

Governance Models for Successful Regional Transit: Who Owns It? Who Pays for It? Who Delivers It?

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UNIVERSITY OF
TORONTO

Transit Governance that Works

Who Plans?

Who Pays?

Who Delivers?

Why Does it Matter?

*Michael Schabas speaking at
Institute on Municipal Finance and Governance
Munk School - University of Toronto*

February 21, 2019

Michael Schabas

- Toronto native, TTC rider since 1961, cyclist
- U of T Architecture School, Harvard Kennedy School
- Consultant to governments, transit agencies, private operators, investors, developers, World Bank, constructors and manufacturers, activist groups
- Experience with all kinds of transit in more than 20 cities and 20+ countries
- Transit commuter in Toronto, Vancouver, Honolulu, London, Boston, Frankfurt, Berlin, Beijing
- 1997 – 2003 shareholder and Director of rail and bus companies in UK, Germany, Australia, Estonia
- Author of the Neptis *Review of the Big Move* (2013) www.neptis.org

Views and opinions are mine and may not represent those of my clients. I speak only for myself.

Policy Objectives

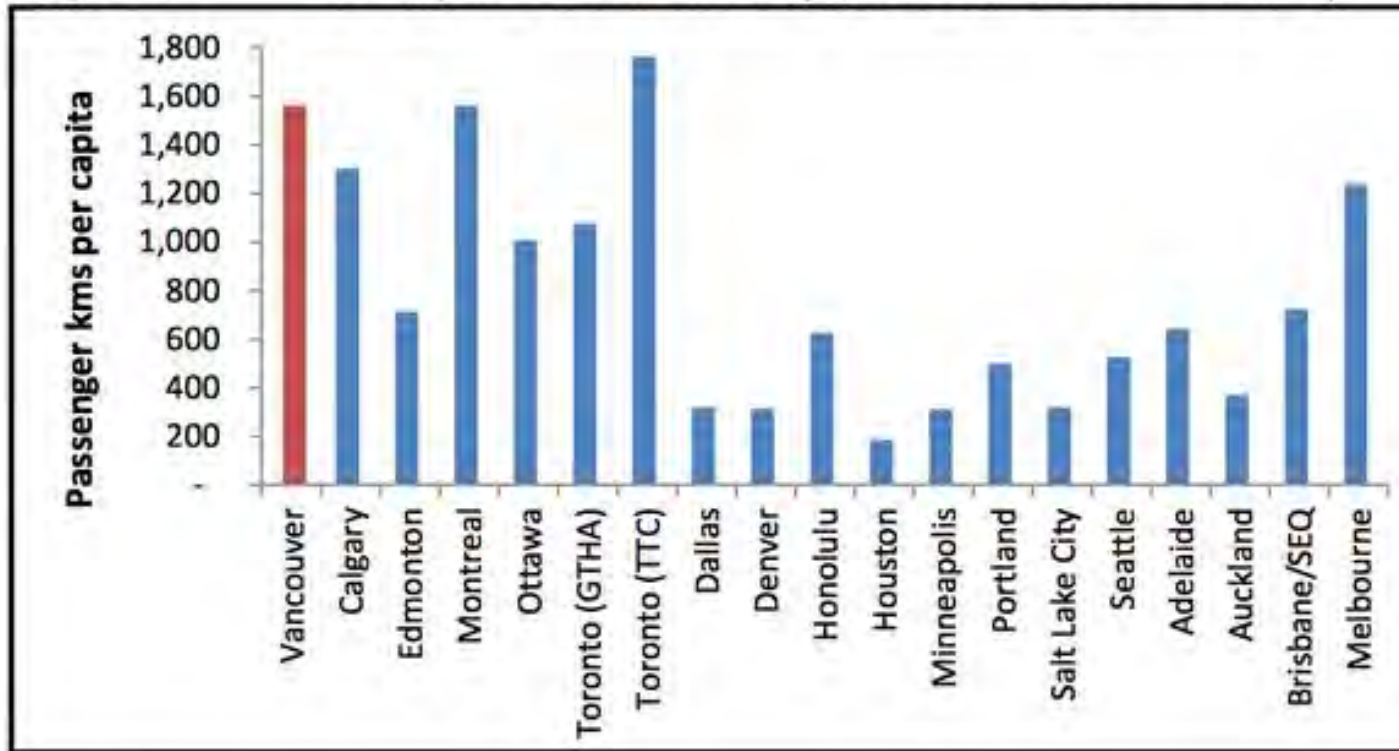
- Efficient, effective public transit
 - Planned to support efficient urban and sustainable development
 - Delivered for low capital and operating costs
 - Fast, frequent service that is competitive and attractive to use (compared with other modes) for the entire population
- Affordable to passengers and taxpayers
 - Fares that do not deter use
 - Subsidies that are not a burden on taxpayers

Why is Transit So Difficult?

- Each city has unique characteristics
- Legacy investments constrain technology and service choices
- Geography and development patterns affect cost and viability of different services
- Limited knowledge of own city
- Vague awareness of how cities differ from each other
- Challenges of working in any complex technical area
 - Lack of understanding of issues (unintended consequences)
 - Staff and producers may “capture” the industry – leading to inefficient practices – and resistance to innovation
 - Experts may have their own agendas – leading to sub-optimal or ineffective investments

Toronto seems to do pretty well – but why?

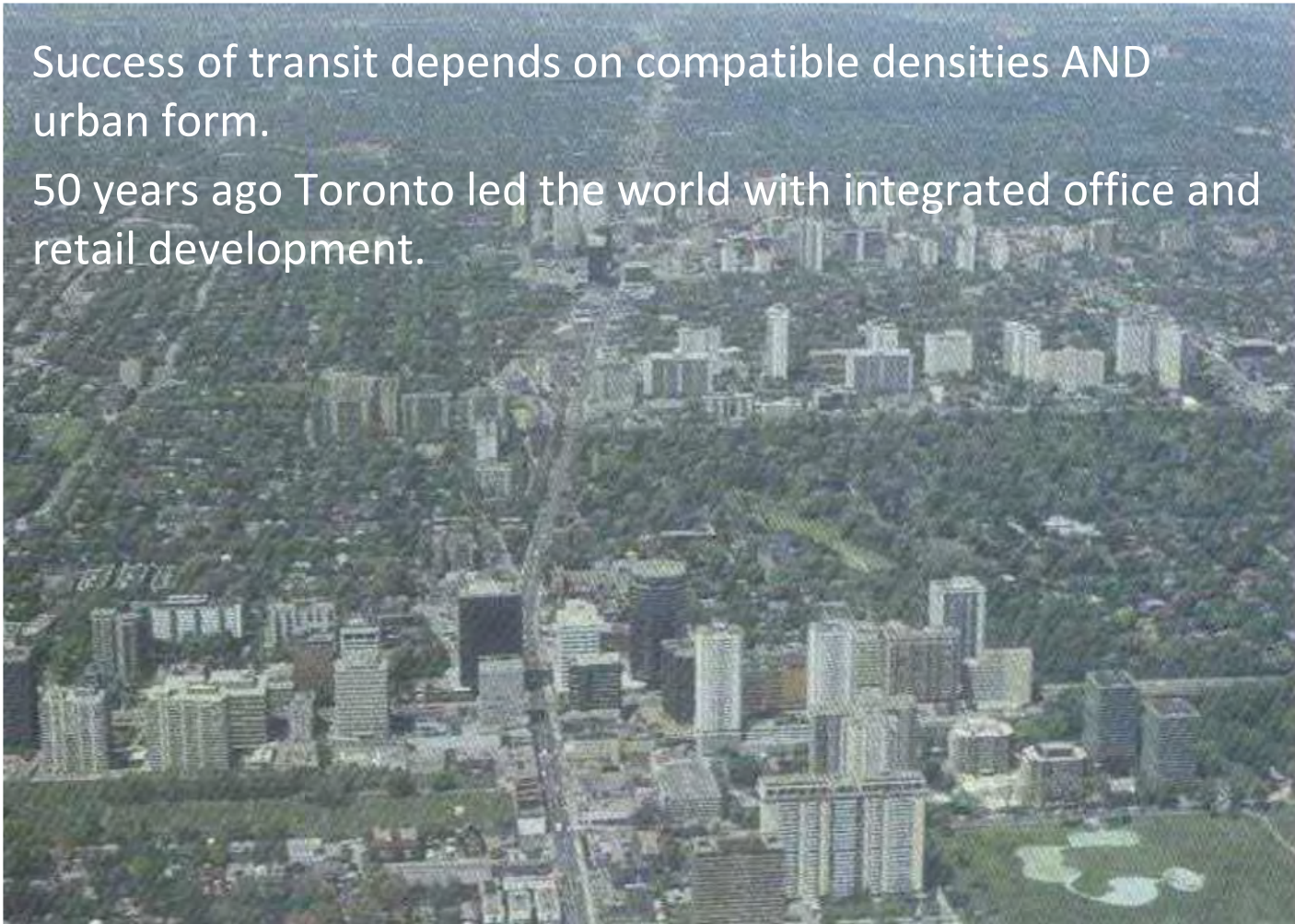
Figure 8 Per Capita Transit Ridership (CUTA 2013 and APTA 2014)



Transit-Oriented Development

Success of transit depends on compatible densities AND urban form.

