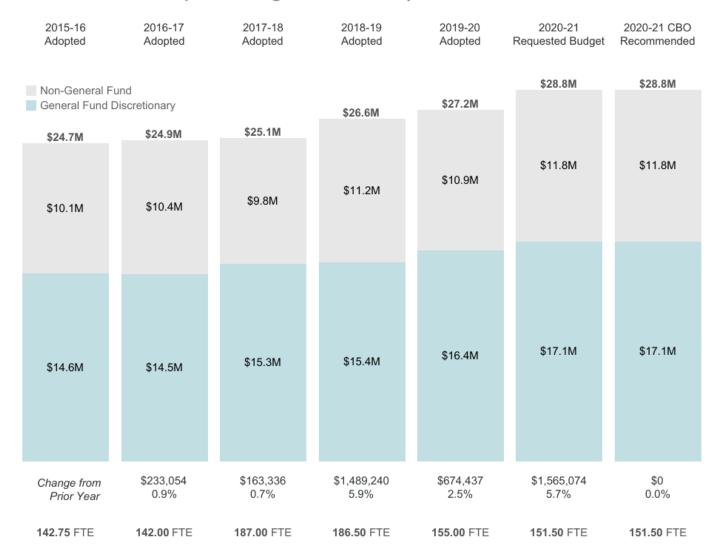


Emergency Communications

Analysis by Robert Cheney

Adopted Budget Revenues | 5-Year Lookback



INTRODUCTION

The Bureau of Emergency Communications (BOEC) submitted a requested budget totaling \$28.8 million, a \$1.6 million (5.7%) increase over the FY 2019-20 Adopted Budget. The budget includes a \$17.1 million ongoing appropriation from the General Fund which — in combination with State of Oregon 911 revenue — funds 79.6% of BOEC's total operating budget. The difference, 20.4%, is paid by other jurisdictions that are part of the regional emergency communication system (User Agencies). The bureau budgeted \$4.0 million in State 911 revenue, an increase of 20.5% or \$690,761 over the prior year, in response to the State 911 Tax increasing from \$0.75 per cell phone transaction to \$1.00 (House Bill 2449, 2019 regular session). The bureau did not submit decision packages and did not request new positions.

BASE BUDGET KEY ISSUES

In the FY 2016-17 Adopted Budget, in response to high turnover and challenges reaching full staffing levels, BOEC received a \$1.1 million increase in annual appropriation and 13.0 limited-term FTE. These resources were provided to the bureau to support bi-annual training academies in an effort to increase the number of qualified call-takers and reduce the reliance on forced overtime to meet the staffing model at that time. That same year, Council directed the bureau to conduct a staffing study to comprehensively review its long-term staffing requirements.

These 13.0 limited term trainee positions were converted to 11.0 FTE permanent Senior Dispatcher positions in FY 2017-18, bringing the total authorized positions supporting emergency communications to 118 FTE. The bureau was able to reach full staffing during FY 2018-19 and operated for much of that year at or near full staffing. Attrition has resulted in 17 vacancies since the end of FY 2018-19, and the bureau currently has 101 emergency communications staff.

The analysis provided below addresses two key issues for BOEC:

- What level of service does BOEC provide for call-taking when at or near full staffing?
- What is the true operational cost for BOEC to maintain at or near full staffing levels?

Call-Taking Workload and Performance Metrics

Call-taking Workload

Despite year-over-year fluctuations in 911 and nonemergency call load, aggregate call volume has increased every year since 2010-11, having grown 27.9% over that 9-year span. The bureau answered 907,067 calls in FY 2018-19, a 4.47% increase over the prior year.

Increasing demand for emergency communications services represent a risk to maintaining call-taking service levels (discussed in greater detail below), as the workload-per-call-taker ratio increases. Secondary effects such as burnout and ensuing attrition—and the subsequent cost and timeline of replacing staff—can compound this effect.

