April 6, 2021

To: County Council

From: Aron Trombka, Senior Legislative Analyst
                Office of Legislative Oversight

Subject: **Availability of County Government Vacancy and Lapse Data**

As part of the FY21 Office of Legislative Oversight (OLO) work program, the County Council requested a study of data on the vacant positions in the County Government (see Council Resolution 19-548, adopted July 28, 2020).   The work program project description called on OLO to collect information on the number of position vacancies by department, job classification, and pay grade. In addition, the report was to examine the amount of time positions remain vacant and the factors that contribute extended vacancies. The work program recognized that this study would be dependent on the availability of relevant, accurate, and timely data.

Current County Government information technology systems are not capable of reporting accurate and timely vacancy data. In light of the absence of relevant data, this OLO report describes the reasons why the data is not readily available.

This report includes two sections. Section 1 describes deficiencies in the system that affect the ability to prepare timely and accurate reports on vacancies. Section 2 addresses the related matter of data on budgeted lapse.

Summary of Major Findings
Vacancy Data
County Government information technology systems are incapable of producing accurate and real-time vacancy data.
Vacancy data can be collected through a manual sorting process. However, it is so time-consuming that the results are out-of-date by the time the sort is completed.
The Office of Management and Budget has undertaken an initiative to develop a new budgeting system that would improve data integrity and expand analytical functions.
Budgeted Lapse
County Government budget document report lapse in dollars but not full-time equivalent positions.
Workforce lapse is a reduction in personnel costs associated with a specific position. Planning lapse is a general reduction in departmental personnel cost to account for projected attrition.
Budgeted planning lapse dollar amounts are significantly higher that budget workforce lapse dollars.
Departmental planning lapse is often budgeted at the same amount year after year.
Lapse is often a significant component of mid-year budget savings plans.

SECTION 1: VACANCY DATA

This section describes current County Government data management systems and how deficiencies in these systems affect the ability to prepare timely and accurate reports on position vacancies.

A. Enterprise Resource Planning System

In the early 2000s, the County Government undertook an effort to develop an Enterprise Resource Planning (ERP) system, a suite of business management software applications that integrate data management and business functions across an organization. The objective of an ERP is to improve the organization's efficiency and analytical capabilities through the sharing of information among different departments and functions. The County Government's ERP system includes, among other things, modules for budgeting and human resources management.

The County Government procured its ERP budgeting and financial management component, the Public Sector Planning and Budgeting module, from the technology corporation, Oracle. The County Government first implemented the Oracle system in 2010. The Budgeting module supports functions such as the general ledger, accounts payable, accounts receivable, cash management, and asset management. Most notably for this report, the Budgeting module tracks the number of positions approved in the annual operating budget.

The County Government's ERP system also includes a Human Resources module developed by Oracle. The Human Resources module supports functions such as recruitment, training, and employee compensation and benefits. Of note, the Human Resources module includes a position control application. County Government administrative staff use the position control application to maintain information about position creation and abolishment, retirements, resignations, terminations, and hiring into vacant positions.

B. Audit of ERP Implementation

In 2012, the Office of Internal Audit contracted with Watkins Meegan LLC, a financial management, accounting, and auditing consulting firm, to conduct an audit of the County Government's implementation of the ERP system. The consulting firm issued a report, "Post-Implementation Audit of Montgomery County's Enterprise Resource Planning (ERP) System" in June 2013.[1] The audit found that, although the County Government adopted many best practices, implementation of the ERP was marred by multiple "system or internal control weaknesses." Several of the weaknesses described in the audit report have direct bearing on the County Government's ability to produce accurate vacancy reports. For example, the auditors concluded that:

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[1] Report available at:
https://www.montgomerycountymd.gov/exec/Resources/Files/audit/Post_Implementation_Audit_of_Montgomery_County_ERP2.pdf

- County Government departments performed different module-specific transactions in different manners resulting in inconsistent data sets.

- Controls relating to review, deletion, and correction of active employee master data were inadequate. (The term "master data" refers to key operational information such as employment records.)

- Processes did not exist to review the accuracy, completeness, and integrity of master records.