50 years ago Toronto led the world with integrated office and retail development.



What is different about Toronto?



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What is different about Toronto?



What is different about Toronto?



10 20/02/2019

What is different about Toronto?



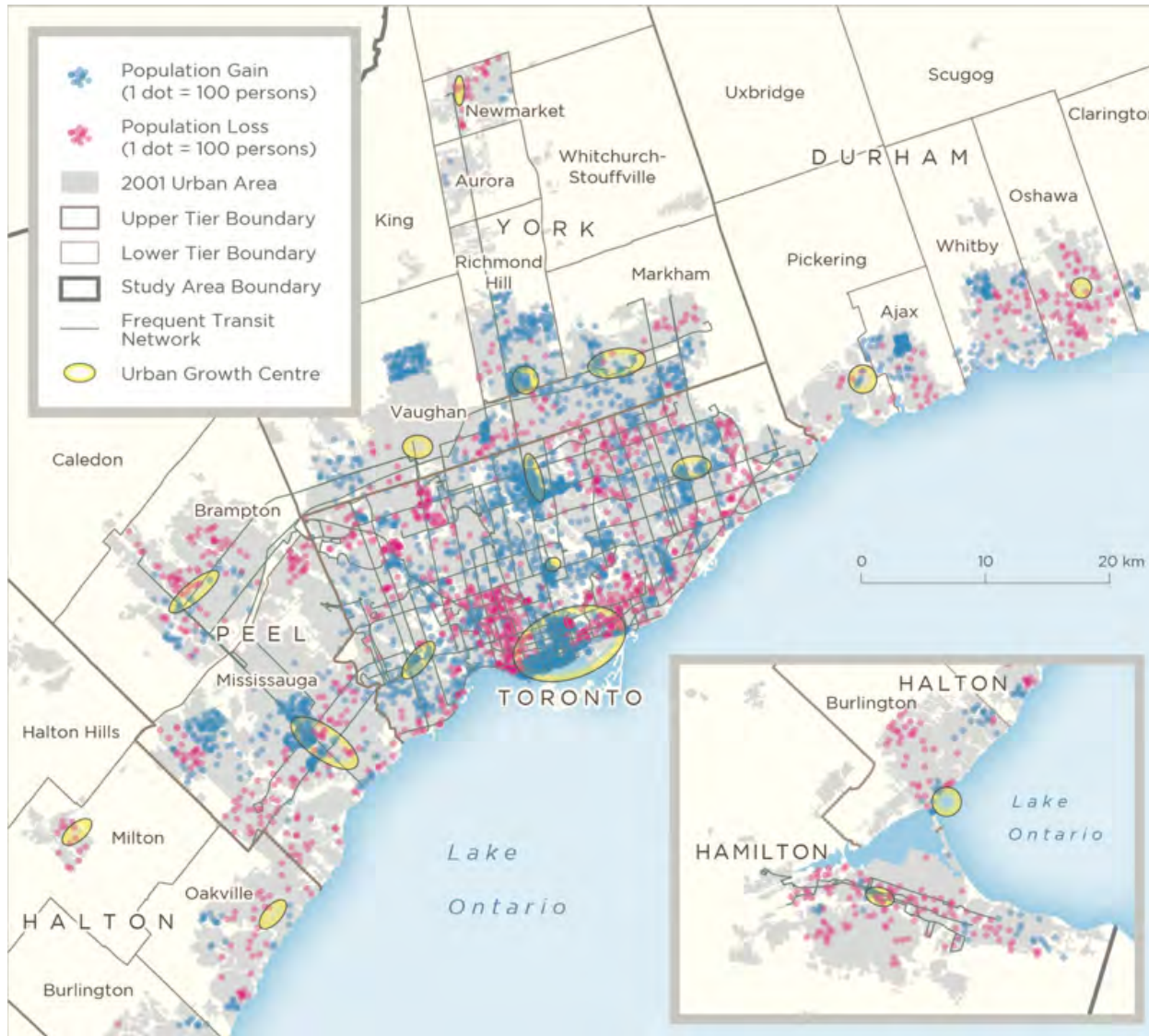
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What is different about Toronto?

- Low crime rate
- Favourable transit culture
- Good transit network, even in new suburbs
- Municipal governments that actually work
- Growth-driven planning
- In Canada



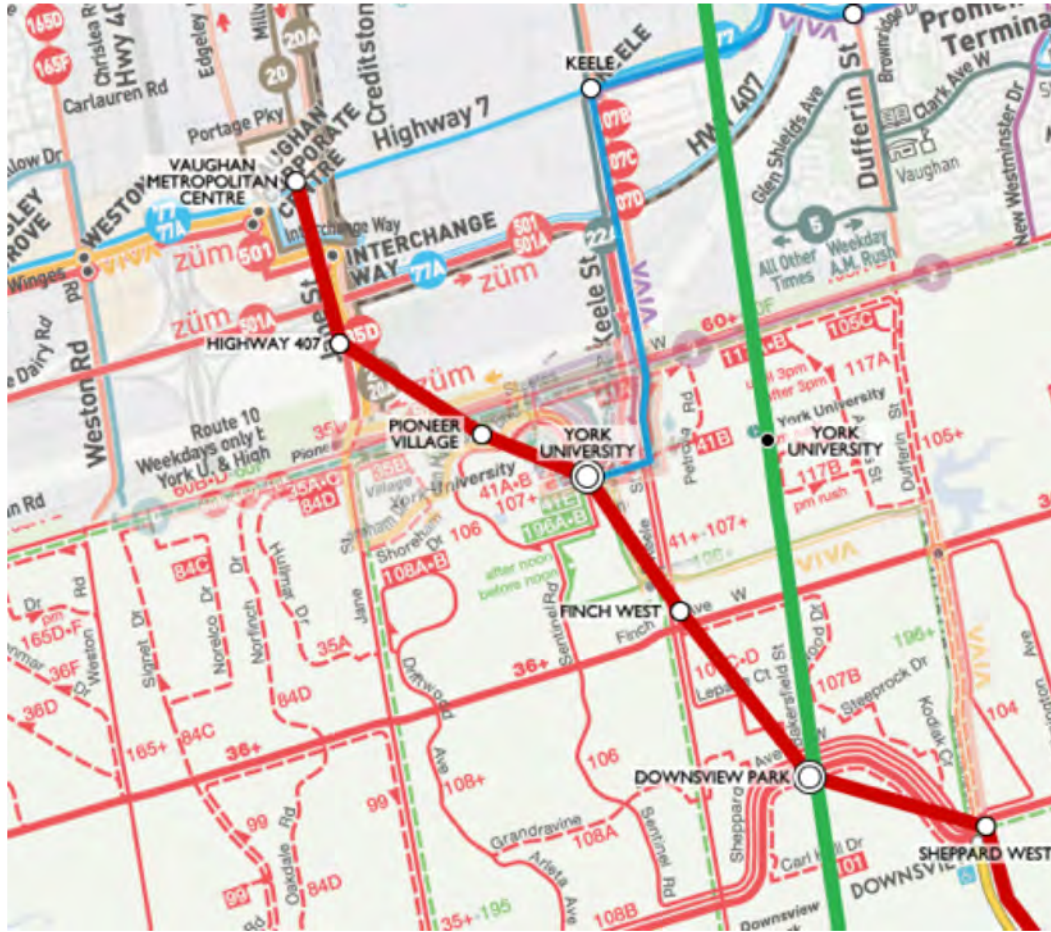
What is different about Toronto?



