



Bridging Transport Conference

August 10th

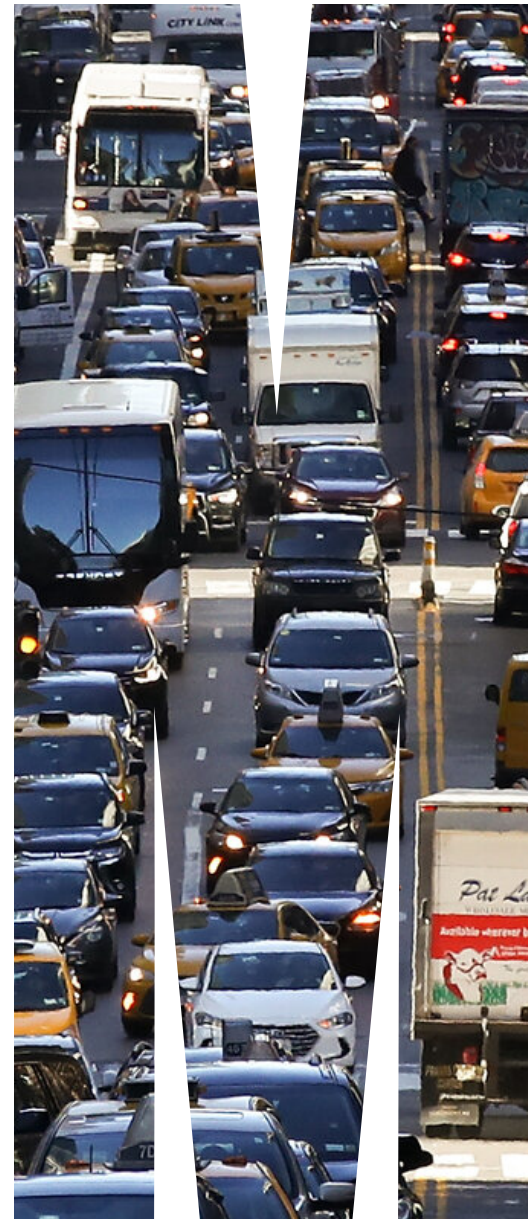
– 10:00 CST (11:00 JST, 12:00 AEST)

Pragmatic Strategies to Legitimise Implementation of Sustainable Transport in Cities

Professor Graham Currie and Dr James Reynolds
Public Transport Research Group
Monash Institute of Transport Studies
Monash University, Australia



MONASH
INSTITUTE OF
TRANSPORT
STUDIES



Agenda

Introduction

Context

Legitimacy

Pragmatic Strategies

Review and close



This presentation concerns the use of Pragmatic Strategies to Legitimise Implementation

How to get sustainable transport projects done...

...in the real-world (of political, institutional and public opposition)



Dr James Reynolds



Professor Graham Currie

Public Transport Research Group (PTRG)
Institute of Transport Studies (ITS)
Civil Engineering Monash University

It's the PhD Thesis work of Dr James Reynolds and his supervision team – a joint industry/academic project



Dr James Reynolds
PhD Researcher



Professor Graham Currie
Main Supervisor

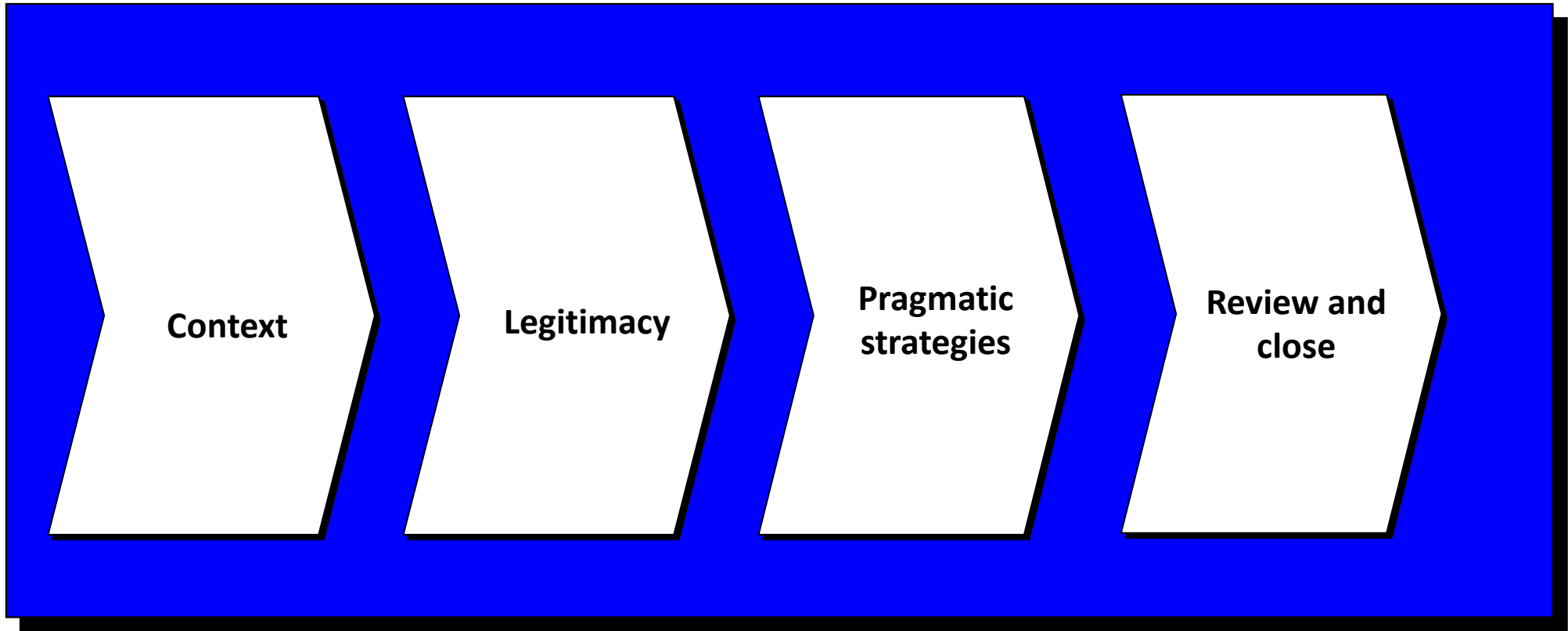


Professor Geoff Rose
Associate Supervisor



Alistair Cumming
Industry Supervisor

It is structured as follows:



Agenda

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Legitimacy

Pragmatic Strategies

Review and close

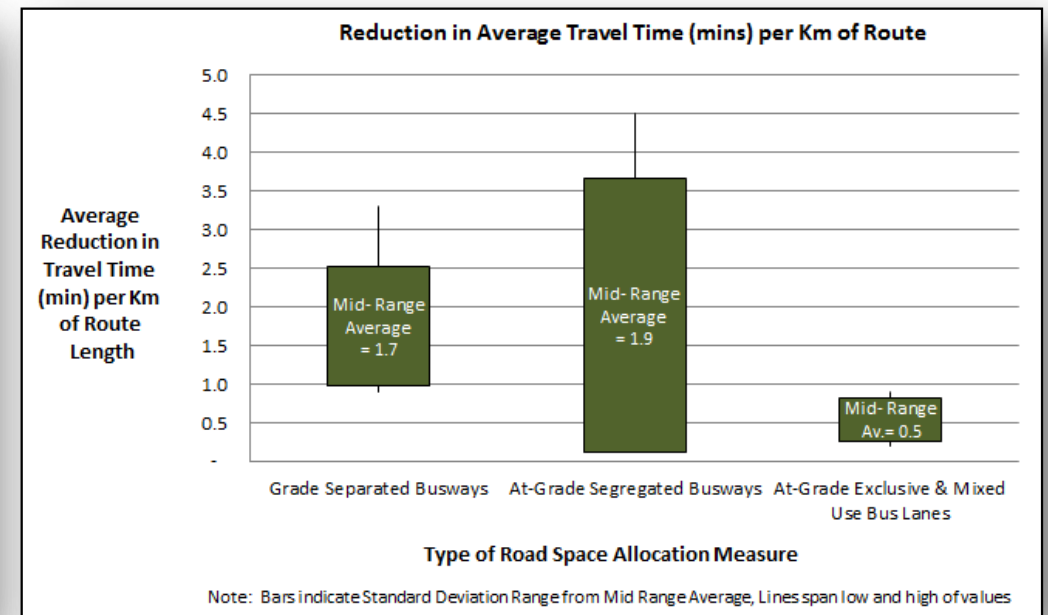
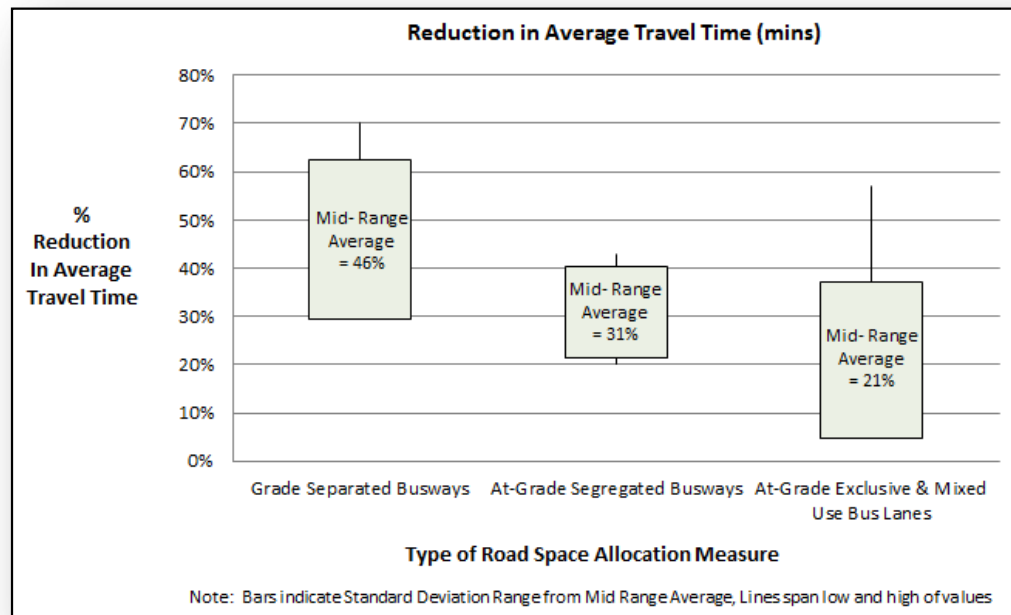


Monash PTRG has published widely on technical solutions to on road public transit priority

