



Land Value Capture for Transportation: Potential versus Practice

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To TIF or Not to TIF


- Principles of Political Economy
- The two are not the same
 - Land Value Capture
 - Tax Increment Financing
- What we have done
 - Reviewed academic literature
 - Reviewed case studies
 - Reviewed development along Sheppard Corridor
 - Analyzed TIF potential using the Rothman model
- Questions that motivated us
 - How have TIFs been used?
 - The size and scope of TIFs in practice



➤ “Suppose that there is a kind of income which constantly tends to increase, without any exertion or sacrifice on the part of the owners: those owners constituting a class in the community, whom the natural course of things progressively enriches, consistently with complete passiveness on their own part.



➤ “In such a case it would be no violation of the principles on which private property is grounded, if the state should appropriate this increase of wealth, or part of it, as it arises.”



➤ “This would not properly be taking anything from anybody; it would merely be applying an accession of wealth, created by circumstances, to the benefit of society, instead of allowing it to become an unearned appendage to the riches of a particular class.

- *Principles of Political Economy*
- John Stuart Mill, 1848

Let's start with definitions - LVC

Land Value Capture

- The land value improves because of the provision of new public infrastructure
- A tax is imposed on the incremental land value
- This is in addition to the base land value

Example:

Base year land value: \$420m

Land values increase by 5% per year

Current land value: $420 \times 1.05 = \$441\text{m}$

Tax on base land value @ 1% = \$4.2m

Tax on incremental value @ 40% = $(441-420) \times .4 = \$8.4\text{m}$

Total tax = $4.2 + 8.4 = \$12.6\text{m}$

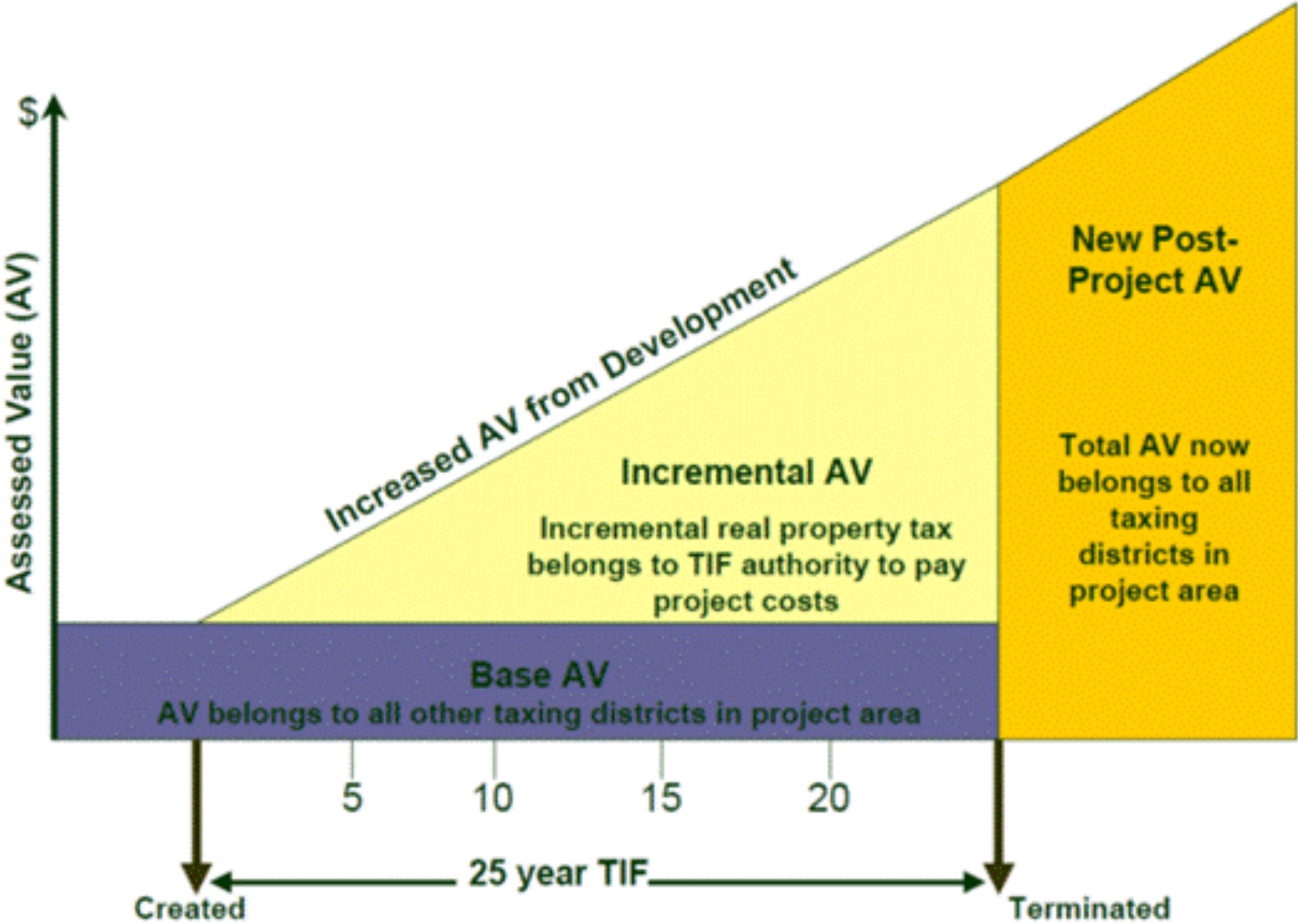
Lawrence C. Walters, 2012

Let's start with definitions - TIF

Tax Increment Financing

- The assessed property value is fixed in the year TIF is implemented
- Any incremental increase in assessed value is taxed to service the debt
- Once debt is serviced, the total assessed value returns to the municipal authorities
- Easier to understand from the graph (next slide)

Exhibit 1. TIF Assessed Value (AV) Over Project Life



TIF in Five Steps

1. Initiation: Establish an authority
2. Formulation: Establish TID boundaries, redevelopment plans
3. Adoption: Public disclosures and discussions
4. Implementation: Construction and financing
5. Termination



