1. Those surveyed by MC311 are not representative of those who use MC311. In FY 2018, 1,137 survey responses were the basis for assessing customer satisfaction with more than 550,000 service requests. While this number of respondents is adequate to be mathematically reliable, the customers sampled are unlikely to be representative of the population of MC311 customers for the following reasons:

a. *MC311 surveys external customers by email, but relatively few customers provide an email address.* In CY 2018, for example, just seven percent of all service requests had an email associated with them. This means that for 93 percent of SRs, the customer associated with that request could not be emailed a feedback survey.

b. *The MC311 surveys likely exclude callers to MC311 who abandoned their call.* Callers who hang up are more likely than the average caller to be dissatisfied, yet because these callers do not generate a service request, MC311 cannot email them a survey. Of course, some callers hang up for reasons unrelated to MC311. For example, a caller on hold may want to ask when the next Ride On bus will arrive, but then the bus arrives and they hang up. Some callers who hang up may call back later and provide their email as part of that later service request. Some callers who hang up may move to the self-help Web Portal where they place a service request and are emailed a link to a feedback survey. Counterbalancing this, however, are potential customers who may have started on the self-help Web Portal, discovered that only some County services can be requested online or that they could not find information they needed, switched over to calling MC311, only to abandon the call when left on hold too long. Other potential customers who abandoned their calls may give up on the MC311 system entirely and never call back or visit the Web Portal. In any case, it seems likely that for many potential customers who hang up, MC311 cannot email them a customer feedback survey.

c. *MC311 surveys more callers requesting services than callers seeking information only.* All answered calls to the Call Center generate a service request, categorized as either SR-Fulfillment (requests requiring follow-up service) or SR-General Information (the caller asked only for information). Most general information calls do not require a subsequent email from MC311, and as a result these callers are unlikely to be surveyed.

d. *MC311 cannot email its surveys to Web Portal users who seek information only.* Unlike Call Center customers, customers who use the self-help Web Portal to find information only do not generate an SR-General Information request in the process, and therefore MC311 cannot email them a link to a feedback survey. As a result, customer satisfaction about finding information on the Web Portal is not being systematically assessed with the current survey method.

2. MC311 survey questions and answer options could be more carefully designed. Every word in every item in a survey questionnaire can affect the reliability of survey results. OLO recommends that, once MC311 can be assured that the customers being surveyed are representative of all MC311 customers, MC311 review the questions for reliability and validity.

3. Customers may conflate MC311 service and service by departments. Customers may not understand the procedures behind County service delivery – and in fact, 311 systems were expressly designed so that customers need not know this. While MC311 creates service requests, MC311 cannot dictate how servicing departments prioritize or fulfill requested services. Yet the results of MC311’s customer satisfaction surveys may reflect either the service provided by MC311 specifically and/or the servicing department’s fulfillment of the request.

4. Many County residents are not MC311 customers. MC311’s customer feedback surveys cannot (by definition) illuminate why some County residents are not (yet) active MC311 customers. For example, there may be factors that affect the likelihood of residents using the MC311 system across demographic, socioeconomic, and cultural groups.⁹

MC311 officials told OLO that in prior years they discussed an option to outsource surveys so that every call would end with the CSR asking if the caller would be willing to take a survey. If the caller answered ‘yes’, the caller would be transferred to a third-party. MC311 officials told OLO that such a system would provide independent and unbiased data about customer satisfaction with the call itself (rather than the servicing department’s subsequent fulfillment of a request). However, the option was considered too expensive at that time.

**Performance Measure #3:
Cost per Customer Contact**

Performance Measure as reported in the FY20 Operating Budget				
Actual FY17	Actual FY18	Est. FY19	Target FY20	Target FY21
\$4.02	\$3.80	\$3.90	\$3.90	\$3.90

Description:

The County calculates Cost per Customer Contact^{viii} using the following formula:

$$\text{Cost per Customer Contact} = \frac{\text{CSR Salaries (excluding benefits)}}{\text{Total number of SRs from Phone, Twitter, and Web}}$$

For example, for Fiscal Year 2017 the County calculated this performance measure as follows:

A. FY17 Salary costs (CSR salaries only; no benefits, contractors, or managers):	\$2,319,619
B. Sum of SRs:	
Number of SR's where source = Phone or Twitter (i.e., Call Center):	508,965
Number of SR's where source = Web (i.e., Web Portal):	+ 67,931
Total Number of Customer Contacts as Measured by SRs:	576,896
A/B=C: Average Cost per Customer Contact:	\$4.02

Discussion:

OLO finds the current formula to be a misleading measure of MC311 system performance and recommends that the Council ask the Executive Branch to revise it.

There are many ways for a call center to estimate the cost per call. For example:

- A basic method is to divide the number of calls per hour by a CSR's hourly wage. (For example, if a CSR takes 20 calls in an hour and is paid \$20 per hour, then the basic cost per call for that CSR is \$1.) On its face, the County is using a more basic method.

^{viii} See Appendix E for a crosswalk of titles: OMB refers to this performance measure as "Cost per customer contact (in dollars) (salary expenditures divided by the total number of customer contacts by phone, web portal, mobile-enabled portal, Twitter);" CountyStat refers to it as "MC311 Cost per Customer Contact."

- A fully-loaded method is to divide all annual operating costs for a call center (facilities, supervisors and managers, wages and benefits, desktops, telephony, maintenance, etc.) by the total number of annual calls. (For example, if total annual operating costs are \$3.8 million dollars and the center takes 475,000 calls in that year, then the fully-loaded cost per call is \$8.00.)

OLO finds that the County's current formula for this performance measure likely underestimates MC311's cost per customer contact because:

- The numerator includes only some costs to run the Call Center and does not include the Web Portal costs, but the denominator includes all service requests submitted via the Call Center and the Web Portal.
- The formula accounts only for Call Center CSR salary costs and excludes costs for CSR benefits, manager costs, and other operating costs.

OLO recommends that the Council ask the Executive Branch to revise the formula used to calculate the Cost per Customer Contact performance measure. If the formula were revised to focus on the Call Center by excluding service requests from the self-help Web Portal, or alternatively if the formula were revised to include costs related to the Web Portal, it would be more meaningful.

**Performance Measure #4:
Utilization of MC311 Web + Mobile Portal**

Performance Measure as reported in the FY20 operating budget				
Actual FY17	Actual FY18	Est. FY19	Target FY20	Target FY21
32.25%	36.92%	34%	34%	34%

Description:

The County calculates this performance measure using the following formula:

$$\text{Utilization of MC311 Web + Mobile Portal} = \frac{\text{SR-Fulfillment Requests from Web Portal}}{\text{SR-Fulfillment Requests from Call Center + Web Portal}} \times 100$$

This measure compares the number of SR-Fulfillment Requests generated from the Web Portal to the number generated from the Call Center. The formula excludes SR-General Information requests because this type of SR cannot be generated on the Web Portal.

For example, for Fiscal Year 2018 this performance measure was calculated as follows:

# SR-Fulfillment requests from Web Portal =	76,098
# SR-Fulfillments requests from Call Center =	<u>130,081</u>
Sum SR-F: Web Portal + Call Center =	206,179
Portion of SR-Fulfillments Created on the Web Portal:	
	$76,098/206,179 = .369 \times 100 = \mathbf{36.9\%}$

Discussion:

Many, but not all, County services can be requested by residents via the self-help Web Portal. Servicing departments choose which of their services to make requestable via the Web Portal. Encouraging residents to use the Web Portal is one strategy to reduce incoming call volumes at the Call Center. The County’s future-year target for this performance measure is static at 34 percent, suggesting that the County is not actively working to shift residents over to using the self-help Web Portal.

As discussed more fully in Chapter 4 (Section 1(B)), the Council may wish to discuss with the Executive Branch whether there are roadblocks to making more County services requestable via the Web Portal.

**Performance Measure #5:
Rate of First Call Resolution (FCR)**

Performance Measure as reported in the FY20 operating budget				
Actual FY17	Actual FY18	Est. FY19	Target FY20	Target FY21
72.17%	72.61%	73.5%	75%	75%

Description:

The call center industry typically intends the rate of first call resolution (FCR) to represent the percentage of calls where the initial call resolved the customer’s question or request without need for follow-up. Some organizations with multiple channels of communication refer to FCR as ‘First-Contact Resolution’ and aim to resolve questions or requests in one contact, regardless of whether their first contact with the customer was online, by phone, or via text/chat.

The County calculates this performance measure using the following formula:

$$\text{Rate of first call resolution} = \frac{\text{Number of SR-General Information service requests}}{\text{Total number of service requests from Call Center}}$$

The County estimates FCR for the MC311 Call Center by dividing the number of calls that are closed at the conclusion of the call (i.e., the SR-General Information requests) by the total number of service requests generated by the Call Center (i.e., a combination of the SR-General Information requests plus the SR-Fulfillment requests). Service requests generated from the Web Portal are excluded.

For example, for Fiscal Year 2018 this performance measure was calculated as follows:

Call Center Service Requests:	
SR-General Information requests =	344,606
SR-Fulfillment requests =	<u>130,081</u>
Sum of all Call Center SRs =	474,687
$344,606/474,687 = .726 * 100 = 72.6\%$	

The County’s target is to increase the FCR to 75% in future years.

Discussion:

OLO recommends that the Council ask the Executive Branch to substantially revise the FCR performance measure for MC311.

In theory, FCR is a useful metric because answering a question or delivering a service based on just one contact with a customer avoids repeat calls, improves caller satisfaction, and demonstrates a call center fulfilling its function as an information desk and gateway to services.

In practice, however, FCR as currently defined for MC311 is not reliably measuring whether customers needed to follow up with the County to get their service request fulfilled. FCR is a newer metric for call centers, and centers often define it differently. What constitutes a repeat call? Some call centers define an unresolved call based on getting another call from the same customer within a certain time frame: for example, if a customer calls back within 72 hours, then the first call is automatically counted as an unsuccessful FCR. But the manager of the Dallas 311 Call Center told OLO that while counting repeated calls from one individual can work well in an industry based on customer accounts, Dallas chose not to adopt FCR as a metric because it has many civically-engaged residents who call Dallas 311 repeatedly about a variety of issues. Repeated calls from these residents do not necessarily reflect any failure in resolving their prior calls.

Classifying which calls are unresolved can be a subjective judgement. The advantage to Montgomery County's current FCR formula is that it is clearly defined: SR-General Information requests require no follow-up, whereas SR-Fulfillment requests do -- by definition. But its disadvantage is that if a customer calls back about an unfulfilled service, the FCR formula results will not decline. Conversely, if a caller to MC311 requests a County service, the CSR efficiently and accurately routes that request to the correct servicing department, and the servicing department fulfills the request within the SLA, the entire system is working well -- yet the current FCR formula would count this as unresolved on the first call, implying a problem where there is none.

OLO recommends that the Council ask the Executive Branch to consider reformulating the FCR measure to capture data on the frequency with which residents contact MC311 more than once to get a question answered or a requested service completed.

The current formula measures how many callers seek information that can be provided by the Call Center versus how many requests for services or information are fulfilled by a servicing department. That ratio is useful and could perhaps be renamed a 'General Information Ratio.' That ratio can indicate, for example, the extent to which the MC311 Call Center is handling calls for information that would otherwise go to the servicing departments if the MC311 Call Center did not exist.

**Performance Measure #6:
Abandoned Call Rate (ACR)**

Performance Measure as reported in the FY20 operating budget				
Actual FY17	Actual FY18	Est. FY19	Target FY20	Target FY21
N/A*	8.14%	4.12%	4.0%	4.0%
*The CSC stats for FY17 Actual are not verified. They were impacted during the move of the CSC in FY17. DTS is working on a resolution with Ayaya.”				

Description:

The County estimates the Abandoned Call Rate (ACR) using the following general formula¹⁰:

$$\text{ACR} = \frac{\text{Number of Abandoned Calls}}{\text{Total Number of Incoming Calls}}$$

ACR measures the percentage of callers over a given time period who have listened to the welcome message and entered the call queue, but who then abandoned the call (i.e., hung up) before the call connected with a CSR. The number of callers who hang up is related to how long callers are kept on hold. While organizational standards for acceptable ACR vary, the call center industry generally considers an ACR above five percent to be poor.¹¹ The County target for the ACR for FY20 and FY21 is four percent.¹²

Discussion:

ACR is a key indicator of performance for the Call Center. Every abandoned call would have been some type of service request (either SR-General Information or SR-Fulfillment) had it been answered. Table 9 below shows the ACR for the Call Center over the period 2012-2019. The ACR almost tripled from FY 2016 (3.2%) to FY 2019 (9.4%).

Table 9. Abandoned Call Rate (ACR) for MC311 Call Center, Fiscal Years 2012-2019*								
(Source: Oracle/Siebel CSC Scorecard)								
ACR (%)	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
[Target= 4%]	1.3%	2.2%	2.3%	4.3%	3.2%	N/A*	N/A*	9.4%
*Due to the data gap for 8/2/16–10/29/17, ACR is not reported here for FYs 2017 and 2018.								

