Metro

Span of Control:

Develop a framework to monitor organizational structure

September 2024
A Report by the Office of the Auditor

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MEMORANDUM

September 25, 2024

To: Lynn Peterson, Council President
        Ashton Simpson, Councilor, District 1
        Christine Lewis, Councilor, District 2
        Gerritt Rosenthal, Councilor, District 3
        Juan Carlos González, Councilor, District 4
        Mary Nolan, Councilor, District 5
        Duncan Hwang, Councilor, District 6

From: Brian Evans. Metro Auditor

Re: Audit of Span of Control

This report covers the audit of Metro's span of control. Span of control is a management framework that is used to evaluate an organization's structure. The audit's purpose was to determine how changes in Metro's span of control may affect costs and workforce planning.

The audit found that greater analysis of span of control would provide a more objective and consistent method for managing organizational change. Personnel costs are directly related to the agency's organizational structure. As such, span of control analysis can help decision-makers learn about cost drivers and effective strategies to manage them.

Although there are different opinions about the optimal span of control, using the analysis to evaluate organizational structures would add value. To get the most out of the analysis it would be beneficial to group organizational units with similar business needs together to establish appropriate benchmarks.

We have discussed our findings and recommendations with Andrew Scott, Deputy COO; Julio Garcia, Human Resources Director; and Michelle Duenas, Lead PeopleSoft Human Resources Analyst. I would like to acknowledge and thank all the people who assisted us in completing this audit.

Summary

Between the impacts of the global pandemic, voter-approved ballot measures, and a challenging labor market, Metro has gone through significant organizational changes in recent years. The purpose of this audit was to determine how changes in Metro's span of control may affect costs and workforce planning.

Span of control is a management framework that is used to evaluate an organization's structure. It typically refers to two measures: the number of employees who report to each manager and number of layers of management. Comparing span of control over time can help decision-makers understand how the organization has changed and track progress towards goals.

The audit found that greater analysis of span of control would provide a more objective and consistent method for managing organizational change. Although there are different opinions about the optimal span of control, using the analysis to evaluate organizational structures would add value. To get the most out of the analysis it would be beneficial to group organizational units with similar business needs together to establish appropriate benchmarks.

As of January 2024, the average manager in central and government services supervised between five and six employees, while a manager at the visitor venues supervised between six and seven. At that time, visitor venues had about one additional average layer of management compared to the other group. These variations may indicate fundamental differences in management responsibilities in each group.

Salaries tied to management are typically higher than non-management employees. As a result, organizational structures with fewer employees per manager or more layers of management can increase personnel costs. By monitoring span of control, Metro can determine if it needs to realign its workforce to manage costs or plan for higher costs of management during times of disruption.

The audit also found challenges with the reliability of the data needed to analyze span of control in human resource information systems. Establishing and documenting a consistent methodology for calculating span of control is an important first step. That would increase transparency and support comparability over time.

The audit included five recommendations. Three were designed to improve the consistency of organizational structure development. The remaining two were focused on monitoring trends and learning more about the drivers of organizational change.

Background

Metro has gone through significant organizational changes in recent years. The global pandemic reduced operations at visitor venues (Oregon Zoo, Oregon Convention Center, Portland'5 Centers for the Arts, and Portland Expo Center) beginning in March 2020. Voter-approved measures in 2018, 2019, and 2020 brought in new resources for existing programs in parks and nature, and new programs related to housing. In addition, the agency is managing through a challenging labor market for local governments, the rapid adoption of remote work, and transitioning institutional knowledge to new employees as a generation of workers retires.

Span of control is a management framework that is used to evaluate an organization's structure. It can be used to evaluate organizations as a whole or individual organizational units. Comparing span of control over time can help decision-makers understand how the organization has changed and track progress towards goals.

For the purposes of this audit, span of control refers to two measures: the number of employees who report to each manager and number of layers of management. The first measures the *width* of an organization. Wide organizations have more employees reporting to each manager, while narrow organizations have fewer employees per manager. The second measures the *height* of an organization. Flat organizations have fewer layers between the top and the bottom of the organization.

Exhibit 1   Span of control measures the height and width of an organization
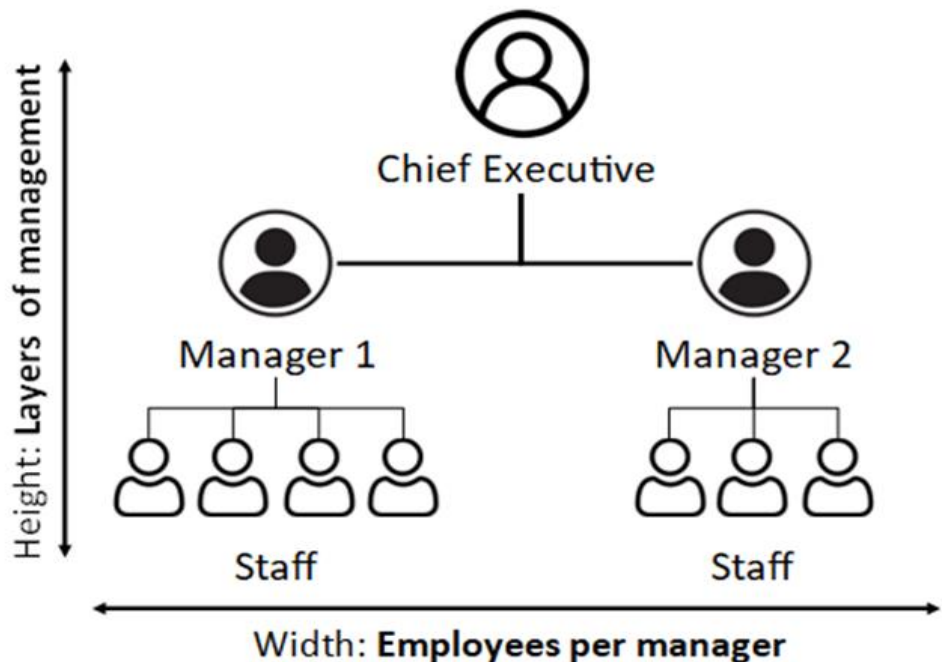
Source: Auditor's Office analysis based on 2012 audit exhibit.

Metro has made commitments to manage span of control in the past. In 2011, a study titled "Span of Control at Metro" provided next steps for managing span of control. This document indicated that Metro would adopt organizational structure goals based on each organizational unit's specific business needs. It included thresholds for the number of employees per manager and the number of layers of management to help decision-makers review the organizational structure. The span of control study also stated that Metro would review span of control as part of the annual budget process.

The Office of the Metro Auditor evaluated span of control in a 2012 audit. The audit analyzed changes in span of control between 2008 and 2012, and found a slight increase in both the average number of employees per manager and the average layers of management. The audit included three recommendations to improve data quality, use span of control as a monitoring tool, and increase transparency around the use of span of control.