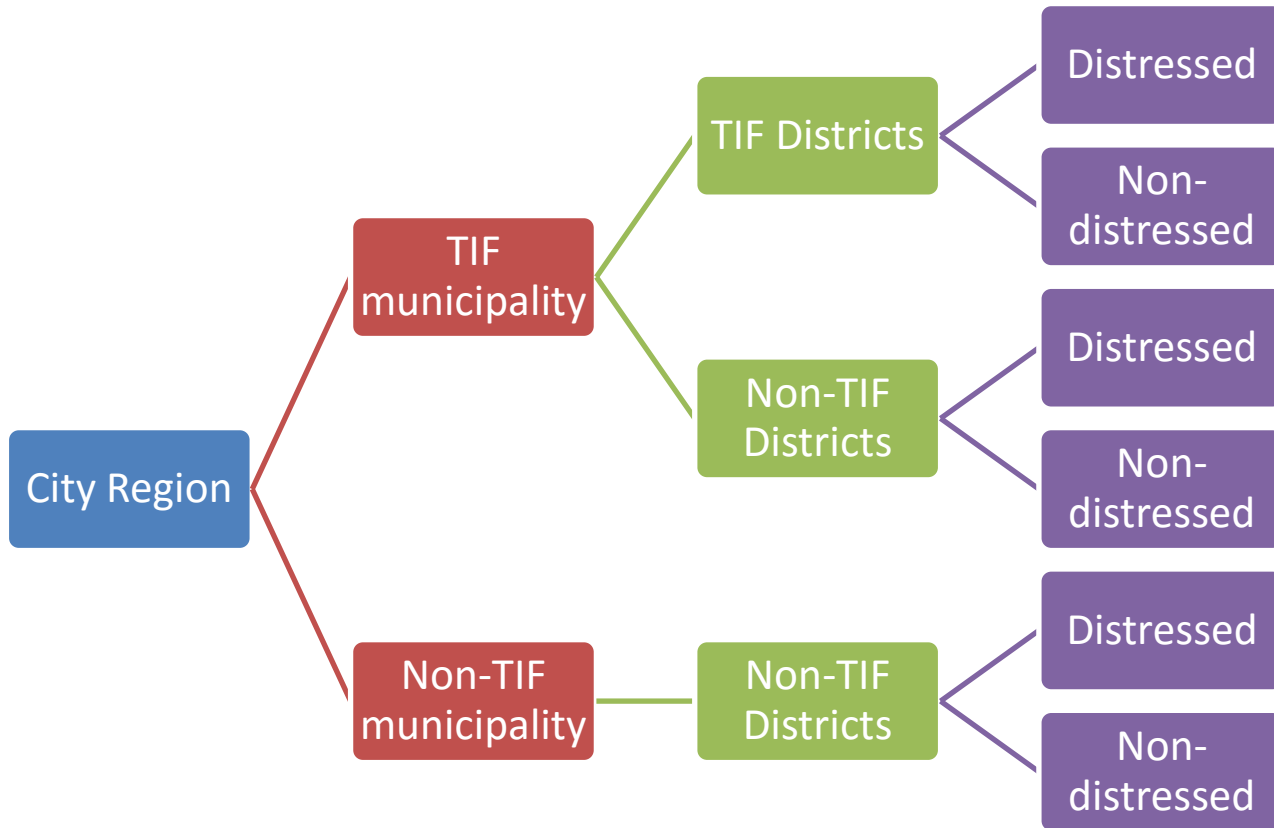
Now back to Toronto

- TIF is on the table
- What about LVC?

Tax Increment Financing - Practice

- Background in North America
- What types of infrastructure/developments have been funded by TIF?
 - Commercial, Industrial, Residential, Mixed use
- What TIF impacts have been evaluated?
 - Change in property values
 - Change in employment creation
 - The potential for new tax revenue
- Additional concerns
 - Gentrifying or pushing the poor out?
 - But-For test
 - Selecting the site: What the Heck-man?

Site selection biases



The Tiff about TIF

→ Things to consider

- TIF can relocate development to TID
 - It could be a zero sum game
- TIF may leave less funds for other services
- TIF impacts are not always positive
- Sample selection bias
- Economic cycles affect outcomes