Research Publications in On Road Public Transport Priority

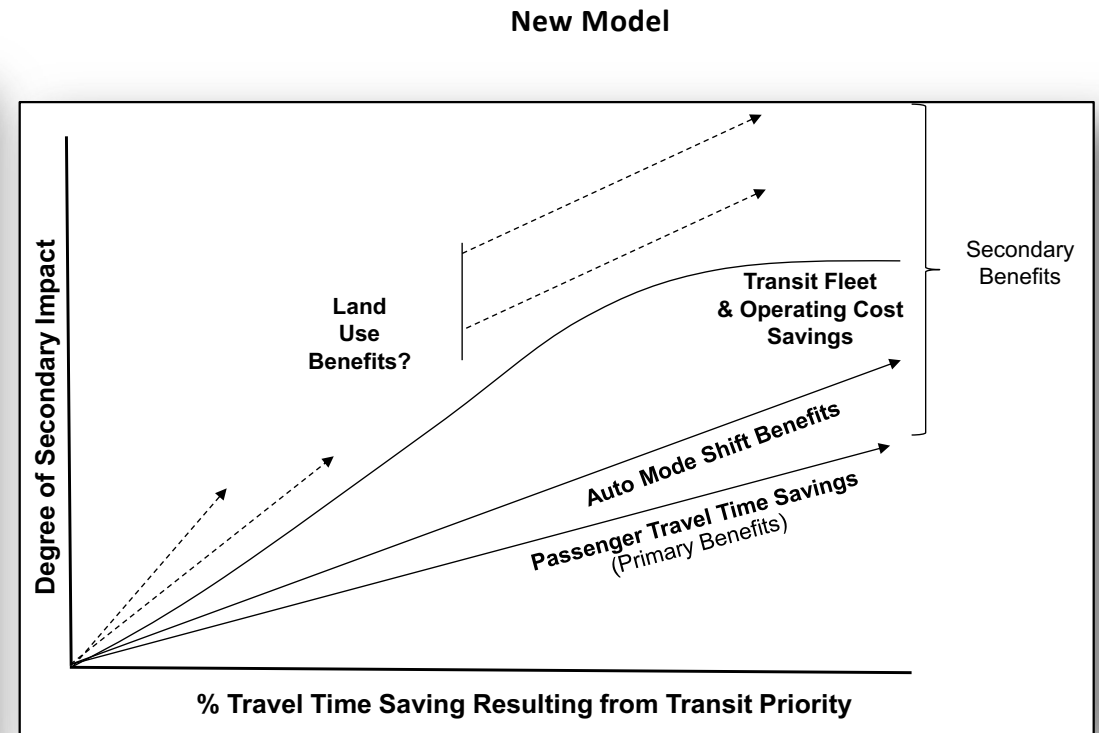
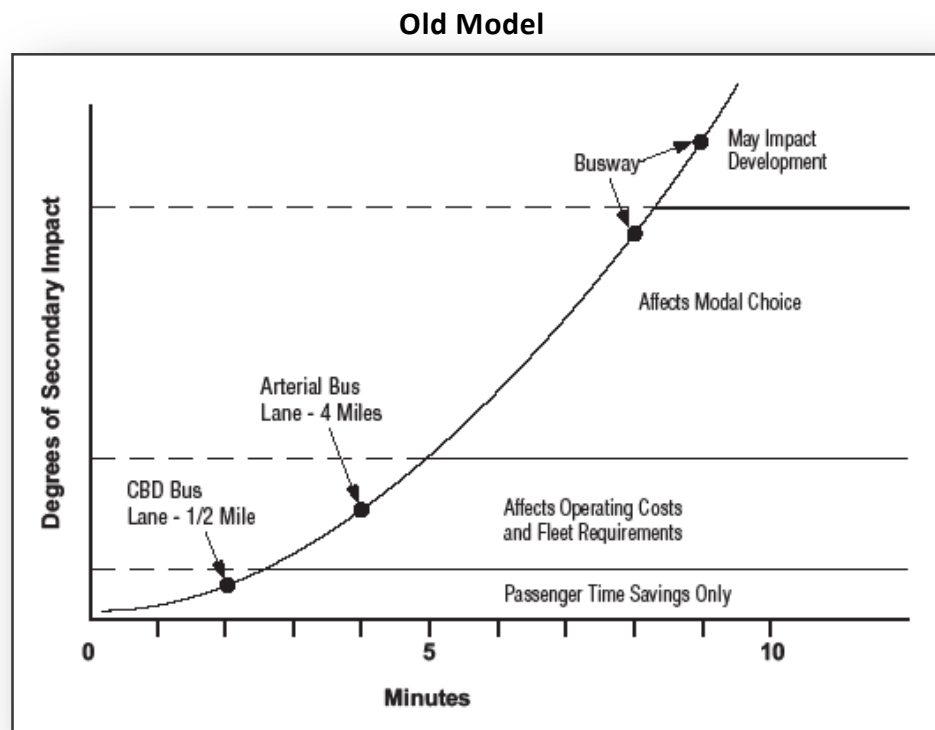
- ▶ Currie G (2004) 'Planning and Design for On Road Public Transport' in 'Traffic Engineering and Management' Institute of Transport Studies, Monash University ISBM No. 0 7326 1612 3
- ▶ Currie G, Sarvi, M. and Young B. (2004) "A New Methodology for Allocating Road Space for Public Transport Priority". In: Brebbia, C.A. & Wadhwa, L.C. (Ed.) Urban Transport X Urban transport and the environment in the 21st century, WITpress, Germany, 375-388
- ▶ Truong LT, Currie G, Wallace M and De Gruyter C (2017) 'Does Combining Transit Signal Priority with Dedicated Bus Lanes or Queue Jump Lanes at Multiple Intersections Create Multiplier Effects?' Transportation Research Record: Journal of the Transportation Research Board, No. 2647, 2017, pp. 80–92.
- ▶ Truong L Currie G Wallace M De Gruyter C (2017) 'Analytical approach to estimate delay reduction associated with bus priority measures' IEEE Intelligent Transportation Systems Magazine Volume: 9, Issue: 4, winter 2017 pp91-101
- ▶ Truong LT, Currie G and Sarvi M (2017) 'Analytical and simulation approaches to understand combined effects of transit signal priority and road-space priority measures' Transportation Research Part C: Emerging Technologies, Volume 74, 1 January 2017, Pages 275-294
- ▶ Truong, LT Graham Currie, Majid Sarvi Analytical and simulation approaches to understand combined effects of transit signal priority and road-space priority measures TRANSPORTATION RESEARCH PART C: EMERGING TECHNOLOGIES, Volume 74, January 2017, Pages 275-294
- ▶ Pavkova K, Currie G, Delbosc A and Sarvi M (2016) 'Selecting tram links for priority treatments - The Lorenz Curve approach' JOURNAL OF TRANSPORT GEOGRAPHY, Volume 55, July 2016, Pages 101-109
- ▶ Naznin F Currie G Sarvi M and Logan D (2016) 'An empirical bayes safety evaluation of tram/streetcar signal and lane priority measures in Melbourne;' TRAFFIC INJURY AND PREVENTION Traffic Injury Prevention , 17 (1) pp. 91 - 97
- ▶ Goh K, Currie G, Sarvi M and Logan D (2014) 'Experimental Micro-Simulation Modelling of Road Safety Impacts of Bus Priority' TRANSPORTATION RESEARCH RECORD, Volume 2402 / Truck and Bus Safety; Roundabouts 2014, pp 9-14
- ▶ Goh K, Currie G, Sarvi M and Logan D (2013) 'Road Safety Benefits from Bus Priority? – An Empirical Study' TRANSPORTATION RESEARCH RECORD, No. 2352, Washington,D.C., 2013, pp. 41–49
- ▶ Goh, K, Currie, G, Sarvi M and Logan, D (2014) 'Bus Accident Analysis of Routes With/Without Bus Priority' ACCIDENT ANALYSIS AND PREVENTION Volume 65, April 2014, Pages 18-27
- ▶ Currie G and Sarvi M (2012) 'A New Model for the Secondary Benefits of Transit Priority' TRANSPORTATION RESEARCH RECORD No. 2276, Journal of the Transportation Research Board pp 63–71
- ▶ Currie, G. and Shalaby A (2008) 'Active Signal Priority for Streetcars: Experience in Melbourne and Toronto' TRANSPORTATION RESEARCH RECORD: No. 2042, pp. 41–49.
- ▶ Mesbah M, Sarvi M and Currie, G. (2008) 'A New methodology for Optimization of Transit Priority in a Transport Network' TRANSPORTATION RESEARCH RECORD No 2089 pp 93-100
- ▶ Currie, G. Sarvi M Young W (2007) 'A New Approach to Evaluating On-Road Public Transport Priority Projects: Balancing the Demand for Limited Road Space' TRANSPORTATION Volume 34, Number 4 / July, 2007 pp413-428
- ▶ Currie, G., Sarvi, M and Young, W (2004) 'A new methodology for allocating road space for public transport priority ' ADVANCES IN TRANSPORT Vol 16, 2004 pp375-388

We meta studied benefits of transit priority from hundreds of studies



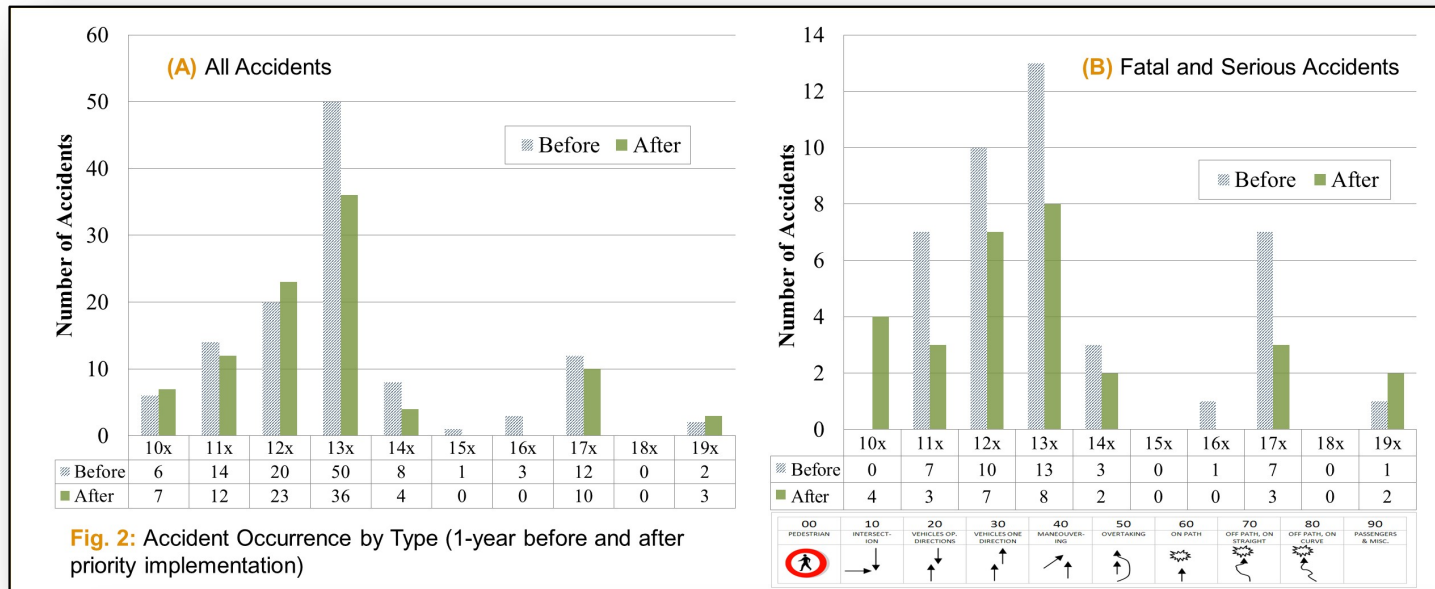
Source: Goh and Currie (2013) Before and After Studies of the Operational Performance of Transit Priority Initiatives ITS Report Feb 2013

We discovered that secondary (wider) benefits of priority are limited and under-estimated

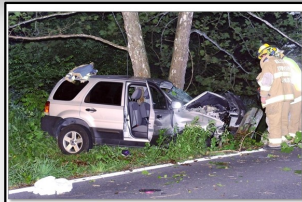


Source: Currie G and Sarvi M (2012) 'A New Model for the Secondary Benefits of Transit Priority' TRANSPORTATION RESEARCH RECORD No. 2276, Journal of the Transportation Research Board pp 63–71

We discovered that there are significant road safety benefits from transit priority



