OFFICE OF THE
City Auditor

City Productivity Audit

January 8, 2013

THE CITY OF Edmonton

The Office of the City Auditor conducted this project in accordance with the *International Standards for the Professional Practice of Internal Auditing*

City Productivity Audit
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Executive Summary

The Office of the City Auditor's (OCA) 2012 Annual Work Plan included an audit of City productivity. We asked Departments to provide output measures and the number of full-time equivalent (FTE) staff supporting each of those measures. We calculated productivity trends for each reported activity (program or Branch), then consolidated those numbers to obtain Department and City productivity trends.

The overall results show that the City as a whole experienced a 0.8 percent per year gain in productivity over the five-year period of 2007 to 2011. Overall, the short-term gains (3.7 percent between 2009 and 2011; 4.7 percent between 2010 and 2011) are higher than the five-year average. Most of the reported programs and Branches demonstrated gains in both long-term (five years) and short-term (one year and two years) productivity results.

Departments submitted measures representing approximately 8,600 FTEs (representing about 85 percent of the City's FTEs). We observed that several business units did not have meaningful input and/or output data available. In our analysis, we used measures representing approximately 7,900 FTEs (about 77 percent of the City's FTEs). The remaining 23 percent of the City's FTEs were not included in our analysis because the data was not available or, in some cases, measures supplied were not meaningful output measures. The output measures provided by several Branches did not include all the activities for which the Branch is responsible.

We evaluated both the relevance of the output measures submitted by the Departments and the ease with which they could be related to the reported activity or activities. We did not include reported measures in our analysis that were not actually output measures, were not easily understood, or represented activities reporting less than three years' data.

If the pattern of a long-term continuously growing ratio of City FTEs per thousand residents continues, it will result in increased funding challenges for future operating budgets. During the 1990's, the ratio of City FTEs per thousand residents decreased significantly, reaching its low point in 1999. Over the twenty-year period 1993 to 2013, the ratio of FTEs per thousand residents has increased by 6.7 percent. Departments have cited factors such as large investments in capital projects that have long-term staffing implications (e.g., LRT expansion), changes in legislation (e.g., Assessment Review Board), changing service levels (e.g., snow removal), etc. as reasons for the increases in FTEs per thousand residents. Over the past five years, the FTE count has grown at approximately double the rate of population increase.

We also used a productivity maturity self-assessment exercise to raise the awareness and importance of productivity measurement in the broader context of the City's performance management and budget improvement initiatives. The results of that

assessment indicated that the City has good productivity management practices in some key areas, but other areas are still developing or implementing them.

The Financial Services and Utilities Department is leading two initiatives to improve the City's ability to more effectively manage its organizational performance and to implement a budget process that is expected to result in improved budget processes. We believe that fully incorporating productivity measurement, monitoring, and reporting will further enhance those initiatives and result in better outcomes for the City.

Therefore, we recommended that the City:

- Integrate productivity measures into its ongoing work on performance management systems,
- Incorporate productivity measures into the Results and Priority Based Budgeting process,
- Establish targets for key productivity measures in each Branch, and
- Regularly report on Branch productivity measures within its performance management system.

City Productivity Audit

1. Introduction

The Office of the City Auditor's (OCA) 2012 Annual Work Plan included an audit of City productivity. Effectively using productivity measurement contributes to establishing accountability for and prioritizing the best uses of limited public resources.

2. Background

2.1. Performance Measurement

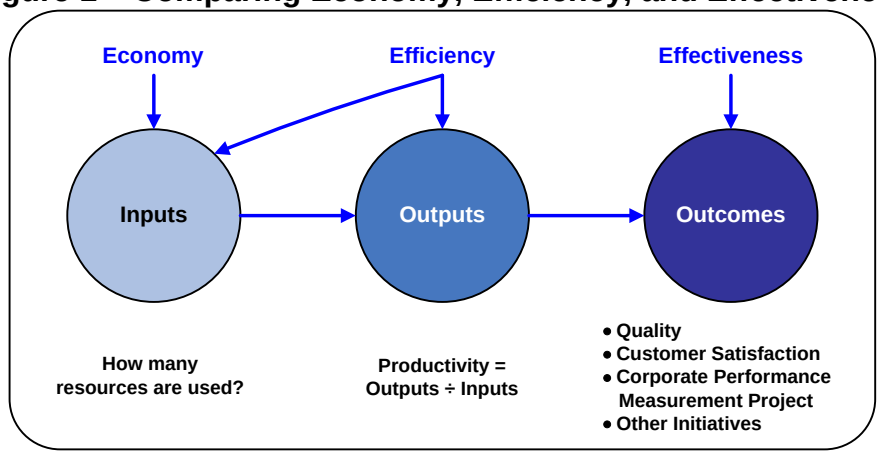
Performance measurement systems are designed to ensure that desired outcomes are consistently achieved in an effective and efficient manner. Efficiency, effectiveness, and economy are important contributors to the best possible outcomes. Some other factors in achieving desired outcomes include accountability for delivering well-defined outcomes and commitment to continuous improvement.

In high-performing organizations, well-managed inputs and outputs provide the base upon which performance management systems are built. There are several enablers (such as technology, skill development, innovation, and investment) that provide means to improve efficiency, effectiveness, and economy of operations. All of these factors need to be used together to achieve effective resource management.

In recent years, the City has been making progress toward linking performance measures with corporate strategic goals and establishing targets for key performance indicators. One of the challenges faced by complex organizations such as the City is that expected service levels change over time. It is unlikely that performance measures could be defined that are not impacted to some extent by changing service levels and customer expectations. Consequently, analyzing the underlying reasons for performance changes needs to be an integral part of effective performance measurement systems.

As shown in Figure 1, productivity is an efficiency measure used to measure the rate at which input resources are used to produce desired outputs. Since labour is the largest single input resource in the City's budget, we assessed City productivity trends based on labour inputs.

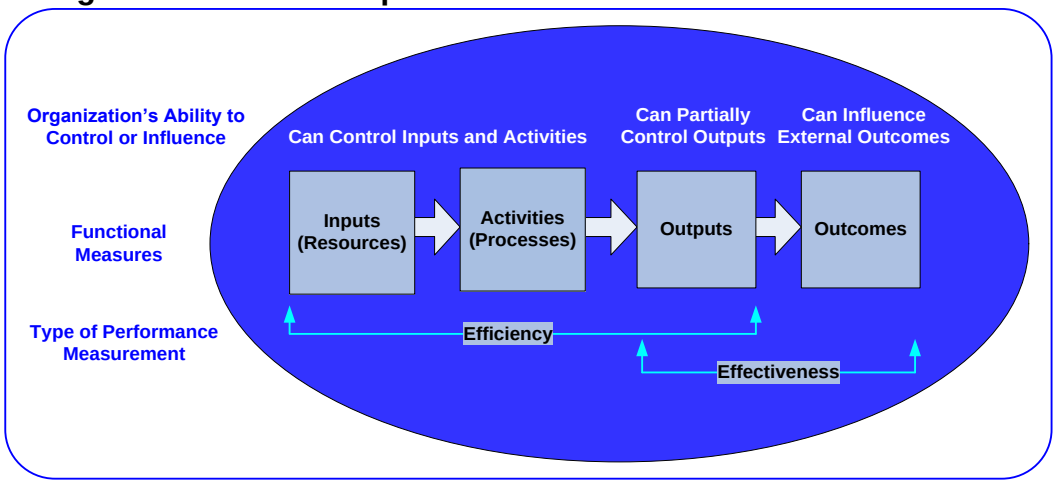
Figure 1 – Comparing Economy, Efficiency, and Effectiveness



2.2. Use of Productivity Measures

Productivity, which is a measure of efficiency, is just one element of the larger picture of performance measurement as shown in Figure 2. The performance measurement elements (inputs, activities, outputs, and outcomes) are interrelated. The City can generally control inputs and activities. However, the City can only partially control and influence the outputs and outcomes of its processes. Over time, demand for the City's services can change, which can impact the City's productivity. Inputs (e.g., labour or capital) can be adjusted to maintain the desired service level without losing operating efficiencies.