➤ Sheppard East

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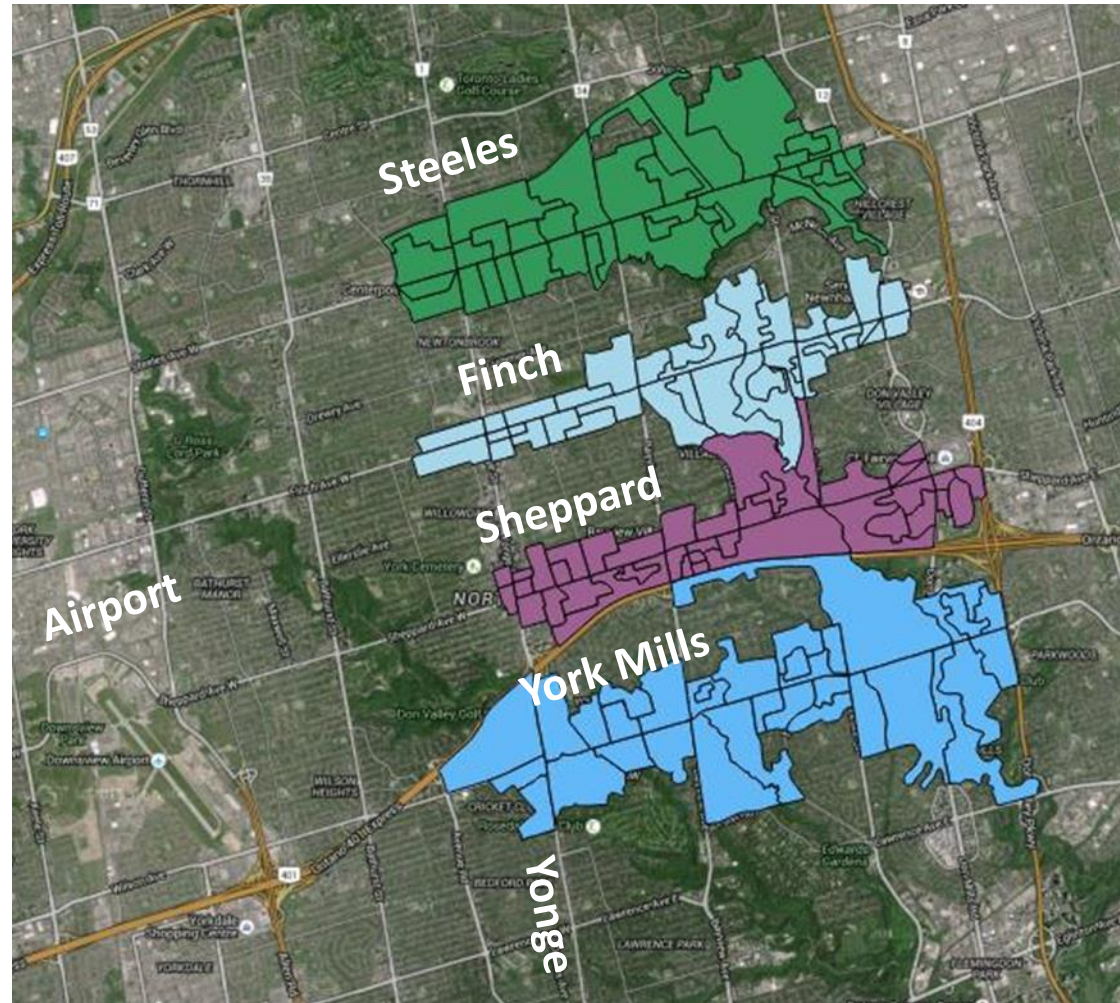
Sheppard East

- What can we learn from the development potential of a subway for residential development?
- Sheppard East is the only relevant project
 - Potential for redevelopment is often higher around subways than around Heavy Regional Rail.
 - Greater willingness for high-density developments?
- What changed in the corridor? (treated)
- What happened to similar corridors? (controls)

Study Area

EAs approximating neighbourhoods

- Treated: Sheppard East
- Controls:
 - Steeles
 - Finch
 - York Mills



Sheppard East – Time line

Year	Developments
Sixties and seventies	Conversations about building more transit in the area date back to the sixties. With increasing political opposition towards constructing highways and sustained population growth, calls for developing more public transit options gain traction and eventually materialize into formalized plans by the eighties.
1985	<ol style="list-style-type: none"> 1. TTC delivered "Network 2011" Transit Plan to Metro Toronto (\$2.7 billion project including Downtown Relief Line, Eglinton West, and \$1 billion for Sheppard extending to Victoria Park) 2. Provincial Liberals Won Elections
1986	Metro Council Approved Plan (Province to pay 75% of cost)
1990	<ol style="list-style-type: none"> 1. Liberals Announced \$6.2 billion "Let's Move" Transit Plan for GTA, adding new components to Network 2011 2. But Sheppard is deprioritized because of high cost projections 3. NDP wins elections
1992	Sheppard Subway Environment Assessment published as part of original Let's Move initiative
1993	NDP announces new Transit Plan: Rapid Transit Expansion Program . Sheppard is now included and made a priority along with Eglinton West.
1994	Groundbreaking of Sheppard Subway
1995	<ol style="list-style-type: none"> 1. Conservatives win elections 2. Construction of Sheppard continues but other projects are cancelled. Any plans for Sheppard extension beyond Don Mills are also cancelled.
1996	Sheppard Subway officially shortened to Don Mills
2002	Construction completed at approximately \$2 billion (5.4 km of track)
2007	Transit City Released - Light Rail proposed for Sheppard East
2010	Mayor Ford cancels plan