Management literature has suggested that wider and flatter organizations produce the best results, but there are trade-offs. Wide organizations may have improved communication with top management and an increased sense of autonomy. However, these organizations also risk putting too much reliance on middle managers.

Research suggests the ideal span of control varies between organizations and industries. Below are some of the factors that can influence what is optimal for a given organization.

- **Type of work**: Employees who do similar jobs may require less supervision, compared to an employee work group that has a wider range of work functions.
- **Scope of work**: Specialists with narrow scopes of work may require less supervision than generalists with a variety of job functions.
- **Time in role**: Newer employees may require more training and supervision, requiring a narrower span of control as each employee gets experience in their job.
- **Organizational stability**: Employees in organizations with a lot of turn over may require more supervision.
- **Organization size**: Larger organizations can allow for more specialization, which can reduce the number of managers needed by grouping like functions together.
- **Work environment**: If work is done in a variety of locations, it may increase the need for supervision.

Results

The audit found that greater analysis of span of control would provide a more objective and consistent method for managing organizational change. Although there are different opinions about the optimal span of control, using the analysis to evaluate organizational structures would add value. To get the most out of the analysis it would be beneficial to group organizational units with similar business needs together to establish appropriate benchmarks.

Personnel costs are directly related to the agency's organizational structure. As such, span of control analysis can help decision-makers learn about cost drivers and effective strategies to manage them. The audit includes analysis to help understand how span of control can be used to increase the consistency and transparency of decisions.

The organizational changes Metro has experienced were affected by multiple trends such as increased remote work, changes in the labor market, the duration of employee tenure, and organizational goals. Identifying the extent to which these trends are having an impact and documenting the strategies used to manage them would support effective, efficient, and equitable organizational management.

Metro is not measuring span of control

Metro is not currently measuring span of control. We were told that before the pandemic, Human Resources produced span of control reports. Those reports were discontinued. Employees also indicated there were challenges with the reports and unresolved questions about the interpretation and purpose of the data.

Although Metro intended to monitor span of control as part of the budget process, these efforts were not sustained. We saw guidance on span of control in the annual budget instructions that were published prior to the pandemic. We did not find the same guidance in a recent version of the budget instructions.

In late 2023, Metro identified thresholds for management and supervisory positions. The thresholds included criteria for the number of direct and indirect employees reporting to each manager classification. However, this information was used to update the compensation policy and reflected general ranges. It did not analyze span of control. As a result, criteria established for compensation may not translate to operational needs because they serve two different purposes.

The number of employees reporting to each manager was one of the criteria used to determine salary levels for manager job classifications. To understand the costs associated with its management structure, Metro would need to include an evaluation of how many people are reporting to each manager during the workforce planning and budgeting process.

Span of control analysis supports organizational learning

Between 2020 and 2024 the average number of employees reporting to each manager declined by two. That meant each manager was supervising about 26% fewer employees on average compared to pre-pandemic levels. During that time, the average number of layers of management was mostly unchanged.

While agency-wide data provides some information, more value can be found by using it to learn more about causes. For example, which organizational units are above or below the agency average? Are there business reasons why some organizational units have different trends? Are there other factors that may be impacting the trends?

Management literature indicates the type of work, work environment, and number of years of experience among employees can all have effect on spans of control. Increasing use of remote work, generational workforce changes, and agency goals can also have an effect. Although span of control analysis has some limitations, it can provide a good starting place for evaluating an organization's structure.

To get value from the analysis, it is helpful to group organizational units based on similar management needs and operations. Analyzing similar organizational units as a group can help set appropriate standards and highlight outliers that may be hidden by agency-wide averages. For our analysis, we grouped Metro's organizational units into two categories:

- Government & Central Services - Capital Asset Management; Communications; Council and COO Offices (excluding elected positions); Diversity, Equity and Inclusion; Finance and Regulatory Services; Housing; Human Resources; Information Technology and Records Management; Parks and Nature; Planning, Development, and Research; and Waste Prevention and Environmental Services.
- Visitor Venues - Portland Expo Center; Portland'5; Oregon Convention Center; and Oregon Zoo.

Analysis of these two groups provided insights that were not evident in the agency-wide data. As of January 2024, the average manager in central and government services supervised between five and six employees, while a manager at the visitor venues supervised between six and seven. At that time, visitor venues had about one additional average layer of management compared to the other group. These variations may indicate fundamental differences in management responsibilities in each group.

Analyzing span of control changes over time provides a valuable lens to help identify causal factors. For example, Metro's decline in the average number of employees per manager was driven by the visitor venues, which declined by 29% compared to a 16% decline in the government and central services group. The average number of layers of management increased among government and central services, while it declined for visitor venues and the agency as a whole.

Exhibit 2 **The number of employees reporting to each manager decreased. Layers of management stayed about the same.**

	Employees per manager change	Layers of management change
Government & Central Services	-16%	6%
Visitor Venues	-29%	-2%
Agency Average	-26%	-3%

Source: Auditor's Office analysis of span of control changes between 2020 and 2024 using data from PeopleSoft Human Resource Information System. Does not include Office of Metro Attorney, Office of the Metro Auditor, or elected positions.

It is important to note that span of control alone is not enough to evaluate all the factors that may influence an organization's structure. For example, visitor venues have seen a large drop in the average number of employees per manager over time, but differences in operations may mean that this number does not reflect the experience of managers on the ground. Visitor venues tend to have more variable hour employees, which means that some managers may share the responsibility of supervising a single employee.
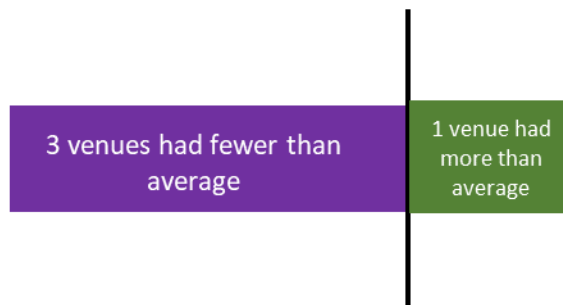
Exhibit 3 **The average number of employees reporting to each manager varied among departments and venues**

