

**Economic Growth and Development in Saskatoon:
Re-examining and Updating Input/Output Measurements for
the Changing Business Climate**

Prepared for the City of Saskatoon and Greater Saskatoon Chamber of Commerce

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Executive Summary

The July 2009 issue of *Maclean's* magazine published an article entitled "Canada's Best and Worst Managed Cities." The City of Saskatoon received an overall "C" ranking and failed to meet relative national average standards in terms of economic development. Since 2007 however, the provincial economy has had substantial gains in economic growth and productivity as commodity prices have surged in response to increased demand for local resources. As a direct result of these favorable market conditions, Saskatoon's GDP and productivity rates have dramatically risen since 2007. Given the substantial business climate changes that Saskatoon has encountered since 2007, a reexamination of the efficiency and effectiveness measurements used within the *Maclean's* study was appropriate since it was not clear why Saskatoon had fared so poorly in terms of economic development.

This report finds that the Economic Development ranking of the City of Saskatoon is not only the **highest** in relative terms, but with an overall + 1 letter grade improvement, the City of Saskatoon has improved relative Economic Development standing **surpassing** that of any other municipality surveyed within Western Canada. Despite such a result however, this report raises concerns over the measurements used to represent municipal performance as several indicators fall outside of municipal control.

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Introduction

The July 2009 issue of *Maclean's* magazine published an article pertaining to "Canada's Best and Worst Managed Cities." Although Saskatoon ranked as Canada's 2nd best managed city, the City of Saskatoon did not fare as well in the category of Economic Development. The City of Saskatoon received a "C- 27/31" rating in terms of Economic Development Efficiency, the 27th best performing city in terms of input efficiency within Canada. In addition, the City of Saskatoon received a rating of "C+ 13/31" in terms of Economic Development Effectiveness, the 13th best performing city in Canada in terms of output effectiveness. As a result of these mediocre ratings, Saskatoon failed to meet relative national averages in terms of Economic Development, and was given an overall grade of C under this category.

An important measure of economic development is productivity. The "Best Managed Cities" report uses Real Gross Domestic Product for the years 2005, 2006, and 2007 as one of the variables to proxy productivity. Since 2007, the provincial economy has undergone substantial productivity increases as commodity prices have surged in response to increased demand for local natural resources. These resources currently account for 1/4 of the world's uranium output and 1/3 of the world's potash supply. As a direct result of these improved market conditions, Saskatoon's GDP and productivity rates have increased significantly since the 2007 fiscal year. Given the substantial business climate changes Saskatoon has encountered since 2007, an updated and closer examination of the efficiency and effectiveness measurements in the *Maclean's* study is appropriate, as it is not clear why Saskatchewan has fared so poorly in terms of economic development.

The following research will benefit the Greater Saskatoon Chamber of Commerce and policy makers in understanding recent developments in economic growth and development in the City of Saskatoon and place them in a Western Canadian context using the Maclean's methodology.

Summarizing the AIMS Methodology

The Annual Municipal Performance Report uses a comparative approach to analyze the relationship between the efficiency of inputs and the effectiveness of outputs in each city relative to 30 other Canadian municipalities. The letter Grade C+ represents the benchmark grade for average performance. Cities which exceed national averages receive grades \times B - while cities which perform below the national average receive grades ÖC+ . Grades are calculated using Z \acute{o} scores (*See Appendix 2*) to measure how many standard deviations (variation from mean) a cities performance is above or below mean values. Following the AIMS methodology of Audus, Chisholm, and O'Keefe (2009), a city's score on a given indicator i is computed as follows:

$$z_i = (x_i - \mu_i) / \sigma_i$$

given,

x_i = the city score on indicator i

μ_i = the mean value across cities

σ_i = the standard deviation across cities

The final grade for Economic Development is a weighted average of both the efficiency and effectiveness measurements for the aggregated years 2005, 2006 and 2007:

“By including a balanced combination of efficiency and effectiveness measures, municipalities that chose to ‘spend more to get more’ will not be systematically penalized in the scoring. Conversely, municipalities that ‘spend a lot but do little with it’ or ‘spend little and get a lot for it’ will stand out from the rest of the pack – below it in the former case and above it in the latter.” (Audus et., al 2009)

Below *Table 1.1* lists the measurements used within the Atlantic Institute of Market Studies July 2009 report. A more comprehensive description is provided in *Appendix 1*.