Figure 2 – Relationship of Performance Measurement Elements



To achieve optimal results, all of the elements of performance measurement (inputs, activities, outputs, and outcomes) must be appropriately balanced. Since productivity is just the ratio of outputs to inputs, additional performance measures such as quality, effectiveness, and customer satisfaction are required to determine whether or not an activity is achieving its desired outcomes.

Year-to-year fluctuations in productivity levels can be expected as changes to outputs and inputs occur. Consequently, productivity trends over the longer term are most useful in determining whether or not a process is improving. Until the underlying root causes are understood, whether a change is good or bad cannot be determined. In this audit, we present both long-term and short-term productivity trends for the business entities reviewed.

2.3. Current City Initiatives

Performance measurement is not a new concept within the City of Edmonton, however, the data has not been consistently captured and, in some instances, tools have not been in place to do it well. The Administration has recently been focused on developing performance measures to assess the City's progress in carrying out Council's strategic direction. That effort has emphasized identifying outcome measures and targets to support the City's goals as defined within *The Ways* Strategic Plans.

The Financial Services and Utilities Department is currently leading two corporate initiatives to improve performance measurement systems.

One of the initiatives is to develop improved corporate performance measures and a citizen-oriented reporting "dashboard" focused on advancing *The Way Ahead*, which is the City's high-level strategic plan. In addition, performance measures and targets are being developed for all six of the City's ten-year goals. Those measures will be enhanced by designing and implementing effective reporting processes to increase accountability for ongoing corporate performance improvement.

The second corporate initiative being led by the Financial Services and Utilities Department is implementation of a budgeting process called *Results and Priority-Based Budgeting*. A similar approach to budgeting was implemented in the Province through the *Results-Based Budgeting Act*, which was signed into law on March 5, 2012. This Act is intended to ensure "that its programs and services are the right programs and services delivered in the right way to achieve the results that Albertans expect, in the most efficient and effective manner." One of the key elements of a successful results-based budgeting process is collecting, managing, and reporting on both financial and non-financial measures that are clearly related to each program.

3. Observations and Analysis

In the following sections, we have described the types of work produced by each Department and included example data from selected activities (programs or Branches). We then discuss some of our observations about productivity trends in those activities in particular and more generally for the Department as a whole. The five-year trend for each Department is calculated as the best-fit straight line from the reported data. The two-year changes are calculated as the total change over the two year period of 2009 to 2011. Similarly, the one-year changes are the total change from one year to the next (2010 to 2011). Our Methodology is described more fully in Appendix A.

We evaluated both the relevance of the output measures submitted by the Departments and the ease with which they could be related to the reported activity or activities. We did not include reported measures in our analysis that were not actually output measures, were not easily understood, or represented activities reporting less than three years' data. Departments submitted measures representing approximately 8,600 FTEs (about 85 percent of the City's FTEs). In our analysis, we used measures representing just over 7,900 FTEs (about 77 percent of the City's FTEs). The remaining 23 percent of the City's FTEs were not included in our analysis because the data was not available or, in some cases, was not meaningful.

3.1. Departmental Results

In the departmental results below, we chose the two largest Branches based on the number of full-time-equivalent employees (FTEs) as examples of how productivity has changed in the Department over time. Some Branches provided multiple productivity measures, while others provided one measure for the entire Branch. If a Branch we chose as an example had multiple productivity measures, we chose the measure associated with the largest number of FTEs in the Branch. The output measures provided by each Branch and the results of our analysis by Branch are shown in Appendix B. The descriptions of department roles are from each department's website.

3.1.1. Community Services

The Department's primary role is to be a front-line partner with citizens and communities committed to creating a safe, healthy, and vibrant city. The Department's services include Community and Recreation Facilities, Community and Social Development, Community Standards, Community Strategies and Development, Fire Rescue Services, Neighbourhoods, Parks, and Community Recreation, and Project Management and Maintenance Services.

Although the Department has added 227.3 FTEs in its reported activities over the five years, its total outputs have increased at a faster rate than FTEs have been added (see Table 1). The Department's long-term productivity is increasing at 1.6 percent per year. Short-term productivity (two years and one year) gains are larger than the long-term increase.

Table 1 – Community Services Department Productivity Trends

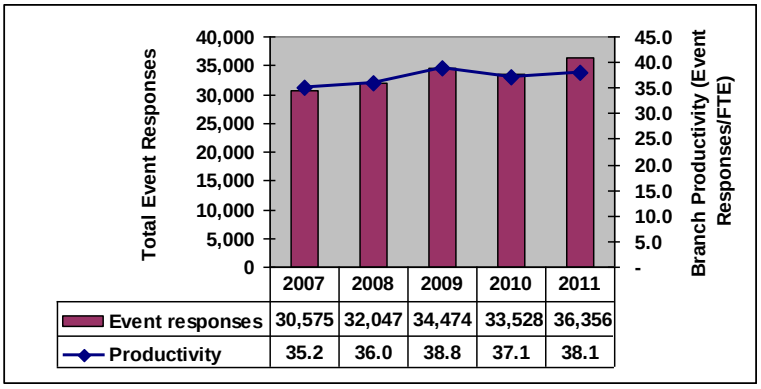
	Long-Term	Short-Term				
Department	5-year Average	2-Year Change	1-Year Change	2007 FTEs	2011 FTEs	FTE Change
Community Services	1.6%	1.5%	5.8%	2,225.8	2,453.1	227.3

The two largest Branches (Fire Rescue Services and Community and Recreation Facilities) have the most influence on the overall Department productivity trend.

Fire Rescue Services added 85 FTEs over the five years, but the number of event responses has increased at a more rapid rate, resulting in a five-year average productivity increase of 1.8 percent per year (see Figure 3). In the short term, the

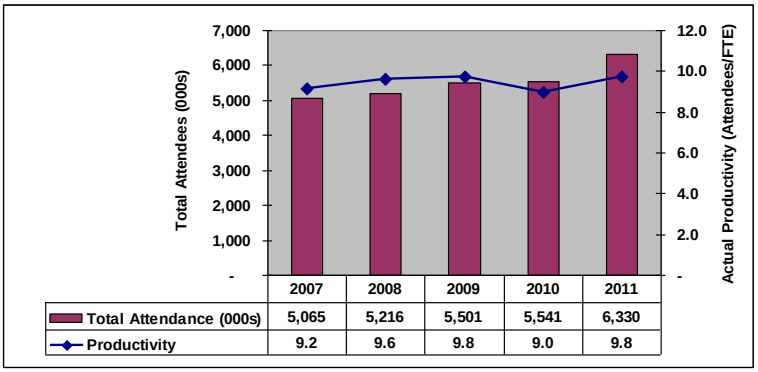
Branch experienced a productivity decline between 2009 and 2011, but an increase between 2010 and 2011.

Figure 3 – Fire Rescue Services Productivity



Community and Recreation Facilities also added 85 FTEs over the five years, but the total attendance at its facilities and programs has increased at a more rapid rate, resulting in a five-year average productivity increase of 0.6 percent per year (see Figure 4). In the short term, for the two-year period there was no change, but the one-year gain was positive.

Figure 4 – Community and Recreation Facilities Productivity



3.1.2. Corporate Services

The Department's primary role is to guide the corporation's major initiatives, provide counsel, support, strategic planning, and resources to other City departments. The Department's services include Customer Information Services (the City's internal and external call centre), Fleet Services, Human Resources, Information Technology, Law, Materials Management, and the Office of the City Clerk.

Although the Department has added 121.4 FTEs in its reported activities over the five years, its total outputs have increased at a faster rate than FTEs have been added. In most cases, that also holds true for each of the reported output measures. Consequently, the Department has been experiencing a five-year average productivity

increase of 2.6 percent per year (see Table 2). The short-term gains are lower over two years, but higher in 2010 to 2011.