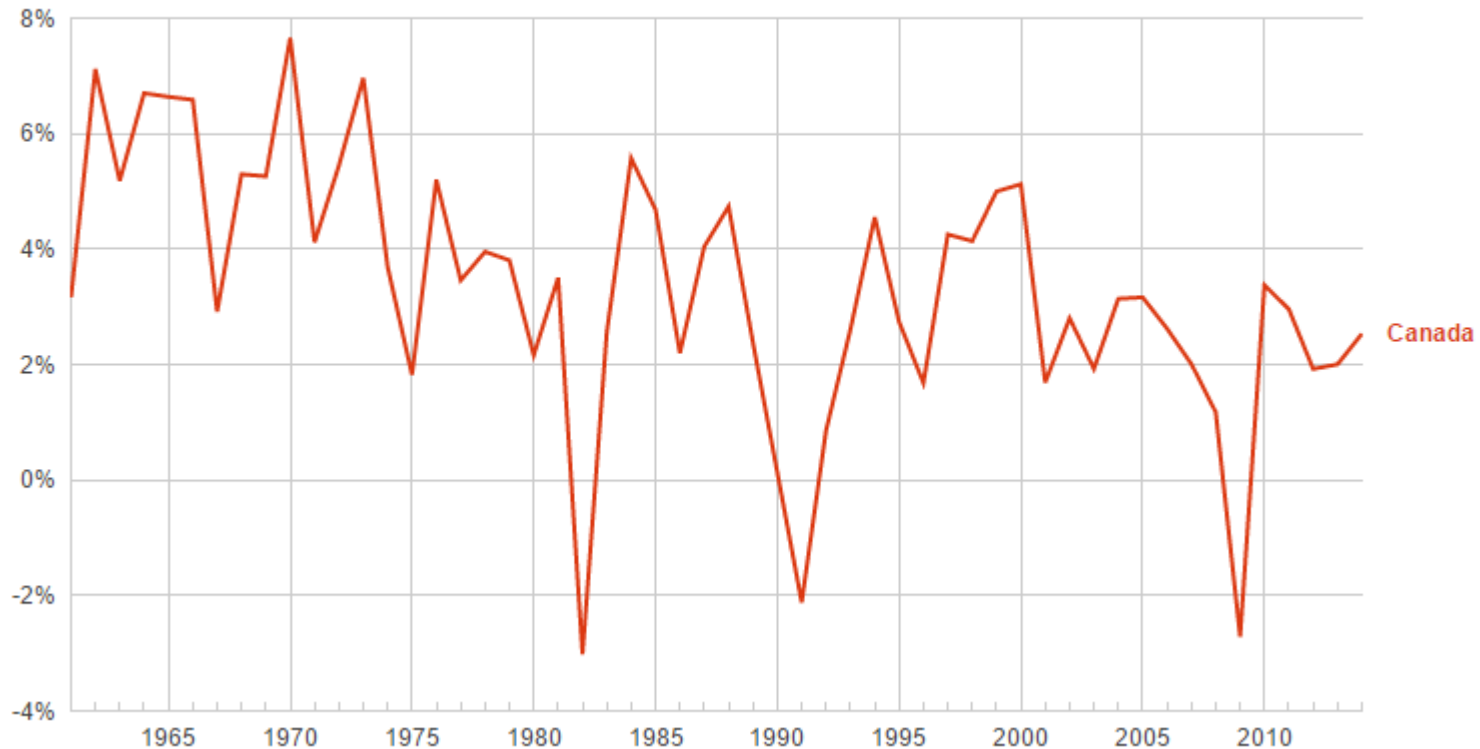
Demographics & Housing

2011 data

Study Area	Sheppard	Finch	Steeles	York Mills
Dissemination Areas	39	36	37	33
Total Population	35,399	33,733	23,878	21,483
Population Average (DA)	845	937	645	632
Distance to CBD (km)	12.8	14.9	16.9	10.8
Total Private Households	15,266	14,037	8,604	7,895
Private Household Average (DA)	382	390	233	232
Average Household Income (Average for DAs)	86,429	99,738	135,770	250,089
% employed (Average for DAs)	89	92	91	91
% Dwellings by Period of Construction 1981 to 1990	16	10	15	8
% Dwellings by Period of Construction 1991 to 2000	5	10	4	7
% Dwellings by Period of Construction 2001 to 2005	10	8	2	5