Table 1.1: Economic Measurements

<u>Measurement</u>	<u>Type</u>
Economic Development Costs Per Capita, Average 2007-2009	Efficiency
Change in Economic Development Cost Per Capita, Average Annual Change 2007-2009	Efficiency
Infrastructure Cost per Capita, Average Annual Change 2007-2009	Efficiency
Change in the Cost of Infrastructure Per Capita, Average Annual Change 2007-2009	Efficiency
Value of New Construction Per Million Dollars of Property Assessment 2007-2009	Effectiveness
Total Increase in Immigration, Average 2007-2009	Effectiveness
Percentage Change in Population, Average 2007-2009	Effectiveness
Real GDP Per Capita, Average 2007-2009	Effectiveness
Relative Economic Diversity, Average 2007-2009	Effectiveness
Percentage Change in the Value of Capital Assets, Average Annual Change 2007-2009	Effectiveness

Table Source: *(Audus et., al 2009)*

General Notes to the Revised Methodology

There are 5 Western Canadian cities analyzed in this report. These cities were selected to compare Saskatoon's relative economic performance to other large Western Canadian cities. The data collected for the efficiency and effectiveness indicators come predominantly from city financial statements and provincial governments. Since the next Canadian Census is unavailable until 2011, several figures used within this report are budgeted/preliminary forecasts. These numbers have been noted within the appendixes. Below are three additional notes which elaborate on the methodology used within this report.

First to assess the affects of recent developments in economic growth in Saskatoon, the *AIMS* methodology (*as outlined above*) was replicated as closely as possible and extended to include the 2007, 2008 and 2009 years. Given the magnitude of this task, in this paper analysis of Saskatoon's Economic Development has been isolated for comparison with the performance of other large cities within Western Canada. These cities include Calgary, Edmonton, Regina, and Winnipeg.

Second, in conducting the comparative analysis the efficiency and effectiveness measurements used in the *AIMS* study were replicated and extended to include the 2007-2009 years. An accounting policy change implemented by PSAB (*Public Sector Accounting Board*) affects the recording of the Tangible Capital Asset's figure effective 2008.¹ The 2006 and 2007 Tangible Capital Asset figures are thus now compounded and as a result, the Percentage Change in the Value of Capital Assets figures are unavailable for analysis since

¹ During the year, Municipal Cities adopted PSAB (Public Sector Accounting Board) PS3150's Tangible Capital Assets, which requires governments to record and amortize all tangible capital assets. All contributed tangible capital assets are recorded along with the respective revenue for developer contributed tangible capital assets, in the year of the transfer at fair market value. These changes have been applied retrospectively with restatement of the prior periods result.

the AIMS methodology requires observations to be available for at least two years to have a valid data point for inclusion (Audus et., al 2009).

Third, to remain consistent with the AIMS methodology it is necessary that all efficiency and effectiveness figures depict economic activities confined within City boundaries². The exception to this requirement is the GDP figure which uses CMA (Census Metropolitan Area) related data for each municipality.

Results Summary

Based upon an updated evaluation of relative municipal performance in Western Canada for the years 2007-2009, this report finds that the Economic Development standing of the City of Saskatoon is not only the **highest** in relative terms, but with an overall (+) 1 letter grade improvement, the City of Saskatoon has improved its relative Economic Development standing **greater than** the other municipalities studied in Western Canada. Saskatoon has improved the efficiency of economic inputs used by 1 letter grade (from a C - to a B-), and has improved the effectiveness of economic outputs by 1 letter grade to a B+ from a previously recorded C+ rating. As a result, these substantial improvements in productivity have shifted Saskatoon's overall Economic Development standing by 1 letter grade to a B from a previously recorded C letter grade. A more detailed breakdown of Saskatoon's Economic Development improvement can be found in the next section.