What are the problems?

- **Lack of transit – development integration**
- **Limited service integration between municipalities**
- **Slow transit expansion to the suburbs**

Who Planned this?

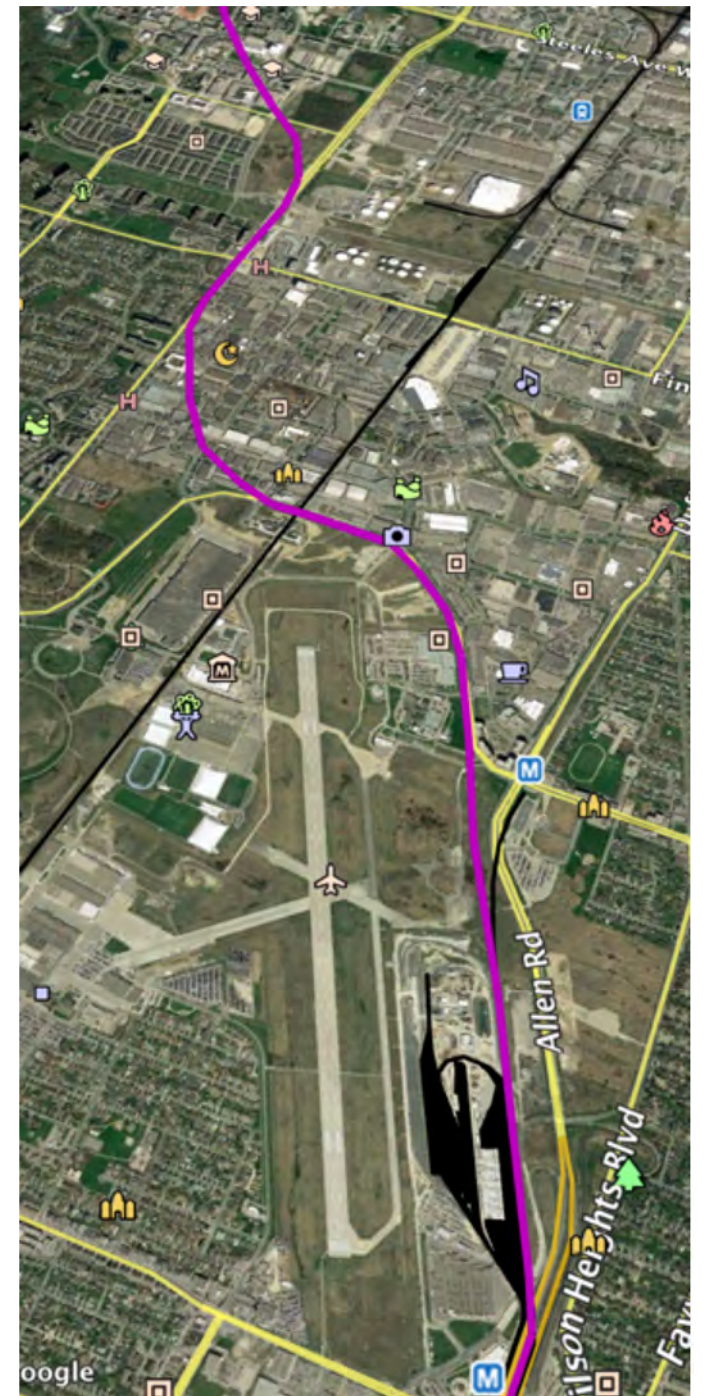


Who Planned this?



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Who planned this?



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Who planned this?



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Pioneer Village – TTC Bus Station



Pioneer Village – York Region Transit Bus Station



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Why 10 years to build?

