



Cairnstone

Towards Reform of Taxation in the City of Calgary

Presentation to the Mayor



Everyone Knows And Loves...





Property Taxes



- Have been the standard for municipal financing for at least a century.
- The concept was originally that the wealthy own more property, so can afford more taxes. In effect, property tax was a best-guess income tax, with less hassle.
- This made a lot of sense when cities were geographically small, and municipal services were few.
- Is enshrined in the Municipal Governance Act



But...

Cities are not geographically small anymore, and land or property ownership does not correlate as closely with wealth.



OUR RECORDS INDICATE THAT A FINA
FOR PAYMENT OF YOUR TAXES. PLEAS
INSTITUTION HAS BEEN NOTIFIED.

**THIS INFORMATION IS PROVIDED FOR YOUR RECORDS
YOUR TAXES, PLEASE SUB**

1st INSTALLMENT DUE ON OR BEFORE AUGUST 15th
2nd INSTALLMENT DUE ON OR BEFORE NOVEMBER 15th
(REMITTANCE COUPONS ATTACHED ON SECOND PAGE)
IF MAKING FULL PAYMENT, TAXES MUST BE PAID ON

PLEASE WRITE YOUR PARCEL IDENTIFICATION ON
PENALTY WILL BE IMPOSED IF T

Regardless, property tax remains the
mainstay and standard for raising
municipal finances, and property
assessment is a certified profession.



So What's the Problem?



Problem 1: Property Value (Hence Property Tax)
Does Not Correlate well to Cost of Providing
Services

For Example:
Getting to Work in the Morning



If I live more than 1 km from a CT Train Station, in a 3-bedroom suburban house, and I have a regular 9-5 job, chances are I will drive. I will use up about 10 km of 3.5 m-wide lanes to get to work. This means I used 35,000 m² of pavement getting to work.

If I live about 3 km from downtown, in a 3-bedroom condo or townhouse, and I have a regular 9-5 job, there is a good chance I will bike. I will use up about 3 km of 1.5 m-wide lanes to get to work. This means I used 4,500 m² of pavement getting to work.

Getting to Work in the Morning



3-Bedroom Suburban House:
About \$400,000

35,000m² of Asphalt



3-Bedroom Condo near Downtown:
About \$400,000

4,500m² of Asphalt

SAME PROPERTY TAX ON BOTH

Second Example: Taking a Shower



If you live in a suburban neighbourhood, chances are the water for your shower arrived through a pipe more about this big. A 20cm pipe has a cross-sectional area of 99cm^2 , with $\sim 89\text{cm}^2$ available for water flow. Ratio of 1.111.



If I live about 3km from downtown, chances are the water for your shower arrived in a pipe about this big. A 1.3m pipe has a cross-sectional area of $6,415\text{cm}^2$, with $\sim 6,396\text{cm}^2$ available for water flow. Ratio of 1.003.

Taking a Shower



Lots of steal, and high installation costs,
per unit water.



Far less steal, and maybe double the
installation costs, per unit water.

**ECONOMIES OF SCALE.
SAME TAX BILL.**



Net Result:

Residences in the Core Area are subsidizing the Suburbs.
Part of the reason people choose to move to the suburbs is
because of this, creating a
NEGATIVE FEEDBACK LOOP



Problem 2: Property Tax is a Difficult Beast to Master

This is an equation I found in the article "Is there a double-dividend from anti-sprawl policies?" by Bento, Francob, & Kaffine (Journal of Environmental Economics and Management 61 (2011) 135-152).

It predicts the rate and type of development of greenfield sites based on varying land value/development value property tax scenarios.

$$\frac{dTR}{dt_D} = \underbrace{\left[t_D - \int_0^{\bar{x}} \frac{\partial p}{\partial O} h(S) 2\pi x dx \right]}_{W^P} 2\pi \bar{x} \frac{d\bar{x}}{dt_D} + \underbrace{(1+M)t_p \left[S(\bar{x}) - \int_0^{\bar{x}} \frac{\partial S}{\partial O} 2\pi x dx \right]}_{W^I} 2\pi \bar{x} \frac{d\bar{x}}{dt_D} + \underbrace{\left(t_d 2\pi \bar{x} \frac{d\bar{x}}{dt_d} + \pi \bar{x}^2 \right)}_{W^B} \left(\int_0^{\bar{x}} \frac{\partial p}{\partial B} \frac{dB}{dI} h(S) 2\pi x dx - 1 \right) + \underbrace{(1+M)t_p \left(t_d 2\pi \bar{x} \frac{d\bar{x}}{dt_d} + \pi \bar{x}^2 \right)}_{W^{BI}} \int_0^{\bar{x}} \frac{\partial S}{\partial B} \frac{dB}{dI} 2\pi x dx$$