As with the ASA performance measure, annual rates for ACR do not convey the variation from day to day in incoming calls and ACR. Figures 9 and 10 (on p. 3-19) show the total incoming calls and ACR

on Call Center workdays^{ix} during FY 2016 and FY 2019. Although incoming calls were similar, the ACR increased significantly in FY 2019:

Fig 9:

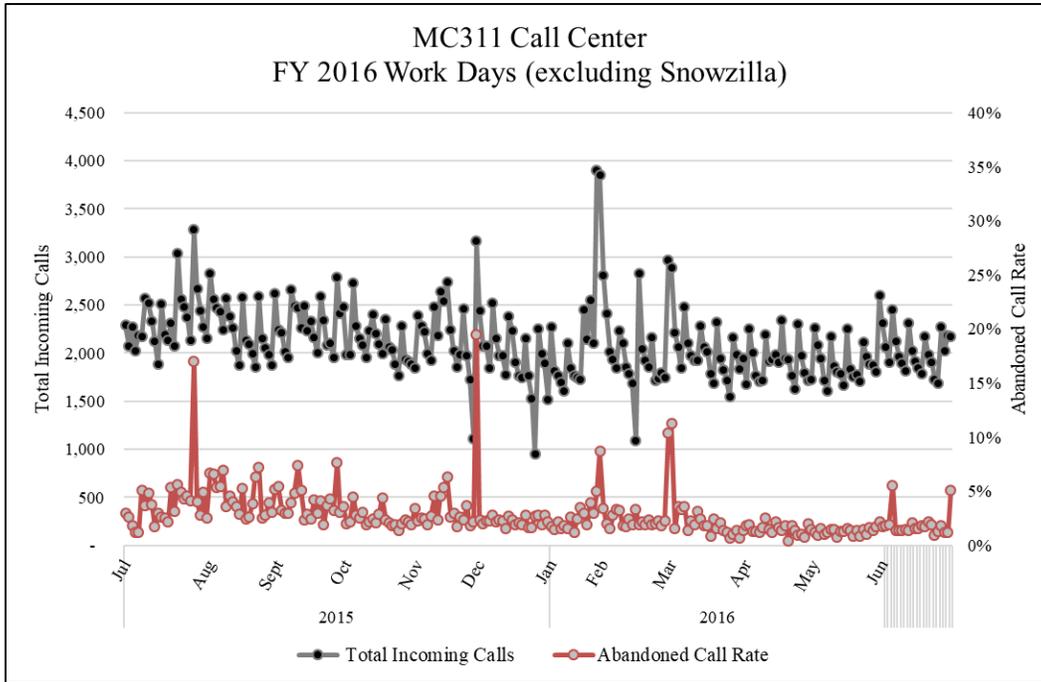
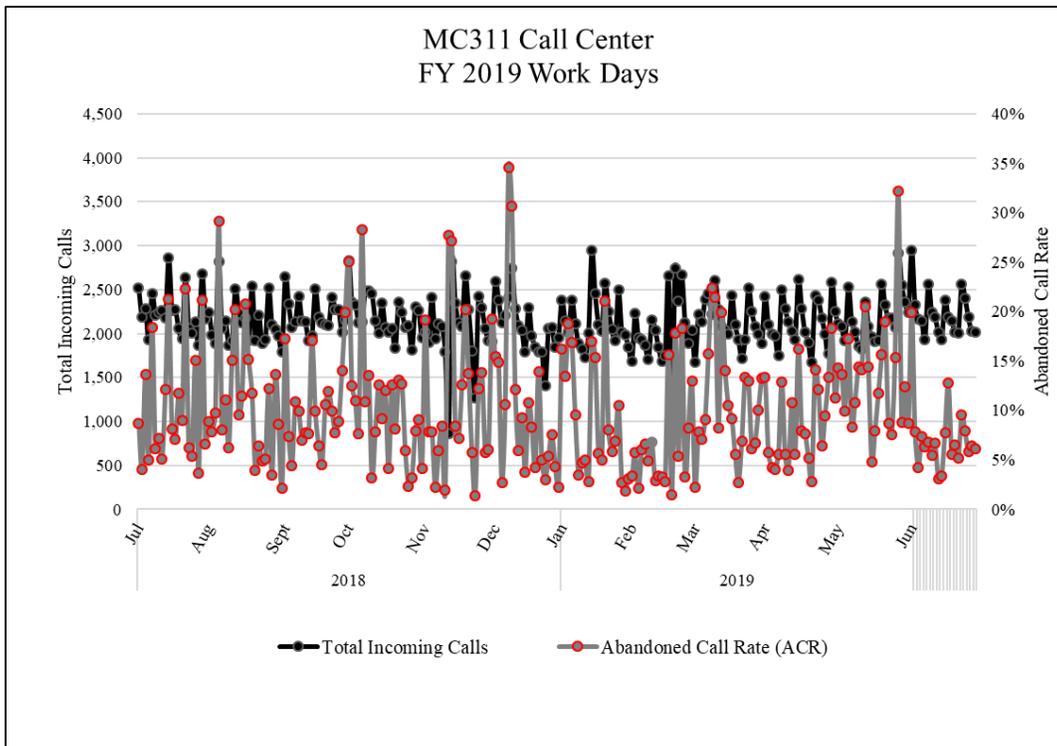


Fig 10:



^{ix} The Call Center is open Monday thru Friday. This graph excludes weekends and holidays.

Measuring MC311 System Performance

FY19	Total Incoming Calls	Abandoned Call Rate (ACR)	Avg Handle Time (seconds)	Available CSR's	Occupancy Rate	Avg Speed to Answer (seconds)
AVG:	2149	9.98%	266	29	86.45%	94
Median:	2123	8.27%	267	29	86.41%	71
Std Dev	295	6.10%	22	3	0.60%	73

Chapter 4 discusses additional variables related to staffing (such as turnover and shrinkage) to provide more context for what drives trends in Abandoned Call Rate (ACR) and Average Speed to Answer (ASA).

**Performance Measure #7:
Rate of callers requesting to speak Spanish**

Performance Measure as reported in the FY20 operating budget				
Actual FY17	Actual FY18	Est. FY19	Target FY20	Target FY21
4.12%	3.76%	4.12%	4.0%	4.0%

Description:

This performance measure uses the following formula:

$$\text{Rate of callers requesting to speak Spanish} = \frac{\text{Number of Callers requesting to speak Spanish}}{\text{Total Number of Answered Calls}}$$

Callers to MC311 with limited English proficiency have two options: they can speak with an English-speaking CSR using a County-provided telephone interpretation service, or they may ask to speak with a Spanish-speaking CSR. This formula combines callers asking for interpretation services and callers pressing the prompt for a Spanish speaking CSR. MC311 staff advised OLO that this formula is likely to underestimate how many calls occur in Spanish because some callers begin their call in English and switch to Spanish if they find the CSR is also proficient in Spanish. CSRs may or may not update the preferred language field on the service request form if they are short on time and are under pressure to take the next call in the queue.

As reported in OMB’s FY20 budget, the percentage of callers requesting to speak in Spanish has remained fairly constant at about four percent.

Discussion:

CountyStat’s reported rate of about four percent for this measure is similar to the findings in OLO Report 2014-5, *An Examination of MC311 Calls by Preferred Language*. OLO found that during the 2012-2013 period about 4.4 percent of all calls were non-English calls, of which most were from Spanish-speaking callers.¹³ OLO found MC311’s efforts to ensure equal access for limited English proficiency individuals generally aligned with best practices among 311 call centers.

This measure does not count the residents who prefer to read Web Portal content in Spanish. The Web Portal defaults to English, as does the larger County website within which it resides. All County web pages offer a menu option to use Google Translate which translates the content. The Web Portal features the same Google Translate option as other County web pages. It also features an added banner offering translation for Spanish and six other languages.

Conclusion: The County's current performance measures for MC311 as discussed in Section B of this chapter are a mix of output and performance measures. All seven measures relate to the operation of MC311's Call Center; two measures also relate to MC311's Web Portal.

Overall, OLO's findings are as follows:

- Average Speed to Answer (Performance Measure #1) and Abandoned Call Rate (Performance Measure #6) are valuable measures of performance as currently calculated. Providing additional metrics related to service level performance, Call Center staffing, and call handle times could provide more context for understanding the trends in these two performance measures.
- Customer Satisfaction (Performance Measure #2) has significant limitations as currently assessed. Surveying a more representative sample of MC311 customers would improve the quality of this measure.
- Cost per Customer Contact (Performance Measure #3) as currently calculated is an unreliable measure of MC311 performance. OLO recommends that the Council ask the Executive Branch to revise the formula.
- First Call Resolution (Performance Measure #5) as currently calculated is an unreliable measure of how often residents may have to contact MC311 more than once to get a question answered or a requested service completed. OLO recommends that the Council ask the Executive Branch to revise this performance measure.

Section C. CountyStat Performance Reviews of MC311

In addition to performance measures for MC311 (described in Section B above), CountyStat periodically prepares a more comprehensive MC311 Performance Review with further measures of output and performance. CountyStat’s most recent performance review is the *MC311 Annual Review—FY19 (6 Aug 2019 – OPI)*.¹⁴

In addition, CountyStat uses MC311 data as part of its performance reviews of County departments. Specifically, CountyStat uses MC311 data to report the percentage of service requests routed to that department that were fulfilled within the service level agreement (SLA) with MC311. For example, CountyStat reported that as of June 2018, 97 percent of service requests sent to the Department of Environmental Protection had been fulfilled within the SLAs.¹⁵ According to CountyStat, such MC311 Service Level Performance Data is shared with the departments quarterly. It is also used as part of CountyStat’s annual audit of all SLAs for each department. Although MC311 Service Level Performance Data about servicing departments is outside the scope of this report, generating such data is an important output of the MC311 system.

Section D. Oracle/Siebel CSC Scorecard Performance Measures

The Oracle/Siebel software application used by the County to manage MC311 includes a performance measure dashboard called the “CSC Scorecard.” Most measures of MC311 performance reported by OMB and CountyStat are derived from data reported on the CSC Scorecard and have been described in Sections B and C above. However, the CSC Scorecard also includes some measures not otherwise reported. These variables are readily available and could serve as useful additions to the current performance measures for MC311.

Table 10 below shows three Oracle/Siebel CSC Scorecard measures for MC311 for FYs 2013-2019:

Table 10. Oracle/Siebel CSC Scorecard Measures (not otherwise reported in OMB and CountyStat Performance Measures), FYs 2013-19.							
Fiscal Year:	2013	2014	2015	2016	2017	2018	2019
Available CSRs	9,296	9,919	9,341	9,183	9,116	7,671	7,308
Occupancy Rate	87%	87%	88%	87%	87%	87%	88%
SR Accuracy Rate	99.9%	99.8%	99.8%	99.9%	99.7%	99.9%	99.7%

The following paragraphs describe these CSC Scorecard measures:

- **Available CSRs:** The CSC Scorecard quantifies for every hour of every workday the number of CSRs available for work at the Call Center. This enables managers to track the amount of time CSRs are actively working (as opposed to being on leave, in training, at lunch, or on a break). Table 10 shows a continuous decline in the number of available CSRs since FY 2014. Because the number of available CSRs has a direct impact on the Call Center’s ability to answer incoming calls promptly, OLO recommends the Council ask CountyStat to consider adding this as a performance measure.

- **Occupancy Rate:** The occupancy rate refers to the amount of time that a CSR is actively engaged in handling calls. No human call center operator can be occupied 100 percent of the time. According to call center industry literature, there is no call center standard for occupancy, but if a center has a low occupancy rate (such as under 70 percent), the center risks boredom by agents, whereas a call center with a high occupancy rate (such as over 85 percent) risks over-extending agents which can lead to higher and faster turnover. Many industry contact centers aim for an occupancy rate ranging between 70-80 percent.¹⁶ Table 10 (on p. 3-23) shows a consistent occupancy rate of 87-88% over the FY 2013-19 period. Because the Occupancy Rate can affect staff turnover and shrinkage at the Call Center, OLO recommends that the Council ask CountyStat to consider adding this as a performance measure.
- **SR Accuracy Rate:** The CSC Scorecard counts the number of service requests with an error. For example, if a servicing department receives a service request from the MC311 system that contains an error that makes it unable to be fulfilled, the department can flag it as containing an error and return (i.e., “kick back”) the service request to MC311. Categories of error include: “Service Request with No Summary”; “Service Request with No Solution”; “Service Request with Request Type ‘General Information’” and other specific categories. The CSC Scorecard can count the number of service request errors on a daily basis and by individual CSR. Table 10 (on p. 3-23) shows a consistent accuracy rate for service requests of 99.7% or above over the FY 2013-19 period.

CountyStat told OLO that, in addition to ongoing tracking service requests returned for correction, starting in August 2019 CountyStat is breaking out the returns by whether the service request was generated from the MC311 Call Center or the MC311 Web Portal to better understand the source of the errors. In addition, CountyStat is working with MC311 to develop a performance measure for Quality Assurance.

Chapter 3: Endnotes

¹ *Top Ten Call Centre Metrics and What They Mean to You*, by D. Bradshaw and G. Kingma. Canadian Marketing Association; retrieved from www.the-cma.org/disciplines/analytics/archive/top-10-call-centre-metrics.

² *The Essentials of Staff Shrinkage*, by P. Reynolds (Society of Workforce Planning Professionals, Fall 2016); retrievable from <https://swpp.org/fall-2016-ontarget/essentials-of-staff-shrinkage/>.

³ CountyStat website, MC311 Performance Data:

https://stat.montgomerycountymd.gov/CountyStat_Measures/Gov-Stat-PIO-HPM-Spreadsheet/p9bk-k9je/data.

⁴ *County Executive's FY20 Recommended Operating Budget and FY20-25 Public Services Program* (March 2019), Montgomery County, MD Office of Management and Budget, p. 37-4; retrieved from www.montgomerycountymd.gov/omb/publications.html.