% Dwellings by Period of Construction 2006 to 2011	12	7	1	3
% owner (Average for DAs)	56	79	82	80
% renter (Average for DAs)	42	21	18	17
% visible minority (Average for DAs)	58	68	59	40
% immigrants (Average for DAs)	58	64	58	45

Canadian Economy: The slow growth reality

GDP growth rate |



Housing Types, 2011

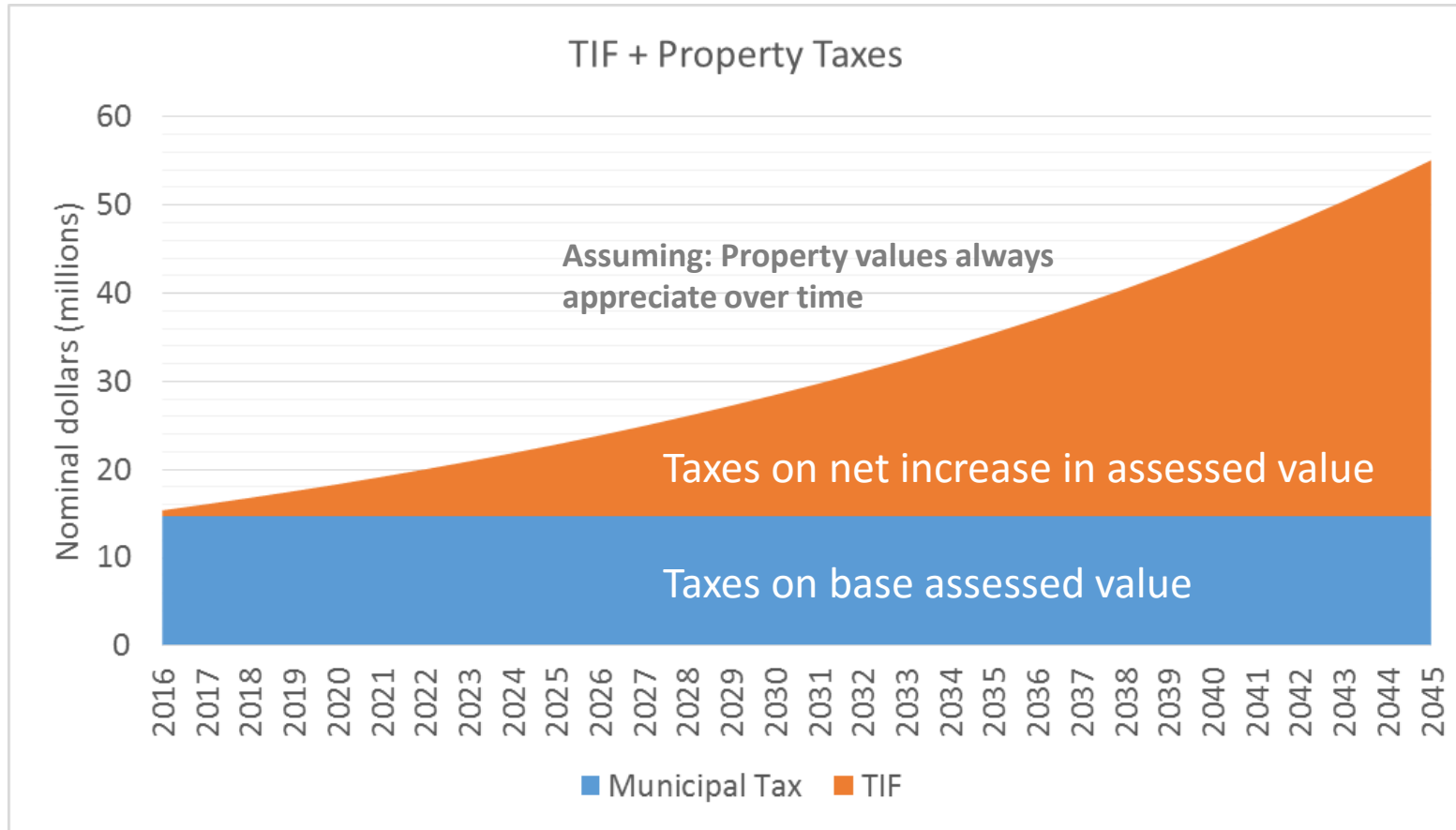
Study Area	Sheppard	Finch	Steeles	York Mills
Total dwellings by Type	15266	14037	8604	7895
Single family detached	15.03	18.57	48.77	56.83
Semi detached	0.90	1.93	3.38	2.75
Row houses	9.80	8.58	9.33	7.84
Apartment - 5 plus floors	68.55	64.94	27.31	25.35
Apartmens 1 to 4 floors	4.59	4.27	6.58	5.51
Apartment - Duplexes	1.03	1.63	4.59	1.67