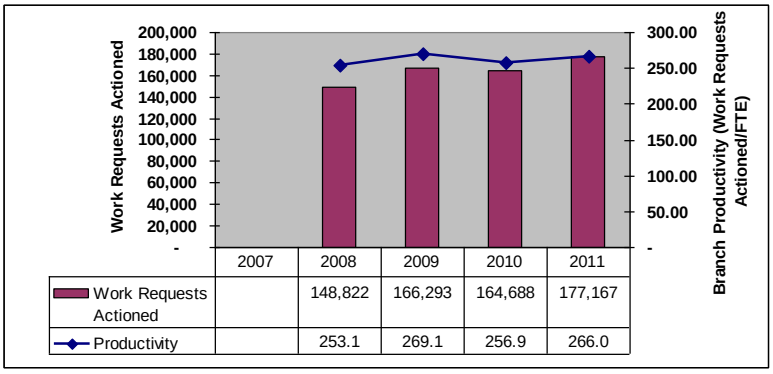
Table 2 – Corporate Services Department Productivity Trends

Department	Long-Term 5-year Average	Short-Term 2-Year Change	Short-Term 1-Year Change	2007 FTEs	2011 FTEs	FTE Change
Corporate Services	2.6%	1.5%	3.4%	1,272.2	1,393.6	121.4

The two largest Branches (Fleet Services and Information Technology) have the most influence on the overall Department productivity trend.

Fleet Services added 78.1 FTEs over the four years for which data was reported, but the number of work requests actioned has increased at a more rapid rate, resulting in a four-year average productivity increase of 1.0 percent per year (see Figure 5). In the short term, productivity declined over the two years between 2009 and 2011, but increased between 2010 and 2011. There is no data reported for 2007 because the Branch reported that it changed its staffing model that year.

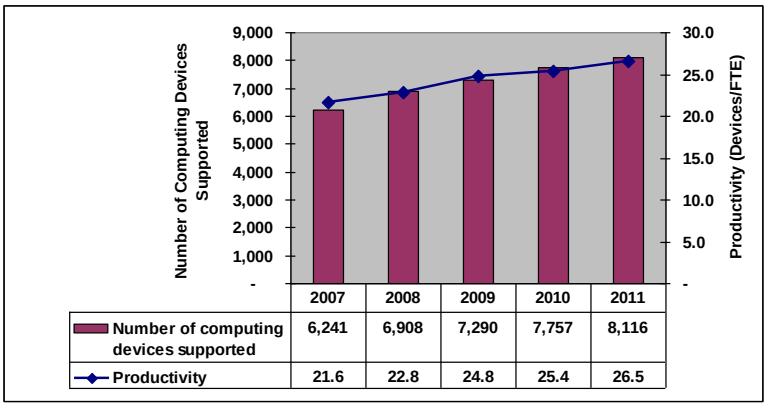
Figure 5 – Fleet Services Productivity



Information Technology added 17 FTEs over the five years, but its reported outputs have increased at a more rapid rate, resulting in a five-year average productivity increase of 3.6 percent per year. In the short term, Branch productivity has increased at about the same rate as the long-term trend.

The Branch supplied two output measures (total number of clients supported and total number of computing devices supported). Figure 6 shows the productivity of the Branch's computing device support activity.

Figure 6 – Information Technology Branch (Devices Supported Productivity)



3.1.3. Financial Services

In this report, we analyzed Financial Services and Utility Services separately, even though they are both part of Financial Services and Utilities Department.

Financial Services' primary role is to provide strategic and technical advice and direct financial services for and on behalf of the City. Those services include Assessment and Taxation, Client Financial Services, and Corporate Accounting and Treasury.

Productivity has been decreasing at a small rate over the long term, but has been increasing over the shorter terms. Financial Services as a whole added 46.7 FTEs. In most cases, the reported output measures have been increasing at a slightly slower rate than positions have been added. Consequently, Financial Services as a whole experienced a five-year average productivity decrease of -0.2 percent per year (little change), but the short-term gains have been positive (see Table 3).

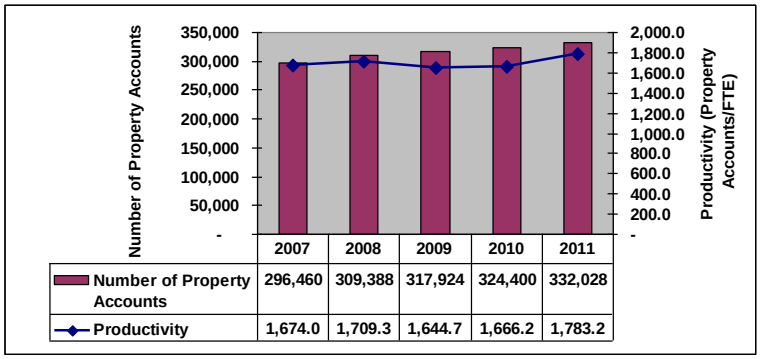
Table 3 – Financial Services Productivity Trends

Long-Term	Short-Term				
5-year Average	2-Year Change	1-Year Change	2007 FTEs	2011 FTEs	FTE Change
-0.2%	4.5%	3.8%	340.0	386.7	46.7

For Financial Services, the two largest Branches (Assessment and Taxation and Client Financial Services) have the most influence on the overall productivity trend for Financial Services.

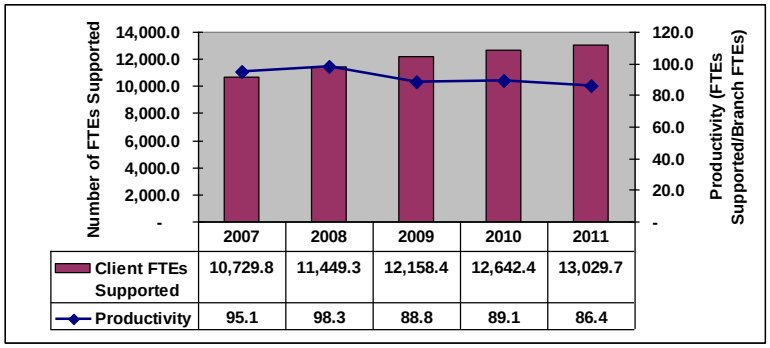
Assessment and Taxation Branch has added 9.1 FTEs over the five years, but the number of property accounts has increased at a higher rate, resulting in a five-year average productivity gain of 1.0 percent per year (see Figure 7). Short-term Branch productivity increases were higher than the long-term trend.

Figure 7 – Assessment and Taxation Branch Productivity



Client Financial Services Branch has added 38.1 FTEs over the five years, but the number of client staff (FTEs) supported has increased at a lower rate, resulting in a five-year average productivity decrease of -2.7 percent per year (see Figure 8). Branch productivity in the short term has continued to decline at about the same rate.

Figure 8 – Client Financial Services Branch Productivity



3.1.4. Utility Services

Productivity in the Utility Services (Drainage Design and Construction, the Drainage Utility, and the Waste Management Utility) has been decreasing over the long term, but increasing in the shorter term. Utility Services experienced decreases in reported output measures at the same time that positions were being added. Consequently, Utility Services as a whole experienced a five-year average productivity decrease of -6.9 percent per year (see Table 4). In the short term, productivity gains have been positive.

Table 4 – Utility Services Productivity Trends

Long-Term	Short-Term				
5-year Average	2-Year Change	1-Year Change	2007 FTEs	2011 FTEs	FTE Change
-6.9%	4.7%	16.7%	630.5	913.7	283.2

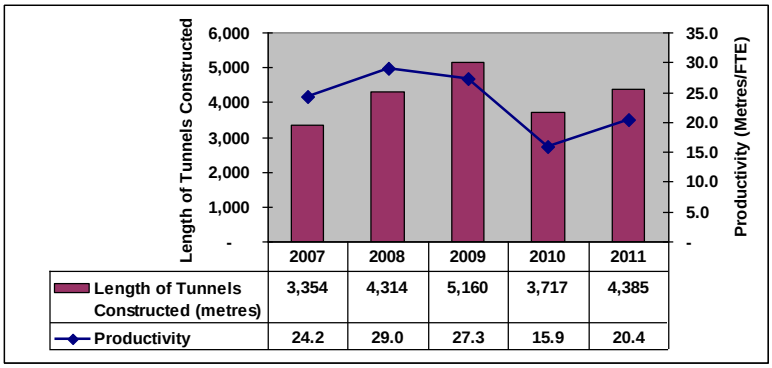
For Utility Services, the two largest Branches (Drainage Design and Construction[1] and Waste Management Utility) have the most influence on the overall productivity trend.