Source: Goh K, Currie G, Sarvi M and Logan D (2013) 'Road Safety Benefits from Bus Priority? – An Empirical Study' TRANSPORTATION RESEARCH RECORD, No. 2352, Washington, D.C., 2013, pp. 41–49



66% drop
in on &
off-path
accidents

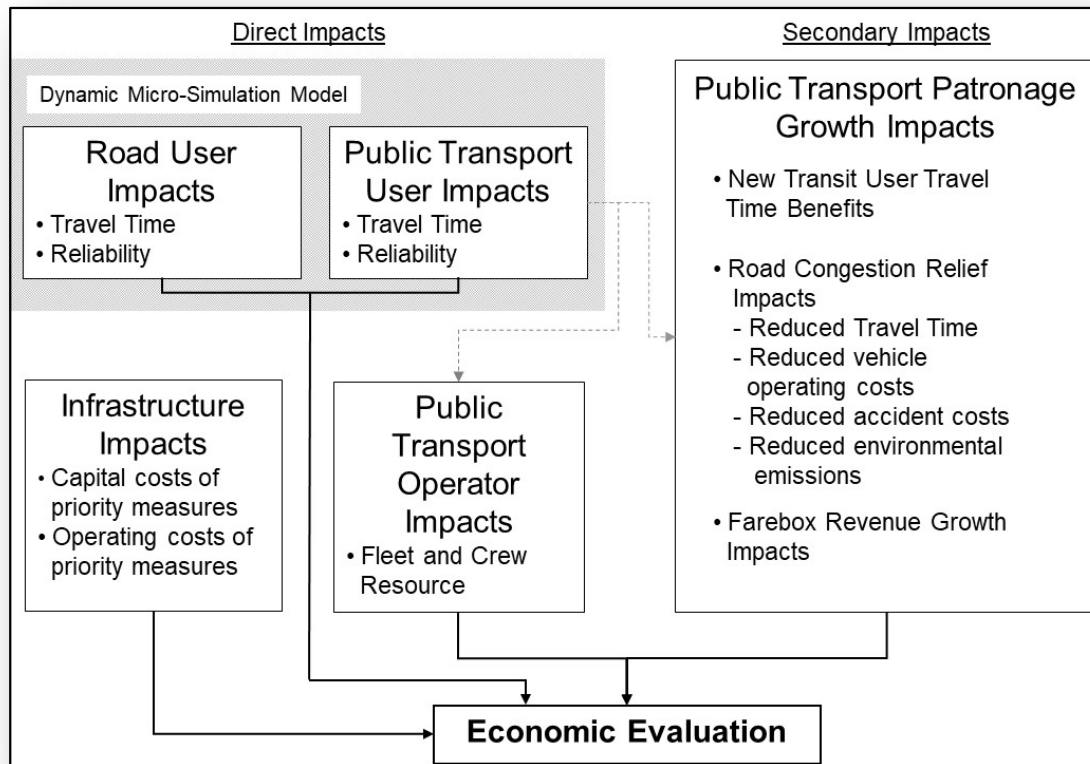


28% drop
in rear-end
accidents



50% drop
in side
collisions

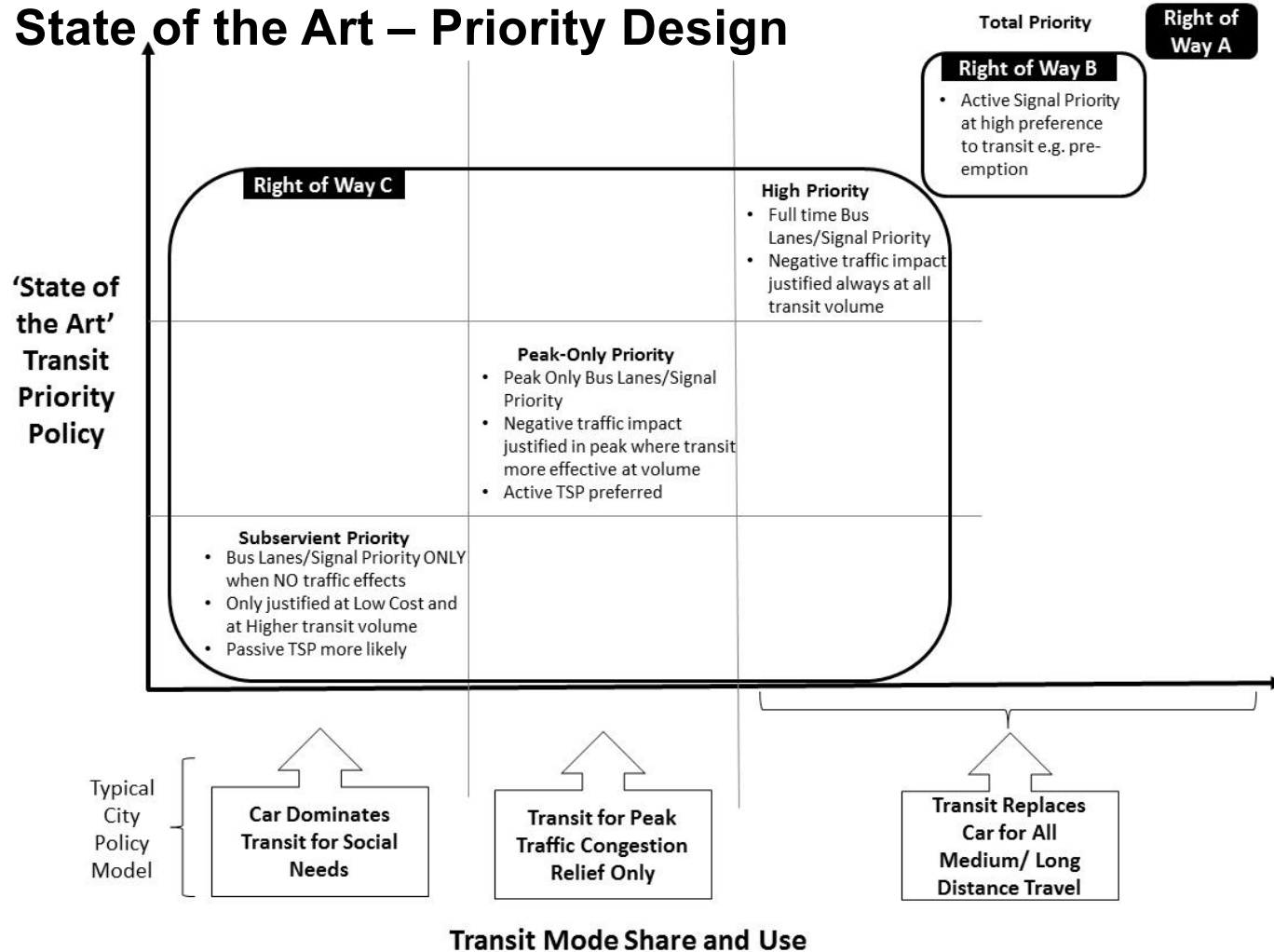
We developed new methods to include mode shift benefits into priority appraisals



Source: Currie, G. Sarvi M Young W
(2007) 'A New Approach to
Evaluating On-Road Public
Transport Priority Projects:
Balancing the Demand for Limited
Road Space" TRANSPORTATION
Volume 34, Number 4 / July, 2007
pp413-428

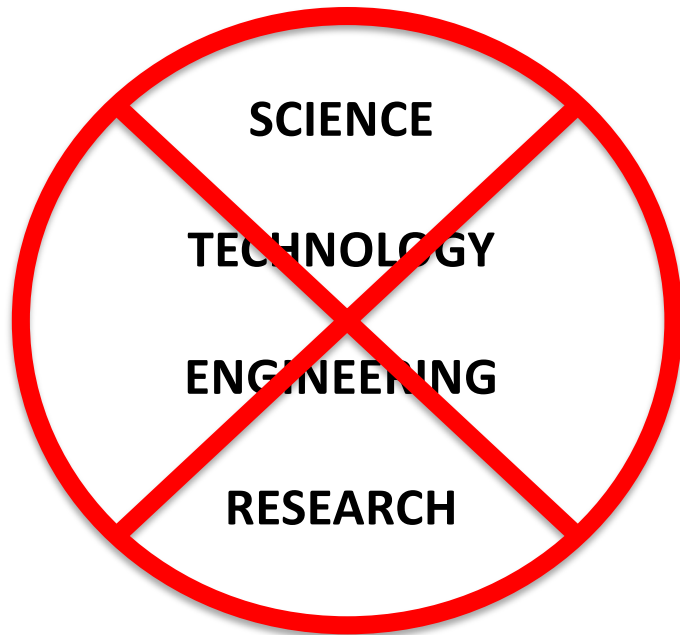
We developed new ways to conceptualise priority benefits around city context and policy preferences

State of the Art – Priority Design



Source: Currie G (2016) 'Managing On-Road Public Transport in Traffic' in Bliemer M Mulley C and Moutou C Handbook on Transport and Urban Planning in the Developed World, Edward Elgar Publishing Ltd UK

In practice good science and engineering don't matter - technical answers are known, but implementation in the real world is hard; this project sought to address this fundamental problem



Source: Yarra Trams (2014)

Agenda

Introduction

Context

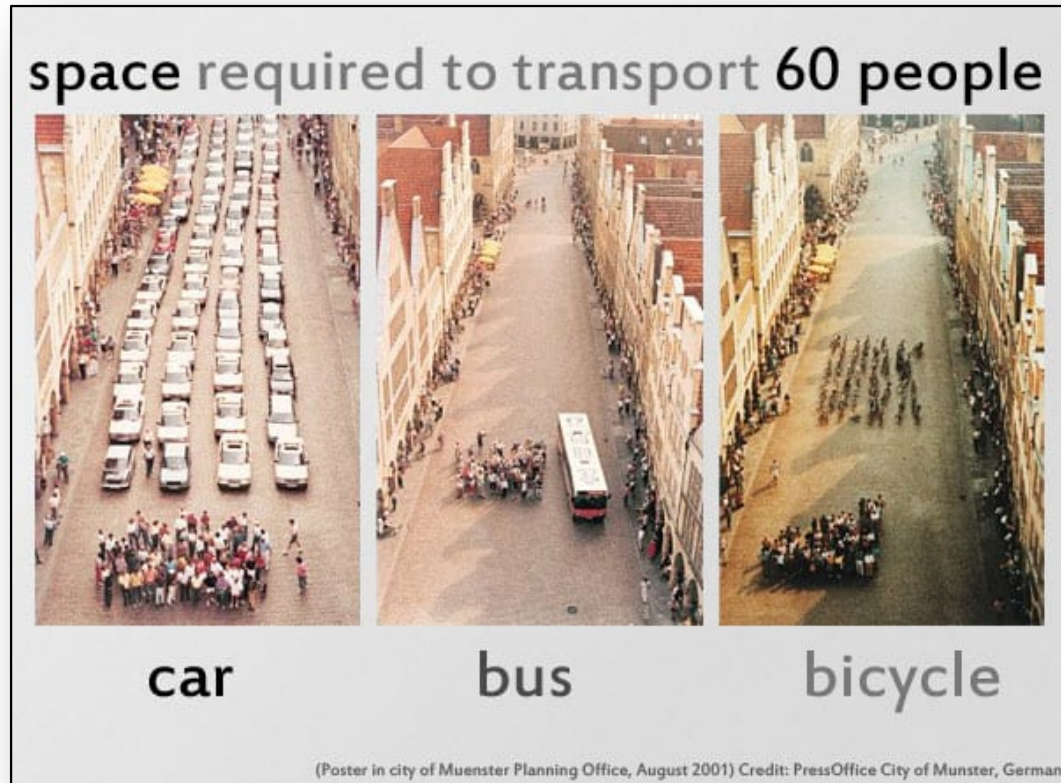
Legitimacy

Pragmatic Strategies

Review and close



There are many good reasons to improve our transport systems...