In terms of relative Economic Development performance for the rest of Western Canada, the City of Calgary and the City of Winnipeg tied for 2nd rank within Western Canada, while

² Analysis of relative economic performance must either include or exclude CMA (Census Metropolitan Area) related data for each performance indicator to remain consistent. Exclusion of CMA data within this report is used to capture municipal performance within city boundaries.

both Cities having an unchanged overall grade from the previous AIMS report.³ However since this report is concerned with ranking relative Economic Development performance, the City of Calgary claims 2nd position with an overall grade of C, while Winnipeg ranks in 3rd position with a grade of C- in terms of relative economic performance.

This report finds that the City of Edmonton ranks 4th within Western Canada, as overall Economic Development fell 1/3rd of a letter grade to a C standing, from a previously recorded C+ ranking. Concluding the results from the list of municipalities surveyed within Western Canada, Regina was found to be the worst performing City in terms of relative Economic Development for the years 2007-2009, as Regina slipped 1 letter grade from an overall Economic Development rating of a B to a C ranking. *Table 1.2* below summarizes the results of the Municipal Performance survey.

Table 1.2: Economic Development Rank

City	2007-2009 Economic Development Rank
Saskatoon	1
Calgary	2
Winnipeg	3
Edmonton	4
Regina	5

³ The City of Calgary and the City of Winnipeg's improvement in Economic Efficiency was offset by an equa-proportionate fall in Economic Effectiveness.

Saskatoon's Economic Development Improvement

The results of this 2007-2009 Western Canadian Municipal Performance Report speaks volumes for Saskatoon's performance as a city in Western Canada. In relative terms Saskatoon spent little and received a lot. Amidst the worst recession since the Great Depression, the diversity of Saskatoon's resource driven economy shined under the AIMS methodology. Despite this result however, the findings of this report raise concern over the measurements used to represent municipal performance, as several indicators analyzed in the AIMS methodology fall outside of municipal control, and therefore fail to directly capture the economic performance of a city. These concerns will be discussed in the next section.

Table 1.3 below first depicts how Saskatoon spent little while *Table 1.4* (next page) shows how Saskatoon received a lot in relative terms.⁴

Table 1.3

Saskatoon Economic Efficiency Improvement

Indicator	Current Grade	Previous Grade	Grade Improvement (+/-)
PLANNING & DEVELOPMENT	C+	D+	+1
YEAR OVER YEAR % CHANGE IN PLANNING & DEVELOPMENT	D	A-	(-2.75)
TOTAL CAPITAL EXPENDITURES	A+	F	+4.25
YEAR OVER YEAR % CHANGE IN TOTAL CAPITAL EXPENDITURES	C	D	+1
TOTAL	B-	C-	+1

⁴ The Grade Improvement column denotes the (+/-) letter grade change in a city's score. For example a grade improvement of +1 would be given for a letter grade shift of D+ to C+. Alternatively a grade improvement of (-1) is given for a letter grade shift of C+ to D+.

Relative to the other Municipalities surveyed within Western Canada, Saskatoon performed the best in terms of Economic Development Efficiency with a +1 grade improvement. So how did Saskatoon do it? In relative terms the City of Saskatoon spent less on Planning & Development and Total Capital Expenditures. As such, Saskatoon improved letter grades under these categories from a D+ to a C+ and F to A+ rating respectively. *(Definitions of the indicator components have been provided in Appendix 1.)*

Table 1.4

Saskatoon Economic Effectiveness Improvement

Indicator	Current Grade	Previous Grade	Grade Improvement (+/-)
CONSTRUCTION VALUE	A+	A+	Neutral
% CHANGE IN IMMIGRATION POPULATION	A+	F	+3 1/3
YEAR OVER YEAR % CHANGE IN POPULATION	D+	C-	(- 1/3)
GDP PER CAPITA	D+	D	+1/3
ECONOMIC DIVERSITY	A+	A-	+2/3
PERCENTAGE CHANGE IN THE VALUE OF CAPITAL ASSETS	N/A	C	N/A
TOTAL	B+	C+	+1

Relative to the other Municipalities surveyed within Western Canada, this Performance Report finds the City of Saskatoon has improved relative Economic Development Effectiveness by +1 letter grade. Under the AIMS methodology, the City of Saskatoon ranks as the best performer in Western Canada. However since this result appears to be heavily driven by the Percentage of New Immigrants and Economic Diversity indicators, the

robustness and validity of these figures have been tested by first removing the Percentage of New Immigrants indicator in *Table 1.5*, and then by removing the Economic Diversity indicator in *Table 1.6*. This methodology was selected since the extent to which these measurements serves as an appropriate bench mark for economic performance remains questionable and will be explored further within the next section.