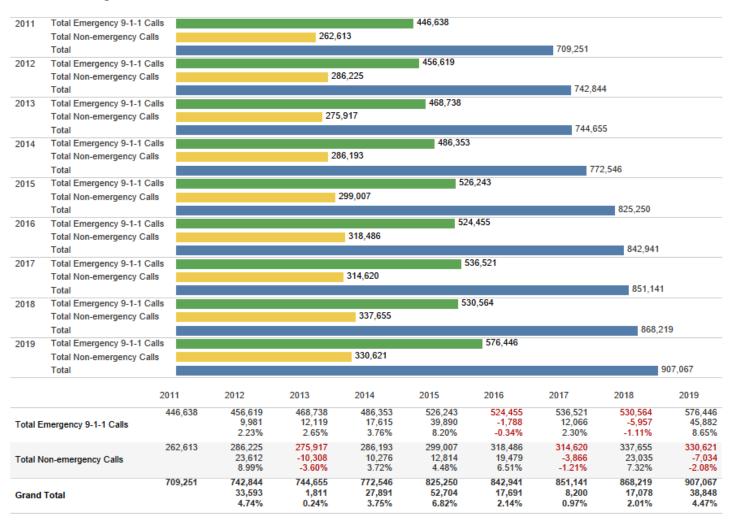
The bureau has participated in several efforts to reduce overall call load, including:

- Automated Secure Alarm Protocol to Public Safety Answering Point (ASAP to PSAP) which allows
 alarm monitoring stations a direct interface to computer-aided dispatch (CAD) systems,
 eliminating the need for a 911 call taker to answer. ASAP to PSAP has the potential to reduce
 BOEC workload by 8,700 calls annually, while increasing dispatch service levels by reducing the
 two- to three-minute relay currently in place. (Implementation expected in Summer of 2020)
- A public outreach strategy with the goal of educating visitors and community members on the appropriate use of 911 and providing alternate contact information for non-emergencies. (In scoping)
- Working with the 311 work group to reduce call volume with the goal of providing a single contact number for non-emergencies. (311 is still in program development)
- Working with the City's "Information and Referral" (I&R) staff to gauge the feasibility of: 1)
 reconfiguring the phone tree to reroute Portlanders making non-emergency calls earlier in the
 process, and; 2) adding a direct connect transfer interface from BOEC call takers to I&R to divert
 calls. (Completed)

Continuing these efforts to manage total call volume, especially efforts to reduce non-emergency workload, will help ensure BOEC can maintain its improved call-taking performance levels.

BOEC Total Workload for Emergency and Non-emergency calls

Total workload has grown 27.9% since FY 2010-11



Call-taking Performance

The bureau has improved on its core performance metrics over the last three years despite substantial call volume growth. The average time to answer a 911 call has dropped from 25 seconds in 2017 to 14 seconds in 2019, a 44% reduction. The increase in performance is likely attributable to two factors:

- The removal of the cell phone call filter, which required callers to verify their intent to reach a 911 call taker, thus adding 7-12 seconds to each call;
- Increased staffing which allowed the bureau to deploy more call-takers;
- Leveraging alternate shifts (to the extent the labor contract allows).

BOEC has started to utilize a three-day/thirteen-hour shift schedule as an alternative to the more common four-day/nine-and-a-half-hour shift schedule that was traditionally offered. To date, nine emergency communications operations staff have signed up for the shift, which allows the bureau to provide more substantial floor coverage during peak call volume times. The bureau is currently

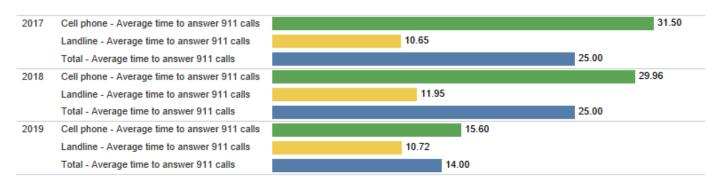
researching how to formally institute this by procuring a scheduling software, which may be an off-the-shelf module offered by the next-generation 911 logging recorder vendor or an internally produced option by the Bureau of Technology Services. CBO lauds the bureau for pursuing internal schedule modifications and technological innovations to improve service levels within existing resources.

"Average time to answer a 911 call" and "Percentage of 911 Calls answered within 20 seconds" are two fundamental metrics used to analyze the bureau's performance of its core service delivery (the "busy hour" metric will likely be removed when NENA updates the performance standard, which completed the public review process as of February 26, 2020).