⁵ Due to a data gap following the Call Center's physical relocation in 2016, ASA and ACR data was unreliable from August 1, 2016, through October 29, 2017. Because of that data gap, OMB did not report in the FY20 recommended operating budget the Call Center's ASA for FYs 2017 or 2018 or the ACR for FY17.

⁶ *Call Center Best Practices: An Overview of Average Speed of Answer in the Call Center*, by S. Geraghty (Talkdesk Blog, Dec. 3, 2017); retrieved from www.talkdesk.com/blog/an-overview-of-average-speed-of-answer-in-the-call-center/.

⁷ Separate from the customer satisfaction surveys conducted by MC311 staff, the County arranges for a biannual National Citizen Survey by the National Research Center, Inc. that includes MC311 as part of a broader assessment of the quality of County services. According to the 2017 survey, MC311 was a major or minor source of information about County services, activities and events for 46% of respondents; however, the County website (which includes the MC311 Web Portal) was a major or minor source of information for 80% of respondents. *The National Citizen Survey: Montgomery County, MD, Community Livability Report 2017* is retrievable from www.montgomerycountymd.gov/OPI/Resources/Files/2017-Survey/NCS_Community-Livability-Report_2017.pdf.

⁸ *Montgomery County CountyStat: MC311 Annual Review-FY17* (15 Nov 2017 – OPI), p. 17.

⁹ *Equity in 311 Reporting: Understanding Socio-Spatial Differentials in the Propensity to Complain*, by C. Kontokosta, B. Hong, and K. Korsberg. (Bloomberg Data for Good Exchange Conference, 24-Sep-2017, Chicago, IL.)

¹⁰ Technical note: the CSC Scorecard calculates daily ACR differently from weekly ACR and annual ACR. If it calculated the ACR for longer periods in the same manner as it calculates the daily ACR, the resulting annual ACR would be slightly higher. Daily ACR is calculated as number of abandoned calls divided by number of incoming calls. In contrast, the CSC Scorecard averages the weekly averages to calculate ACR for periods of a week or more. For example, for CY18, the average of weekly ACR averages is 9%. If the CSC Scorecard calculated the ACR for periods of a week or more in the same manner as it calculates the daily ACR, the resulting ACR would be slightly higher (e.g., the ACR for CY18 would be about 10 percent: 53,645 abandoned calls in CY18 divided by 533,069 incoming calls in CY18 equals a rate of 10.1%.)

¹¹ *Call Center Metrics: Abandon Rate*, from VHT website; retrieved from www.vhtcx.com/call-center-metrics/abandon-rate/.

¹² *County Executive's FY20 Recommended Operating Budget and FY20-25 Public Services Program*, (March 2019), p. 37-4.

¹³ OLO Report 2014-5, *An Examination of MC311 Calls by Preferred Language*, N. Carrizosa and K. Latham, (Office of Legislative Oversight, March 4, 2014), p. 11.

¹⁴ *MC311 Annual Review-FY19* (6 Aug 2019 – PIO) published on CountyStat website (About Us); retrieved from <https://stat.montgomerycountymd.gov/stories/s/ibnu-sjxh> under "Upcoming and past CountyStat meetings."

¹⁵ CountyStat website: 311 Service Request Performance for the Department of Environmental Protection; retrieved from <https://stat.montgomerycountymd.gov/en/stat/goals/single/rahp-kipw>.

¹⁶ *Top 10 Call Centre Metrics and What They Mean to You*, D. Bradshaw and G. Kingma.

Chapter 4. Additional Ways to Measure MC311 Performance

Performance measurement focuses on whether a program has achieved its objectives, expressed as measurable performance standards.¹ Ideally, performance variables reflect organizational goals and help to illuminate the underlying factors influencing the variables.

The County intends MC311 to serve as the gateway to and information hub for County government services. Variables to measure its performance can be categorized into two broad areas: availability and accuracy.

- **Section A: Availability.** For the MC311 system to serve as a gateway to County government, it must be available and accessible to residents. The MC311 systems gives residents access through the Customer Service Center (the Call Center) and the self-help Web Portal. Fundamentally, for the MC311 system to make County government accessible and available, the Call Center must answer phone calls and Tweets from customers, and the Web Portal must make County information and services easy for customers to find and request.
 - Subsection 1 discusses ways to assess the MC311 Call Center for availability and access.
 - Subsection 2 discusses ways to assess the MC311 Web Portal for availability and access.
- **Section B: Accuracy.** For the MC311 system to serve as the information hub for the County, it must be reliably and consistently accurate. This section discusses potential sources of inaccuracy and offers some specific variables and strategies to help assess and improve overall accuracy.

This chapter does not address ways to assess service request fulfillment. How servicing departments perform in delivering services is outside MC311's control and outside the scope of this report. However, as OLO has previously discussed in *OLO Report 2016-8: MC311 Performance and Data*, MC311 offers an important source of data for servicing departments to understand customer expectations and trends and to better plan for the personnel and other resources needed to fulfill requested services.²

Section A. Availability: MC311 Is a Gateway, But Is the Gate Open?

MC311 is designed to be a streamlined gateway to Montgomery County Government. This section focuses on metrics to assess the ease with which residents access that gateway. This section has two subsections: the MC311 Call Center and the MC311 self-help Web Portal.

1. MC311 Call Center Availability.

As discussed in Chapter 3, a key performance indicator for call centers is how long callers must wait to reach a customer service representative, referred to as average speed to answer (ASA). A closely related key performance indicator is the abandoned call rate (ACR), since callers tend to hang up if left on hold too long. ASA and ACR are currently reported performance measures for the MC311 Call Center.

Table 11 below compares ACR, ASA, and other variables for FYs 2016 and 2019. The number of total incoming calls was similar in each year, as was occupancy rate. The Average Handle Time (AHT) increased by about 20 seconds (or eight percent). Most notably, however, the number of available CSRs dropped by about seven (or about 19 percent) from FY16 (a daily average of 36 CSRs) to FY19 (a daily average of 29 CSRs).

Table 11. Selected Call Center Metrics, Comparison Between FYs 2016 and 2019.						
FY16	Total Incoming Calls	Abandoned Call Rate (ACR)	Avg. Handle Time (AHT) (seconds)	Available CSRs	Occupancy Rate	Avg Speed to Answer (ASA) (seconds)
Average	2,169	3.2%	246	36	86.5%	22
Median	2,066	2.2%	247	36	86.3%	13
Standard Deviation	678	3.9%	17	3	0.7%	54
FY19	Total Incoming Calls	Abandoned Call Rate (ACR)	Avg. Handle Time (AHT) (seconds)	Available CSRs	Occupancy Rate	Avg Speed to Answer (ASA) (seconds)
Average	2,149	10.0%	266	29	86.5%	94
Median	2,123	8.3%	267	29	86.4%	71
Standard Deviation	295	6.1%	22	3	0.6%	73

Like all call centers, how quickly the MC311 Call Center can answer phone calls depends on staffing levels. Figures 11 and 12 show the relationship during FY19 between the number of CSRs available to work at the Call Center in any given month and the Call Center’s ASA and ACR.

Figure 11:

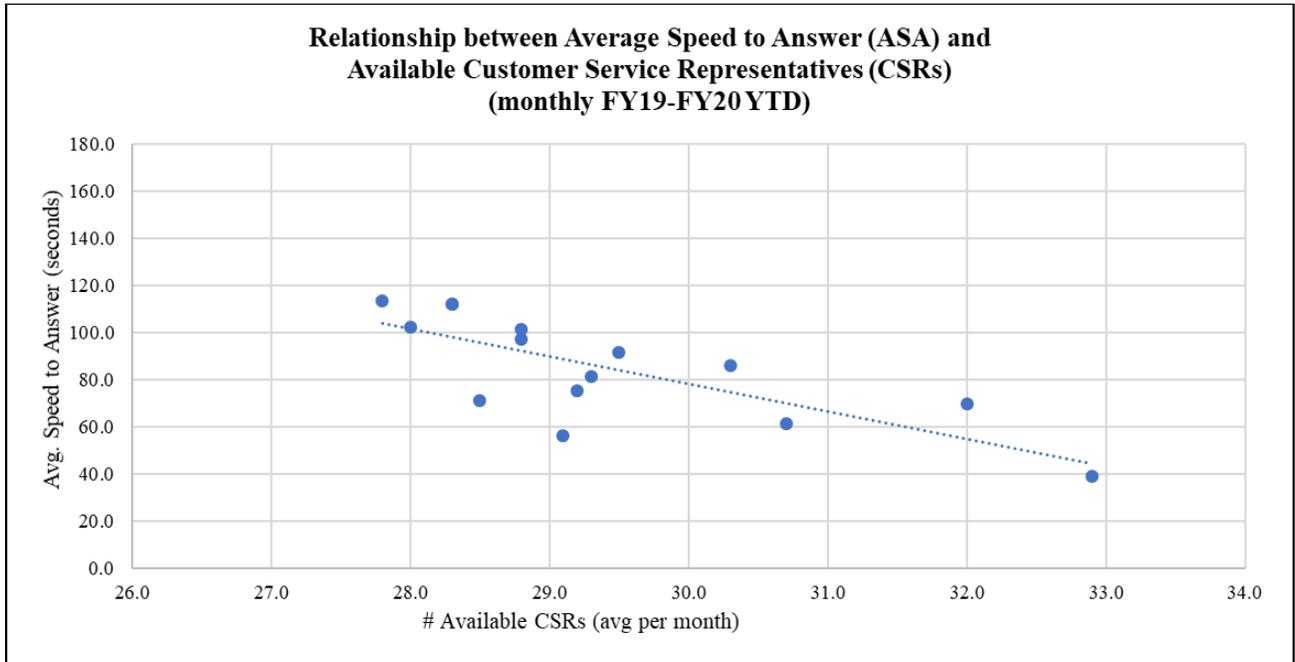
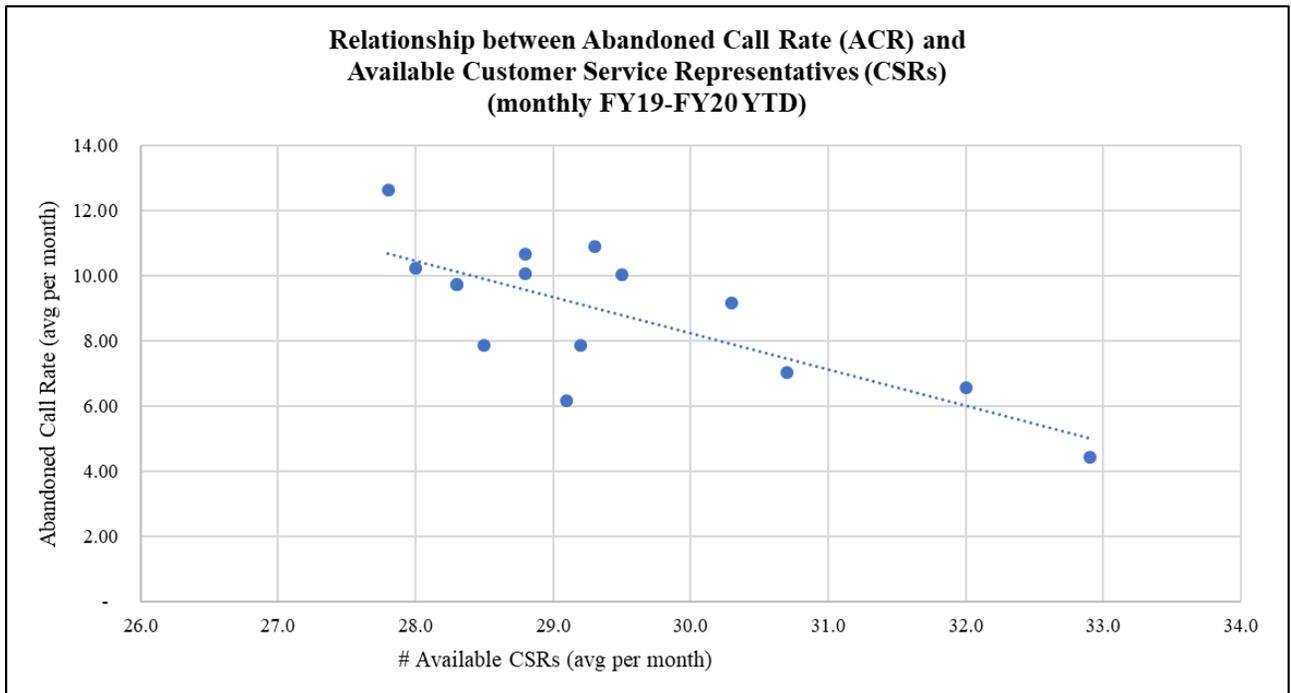


Figure 12:



As we would expect, both ASA and ACR have tended to be better when more CSRs were available to answer the phones. Therefore, augmenting the ASA and ACR with performance measures related to staffing issues could help decision-makers better discern what contributes to how available customers find the Call Center to be.

OLO found that several factors have affected how many CSRs are available to answer the phones at the Call Center:

- Number of CSR positions approved by elected officials in the budget appropriation.
- Number of CSR positions created by OMB.
- Number of CSR positions filled vs. vacant.
- CSR turnover rate.
- Shrinkage in filled CSR positions.
- Number of vacant CSR positions lapsed or frozen by OMB.
- Number of vacant CSR positions approved by OMB for recruitment and being actively recruited for by OHR and MC311.
- Call Center use of temporary employees to cover staffing gaps.