[1] Drainage Design and Construction is a part of the Drainage Services Branch, but functionally operates at the level of a Branch.

Drainage Design and Construction Branch has added 102.2 FTEs over the five years. Branch outputs fell off quite markedly in 2009 (open cut) and 2010 (tunnels), resulting in a five-year average Branch productivity decrease of -3.1 percent per year. In the shorter term, however, Branch productivity has increased substantially. Although tunnel size (for example) varies greatly, the mix of sizes constructed is more constant over time. Therefore, long-term trends are a more reliable indicator of overall performance than short-term changes.

The Branch provided two output measures (open cut sewer construction and tunnel construction). Figure 9 shows the Branch's tunnel construction productivity, which represents the most FTEs.

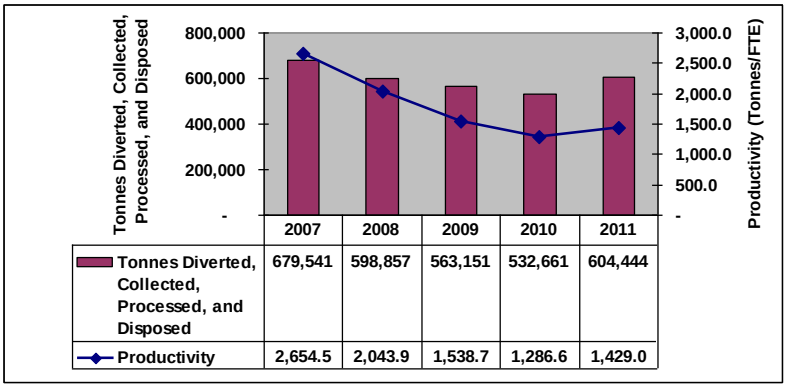
Figure 9 – Drainage Design and Construction Branch (Tunnel Construction Productivity)



	2007	2008	2009	2010	2011
Length of Tunnels Constructed (metres)	3,354	4,314	5,160	3,717	4,385
Productivity	24.2	29.0	27.3	15.9	20.4

The Waste Management Utility has added 167 FTEs over the five years while the tonnes of waste diverted, collected, processed, and disposed have generally decreased over that period. As waste is diverted from landfill operations to more labour-intensive processing, productivity goes down. The net result is a five-year average productivity decrease of -12.1 percent per year (see Figure 10), but less waste being buried in landfills. In the short term, Branch productivity decreased at a slower rate from 2009 to 2011, but increased from 2010 to 2011.

Figure 10 – Waste Management Utility Productivity



	2007	2008	2009	2010	2011
Tonnes Diverted, Collected, Processed, and Disposed	679,541	598,857	563,151	532,661	604,444
Productivity	2,654.5	2,043.9	1,538.7	1,286.6	1,429.0

3.1.5. Sustainable Development

The Department's primary role is to provide an integrated approach for urban planning, guiding development, economic sustainability and the environment to achieve Edmonton's vision of a vibrant and sustainable community. The Department's services include Current Planning, Housing and Economic Sustainability, Corporate Properties, and Urban Planning and Environment.

The Department added 58.4 FTEs in its reported activities over the five years and its total outputs increased at about the same rate that FTEs were added, resulting in an overall five-year average change of 0.0 percent (see Table 5). In the short term, Department productivity increased for its reported activities.

Table 5 – Sustainable Development Department Productivity Trends

Long-Term	Short-Term				
5-year Average	2-Year Change	1-Year Change	2007 FTEs	2011 FTEs	FTE Change
0.0%	7.4%	0.7%	269.2	327.6	58.4

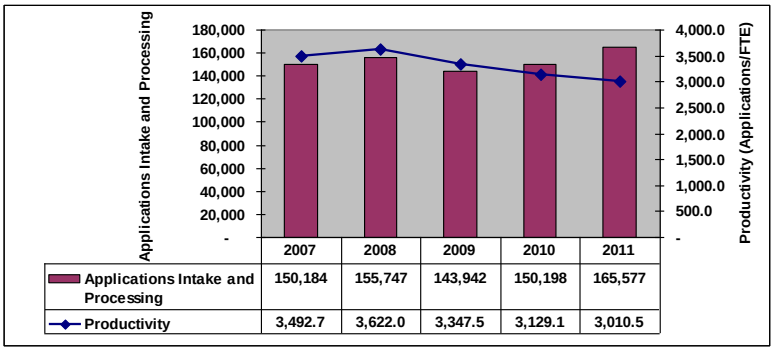
The two largest Branches reporting outputs (Current Planning and Urban Planning and Environment) have the most influence on the overall Department productivity trend.

Current Planning added 32 FTEs over the five years, but the overall outputs for its reported activities decreased at a more rapid rate, resulting in a five-year average productivity decrease of -2.5 percent per year. In the short term, Branch productivity increased from 2009 to 2011, but decreased from 2010 to 2011.

The Branch provided eight output measures (applications intake and processing, building inspections completed, development permits issued, coordination projects submitted, business licences issued, bylaws/resolutions to Council, subdivisions approved, and vehicle permits issued). Several of the Branch's reported activities are inherently sensitive to the economic conditions in the region (e.g., applications intake and processing, building inspections completed, subdivisions approved). Since month-to-month volume fluctuations are normal, adjustments in the numbers of FTEs assigned to each activity should be based on longer-term trends in volume measures.

Figure 11 shows the productivity of the Branch's application processing activity, which represents the most FTEs. The Department indicated that the 2010 – 2011 decrease in Application Processing productivity is the direct result of adding FTEs to address both Council concerns regarding decision-making quality and industry concerns regarding responsiveness. The Department reports that recent customer feedback has indicated that overall timeliness and quality of the application process, customer interactions, and decision-making have all improved.

Figure 11 – Current Planning Branch (Application Processing Productivity)

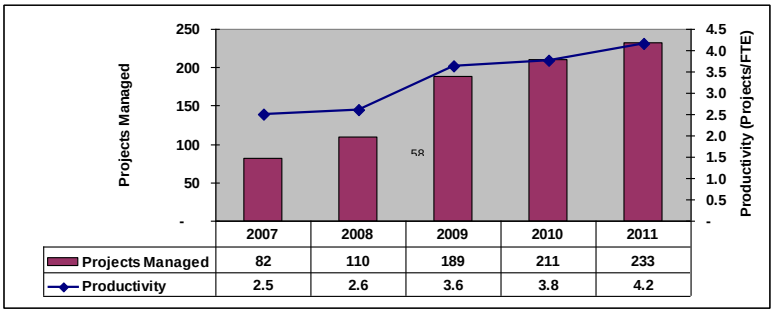


	2007	2008	2009	2010	2011
Applications Intake and Processing	150,184	155,747	143,942	150,198	165,577
Productivity	3,492.7	3,622.0	3,347.5	3,129.1	3,010.5

Urban Planning and Environment added 26.4 FTEs over the five years, but the overall outputs for its reported activities have increased at a more rapid rate, resulting in a five-year average productivity increase of 7.4 percent per year. In the short term, the Branch has experienced increases in its overall productivity measures for both the two-year and one-year terms.

The Branch provided four output measures (projects managed, public engagement activities not related to a project, internal/external applications/certificates reviewed, and Council/Committee/Bylaw reports). Figure 12 shows the productivity trend for the Branch's project management measure, which represents the most FTEs.