...this is before we mention the challenge of assessing hundreds of thousands of properties every year... 'Nuff Said

$$\begin{aligned} \frac{1}{c} \frac{\partial X}{\partial \tau} &= \frac{\partial}{\partial \tau} \left\{ \beta \left(N - \frac{v}{c} Y \right) \right\} - \frac{\partial}{\partial \xi} \left\{ \beta \left(M + \frac{v}{c} Z \right) \right\}, \\ \frac{1}{c} \frac{\partial}{\partial \tau} \left\{ \beta \left(Y - \frac{v}{c} N \right) \right\} &= \frac{\partial L}{\partial \xi} - \frac{\partial}{\partial \xi} \left\{ \beta \left(N - \frac{v}{c} Y \right) \right\}, \\ \frac{1}{c} \frac{\partial}{\partial \tau} \left\{ \beta \left(Z + \frac{v}{c} M \right) \right\} &= \frac{\partial}{\partial \xi} \left\{ \beta \left(M + \frac{v}{c} Z \right) \right\} - \frac{\partial L}{\partial \eta}, \\ \frac{1}{c} \frac{\partial L}{\partial \tau} &= \frac{\partial}{\partial \xi} \left\{ \beta \left(Y - \frac{v}{c} N \right) \right\} - \frac{\partial}{\partial \eta} \left\{ \beta \left(Z + \frac{v}{c} M \right) \right\}, \\ \frac{1}{c} \frac{\partial}{\partial \tau} \left\{ \beta \left(M + \frac{v}{c} Z \right) \right\} &= \frac{\partial}{\partial \xi} \left\{ \beta \left(Z + \frac{v}{c} M \right) \right\} - \frac{\partial X}{\partial \xi}, \\ \frac{1}{c} \frac{\partial}{\partial \tau} \left\{ \beta \left(N + \frac{v}{c} Y \right) \right\} &= \frac{\partial X}{\partial \eta} - \frac{\partial}{\partial \xi} \left\{ \beta \left(Y + \frac{v}{c} N \right) \right\}, \end{aligned}$$

where

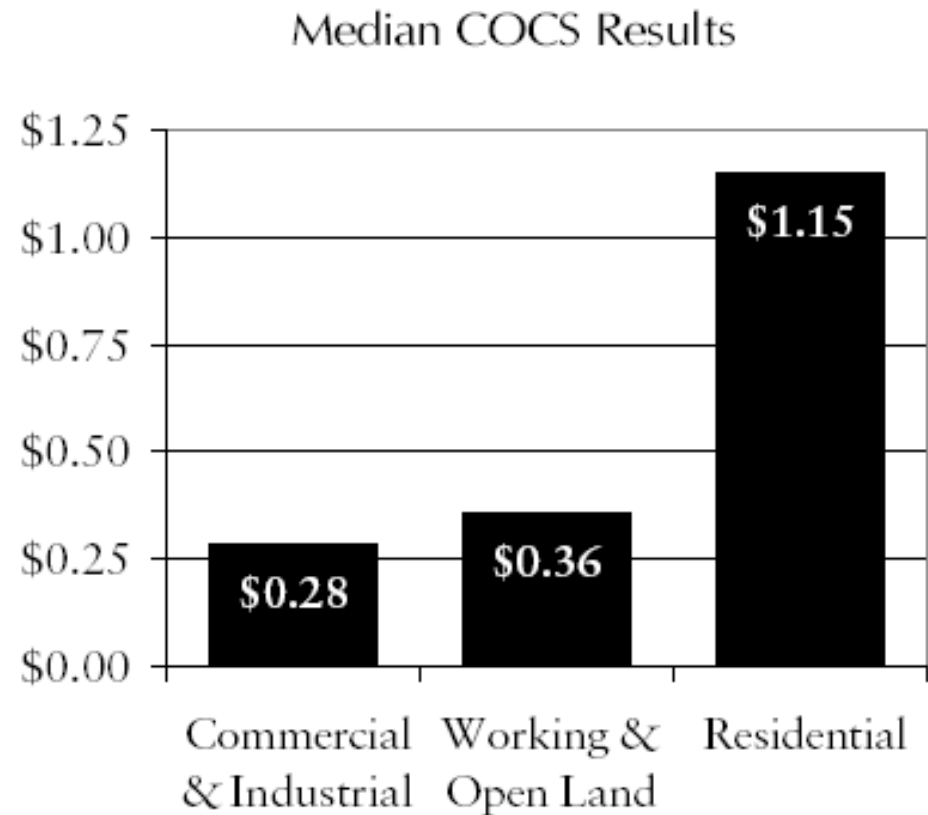
$$b = 1/\sqrt{1 - v^2/c^2}$$

In Einstein's paper "The Principle of Relativity", the most complicated equation is shown above, in the section called "Transformation of the Maxwell-Hertz Equations for Empty Space. On the Nature of Electromotive Forces Occurring in a Magnetic Field During Motion"...