Estimating the Staff Required to Meet Service Level Goals

Staffing a call center so that calls are answered promptly without idle operators is a continuous management challenge because managers must plan for uneven call volumes with peak periods. On the one hand, the fewer the CSRs answering the phones, the worse the performance (especially as measured by Average Speed to Answer and Abandoned Call Rate) is likely to be. On the other hand, increasing the number of CSRs above a certain threshold can only marginally improve ASA and ACR, and CSRs may sit idle.

In estimating the staff needed, all call centers share the same challenge: calls bunch up. If a call center follows a typical distribution pattern, 15-20 percent of incoming calls in a day can arrive in the busiest hour of the day. Moreover, calls bunch up within that busiest hour. This pattern means that simply dividing the number of calls received in a day by the number of hours in the day will not accurately estimate how many CSRs are needed per hour to promptly answer incoming calls.

Erlang C is a century-old probability formula for call centers that accounts for the observation that calls bunch up.^{i,3} The Erlang C formula can be used to either estimate the probability (given a fixed number of operators) that callers will wait on hold, or it can estimate the number of operators necessary to achieve some probability that callers will wait on hold. Based on this concept, workforce optimization tools help managers to use their historic call patterns to forecast the volume of inbound calls and schedule CSRs to meet that predicted volume at a pre-defined service level goal. Such an analysis requires the following information and assumptions:

- Call Volume Data. An hour-by-hour spreadsheet with historic minutes of calls in each hour, over a selection of busy days.
- Service Level Goal. This goal is a subjective policy choice. A service level goal might be, for example, that 80 percent of callers should be able to reach a CSR within 20 seconds (“80/20”).

ⁱ Erlang’s formulas became the basis for the “traffic engineering” discipline. For example, planning for a cost effective number of toll booths present a similar dilemma as the volume of cars attempting to pass through toll booths is unevenly distributed and cannot be controlled, yet can be statistically predicted based on historic patterns.

A call center choosing an 80/20 service level goal would need more CSRs than if it chose a 70/40 or 80/60 service level goal.

- Average Call Handle Time: Handling a call includes the conversation time between the caller and the CSR, plus the post-call work required by the CSR related to that conversation. The longer the average call handle time (AHT), the fewer the calls a CSR can take per hour (on average). More complex calls will lengthen the AHT.
- Occupancy rate: Occupancy is the proportion of time available CSRs are on calls. An occupancy rate of 70 percent would mean that the CSRs available to take calls were occupied with calls 70 percent of their available time. A low occupancy rate means idle CSRs. A high occupancy rate risks over-extending CSRs. Many commercial call centers strive for an occupancy rate of 70-80 percent, but there is no standard for this. The County's goal for occupancy rate is 85 percent.
- Shrinkage: As noted in Chapter 3, shrinkage is the loss between employed staff and staff scheduled to take calls due to factors such as: training, coaching, team meetings, scheduled breaks during the work day, annual leave, sick leave (planned and un-planned), and Family and Medical Leave Act (FMLA)-related leave.

MC311 Staffing Levels

In April 2019, as part of the FY2020 budget process, the Public Information Office wrote to the Council that based on an Erlang C analysis the MC311 Call Center required 40 CSRs. (The PIO's response did not state the assumptions used to generate its estimate.)

In July 2019, Council Summer Fellow Danni Melton performed an Erlang C analysis based on the call distribution patterns of the ten busiest call volume days during the first six months of 2019. Melton's analysis assumed a service level goal of 80/20, a staff occupancy rate of 85 percent, and a staff shrinkage rate of 30 percent. That analysis found that, based on these assumptions, the Call Center would have needed at least 45 filled CSR positions, with the busiest day requiring 54 filled CSR positions.

While some vacant CSR positions have been recently filled and new hires are in training, Figure 13 shows that for the period July 2017-April 2019, MC311 never had a monthly average where the filled CSR positions numbered more than 37.

Figure 13: MC311 Customer Service Representative (CSR) Positions, FY19.

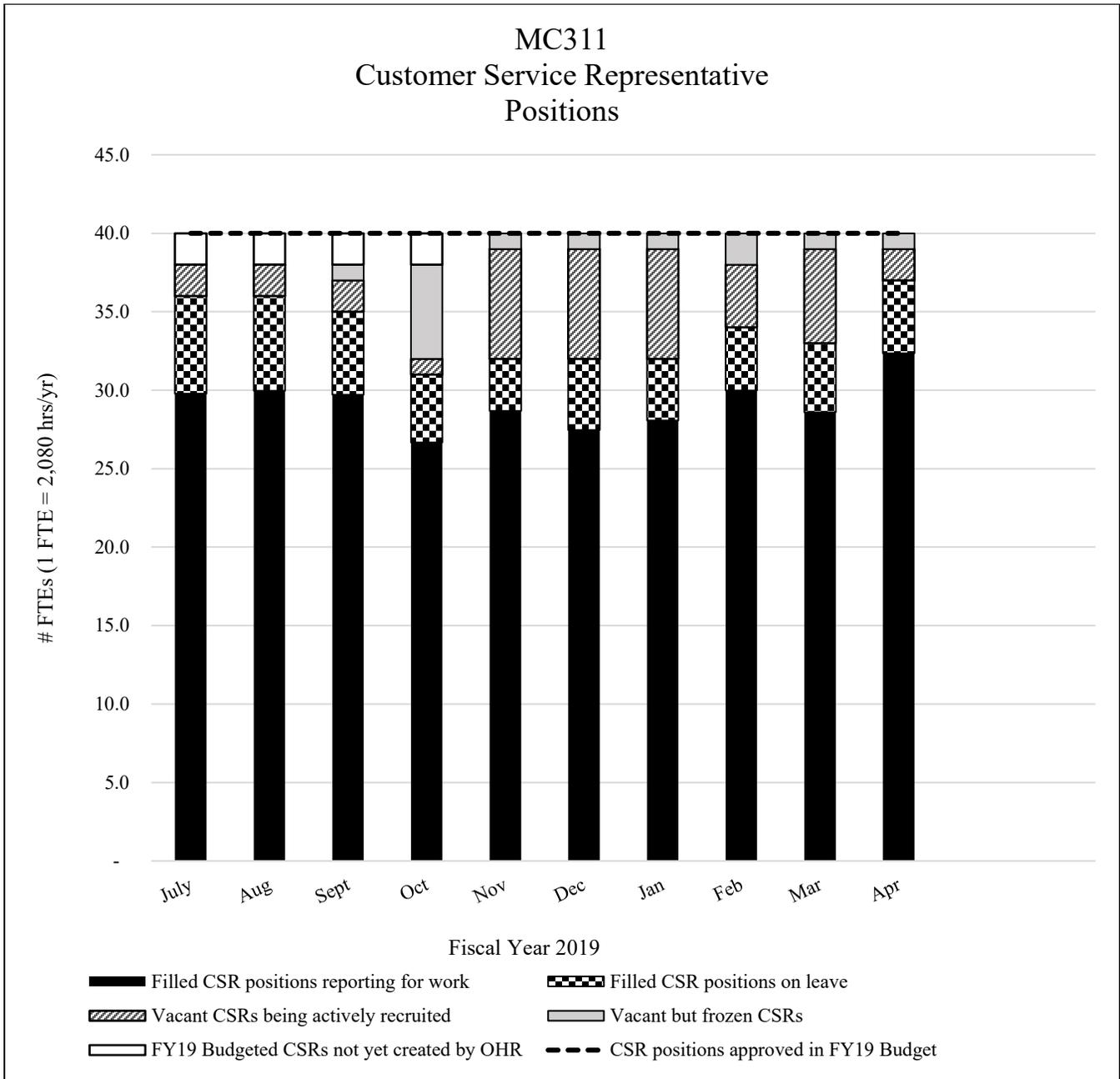


Figure 13 shows the number of full-time CSR positions approved in the FY19 budget. Over this period, there was a gap between the number of budget-approved CSR positions and the actual number of CSRs available to work. The gap was comprised of four components:

1. Budgeted positions not yet created by OMB in County employment system.
2. Vacant positions in the County employment system that were subject to the County hiring freeze.
3. Vacant positions that OMB exempted from the hiring freeze and for which OHR was actively recruiting.

4. Filled positions where employee was unavailable to take calls because of training or leave.

The County Hiring Freeze Limited Hiring to Below Budgeted Staff Levels

CSR positions may be vacant either because they are newly created and not yet filled or because they were vacated due to staff turnover. For the period July 2018 through April 2019, 14 of the 40 CSR positions were vacant at some point. The Call Center experienced a turnover rate higher than the annual turnover for County employees as a whole; the County has had an employee turnover rate consistently below eight percent a year for each of the last ten years.⁴ Of note, across the call center industry, the average annual turnover at call centers is more than double that for all occupations across the U.S.⁵

All CSR vacancies, including positions that had been newly created in the budget, were subject to the County-wide hiring freeze. Like other County departments, MC311 was required to apply to OMB for an exemption to the hiring freeze before it could start recruitment to fill a CSR vacancy. As a result, the number of CSR positions approved for MC311 in the FY19 budget exceeded the actual number of CSRs that OMB allowed OHR and MC311 to fill for much of FY19, as shown in Figure 13.

Through April of FY19, the average time for MC311 and OHR to fill CSR vacancies was 3½ months (ranging from one month to 6½ months). The overall time it takes to hire is comprised of several components, beginning with a delay because of the County hiring freeze. The number of CSR vacancies that OMB exempted from the freeze varied from month to month, ranging between one and six. As of May 2019, OMB had never authorized MC311 and OHR to fill all 40 CSR positions approved in the FY19 budget.

While the County hiring freeze limited the ability of any department to fill vacant positions, because MC311 has higher turnover than the County average, the hiring freeze likely had a larger cumulative effect on MC311's ability to fill CSR vacancies as compared to the average department.

If the County cannot afford to budget for the number of CSRs needed to have a high likelihood of meeting its service level goals, then the service level goals for MC311 could be revised down until they align with an affordable number of CSRs, resulting in a Call Center staff budget that reflects available funds and mutually agreed-upon service level goals.

Temporary Staff Are No Longer Available to MC311

To cushion against the risk of being short-staffed at the Call Center, the County has in past years allowed MC311 to use Countywide clerical/administrative support contracts to hire temporary CSRs. However, as of 2017, MC311 staff stated to OLO that OHR no longer permitted MC311 to hire temporary staff for the Call Center. MC311 managers stated to OLO that their inability to hire temporary workers compounded the lack of available full-time CSRs from staff turnover, the County hiring freeze, employee leave requests, and other hiring delays.

OLO Recommendation: Add Performance Measures Related to Call Center Staffing

Because of the relationship between staffing at the Call Center and the key performance measures of ASA and ACR, the County may wish to consider adding performance measures related to staffing and average call handle time. Two measures that can be clearly defined and calculated are turnover and shrinkage (see Chapter 3, page 3):

- Turnover measures the number of CSRs to leave over a given time period divided by the total number of CSR positions. Because the call center industry typically has a higher turnover rate than many other occupations, managers should not expect that Call Center turnover would equal that of other unionized County employees, but the difference would illustrate the specific employment and hiring challenges at the Call Center.
- Shrinkage is the loss between base number of filled CSR positions and the CSRs scheduled to answer calls due to factors such as: training, coaching, annual leave, scheduled breaks during the work day, unplanned sick leave, and Family and Medical Leave Act (FMLA)-related leave.

Changes in rates of turnover and shrinkage at the Call Center over time could offer a warning that staffing issues may impede customer ability to access County services and information through the Call Center.

2. Web Portal Availability

The MC311 self-help Web Portal serves as a key component enabling MC311 to function as a gateway to and information desk for the County government.

The Web Portal is available to customers 24 hours a day, seven days a week (24/7). In contrast, the Call Center is open Monday-Friday 7:00am to 7:00pm. But while open 24/7, the Web Portal offers customers fewer options to request County services than does the Call Center. There is also evidence that some customers prefer to use either the Web Portal or the Call Center, no matter the hours. Therefore, the Web Portal and the Call Center are not strictly interchangeable channels of communication. Rather, they serve complementary, sometimes overlapping, and yet slightly different purposes.

A white paper prepared by Oracle stated the following: “[E]ffective self-service typically provides customers with an easy means of escalating problems to another channel if necessary—which, in turn, prevents them from perceiving self-service as a dead end.”⁶

As discussed in Chapter 2 (Section C: Outputs), when, how, and how often customers use the self-help Web Portal to request County services can be measured in part by the number of service requests generated there. But counting service requests will leave out the customers who use the Web Portal to find information only. Counting service requests also does not quantify the customers who visit the Web Portal but discover that the service they seek can only be requested using the Call Center.

Web Traffic Analytics

The County’s Department of Technology Services (DTS) enables interested County officials to measure and analyze traffic to the Web Portal (and any other County Government web page) using Google Analytics. This analytic tool can count:

- website visits
- unique visitors
- page views
- the device being used by the visitor
- the general physical location (by city) of the visitor
- how the visitor navigated to that page
- how long the visitor stayed
- whether or not a visitor clicked through to another page on the website, and
- where the visitor navigated to next.

These and other measures of website traffic offer a powerful opportunity to better understand who is visiting the Web Portal, how they are using it, whether the site’s content is relevant to customers, and whether the structure of the page allows customers to navigate the site with ease. OLO recommends that the Council ask DTS and MC311 to consider using Google Analytics data to analyze web traffic patterns on the Web Portal (and related web pages for the County servicing departments) for the purpose of assessing how the MC311 Web Portal can be made even more user-friendly and useful to County residents.

Expanding Services Available Via the MC311 Self-Help Web Portal

CSRs at the Call Center can request more County services for residents than customers may request for themselves using the Web Portal. As described in Chapter 2, servicing departments choose which of their services to make requestable via the self-help Web Portal and which can only be requested via the Call Center.