Source: City of Munster (1991)

...but implementation is difficult

**Greens councillors favour
cyclists over accessible
tram 'super stops' in
Melbourne's north**

**No more new bike lanes for CBD after council cops
complaints**

THE  AGE



Source: Jacks (2018)

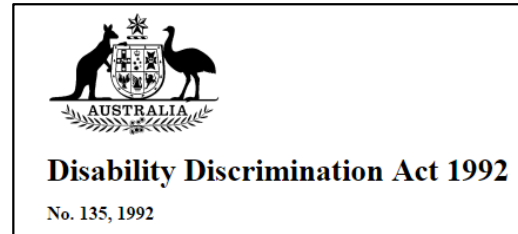


Cyclists make their way along a narrow bike lane along Collins Street. JOE ARMAO

Source: Waters (2022)

Many different types of legitimacy

Greens councillors favour cyclists over accessible tram 'super stops' in Melbourne's north



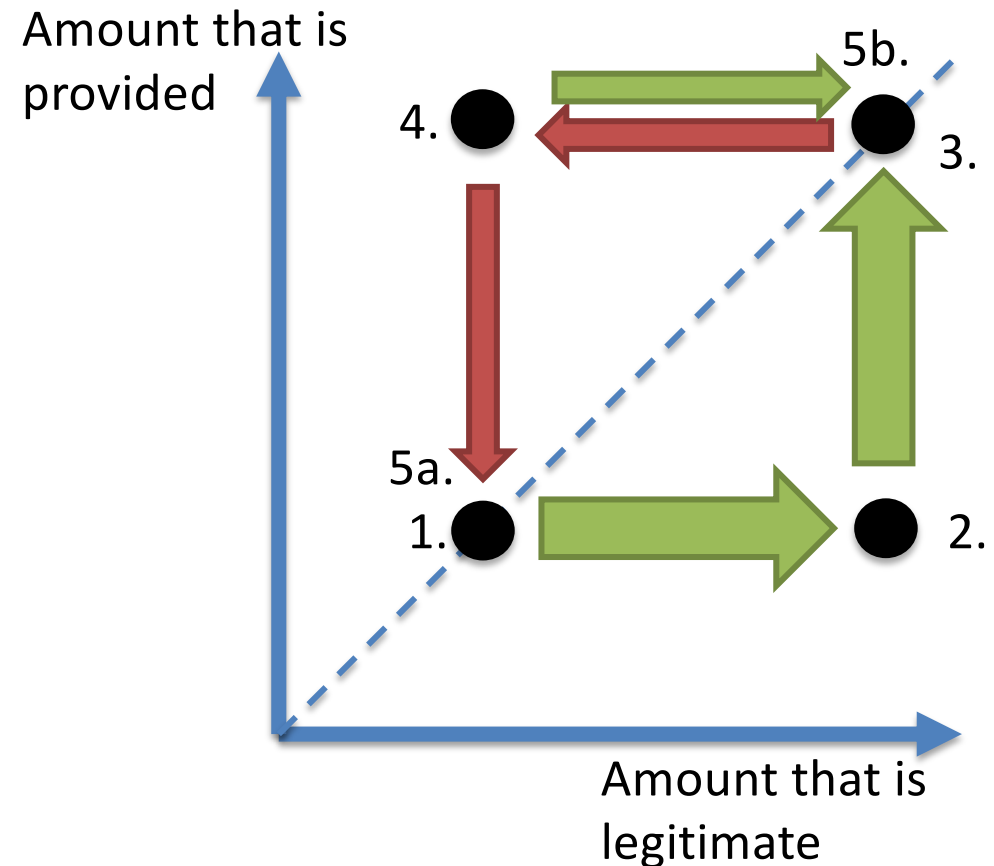
Source: Jacks (2018)

- *normative legitimacy*
the law requires accessible tram stops
- *legitimacy through reasonableness*
unreasonable there is no wheelchair access
- *legitimacy as trust*
engineers recommend a platform stop
- *sociological legitimacy*
widespread support for DDA compliance
- *legitimacy through consent*
voted on by our political representatives
- *unconditional duty*
cyclists must always have a bike lane(?)
- *conditional normative support (NIMBYism)*
I agree with the idea of DDA compliance,
but not without a bike lane...
....or the loss of on-street parking

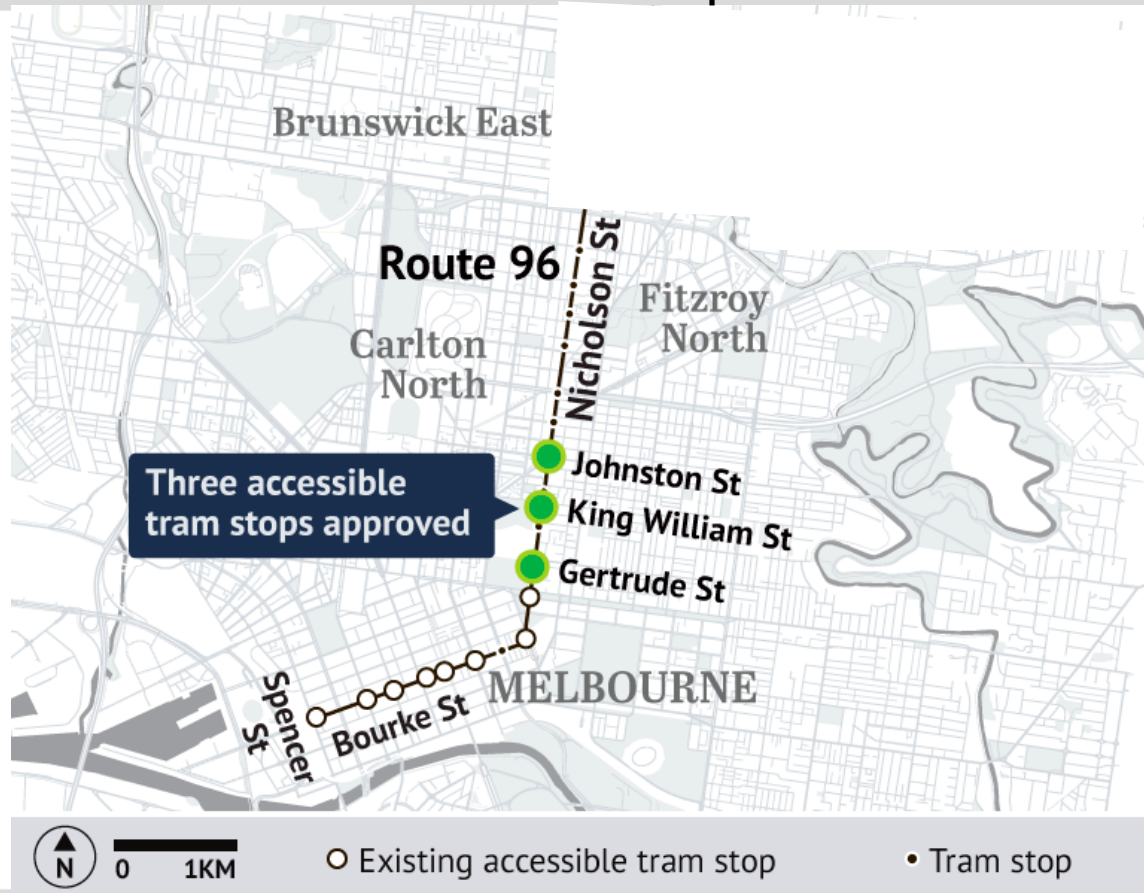
The research created the Legitimacy framework; a mapping of legitimacy progress in priority project development

Mapping legitimacy through time:

1. Starting point
What is provided = what is legitimate
2. Proposal to increase amount
Increases amount that is legitimate
3. Implementation
What is provided = what is legitimate
4. Complaints, protest
Decreases amount that is legitimate
- 5a. Failure, removal
- 5b. Success, retention
What is provided = what is legitimate



Legitimacy framework: Nicholson Street DDA compliance



Amount that is provided

Safety zone

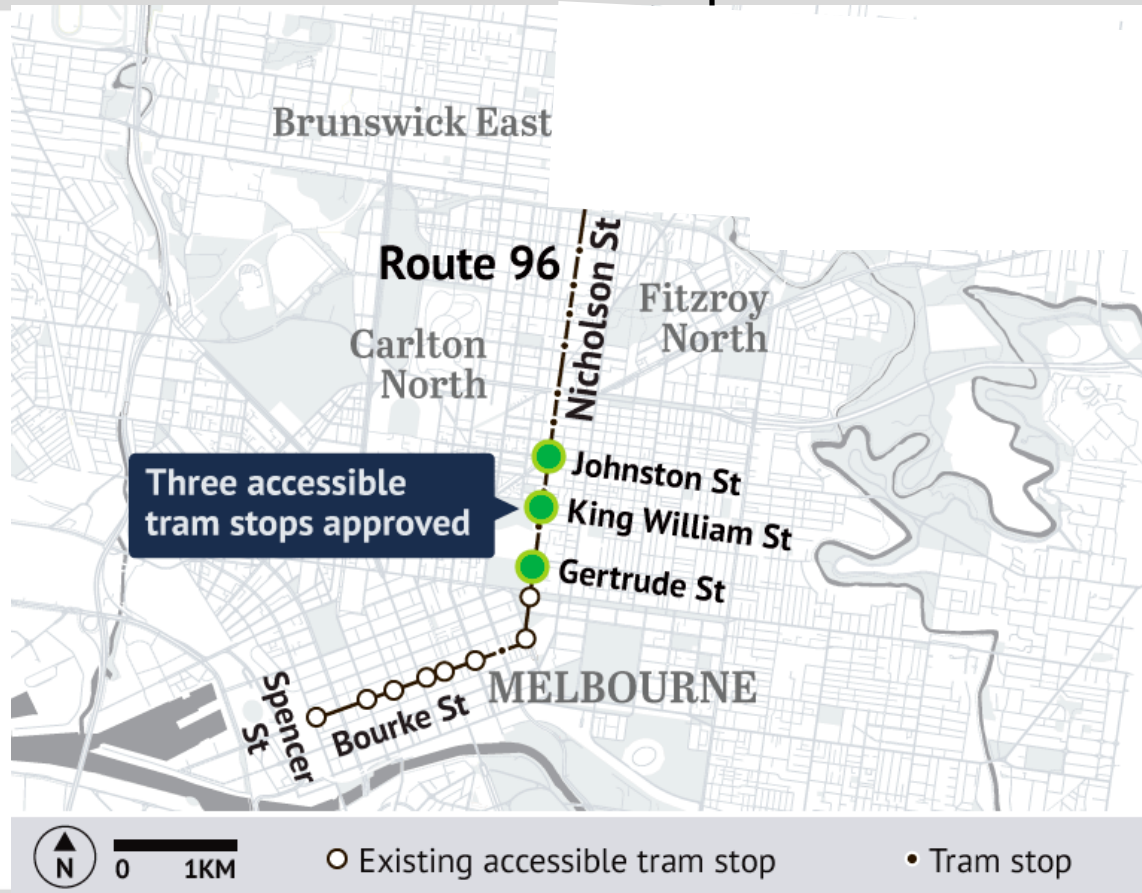


1.

Safety zone

Amount that is legitimate

Legitimacy framework: Nicholson Street DDA compliance



Amount that is provided

Safety zone



Disability Discrimination Act 1992

No. 135, 1992

1.