Table 1.5

Adjusted Grades After Removing Immigration Population:

Rank	City	Overall Grade	Overall Adjusted Grade
1	Saskatoon	B	B-
1	Edmonton	C	B-
3	Calgary	C-	C
4	Regina	C	D+
5	Winnipeg	C	D

Table 1.5 illustrates that after removing the Immigration Population indicator, the City of Saskatoon's ranking fell slightly (as would be expected with an Immigration Population indicator that shifted from a previously recorded F to an A+ grade), while Edmonton showed the greatest productivity jump under the adjusted AIMS methodology by shifting from 4th rank, to a tied 1st position with Saskatoon. Although checking the robustness of the Immigration Population valuing within the AIMS methodology failed to substantially alter Saskatoon's

ranking, the impact of the indicator on relative economic performance is evident as Cities such as Edmonton were able to close the relative economic performance gap.

Table 1.6

Adjusted Grades After Removing Economic Diversity:

Rank	City	Overall Grade	Overall Adjusted Grade
1	Saskatoon	B	B-
2	Calgary	C	C+
3	Winnipeg	C-	C-
4	Edmonton	C	C-
4	Regina	C	C+

Table 1.6 depicts that after removing the Economic Diversity indicator, the City of Saskatoon's ranking fell (as would be expected with an Economic Diversity Ranking of 0.94), while 2nd ranked Calgary's standing rose (as would be expected with a mediocre Economic Diversity ranking of 0.77). Saskatoon however was still able to perform well when the assumptions of the AIMS methodology were altered, as Saskatoon managed to finish + 1/3 letter grade ahead of Calgary in this Western Canadian Municipal Performance Report. Although checking the robustness of the Economic Diversity valuing within the AIMS methodology failed to alter relative rankings, the impact of the indicator on relative economic performance is evident as well. As such the extent to which these measurements serve as an appropriate bench mark for economic performance will be explored within the next section.

Limitations of the AIMS Measurements

The AIMS July 2009 Municipal Performance Report sought to provide more and better information to citizens that would allow them to assess how well their city governments are performing (Audus et., al 2009). As part of this process, this report would like to suggest to AIMS several recommendations for future reports which could in turn provide more and better information to the public.

First we would like to draw attention to the Economic Diversity figure used as an indicator of Effectiveness Measurement. The Conference Board of Canada's definition of Economic Diversity implies that if a CMA's economic structure is similar to that of Canada's, then the Municipality will take on a value closer to 1, and therefore the city will score better. Taking a closer look however, such a measurement system appears to be flawed by inspection.

Consider Calgary's mediocre economic diversity rating of 0.77, while Saskatoon boasts a favorable 0.94 rating fueled upon a strong potash, uranium, oil, and agricultural based economy. Since this rating corresponds to a highly diverse economy, under the AIMS measurement system Saskatoon consistently outperforms the City of Calgary in this category. Conceptually this result implies that Calgary should abandon their comparative advantage in Oil & Gas production, and focus on a more diverse, yet less productive basket of goods to perform better in terms of Economic Effectiveness. Given this rationale, a different measurement indicator could be useful to capture relative comparative advantages in an effort to measure economic effectiveness.

Second, a closer examination of the indicators used within the Municipal Performance Report is needed as it remains unclear why AIMS has chosen to use endogenous variables to evaluate Economic Development performance within the Absolute Approach. To illustrate,

consider the ~~Percentage of New Immigrants per 1000 Population~~ indicator of Economic Effectiveness. Intuitively the immigration statistic is at least partly a function of population growth, construction value, etc. If a municipality is performing relatively well economically, it follows that so should immigration. Thus immigration is at least partly a second of economic performance already captured in income measures, for example.