Limiting the services requestable online is common because, for some types of service requests, customers attempting to fill out an intake form on their own will fill it out incorrectly or incompletely, requiring staff to follow up with the customer to correct or complete the form. That process can be time-consuming for staff and frustrating for customers. In contrast, when an experienced CSR at the Call Center fills out a service request intake form for a customer, the CSR is more likely to ensure that critical details required for the requested service are complete and accurate.

Testing SR-Fulfillment intake forms with users can be a strategy to redesign them to be easier for residents to complete. Such an approach has been used as part of a broader effort by some local governments to focus on customer experience (CX, also sometimes called user experience or UX) when designing their government forms, processes, and service delivery. For example, in 2018 the District of Columbia held a workshop called Form-A-Palooza that invited residents to critique and brainstorm about their government forms (such as applying for a food truck license). DC's intent was to reduce jargon and learn what feels convoluted from a user perspective.⁷

Similar user-centered efforts have started in other jurisdictions. Durham, North Carolina, has an initiative called (Re)Form to make government forms simpler, easier, and less confusing. Durham's Office of Performance and Innovation partnered with behavioral scientists to run interactive, form-redesign workshops.⁸ Gainesville, Florida, has also embarked on redesigning the delivery of public services starting from the user experience.⁹

User groups may offer Montgomery County's servicing departments a way to streamline the online service request intake process. The results could enable servicing departments to expand the types of services they make available to residents via the self-help Web Portal.

Section B. Accuracy: Is the MC311 System Giving Accurate Information?

MC311 aims to give residents consistent, reliable, accurate information about County services and service requests. If residents perceive MC311 as unreliable, they are likely to try to bypass it, and servicing departments and elected officials may hesitate to refer residents to MC311. Maintaining and assuring MC311 accuracy is therefore essential to MC311 serving as a gateway and information hub for the County.

This section discusses MC311 performance metrics related to accuracy. MC311 accuracy depends on multiple factors, and variables used to assess accuracy should distinguish between them:

- CSR accuracy,
- Resident accuracy,
- Knowledge base accuracy, and
- Servicing department accuracy.

To monitor MC311 accuracy, managers must be able to systematically quantify any inaccuracies, consider any anecdotal inaccuracies in context using aggregated and objective data, and then target the most common sources of inaccuracies.

OLO found that none of the Performance Measures now used by the County to measure MC311 performance directly measure MC311 accuracy. Adding variables and strategies to more specifically assess accuracy, and especially the accuracy of the knowledge base articles (KBAs) on which the MC311 system relies, would better capture how MC311 performs its role. Since accuracy requires a collaborative effort between the servicing departments and MC311, variables should also reflect the performance of the relevant servicing departments in contributing to that effort.

OLO found that some stakeholders have a perception that MC311 may not provide consistently accurate information, but because the performance measures up to this point have not focused on assessing accuracy, OLO cannot verify the perception held by those stakeholders.

The following discussion of ways to monitor MC311 accuracy is presented in three sections: Staff Accuracy, Resident Accuracy, Knowledge Base Accuracy, and Servicing Department Accuracy.

1. Customer Service Representative (CSR) Accuracy

CSR Verbal Communications. Accuracy by MC311 depends on the customer service representatives (CSRs) at the MC311 Call Center clearly communicating information to residents about County services and policies. OLO found in conversations with stakeholders that some residents have a perception that CSRs give inaccurate answers to callers. As an example, a CSR must be able to explain when a resident can and cannot dispose of building materials in the trash. This type of accuracy is related to MC311 managers effectively training CSRs to search the knowledge base for the most relevant knowledge base article (KBA) and then using that KBA to clearly explain County policies and procedures to customers.

Assessing how accurately CSRs convey information to callers can be internally assessed by MC311 managers monitoring CSR calls in real-time or using an audit of recorded calls. MC311 managers reported to OLO that they have previously requested the telephony and software to record calls for this purpose. Currently, they use hand-held tape recorders to audit and record calls for CSR training and quality assurance.

In addition, CountyStat told OLO that it is collaborating with MC311 to establish a new Call Quality Assurance measure to systematically assess calls using a rubric. Over time, this measure may quantify the extent to which any inaccuracies might be occurring and indicate specific opportunities for quality improvement such as additional training or knowledge base updates.

CSR Written Communications. MC311 accuracy also depends on CSRs completing the service request intake forms correctly. For example, if a CSR mis-types a resident telephone number or key details of the request into the intake form, the servicing department may be unable to complete the request or follow up with the resident for more information. As with verbal communication, this type of MC311 accuracy is related to MC311 managers effectively training and supervising CSR staff. CSR accuracy in completing the service request intake forms is currently assessed based on how many SR-Fulfillment requests are returned to MC311 by the servicing departments for correction, as discussed below.

2. Resident Accuracy

All MC311 service requests start with a resident providing information to the County. Residents therefore play a key role in service request accuracy.

- When a caller requests a County service through the Call Center, the accuracy of what the CSR types into the intake form depends in part on the resident accurately describing the problem necessitating a service (for example, the location and size of a pothole).
- When a resident creates an SR-Fulfillment request via the self-help Web Portal, the servicing department trying to fulfill the request relies on the accuracy of the information entered by the resident in the online intake form. This type of accuracy partly relates to how MC311 and the servicing departments design the intake forms on the Web Portal. Self-help intake forms with a higher than average inaccuracy rate by residents could be flagged and redesigned to lessen the chance of resident errors -- or reconsidered for their suitability for the self-help Web Portal in the first place. Some service requests are complex enough to require a conversation between the customer and County staff to fully complete.

Return to CSC Reports: Call Center vs. Web Portal. Since 2016, MC311 prepares a monthly “Return to CSC Report” with the number of SR-Fulfillment requests returned (or ‘kicked back’) by the servicing departments for correction. CountyStat told OLO that, starting in August 2019, these “kick back” reports are being further disaggregated based on whether the SR-Fulfillment request was generated from

the MC311 Call Center or the MC311 self-help Web Portal. Over time, this disaggregated data may help determine more specific sources of any errors in SR-Fulfillment requests.

3. Knowledge Base Article (KBA) Accuracy

MC311 Relies on a Knowledge Base. To serve as the main gateway to County government, the MC311 system faces a fundamental challenge: the correct answers to resident queries will constantly and inevitably change as the County changes its laws, regulations, departmental budget allocations, intake forms, protocols, webpage links, organizational structure, policies and initiatives. How does MC311 stay abreast of fluid information?

Like many of the 311 systems OLO studied, MC311 relies on a “knowledge base”ⁱⁱ about County government to answer resident questions. A knowledge base (KB) is comprised of knowledge base articles (KBAs). The number of KBAs in a knowledge base varies widely depending on the breadth of knowledge it must cover. MC311 currently has about 3,620 KBAs in its knowledge base, with some accessed far more often than others. This is a relatively large number of KBAs for a call center.

At the Call Center, CSRs use knowledge base articles (KBAs) to answer customer questions and to choose the best intake form for creating a service request and forwarding it to a servicing department for fulfillment. MC311 trains CSRs to search the knowledge base to find the KBA most relevant to a customer query.

On the self-help Web Portal, customers can find KBAs for some of their questions. The KBAs that residents may see are more limited than what trained CSRs at the Call Center may access. Which KBAs are accessible on the Web Portal is determined by the servicing departments.

The accuracy of MC311’s spoken or online answers to resident questions cannot exceed the accuracy of the underlying KBAs. Appendix C presents a graphic showing how CSRs and residents access KBAs to answer questions. If a servicing department changes its policies, procedures, or webpage, the related KBAs do not change automatically. For the knowledge base to stay accurate, the County servicing departments must alert MC311 about such changes in County government. MC311 relies on the servicing departments to notify them about the needed changes.

OLO interviews with 311 system managers from U.S. and Canada revealed that breakdowns in servicing departments proactively notifying their 311 officials about important changes was common.

To the extent that the new Call Quality Assurance measure now under development by CountyStat and MC311 will assess whether CSRs give accurate answers, and CSR answers are based on KBAs, then

ⁱⁱ A knowledge base (KB) is a storehouse of general information, as compared to a conventional database which more typically stores specific data points. A KB is comprised of multiple knowledge base articles (KBAs)

OLO recommends that the Council ask the Executive Branch to also propose ways to assess whether the KBAs are themselves accurate, as addressed in the following section.

How MC311 Updates the Knowledge Base. MC311 Business Analysts (BAs) maintain the County knowledge base by liaising with more than 100 Relationship Managers (RMs) across the County government. The Relationship Managers at the servicing departments determine the content of the KBAs and are in a position to know about changes at a department that might affect the KBA. MC311 Business Analysts solicit input from servicing departments on KBA accuracy in two ways: an annual survey on all KBAs and ad hoc contacts with Relationship Managers when a question arises on a specific KBA, as described below.

- **Annual survey on KBAs.**

Every winter, the MC311 Business Analysts ask the Relationship Managers to review the content of all their departmental KBAs. MC311 staff stated to OLO that about half of the Relationship Managers at the servicing departments reply to their annual KBA survey.

- **Ad hoc revisions to KBAs.**

When MC311 Business Analysts become aware of a problematic KBA, they contact the Relationship Managers at the servicing department to discuss a KBA revision. MC311 staff told OLO that servicing department RMs are responsive to their ad hoc communications about specific KBAs.

In a separate process, CountyStat annually reviews the servicing departments' Service Level Agreements (SLAs) with MC311. (For example, the Department of Environmental Protections has an SLA with MC311 that if a resident requests a new 22-gallon recycling bin, DEP will deliver it to the resident within 10 days.) SLAs create the basis for CountyStat to use MC311 data to assess servicing department performance in fulfilling service requests. As part of CountyStat's SLA review, servicing departments have an opportunity to review and update the KBAs associated with each SLA.

Currently, the CRM system contains data fields within each KBA that include:

- Name of the MC311 Business Analyst assigned to the KBA;
- Date the KBA was first drafted;
- Date the KBA was last updated by an MC311 Business Analyst.

OLO recommends that the Council ask the Executive Branch to identify strategies, such as adding data to the KBAs, that would allow CountyStat and others to more easily assess the extent to which the Relationship Managers at the servicing department have been actively reviewing the KBAs for accuracy.

GIS Information Has Been Excluded from Annual Knowledge Base Reviews

MC311 uses Geographic Information System (GIS) information maintained by the Department Technology Services (DTS) to answer resident questions and create accurate service requests. However,

GIS information has not been a component of MC311’s annual knowledge base reviews with the Relationship Managers.

CSRs at the Call Center use Siebel customer relationship management (CRM) softwareⁱⁱⁱ to create a service request for every interaction with a resident. The CRM software, which is maintained by DTS, verifies the location of every service request for which a location is required to fulfill the request. The CRM software verifies location by referencing external GIS information also maintained by DTS. This location verification system often reduces error, such as when it flags a nonexistent address. (For example, a caller might refer to a roadway as “Lane” instead of “Avenue.”) GIS layers are visible to CSRs and include information such as solid waste service area, fire district, school service area, election districts, and elected officials. CSRs may answer resident questions based on this GIS information.

While the GIS information often reduces error in service requests or answers to questions, it can also create confusion when it imprecisely or improperly defines the boundaries of service. For example, the GIS information may show a roadway as not County maintained when it is, or vice versa. Establishing a way for CSRs to systematically flag any ambiguities or errors in the GIS information would allow DTS to know what GIS information needs updates.

As part of our review, OLO found that as of April 2019, DTS had not updated the GIS information for elected officials since at least January 2017. The Board of Elections maintains records of the elected officials representing each address and would logically be the subject matter experts for this information. But while the Board of Elections does review its departmental KBAs annually, their KBAs do not include the external election-related GIS information maintained by DTS. The accuracy of GIS information depends on DTS verifying it with the subject matter experts at the relevant servicing departments.

In addition, an MC311 official identified inaccuracies in GIS information related to which roadways are maintained by the Department of Transportation to be a recurring problem.

OLO Recommendation: Review GIS Information. DTS could review and update data in the GIS layers as a component of the County’s annual knowledge base review. DTS could establish a regular schedule for verifying GIS information with subject matter experts at the relevant servicing departments that coordinates with MC311 where that external GIS information is referenced by the CRM system. CSRs who detect inaccuracies in GIS information could be given an instant-feedback tool for flagging these inaccuracies for correction by DTS and the related servicing department.

OLO Recommendation: Solicit Instant Feedback from Users of Knowledge Base Articles.

MC311 could give County residents and CSRs a larger role in continuously improving the accuracy and helpfulness of KBAs. Currently, MC311 solicits feedback using internal and external customer feedback surveys, but these surveys are unlikely to systematically flag inaccuracies in specific KBAs because:

ⁱⁱⁱ MC311 currently uses the Seibel IP 2016 software as its CRM.

- Residents asking for information are unlikely to be experts about that information.
- CSRs are unlikely to know whether the KBA they use to answer a resident question is still accurate; if a servicing department changes a policy or procedure, it must proactively alert MC311.
- Technically accurate KBAs may still be confusing, either because they are not written in plain language or because the back-end processes they describe are complex and require additional knowledge to fully understand. All users could be given the opportunity to suggest areas for clarification.

To solicit more immediate and specific user feedback on how to improve the accuracy and helpfulness of the knowledge base, OLO recommends that the Council ask MC311 and DTS to consider adding instant-feedback comment boxes to each KBA. Every KBA could conclude by inviting residents and CSRs to instantly answer the following: “Was this information helpful? Yes/No.” If no, “How can we improve it?” Responses could be automatically forwarded to the MC311 Business Analyst and the Relationship Manager at the servicing department responsible for that KBA.