Government & Central Service Departments

6 departments had fewer than average | 5 departments had more than average
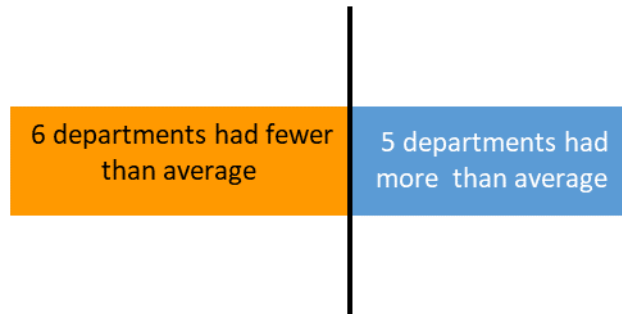
Average Number of Employees per Manager (5.44)

visitor venues

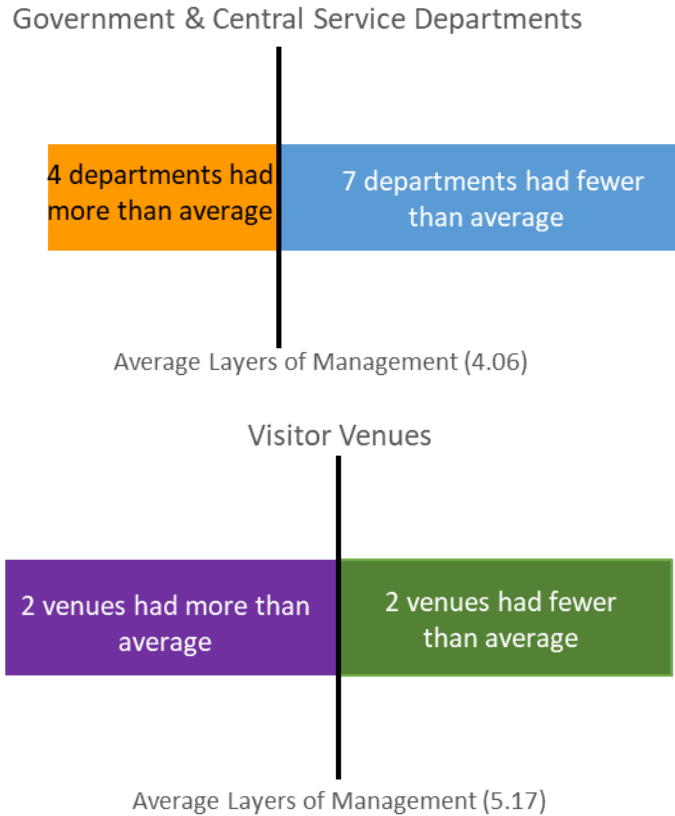3 venues had fewer than average | 1 venue had more than average

Average Number of Employees per Manager (6.46)

Source: Auditor's Office analysis of span of control based on PeopleSoft Human Resource Information System data for January 1, 2024.

Department and venue analysis can provide additional information that may not be evident in the averages. For example, the Oregon Zoo saw a 22% drop in their layers of management between 2020 and 2024, whereas Portland'5 saw a 30% increase. These opposing changes resulted in a very small net change for visitor venues overall.

Exhibit 4   **Variations in layers of management among department and venues can identify different operating needs**

Government & Central Service Departments

| 4 departments had more than average | 7 departments had fewer than average |

Average Layers of Management (4.06)

Visitor Venues

| 2 venues had more than average | 2 venues had fewer than average |

Average Layers of Management (5.17)

Source: Auditor's Office analysis of span of control based on PeopleSoft Human Resource Information System data for January 1, 2024.

Span of control data can also be used to evaluate trends across organizational units. For example, most of the change in the number of employees per manager in government and central services was caused by a decrease in managers with eight or more direct reports combined with an increase in the number of managers with three or fewer direct reports.

Exhibit 5   In 2024 more managers in government and central services had three or fewer direct reports

Percent of total managers with...

	2020	2024
4-7 employees	47%	48%
8+ employees	30%	22%
0-3 employees	23%	30%
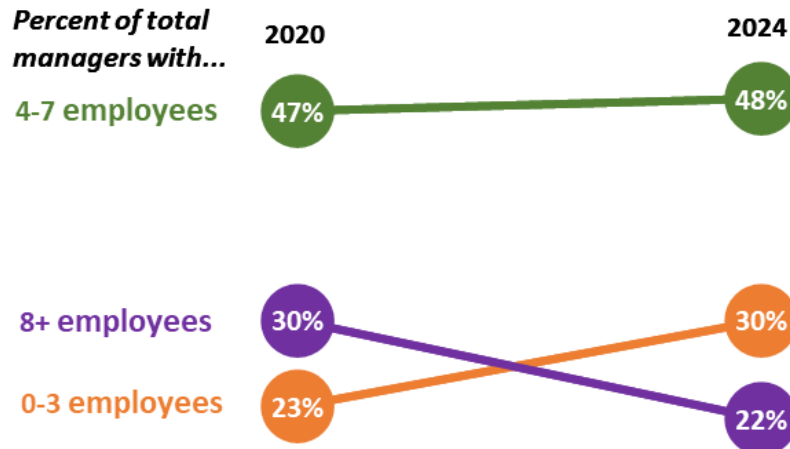
Source: Auditor's Office analysis of government and central service departments' span of control data.

Changes to Metro's span of control may be affected by various trends such as remote work and employee tenure. For example, more than two thirds of Metro employees outside of visitor venues are eligible for remote work. Our review of management literature suggests that there is not an agreed-upon best-practice to manage remote work. It is possible that this shift could temporarily reduce managers' capacity resulting in the need for fewer employees reporting to each manager. As traditional management strategies adapt to remote environments it may be easier to find the right balance.

Another factor to consider is that almost half the workforce has been with Metro for fewer than five years, which may also have an impact on span of control. Newer employees may require more supervision as they become familiar with their jobs and the organization.

Career paths and succession planning are other factors that may reduce the number of employees per manager or increase management layers. Metro staff has indicated the need to recruit and retain employees is currently a key consideration. Creating career ladders so employees have potential for advancement may be part of a retention strategy to reduce reliance on outside recruitment. Succession planning may be particularly important for Metro at this time. About 15% of Metro's employees have been with Metro for more than 20 years so may be nearing retirement. Labor markets in 2024 may be especially competitive for local governments, further emphasizing the need to hire and retain new employees.

Within Metro, Capital Asset Management, Diversity Equity, and Inclusion, and Housing are all new departments that were established since 2020. The newness of these departments may have a temporary impact on the number of employees per manager, which may bring down the average for all of Metro. If manager positions are hired first, the number of direct reports may

be skewed until the lower-level positions are created and hired. Housing, for example, planned to hire about 19 positions during fiscal year 2023-24, so the number of employees reporting to each manager may be expected to change over the course of the year. New departments may also include more new employees which could impact the number of employees per manager.

As the organizational structure continues to evolve, it could make sense to evaluate span of control based on other department and venue groupings. This could be like the groupings we used in this audit, but with further refinement of the government and central services group, which could result in three total. Each group could conceivably have similar business needs to guide organizational planning.

Visitor venues includes locations like the Oregon Convention Center and the Oregon Zoo. Central services departments provide services across multiple departments and venues. Government services provide affordable housing, solid waste management, parks and natural areas, and land use and transportation planning.