TIF model: inputs

Sheppard East Corridor

Total housing units		15,266
Build since 2001		3,358
Average price, Oct. 2015, TREB C14	\$	735,417
Total value (millions)	\$	2,470
Increase in stock per year		0%
Increase in prices		4.50%
Property tax rate		0.70%
Assessed value Ratio		0.85

TIF model: outputs



TIF (NPV)

\$

230.3

Lessons from Sheppard East

- Significant increase in residential construction in the corridor
- Did subway cause it?
- If property taxes remain frozen at \$14 million from 2016 onwards, who will subsidize the services in the corridor?
- What if the price appreciation is slower?
- TIF is serviced by renters or owners. Who has paid, and by how much, for the appreciation in land values?



➤ How big a TIF?

Size of TIFs

Tax Increment Financing District (TID)	Location	Date Established	Size (Acres)	Total TIF Bonds Issued	Length of TIF
Arundel Mills Mall (Route 100 TID)	Hanover, Maryland	November, 1999	394	\$28,000,000	10 years
Beltline Tax Allocation District	Atlanta, Georgia	2005	6,500	\$1,660,000,000	25 years
Burlington Waterfront	Burlington, Vermont	January, 1996		\$16,810,350	20 years
Downtown Berlin	Berlin, Wisconsin	September, 2008	21.3	\$14,589,661	27 years
East Village	Calgary, Alberta	Spring, 2007	49	\$357,000,000	N/A
Interstate Corridor	Portland, Oregon	August, 2000	3990	\$335,000,000	20 years
Investors Group Field	Winnipeg, Manitoba	June, 2013	2 properties	\$75,000,000	25 years
Lewiston Wal-Mart Distribution Centre	Lewiston, Maine	January, 2002	13	\$5,800,000	25 years
North Macadam	Portland, Oregon	June, 1999	402	\$288,562,000	20 years
Parole Town Centre	Annapolis, Maryland	December, 1999	1,500	\$8,300,000	10 years
River District	Portland, Oregon	June, 1998	351	\$224,780,350	20 years
Sullivan Centre	Chicago, Illinois	2000	2.35	\$24,400,000	10 years
The Sports, Hospitality and Entertainment District	Winnipeg, Manitoba	April, 2012	11 blocks in Downtown Winnipeg	\$25,000,000	5 years
UWnnipeg Commons Housing Complex	Winnipeg, Manitoba	February, 2015	1 property designated	\$2,550,000	15 years
Hudson Yards	New York City, New York	2005	28	\$2,400,000,000	30 years