Appendix B shows an example of an instant-feedback comment box used by Microsoft. Microsoft concludes each Help-related article in Word and Excel with a comment box inviting users to suggest ways to improve the content of that article. Google uses a similar format to invite feedback on Help articles in Google Drive.

Based on OLO interviews with DTS officials, DTS endorses the practice of soliciting instant-feedback from users. For example, DTS installs instant-feedback comment boxes on servicing department web pages when requested to do so by the servicing departments or when a DTS employee has the opportunity to provide input on a department’s web page. DTS can also install a ForeSee Feedback Tool, although DTS has found that customers use the comment boxes most often. Appendix B shows examples of instant-feedback tools installed by DTS on a Montgomery County Department of Transportation webpage. DTS could make such instant-feedback comment boxes a standard feature of all KBAs, allowing CSRs and external users alike to rate the helpfulness of a KBA and suggest specific improvements.

Establishing instant-feedback comment boxes for the KBAs would also allow MC311 to report the percentage of KBAs receiving positive versus negative customer feedback.

4. Servicing Department Accuracy

Servicing departments are not meant to close SR-Fulfillment requests routed to them from the MC311 system until they have rendered the service. Since the MC311 system was created, however, County officials have been aware of cases where servicing departments were closing SR-Fulfillment requests before the service was complete. This can occur when an employee at the servicing department is not yet trained in the correct process for closing SR-Fulfillment requests or is not adhering to the process. For example, if MC311 has routed a SR-Fulfillment to the wrong servicing department, that department should leave the request open and return it to MC311 for correct routing – but sometimes departments

close the mis-routed SR. In such a case, that SR-Fulfillment request would inaccurately appear in the CRM system as having been fulfilled when it was not.

A challenge for MC311 and the servicing departments is detecting how often employees may be closing SR-Fulfillment requests too soon. In many cases, only the customer who requested the service is likely to know that a service has not yet been rendered. Photo documentation and customer complaints can be two ways to monitor this.

Photos can serve as verification. In OLO discussions with 311 managers from other jurisdictions, one official stated that they had found cases where servicing department workers in their jurisdiction had closed a service request without completing the work. To add a check to the process, they began requiring servicing departments to attach before-and-after photos to certain categories of service requests to document to supervisors that the service was rendered. Some jurisdictions also attach a photo of the completed service to a confirmation notice sent to the customer once the requested service is fulfilled.

Customer complaints can serve as verification. MC311 staff told OLO that in past years, MC311 set up the Siebel CRM system to automatically email customers when a servicing department had closed their service request. But in cases where servicing departments had closed the SR-Fulfillment request before the service had been rendered, customers receiving the automated notifications observed this and complained. Because of difficulty in fully eliminating cases where the servicing department employees had closed the SR-Fulfillment requests too soon, MC311 acceded to requests from the servicing departments to disable the automated customer notifications. Establishing automated customer notifications by email or text would allow customer complaints to serve as an additional check on the accuracy of the process, effectively letting customers alert managers at MC311 and the servicing department that an SR-Fulfillment request had been closed too soon.

C. Conclusion

Chapter 4 has offered a framework for measuring the MC311 system's performance based on its availability and accuracy for customers seeking to use it as a gateway to County services and information.

OLO recommends that the Council ask the Executive Branch to consider the following tools to monitor availability in the MC311 system:

- Monitor and report Call Center metrics related to CSR turnover, shrinkage and call handle times to provide more context to the current performance measures of ASA and ACR and to serve as an early warning on factors that may negatively affect ASA and ACR.
- Use web traffic analytics to better understand who is using the self-help Web Portal, how they are using it, and whether users can easily navigate through it to find what they need.
- Ask servicing departments to identify any impediments to making more of their services available for request online.

OLO recommends that the Council ask the Executive Branch to consider the following tools, metrics and strategies to assess the accuracy of the MC311 system:

- Add data to the KBAs that will allow CountyStat and others to review how well servicing departments are working with MC311 to ensure the accuracy of the knowledge base articles;
- Coordinate DTS updates to GIS information with updates to the County knowledge base articles;
- Ask CountyStat to periodically audit the knowledge base articles and GIS information for accuracy;
- Install online tools to solicit instant feedback from anyone who uses knowledge base articles in order to more quickly and specifically assess if those KBAs are clear, helpful, and accurate;
- Ask servicing departments to have their employees document some categories of service request completion with photos; and
- Enable the CRM system to automatically notify customers (who wish to be notified) by email or text when the service they requested has been rendered and use any ensuing customer complaints as a source of accuracy verification.

Customer Experience as a Guiding Principle for Measuring MC311 System Performance

Many organizations have demonstrated a growing interest in customer experience (CX) through their increasing use of Chief Customer Officers (also known as Chief Client Officers, Chief Experience Officers, VPs for Member Experience, and similar titles) at the executive level.¹⁰ Yet OLO found research suggesting that strategies to improve the customer experience often fail to live up to expectations because they require organizations to have a clear vision of the ideal customer experience.¹¹

Currently, the County Executive’s Guiding Principles begin with: “Insisting upon customer satisfaction.”¹² OLO suggests as a topic for further discussion whether MC311 could take the lead in articulating what an ideal experience for a resident would look like when requesting information or services from the County and then, working with its partners in the departments, identify any impediments to achieving that ideal customer experience. Topics for discussion might include:

- Ease with which customers can find information and request services online (whether via the MC311 Web Portal or the webpages for servicing departments);
- Ease with which a customer can reach a County employee on the phone during working hours (whether at the Call Center or at servicing departments);
- Ease with which a customer with a complex or unusual question or issue can reach the County employee best suited to resolve it;
- Extent to which residents understand that requesting a service via the MC311 system holds servicing departments accountable for delivering that service within the SLA timeframe;
- Whether business processes in the servicing departments are fully aligned with the CRM service request process, and if not, why not, and how that can affect the customer experience; and
- Extent to which residents and other key stakeholders perceive MC311 as a gateway or a gatekeeper for the County, and what factors create that perception.

Chapter 4: Endnotes

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² *OLO Report 2016-8: MC311 Performance and Data*, S. Bryant and N. Carrizosa (Office of Legislative Oversight, July 12, 2016), pp. 23-24 and 47-48; retrievable from www.montgomerycountymd.gov/OLO/Reports/CurrentOLOReports.html.

³ *An Introduction to Erlang B and Erlang C: If you make decisions about networks, PBXs, or call centres, you must understand these concepts*, by Ian Angus, Telemanagement #187; retrieved from www.tarrani.net/linda/ErlangBandC.pdf.

⁴ *Montgomery County, MD, Personnel Management Review: Merit System Employment Profile, Turnover Analysis, Wage and Salary Comparability, and Management Leadership Service Review*, prepared by Montgomery County Office of Human Resources (April 2019) p.2-1; retrieved from www.montgomerycountymd.gov/HR/Resources/Files/.

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⁸ *(Re)Form Durham: Making Government Forms Easier, Simpler & Less Confusing* (online City of Durham, NC); retrieved from www.durhamiteam.org/reform-durham.

⁹ *How One Florida City Is Reinventing Itself with UX Design* (Fast Company; Oct. 31, 2016); retrieved from www.fastcompany.com/3065107/how-one-florida-city-is-reinventing-itself-with-ux-design.

¹⁰ *The Rise of the Chief Customer Officer*, by P. Hagan (Harvard Business Review, April 18, 2011).

¹¹ *Designing and Starting Up a Customer-Experience Transformation*, by E. Duncan, H. Fanderl, and K. Maffei (McKinsey & Company; March 2016).

¹² "Montgomery County Office of Chief Executive Staff: Guiding Principles" online; retrieved on 8/9/2019 from www.montgomerycountymd.gov/exec/staff.html

Chapter 5. OLO Findings, Recommendations, and Suggested Discussion Questions

As requested by the County Council, this OLO report reviews how the County currently measures MC311 performance.¹

Based on OLO's research and interviews with County officials, stakeholders, and 311 managers in other jurisdictions, OLO found that:

- The “3-1-1” concept in many jurisdictions, and MC311 in this County, is rapidly evolving to encompass multiple channels of communication with residents. The MC311 system is comprised of: 1) the self-help Web Portal, which resides within the larger County website, and 2) the Call Center, also referred to as the Customer Service Center.
- The County set three original goals for the MC311 system -- to streamline customer access by creating a one-stop contact center, to save costs by consolidating separate call centers, and to improve government accountability by collecting data on service requests and service delivery. From a customer perspective, these goals often work in tandem but sometimes conflict with each other.
- MC311 system performance depends on partnerships with other County departments, including the servicing departments, DTS, OHR, and OMB.
- MC311 system performance falls into two broad areas: (1) its availability and (2) its accuracy. Up to this point, performance measures for MC311 have not focused on assessing accuracy.

Overall in this report, OLO recommends that the Council ask the Executive to consider the following:

- Revising the First Call Resolution performance measure.
- Revising the formula used for the Cost Per Customer Contact performance measure.
- Expanding efforts to survey a more representative sample of MC311 customers to improve the quality of the Customer Satisfaction performance measure.
- Adding metrics and strategies to monitor and assess: 1) staffing at the Call Center, and 2) the accuracy of the knowledge base articles.

Finally, OLO recommends for discussion how the County is using the Call Center as a gateway versus as a gatekeeper.

¹ This report follows up and builds on two prior OLO reports on MC311: OLO Report 2016-8, *MC311 Performance and Data*, (released 7/12/2016); and OLO Report 2014-5, *An Examination of MC311 Calls by Preferred Language*, (released 3/4/2014).

A. OLO Findings.

Finding #1. “311” has rapidly evolved in many larger jurisdictions from a simple three-digit phone number to a more complex system with multiple channels of communication. The MC311 system is comprised of a Call Center and a self-help Web Portal.

As discussed in Chapter 1, since 3-1-1 was invented in Baltimore in 1996, 311 systems have grown more complex. For many larger jurisdictions in the U.S. and Canada, 311 systems now serve as a gateway and information hub for a wide range of information and services, encompassing human and automated interactions with residents, covering many channels of communication, connecting with a jurisdiction’s larger web presence, and relying significantly on IT infrastructure and smooth integration with legacy software systems.

Although MC311 is commonly thought of as the Customer Service Center (the “Call Center”), the MC311 system is comprised of: (1) a Call Center that interacts daily with County servicing departments and (2) a self-help Web Portal that operates in the context of the larger Montgomery County Government website.

From a customer perspective, MC311’s performance cannot be easily distinguished from the functions of the rest of County government, and in fact, 311 systems are expressly designed to make it unnecessary for customers to make such distinctions.

Finding #2. The County’s three original goals for MC311 were to centralize access for residents, save costs, and improve government accountability. From a customer perspective, those goals often work in tandem, but sometimes they are in conflict.

As discussed in Chapter 1, the County’s original goals in establishing MC311 in 2012 were threefold:

1. Centralized access: streamline resident access to County information and services by developing a single, one-stop contact center for all government non-emergency, information and referral requests for service;
2. Cost savings: save personnel costs by consolidating several departmental call centers; and eliminating multiple and/or redundant automated information systems;
3. Government accountability: hold County departments more accountable by using 311 data to measure their performance in delivering services, and generally enhance the County’s ability to monitor and forecast service request volumes and thereby better allocate resources.

MC311 acts as a centralized gateway when it helps residents access services and information more efficiently. MC311 acts as a centralized gatekeeper when the County requires residents to use it, even when it slows down resident access to County employees in the servicing departments.

As discussed in Chapter 1, when residents are required – rather than merely encouraged - to use MC311 to reach County offices, OLO finds that this can put the County’s original goals for MC311 in conflict with each other in the following ways:

- Centralizing resident access through MC311 may also streamline resident access – but sometimes not. Sometimes, residents know who they want to reach in a servicing department but must still use MC311 to contact them.
- Using MC311 as a central gateway collects data that can hold servicing departments more accountable – but sometimes at the expense of streamlining resident access. Residents sometimes perceive MC311 as an unnecessary middleman, especially if they do not understand how the back-end processes add accountability for service delivery.
- A central gateway relieves servicing departments of having their own call centers – but also requires servicing departments to both maintain their internal business processes and update the knowledge base articles used by the MC311 system.

In cases where the County’s multiple goals for MC311 may conflict with each other, it is unclear which goal takes priority.

Finding #3. The County annually reports seven program performance measures for MC311. OLO finds that for some measures, the current formulas are an unreliable or incomplete indicator of performance.

As detailed in Chapter 3, and as summarized in Recommendation #1 of this chapter, OLO’s review of the County’s current program performance measures for MC311 found that:

- Average Speed to Answer (Performance Measure #1) and Abandoned Call Rate (Performance Measure #6) are valuable measures of performance as currently calculated, but providing additional metrics related to Call Center staffing and call handle times could provide more context for understanding the factors behind these two performance measures.
- Customer Satisfaction (Performance Measure #2) has significant limitations as currently assessed and would be improved by surveying a more representative sample of MC311 customers.
- Cost per Customer Contact (Performance Measure #3) as currently calculated is an unreliable measure of MC311 performance.
- First Call Resolution (Performance Measure #5) as currently calculated is an unreliable measure of how often residents may have to contact MC311 more than once to get a question answered or a requested service completed.

Finding #4. OLO found a relationship between Call Center staffing and the key performance measures of Average Speed to Answer (ASA) and Abandoned Call Rate (ACR), yet current performance measures do not focus on staffing metrics.