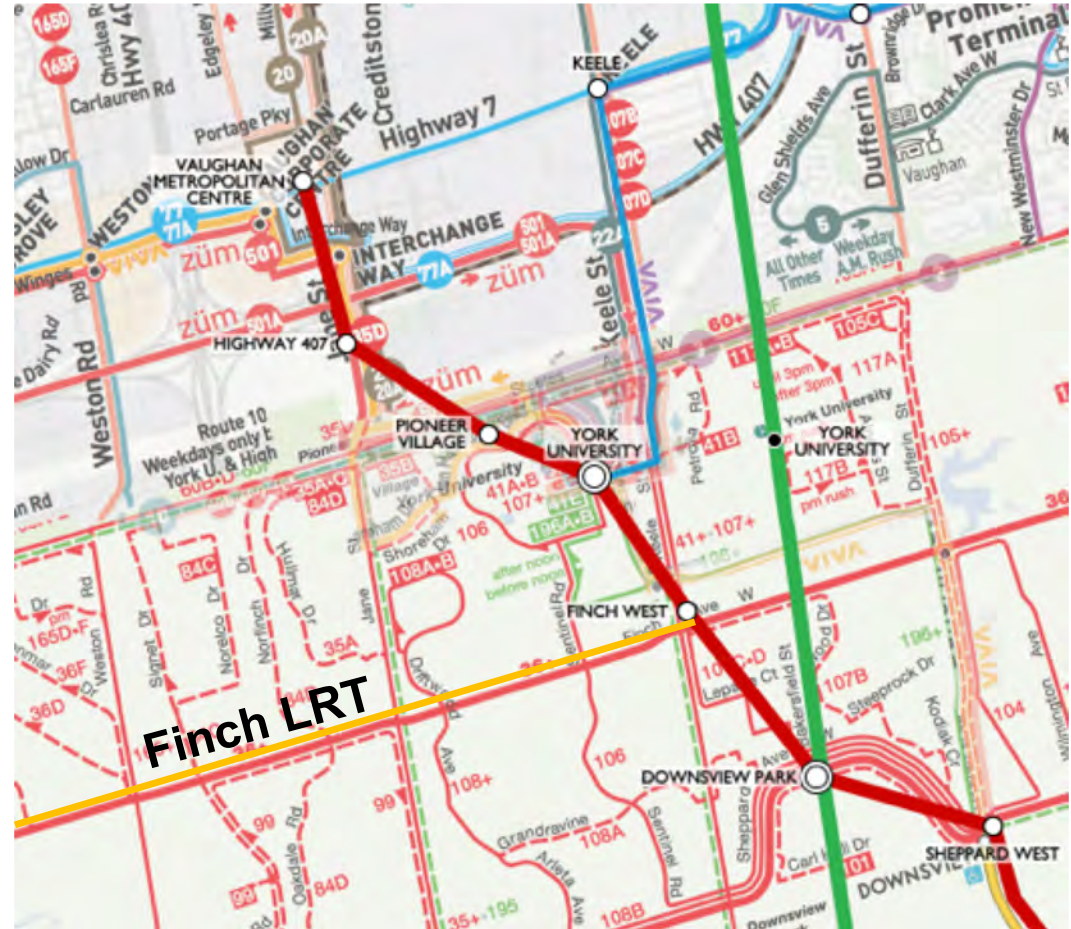


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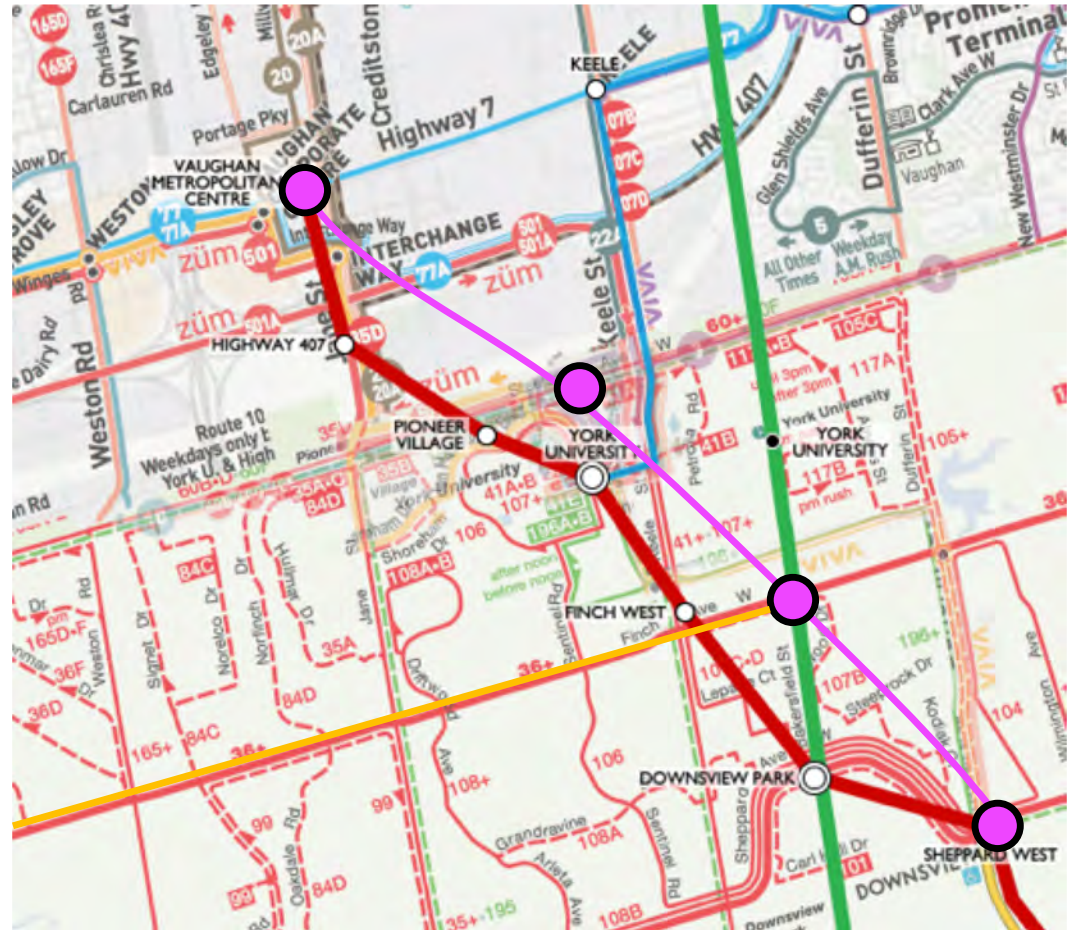


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Who Planned this?



Why not this?

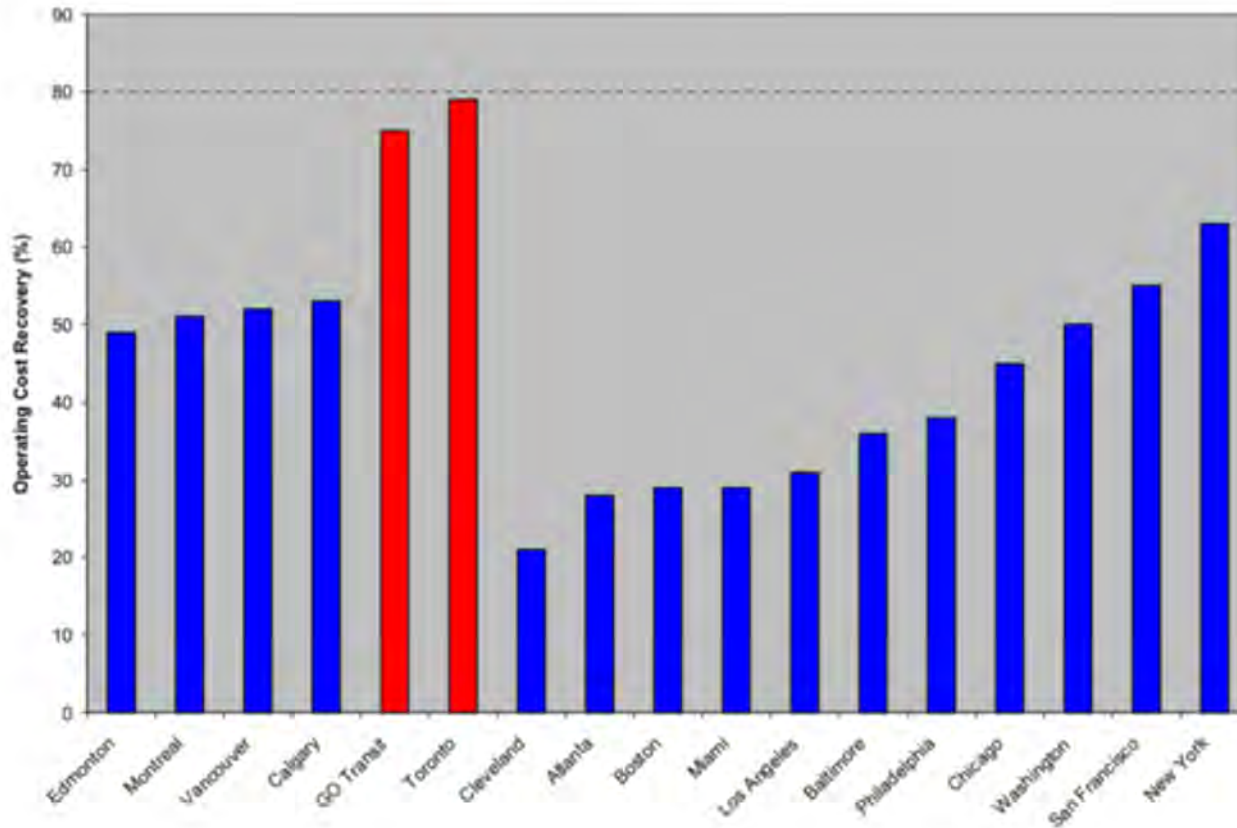


Who pays?

- Why is transit different from water, electricity, telecoms?
- Until 1960, TTC covered all its costs from fares and even paid for subway construction from fares
- But the province spent money on roads and people bought cars – but also began to give capital support to subways
- Wages also rose faster than fares
- In 1970, the province abolished the zone fare system and began operating subsidies – setting the target of 70% opex recovery

How does Toronto do?

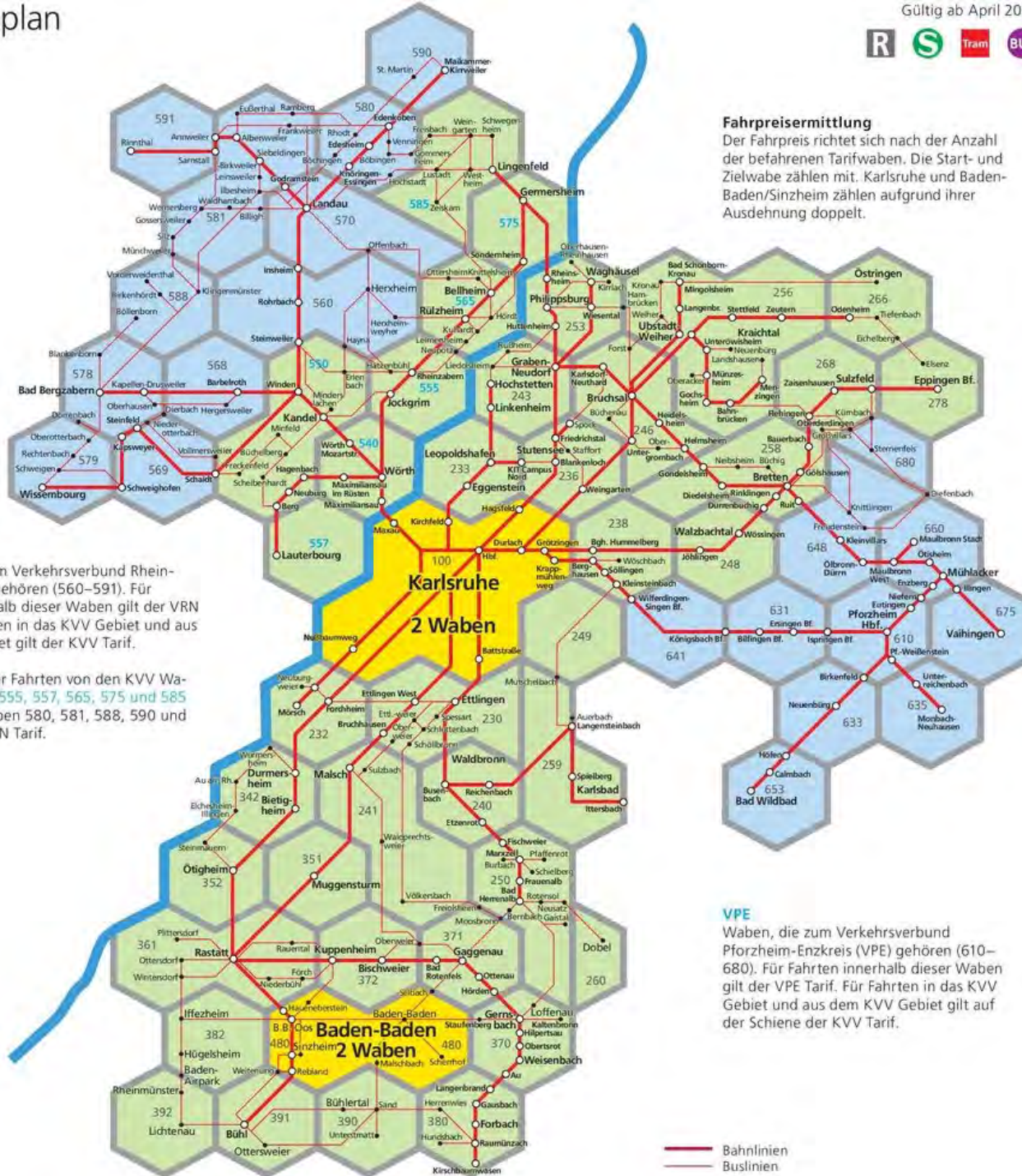
Figure S.5
Comparison of Cost Recoveries
Canadian (1997) and U.S. Transit Operators (1998)