In addition to this measurement problem, we find the Real GDP indicator to be a controversial indicator of a municipality's economic performance as well. Although Saskatoon is able to control economic development and infrastructure spending, the City of Saskatoon's policymakers cannot control commodity prices, or the performance of the provincial economy. Therefore the extent to which Real GDP is a representative figure of a municipality's Economic Effectiveness certainly requires further examination.

Lastly, although measuring 31 cities in Canada provides an ~~apples to apples~~ measurement of national performance, it would be useful to separate the Municipal Performance Report into sub-sections of Canada in order to derive a more representative and comparative indication of regional performance. The Western Canadian economy is driven by resource industries, while Eastern Canada is less specialized in natural resources, but more concentrated in manufacturing. By critiquing the regional performance of municipalities who have the same economic structure; AIMS may be able to get a better indication of what actually is going on in terms of regional performance.

Concluding Remarks

The main objective of the 2007-2009 Western Canadian Municipal Performance Report is to help The Greater Saskatoon Chamber of Commerce understand economic growth and development, and its relationship to policy opinions in Saskatoon. This report finds that the Economic Development standing of the City of Saskatoon is not only the **highest** in relative terms, but with an overall + 1 letter grade improvement, the City of Saskatoon has improved its relative Economic Development standing **greater** to that of any other municipality surveyed within Western Canada. Despite such a result however, this report has raised concerns over the measurements used to represent municipal performance as several indicators fall outside of municipal control.

It is no secret that the rich and diverse structure of Saskatoon's resource based economy is expected to grow substantially in the near future. This is evident in the improvements in this Western Canadian Municipal Performance Report. It is therefore the City of Saskatoon's responsibility to ensure that policies exist which embrace openness, competitiveness and innovation so as to not impede Saskatoon's potential economic growth. These policies should particularly include attention to the infrastructure required for growth. Although Saskatoon scores well in Economic Efficiency, Saskatoon must ensure that this Efficiency continues to correspond with elevated levels of growth so as to not impede on expansion. Once Saskatoon get this in place skilled labor will come and in turn this will attract other businesses which will deliver services which make Saskatoon an attractive place to live.

Saskatoon offers the opportunity and economic diversity to successfully expand industries already here. It is now policymaker's responsibility to invest for the future, and make Saskatoon an attractive location for business.

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The Conference Board of Canada, Economic Insights into 27 Canadian Metropolitan Economies, Economic Performance and Trends, Spring 2008, 2007, 2006, 2005, Summer 2008, 2A Spring 2007, 2006, 2005 2B Summer 2007, 2006, 2005.

Calgary

The City of Calgary Financial Statements for the Year Ended December 31, 2007

The City of Calgary Financial Statements for the Year Ended December 31, 2008

The City of Calgary Financial Statements for the Year Ended December 31, 2009

Edmonton

The City of Edmonton Financial Statements for the Year Ended December 31, 2007

The City of Edmonton Financial Statements for the Year Ended December 31, 2008

The City of Edmonton Financial Statements for the Year Ended December 31, 2009

Regina

The City of Regina Financial Statements for the Year Ended December 31, 2007

The City of Regina Financial Statements for the Year Ended December 31, 2008

The City of Regina Financial Statements for the Year Ended December 31, 2009

Saskatoon

The City of Saskatoon Financial Statements for the Year Ended December 31, 2007

The City of Saskatoon Financial Statements for the Year Ended December 31, 2008

Winnipeg

The City of Winnipeg Financial Statements for the Year Ended December 31, 2007

The City of Winnipeg Financial Statements for the Year Ended December 31, 2008

The City of Winnipeg Financial Statements for the Year Ended December 31, 2009

Appendix 1: AIMS Measurements

Efficiency (Input) Measurements

Economic Development Cost per Capita includes all operating and capital costs, including allocated overhead, for planning, zoning, tourism, and community development, divided by the population of the City.

Percentage Change in Economic Development Cost per Capita is the year over year percentage change in Economic Development spending.

Cost of Infrastructure per Capita is the total capital expenditure of a City across all departments divided by the population of the city as reported.

Percentage Change in Cost of Infrastructure per Capita is the year over year percentage change in Infrastructure spending.

Effectiveness (Output) Measurements

Value of New Construction per Million Dollars of Property Tax Assessment is the total value of building permits issued by a city in a given year divided by the total assessed value of all property within the city.