Safety zone

Level boarding

Amount that is legitimate

Legitimacy framework: Nicholson Street DDA compliance

Consultation Report Route 96 Nicholson Street Tram Stop Upgrades Project

Nicholson Street tram stop upgrades feedback form

We'd like your feedback so we can make improvements to your journey.

1. Do you (select one)

- ☐ Live in the area
- ☐ Regularly visit the area

2. How often do you use the tram stop?

- ☐ Every day
- ☐ Once or twice a week
- ☐ Less than once a week

6. As part of the Nicholson Street tram stop upgrades, tram stops 11 - 15 and 23 - 25 will become fully accessible to passengers using wheelchairs, prams and other mobility aids. Improvements also include the installation of passenger information displays, shelter, seating and lighting.

In thinking about these improvements to your local tram stop, do you agree or disagree with the following?

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I would feel safer waiting for trams in the upgraded tram stop.					
I would feel safer boarding and alighting trams from the upgraded tram stop.					
The tram stop upgrade would improve the quality of my travel experience.					
The tram stop upgrade would make it easier for me to travel to and from where I need to go.					

Amount that is provided

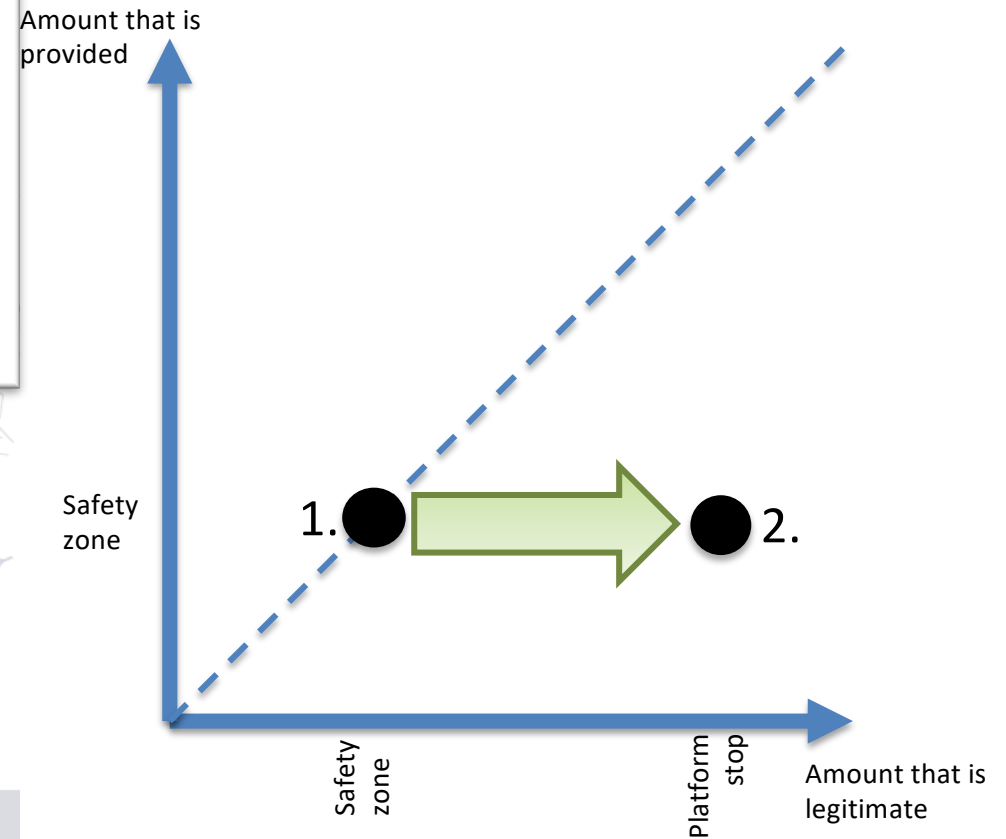
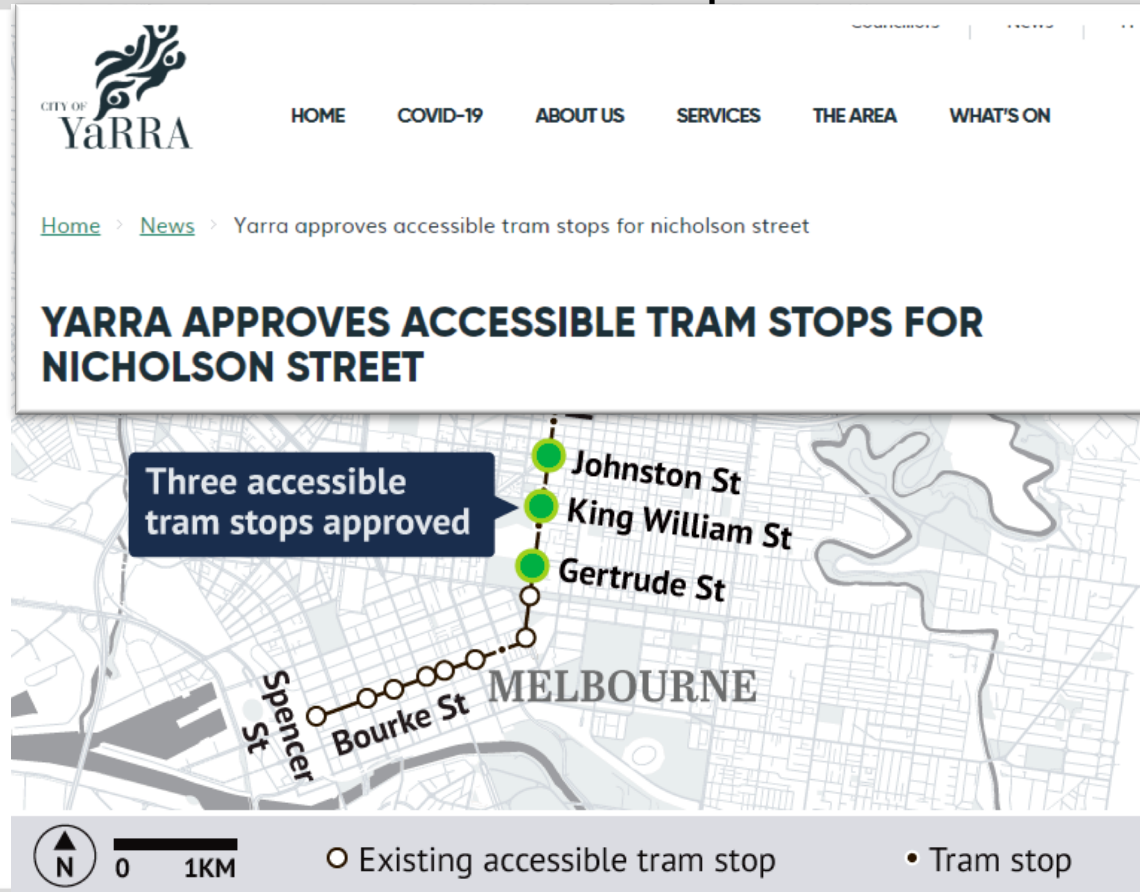
1. ● → ● 2.

Safety zone

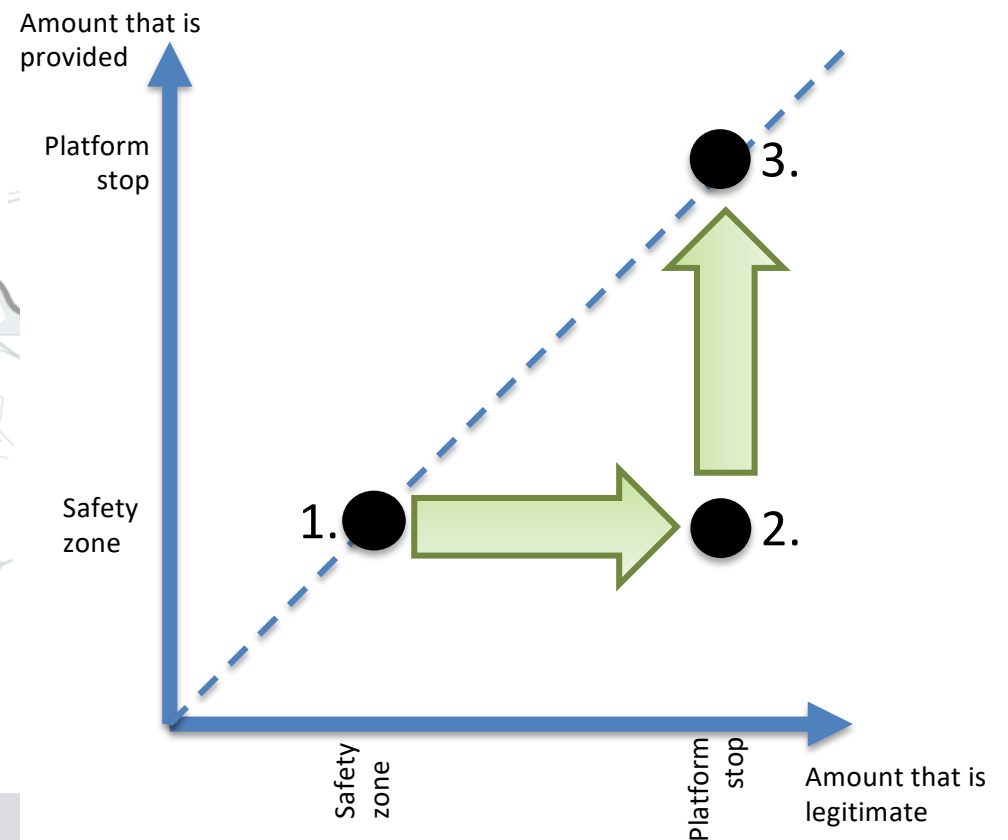
Platform stop

Amount that is legitimate

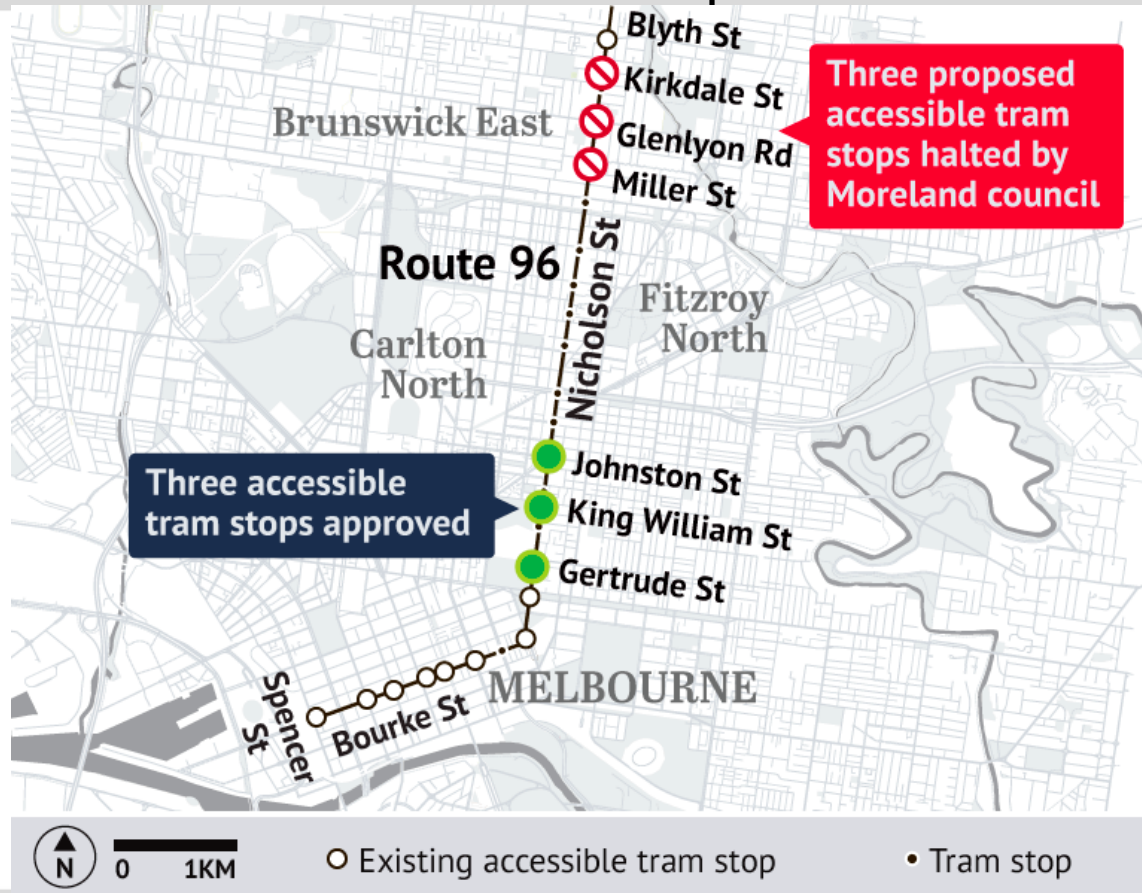
Legitimacy framework: Nicholson Street DDA compliance