Smarter Fares

- As a Natural Monopoly, fares (prices) should:
 - be above marginal cost – to give price signals to users and producers
 - otherwise reflect Ramsay Pricing principles
- Chip card technology enables more efficient, and more complex pricing
- Implications are:
 - High fares for radial commuters to the CBD, by distance. Indirectly paid by CBD property owners
 - Much lower fares for non-radial and off-peak trips, and trips by slower surface modes
 - Much lower fares or free travel for families, students, children, seniors, unemployed
 - Feeder bus and parking charges need to be understood as part of the package





Fahrpreisermittlung
 Der Fahrpreis richtet sich nach der Anzahl der befahrenen Tarifwaben. Die Start- und Zielwabe zählen mit. Karlsruhe und Baden-Baden/Sinzheim zählen aufgrund ihrer Ausdehnung doppelt.

VRN
 Waben, die zum Verkehrsverbund Rhein-Neckar (VRN) gehören (560–591). Für Fahrten innerhalb dieser Waben gilt der VRN Tarif. Für Fahrten in das KVV Gebiet und aus dem KVV Gebiet gilt der KVV Tarif.

Ausnahme: Für Fahrten von den KVV Waben 540, 550, 555, 557, 565, 575 und 585 in die VRN Waben 580, 581, 588, 590 und 591 gilt der VRN Tarif.

Karlsruhe
 2 Waben

Baden-Baden
 2 Waben

VPE
 Waben, die zum Verkehrsverbund Pforzheim-Enzkreis (VPE) gehören (610–680). Für Fahrten innerhalb dieser Waben gilt der VPE Tarif. Für Fahrten in das KVV Gebiet und aus dem KVV Gebiet gilt auf der Schiene der KVV Tarif.

— Bahnlinien
 — Buslinien



RMV-Preisliste

gültig ab 1. Januar 2019, Preise in Euro brutto



		Preisstufe										Stadtpreisstufen				
		1	2	3	30	4	40	5	6	7 (17 ¹)	45	Sindelfingen Stadtb. ²	Taufkirchen (10) ¹ Dornach-Mitte	Nordheim (10) ¹ (Strobel)	Taufkirchen (10) ¹ Frankfurt-Mitte	Taufkirchen (10) ¹ Wiesbaden-Mitte
Einzelfahrkarten																
Einzelfahrt	Erwachsene	2,10	2,70	3,25	4,10	4,95	6,80	8,60	12,35	16,00	6,90	2,20	2,20	2,60	2,75	2,80
	Erwachsene, mit BahnCard ³						5,10	6,45	9,25	12,00	5,20					
Kurzstrecke	Kinder ⁴	1,25	1,60	1,90	2,40	2,90	4,00	5,10	7,30	9,40	4,15	1,35	1,30	1,50	1,55	1,65
	Kinder ⁴ , mit BahnCard ³						3,00	3,80	5,45	7,05	3,10					
Einzelzuschlag je Fahrt⁷	Erwachsene											1,35 ⁵		1,75	1,85	1,80 ⁶
	Kinder ⁴											0,80 ⁵		1,00	1,05	1,05 ⁶
AST-Komfortzuschlag⁸	Erwachsene und Kinder ⁴	1,50	1,50	1,50	2,00	2,00	3,00	3,50	5,00	6,50	3,50	1,50	1,50	1,50	1,50	1,50
Zeitkarten																
Tageskarte	Erwachsene	4,10	5,25	6,35	8,00	9,65	13,25	16,75	24,10	31,20	13,60	4,30	4,30	5,05	5,35	5,60
	Kinder ⁴	2,45	3,10	3,70	4,70	5,65	7,80	9,95	14,25	18,35	8,20	2,65	2,55	2,90	3,00	3,10
Gruppentageskarte	Erwachsene und Kinder ⁴ , 5 Pers.	7,10	9,10	10,90	13,70	16,60	22,70	28,90	34,50	45,00	24,60	7,80	7,50	8,70	11,30	10,50
	Hessenticket ⁹	36,00														
Wochenkarte	Erwachsene	13,40	21,00	26,70	33,70	40,70	47,70	54,70	68,40	82,30	48,30	13,70	13,90	20,90	26,10	24,50
	Schüler und Auszubildende	10,50	16,40	20,80	26,30	31,70	37,20	42,70	53,40	64,20	37,80	10,70	10,80	16,30	20,40	19,10
Monatskarte	Erwachsene	45,60	71,50	90,90	114,60	138,40	162,10	185,90	232,70	279,90	165,60	46,70	47,30	71,10	90,40	83,20
	Schüler und Auszubildende	35,60	55,80	70,90	89,40	108,00	126,40	145,00	181,50	218,30	127,00	36,40	36,90	55,50	70,50	64,90
65-plus-Monatskarte	ab 65 Jahre	37,80	53,60	64,50	79,10	93,80	109,80	125,90	141,90	159,80 ¹⁰		39,70	39,20	53,00	70,90	66,60
65-Monatskarte Frankfurt	ab 65 Jahre															56,00
9-Uhr-Monatskarte	Erwachsene	38,80	57,20	72,70	91,70	110,70	121,60	139,40	174,50	209,90	127,00	39,70	40,20	56,90	72,30	66,60
	Jahreskarte ¹⁰	456,00	715,20	909,00	1.146,00	1.384,20	1.621,20	1.858,80	2.326,80	2.799,00	1.656,00	466,80	472,80	711,00	904,20	832,20
65-plus-Jahreskarte	Erwachsene, Einmalzahlung ¹¹	446,90	700,90	890,80	1.123,10	1.356,50	1.589,80	1.821,60	2.280,30	2.743,00	1.622,90	457,50	463,30	696,80	886,10	815,60
	ab 65 Jahre, Abbuchung 12 x	378,00	535,80	645,00	790,80	937,80	1.098,00	1.258,80	1.419,00	1.597,80 ¹²		397,20	391,80	529,80	709,20	666,00
65-Jahreskarte Frankfurt	ab 65 Jahre, Einmalzahlung ¹¹	370,40	525,10	632,10	775,00	919,00	1.076,00	1.233,60	1.390,60	1.565,80 ¹²		389,30	384,00	519,20	695,00	652,70
	ab 65 Jahre, Abbuchung 12 x															559,80
9-Uhr-Jahreskarte¹⁰	ab 65 Jahre, Einmalzahlung ¹¹	388,20	571,80	727,20	916,80	1.107,00	1.216,20	1.393,80	1.744,80	2.098,80	1.270,20	397,20	402,00	568,80	723,00	666,00
	Erwachsene, Einmalzahlung ¹¹	380,40	560,40	712,70	898,50	1.084,90	1.191,90	1.365,90	1.709,90	2.056,80	1.244,80	389,30	394,00	557,40	708,50	652,70
Schülerticket Hessen	Schüler/Azubi, Abbuchung 12 x	372,00														
	Schüler/Azubi, Einmalzahlung ¹¹	365,00														
CleverCard¹³	Schüler/Azubi, Abbuchung 12 x	306,00	479,40	610,20		926,40		1.244,40	1.557,60	1.873,80	1.081,80					573,00
	Schüler/Azubi, Einmalzahlung ¹¹	299,90	469,80	598,00		907,90		1.219,50	1.526,40	1.836,30	1.060,00					561,50
Zuschlagkarte-Woche⁷	Erwachsene und Kinder ⁴	6,00	9,50	12,00	15,20	18,30	21,50	24,60	30,80	37,00	24,60	6,20	6,30	9,40	11,70	11,00
	-Monat ⁷	20,50	32,20	40,90	51,60	62,30	72,90	83,70	104,70	126,00	83,70	21,00	21,30	32,00	40,70	37,40
	-Jahr ^{7,10}	205,20	322,20	409,20	516,00	622,80	729,00	837,00	1.047,00	1.260,00	837,00	210,00	213,00	319,80	406,60	373,80
Fernverkehrs-Ergänzungskarten	Erw. u. Kinder ⁴ , Einmalzahlung ¹¹	201,10	315,80	401,00	505,70	610,30	714,40	820,30	1.026,10	1.234,80	820,30	205,80	208,70	313,40	398,70	366,30
	Wochenkarte	Erwachsene	8,90	12,60	14,70	18,50	22,40	26,20	30,10			9,10	9,10	12,50	14,40	13,50
	Schüler und Auszubildende	6,90	9,80	11,50	14,40	17,50	20,40	23,50				7,10	7,10	9,80	11,20	10,50
Monatskarte	Erwachsene	30,40	42,90	50,00	63,00	76,10	89,20	102,20			31,10	31,10	42,70	49,70	45,80	
	Schüler und Auszubildende	23,70	33,50	39,00	49,10	59,40	69,60	79,70			24,30	24,30	33,30	38,80	35,70	
Jahreskarte	Erwachsene, Abbuchung 12 x	304,20	429,00	499,80	630,00	760,80	892,20	1.021,80			319,80	319,80	427,20	496,80	457,80	
	Erwachsene, Einmalzahlung ¹¹	298,10	420,40	489,80	617,40	745,50	874,40	1.001,40			304,60	304,60	418,70	486,90	448,60	
Zuschlagkarte-Woche⁷	Erwachsene und Kinder ⁴	4,00	5,70	6,60	8,40	10,10	11,80	13,50			4,10	4,10	5,60	6,40	6,10	
	-Monat ⁷	13,70	19,30	22,50	28,40	34,30	40,10	46,00			14,00	14,00	19,20	22,40	20,60	
	-Jahr ⁷	136,80	193,20	225,00	283,80	343,20	400,80	460,20			139,80	139,80	192,00	223,80	205,80	
	Erw. u. Kinder ⁴ , Einmalzahlung ¹¹	134,10	189,30	220,50	278,10	336,30	392,80	451,00			137,00	137,00	188,20	219,30	201,70	