- Many employee records contained duplicate, inaccurate, or out-of-date employee information.

- No systematic analysis, processes, and procedures existed to assure data and transaction integrity.

Since the release of the audit report, the County Government has worked to rectify the weaknesses identified in the audit. Nonetheless, as described below, these ERP system deficiencies continue to affect the County Government's current ability to extract real-time vacancy reports.

C. Inability to Extract Real-Time Vacancy Reports

The County Government's ERP system is incapable of producing accurate and real-time vacancy data. This inability stems from several of the ERP system's weaknesses identified in the audit. First, the information entered into the ERP Budgeting are not automatically uploaded into and Human Resources module. The Budgeting module houses the enterprise-wide roster of positions; however, that module cannot compare those data with position control data in the Human Resources module.

In addition, some positions recorded in the Human Resources module are vestiges of past positions that were abolished or positions that are not currently funded. While these positions are not filled, they cannot be considered vacancies as they are not currently approved positions. ERP protocols intended to assure that only currently approved and funded positions require multiple data entry and removal steps to accurately modify a record. This multi-step process is not consistently observed by staff in County Government departments and the system does not have an auto-check capability to maintain data integrity. Inconsistent data entry and removal practices and lack of compliance with ERP protocols has resulted in out-of-date or inaccurate position information in the Human Resources module.

Periodically, Office of Management and Budget (OMB) staff undertakes an effort to mine ERP vacancy data and refine the results.   The data refinement process requires staff to manually examine each individual position record and to purge out-of-date information and duplicate entries. This exercise is labor-intensive and time-consuming, extending for weeks depending on the availability of staff time. As a result, the final product of the data sort is neither timely nor accurate because employment actions (hirings, resignations, retirements, terminations, position

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abolishments, and positions creations) have occurred since the data were originally extracted from the ERP.

D. Initiative to Improve Budgeting Data Management

OMB is aware of the limitations of the current ERP budgeting module and has undertaken an initiative to improve its budget data management and analytics capabilities. In recent years, OMB has begun transitioning away from the Oracle Budgeting module. OMB staff are working to develop a new system, the Operating Budget Workforce Module. This new module would replace the Oracle module and would improve data integrity and expand analytical functions. OMB is developing the new budget module with in-house staff resources and expects to complete the transition to the new module in the next one to two years. While implementation of the new budgeting module should provide for improved data analytics, additional action to address shortcomings in the Oracle Human Resources module would be necessary to be able to readily extract real-time vacancy date,

E. Use of Vacancy Data

Vacancy data can provide insights on an organization's priorities. Generally, an organization directs its finite personnel resources toward efforts considered most critical to fulfilling its mission. As such, data showing positions that remain unfilled for extended periods of time may indicate that the work of those positions is valued less than the work of filled positions.

Nonetheless, vacancy reports are most useful when coupled with other supporting information. For example, raw vacancy data do not instruct about why a position may be unfilled. Positions remain unfilled for multiple reasons including insufficient funds, budget saving plans, hiring freezes, reallocation of resources to higher priorities, a lack of qualified candidates, and/or difficulties with the hiring process. As such, a position that has remained vacant for an extended period may not necessarily indicate that the work of that position is valued less than the work performed by filled positions. In addition, a vacant position does not necessarily equate to needed work not getting done. At times, managers address workload needs by using operating expenses to hire contactors to perform the work of needed, but currently unfilled positions.

SECTION 2: BUDGETED LAPSE

For budgeting purposes, OMB refers to temporarily unfilled positions using the term, "lapse." The FY21 Approved Operating Budget includes the following definition of lapse:

> *"The reduction of budgeted gross personnel costs by an amount believed unnecessary because of turnover, vacancies, and normal delays in filling positions."*

While the above definition associates unfilled position with a reduction in personnel costs, the concept of budgeted lapse also presumes that the actual number of full-time equivalent positions (FTEs) worked by County Government employees in the fiscal year will be an amount less than the number of FTEs approved in the operating budget. This section discusses how the County's operating budget accounts for reduction in personnel costs and FTEs for positions assumed to be vacant for part or all the fiscal year.