Legitimacy framework



Legitimacy framework: Nicholson Street DDA compliance



...meanwhile... in the north

Amount that is provided



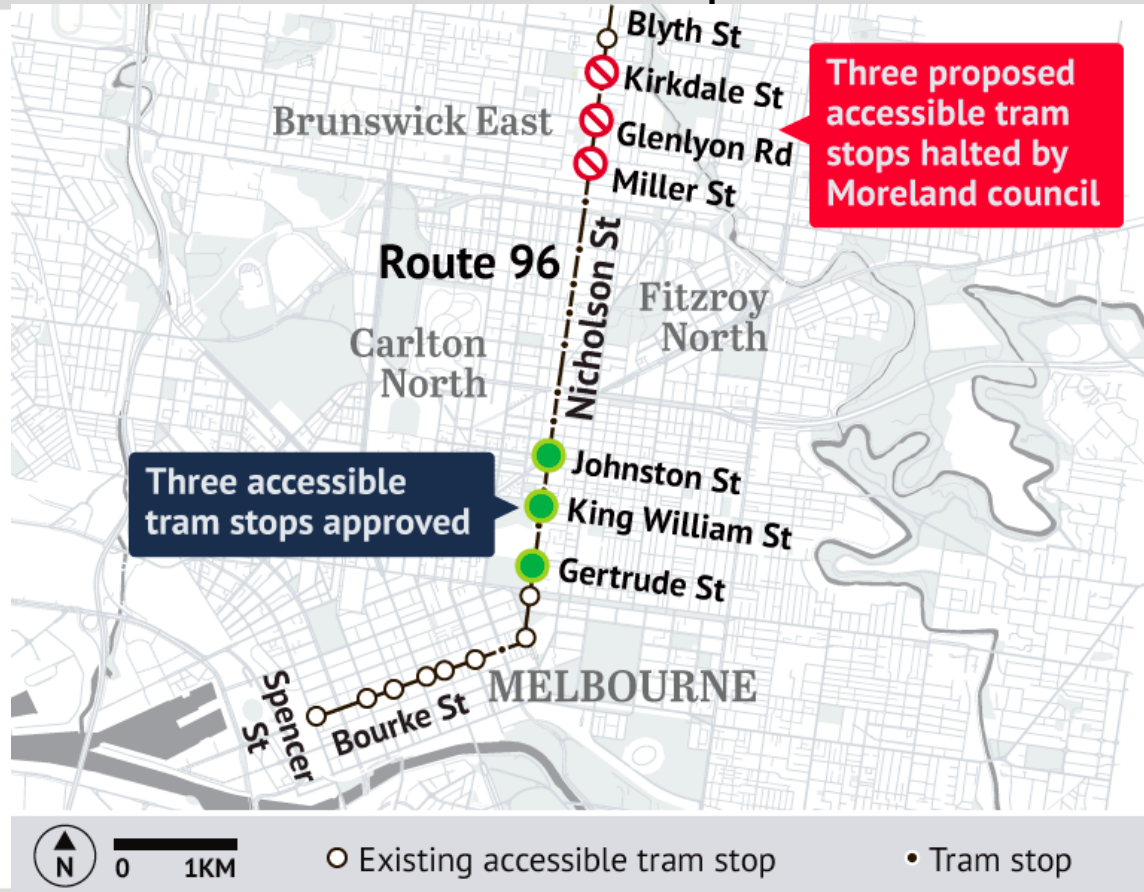
Kerbside stop

1.

Kerbside stop

Amount that is legitimate

Legitimacy framework: Nicholson Street DDA compliance



...meanwhile... in the north

Amount that is provided



Disability Discrimination Act 1992
No. 135, 1992

Kerbside stop

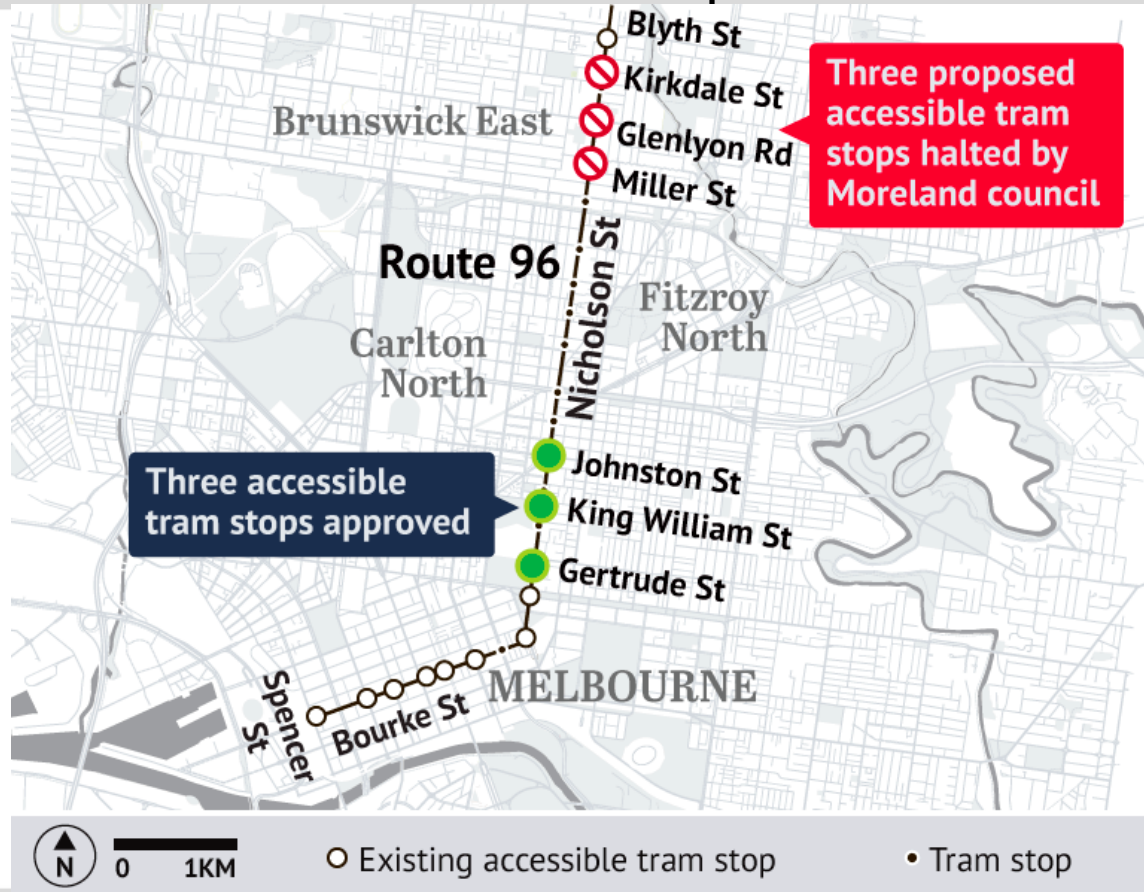
1.

Kerbside stop

Level boarding

Amount that is legitimate

Legitimacy framework: Nicholson Street DDA compliance



...meanwhile... in the north

Amount that is provided



Greens councillors favour cyclists over accessible tram 'super stops' in Melbourne's north

Source: Jacks (2018)

Kerbside stop

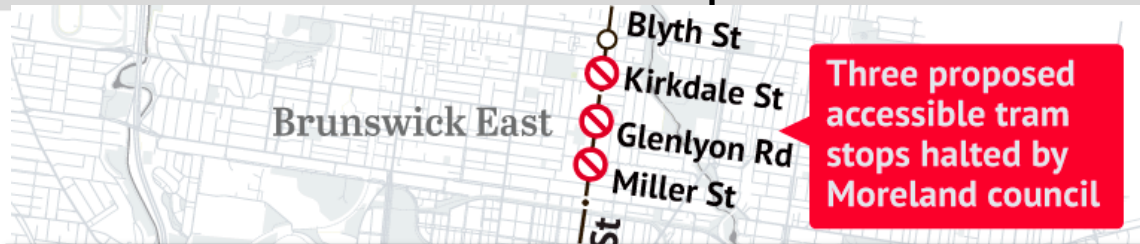
1.

Kerbside stop

Level boarding

Amount that is legitimate

Legitimacy framework: Nicholson Street DDA compliance

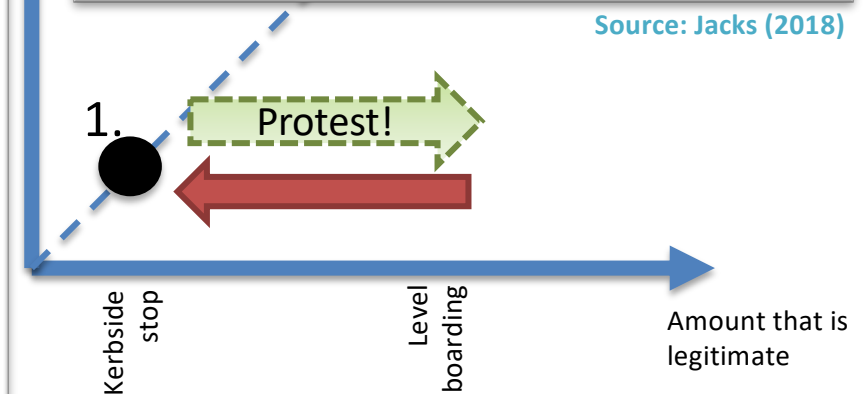


...meanwhile... in the north



Greens councillors favour cyclists over accessible tram 'super stops' in Melbourne's north