Because the bureau was close to full staffing for most of FY 2018-19, the performance data captured during this particular year represents the most complete picture of the service levels BOEC can provide with its current authorized staffing levels. As noted in the table below, BOEC achieved an average time to answer a 911 call of 14 seconds and answered 77% of all 911 calls within 20 seconds.

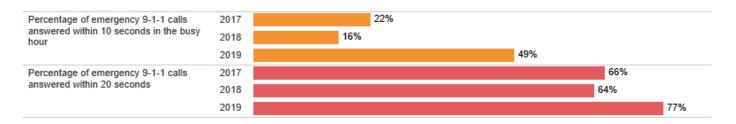
BOEC Average Time to Answer Calls

The average time to answer a 911 call at BOEC dropped from 25 seconds to 14 seconds from FY 2016-17 to FY 2018-19.



BOEC National Emergency Number Association (NENA) Performance Standard Data

BOEC answered 77% of all calls within 20 seconds, 18 points off the standard of 95% but an 11 point improvement from 2017.



The performance metrics achieved by BOEC in FY 2018-19 represent a marked improvement over prior years. However, the analysis below of BOEC's operational run-rate costs for labor suggest that the bureau's FY 2018-19 appropriation was insufficient to maintain at or near full staffing and still make other necessary investments, leading to a decline in staffing that is likely to impact performance.

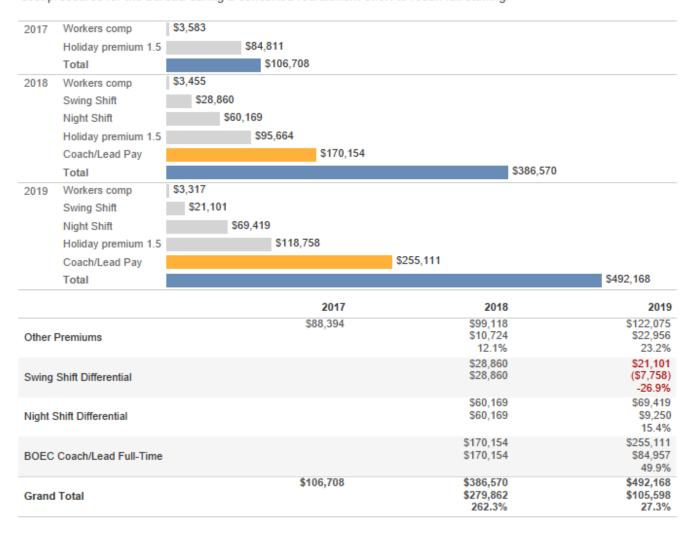
Staffing Costs

Overtime and Premium Pay Costs

The bureau's prior year operating budgets were not sufficient to sustain full staffing, due in part to underforecasting of labor costs at the time of labor contract ratification. When the Bureau of Human Resources (BHR) costed the FY 2016-17 labor contract, the analysis assumed the bureau would have approximately 23 full-time or back-up coaches, resulting in additional Coaching Premiums of \$24,652. However, during the Bureau's concerted recruitment effort to reach full staffing during fiscal years 2017-18 and 2018-19, the number of full-time or back-up coaches increased, reaching 54 at its peak, more than doubling the number of staff receiving a 9.5% or 11% premium. This resulted in a 262.3% increase over the initial projected expenses for the actual premium pay costs in FY 2017-18. This primary cost driver amounted to \$170,154 total costs specific to the coach's pay expense. This trend continued in FY 2018-19, with the bureau seeing a total coach pay cost of \$255,111 and an aggregate premium pay obligation of \$492,168. These expenses were not included in the original cost estimations for purposes of increasing the bureau's Current Appropriation Level (CAL) funding, which forecasted only \$25,000 in annual costs for Coach pay.