Figure 12 – Urban Planning and Environment Branch (Project Management Productivity)



	2007	2008	2009	2010	2011
Projects Managed	82	110	189	211	233
Productivity	2.5	2.6	3.6	3.8	4.2

3.1.6. Transportation Services

The Department's primary role is to plan and operate Edmonton's roads, sidewalks, multi-use trails, bicycle infrastructure and transit system. It also works to reduce traffic congestion and collisions and promote efficient, sustainable and active ways to travel. The Department's services include Edmonton Transit, LRT Design and Construction, Roads Design and Construction, Transportation Operations, and Transportation Planning.

The Department has added 370.0 FTEs in its reported activities over the five years. The Department's total reported outputs have increased at a faster rate than the increase in FTEs over the longer term, resulting in an overall five-year average of 2.1 percent

increase per year (see Table 6). In the shorter term, Department productivity has continued to increase.

Table 6 – Transportation Services Department Productivity Trends

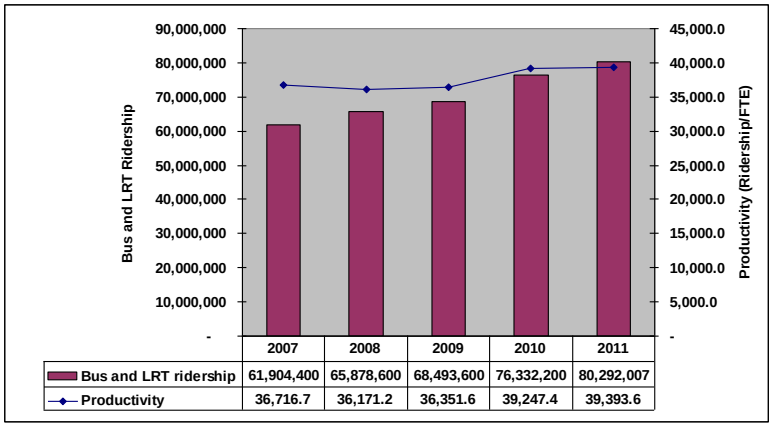
	Long-Term	Short-Term				
Department	5-year Average	2-Year Change	1-Year Change	2007 FTEs	2011 FTEs	FTE Change
Transportation Services	2.1%	6.6%	0.2%	2,014.2	2,384.2	370.0

The two largest Branches (Edmonton Transit and Transportation Operations) have the most influence on the overall Department productivity trend.

Edmonton Transit added 354.2 FTEs over the five years, but the reported outputs have increased at a more rapid rate, resulting in a five-year average productivity increase of 2.1 percent per year (see Figure 13). In the short term, Branch productivity has continued to increase, but the one-year gain is smaller than that for the two-year period.

The Branch provided two output measures (bus and LRT ridership and DATS trips). Figure 13 shows the productivity trend for the Branch's bus and LRT ridership output, which represents the most FTEs.

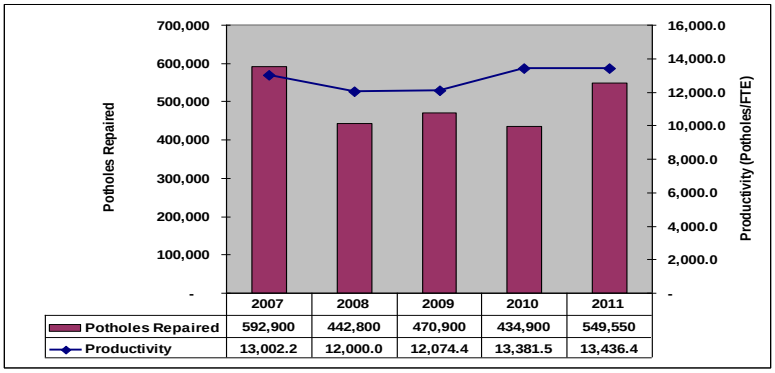
Figure 13 – Edmonton Transit Branch (Bus and LRT Ridership Productivity)



Transportation Operations FTEs declined by 2.6 FTEs over the five years for its reported activities, but the reported outputs for two of the three measures reported have increased at a more rapid rate over the five-year period, resulting in a five-year average productivity increase of 1.1 percent per year. In the short term, the Branch experienced productivity increase in the two-year period, but a decrease in the one-year period.

The Branch supplied three output measures (tonnes of aggregate recycled, potholes repaired, and pass-kilometres of route sanding). Figure 14 shows the productivity of the Branch's pothole repair operations, which represents the most FTEs.

Figure 14 – Transportation Operations Branch (Pothole Repair Productivity)



3.2. Corporate Results

3.2.1. Corporate Productivity Trends

The City has added 1,107.0 FTEs associated with the activities departments reported over the five years. The City's total reported outputs have increased at a faster rate than the increase in FTEs over the longer term, resulting in an overall five-year average of 0.8 percent increase per year (see Table 7). Both short-term gains are higher than the five-year average, with the larger gain occurring between 2010 and 2011.

Table 7 – Overall City Productivity Trends

	Long-Term	Short-Term				
Department	5-year Average	2-Year Change	1-Year Change	2007 FTEs	2011 FTEs	FTE Change
City Overall	0.8%	3.7%	4.7%	6,751.9	7,858.9	1,107.0

Table 8 shows how the reported activities in each department contribute to the overall City productivity trends. With the largest numbers of FTEs associated with reported activities, Community Services and Transportation Services Departments have the most impact on the City's overall results. Overall, the short-term gains are higher than the five-year average, with both measures indicating that total City outputs have been increasing somewhat more rapidly than FTEs have been added.

Table 8 – Five-Year City Productivity Trends by Department

	Long-Term	Short-Term				
Department	5-year Average	2-Year Change	1-Year Change	2007 FTEs	2011 FTEs	FTE Change
Community Services	1.6%	1.5%	5.8%	2,225.8	2,453.1	227.3
Corporate Services	2.6%	1.5%	3.4%	1,272.2	1,393.6	121.4
Financial Services	-0.2%	4.5%	3.8%	340.0	386.7	46.7
Utility Services	-6.9%	4.7%	16.7%	630.5	913.7	283.2
Sustainable Development	0.0%	7.4%	0.7%	269.2	327.6	58.4
Transportation Services	2.1%	6.6%	0.2%	2,014.2	2,384.2	370.0
City Overall	0.8%	3.7%	4.7%	6,751.9	7,858.9	1,107.0

3.2.2. FTE growth compared with City population growth

The FTE counts referenced up to this point in the report are only for the activities the Departments reported (7,858.9 FTEs in 2011), not the City's total FTE count (10,151.8). For the City as a whole, the total number of FTEs has increased by 1,587.3 over the past five years, while the City's population grew by almost 71,000 (see Table 9). The FTEs grew by 18.5 percent, while the population grew by 9.6 percent. The net result is that the five-year rate of increase per year for City FTEs is nearly double the rate of the City's population increase.

Table 9 – City Population Growth Compared to City FTE Growth

Description	2007	2008	2009	2010	2011	Total Percent Increase
Residents	741,392	752,412	782,439	799,788	812,201	9.6%
% Increase (year to year)		1.5%	4.0%	2.2%	1.6%	
City FTEs	8,564.5	8,830.7	9,368.0	9,845.0	10,151.8	18.5%
% Increase (year to year)		3.1%	6.1%	5.1%	3.1%	

From a longer-term perspective, over the past twenty years the City's FTE per thousand residents ratio decreased significantly in the 1990's, reaching its low point in 1999. Between 1993 and the 2013 budget proposal, the ratio of FTEs per thousand residents increased by 6.7 percent.

Some of the growth in City FTEs is connected with the ongoing operating requirements resulting from high levels of capital investments over the past few years, such as LRT expansion, recreation centres, new subdivisions, neighbourhood renewal, etc. Some growth is connected with changes in service level expectations, service level mandates, and/or year-to-year weather variations (e.g., waste management and snow clearing). Other reasons cited for FTE growth included improving services by reducing backlogs, providing more strategic assistance to internal clients and citizens, and legislation changes.

If the pattern of a long-term continuously growing ratio of City FTEs per thousand residents continues, it will result in increased funding challenges for future operating budgets.