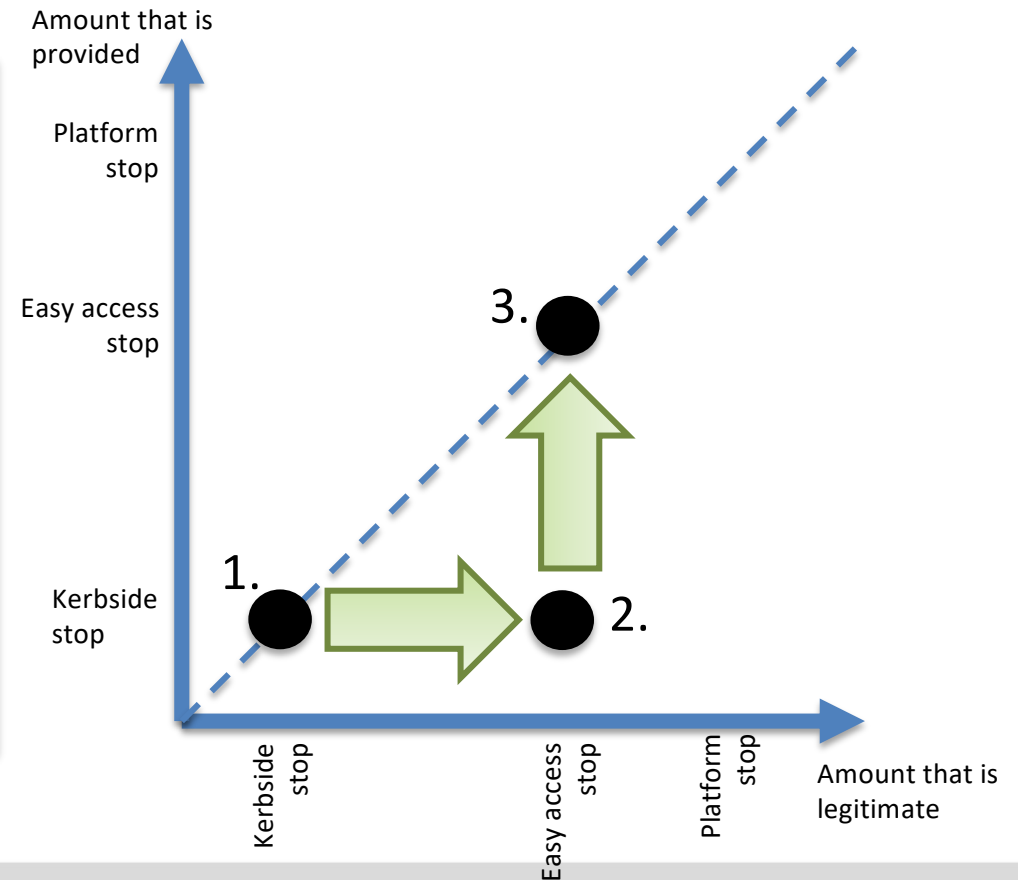
Source: Jacks (2018)



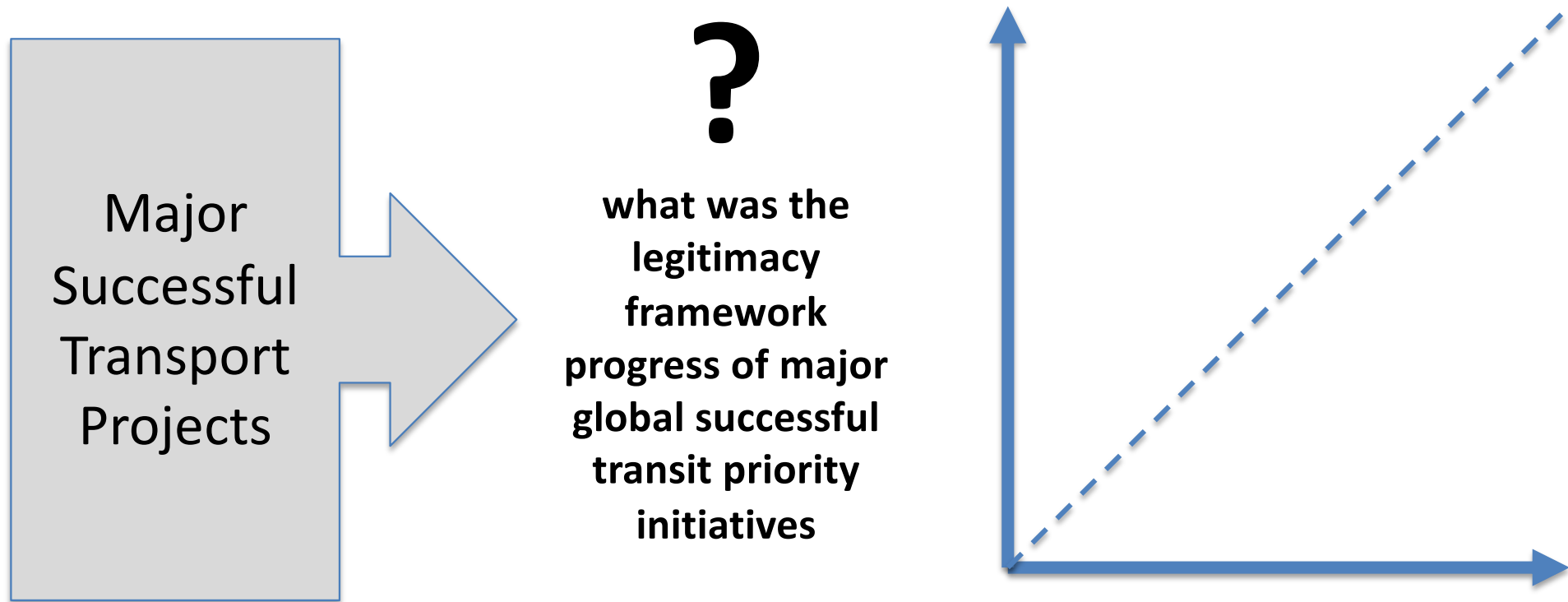
Legitimacy framework: Nicholson Street DDA compliance



...meanwhile... in the north



The research asked the question – what was the legitimacy framework progress of major global successful transit priority initiatives – can this inform progress?



Curitiba Bus Rapid Transit (BRT)

Transit Planning

Brazil's busways: A "subway" that runs above the ground

An ancient Brazilian city, Curitiba, offers the rest of the world an innovative approach to mass transit by establishing a bus system similar in many respects to a metropolitan subway.



Curitiba, the Cradle of Bus Rapid Transit

LUIS ANTONIO LINDAU, DARIO HIDALGO and DANIELA FACCHINI

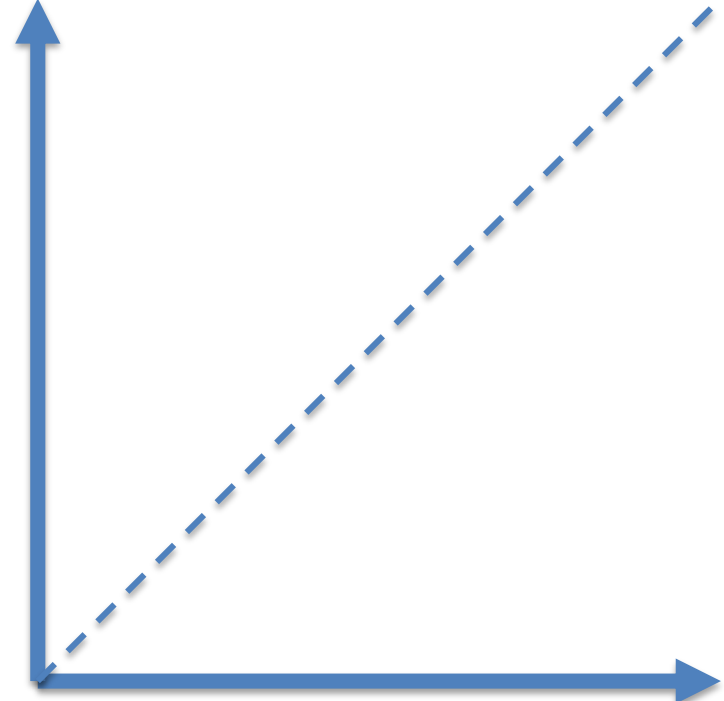


Curitiba Bus Rapid Transit (BRT)

Military dictatorship + pedestrian mall



Amount that is
provided



Amount that is
legitimate

Curitiba Bus Rapid Transit (BRT)

Military dictatorship + pedestrian mall

1. Work starts on a Friday:

- after the law courts closed,
- ...preventing legal injunctions.
- Roads suddenly closed.
- New mall complete by the following Monday.
- Armed police present (Moore 2007, p. 89),
 - but no use of force required,
 - mayor had backing of state governor.



Amount that is
provided

New
mall



*“If they had a chance to actually see it, everyone would love it”
(McKibben 2007).*

Amount that is
legitimate

Curitiba Bus Rapid Transit (BRT)

Military dictatorship + pedestrian mall

1. Work starts on a Friday

- after the law courts closed

- Retailers ask state governor to sack the mayor:
- Governor says he will meet them in 30 days.

2. Mayor suggests a 30-day trial.

3. Mall proves successful:

- No meeting with governor.

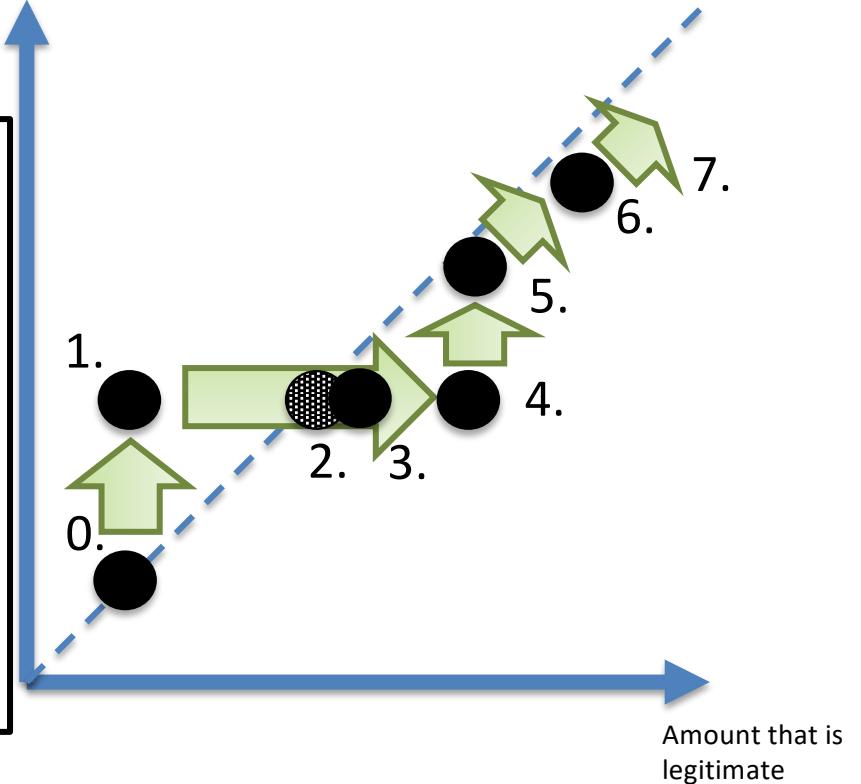
4. 'Trial' is great success – calls for expansion

5. Mall expands

6. Mall expands again

7. etc.