New Immigration is the year over year percentage change in permanent immigration.

Percentage Change in Population is the year over year percentage change in people living in the city (Population Growth Rate).

Real Gross Domestic Product per Capita is the GDP of the city as reported by the Conference Board of Canada Metropolitan Outlook, divided by the population of the city.

Economic Diversity of a city is an indicator developed by the Conference Board of Canada. Canada is the benchmark diversified economy. A value of one is given to a city that has the same structure as Canada, and a value of zero would be given to a city with no diversity (a single sector).

Percentage Change in the Value of Capital Assets is the value of capital assets (value of the properties, buildings, equipment, etc. used for city operations) owned by the City in a given year relative to the value of assets owned in the previous year.

Source:

O'Keefe, B., Audus, R & Chisholm, H. "National Municipal Performance Report," Atlantic Institute for Market Studies: July 2009.

Appendix 1A: Categorizing the AIMS Measurements

Endogenous Variables:

- Economic Development Cost Per Capita
- Cost of Infrastructure per Capita
- Percentage Change in the Value of Capital Assets
- Economic Diversity
- Percentage Change in Population
- Value of New Construction per Million Dollars of Property Tax Assessment
- New Immigration

Exogenous Variables:

- Real Gross Domestic Product Per Capita

Policy Choice Variables:

- Economic Development Cost Per Capita
- Cost of Infrastructure per Capita
- Value of New Construction per Million Dollars of Property Tax Assessment
- New Immigration
- Economic Diversity
- Percentage Change in the Value of Capital Assets

Appendix 2: Z-Score Calculations

<u>Z-score range</u>	<u>Letter Grade</u>
× 1.00	A+
0.818-1.00	A
0.636-0.818	A-
0.455-0.636	B+
0.273-0.455	B
0.091-0.273	B-
-0.091-0.091	C+ Average
-0.273-0.091	C
-0.455-0.273	C-
-0.636-0.455	D+
-0.818-0.636	D
-1.000-0.818	D-
Ö-1.00	F

* Calculations are used to measure overall relative municipal performance. These measurements are applied to all cities.

Source:

O'Keefe, B., Audus, R & Chisholm, H. "National Municipal Performance Report," Atlantic Institute for Market Studies: July 2009.

Appendix 4: (Regina Data)

YEAR	ECD	ECD/CPTA	%ECD/CPTA CH	INF	INF/CPTA	% INF/CPTA CH	CONSTVALUENEW	IMMGR	IMMGR %	POP	% POP CH	REALGDP	GDP/CPTA	EC DVSTY	ASSTVLU	%ASSTVLU CH		
2007	19,866	106.51	N/A	323.68	1736.18	0.0344	51,482	89	0.000477386	186432	0.0126	7565	40578	0.76	N/A	N/A		
2008	9,964	52.57	-0.5064	366.22	1932.15	0.1129	54,030	496	0.002616882	189540	0.0167	7855	41442	0.8	908,486	N/A		
2009	18,582	96.13	0.8286	428.4	2216.25	0.147	50,464	652	0.003373013	193299	0.0198	7743	40067	0.82	962,886	0.0598		
Average	16134	85.07	0.1611	372.77	1961.53	0.098	51992	412.33	0.00216	189757	0.0164	7721	40692.33	0.79	935686	0.0598		
EFFICIENCY GRADE																EFFECTIVENESS GRADE	OVERALL GRADE	
Z-score = (xi-X)/S.D		-1.36	0.81	0.72	0.34	0.75		1.06	-0.32	-0.7	-0.96	N/A						
Mean		114.14	0.0795	1734.78	0.08576	38361.87		0.0013894	0.01816	49795.2	0.858	0.0802						
S.D = $\sqrt{\sum(xi-X)^2/n-1}$		21.368	0.10097	315.91	0.0364	18080.13		0.00073	0.0055	12938.3	0.0708	N/A						
Current Efficiency Grade		A+	D	D	C-	C												
Current Effectiveness Grade							A-	A+	D+	D-	F	N/A	C-	C				
Previous Efficiency Grade		A+	B-	A+	A+	A+												
Previous Effectiveness Grade							A+	F	D-	D-	C-	C-	C-	B				
GRADE IMPROVEMENT (-1) LETTER GRADE																		