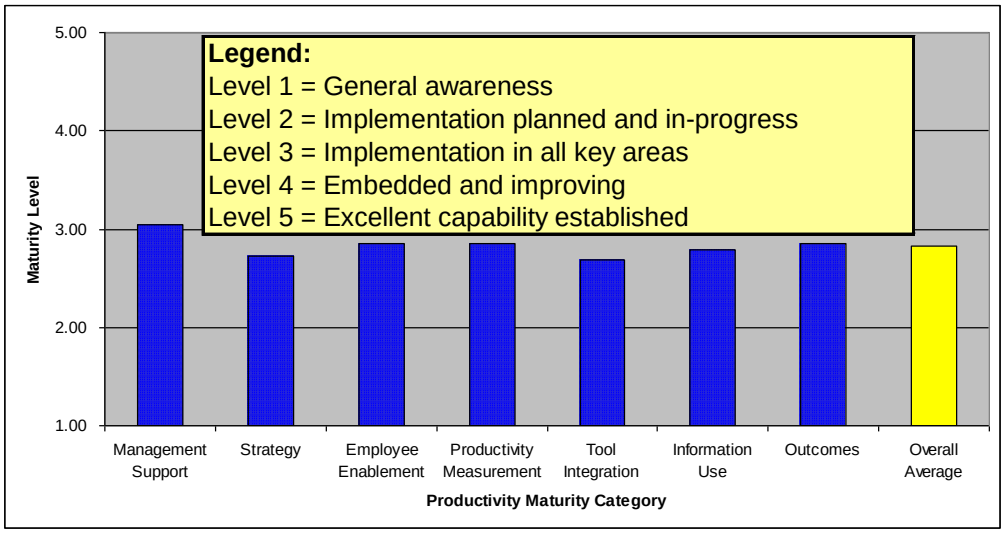
3.3. Corporate Productivity Measurement Maturity Assessment

We administered a maturity self-assessment survey with branch managers and directors to raise awareness of the importance and place of productivity measurement in the context of the City's performance management initiatives. A maturity rating of Level 3 indicates that productivity measures have been implemented in all key areas. Level 2 indicates that productivity measurement is planned and in-progress.

Figure 15 shows the overall result of the maturity self-assessment. The overall average maturity rating submitted by the branch managers and directors was 2.83 (out of 5). Based on our observations, we believe that the survey results indicate that the City has

good productivity management practices in some key areas, but other areas are still developing or implementing them.

Figure 15 – Corporate Productivity Management Maturity Self-Assessment



One of our objectives in this audit was to identify Branches with good productivity measurement and management practices and Branches that have opportunities for improvement. Taken together, the results of the productivity change tables (Table 8 and Appendix B) and the productivity measurement maturity tables (Table 10) identify the activities where efforts to improve productivity measurement and management would be most likely to benefit the City as a whole.

As seen in Table 8, some departments have consistently experienced higher rates of increase over the five-year term than others. In particular, Community Services, Corporate Services, and Transportation Services have shown increases in both long-term and short-term productivity. As seen in Table 10, these departments also scored the highest in productivity measurement maturity.

Table 10 – Productivity Management Self-Assessment by Department

Department	Management Support	Strategy	Employee Enablement	Productivity Measurement	Tool Integration	Information Use	Outcomes	Overall Average
Community Services	3.33	3.02	3.22	3.54	2.89	3.14	3.27	**3.20**
Corporate Services	3.03	3.01	2.94	2.74	2.72	2.80	3.13	**2.91**
Financial Services & Utilities	3.17	2.67	2.83	2.67	2.83	2.33	2.50	**2.71**
Sustainable Development	2.47	1.97	2.13	2.13	2.08	2.41	2.28	**2.21**
Transportation Services	3.20	2.97	3.13	3.20	2.93	3.23	3.07	**3.10**
Overall City Averages	**3.04**	**2.73**	**2.85**	**2.86**	**2.69**	**2.78**	**2.85**	**2.83**

4. Conclusions and Recommendation

The City's total reported outputs have increased at a faster rate than the increase in FTEs over the longer term, resulting in an overall five-year average of 0.8 percent increase per year. Both short-term gains are higher than the five-year average, with the

two year productivity gain at 3.7 percent and the one-year productivity gain at 4.7 percent.

We administered a maturity self-assessment survey with branch managers and directors to raise awareness of the importance and place of productivity measurement in the context of the City's performance management initiatives. The overall average maturity rating submitted by the branch managers and directors was 2.83 (out of 5) which indicates that productivity measurement is planned and in-progress.

Our results identify the business units that have both high productivity measurement maturity and meaningful productivity measures. Those results can be used to determine which business units are most likely to benefit from assistance with developing meaningful productivity measures, target setting, and monitoring processes.

Based on our observations, the City has good productivity management practices in several areas. Some Branches, however, still do not have meaningful productivity measures and the majority of Branches still need to establish productivity targets. We have recommended that the City fully integrate meaningful productivity measures into its efforts to improve the City's performance and budget management systems.

Recommendation 1

The OCA recommends that the City:

- Integrate productivity measures into its ongoing work on performance management systems,
- Incorporate productivity measures into the Results and Priority Based Budgeting process,
- Establish targets for key productivity measures in each Branch, and
- Regularly report on Branch productivity measures within its performance management system.

Management Response and Action Plan

Accepted

Responsible Party: Office of the CFO

Planned Implementation Date: September 30, 2013

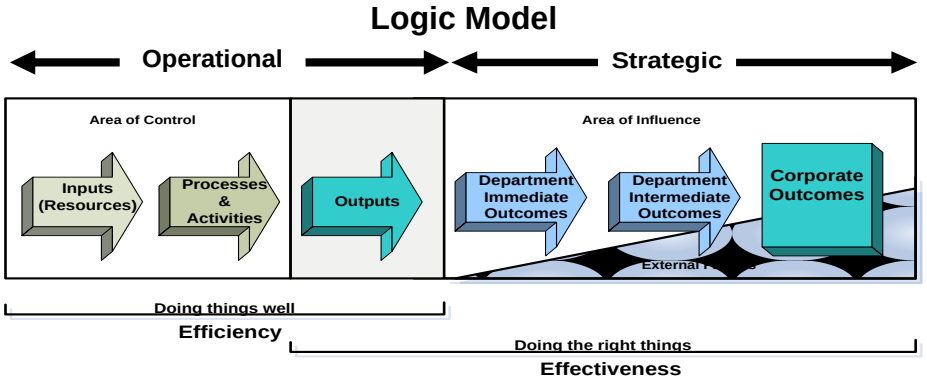
Action Plan:
Management accepts the recommendations but wants to ensure that Council understands that the productivity measurement exercise undertaken through this audit does not answer any questions with respect to the longer-term financial sustainability of the City organization. Focusing on productivity solely represented by labour inputs used to produce desired results does not provide sufficient information or analysis to draw those conclusions. For example, LRT under the definition of productivity utilized in the report would be considered a more productive form of transit, but is more costly, which

limits its use. With a different example, for Waste Management, landfilling requires fewer labour resources and is less costly than processing and recycling, but does not achieve the desired results. This perspective has been further validated by the OCA through its comments contained within the report. Specifically, the report states "*To achieve optimal results, all of the elements of performance measurement (inputs, activities, outputs, and outcomes) must be appropriately balanced. Since productivity is just the ratio of outputs to inputs, additional performance measures such as quality, effectiveness, and customer satisfaction are required to determine whether or not an activity is achieving its desired outcomes.*" Administration concurs with this statement and therefore cautions drawing conclusions related to the broader sustainability challenge based upon a singular measure and approach of inputs to outputs.

That is why, Administration is working extremely hard on the development of a robust performance management system under which various productivity and other measures would be applied. The system is intended to encapsulate the progress towards achieving Council's goals and outcomes as articulated in the City's strategic plan and measure the success of department's efforts in delivering core services to the public. The recommendation from OCA clearly fits in with the work Administration is currently undertaking on performance management

The Financial Services and Utilities department is leading the corporate initiative to improve performance measurement systems. These efforts include the development, refinement, and reporting on corporate outcomes and performance measures as approved by City Council. As Council is aware, Corporate performance measures have been approved by Council for five of the six 10-year strategic goals and targets have been approved for the Corporate performance measures for "The Way We Grow", "The Way We Move", and "The Way We Live". As indicated in a Council report presented on July 10, 2012, departments are engaged in identifying measures for the programs and services that contribute directly to the outcomes Council has specifically approved. Additionally, performance measures, including those that demonstrate efficiency and/or productivity, are being identified at a Branch and department level.