As discussed in Chapter 4, when staffing a call center, all centers share the same challenge: calls bunch up. If a call center follows a typical distribution pattern, 15-20 percent of incoming calls in a day can arrive in the busiest hour of the day. Understaffing is likely to lengthen the ASA and worsen the ACR and customer satisfaction results, whereas overstaffing leads to idle CSRs but does not improve ASA and ACR above a certain level.

As shown in Figures 11 and 12 (p. 4-3), OLO found a relationship during FY19 between the number of CSRs available to work at the Call Center and the Call Center's ASA and ACR. OLO further found that several factors affect how many CSRs are available to answer the phones at the Call Center:

- Number of CSR positions approved by elected officials in the budget appropriation.
- Number of CSR positions created by OMB.
- Number of CSR positions filled vs. vacant.
- CSR turnover rate.
- Shrinkage in filled CSR positions.
- Number of vacant CSR positions lapsed or frozen by OMB.
- Number of vacant CSR positions exempted by OMB and being actively recruited for by OHR and MC311.
- Call Center use of temporary employees to cover staffing gaps.

While the County hiring freeze limited the general ability of departments to fill vacant positions, because the MC311 Call Center has had more vacancies than the County average, the hiring freeze likely had a larger cumulative effect on MC311's ability to fill CSR vacancies as compared to the average department. In addition, MC311 managers stated to OLO that their current lack of authority to hire temporary workers compounded the lack of available full-time CSRs to staff for busy times.

Finding #5: How the MC311 system functions can be considered in two broad areas – (1) its availability and (2) its accuracy. Up to this point, performance measures have not focused on MC311 system accuracy.

Chapter 4 of this report offers a framework for assessing how the MC311 system is performing its role as a gateway to County services and information based on two broad areas: availability and accuracy.

- *MC311 Call Center Availability:* Section A.1 discusses the availability of the Call Center (as covered in Finding #4 and Recommendation #1).
- *MC311 Web Portal Availability:* Section A.2 discusses ways to consider the availability of the MC311 self-help Web Portal in terms of what County services are requestable online and how easily users can navigate the Web Portal to get the information they need.
- *MC311 System Accuracy:* Section B discusses how MC311 currently works to maintain the accuracy of the MC311 system. OLO found that, up to this point, performance measures for MC311 have not focused on assessing accuracy.

B. OLO Recommendations.

Recommendation #1. Revise several of the program performance measures currently reported for MC311.

As discussed in Chapter 3, based on our review of the County's current program performance measures, OLO recommends the Council ask the Executive to consider the following changes:

- Augment the key performance measures of Abandoned Call Rate (ACR) and Average Speed to Answer (ASA) with metrics related to staffing and call handle times to provide more context for the ACR and ASA measures. For example, two staffing metrics that can be clearly defined and calculated are turnover and shrinkage. Any negative trends in such metrics for the Call Center would offer a warning that staffing issues may impact customers' access to the Call Center as reflected in the ACR and ASA.
- For the Customer Satisfaction performance measure, solicit feedback from a more representative sample of MC311 customers to improve the quality of the results reported by this measure.
- Revise the Cost per Customer Contact performance measure. If the formula were revised to focus on the Call Center by excluding service requests from the self-help Web Portal, or alternatively if the formula were revised to include costs related to the Web Portal, it would be more meaningful.
- Revise the First Call Resolution performance measure, as follows:
 - The current formula could be renamed 'SR-General Information ratio' as it provides a useful measure of how many callers to MC311 are seeking information that can be provided by the Call Center versus how many MC311 callers are requesting services or information that must be fulfilled by a servicing department.
 - The "First Call Resolution" (or perhaps, 'First Contact Resolution') measure could be reformulated to capture data on the number of residents who had to contact MC311 more than once to get a question answered, a requested service completed, or an issue resolved.

Recommendation #2. Maximize Use of the MC311 Self-Help Web Portal

As discussed in Chapter 4, OLO recommends that the Council ask the Executive to maximize residents' use of the self-help Web portal by:

- Using web traffic analytics to glean insights into who visits the Web Portal, how they are using it, and whether users can navigate through the site with ease. The results may suggest areas for outreach to residents who are underutilizing the Web Portal and opportunities to restructure the Web Portal for more ease of use.

- Asking servicing departments to identify any impediments to making more of their services available for request via the Web Portal.

Recommendation #3. Place More Focus on Assessing MC311 System Accuracy

As detailed in Chapter 4 (Section 2.1) and summarized in Finding #5, OLO offers some ways to assess the accuracy of the MC311 system, as follows:

- Add data to the knowledge base articles (KBAs) that will enable CountyStat and others to more easily review how well servicing departments are actively working with MC311 to ensure the accuracy of the KBAs;
- Coordinate Department of Technology Services (DTS) updates of GIS information with MC311 updates to the County knowledge base articles;
- Ask CountyStat to periodically audit the knowledge base articles and GIS information for accuracy;
- Install online tools to solicit instant feedback from anyone who uses knowledge base articles in order to more quickly and specifically assess if the KBAs are clear, helpful, and accurate;
- Ask servicing departments to have their employees document some types of service request completion with photos; and
- Enable the CRM system to automatically notify customers (who wish to be notified) by email or text when the service they requested has been rendered and use any ensuing customer complaints as a source of accuracy verification.

C. Suggested Questions for Discussion

As discussed in Chapter 2 and summarized in Finding #2, the County's original goals in establishing MC311 were threefold: streamlining customer access by creating a one-stop contact center, achieving cost savings by consolidating separate call centers, and improving government accountability by collecting data on service requests and service delivery. In some cases, the County's original goals for MC311 can conflict with each other in the following ways:

- Centralizing customer access may also streamline customer access – but sometimes not (E.g., when a resident must use MC311 as an intermediary to reach a County employee in a servicing department, even when the resident already knows who in the department they need to speak with).
- Funneling customers through a central MC311 gateway collects consistent data that can hold servicing departments more accountable – but sometimes at the expense of streamlining customer access (E.g., if a resident uses MC311 to create a service request, the servicing department must meet the service level agreement (SLA) for that service request, but this back-end process of accountability may be invisible or seem unnecessary to a resident who would prefer to speak directly to a servicing department).
- Funneling customers to a central MC311 gateway relieves servicing departments from needing their own call centers – but also requires servicing departments to both maintain their own internal business processes and update the knowledge base articles (KBAs) used by MC311. This may cause servicing departments to make the knowledge base a lower priority, undermining the ability of MC311 to provide accurate County information.

OLO suggests as topics for further discussion:

1. In cases where the goals for MC311 seem to be in conflict with each other, how should the County prioritize these goals?
2. To what extent should the County make using MC311 required for County residents to reach County offices? Should the County consider a policy that all servicing departments that list MC311 as their primary point of contact also list their own phone number as a secondary contact, along with an explanation for residents of how using MC311 can save costs and hold servicing departments more accountable?
3. Who determines how far the Call Center should be expected to go in trying to answer resident questions? To what extent should MC311 be expected to answer questions versus triaging questions and then connecting callers with the best contact at the servicing departments? To what extent should MC311 be a gateway versus a gatekeeper?

Chapter 6. Agency Comments

The Office of Legislative Oversight (OLO) shared final drafts of this report with staff from Montgomery County Government. OLO appreciates the time taken by agency staff to review the draft report and to provide technical feedback. This final report incorporates technical corrections and feedback received from agency staff.

The written comments received from the Montgomery County Chief Administrative Officer are attached in their entirety on the following pages.



OFFICE OF THE COUNTY EXECUTIVE

Marc Elrich
County Executive

Andrew W. Kleine
Chief Administrative Officer

MEMORANDUM

October 10, 2019

To: Chris Cihlar, Director, Office of Legislative Oversight

From: Andrew Kleine, Chief Administrative Officer *AWK*

Subject: Office of Legislative Oversight Draft Report 2019-15, Measuring MC311 System Performance

Thank you for the opportunity to comment on the Office of Legislative Oversight's (OLO) Draft Report 2019-15: Measuring MC311 System Performance. We have reviewed the recommendations and provide responses below that reflect our thoughts on the current situation and actions we have taken and will take in the future to better measure how well we are servicing our customers. Below are my responses to OLO's recommendations.

Recommendation 1: Revise several of the program performance measures currently reported for MC311:

CAO Response: We agree with this recommendation. Over the last few months the new PIO director has been assessing the operations of MC311 and performance measurements. In addition, he has been working with CountyStat to review the adequacy of our performance measures in order to effectively measure and report the quality of service provided by MC311. Here is the summary of changes we have completed or plan to complete in the near future:

- The call center management factors in staffing levels each day. They utilize data and information to develop staffing plans and project call volume on a daily, weekly and monthly basis. Staffing analysis enables the management team to better understand the number of staff needed to effectively run the center to augment the current resources. The call center used to have several temporary employees that were converted to permanent, full time employees. This created many advantages including reliability and consistency of service and a fair and equitable work environment. We are looking into new solutions that should help to improve MC311's ability to be more flexible in terms of immediate, unforeseen staffing needs. The changes we are assessing (i.e. the use of part-time customer service representatives) would better position MC311 to meet our service goals. In addition, we recently added a new measure related to Quality Assurance and shortly will be adding a measure reflecting the accuracy of fulfilling service requests. In addition, the annual formal performance reviews of the call center will now occur semi-annually (approximately every February and August).

- Customer satisfaction is a key performance measure that must be evaluated regularly and should be designed to better understand the customer experience. Over the last few months, the call center has made several adjustments to how it approaches customer satisfaction and feedback in order to provide better service. MC311 has instituted three methods to collect information from customers (quarterly surveys, opt-in emails to callers and web site visitors, and focus group participants). We believe these efforts will improve the quality of our service and provide us with more information on how to address needs of customers.
 - **Expanded the frequency of customer surveys.** Beginning this fiscal year (FY20), MC311 increased the frequency of its customer satisfaction survey from twice a year to quarterly. This adjustment will enable the call center to more than double the quantity of responses it has received in the past. In addition, by conducting the surveys quarterly, we can better identify trends in service that we can address. So far, we have conducted two customer surveys (last quarter of FY19 and first quarter of FY20) and have received approximately 1,500 responses.
 - **Focus on Quality Assurance.** MC311 has begun instituting a more effective and comprehensive quality assurance program, which requires supervisors and the training and education staff to monitor/listen to a larger sample of calls. We worked with CountyStat to develop metrics to track our progress in this area. We believe that by listening to more calls, supervisors will be able to improve CSR performance and improve the customer experience for callers.
 - **Focus Groups.** MC311 will launch the first in a series of qualitative research tactics to understand how we can provide better service to customers. In October 2019, MC311 will host three focus groups that will include previous callers and people who have not used MC311. Our objective is to gain a better understanding and insight into how we can better meet customer needs.
- The Cost per Customer Contact performance measure that was mainly used for budgeting purposes will be revised to recognize and account for costs related to the web portal and other customer interaction and service channels.
- We will review the First Call Resolution performance measure and consider renaming to better reflect the intent of this performance measure. First Call Resolution is a performance measure used by many call centers to help determine the effectiveness of a CSRs handling a caller's issue. The assumption is that customers should be able to get resolution during their first call with no need to call back. OLO's recommendation recognizes that MC311 handles numerous calls that cannot be resolved by CSRs on the first call. We will evaluate this recommendation and investigate ways to implement a change to this performance measure. Although the intent of this report is focused on the

performance of the MC311 call center, we also agree that it is important to focus on the performance of the departments responding to service requests.

Recommendation 2: Maximize Use of the MC311 Self-Help Web Portal.

CAO Response: We agree with spirit of the suggestions presented in this recommendation. Over the last few months, we have determined that the County's website should have a more self-service focus and better promote users' access to county services and obtain general information at their convenience. This is a substantial undertaking that will require appropriate planning to implement the change. DTS and MC311 will work very closely with departments to build more service-focused pages. Of course, we will use web traffic analytics, Knowledge Based Articles (KBAs), frequent inquiries and other data to guide the development process. There are web analytic tools that we use today such as ForeSee to survey site visitor experience, and Google Analytics that will help guide us. In addition, the surveys and focus groups will provide additional relevant information as well.

Recommendation 3: Place More Focus on Assessing MC311 System Accuracy As detailed in Chapter 4 (Section 2.1) and summarized in Finding #5.

CAO Response: We are placing more emphasis on ensuring that the Knowledge Base Articles (KBAs) used by the CSRs at MC311 are up-to-date and accurate. The new director is closely working with DTS and CountyStat to identify ways to objectively determine the accuracy of KBAs and how to measure whether KBAs are up to date.

MC311 conducts an annual review of Knowledge Base Articles (KBAs): A complete listing of KBAs is sent to all departments early in December, and they are asked to review to ensure the information is up to date/accurate and is brief and clear as possible, and consistent with the department's business process, links within the KBAs are current, and that KBAs clear and concise and there are no duplicated information within the KBAs.

KBA changes are also made routinely as MC311 staff or department staff report problems or issues with KBAs (e.g. updated or incorrect information; non-working links or numbers; need for a key word).

For FY20, the MC311 Business Analyst will add another level of review of KBAs for high volume departments. We will conduct a more comprehensive evaluation of KBAs and merge redundant KBAs where possible. In addition, we will eliminate unnecessary KBAs.