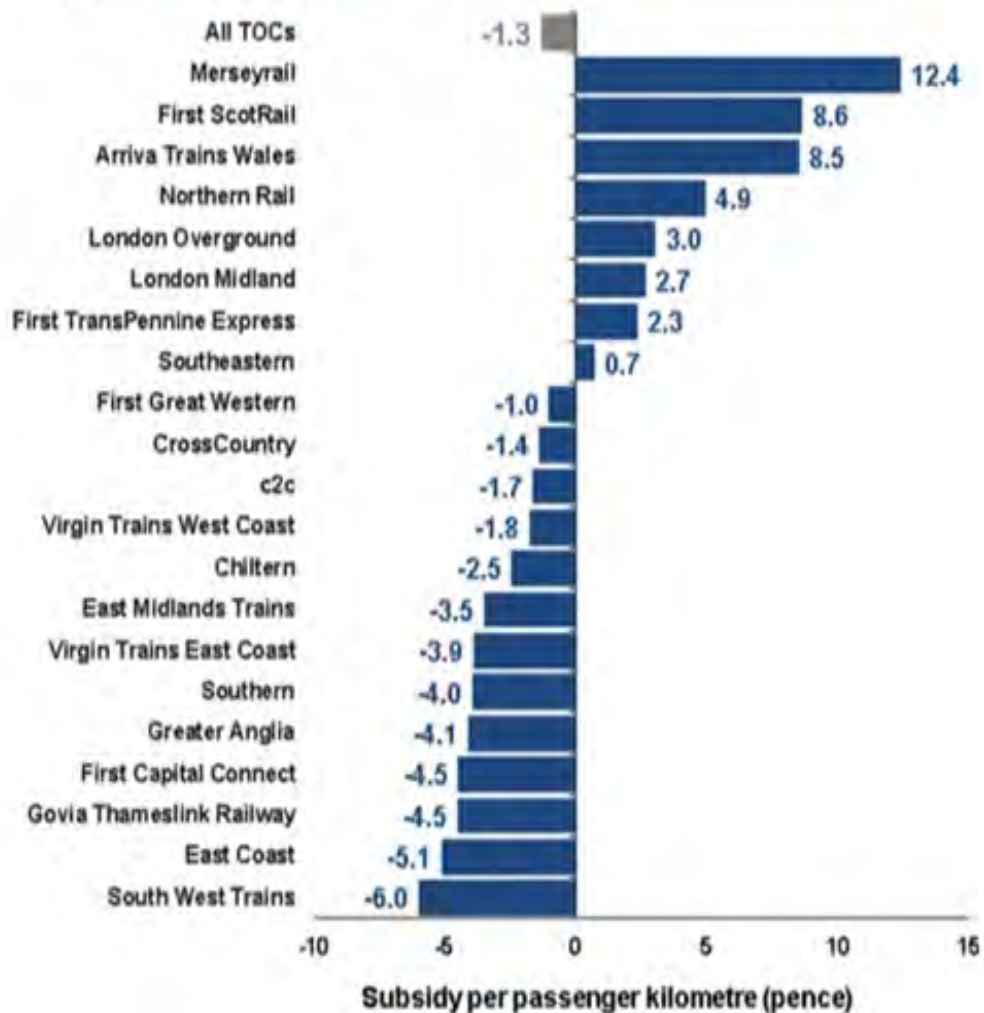
Adult rate prices: All Tube, DLR, London Overground and TfL Rail services and National Rail services in Z1-9