The development of performance measures is predicated on the logic model as described below:



As expressed in the report from the OCA, productivity, which is a measure of efficiency, is just one element of the larger picture of performance measurements. As such, and as described in the logic model, as the City moves to a greater level of maturity with respect to performance measurement systems, productivity measures that will assist Administration in promoting efficiency will also evolve. This effort will include establishing the appropriate targets for key productivity measures. Reporting on productivity measures along with the broader performance management reporting commitments will occur at regular intervals. These reporting initiatives include, but are not limited to, the citizen dashboard, annual results report, rapid scorecard, enterprise risk management reporting, and results and priority based budgets. This will work in concert with the City's focus on continuous improvement. As departments identify performance gaps through a more rigorous performance management approach, continuous improvement efforts will become more targeted toward those areas where the improvement will have the most significant results..

The OCA has recommended incorporating productivity measures into the results and priority based budgeting process.

Administration has already begun the implementation of a priority based budgeting process which is about emphasizing performance and accountability; asking questions such as Where are we now, Where do we want to be, How do we get there, and How do we measure our progress. In doing this, best practice evidence suggests a greater emphasis is placed on a more deliberate process of allocating resources to programs and services that clearly advance the priorities of the organization. As part of the continuum of priority based budgeting and through creating accountability for results, measuring productivity through an integrated and robust performance management system will serve to inform the development of future operating budgets and will promote a culture that strives for efficiencies in the achievement of results. This is in keeping with Administration's current plan.

In order to support the progression towards priority based budgeting, administration is implementing an operating/capital budget system. An RFP has been released, with an award anticipated early in 2013 and implementation for the operating component scheduled for the end of Quarter 2, 2013. Part of the roll out of the new system will be an enhanced budget process that further moves the City towards priority based budgeting. In an effort to populate the pertinent data into the new budget system, a "near zero" based budgeting exercise will see more deliberate analytics go into the creation of the 2014 line by line operating base budgets, ensuring additional scrutiny on current budget levels thus promoting/enabling the efficiency discussion.

Appendix A – Audit Objectives, Criteria, and Methodology

A1 Objectives

The objectives of this audit were to:

- Identify high level productivity measures for selected Branches and calculate productivity levels at both the activity level and higher organizational levels, including the City as a whole.
- Identify which Branches have good productivity measures and management practices and which Branches have opportunities for improvement.
- Identify and prioritize the Branches that would most likely benefit from a detailed productivity review.
- Assess the overall maturity of the City's productivity management practices (using a self-assessment tool).

A2 Criteria

We assessed available productivity measures against the following criteria:

- Existing productivity measures demonstrate improvement over time.
- Existing productivity measures are:
  - Relevant – the measure relates to the Branch's mission and goals and provides meaningful information to policy and decision-makers.
  - Understandable – the measure can be readily understood by stakeholders.
- The City demonstrates a high level of maturity in its productivity management practices.

A3 Methodology

During our fieldwork, we:

- Facilitated productivity measurement maturity assessment
- Gathered departmental productivity data from 2007 through 2011
- Assessed the City's productivity data for meaningfulness
- Calculated productivity levels by activity (program or Branch)
- Consolidated productivity measures to Branch, Department, and City level using the number of FTEs as the weighting factor
- Met with Department Leadership Teams to discuss results

The FTE counts in the department productivity trend tables are the sum of all the reported FTEs for the activities we used in our analysis (see Table 1, for example). The FTE change was reported as the difference between the 2007 FTE count and the 2011 FTE count. If an activity (Branch or program) did not report an output measure for 2007, then we used the FTEs associated with the first year they reported that output measure.

Several Branches were able to supply Branch-level output measures, while others supplied multiple measures at the program level. Some business units either did not have enough history for trend calculations to be meaningful or use measures other than output measures to evaluate their work. We did not independently verify the accuracy of any of the data as part of this audit.

A4 Productivity Management Maturity Assessment

We researched available productivity management maturity models and used the results of that research to customize a productivity self-assessment maturity framework to assess the City's operations. The framework addressed seven key themes in a standard maturity assessment structure with five levels ranging from "general awareness" and ending with the highest level, "excellent capabilities established."

We conducted the self-assessment by surveying all Branch leaders. We then consolidated the results of the individual self-assessments at the Branch, Department, and City levels to arrive at a productivity management maturity self-assessment rating for each key theme. We did not validate the self-assessed maturity scores. Self-assessment surveys are open to the risk of optimism bias, which is the risk of participants choosing to rate their Branches higher than would an independent, knowledgeable observer.

The seven key themes we assessed were:

1. **Management Support** – To what degree do senior managers support and promote productivity measurement and improvement?
2. **Strategy** – To what degree do Branch strategies support the need to measure and improve productivity?
3. **Employee Enablement** – How well are employees trained and enabled to effectively manage productivity and continuous improvement?
4. **Productivity Measures** – To what degree has the Branch defined productivity measures?
5. **Tool Integration** – To what degree are tools available and integrated into the process to facilitate productivity measurement efforts?
6. **Information Use** – To what extent is productivity measurement used in decision-making and improvement?
7. **Outcomes** – To what extent do productivity measures contribute to identified business outcomes?

Appendix B – Department Productivity Results by Branch

The following table shows the productivity measures that were provided by each Branch and used in our analysis. In some cases, the output measures provided by a Branch (shown in italics and separated by semicolons) may not represent the work of the entire Branch. We consolidated the productivity measures at Branch, Department, and corporate levels. The table also shows long-term and short-term productivity and FTE changes at the Branch level.

	Long-Term	Short-Term				
Department / Branch	**5-Year Average Change/Yr**	**2-Year Change**	**1-Year Change**	**2007 FTEs**	**2011 FTEs**	**FTE Change**
City Overall	**0.8%**	**3.7%**	**4.7%**	**6,751.9**	**7,858.9**	**1,107.0**
Community Services Productivity Index	**1.6%**	**1.5%**	**5.8%**	**2,225.8**	**2,453.1**	**227.3**
Project Management and Maintenance Services *(number of projects managed-buildings; number of projects managed-parks; maintenance work orders completed)*	2.7%	0.8%	11.4%	303.0	341.5	38.5
Community and Recreation Facilities *(total attendance)*	0.6%	0.0%	8.1%	564.0	649.0	85.0
Community and Social Development *(residential neighbourhoods serviced; short-term counselling citizens served, number of projects managed)*	6.2%	13.2%	8.6%	59.8	57.5	-2.3
Community Standards *(Capital City Cleanup volunteers supported; investigations and inspections completed; parking enforcement actions; hectares treated for mosquitoes)*	3.4%	12.5%	8.4%	105.6	112.4	6.8
Community Strategies and Development *(number of projects managed)*	6.5%	22.1%	23.6%	32.0	31.0	-1.0
Fire Rescue Services *(event responses)*	1.8%	-1.7%	2.7%	869.0	954.0	85.0
Neighbourhoods, Parks and Community Recreation *(hectares of parkland maintained; registered programs delivered; trees pruned)*	2.9%	5.8%	0.2%	292.4	307.7	15.3
Corporate Services Productivity Index	**2.6%**	**1.5%**	**3.4%**	**1,272.2**	**1,393.6**	**121.4**
Customer Information Services *(Inside Information customer contacts)*	4.5%	8.9%	7.2%	34.0	33.5	-0.5
Fleet Services *(work requests actioned)*	1.0%	-1.2%	3.3%	587.9	666.0	78.1
Human Resources *(COE FTEs supported)*	2.4%	4.4%	1.7%	138.0	146.5	8.5
Information Technology *(number of clients supported; number of devices supported)*	3.6%	4.1%	4.0%	289.0	306.0	17.0
Law *(open files at June 1; people trained by Corporate Security; actioned alarms)*	1.5%	11.8%	12.4%	60.4	64.3	3.9
Materials Management *(PO's and tenders issued; total issues and receipts; total images and insertions)*	-1.2%	-3.0%	-0.3%	129.1	133.0	3.9
Office of the City Clerk *(individuals, groups, and entities supported)*	-3.4%	-7.9%	3.5%	33.8	44.3	10.5
Financial Services Productivity Index	**-0.2%**	**4.5%**	**3.8%**	**340.0**	**386.7**	**46.7**
Assessment and Taxation *(number of property accounts managed)*	1.0%	7.8%	6.6%	177.1	186.2	9.1
Client Financial Services *(City FTEs supported)*	-2.7%	-2.4%	-2.7%	112.8	150.9	38.1
Corporate Accounting and Treasury *(invoice and payment documents processed; billing transactions and collection activities)*	2.3%	10.8%	11.1%	50.1	49.6	-0.5