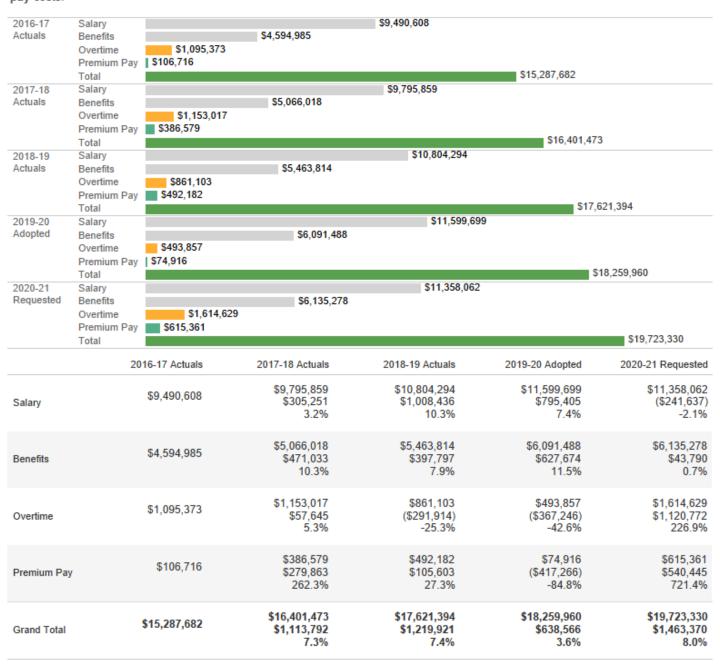
BOEC Premium Pay Costs During the FY 2016-19 Labor Contract

A Full-time Coaching/Lead Premium of 11% and a Back-up Coach Premium of 9.5% created substantial personnel cost pressures for the bureau during a concerted recruitment effort to reach full staffing.



BOEC added 11.0 FTE Senior Dispatcher positions in FY 2017-18, but having never reached full staffing, was able to rely on serial vacancy savings to absorb its operational overtime requirements in years prior. In FY 2018-19, when the bureau was at or near full staffing, it became clear that the cost of operational overtime and bargained premiums was greater than the bureau's personnel budget. With no vacant positions to generate cost savings, the bureau was forced to draw the entirety of its budgeted contingency (\$709,107) in the FY 2018-19 Spring Supplemental Budget to fund higher-than-budgeted labor costs. During the current year, BOEC has held vacancies and suspended recruitment academies to ensure current year-end spending aligns with budgeted revenues, which could reduce FY 2019-20 call-taking service levels.

BOEC Staffing Costs, Last 3 Fiscal Years, Current Year Adopted, and FY 2020-21 Requested
The FY 2020-21 Requested Budget represents the first time the bureau will be able to fully budget its true overtime and premium pay costs.



Were it not for the revenue windfall resulting from the state's increase to the 911 tax, BOEC would have had to request new resources from the General Fund or reduce the number of emergency communications staff during FY 2020-21 budget development. The bureau's FY 2020-21 Personal Services budget represents the most accurate forecast of their true personnel run-rate cost, built upon analysis of prior year actuals for salary, benefits, overtime, and premium pay costs. The result being a \$19.8 million dollar personal services budget, an 8% increase over the FY 2019-20 adopted budget. This fully-loaded personal services budget will fund the cost of recruitment and the cost of sustaining full-staffing within its existing allocation, the upshot of which may be increased service levels as the data demonstrate that during periods of full staffing the bureau is able to nearly reach its performance targets—including the NENA standard.

It should be noted that BOEC is currently in labor negotiations, which will likely result in new ongoing costs to the bureau. As cost estimates of this agreement are unknown, these costs are not currently included in the requested or CBO recommended budget.

Increased Revenue from HB 2449 and Impacts on BOEC

New Revenue Forecast

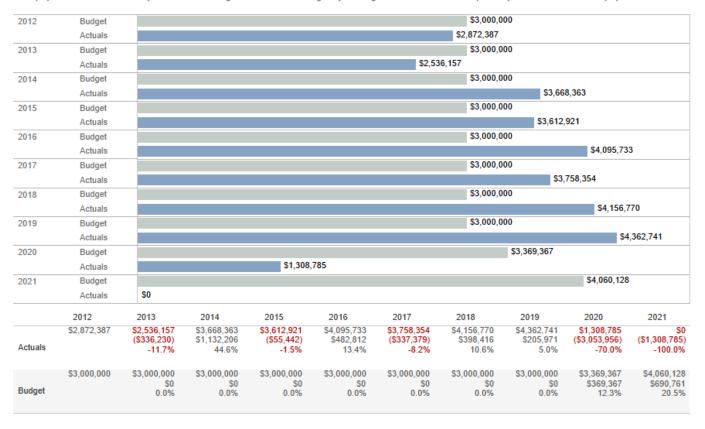
As a result of Oregon House Bill 2449, the emergency communications tax collected by the Oregon Office of Emergency Management and disbursed to Public Safety Answering Points (PSAPs) was increased from \$0.75 per phone line a month to \$1.00 per phone line a month. The increase was effective January 1, 2020. A second increase is mandated by this policy, increasing it from \$1.00 to \$1.25 on January 1, 2021. This effectively amounts to a 33% increase in BOEC's state revenue line item for FY 2020-21, which is considered part of the "City of Portland" 79.61% share of their operating budget. It also means that the bureau will see a compounded 25% increase in state revenue in their FY 2021-22 Budget.