Zone	Pay as you go			Travelcards				
	Caps			Day Anytime	Day Off-peak	7 Day	Monthly	Annual
	Daily Anytime	Daily Off-peak	Monday to Sunday (contactless only)					
Zone 1 only	£7.00	£7.00	£35.10	£13.10	£13.10	£35.10	£134.80	£1,404
Zones 1-2	£7.00	£7.00	£35.10	£13.10	£13.10	£35.10	£134.80	£1,404
Zones 1-3	£8.20	£8.20	£41.20	£13.10	£13.10	£41.20	£158.30	£1,648
Zones 1-4	£10.10	£10.10	£50.50	£13.10	£13.10	£50.50	£194.00	£2,020
Zones 1-5	£12.00	£12.00	£60.00	£18.60	£13.10	£60.00	£230.40	£2,400
Zones 1-6	£12.80	£12.80	£64.20	£18.60	£13.10	£64.20	£246.60	£2,568
Zones 1-7	£14.00	£12.90	£69.80	£23.50	£13.90	£69.80	£268.10	£2,792
Zones 1-8	£16.50	£12.90	£82.50	£23.50	£13.90	£82.50	£316.80	£3,300
Zones 1-9	£18.30	£12.90	£91.50	£23.50	£13.90	£91.50	£351.40	£3,660
Zones 1-9 + Watford Junction	£24.60	£18.40	£92.00	£24.60	£18.40	£92.00	£353.30	£3,680
Zones 1-9 + Shenfield	£30.50	£20.50	£109.10	£30.50	£20.50	£109.10	£419.00	£4,364
Zone 2 only	£7.00	£7.00	£26.30	£13.10	£13.10	£26.30	£101.00	£1,052
Zones 2-3	£8.20	£8.20	£26.30	£13.10	£13.10	£26.30	£101.00	£1,052
Zones 2-4	£10.10	£10.10	£29.10	£13.10	£13.10	£29.10	£111.80	£1,164
Zones 2-5	£12.00	£12.00	£34.90	£18.60	£13.10	£34.90	£134.10	£1,396
Zones 2-6	£12.80	£12.80	£43.90	£18.60	£13.10	£43.90	£168.60	£1,756
Zones 2-7	£14.00	£12.90	£45.60	£23.50	£13.90	£45.60	£175.20	£1,824
Zones 2-8	£16.50	£12.90	£62.00	£23.50	£13.90	£62.00	£238.10	£2,480
Zones 2-9	£18.30	£12.90	£62.00	£23.50	£13.90	£62.00	£238.10	£2,480
Zones 2-9 + Watford Junction	£24.60	£18.40	£62.00	£24.60	£18.40	£62.00	£238.10	£2,480
Zones 2-9 + Shenfield	£30.50	£20.50	£82.80	£30.50	£20.50	£82.80	£318.00	£3,312
Zone 3 only	£8.20	£8.20	£26.30	£13.10	£13.10	£26.30	£101.00	£1,052
Zones 3-4	£10.10	£10.10	£26.30	£13.10	£13.10	£26.30	£101.00	£1,052
Zones 3-5	£12.00	£12.00	£29.10	£18.60	£13.10	£29.10	£111.80	£1,164
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Government subsidy per passenger kilometre by train operating company - chart² (Table 1.7) Great Britain, 2014-15



TOCs COVER TRAIN OPERATING COSTS

Retired railway manager **THEO STEEL** takes a look at recent railway finance figures

Headline news in the last few weeks has been that the rail industry is finally covering its operating costs. The TOCs have been reported to be covering their costs for the first time since 2012. This is a significant milestone for the industry, particularly in light of the fact that the TOCs have been operating at a loss for several years.

TRAINING UP
The TOCs have been investing in training for their staff, particularly in the area of customer service. This is a key area for the industry, as it is essential for the TOCs to provide a high-quality service to their customers. The TOCs have been investing in training for their staff in a number of ways, including through the use of e-learning, on-the-job training, and external courses.

INVESTING
The TOCs have also been investing in infrastructure, particularly in the area of track and signalling. This is a key area for the industry, as it is essential for the TOCs to maintain a safe and reliable railway. The TOCs have been investing in infrastructure in a number of ways, including through the use of grants, loans, and private finance.

TABLE 1: TOC RESULTS

TOC	Passenger revenue per passenger kilometre (2014-15)	Operating costs per passenger kilometre (2014-15)	Operating profit/loss per passenger kilometre (2014-15)	Operating profit/loss as a % of passenger revenue (2014-15)
All TOCs	12.4	13.7	-1.3	-10.5
Merseyrail	12.4	1.0	11.4	92
First ScotRail	8.6	0.8	7.8	91
Arriva Trains Wales	8.5	0.0	8.5	100
Northern Rail	4.9	0.5	4.4	90
London Overground	3.0	0.0	3.0	100
London Midland	2.7	0.4	2.3	85
First TransPennine Express	2.3	0.0	2.3	100
Southeastern	0.7	0.7	0.0	0
First Great Western	-1.0	0.0	-1.0	-100
CrossCountry	-1.4	0.0	-1.4	-100
c2c	-1.7	0.0	-1.7	-100
Virgin Trains West Coast	-1.8	0.0	-1.8	-100
Chiltern	-2.5	0.0	-2.5	-100
East Midlands Trains	-3.5	0.0	-3.5	-100
Virgin Trains East Coast	-3.9	0.0	-3.9	-100
Southern	-4.0	0.0	-4.0	-100
Greater Anglia	-4.1	0.0	-4.1	-100
First Capital Connect	-4.5	0.0	-4.5	-100
Govia Thameslink Railway	-4.5	0.0	-4.5	-100
East Coast	-5.1	0.0	-5.1	-100
South West Trains	-6.0	0.0	-6.0	-100

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Greater Anglia	-4.1	0.0	-4.1	-100
First Capital Connect	-4.5	0.0	-4.5	-100
Govia Thameslink Railway	-4.5	0.0	-4.5	-100
East Coast	-5.1	0.0	-5.1	-100
South West Trains	-6.0	0.0	-6.0	-100

TABLE 1: TOC RESULTS

TOC	Passenger revenue per passenger kilometre (2014-15)	Operating costs per passenger kilometre (2014-15)	Operating profit/loss per passenger kilometre (2014-15)	Operating profit/loss as a % of passenger revenue (2014-15)
All TOCs	12.4	13.7	-1.3	-10.5
Merseyrail	12.4	1.0	11.4	92
First ScotRail	8.6	0.8	7.8	91
Arriva Trains Wales	8.5	0.0	8.5	100
Northern Rail	4.9	0.5	4.4	90
London Overground	3.0	0.0	3.0	100
London Midland	2.7	0.4	2.3	85
First TransPennine Express	2.3	0.0	2.3	100
Southeastern	0.7	0.7	0.0	0
First Great Western	-1.0	0.0	-1.0	-100
CrossCountry	-1.4	0.0	-1.4	-100
c2c	-1.7	0.0	-1.7	-100
Virgin Trains West Coast	-1.8	0.0	-1.8	-100
Chiltern	-2.5	0.0	-2.5	-100
East Midlands Trains	-3.5	0.0	-3.5	-100
Virgin Trains East Coast	-3.9	0.0	-3.9	-100
Southern	-4.0	0.0	-4.0	-100
Greater Anglia	-4.1	0.0	-4.1	-100
First Capital Connect	-4.5	0.0	-4.5	-100
Govia Thameslink Railway	-4.5	0.0	-4.5	-100
East Coast	-5.1	0.0	-5.1	-100
South West Trains	-6.0	0.0	-6.0	-100

Bus Services in Toronto

- High bus ridership on suburban corridors
- Some low floor, articulated, and express routes
- And used by the non-poor . .
- Could new technology and smarter fares bring revenues above operating costs?