Department / Branch	Long-Term 5-Year Average Change/Yr	Short-Term 2-Year Change	Short-Term 1-Year Change	2007 FTEs	2011 FTEs	FTE Change
Utility Services Productivity Index	**-6.9%**	**4.7%**	**16.7%**	**630.5**	**913.7**	**283.2**
Drainage Design and Construction *(length of open cut sewers constructed; length of tunnels constructed)*	-3.1%	13.2%	34.4%	246.0	348.2	102.2
Drainage Utility *(kilometres of sewer maintained; pumpstations maintained; trouble call responses)*	-1.3%	7.0%	0.0%	128.5	142.5	14.0
Waste Management Utility *(tonnes diverted, collected, processed and disposed)*	-12.1%	-4.2%	5.3%	256.0	423.0	167.0
Sustainable Development Productivity Index	**0.0%**	**7.4%**	**0.7%**	**269.2**	**327.6**	**58.4**
Corporate Properties *(leasing and property management civic use space; number of parkade stalls administered)*	1.6%	0.7%	0.3%	24.2	24.2	0.0
Current Planning *(application intake and processing; building inspections completed; development permits issued; coordination projects submitted; business licences issued, bylaws/resolutions to Council; subdivisions approved; vehicle permits issued)*	-2.5%	6.8%	-2.0%	191.0	223.0	32.0
Urban Planning and Environment *(projects managed; public engagement activities not related to a project; internal/external applications/certificates reviewed; Council/Committee/Bylaw reports)*	7.4%	11.0%	8.0%	54.0	80.4	26.4
Transportation Services Productivity Index	**2.1%**	**6.6%**	**0.2%**	**2,014.2**	**2,384.2**	**370.0**
Edmonton Transit *(bus and LRT ridership; DATS trips)*	2.1%	7.0%	0.2%	1,872.0	2,226.2	354.2
LRT Design and Construction *(projects managed)*	11.2%	35.3%	35.3%	15.0	18.0	3.0
Roads Design and Construction *(projects managed)*	4.2%	26.5%	18.1%	51.6	67.0	15.4
Transportation Operations *(tonnes of aggregate recycled; potholes repaired; pass kilometres of route sanding)*	1.1%	2.0%	-1.7%	75.6	73.0	-2.6

Administrative Update to the Office of the City Auditor - City Productivity Audit

Recommendation:
That the February 19, 2013, Financial Services and Utilities report 2013CA5791, be received for information.

Report Summary

This report provides a status update on Administration's implementation of the City Auditor's recommendations.

Report

Administration supports the Auditor's recommendation and is in the process of implementing productivity measures within the broader performance management system. Financial Services and Utilities is on schedule to meet the timelines as set out in management's response to the Audit report. The following articulates management's response to the Audit recommendation and provides an update on the actions taken to date.

Management accepts the recommendation but wants to that the productivity measurement exercise undertaken through this audit does not answer any questions with respect to the longer-term financial sustainability of the City organization. Focusing on productivity solely represented by labour inputs used to produce desired results does not provide sufficient information or analysis to draw those conclusions.

This perspective has been further validated by the Office of the City Auditor through its comments contained within the report. Specifically, the report states "*To achieve optimal results, all of the elements of performance measurement (inputs, activities, outputs, and outcomes) must be appropriately balanced. Since productivity is just the ratio of outputs to inputs, additional performance measures such as quality, effectiveness, and customer satisfaction are required to determine whether or not an activity is achieving its desired outcomes.*"

Administration is working extremely hard on the development of a robust performance management system under which various productivity and other measures would be applied. The system is intended to encapsulate the progress towards achieving City Council's goals and outcomes as articulated in the City's strategic plan and measure the success of department's efforts in delivering core services to the public. The recommendation from Office of the City Auditor clearly fits in with the work Administration is currently undertaking on performance management.

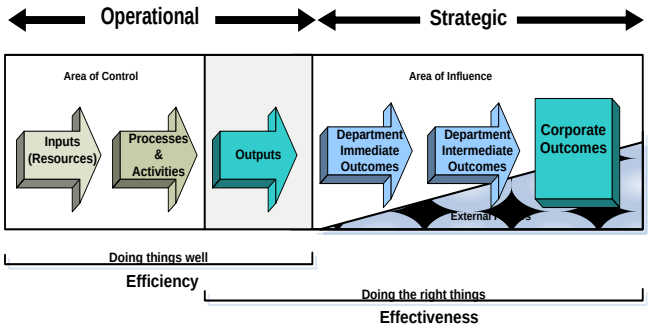
Financial Services and Utilities is leading the corporate initiative to improve performance measurement systems. These efforts include the development, refinement, and reporting on corporate outcomes and performance measures as approved by City Council. Work has already begun relative to Office of the City Auditor observations that meaningful productivity targets and measures need to be developed at the Branch level. Administration has secured an external

resource that will provide training tools to be used by staff to accurately and consistently create meaningful Branch specific productivity targets and measures. Productivity measures will be incorporated into performance measurement reports along with other indicators to inform business decisions. As the project evolves, stakeholders will be able to identify opportunities to increase real productivity and engage internal expertise to improve processes.

The development of performance measures is predicated on the logic model as described below:

Logical Model

As expressed in the report from the Office of the City Auditor, productivity,



which is a measure of efficiency, is one element of the larger picture of performance measurements. As such, and as described in the logic model, as the City moves to a greater level of maturity with respect to performance measurement systems, productivity measures that will assist Administration in promoting efficiency will also evolve. This effort will include establishing the appropriate targets for key productivity measures. Reporting on productivity measures along with the broader performance management reporting commitments will occur at regular intervals. These reporting initiatives include, but are not limited to, the citizen dashboard, annual results report, rapid scorecard, enterprise risk management reporting and results and priority based budgets. This will work in concert with the City's focus on continuous improvement. As departments identify performance gaps through a more rigorous performance management approach, continuous improvement efforts will become more targeted toward those areas where the improvement will have the most significant results.

The Office of the City Auditor has also recommended incorporating productivity measures into the results based budgeting process.

Administration has already begun the implementation of a results based budgeting process which is about emphasizing performance and accountability; asking questions such as: Where are we now, Where do we want to be, How do we get there and How do we measure our progress? In doing this, best practice evidence suggests a greater emphasis is placed on a more deliberate process of allocating resources to programs and services that clearly advance the priorities of the organization. As part of the continuum of results based budgeting and through creating accountability for results, measuring productivity through an integrated and robust performance management system will serve to inform the development of future operating budgets and will promote a culture that strives for efficiencies in the achievement of results. This is in keeping with Administration's current plan.

In order to support the progression towards results based budgeting, Administration is implementing an operating/capital budget system. A tender process has been completed and a contractor selected, and implementation for the operating component is scheduled for the end of Quarter 2, 2013. Part of the roll out of the new system will be an enhanced budget process that further moves the City towards results based budgeting.

Corporate Outcomes

- The Way Ahead, Edmonton's Strategic Plan 2009-2018
- Ensure Edmonton's Financial Sustainability