A. Lapse Reporting Practice

County Government operating budget documents report lapse measured in dollars. Data on lapsed FTEs are not reported for the County Government overall nor for individual departments or programs. The exclusion of lapse in the FTE count appears to be an intentional policy decision made by OMB beginning in FY13. The operating budget book includes Schedule F-3, *Ten Year History of County Government FTEs by Function*. A footnote to Schedule F-3 reads:

> *Effective FY13, workyears have been converted to Full-Time Equivalents (FTEs) and will no longer measure lapse and overtime.*
> <div align="right">FY21 Approved Operating Budget, Page 81-7</div>

Prior to FY13, County Government operating budget documents indicated the estimated number of FTEs (then called, "workyears") assumed to be unfilled during the fiscal year.

In the past, OMB had prepared a separate personnel complement as a companion document to the operating budget. That document listed the number of full- and part-time positions in each Department and Division as well as the number of FTEs (then called, "workyears") adjusted for lapse. OMB discontinued producing a personnel complement document more than a decade ago.

B. Workforce Lapse vs. Planning Lapse

OMB distinguishes between two categories of budgeted lapse: "workforce lapse" and "planning lapse."

- Workforce lapse is a reduction in personnel costs associated with a specific position that is assumed to be unfilled during the fiscal year.

- Planning lapse is a general reduction in departmental personnel cost to account for projected attrition resulting from retirements, resignations, transfers, and other reasons for a position to become unfilled in the middle of a fiscal year. Planning lapse is not assigned to specific positions, but rather is an adjustment to the personnel costs at the department, division, or program level.

C. Lapse in Recent Operating Budgets

The County Government operating budget annually includes deductions in personnel costs attributed to lapse. OLO calculated the dollar amount of budgeted lapse from General Ledger data extracted from the County Government's Business Intelligence tool. [2]   The FY21 Approved Operating Budget included $36.02 million in total deductions associated with lapsed positions. Approximately 88% of FY21 budgeted lapse ($31.70 million) was attributed to planning lapse; the remaining 12% ($4.32 million) is budgeted as workforce lapse.

The tables on the following page show FY18 through FY21 budgeted lapse dollars for four of the largest County Government departments.   Employees in these four departments – Fire and Rescue Services (MCFRS), Health and Human Services (DHHS), Police (MCPD), and Transportation (DOT) – represent nearly 60% of the County Government workforce. The lapse dollar amounts shown in the tables are entries from the original approved operating budget for the fiscal year. The data excludes any mid-year modifications to budgeted lapse, such as achieved through a budget savings plan (see below).

The lapse data shown in the tables on the following page reveal several noteworthy points:

- Planning Lapse: The "Lapse" entry in OMB's glossary of budget terms states that "the amount of lapse will differ among departments and from year to year." However, budgeted planning lapse appears to be mostly constant from fiscal year to fiscal year. The dollar amount of planning lapse is unchanged in each fiscal year from FY18 through FY21 for MCFRS, DHHS, and DOT. In the same period, the dollar amount of budget lapse for MCPD changed just once, from FY19 to FY20.

- Workforce Lapse: Unlike planning lapse, budgeted workforce lapse dollar amounts vary from year to year.   For each of the four departments, workforce lapse dollar amounts are significantly lower than the dollar amounts for planning lapse. In fact, MCPD budgeted no dollars for workforce lapse in any year from FY18 through FY21. Workforce lapse for DHHS declined each year during this period to just $55,000 in FY21.

- Total Lapse: For the four departments, the total dollar amount of budgeted lapse relative to total personnel costs ranges from a low of 2.3% for DOT to a high of 4.0% for DHHS. For this calculation, total personnel costs include salaries and wages, Social Security contributions, overtime pay, shift differential and other special pay, group insurance premiums and retirement plan contributions paid by the County Government.

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[2] General Ledger lapse entries in the Business Intelligence tool show salary and wage dollars exclusively. For this memorandum report, OLO added to budgeted salary and wage lapse and estimated dollar amount for employee benefits assumed at 28% of salary and wages.