As illustrated in the chart below, actual revenue has exceeded budgeted amounts for the past several years. The three-year average of annual <u>revenue remitted from the State Office of Emergency Management</u> (from FY 2016-17 to FY 2018-19) was \$4.1 million. Assuming a 33% increase of that actual average amount (reflecting the tax increase from \$0.75 to \$1.00) is \$5.5 million, the amount the bureau might collect in FY 2020-21 if there was not a <u>two-quarter lag in disbursements</u>. A 25% increase of that amount (the increase from \$1.00 to \$1.25) is \$6.8 million, the amount the bureau may collect in FY 2022-23 and beyond, representing a \$2.7 million increase in total revenues above the aforementioned three-year average.

Despite a 33% increase in the tax, BOEC only budgeted a 20% increase in State Revenue. This is because the state collects and remits the payments quarterly, and typically remittances lag four months behind actual revenues. So, while the new tax went into effect on January 1, 2020, PSAPs across Oregon will not begin to see that money in their account until approximately October 2020. This approximately \$690,000 revenue increase has been allocated to BOEC's personal services budget, as discussed above.

BOEC State Shared Revenue Budget and Actuals Data since 2012.

The payments are collected by the State of Oregon's Office of Emergency Management and disbursed quarterly to PSAPs based on population.



Prioritization of New Revenue

This new revenue represents a unique opportunity for BOEC, which, absent this State revenue increase, would likely have had to request a substantial increase to their General Fund allocation to cover personnel costs as part of FY 2020-21 Requested Budget process. While BOEC's \$28.8 million budget for FY 2020-21 represents something closer to their true run-rate, it does not capture some anticipated costs that will be realized in out years. CBO recommends the bureau utilize its new revenue to do the following, in order of priority:

- 1. Make its Personal Services Budget whole, including the cost of the new labor contract and the cost of recruitment, as discussed above.
- 2. Develop a Capital Improvement Plan that captures all their facilities and technology assets and related outlays, in accordance with City Financial Policy 2.03 "Financial Planning."
- 3. Develop a Quality Assurance and Quality Improvement program, as recommended by the Matrix Consulting Report¹ and Mayor's Action Items² from a 2017 Government Accountability, Transparency, & Results (GATR) Session.
- 4. Pending the outcomes and costs related to the above initiatives, address programmatic expansions like Nurse Triage or increased staffing levels to further enhance BOEC performance

¹ From the Matrix Consulting Group. "Staffing Study and Plan for the Bureau of Emergency Communications." April 2017. P. 8, 103. https://www.portlandoregon.gov/cbo/article/653859

² Memorandum from Mayor Ted Wheeler regarding action items following the BOEC GATR Session on August 11, 2017. September 11, 2017. https://www.portlandoregon.gov/cbo/article/656673

and public safety outcomes.

Personal Services Budget

As discussed in the "Staffing Costs" section, the bureau should use its new revenue to fund the true operational costs of the bureau at full staffing, as well as the cost of sustained recruitments so that attrition can be mitigated by expedient replacement. CBO recommends the bureau explore options to retain a staffing pool similar to the "Traveler Pool" model utilized by the Fire Bureau, which would allow the bureau to reduce the 12-16 month replacement delay in developing a recruit into a senior dispatcher.

Capital Improvement Plan

City Financial Policy 6.11³ groups capital assets into "Tangible Assets" and "Intangible Assets" and requires all assets within these parameters to be capitalized. BOEC has many assets that fall under this definition, including facilities, furniture, and computer software.