Source: Author's Calculations

Appendix 5: (Calgary Data)

YEAR	ECD	ECD/CPTA	% ECD/CPTA CH	INF	INF/CPTA	% INF/CPTA CH	CONSTVALUE	NEW IMMGR	IMMGR %	POP	% POP CH	REALGDP	GDP/CPTA	EC DVSTY	ASSTVLU	%ASSTVLU CH			
2007	116,087	113.82	N/A	1,738.95	1704.94	0.0379	32,708	-577	-0.0005667	1,019,950	0.0284	62770	61542	0.77	N/A	N/A			
2008	*104,397	*100.1	*-0.1371	1,938.39	1858.65	0.0901	18,683	1792	0.00171829	1,042,900	0.0225	63562	60947	0.77	9,057,406	N/A			
2009	*103,022	*96.69	*-0.0341	2,526	2371.23	0.2758	16,428	660	0.00061945	1,065,460	0.0216	61592	57808	0.77	9,992,208	0.1032			
Average	107,835.33	103.54	*-0.0856	2067.93	1978.27	0.135	22606.33	625	0.000591	1042770	0.0242	62641.33	60099	0.77	9524807	0.1032			
* Denotes Budgeted Figures																			
EFFICIENCY GRADE													EFFECTIVENESS GRADE					OVERALL GRADE	
Z-score = (xi-X)/S.D		-0.5	-1.64		0.77	1.35		-0.87		-1.09		1.1	0.8	-1.24		N/A			
Mean		114.14	0.0795		1734.78	0.08576		38361.87		0.0013894		0.01816	49795.2	0.858		0.0802			
S.D = $\sqrt{\sum(x_i - \bar{x})^2 / n - 1}$		21.358	0.10097		315.91	0.0364		18080.13		0.00073		0.0055	12938.3	0.0708		N/A			
Current Efficiency Grade		B+	A+		D	F		C+											
Current Effectiveness Grade								F		F		A+	B+	F		N/A	C-	C	
Previous Efficiency Grade		C	F		F	C		D											
Previous Effectiveness Grade								A+		C+		A+	C+	C-		C-	B	C	
																		GRADE IMPROVEMENT	NEUTRAL

* 2006-2009 Planning & Development Statistics are Budgeted Estimates

Source: Author's Calculations

Appendix 6: (Edmonton Data)

YEAR	EOD	EOD/CPTA	% EOD/CPTA CH	INF	INF/CPTA	% INF/CPTA CH	CONST/VALUE	NEW IMMGR	IMMGR %	POP	% POP CH	REAL GDP	GDP/CPTA	EC	DVSTY	ASSTVLU	% ASSTVLU CH				
2007	86,691	116.99	0.1863	1,292.51	1744.28	0.075	30,910	96	0.00129555	741000	0.0146	50343	67939	0.89	N/A	N/A					
2008	100,448	133.5	0.1411	1,494.46	1986.23	0.1387	20,001	976	0.001297162	752412	0.0154	51292	68170	0.88	6,923,872	N/A					
2009	104,200	133.17	-0.0024	1,494.73	1910.35	-0.0382	18,540	990	0.001265274	782439	0.0399	49903	63779	0.9	7,739,719	0.1178					
Average	97113	127.89	0.11	1427.23	1800.29	0.059	23150.33	687.33	0.000897	750617	0.0233	50512.67	66629.33	0.89	7331796	0.1178					
							EFFICIENCY GRADE											EFFECTIVENESS GRADE		OVERALL GRADE	
Z-score = $(\bar{x}-X)/S.D$		0.64	0.3	0.46	-0.74		-0.84		-0.67		0.93	1.3	0.45		N/A						
Mean		114.14	0.0795	1734.78	0.08576		38361.87		0.0013894		0.01816	49795.2	0.858		0.0802						
S.D = $\sqrt{(\bar{x}-X)^2/n-1}$		21.358	0.10097	315.91	0.0364		18080.13		0.00073		0.0055	12938.3	0.0708		N/A						
Current Efficiency Grade		D	C-	D+	A-															C-	
Current Effectiveness Grade							F		D-		A-	A+	B-		N/A					C+	
Previous Efficiency Grade		B	C-	F	D+															C-	
Previous Effectiveness Grade							A+		D+		A+	B-	B+		C-					B	
																					GRADE IMPROVEMENT (-) 1/3 LETTER GRADE