Budgeted Lapse Cost for Select Departments, FY18 – FY21

Fire and Rescue Services				
	FY18	FY19	FY20	FY21
Planning Lapse	$3,199,000	$3,199,000	$3,199,000	$3,199,000
Workforce Lapse	$1,592,000	$1,554,000	$1,635,000	$1,643,000
Total Lapse	$4,791,000	$4,753,000	$4,834,000	$4,842,000
Lapse as % of Total Personnel Costs*	2.7%	2.6%	2.6%	2.6%

Health & Human Services				
	FY18	FY19	FY20	FY21
Planning Lapse	$7,310,000	$7,310,000	$7,310,000	$7,310,000
Workforce Lapse	$1,128,000	$775,000	$396,000	$71,000
Total Lapse	$8,438,000	$8,085,000	$7,706,000	$7,381,000
Lapse as % of Total Personnel Costs*	5.0%	4.6%	4.2%	4.0%

Police				
	FY18	FY19	FY20	FY21
Planning Lapse	$4,399,000	$5,337,000	$6,722,000	$6,722,000
Workforce Lapse	$0	$0	$0	$0
Total Lapse	$4,399,000	$5,337,000	$6,722,000	$6,722,000
Lapse as % of Total Personnel Costs*	1.9%	2.3%	2.7%	2.9%

Transportation				
	FY18	FY19	FY20	FY21
Planning Lapse	$2,024,000	$2,024,000	$2,024,000	$2,024,000
Workforce Lapse	$602,000	$875,000	$702,000	$653,000
Total Lapse	$2,626,000	$2,899,000	$2,726,000	$2,677,000
Lapse as % of Total Personnel Costs*	2.5%	2.6%	2.3%	2.3%

* Total personnel costs include salaries, Social Security, overtime pay, shift differential and other special pay, group insurance and retirement plan contributions.

D. Budgeted Lapse Data in Operating Budget Documents

OMB published operating budget information in both book form and online versions. While the book form version includes mostly high-level summary budget information, the online version allows access to more detailed budget information.

Book Form Version of the Approved Operating Budget: The book form version of the operating budget does not include the amount of lapsed dollars assigned to the County Government overall nor to individual departments. The lapse data that are shown in the book form of the operating budget are changes in lapse dollars from the current year's approved budget to next fiscal year's approved budget. Changes in lapse dollars often are grouped with "other personnel cost adjustments" including annualization of current year increments, position or job class reclassifications, and staff turnover.

The image below from the FY21 Approved Operating Budget for the Public Health Service of the Department of Health and Human Services is typical of the lapse data included in the book form of the operating budget.

FY21 Approved Changes	Expenditures	FTEs
FY20 Approved	1,238,375	5.40
Shift: Position from the Cancer and Tobacco Prevention Program to the African American Health Program	0	(1.00)
Decrease Cost: Increase Lapse for Nurse Manager Position	(61,742)	0.00
Multi-program adjustments, including negotiated compensation changes, employee benefit changes, changes due to staff turnover, reorganizations, and other budget changes affecting multiple programs.	(203,402)	(1.80)
FY21 Approved	973,231	2.60

FY21 Approved Operating Budget, Page 56-2.

In the image above, the budget book shows the dollar amount associated with an increase in workforce lapse for a Nurse Manager position in the Cancer and Tobacco Prevention program. The budget book assigns lapse to a specific position which is an example of workforce lapse. Note, however, that the budget book does not show any FTEs associated with the workforce lapse. In addition, the book form of the operating budget does not include departmental line items for planning lapse.

Online Version of the Approved Operating Budget: The County's website allows users to access more detailed operating budget information compared to the book form. However, the online version does not include cumulative data on total budgeted lapse dollars by department. Rather, as shown on the next page, the online version displays the dollar amounts budgeted for planning lapse (but not workforce lapse) at the program level. As with the book version, the online version of the operating budget does not show lapsed FTEs even at the program level.

The image below is taken from the online approved FY21 summary of personnel costs for the School Health Services Program of Public Health Services within the Department of Health and Human Services. Note that the last line lists a negative number (a cost savings) associated with planning lapse. The online version of the operating does not include total lapse dollars for the County Government as a whole or for an individual department.