Furthermore, City Financial Policy 2.03⁴ states that "Each bureau that owns or manages capital assets or equipment shall develop and maintain a Capital Improvement Plan (CIP) that identifies the individual capital acquisitions, projects or procurements necessary to meet planned levels of service." In addition, the policy states that "At the time a new capital asset or equipment is planned in the CIP or requested through the Requested Budget, bureaus shall estimate the full operations and maintenance (O&M), major maintenance, and lifecycle replacements costs for that asset.⁵ A funding plan for the O&M, major maintenance, and lifecycle replacement costs shall be included as part of the Adopted Budget."

BOEC has assets that fall into these categories, including but not limited to computer-aided dispatch (CAD) software; Integrated Priority Dispatch (ProQA); 911 logging recorders, 911 call taking and dispatch phones, consoles, and furniture, and a back-up trailer. CBO recommends BOEC complete the analysis necessary to determine the operations and maintenance, major maintenance, and lifecycle replacement costs—as well as any future needs assessments—be compiled into a comprehensive BOEC Capital Improvement Program. Once the annual need is identified, CBO recommends BOEC work with OMF Accounting to create a dedicated capital subfund within the Emergency Communications Fund (Fund 202) to set-aside these resources to draw upon when necessary. While FIN 2.03 only requires the bureau to identify outlays, due to BOEC's position to receive increased revenue from the state, CBO recommends the bureau allocate any new funding not already allocated to its operating costs towards its asset management needs as mandated by Citywide Financial Policy.

Quality Assurance and Quality Improvement Program

A Quality Assurance program involves reviewing an industry best practice of at least 2% of phone calls and evaluating them against an APCO-created scorecard (this number would be over 11,000 based on FY 2018-19 911 call data). The scorecards examine interrogation questions, CAD skills, and protocol compliance. These score cards are then evaluated by a supervisor and used to improve the quality of response by identifying and addressing gaps in performance.

BOEC currently only conducts Quality Assurance/Quality Improvement efforts on roughly 50 calls per year, often in response to an inquiry or complaint. Pending the procurement of a new recording system designed for Public Safety Emergency Communications (BOEC received funding to replace its 911 recording system in FY 2018-19), the bureau would be able to streamline the process of retrieving call recordings for evaluation. Adding this data-gathering capacity would provide BOEC with another tool to

³ City of Portland FIN 6.11. https://www.portlandoregon.gov/citycode/article/130469

⁴ City of Portland FIN 2.03. https://www.portlandoregon.gov/citycode/article/200789

⁵ City of Portland FIN 2.03.02 — Operations and Maintenance Costs https://www.portlandoregon.gov/brfs/article/531021

evaluate call taker and dispatcher compliance. A QA/QI program would also provide the bureau a mechanism to offer timely and precise feedback to staff while supporting coaching and training efforts with targeted areas for improvement.

CBO recommends the development of a QA/QI system as recommended by the Matrix consulting report. The sequencing of such an effort would be subject to the procurement and deployment of the existing ProQA integrated priority dispatch software as well as a 911 logging recorder.

Programmatic Expansions

BOEC received \$145,030 in one-time resources from the General Fund in FY 2019-20 to scope both a mental health response pilot now known as "Portland Street Response" and a Nurse Triage pilot. Throughput issues for these projects are arrayed below:

- Portland Street Response Planning for the pilot is ongoing, including protocol development, training, and professional services procurement.
- Nurse Triage rely upon the deployment of the Integrated Priority Dispatch software from ProQA, which will be procured on July 31, 2020.

Integrated Priority Dispatch, Fire and Medical dispatch protocol modules will not be implemented until April 2021, with the Police dispatch protocol module will be implemented in 2022 or 2023. The potential exists for the Nurse Triage program to be a revenue-generating enterprise for BOEC, as hospitals and insurance networks could be integrated into the program. Nurse Triage also has the ability to reduce workload demand for the Fire Bureau, who are currently deployed to non-emergent low-acuity calls related to patient illness and injury. Because the use of a Medical Priority Dispatch System can successfully identify patients who do not demonstrate high-acuity illness or injury more than 99% of the time, a number of calls that now result in an ambulance or Fire Service dispatch could be redirected to a medical professional who can do a phone consultation and arrange an appointment at a clinic (with some pilots arranging transportation via taxi or other ride-hailing services).^{6,7}

It should also be noted that Council reserves the right to determine to what extent BOEC's new funding should be allocated towards these initiatives and could choose to reduce the bureau's General Fund appropriation accordingly. However, given that Public Safety is a core City service and City Financial Policy mandates the creation of bureau CIPs and adherence to asset management best practices, Council should weigh the value proposition of reducing BOEC's General Fund allocation to fund alternative policy initiatives and analyze the impacts of such a reduction on Citywide emergency response performance.