Problem 3: Residential Areas Cost More than They Generate in Taxes

Numerous Cost of Community Services Studies (COCS) in the US and Canada are returning similar results:



A 'COCS' is a data-intensive method of determining what revenues municipalities gather from different types of development, vs. costs. A ratio > 1 means the land use costs more than it generates in revenue, vice-versa for < 1 . The data-intensiveness of this method, combined with its inability to assess more specific zones, makes it ineffective as an implementation tool.

It does show, however, how the property tax regime has adapted to political pressures, in a fairly consistent manner across the continent.



What are the Options?

Definitions taken from "Does sprawl cost us all? Isolating the effects of housing patterns on public water and sewer costs". Cameron Speir, Kurt Stephenson. American Planning Association. Journal of the American Planning Association. Chicago: Winter 2002. Vol.68, Iss. 1, p. 56-70 (15 pp.)

Option 1: Revise the Property Tax Regime



Many different sorts of property taxes are available to the intrepid politician.

PROPERTY TAX

There are two different forms of property taxation: The first is a partial wealth tax, an annual tax on the gross capital value of the different interests in land and property. The second is a tax on land or property use, which can be approximated by levying a tax on rental income and on imputed owner-occupied income.

LAND VALUE TAX

The land value tax is an annual tax on the current market value of land; it could be classified as a type of site value tax (see below). Prest identifies it as "more genuine" and certainly more commonly used. Essentially, he writes, "one has to think of the tax as being equivalent to an increase in the rate of return sacrificed by holding land..." (Prest 1982, 373).

LAND GAIN (INCREMENT) TAX

A land gain tax is a tax on the increase in land value, paid annually or at the time of transfer, with no regard to any system of land use control (Prest 1982). According to Muller (1988), very few countries use it. A land gain tax can be used as an antispeculation measure when the level of taxation is based on length of ownership.



A continuation of a catalogue of ways of taxing land.

SITE VALUE TAX

Prest defines this as essentially a lump-sum tax, based on the highest and best value that a plot of land will ultimately command and that value is the basis for tax for all time, without any discounting for futurity or any amendments for changing expectations. Such a tax will be fully capitalized on existing landowners and will have no influence on decisions about land usage or land disposal if profits are already being maximized (1982, 372).

TRANSFER TAX

There are two types of transfer taxes: one is a tax for the recording and/or administration of a land transfer (for example, a stamp duty). The second is a tax, based on the sale price or assessed value, that is intended to raise revenue or curb real estate transactions.

DEVELOPMENT GAIN TAX, BETTERMENT TAX, AND LAND INCREMENT TAX

These are all taxes on the increases in land value due to a certain event, which could be rezoning or public investment in infrastructure (Muller 1988).

CAPITAL GAINS TAX

These are land-related when they are applied to land gains. Most developed countries do have a separate capital gains tax or they tax capital gains under the income tax. A few countries have a separate capital gains tax on immovable property. Owner-occupied residences are often exempt (full value or a specific partial value) or taxed at a lower rate.

Even more on the various methods of taxing land.

VACANT LAND TAX

There are effectively two types of vacant land taxes. The first provides that the vacant land is taxed on the basis of full market value rather than current use value. A second method used is to tax vacant land at higher rates than other classified uses of land. Vacant land taxes are generally used as anti-speculation and anti-hoarding devices and used to stimulate development.

CITY PLANNING TAX

This is a tax on land to provide designated funds for city planning functions. In Japan, this is an annual tax on the assessed value of land and buildings and applies in Urbanization Promotion Areas (OECD 1983).

IMPACT FEE

This is a fee generally assessed and collected by the land policy and planning department of a local government to pay for the anticipated impacts of development. In most countries, proposed large developments require an environmental impact statement or assessment as part of the permit or permission process.



Take a breath before we dive back in...