Exhibit 6   Metro could group organizational units into three groups for span of control analysis

Source: Auditor Office analysis of organizational units based on FY 2023-24 Adopted Budget. Analysis excludes Office of Metro Attorney, Office of the Metro Auditor, and elected officials.

For example, even though each of Metro's visitor venues are different, they all support free-flowing crowds and events where the number of employees can vary widely from day to day or season to season. These variations often require spans of control that are either wide or narrow, depending on the time of year. In addition, federal emergency standards may require fewer employees per manager to effectively manage public safety.

Central services support all Metro's venues and departments so they may require similar spans of control to meet their business needs. For example, some of these departments need to maintain separation of duties in accounting, human resources, or information technology functions. Keeping functions separate can increase the need for fewer direct reports to each manager.

There also seems to be similar business needs among departments that provide Metro's other government services. For example, several departments are responsible for regional planning activities that manage large contracts, comply with state and federal requirements, and use volunteers that are not captured in human resource data but may impact the management structure.

Personnel service costs are impacted by span of control

Metro's span of control represents its distribution of management and non-management employees. Salaries tied to management are typically higher than non-management employees. As a result, organizational structures with fewer employees per manager or more layers of management can increase personnel costs. By monitoring span of control, Metro can determine if it needs to realign its workforce to manage costs or plan for higher costs of management during times of disruption.

Over the last 10 years, Metro's workforce grew by an average of 4.2% each year, which resulted in a 32% increase in personnel expenditures after adjusting for inflation. Expenditures fell significantly due to pandemic-related disruptions and layoffs beginning in FY 2020-21 but have increased above pre-pandemic levels since then.

Personnel service expenditures, or total compensation, includes two components: salary and wages, and fringe benefits like pension contributions, and health insurance costs. Of the two components, salary and wages accounted for the majority (71%) of expenditures, but fringe benefit costs have grown faster over the last 10 years. Although Metro has relatively less control over fringe benefit costs, both components are driven by the number of employees at Metro.

According to best practices, governments should monitor all expenditures, including personnel costs. This includes monitoring compensation costs and changes in workforce. If Metro made greater use of span of control analysis it could help decision-makers monitor the growth and cost of organizational changes.

Develop a framework for span of control analysis

Span of control analysis is most effective when there is a framework in place to help decision-makers interpret the data. In 2011, Metro committed to manage span of control. Human Resources released a span of control study that stated organizational development goals would be established based on each organizational unit's specific business needs. Although actions for monitoring span of control were outlined in the span of control study, and in the response to our 2012 audit, they were not sustained.

At that time, span of control data was expected to be included as part of the annual budget process. The purpose was to monitor the organizational structure and inform decision-making. The span of control study set thresholds for how span of control would be reviewed. It stated that managers with four or fewer direct reports and organizational units with several layers of management would be reviewed. The overall size of an organizational unit was also a criterion identified to help with the reviews.

Because optimal spans of control can vary widely, having a flexible framework for span of control could help Metro manage for environmental factors and organizational planning efforts systematically. A flexible framework is one that considers the specific needs of the organization. Structuring a framework that is grounded in consistent criteria can create a strong internal control system whereby expectations are clearly communicated and consistently applied.

Processes and procedures help set expectations, document responsibilities, and establish periodic reviews. Without them, processes can become ad hoc and responsible parties can lose sight of expectations. Implementing a framework around span of control would provide a way for Metro to strengthen its organizational development processes now that the impacts of the global pandemic are less intense.

To better understand the effect of organizational changes, we analyzed span of control data in combination with trends in personnel service costs. Between 2020 and 2024, we found that the increase in total compensation for management positions (8%) was slower than the growth in the number of managers (11%). That meant average compensation per manager decreased slightly compared to 2020. During the same time, the average number of employees reporting to each manager decreased by 4%.

Exhibit 7 **Manager population and costs increased. The number of employee per manager declined**.
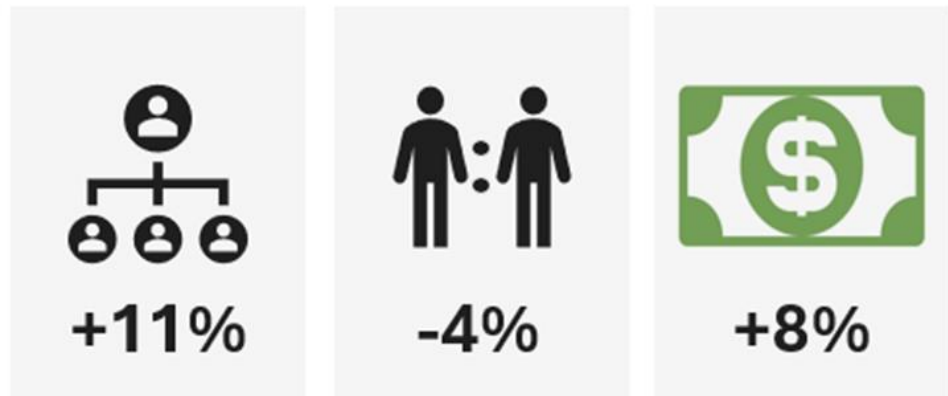
Source: Auditor's Office analysis of PeopleSoft finance and human resource data. Manager compensation includes a percentage portion for fringe benefits, at 29% for each year. Analysis does not include Oregon Zoo, Office of Metro Attorney, Office of the Metro Auditor, or elected officials.

While the rate of change among manager positions, management costs, and the number of employees reporting to each manager differed, the trend suggests that fewer employees per manager was associated with higher costs. This could be due to pandemic related workforce changes, such as layoffs and reduced services. Other potential causes could include the departure of longer tenured employees, who are typically paid at higher rates. This is because newer or less tenured employees, tend to have starting salaries at the mid- to lower end of the pay scale. Metro also made changes to its

compensation structure resulting in some positions being reclassified into or out of the management structure.

To determine how different organizational structures may impact costs, we evaluated the thresholds from Metro's 2011 span of control study. We found that implementing the thresholds could have resulted in reduced costs. We used employee counts as thresholds to distinguish department size. We then evaluated management layers to identify positions falling outside of one layer for small departments and two layers for large departments.

There were four small departments and four large departments that exceeded the 2011 review threshold. Had Metro implemented the thresholds, the average number of employees per manager would currently be about nine, which would have resulted in cost savings.

The addition of deputy director positions appears to be one driver of Metro's current span of control and associated personnel costs. According to the general classification, jobs assigned under the deputy director classification are intended to support directors in large departments that have multiple complex, critical programs, and projects.

We found that some departments with deputy directors did not appear to meet some criteria. At the time of this audit, there were seven deputy directors, but only three were assigned to large departments. Of the remaining four positions, two were assigned to small departments, and the other two were assigned to medium departments. Management stated that the current practice is to establish deputy director positions in all departments to assist in succession planning. However, the classification description has not been updated to reflect the new criteria.