In addition, we have started a new process that ensures the relevant departments full involvement and active participation in the process. On October 8, 2019, MC311 hosted the CAO and key department heads for an MC311 orientation session that emphasized how integral departments are to the success of the unit and ensuring satisfied customers. During that session, the new directors were briefed on the importance of communications and collaboration with MC311 and up to date and accurate KBAs. The session covered fulfillment of service request by

departments, updating Knowledge Based Articles and better notification to residents when service requests will be filled. This was the first step in a series of efforts to improve the effectiveness and accuracy of the information MC311 and residents need to answer questions and resolve matters.

MC311 is also closely coordinating the following tasks with DTS and CountyStat:

- Updates to GIS information with MC311 to the County KBAs
- Annual audits of KBAs in collaboration with a team composed of MC311 staff and individuals from each department. This process would ensure that KBAs are up to date.
- MC311 in partnership with DTS will add an instant feedback form to existing web pages for MC311 as well as other departments. This will create a system that people who use the KBAs can provide feedback on their effectiveness.
- DTS is currently working on enabling attachments/photos to be added to service requests. We believe we will be ready to implement this new feature within the next 6 months.
- Our current CRM system has the functionality to send emails automatically. It was operationalized years ago but was scaled back because residents complained about getting too many emails. With that said, the key to addressing this issue is working with departments who would play a significant role in initiating this type of notification. Also, we are investigating the feasibility of sending text notifications using our current system.

Finally, I want to acknowledge that MC311 call center performance is an important component of a much bigger strategy that we are developing and will be presenting to you in the coming months. MC311 is a significant channel of service for the residents and businesses of Montgomery County and the Elrich Administration shares the Council interest in ensuring that people who interact with County Government have the best possible experience. If you have any questions or need additional information, please contact Barry Hudson, Director, Office of Public Information at barry.hudson@montgomerycountymd.gov.

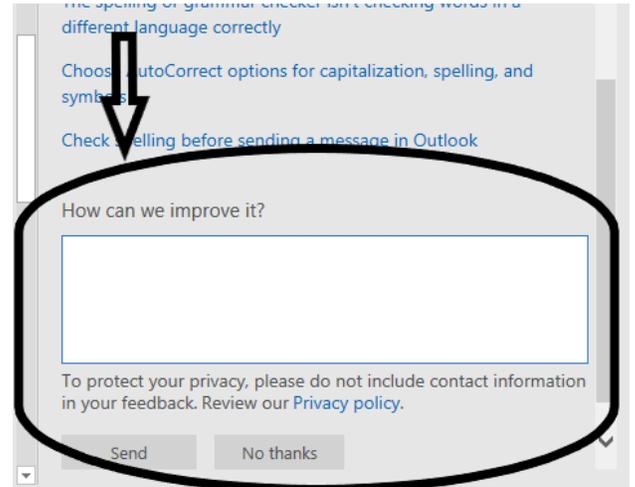
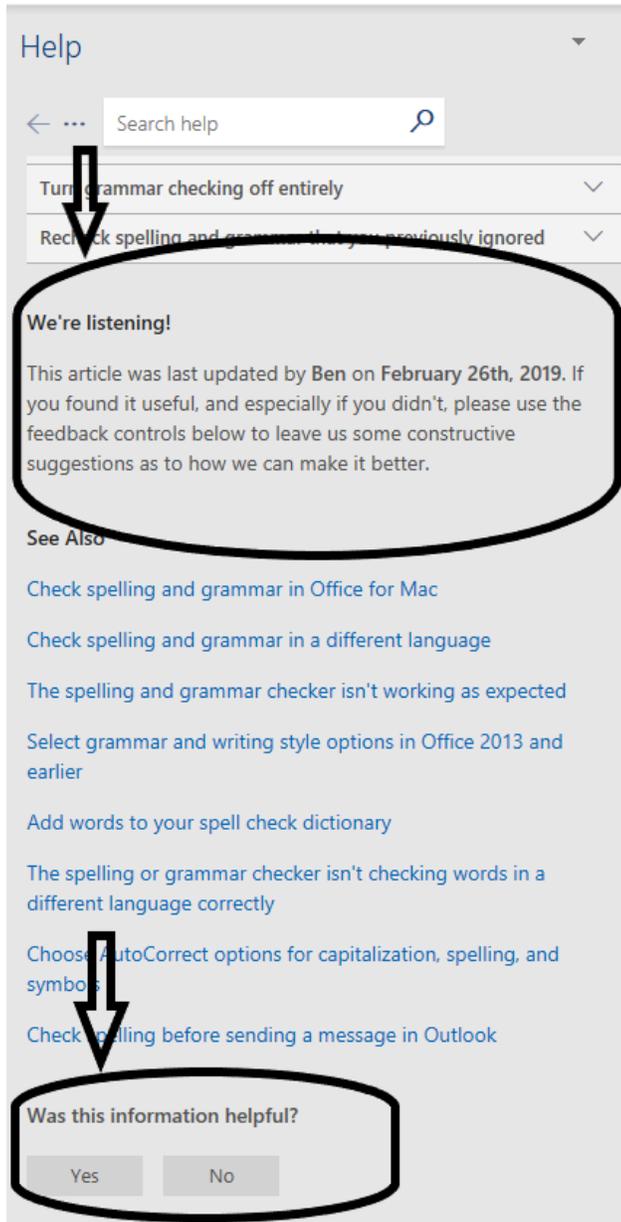
Cc: Fariba Kassiri, Deputy Chief Administrative Officer
Barry Hudson, Director, Office of Public Information
Sonny Segal, Director, Department of Technology Services

Appendix A. Siebel CRM Service Requests for CYs 2012-2018.

Seibel Customer Relationship Management (CRM) Service Requests (SRs)		Source: MC311 Call Center	Source: MC311 self-help Web Portal	Source: MCG Internal, DLC, Other	TOTAL: SRs from all sources
CY18	SR-Fulfillment	131,133	82,643	12,929	226,705
	SR-General Information	341,256	399	10,330	351,985
	Sum of SRs	472,389	83,042	23,259	578,690
CY17	SR-Fulfillment	139,469	71,719	16,934	228,122
	SR-General Information	350,966	336	12,830	364,132
	Sum of SRs	490,435	72,055	29,764	592,254
CY16	SR-Fulfillment	130,983	65,397	12,363	208,743
	SR-General Information	389,851	253	15,951	406,055
	Sum of SRs	520,834	65,650	28,314	614,798
CY15	SR-Fulfillment	127,233	58,610	16,184	202,027
	SR-General Information	384,899	66	10,136	395,101
	Sum of SRs	512,132	58,676	26,320	597,128
CY14	SR-Fulfillment	117,806	50,915	4,438	173,159
	SR-General Information	402,063	23	7,192	409,278
	Sum of SRs	519,869	50,938	11,630	582,437
CY13	SR-Fulfillment	119,195	40,870	3,889	163,954
	SR-General Information	399,790	48	7,161	406,999
	Sum of SRs	518,985	40,918	11,050	570,953
CY12	SR-Fulfillment	149,363	34,285	4,895	188,543
	SR-General Information	388,061	1,297	8,004	397,362
	Sum of SRs	537,424	35,582	12,899	585,905

Appendix B. Instant-Feedback Comment Boxes: Examples

Example 1: Microsoft Word



The screenshots on this page illustrate how Microsoft concludes every Help-related article in Word with an instant-feedback comment box inviting users to suggest ways to improve that article. Microsoft also uses this tool for the Help articles in Excel. Google uses a similar tool to solicit feedback on Help articles in Google Drive

Example 2: This Dept. of Transportation (MCDOT) webpage includes: (1) an Instant-Feedback Comment Box, and (2) a link to the ForeSee Survey Tool. These are separate standalone tools. DTS has found that users more often use (1).

Example 3 on the following page shows the survey that opens when a user clicks on the ForeSee Survey button.

Example 3: MCDOT Uses the ForeSee Survey Tool

MCDOT
Montgomery County
Department of Transportation

For immediate assistance:
call MC311 at 311 (or 240-777-0311),
Monday-Friday, 7 a.m.-7 p.m.,
or visit www.MC311.com

Please rate your experience on this page. (Required)

☆☆☆☆☆

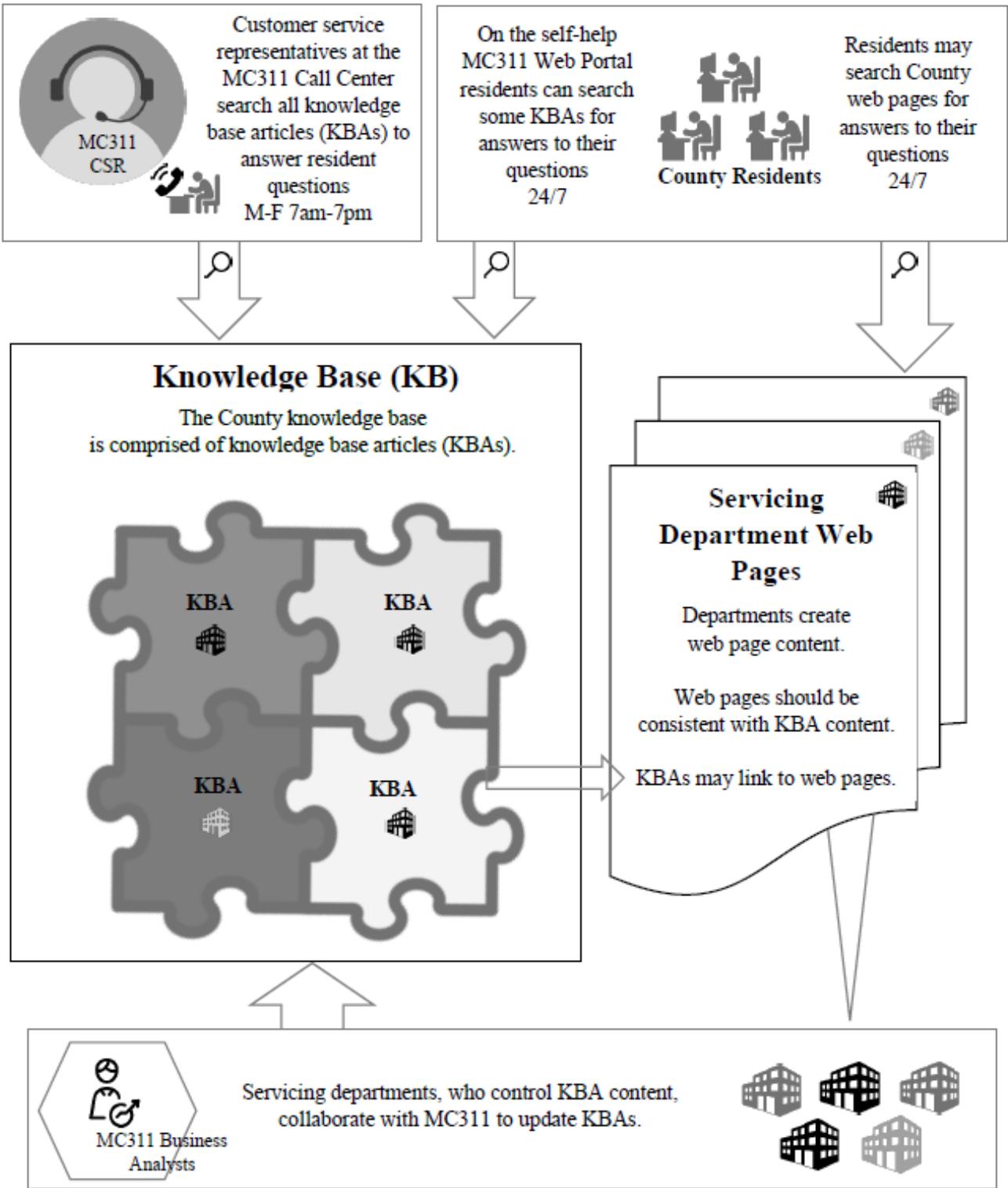
What is your feedback regarding?

Choose a topic ▼

Submit

Privacy 

Appendix C. The County Knowledge Base.



Appendix D. Crosswalk of Titles for MC311 Performance Measures Used by OMB and CountyStat.

Only titles differ: the formulas and reported results are identical.

	Program Performance Measure (Office of Management and Budget)	Headline Performance Measure (CountyStat)
1.	MC311 -- Average amount of time it takes to reach a Customer Service Representative after the welcome announcement (in seconds).	Average Time to Reach 311 Rep.
2.	MC311 -- Percent customer satisfaction rating.	MC311 Customer Satisfaction.
3.	Cost per customer contact (in dollars) (salary expenditures divided by the total number of customer contacts by phone, web portal, mobile-enabled portal, Twitter).	MC311 Cost per Customer Contact.
4.	Average rate of Service Requests created on the MC311 website and the mobile-enabled portal”	Utilization of MC311 Web + Mobile Portal.
5.	Average rate of first call resolution (customer requests closed in one call divided by total calls answered at the call center).	MC311 Average Rate of First Call Resolution.
6.	Average rate of calls that come into 311, but are not answered by a Customer Service Representative (CSR).	MC311 Abandoned Call Rate.
7.	Average rate of callers requesting to speak Spanish.	Average Rate of 311 Spanish Call Requests.

Appendix E. Resources

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Chapter 3

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Equity in 311 Reporting: Understanding Socio-Spatial Differentials in the Propensity to Complain, by C. Kontokosta, B. Hong, and K. Korsberg. (Bloomberg Data for Good Exchange Conference, 24-Sep-2017, Chicago, IL.)

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Chapter 4

An Introduction to Erlang B and Erlang C: If you make decisions about networks, PBXs, or call centres, you must understand these concepts, by I. Angus, Telemanagement #187; retrievable from www.tarrani.net/linda/ErlangBandC.pdf.

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