Hudson Yards: Background

- 2005: Mayor and NYC City Council approved the redevelopment plan for the Hudson Yards Financing District;
-- 28 acre mixed-use development in Midtown Manhattan
- Hudson Yards will include over 17 million square feet of residential and commercial space, with over 100 shops and restaurants and approximately 5,000 residences. 14 of the 28 acres will be dedicated public open space. Hudson Yards will also include a luxury hotel and a public school.
- The City used payments in lieu of taxes (PILOT) financing.
- Hudson Yards Infrastructure Corporation (HYIC) was created to finance property acquisition and infrastructure improvements, including extension of the No. 7 subway line.
- On December 21, 2006 HYIC issued \$2 billion in bonds.
- On October 19, 2011, HYIC issued another \$1 billion in bonds.

Hudson Yards: Risks

- The risks inherent in TIF are **cost overruns or revenue shortfalls**. Hudson Yards is experiencing both.
- In 2004, the subway extension was estimated at \$2 billion. By 2013, the estimated cost increased to \$2.4 billion.
- NYC normally pays 5% of subway construction costs. However, to proceed with the Hudson Yards plan, the City agreed to pay 100%.
- Issuing bonds through HYIC rather than through *general obligation bonds* has cost an additional \$1.32 billion.
- The recession in 2007 delayed construction and affected real estate growth needed to generate revenues.
- The NYC Independent Budget Office (IBO) reported that between 2006 and 2012, revenues were 40% less than projected:
\$170 million revenue out of a projected \$283 million
- The City contributed an **additional \$374 million** to the project over that period.



➤ **Smart Track: \$2.5b**
Mitch Rothman model

Smart Track Funding

- “To fund the SmartTrack line, Tax Increment Financing revenue will be leveraged over 30 years as development activity and assessed values increase along a new transit route.
- “It is estimated that \$2.5 billion in present value dollars can be raised over that time.
- “All revenue estimates are based only on projected new office development in three precincts within the following districts along the SmartTrack line: the Central Core; the East Don Lands site; and Liberty Village.
- “Tax Increment Financing revenue will likely prove higher than \$2.5 billion once development near other stations and residential development are added.”

Rothman Model – original

Three Sites:

	Downtown	Liberty Village	Don Lands	Total
New SFT	12m	15m	15m	42m
Total Value	\$6.5b	\$8.09b	\$8.09b	\$22.6b
PV of Taxes	\$441m	\$505	\$505	\$1,451m
TIF (PV)	\$282	\$323	\$323	\$929m

Rothman Model – Revised Simulations

Three Sites:

	Downtown	Liberty Village	Don Lands	Total
New SFT	18m	30m	30m	78m
Total Value	\$9.8b	\$14.4b	\$14.4b	\$38.6b
PV of Taxes	\$1,237m	\$1,489	\$1,489	\$4,215m
TIF (PV)	\$792	\$953	\$953	\$2,698m

Commercial Property Tax increased from 1.6% to 3%

**Current inventory of office space in
downtown Toronto: ~75 million SFT**

Final thoughts

Dollars and Cents

- Smart Track costs are preliminary
 - Costs could be much higher or lower
- Raising \$2.7b in TIF could be a challenge
- No precedent for such size and scope
- Will LVC be part of the equation?

Transit Planning

- Does Toronto need more transit? YES!
- Will Smart Track help improve transit ridership by being the best use of scarce public dollars?
- If yes, it should be seen independent of how much TIF/LVC can generate?

Questions