⊙ PUBLIC HEALTH SERVICES
⊙ SCHOOL HEALTH SERVICES PROGRAM
PERSONNEL COSTS ACCOUNTS

$29.75M Total Budget

20 ∨ records per page

EXPENSE ACCOUNT ⬍	APPROPRIATION ⊙
⊙ **Part** Time Salaries	$11,345,173
⊙ **Full** Time Salaries	$10,450,869
⊙ **Group** Insurance	$4,773,202
⊙ **Social** Security- FICA	$1,294,884
⊙ **RSP** Retirement Savings Plan	$851,770
⊙ **GRIP** Guaranteed Retirement Income Plan	$385,224
⊙ **Social** Security- FICA Medicaid	$316,042
⊙ **ERS** Employee Retirement Plan	$230,144
⊙ **Budget** Adjustment Salary	$163,937
⊙ **Multilingual** Pay	$49,950
⊙ **Workers** Compensation Unemployment Insurance for Grants	$14,021
⊙ **Overtime**	$1,118
⊙ **Holiday** Pay	$300
⊙ **Other** Non-Workforce FICA	($3,930)
⊙ **Other** Non-Workforce Retirement	($6,388)
⊙ **Other** Non-Workforce Group Insurance	($15,412)
⊙ **Lapse** Planning	($102,742)

The online version of the operating budget also presents line item information for personnel costs by program. The image below is taken from the FY21 online approved operating budget for the Cancer and Tobacco Prevention program of Public Health Services within the Department of Health and Human Services. The image shows a workforce lapse line item from the "Budget Adjustment Salary" category of personnel costs for the Cancer and Tobacco Prevention program.

1112	C63450	**Cancer & Tobacco Prevention**	F001 - General Fund	53060	Other Non-Workforce Retirement	Personnel Costs	$0.00
1115	C63450	**Cancer & Tobacco Prevention**	F001 - General Fund	50421	Lapse (Workforce)	Personnel Costs	$0.00

Note that the line item assigns $0 to the workforce lapse as the online version of the budget consolidates all lapse at the department, division, or program level.   As with all other County Government budget documents, the line item does not quantify an FTE amount associated with the workforce lapse.

E. Lapse in Budget Savings Plans

In recent years, the County has been compelled to approve mid-year "budget savings plans" to realign anticipated fiscal year expenditures with projected fiscal year revenues. Increases in lapse have played a prominent role in these budget savings plans. In FY21, the Executive recommended two budget savings plans, one in July 2020 and the second in January 2021. The County Council approved the first FY21 budget savings plan in July 2020 and the second in March 2021.

- July 2020 Plan: The County Executive recommended a total of $38.68 million in mid-year operating budget reductions. The plan included 60 lapse line items in 24 different departments totaling $7.05 million (or about 18% of total recommended reductions). The Council approved all but one of the recommended lapse reductions. The Executive also recommended abolishing several Police Department positions as part of the July 2020 budget savings plan. The Council did not approve this recommendation and instead voted to lapse those positions for the remainder of the fiscal year and to reconsider the matter as part of the FY22 budget. As shown in the table on the following page, the Council's action increased the total dollar amount of lapse in the July 2020 budget savings plan to $10.40 million.

- March 2021 Plan: The County Executive recommended a total of $14.46 million in mid-year operating budget reductions. The plan included 18 lapse line items in 12 different departments totaling $2.92 million (or about 19% of total recommended reductions). While it did not approve some non-lapse elements of the Executive's recommended plan, the Council accepted the entire $2.92 million package of lapse reductions.

	July 2020 Savings Plan	**March 2021 Savings Plan**
Executive Recommended Total Lapse $ Amount	$7.05 million	$2.92 million
Council Approved Total Lapse $ Amount	$10.40 million*	$2.92 million

* For the July 2020 Budget Savings Plan, the Council did not approve an Executive recommendation to abolish multiple Police Department positions. Instead, the Council approved lapsing those positions (equaling a total of $3.37 million) for the remainder of FY21.