Senate Bill 507

Senate Bill 507⁸ may increase disability claims for Post-Traumatic Stress Disorder and Acute Stress Disorder to eligible 911 call-takers and dispatches by shifting the burden of proof from the claimant to the insurer. To the extent that BOEC emergency communications staff file claims, there could be an impact on the BOEC operating budget as it will have to pay both the cost of the leave and the cost of

⁶ Hinchey, Paul. Myers, Brent. Zalkin, Joseph. Lewis, Ryan. Garner, Jr., Donald. "Low Acuity EMS Dispatch Criteria Can Reliably Identify Patients without High-Acuity Illness or Injury." Prehospital Emergency Care. Volume 11, Number 1. January/March 2007. P 42–48. https://www.ncbi.nlm.nih.gov/pubmed/17169875

⁷ Washington D.C.'s "Right Care, Right Now" program is the flagship pilot for a program like this: https://fems.dc.gov/page/frequently-asked-questions-right-care-right-now

⁸ SB 507 "Relating to occupational diseases for purposes of workers' compensation for certain workers; and prescribing an effective date." Effective Date September 29, 2019.

back-filling this leave with overtime.

SUMMARY OF REQUESTS AND RECOMMENDATIONS

Below is a summary of the Bureau of Emergency Communications' total budget. The City's General Fund investment in BOEC totals \$17,051,317 which, paired with the State 911 Tax remittance of \$4,092,622 totals \$21,143,939 or 79.2% of City and Intergovernmental Revenue, with the remaining coming from User Agencies. The bureau also collects service charges from the Port of Portland for CAD services, as well as Public Records Request fees. The bureau has budgeted \$1.6 million in beginning fund balance as carryover from funding it received in FY 2018-19 for Integrated Priority Dispatch and a Next Generation 911 Logging Recorder.

The bureau expends 68.5% of its budget on personnel and 22.1% on materials and services, including CAD maintenance with Versaterm, phone service costs with CenturyLink, and internal IT from the Bureau of Technology Services.

Bureau of Emergency Communications - All Funds

		2019-20 Adopted Budget	2020-21 Requested Base (A)	Bureau Decision Packages (B)	CBO Recommended Adjustments (C)	Total Recommended Budget (A+B+C)
Expense	Personnel	\$18,259,960	\$19,723,330	\$0	\$0	\$19,723,330
	External Materials and Services	\$1,208,583	\$1,467,883	\$0	\$0	\$1,467,883
	Internal Materials and Services	\$4,922,973	\$4,868,771	\$0	\$0	\$4,868,771
	Capital Outlay	\$1,600,000	\$1,412,565	\$0	\$0	\$1,412,565
	Debt Service	\$287,549	\$299,045	\$0	\$0	\$299,045
	Fund Transfers - Expense	\$959,138	\$1,031,683	\$0	\$0	\$1,031,683
	Total	\$27,238,203	\$28,803,277	\$0	\$0	\$28,803,277
Revenue	Beginning Fund Balance	\$1,933,572	\$1,659,373	\$0	\$0	\$1,659,373
	Charges for Services	\$407,000	\$406,234	\$0	\$0	\$406,234
	Fund Transfers - Revenue	\$16,359,833	\$17,051,317	\$0	\$0	\$17,051,317
	Intergovernmental	\$8,517,798	\$9,646,353	\$0	\$0	\$9,646,353
	Miscellaneous	\$20,000	\$40,000	\$0	\$0	\$40,000
	Total	\$27,238,203	\$28,803,277	\$0	\$0	\$28,803,277

⁹ The User Agencies are Gresham (13.68%), Unincorporated Multnomah County (3.01%), Troutdale (2.0%), Fairview (1.12%), Wood Village (0.49%), and Maywood Park (0.09%).