Benchmarks can help interpret Metro's data

Best practices list internal and external comparisons (benchmarks) as an effective way to evaluate performance. Benchmarks are helpful for detecting when actions may veer from established goals. They can support decision-making and help improve outcomes when incorporated into span of control frameworks.

Metro does not currently use benchmarks to inform or manage span of control. If used, benchmarks could help Metro detect when the number of employees per manager and layers of management do not meet expectations. Consistent reviews when thresholds are not met, can foster a culture of continuous improvement and help ensure all parts of the organization are subject to the same requirements.

When the State of Oregon established its baseline, it codified it in statute and provided guidance to set expectations and create a process for addressing exceptions when flexibility was needed. Using a similar approach, Metro could establish short and long-term goals around span of control, strengthen those goals through policy setting, and use benchmarks to monitor progress.

During the audit, management's perceptions of benchmarks was mixed. We heard benchmarks could lead to consistency and defendable reasons for differences. We also heard a single benchmark could be overly restrictive and potentially have an opposite effect than what was desired. However, benchmarks that are well aligned with similar organizations or business needs can add value.

We created three scenarios to compare Metro's current span of control to a range of benchmarks. The intent of our analysis was to show potential cost impacts from modifying management spans. This is not to say that Metro should model itself after any one organization. Rather, it is to show how benchmarking can help determine how Metro's span of control compares to other organizations and identify potential cost savings.

In the first scenario, we evaluated the impact on costs if the number of employees per manager was the same as it was in 2012. At that time, the agency-wide average was 6.44 employees per manager. The second scenario used a baseline of 11 employees per manager, like Oregon's baseline that is reflected in statute. In the third scenario, we used 8.36 employees per manager, which was the average of data published by some of Metro's peer governments. This included Portland, Clackamas County Sheriff's Office, and Oregon.

Each of the scenarios showed potential cost savings but would require significant reductions in the total number of management positions. The first scenario showed about $2 million in savings. Those savings are based on reducing management positions in several departments but adding positions in a few others for a net decrease of 18. The second and third scenarios showed larger potential savings. However, that would require reducing management positions between 32% and 49%, which is not realistic.
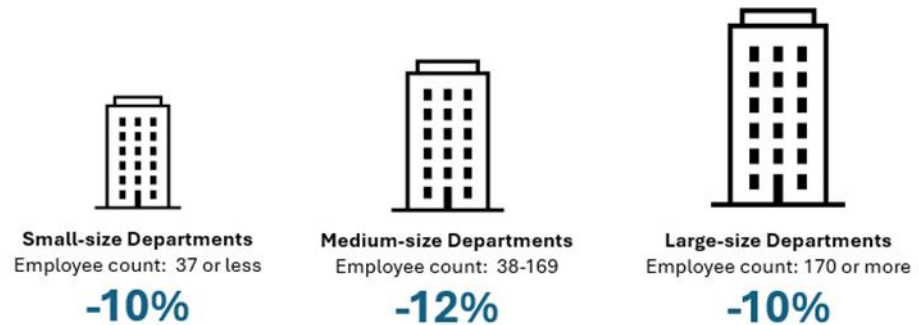
Other options for using benchmarks to evaluate spans of control could include using an average based on department size. This might give Metro more flexibility to 'right-size' the number of employees per manager based on department or venue size and the nature of operations.

Metro's 2011 span of control study referenced department size as a consideration for review. It set thresholds for small and large departments, but it did not define how size was determined. Department size could be based on the number of employees or expenditures.

Our analysis used the total number of employees in each department to determine its size. We applied the current number of employees per manager to small-size departments, the average number of employees per manager among peer governments to medium-size departments, and Oregon's baseline for the number of employees per manager to larger departments. Our analysis showed that Metro could potentially reduce costs by a total of about 11%.

Small departments with 37 or fewer employees could see 10% costs savings. Medium departments with 38 to 169 employees could reduce costs by 12%. Large departments with 170 or more employees could reduce costs by 10%. Each of these options would require reduction in the number of managers between 8 and 52.

Exhibit 8   **Benchmarking based on department size showed similar potential cost savings among each group**

Small-size Departments	Medium-size Departments	Large-size Departments
Employee count: 37 or less	Employee count: 38-169	Employee count: 170 or more
-10%	**-12%**	**-10%**

Source: Auditor Office analysis of department size based on PeopleSoft human resource data. Analysis excludes Oregon Zoo, Office of Metro Attorney, Office of the Metro Auditor, and elected officials. Potential savings are estimated based on total compensation for management positions.

Benchmarks can also be useful for assessing trends in personnel costs and achievement of organizational goals. Currently, changes to salary and wages for management positions are adjusted based in part on the consumer price index. However, it does not account for all changes in employer costs. For example, increases in the cost of health benefits or retirement costs may change at different rates. As such, it could be helpful to have another benchmark to evaluate compensation trends.

The Employer Cost Index (ECI) is a possible tool. The index includes two components, cost of wages and cost of benefits. It measures the average change in employer costs over time. Adding ECI as one of the data points to consider when making salary and wage adjustments could provide a more complete picture of other factors that may impact Metro's personnel costs.

Metro's total compensation grew faster than the ECI in eight of the last 10 years. This meant on average, Metro had higher annual compensation costs than the national average. Having higher annual growth than the ECI could be caused by many factors. The purpose of benchmarking to ECI would not be to match the national average. The purpose would be to use ECI in combination with the consumer price index to help employers and employees better understand each other's costs.

While the ECI experienced steady growth during the pandemic, Metro's costs fell by 17% during FY 2020-21. During this period Metro experienced pandemic-related closures and reduced workforce levels. By FY 2022-23, Metro's costs once again exceeded the ECI.

