

Table A.1: 2000-2016 Development Trend Continues in Six Study Areas

	Edmonton CMA	Calgary CMA	Lethbridge CMA	Red Deer CA	Medicine Hat CA	Grande Prairie CA
Increase of developed land (acres)	128,710	72,462	16,579	5,309	15,238	3,607
% increase of developed land	76%	63%	113%	55%	102%	46%
% of newly developed land converted from farmland	92%	71%	93%	75%	46%	95%
% of farmland in 2000 that became developed	7%	7%	3%	35%	1%	16%

(Source: author's analysis of crop inventory data from Agriculture and Agrifood Canada)

Table A.2. Definitions of Attributes

attributes	types	WTP	WTA
ASC	binary (0,1) variable indicating a baseline conservation strategy (avoid grain or oilseed land being used for residential)	binary (0,1) variable indicating a baseline conservation strategy (avoid grain or oilseed land being used for residential)	binary (0,1) variable indicating a baseline conversion strategy (convert grain or oilseed land to residential use)
Vegetable	binary (0,1) variable indicating that commercial vegetable farm is conserved	binary (0,1) variable indicating that commercial vegetable farm is conserved	binary (0,1) variable indicating that commercial vegetable farm is converted
Livestock	binary (0,1) variable indicating that livestock grazing land is conserved	binary (0,1) variable indicating that livestock grazing land is conserved	binary (0,1) variable indicating that livestock grazing land is converted
Retail	binary (0,1) variable indicating that conserved land would otherwise be converted into retail	binary (0,1) variable indicating that conserved land would otherwise be converted into retail	binary (0,1) variable indicating that land will be converted into retail use
light industrial	binary (0,1) variable indicating that conserved land would otherwise be converted into light industrial use	binary (0,1) variable indicating that conserved land would otherwise be converted into light industrial use	binary (0,1) variable indicating that land will be converted into light industrial use
Cost	One-time additional increase in property tax or rent to each taxpayer in a respondent's area (\$)	One-time additional increase in property tax or rent to each taxpayer in a respondent's area (\$)	One-time reduction in property tax or rent to each taxpayer in a respondent's area (\$)

Table A.3 Estimated MWTP for conversion and MWTA for conservation estimated for the Edmonton region, Calgary region, and for the other four urban regions of Alberta (Lethbridge, Red Deer, Medicine Hat, Grand Prairie)

Land use change	WTP Edmonton region	WTP Calgary region	WTP Other places	WTA Edmonton Region	WTA Calgary region	WTA Other places
Grain or oilseed farming; Residential	425.29***	430.72***	290.77***	440.07**	506.97** *	540.82***
Commercial vegetable farm; Residential	538.09***	439.40***	395.41*	268.90	467.83** *	539.53**
Livestock grazing on native pasture; Residential	486.41***	324.92***	196.09	910.55**	843.96** *	988.38**
Grain or oilseed Farming; Retail	433.95***	432.31***	308.08**	657.44*	829.20** *	554.05
Commercial vegetable farm; Retail	546.75***	440.98***	412.72*	486.27	790.06** *	552.76
Livestock grazing on native pasture; /Retail	495.06***	326.51***	213.40	1127.92**	1166.20* **	1001.61*
Grain or oilseed farming; Light industrial	396.51***	423.40***	310.42*	81.019	-214.26	94.65
Commercial vegetable farm; Light industrial	509.31***	432.07***	415.06*	-90.15	-253.40	93.36
Livestock grazing on native pasture;	457.62***	317.60***	215.74	551.51	122.73	542.21

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1 (Note: Using the data when uncertain votes are recorded as preferring additional development strategies, and project-rejectors are removed.) Source: authors

Table A.4 Random Parameter Logit (RPL) Model Coefficient Estimates (WTA &WTP for rent residence group)

Attributes	Rent residence (WTP)		Rent residence (WTA)	
	Coefficient	Coefficient (Std. Dev.)	Coefficient	Coefficient (Std. Dev.)
price	-0.00142*** (0.000209)		0.000617*** (0.000181)	
ASC	0.616*** (0.137)		0.0485 (0.127)	
vegetable	0.355 (0.257)	2.412*** (0.439)	0.0338 (0.144)	0.0192 (0.981)
livestock	-0.0604 (0.233)	1.949*** (0.339)	-0.0286 (0.204)	1.545*** (0.309)
retail	0.0459 (0.212)	1.696*** (0.315)	-0.0647 (0.242)	2.236*** (0.371)
light industrial	0.135 (0.250)	1.986*** (0.378)	0.103 (0.152)	-0.521** (0.258)
AIC	1902.152		1944.195	
BIC	1962.4		2004.125	
Log likelihood	-941.0759		-962.0976	
Observations	3056		2960	

Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

(Note: Using the data when uncertain votes are recorded as preferring additional development strategies, and project-rejectors are removed.) Source: authors.

Table A.5 Estimated MWTP and WTA for farmland preservation and development, estimated for renters

Conservation Strategy	WTP rent residence (\$)	WTA rent residence (\$)
Grain or oilseed farming; Residential	433.53***	-78.5
Commercial vegetable farm; Residential	683.56***	-133.3
Livestock grazing on native pasture; Residential	391.02**	-32.11
Grain or oilseed Farming; Retail	456.81***	26.4
Commercial vegetable farm; Retail	715.83***	-28.39
Livestock grazing on native pasture; Retail	423.29**	72.79
Grain or oilseed farming; Light industrial	528.24***	-244.95
Commercial vegetable farm; Light industrial	778.26***	299.74
Livestock grazing on native pasture; Light industrial	485.71**	-198.56
Mean of 9 land use changes	544.03	-35.21

Table A.6 Ratios of WTA / WTP for base model and alternatives

	Base model			Strategy believers			Without recoding		
	<u>WTP</u>	<u>WTA</u>	<u>Ratio</u>	<u>WTP</u>	<u>WTA</u>	<u>Ratio</u>	<u>WTP</u>	<u>WTA</u>	<u>Ratio</u>
Grain/ Residential Commercial	406.67	492.99	1.21	592.01	676.64	1.14	602.35	1280.23	2.13
Vegetable /Residential	475.90	419.81	0.88	695.91	679.92	0.98	748.53	1122.09	1.50
Grazing / Residential	367.50	893.58	2.43	472.16	1084.67	2.30	714.26	1987.31	2.78
Grain /Retail	404.19	711.86	1.76	670.18	1079.18	1.61	680.56	1948.12	2.86
Vegetable/ retail	473.41	638.68	1.35	774.08	1082.45	1.40	828.75	1789.97	2.16
Grazing / retail	365.01	1112.45	3.05	550.33	1487.20	2.70	792.48	2655.20	3.35
Grain / industry	379.33	-59.69	-0.16	728.12	249.15	0.34	634.23	804.83	1.27
Vegetable/ industry	448.55	-132.87	-0.30	832.02	252.42	0.30	780.41	646.68	0.83
Grazing / industry	340.15	340.90	1.00	608.27	657.17	1.08	746.14	1511.90	2.03
Mean of 9	406.75	490.86	1.21	565.67	805.42	1.42	725.30	1527.30	2.11