Option 2: Have a Look at Developer's Charges



EXACTION

An exaction is a "requirement placed on developers to help supply or finance the construction of public facilities or amenities made necessary by the proposed development, such as infrastructure, parks, or schools. Exactions started as a requirement for a dedication of land for such facilities in new developments. State and local governments have expanded the concept to allow fees in lieu of land dedication and/or the building of a facility.

ON-SITE EXACTIONS

On-site exactions are those by which the local government, as part of the development permitting process, requires developers to provide public facilities and/or services.

PLANNING GAIN, DEVELOPER FEE

These charges are negotiable between developers and municipal planning officials and are most often used in areas of high land demand and increasing land values. They are fees to gain the right to develop a specific project. Often justified as attempts to mitigate adverse impacts of development, these types of fees should not be confused with impact fees, which generally are guided by specific formula to determine the costs of various impacts.

DEVELOPMENT CHARGE, BETTERMENT LEVY, BUILDING RIGHT FEE

These charges are based on the difference in the value of the land with permission to build (with "planning permission," in the United Kingdom) and the value of the land without such permission. It is an attempt to recapture some or all of the value that is created by the permission to build.

More on Developer's Charges...

LINKAGE PAYMENT

A linkage payment is a monetary charge in lieu of provision of facilities or services. Linkage, or linked development, is a policy that taps some currently burgeoning types of land use, such as office or commercial development, in order to finance the construction of housing or some other social need, such as job training or employment. In land-use law terms, linkage is (or aims to be) a mechanism of land use regulation that requires or entices developers of certain classes of land use to construct or help finance the provision of housing--especially "affordable" housing--as a condition for permission to build or to obtain some "bonus." More prosaically, from the developer's point of view, linkage is a requirement that a builder who intends to build x, must also build y.

Some take a more narrow view of linkage, identifying it only with mandatory requirements; others interpret it more broadly and include incentive-based programs as well. Linkage can be seen as an outgrowth of two methods of land use control: exactions for infrastructure and other public services, and inclusionary zoning.



Option 3: Have a Look at User Fees



USER CHARGE

User charges fall into two categories: consumption-related and benefit-related. Bahl and Linn (World Bank 1988) report that user charges account for about one-third of all locally raised revenues. Typical consumption-oriented user charges include those for water, sanitation, and electricity. Charges related to benefit attempt to capture the value of the benefit of urban services and often include the capital costs and/or connection costs of providing water, electricity, and road paving.

PERMIT FEE

This is generally a fee required with any permit application to cover administrative and processing costs.

SPECIAL ASSESSMENT

Generally used to finance infrastructure or services provided by government, special assessments are useful in two types of situations: when there is a one-time cost that is beyond the scope of tax devices already in place or when the "natural" area for providing infrastructure or a specific service does not follow established jurisdictional borders. Rather than charging based on usage—a user charge—the district served by the infrastructure or service is defined and costs of the infrastructure or service are levied across the district on a one-time or continuing basis.





Distance to Shopping:
 $\pm 15\%$ of Tax



Distance to C-Train:
 $\pm 25\%$ of Tax



Distance to Downtown:
 $\pm 50\%$ of Tax



I would like to propose a new geographic-based taxation system, in which tax rates are determined by distance to places of employment, services, and fixed transit. These rates would be set to statistically-averaged cost-recovery levels, by neighbourhood. The more remote the subdivision, the higher the tax rate. This would recognize the very high role of roads in municipal costs, and be very easy to calculate. This would strongly discourage sprawl.



What do your stakeholders say?

The Calgary Chamber of Commerce Supports User Fees



The Chamber Recommends:

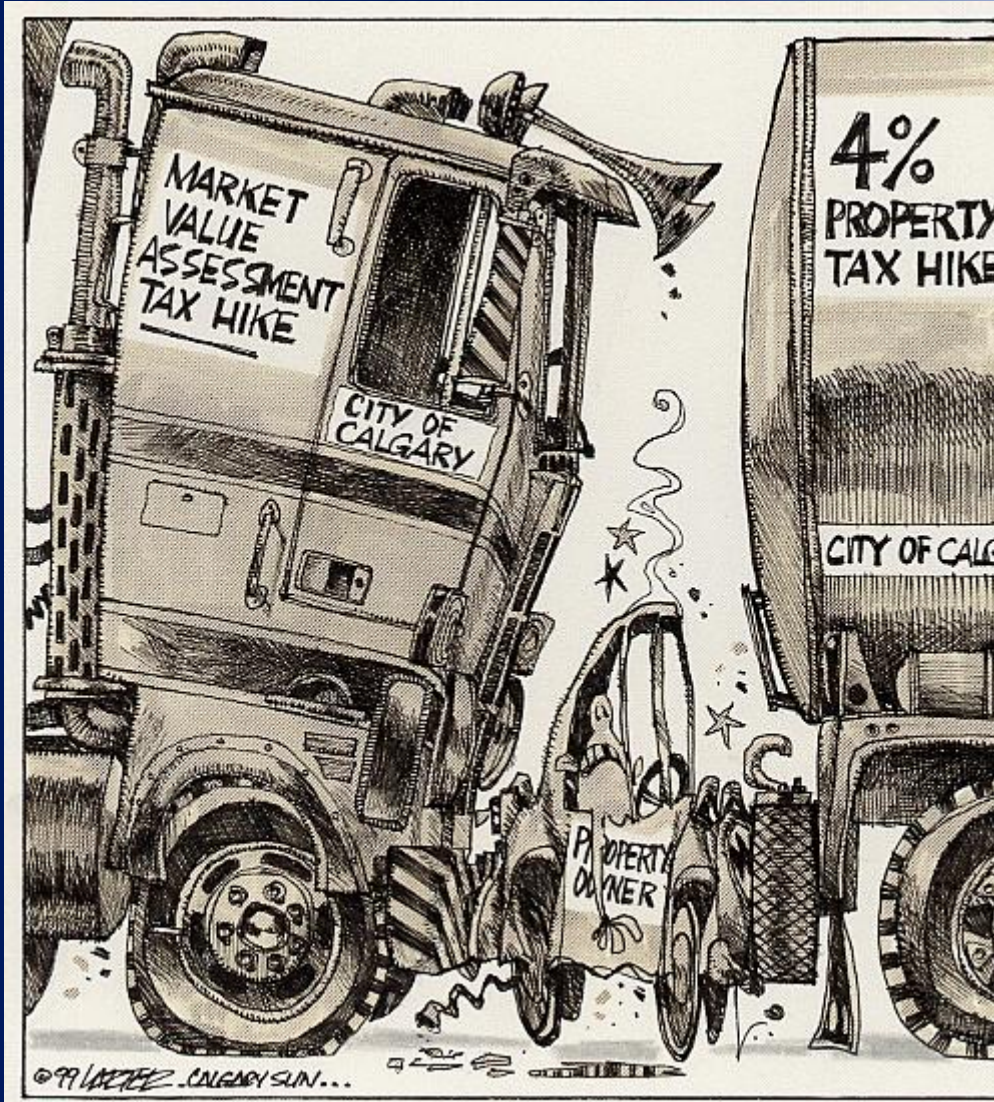
Increase efforts to communicate to Calgarians the non-residential property tax and business tax burdens (in addition to the residential property tax burden), so that citizens and businesses have a more complete understanding of the costs of providing the bundle of municipal services.

Restructure the municipal financing framework to, where applicable, fund and deliver municipal services based on the „benefits principle“ (those who benefit more from a product or service should pay more).

This means:

- Road tolls
- Congestion taxes
- Development Cost levies
- Transit stop area government-owned development company

And cutting, or *eliminating completely*, property taxes



Recommendations

- Any major changes need to be implemented over a 15+ year time horizon as they will impact property market values (and you want to be re-elected).

- While the idea of switching entirely to 'pure' user fees sounds good, the reality of building chip readers on every arterial road, and water metres on every structure in the city, is asking for an implementation Nightmare on Centre Street.

- I think property tax is a thing of the past and should be phased out completely.





- To encourage density at train stations, transit-oriented developments should be taxed at rates similar to those near downtown, while transit rates may need to be raised closer to operational cost-recovery levels.
- Development cost levy policies should be revised to allow developers to extend the CTraín lines to new large developments. This will encourage mass-consortiums to work together on large phased developments.
- Soil-conservation bylaws, in which black soil must be removed to an agricultural area before new locations are paved or built on, will increase greenfield development costs, which will slow development at the periphery. It will also protect the long-term food supply.

Why is all This Important?

- Throughout North America, too much suburban infrastructure has been built. Full-cost operational expenses, which include replacement costs, have not been factored into municipal budgets or taxes.
- Property taxes, by subsidizing the suburb at the expense of the core, are encouraging this.
- Especially in the older cities of the east, this is taking the form of almost terrifying infrastructure deficiencies in the core, even while low-density infrastructure-heavy development continues apace.
- Calgary, as the sole municipality of a metropolitan area, is uniquely positioned to experiment with new taxation regimes that offer potential answers to these problems.