Exhibit 9   Metro's compensation costs exceeded the Employer Cost Index during eight of the last 10 years
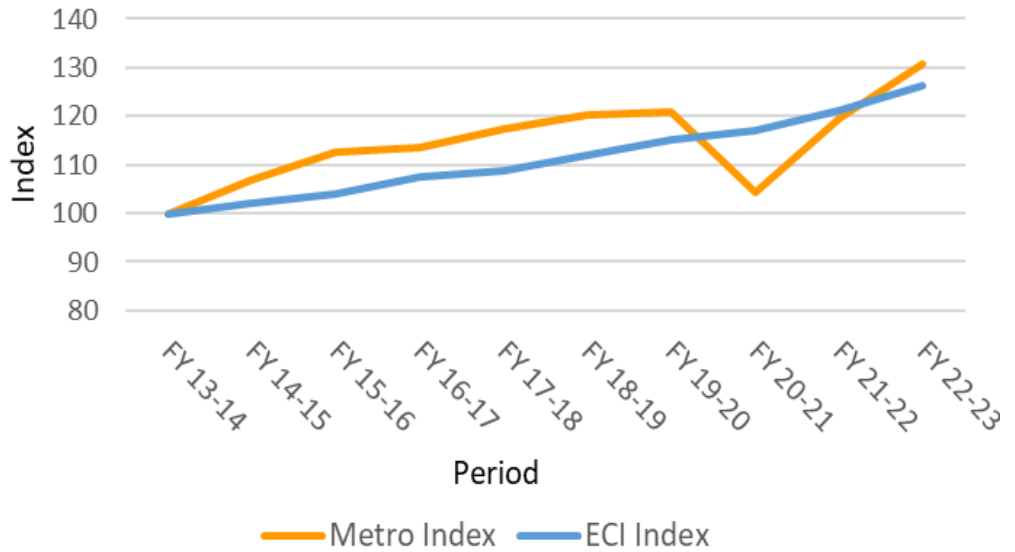
Source: Auditor's Office analysis of PeopleSoft Finance data and Employee Cost Index, using the following criteria: Public administration, all occupations, national, total compensation, and 12-month percent change, and current dollars; using a base of 100.

Like other benchmark data, the ECI can provide some information about Metro's performance, but more detailed analysis would be needed to identify the underlying causes. Exceeding the ECI in most years may be caused by the nature of Metro's work, where it is performed, and the agency's organizational goals.

Reliable data is essential for span of control analysis

Managing span of control requires consistent and accurate data that is reflective of actual management structures. The authoritative data source for human resources information is PeopleSoft Human Resources. The complexity of the data and the configuration of PeopleSoft Human Resources leave room for improvements that could streamline span of control analysis.

Human Resource staff have indicated that evaluating span of control is a cumbersome process. There is an existing span of control report that contains a list of all employees and their managers, but that report requires preparation and analysis before it is useful. Our analysis supports the idea that the data available in PeopleSoft Human Resources, combined with the diversity of Metro's operations, may make span of control comparison difficult. Comparing the spans of control without additional context is inadvisable given differences in operations. Remote work is a good example of the contextual factors that need to be considered. Working remotely likely has an impact on span of control, but that information is currently maintained in separate files.

Variable hour and seasonal employees complicate span of control analysis

Metro's workforce has qualities that make data more complex. Some organizational units have employees whose schedules and hours may change from week to week. These employees, known as variable hour employees, may work in multiple positions across organizational units. Variable hour employees who work in more than one position have a record for each position in PeopleSoft Human Resources and may report to multiple managers. Though each employee has a primary position listed within PeopleSoft and therefor a primary manager, this creates an additional step to prepare the data for analysis.

Though the manager for a variable hour employee's primary role is the one responsible for their timesheet, there remains the question of whether this manager takes on enough of the supervisory burden to be considered their sole supervisor. A single employee may have several supervisors and managers that share the responsibility of directing employee's work and supporting their professional growth. Some of the employees who are taking on these responsibilities are not listed as managers of these employees in PeopleSoft Human Resources. In this sense, Human Resource data may not fully capture the nuance of management structures in these departments.

Span of control may also look different depending on when the analysis is done. Some roles are filled on a temporary or seasonal basis. As a result, some managers may have a different number of reports depending on the time of year.

PeopleSoft Human Resources is the database of record for personnel information. Several other Metro systems draw employee information from PeopleSoft Human Resources, including Kronos for timekeeping and Team Budget for managing the budget development process. PeopleSoft Human Resources is also used for various purposes within Human Resources, such as establishing classification and compensation criteria. We found some slight differences in data depending on the table or module used in PeopleSoft Human Resources.

We identified more than 4,000 tables in PeopleSoft Human Resources that can be queried for information. Some of these tables seem to contain similar information but may have discrepancies. For example, the company directory and the "JOB – EE Job History" table could both be used to calculate the average number of employees per manager. Though the reports have overlap, there are discrepancies in the number of direct reports they identify. These discrepancies may be a result of errors, as at least some employees are counted as direct reports for multiple managers in the company directory. The discrepancies noted were small but demonstrated the importance of using the same data set for analysis.

Establishing a consistent methodology is an important first step

Establishing a consistent methodology for calculating span of control will be an important first step. Variations in calculation methodology can have large impacts on the resulting span of control. Without a documented methodology, Metro's analysis may not be a comparable to other institutions or over time. By understanding how calculations may vary across institutions, Metro can understand the limitations of making comparisons or even adjust results to make them more comparable.

Metro's 2011 span of control study identified some calculation considerations that may make for a good starting point. For example, the study used the count of individual employees rather than the number of full-time equivalent employees (FTE) span of control calculations. This means that a manager with four 0.5 FTE would have an employee-to-supervisor ratio of four, rather than two.

Metro's methodology should ensure that all assumptions and calculations are clearly documented and defined. For example, identifying which positions are considered a manager for span of control analysis is an important step. Some positions have the term *manager* in their title but do not have supervisory responsibilities defined in their classifications. The reverse may be true for other positions.

Definitions are also important for analyzing the number of layers of management. For this audit, *management layers* refers to the average distance to the Chief Operating Officer (COO) unless otherwise noted. Another option would have been to base the analysis on the number of management layers to the Council President. This small difference could increase the total management layers and may cause issues in comparability if not done consistently.

The dates of analysis can also have an impact on the results. For this audit, we used the organizational structure as of January 1st for the analysis. However, results may have looked different if another date were used, especially for departments that employ temporary or seasonal employees.

Changes to Metro's organizational structure could also create inconsistencies in span of control analysis. For example, Waste Prevention and Environmental Services, and Parks and Nature have historically had overlap. Previous versions of these departments may not be comparable over time. Unfilled positions are another factor that may complicate analysis. Not counting unfilled positions gives a more realistic picture of conditions on the ground at a given time, but it may not provide as accurate a picture of the organizational strategy.

Recommendations

To increase the consistency of organizational structure development, Human Resources, Finance and Regulatory Services, and the COO's Office should:

1. Develop a span of control framework that:
   a. Includes organizational goals, internal standards for monitoring, and thresholds for additional review.
   b. Documents the methodology and data sources used to complete the analysis.
   c. Assigns roles and responsibilities to implement the framework.

2. Use the framework and analysis as part of the annual budget and budget amendment processes.

To monitor trends and learn more about drivers of organizational change, Human Resources and Finance and Regulatory Services should:

3. Collect internal and external comparisons for evaluating Metro's span of controls such as:
   a. peer organizations.
   b. similarly sized departments or venues internally.
   c. internal departments and venues with similar business needs.
   d. data like the Employer Cost Index.

4. Analyze remote work, employee tenure, and labor markets to prepare for changes that could impact Metro's organizational structure and associated personnel costs.