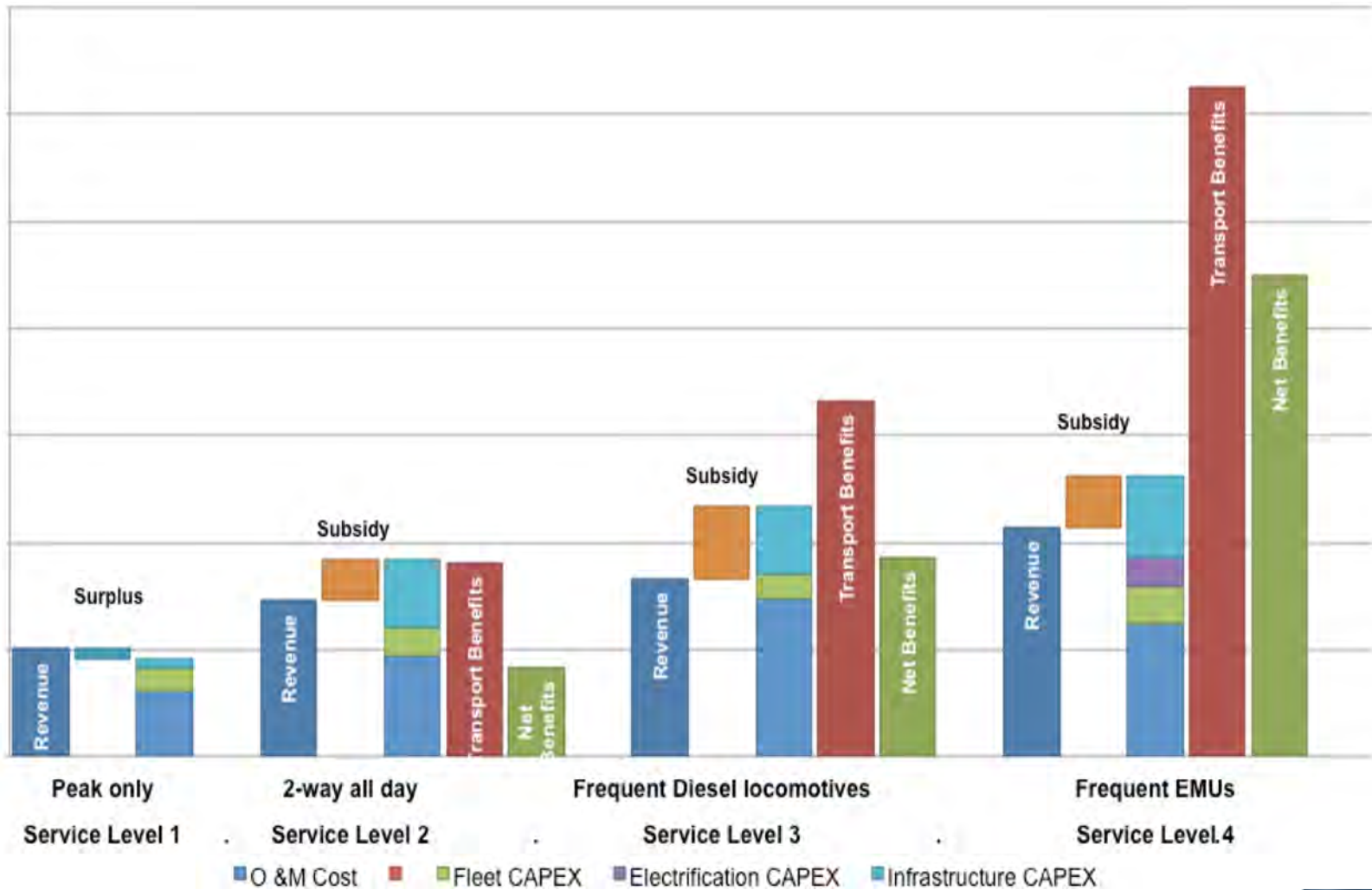
Route	Day	Customers per day	Vehicles in morning peak period	Vehicles in afternoon peak period	Hours per day	Kilometres per day	Note
13 Evans	Sat	1,200	-	-	30	600	
15 Evans	Sun	810	-	-	20	450	
104 Faywood	Mo-Fr	3,500	4	4	65	1,300	
104 Faywood	Sat	2,100	-	-	55	1,200	
104 Faywood	Sun	1,600	-	-	35	840	
39 Finch East	Mo-Fr	23,800	34	28	445	10,300	
39 Finch East	Sat	18,100	-	-	235	5,500	
39 Finch East	Sun	17,400	-	-	200	4,800	
199 Finch Rocket	Mo-Fr	19,100	32	22	325	8,300	
199 Finch Rocket	Sat	8,200	-	-	150	4,000	
199 Finch Rocket	Sun	6,600	-	-	100	2,800	
36 Finch West	Mo-Fr	42,500	42	37	565	11,200	
36 Finch West	Sat	26,600	-	-	345	7,400	
36 Finch West	Sun	19,500	-	-	315	7,600	
139 Finch-Don Mills	Mo-Fr	2,000	4	4	35	730	
47 Lansdowne	Sun	1,200	-	-	115	1,900	
54 Lawrence East	Mo-Fr	33,700	41	37	560	11,600	
54 Lawrence East	Sat	20,900	-	-	305	6,500	
54 Lawrence East	Sun	14,800	-	-	265	5,900	
52 Lawrence West	Mo-Fr	43,900	38	45	635	12,000	
52 Lawrence West	Sat	24,500	-	-	435	8,700	
52 Lawrence West	Sun	17,200	-	-	360	7,500	
162 Lawrence-Donway	Mo-Fr	710	2	2	25	550	

Bus Services in London

- All delivered under gross-cost contracts, competitively tendered
- Most vehicles privately owned
- TfL specifies frequency, capacity, and vehicle quality
- Payments are adjusted based on “excess wait time”, calculated automatically
- Unit costs reduced about 40% and ridership DOUBLED
- Many quality and comfort improvements
- Services now operated by companies from Singapore, France, Germany, Netherlands and UK



Who Pays for GO Expansion?



Source: GO RER Initial Business Case

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Who Delivers? – Urban Rail

Toronto – Line 1 to Vaughan

- 9km
- 6 stations
- All underground
- Built in 10 years
- 60,000 daily riders
- 2018 \$3.5bn
- 2 crew per train
- 5 minute headways all day
- Multi-contract procurement
- TTC in-house

Vancouver – Canada Line

- 19km
- 16 stations
- Half underground
- Built in 4 years
- 120,000 daily riders
- 2018 \$4bn capex
- Driverless
- 2 minute headways all day
- 30 year DBFOM (Design-Build-Finance-Operate-Maintain) contract



Who Delivers? – Operations (partial list)

Hong Kong MTR (HK SE)

- Stockholm Metro
- London Crossrail
- Beijing Line 4, Shenzhen etc.
- Melbourne M-Trains
- Sydney Metro

Keolis (French Railways + CDPQ)

- London Thameslink
- Lille Metro
- Boston Commuter Rail
- K-W ION
- Montréal REM

RATP Dev (Paris City)

- Johannesburg Gautrain
- Manchester Metrolink
- Manila Metro
- HK Trams
- Algiers Metro
- Washington Tram

DB Arriva (German Railways)

- UK Cross Country
- London Overground
- Denmark regional
- California High Speed Rail

Who Owns? London

	Infrastructure	Vehicles	Operations	Fares
Subway (Underground)	TfL (London Government)	TfL	TfL	TfL
LRT	TfL, some private	TfL	Private – Gross Cost	TfL
Overground Crossrail	Mostly Network Rail (UK Government); some TfL	Private - Leased	Private – Gross Cost	TfL
Bus	Garages: Private	Mostly Private	Private – Gross Cost	TfL
Regional Rail Thameslink	Network Rail (UK Government)	Private - Leased	Private – mostly Net Cost	TfL and Private
Heathrow Express	Heathrow Airport Limited (Private)	Private - Leased	Private	Heathrow Airport

Who Owns? Frankfurt

	Infrastructure	Vehicles	Operations	Fares
Subway (U-Bahn)	Municipalities	Municipalities	Municipalities	Transport Associations
LRT	Municipalities	Municipalities	Municipalities	Transport Associations
City buses	Municipalities	Mix of public and private	Mix of public and private	Transport Associations
Regional Bus	Mix of public and private	Mix of public and private	Mix of public and private	Transport Associations
Regional Rail	DB Infra (Federal)	Various public and private	Various public and private	Transport Associations and DB Regio

Who Owns? Singapore

	Infrastructure	Vehicles	Operations	Fares
Subway (MRT)	State	State	Private	Independent Regulator
LRT	State	State	Private	Independent Regulator
City buses	Private	Private	Private	Independent Regulator

Who Owns? Hong Kong

	Infrastructure	Vehicles	Operations	Fares
Subway (MTR)	Private	Private	Private	Independent Regulator
LRT	Private	Private	Private	Independent Regulator
City buses	Private	Private	Private	Independent Regulator
Ferries	Private	Private	Private	Independent Regulator

Who should PLAN?

- Regional transit (rail, subways, highways)
 - Should be planned at a regional level or higher
 - integrated with land use planning and regional economic strategies
- Local trains (Bus and Streetcars)
 - Should be planned at local level
 - integrated fares, minimum standards should be set at a regional level, but
 - higher frequency, routes, quality, comfort can be decided (and funded) locally

Who should PAY?

- Regional transit (rail, subways, highways)
 - Smart Fares, using Ramsay principles
 - Indirectly, by business property owners
 - General taxes
 - Transit-oriented development
- Local transit (Bus and Streetcars)
 - “Smart Fares”
 - Local government, where services above regional standards are desired



Who should DELIVER?

- Regional transit (rail, subways, highways)
 - Through performance-based integrated contracts, including capital investment (DBFOM model)
- Local trains (Bus and Streetcars)
 - Through performance-based contracts on 3 – 5 year contracts

The Railway Metropolis

How planners, politicians and developers shaped modern London

Michael Schabas



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Governance Models for Successful Regional Transit: Who Owns It? Who Pays for It? Who Delivers It?

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