Source: Author's Calculations

Appendix 7: (Winnipeg Data)

YEAR	ECO	ECO/CPTA	%ECO/CPTA CH	INF	INF/CPTA	%INF/CPTA CH	CONSTVALUE	NEW IMMGR	IMMGR %	POP	%POP CH	REALGDP	GDP/CPTA	EC DIVSTY	ASSTVLU	%ASSTVLU CH			
2007	90,001	136.59	0.1156	1,033.53	1568.57	0.0404	26,801	765	0.00116103	658,900	0.0082	22839	34662	0.89	N/A	N/A			
2008	93,738	138.85	0.0173	1,065.18	1599.61	0.0198	32,974	-340	-0.00051059	665,900	0.0106	25388	38126	0.91	4,058,319	N/A			
2009	97,958	145.1	0.045	1,150.43	1704.09	0.0653	34,269	1827	0.00270627	675,100	0.0138	25031	37077	0.91	4,291,354	0.05742			
Average	93899	140.18	0.0593	1083.047	1624.09	0.0418	31348	750.67	0.001119	666633	0.0109	24419.33	36621.67	0.90	4174837	0.05742			
							EFFICIENCY GRADE										EFFECTIVENESS GRADE		OVERALL GRADE
Z-score = (x _i -x)/S.D		1.21	-0.2	-0.35	-1.21		-0.39	-0.37	-1.32	-1.02	0.59					N/A			
Mean		114.14	0.0795	1734.78	0.08576		38361.87	0.0013894	0.01816	49795.2	0.858				0.0802				
S.D = $\sqrt{\sum(x_i - \bar{x})^2 / n - 1}$		21.358	0.10097	315.91	0.0364		18080.13	0.00073	0.0055	12938.3	0.0708				N/A				
Current Efficiency Grade		F	B-	B	A+	B													
Current Effectiveness Grade							D+	D+	F	F	B				N/A	D	C-		
Previous Efficiency Grade		F	C+	B+	D+	C-										C	C-		
Previous Effectiveness Grade							B	D+	D+	F	B+				B-				
																	GRADE IMPROVEMENT	NEUTRAL	

Source: Author's Calculations

Appendix 8: Robustness of the Economic Diversification Indicator

Adjusted Grades After Removing Economic Diversity:

Rank	City	Overall Grade	Overall Adjusted Grade
1	Saskatoon	B	B-
2	Calgary	C	C+
3	Winnipeg	C-	C-
4	Edmonton	C	C-
4	Regina	C	C+

Calculations

Rank	Overall Grade Improvement	Overall Grade	Overall Adjusted Grade Change (Removing Ec. Div.)	Overall Adjusted Grade (Removing Ec. Div.)	Adjusted Rank
Saskatoon	(+1)	B	(-1/3)	B-	1
Calgary	Neutral	C	(+1/3)	C+	2
Winnipeg	Neutral	C-	Neutral	C-	3
Edmonton	(-1/3)	C	(-1/3)	C-	4
Regina	(-1)	C	(+1/3)	C+	4

Appendix 8A: Robustness of the Immigration Population Indicator

Adjusted Grades After Removing Economic Diversity:

Rank	City	Overall Grade	Overall Adjusted Grade
1	Saskatoon	B	B-
1	Edmonton	C	B-
3	Calgary	C-	C
4	Regina	C	D+
5	Winnipeg	C	D

Calculations

Rank	Overall Grade Improvement	Overall Grade	Overall Adjusted Grade Change (Removing IMM. POP.)	Overall Adjusted Grade (Removing IMM. POP.)	Adjusted Rank
Saskatoon	(+1)	B	(-1/3)	B-	1
Calgary	Neutral	C	Neutral	C	3
Winnipeg	Neutral	C-	(-1/3)	D	5
Edmonton	(-1/3)	C	(1/3)	B-	1
Regina	(-1)	C	(-2/3)	D+	4