Scope and methodology

The purpose of this audit was to determine how changes in Metro's span of control may affect costs and workforce planning. The objectives were to:

1. Determine if Metro's span of control had changed since the onset of the COVID-19 pandemic.
2. Determine how Metro's span of control compared over time and to other organizations.
3. Determine how span of control has impacted personnel costs.
4. Determine how different spans of control may affect personnel. costs, emergency preparedness, and succession planning.

We began by reviewing prior audits, publications, and research studies regarding span of control to familiarize ourselves with best practices. We also interviewed Metro employees and reviewed documentation to understand Metro's span of control management and staffing policies.

We learned about multiple sources of data, including Questica (budget software), KRONOS (timekeeping software), and PeopleSoft (Human Resources and Finance information systems) to determine which provided relevant data for analysis. To verify the most authoritative and accurate data source we also conducted interviews with Metro staff, reviewed internal documentation, and reviewed data for consistency.

Span of control analysis for objectives one and two was based on data in PeopleSoft Human Resources. The analysis was completed using the programming language R and conducted using the program R Studio. Analysis was conducted on two points in time: January 1, 2020, and January 1, 2024. The population analyzed included all Metro employees except those in Office of the Metro Auditor, Office of Metro Attorney, and elected positions. We excluded those offices because they do not report to the COO, which means they have a different organizational structure.

Variable hour employees with multiple position numbers were counted only once based on their primary positions. The analysis did not include vacant positions. Of the analysis population, less than 1% were excluded for other reasons such has having more than one primary position.

For this audit, managers were defined as any employee who had a position listed as their direct report in PeopleSoft Human Resources. We also included positions whose classification title included the words *manager*, *supervisor*, or *director*. However, we did not include Sales Managers, Program Managers, and Construction Project Managers because those classifications explicitly state that they do not have supervisory responsibilities. The inclusion of positions based on classification title means the results reflect an estimate of Metro's total management capacity and were not based exclusively on existing reporting relationships.

For objective three and four, personnel expenditure analysis (total compensation) included data for fiscal years 2013-14 through 2022-23, from

PeopleSoft Finance. The analysis included all Metro departments and venues. The Employer Cost Index came from the Bureau of Labor Statistics.

Three additional data sets were used to complete the cost impact scenario analysis. The first two were from PeopleSoft Human Resources using point-in-time data for January 1, 2024.   The third was from PeopleSoft Finance using pay data from July 1, 2023 through May 21, 2024. Manager counts may differ slightly from those used to complete objectives one and two. For example, if a new employee was hired after January 1, 2024 they were not included in the manager count but their compensation was included in the analysis.

The Office of the Metro Auditor and Office of Metro Attorney were excluded from the scenario and cost analysis   because they do not report to the COO, which means they have a different organizational structure. The Oregon Zoo was excluded to align with the scenario analysis completed in the 2012 audit of span of control.

This audit was included in the FY 2023-24 audit schedule. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Management response

Memo

Metro
600 NE Grand Ave.
Portland, OR 97232-2736

Date: 09/20/2024
To: Brian Evans, Metro Auditor
From: Marissa Madrigal, Chief Operating Officer
Subject: Management Response to Span of Control Audit

Auditor Evans:

Thank you for the comprehensive Span-of-Control audit and subsequent recommendations. The audit effectively describes a multitude of complexities, both within Metro and throughout the greater work environment, that have contributed to our current organizational structure. As noted in the audit, there is no "one size fits all" span-of-control standard that organizations can adhere to, and at Metro we have adopted a dynamic approach to evaluating and determining appropriate spans of control.

The depth and breadth of programs, services, and venues in Metro's portfolio illustrate the complexity of our organization. That complexity is compounded by external circumstances that have profoundly influenced organizations across the globe. Understanding how the work environment has evolved provides helpful insight into why rigid span-of-control guidelines and standards undermine the richness and complexity of today's workforce.

Technological changes alone reflect rapid advancements but have introduced complexities and risks, and perhaps most profound are the societal shifts that have influenced the workforce, including the growing attention to workplace issues and inequities.

Today's workforce seeks employers that recognize the importance of employee well-being, mental health and social responsibility. There is a greater emphasis on work-life balance, with a growing rate of employees seeking flexible work arrangements (further accelerated by the pandemic) and autonomy. This has heightened the need to hire competent managers, and challenged prior research that suggested efficiency and cost reductions should be the driving considerations when determining span-of-control and reporting structures.

Establishing an optimal organizational structure requires a holistic scan of many factors, where each factor is more effective when considered in totality than in the sum of its parts. As you'll find in management's response to the audit's recommendations, our goal is to strike the *right* balance between implementing consistent standards across the agency and allowing the flexibility to make informed decisions based on a multitude of considerations. Our response includes information on the current processes in which span-of-control is considered as well as solutions specific to the audit's recommendations.

Thank you again for the thoughtful review and recommendations.

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To increase the consistency of organizational structure development, Human Resources, Finance and Regulatory Services, and the COOs Office should:

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Recommendation 1. Develop a span of control framework that:
    a) Includes organizational goals, internal standards for monitoring, and thresholds for additional review.
    b) Documents the methodology and data sources used to complete the analysis.
    c) Assigns roles and responsibilities to implement the framework.

Response: While management agrees that a span-of-control framework can be beneficial in providing a consistent approach to examining organizational structures, the potential risk of a framework is that it may limit the elements to be considered, or can become outdated, considering that literature on the topic continues to evolve. To address this, management agrees to incorporate guidance into current processes in which span-of-control should be analyzed to more clearly articulate expectations in lieu of a standalone span-of-control framework.

Proposed Plan: Below is a list of processes in which span-of-control is reviewed. Management recognizes that the span-of-control review is not clearly outlined in some of those processes, so the following actions will be taken to document those practices:

1. **Position Description Questionnaire** (PDQ): The PDQ is a form that must be completed when a new position is created, or a current position is reclassified, that will have direct reports. Human Resources is responsible for evaluating span-of-control during this review and approval process. Specifically, Human Resources requires an organizational chart that includes all reporting positions and job titles under the Supervisors purview (question 7 on PDQ) and reviews the structure to ensure compliance with manager and supervisor classification criteria. HRs review of span-of-control is not clearly articulated and HR agrees to update material to outline this review and purpose.

   Action: Human Resources will update the **"Classification & Compensation"** webpage by October 2024 to articulate this role and responsibility.

2. **Classification and compensation processes:** HR recently (May, 2024) updated the classification criteria for manager and supervisor classifications to provide greater clarity on span-of-control and reporting structure guidelines, including minimum standards for direct and indirect reports and appropriate classification grades to manage for each specific manager/supervisor classification.

   Action: Completed. The "Supervisor & Manager Classification Criteria" document can be found on MetroNet>My Employment>Classification and Compensation.

3. **Budget instructions and decision-making**: Finance and Regulatory Services staff currently review span-of-control as part of the budget development process (their review includes a scan of organizational and structural impacts due to reorganizations or significant staffing changes), and while it is an expectation that Directors and managers are incorporating a span review as part of their budget deliberations, this is not currently outlined as an expectation in the budget instructions.

Action: Finance and Regulatory Services will incorporate formal guidance for managers into the annual budget and budget amendment processes by November, 2024. More information on this under recommendation #2, below.

4. Supervisor Essentials Training Series: This training series is mandatory for all supervisors (newly hired or promoted) and includes courses on a range of topics relevant to supervisory responsibilities. As described in the management introduction (and reflected in the span-of-control audit), span is just one factor that should be considered when determining an optimal organizational structure, and management sees an opportunity to expand supervisory learning to include an overview of organizational structural best practices and considerations. As a result, the Supervisor Essentials Training Series will be updated (specifically, the HR Basics module) to incorporate training and discussion on this matter. While HR has compiled an overview of factors that should be considered, they will solicit feedback from the Metro Senior Leadership Team (SLT) before updating training curriculum to ensure that factors unique to Metro's diverse lines of business are captured.

Action: HR to facilitate discussion with full SLT group in September (2024) followed by individual discussions as necessary. The HR Basics module and training curriculum will be updated by October, 2024.

Recommendation 2. Use the framework and analysis as part of the annual budget and budget amendment processes.

Response: Management agrees with the recommendation that reviewing span-of-control as part of the budget process is a valuable exercise. Finance and Regulatory Services staff currently review span-of-control as part of the budget development process (their review includes a scan of organizational and structural impacts due to reorganizations or significant staffing changes), and management agrees that incorporating formal guidance as part of the annual budget and budget amendment process will clarify expectations and provide a more consistent standard across the organization.

Proposed Plan: Budget instructions are typically distributed to Department Directors at the start of the budget process in December of each year. Specific guidance on considering span-of-control within departments will be incorporated into the budget instructions going forward. Department Directors will also be asked to consider span-of-control as part of any mid-year budget amendments they may request.

Action: Budget instructions will be updated by November, 2024 and those updates will be reflected in the formal budget instructions beginning FY 24-25.

To monitor trends and learn more about drivers of organizational change, Human Resources and Finance and Regulatory Services should:

Recommendation 3. Collect internal and external comparisons for evaluating Metro's span-of-control such as comparisons to:
    a) peer organizations.
    b) similarly sized departments or venues internally.
    c) internal departments and venues with similar business needs.
    d) data like the Employer Cost Index.

Response: Management supports the recommendation that collecting internal and external comparisons can be a valuable tool for a range of organizational needs including determining market rate salary trends, classification best practices and span-of-control modeling. Management also agrees that using the Employer Cost Index (in addition to other local market conditions) is an effective data consideration when evaluating personnel costs.

Because Metro is the only directly elected regional government body in the nation with a diverse range of programs and venues that cross jurisdictional boundaries, it can be challenging to compare our organization to "like" organizations. However, looking at a range of comparable jurisdictions can help decision-makers evaluate similarities and differences in structure and operations that might inform the size of a particular span-of-control.

Metro will continue to collect data from relevant jurisdictions, including org charts (which capture span-of-control), classification-specs and salary ranges to inform decision-making. In addition to collecting external data, Metro will continue to examine how internal comparisons and a range of other factors must be considered when determining an effective organizational structure.

Those factors include things like organizational culture *(informal & flexible cultures may support a wider span of control whereas a more formal, hierarchical structure might favor narrower spans)*, manager capacity and skill-level *(managers with effective leadership skills and experience may be better positioned to manage a higher span than newer, less experienced managers)*, employee performance and experience *(high-performing, skilled employees may require less direct supervision)* and workload complexity *(high-stakes or highly variable work may necessitate a narrower span to ensure effective oversight and support)*. Even the dynamics of a specific team can influence span-of-control; highly cohesive and collaborative teams and higher levels of engagement and satisfaction can often be correlated to higher performance and autonomy, which can influence the capacity required of managers.

Proposed Plan: Human Resources will continue to collect data from local jurisdictions including Multnomah, Washington & Clackamas Counties and the City of Portland to inform organizational decisions including classification and market studies and to provide a regional view of organizational structures (including span-of-control). As part of collective bargaining and targeted classification studies, Human Resources will continue to work with directors and managers to identify and collect national data of 'like' organizations (ex: as part of the recent LiUNA contract bargaining, management gathered data from Zoos and Parks organizations across the nation to inform wage adjustments).

Human Resources and Finance & Regulatory Services will continue utilizing the Employer Cost Index (ECI), specifically the ECI for state and local government, as a reference point for evaluating personnel costs and to inform cost-of-living adjustments (COLA). Because national averages don't always align with local market conditions, management will continue placing greater emphasis on local market analysis and internal pay equity standards.

Action: Human Resources and Finance & Regulatory Services will continue practices as described above.

Recommendation 4. Analyze remote work, employee tenure, and labor markets to prepare for changes that could impact Metro's organizational structure and associated personnel costs.

Response: Management agrees that analyzing remote work, employee tenure and labor markets are all critical elements to actively review as it relates to organizational structure and associated personnel costs.

Metro's Human Resources department actively monitors various workforce trends, including employee turnover and reclassifications, to better understand organizational dynamics and forecast future needs. Reviews of these metrics provide valuable insights into workforce stability, retention, and potential areas of concern, all of which inform decisions related to personnel planning and budgeting. These metrics are available to all Metro supervisors via the HR Workforce Dashboard.

HR stays informed about evolving external trends while also tracking internal changes, recognizing that decisions regarding work arrangements are often shaped by local factors and specific operational requirements. Changes to Metro's organizational structure are often influenced by local decisions, which may involve the expansion or reduction of services. These shifts directly impact staffing levels and personnel costs, making it essential for HR to remain flexible and adaptable in workforce planning.

Labor market dynamics play an important role in workforce planning. HR continuously monitors these trends to ensure Metro remains competitive in attracting and retaining talent. As market conditions shift, adjustments to compensation, benefits, and recruitment strategies may be necessary to stay competitive and maintain Metro's position as an employer of choice.

Data and reporting limitations with the current HRIS (Peoplesoft) impact the quality of evaluation, as was noted in the audit. Current efforts are underway to evaluate enterprise-wide system needs and HRIS options and improving the integrity and efficiency of data analysis is a top priority for management as we undertake that process.

Proposed Plan: Management will continue to analyze workforce trends and how they impact Metro's organizational structure and ensure that our HRIS can provide high-quality data that informs these decisions. This work is ongoing.

Thank you again for the thoughtful review, and the opportunity for management to share our perspective and approach to managing span-of-control.

Metro