Amount that is
provided



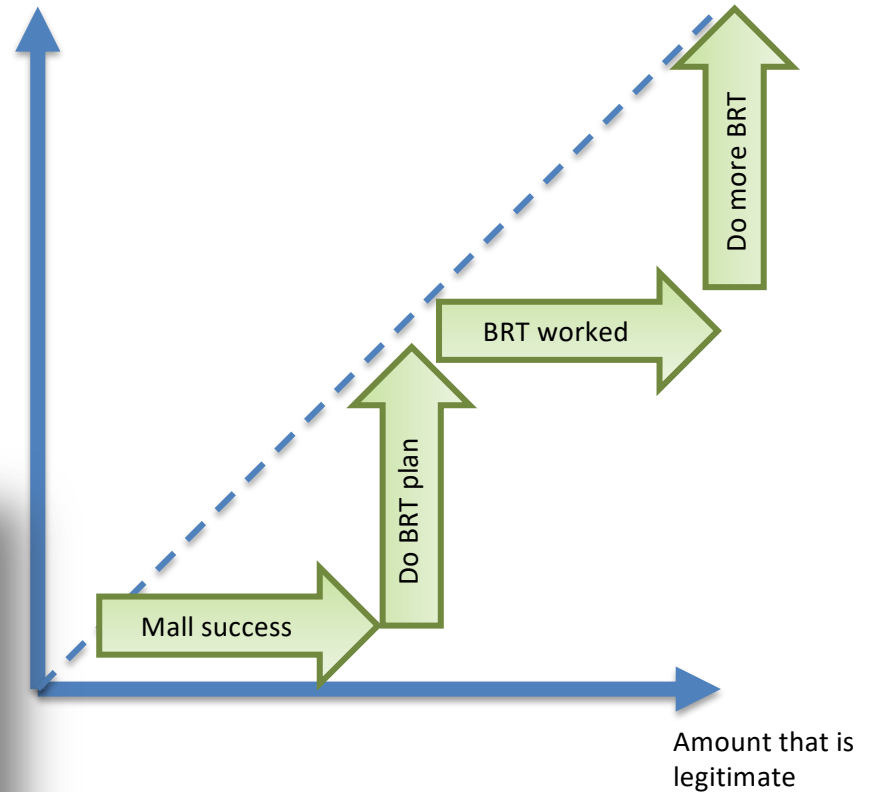
Curitiba Bus Rapid Transit (BRT)

Curitiba, the Cradle of Bus Rapid Transit

LUIS ANTONIO LINDAU, DARIO HIDALGO and DANIELA FACCHINI



Amount that is provided



The rest of the research explored more case studies and resulted in a modification of the legitimacy framework...

Clarendon Street tram stop trial gets the hook

Bus lanes returned to cars

Melbourne

Bernechich, Adrian . Knox Leader ; Knox, Vic. the future of the Stud Rd lanes is still being discussed.



Curitiba



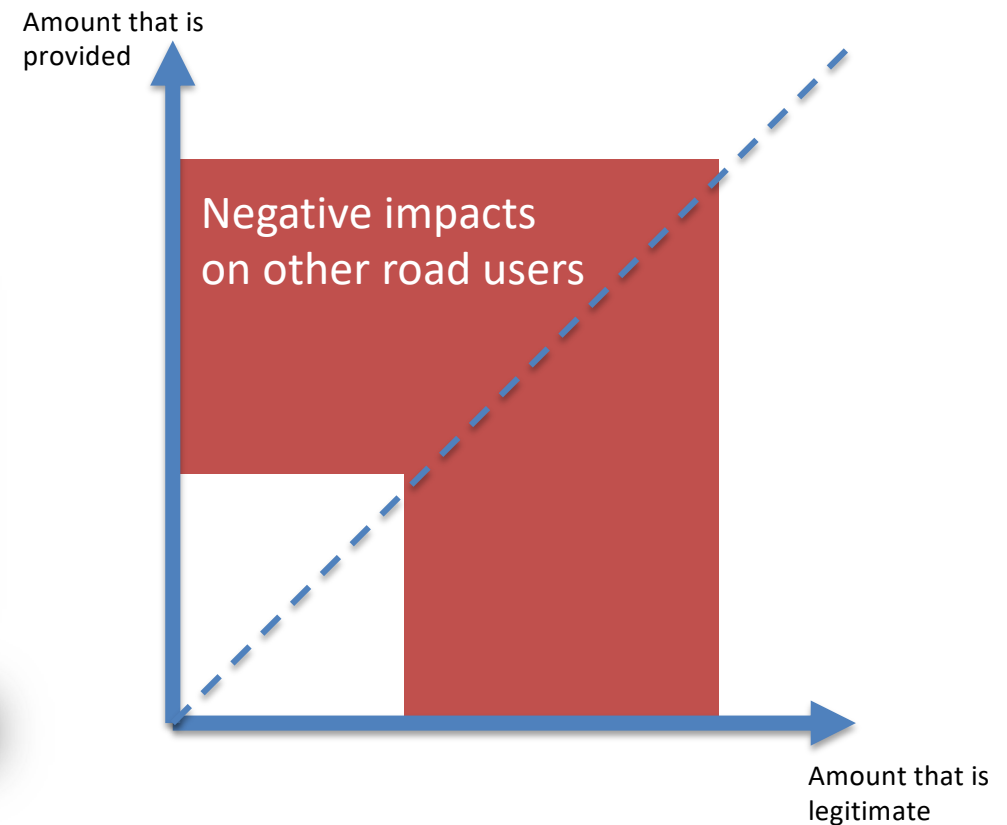
Zurich

Boston Tests Faster Bus Service Simply By Laying Out Orange Cones

Boston

King Street transit pilot working, must continue, Toronto Mayor John Tory says

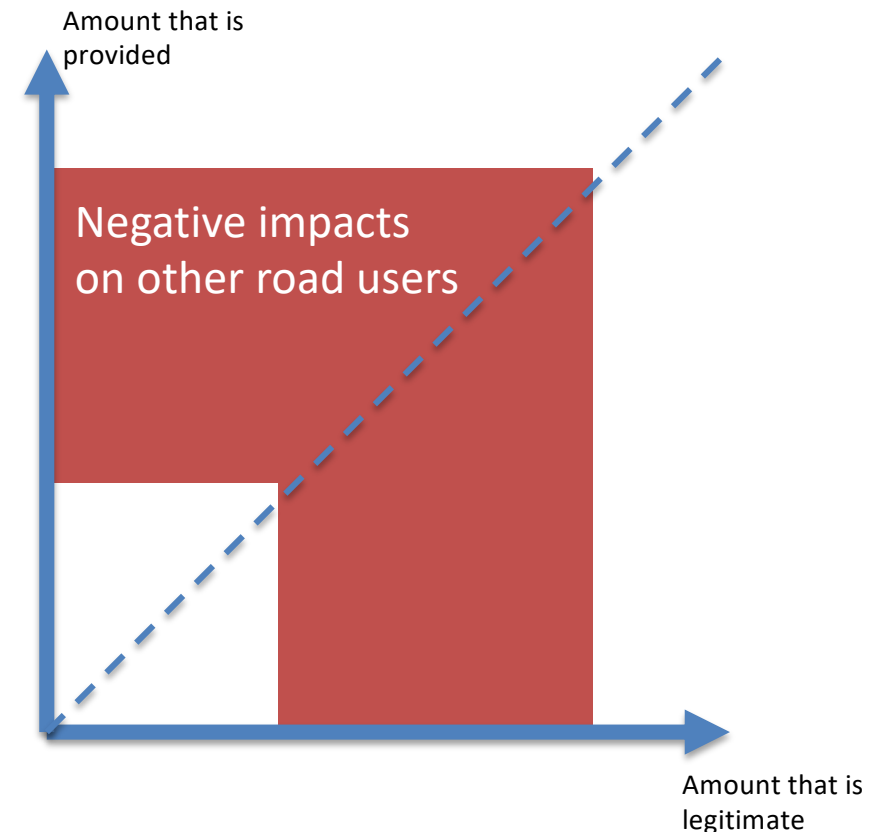
Toronto



...and the developed of 9 Pragmatic Strategies for implementation of sustainability initiatives

Pragmatic strategies for implementation

- ▶ Approach A. Build legitimacy **before** implementation:
 - A1: Technical enquiry,
 - A2: Transport planning, and/or
 - A3: Public processes or hearings;
- Approach B. Avoid impacts on other road users:
 - B1: Grade separation,
 - B2: Build new capacity, and/or
 - B3: Subservience;
- ▶ Approach C. Build legitimacy through implementation:
 - C1: Bottom-up and incremental,
 - C2: Pop-ups, and/or
 - C3: Trials.

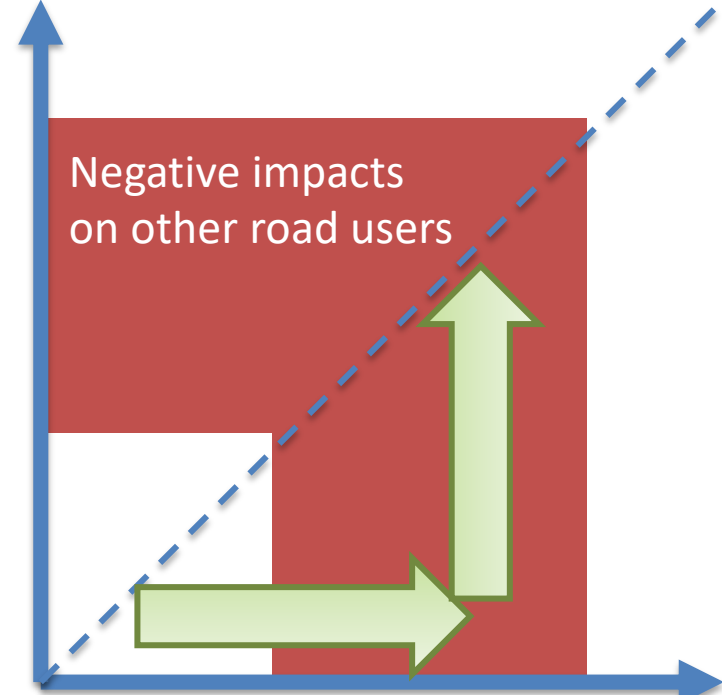


This research: Legitimacy + case studies = Pragmatic Strategies

Pragmatic strategies for implementation

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Amount that is
provided



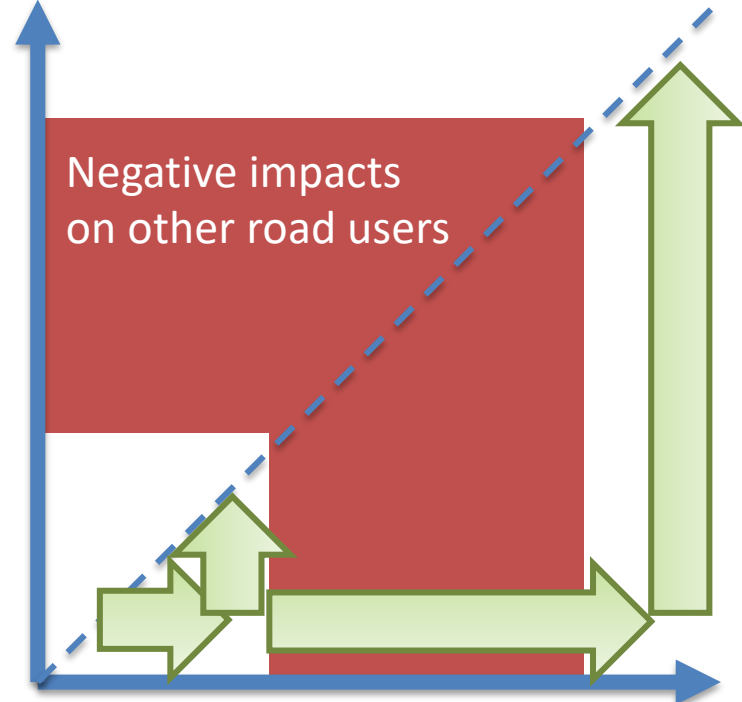
Amount that is
legitimate

This research: Legitimacy + case studies = Pragmatic Strategies

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 - B3: Subservience;

Amount that is provided



Amount that is legitimate

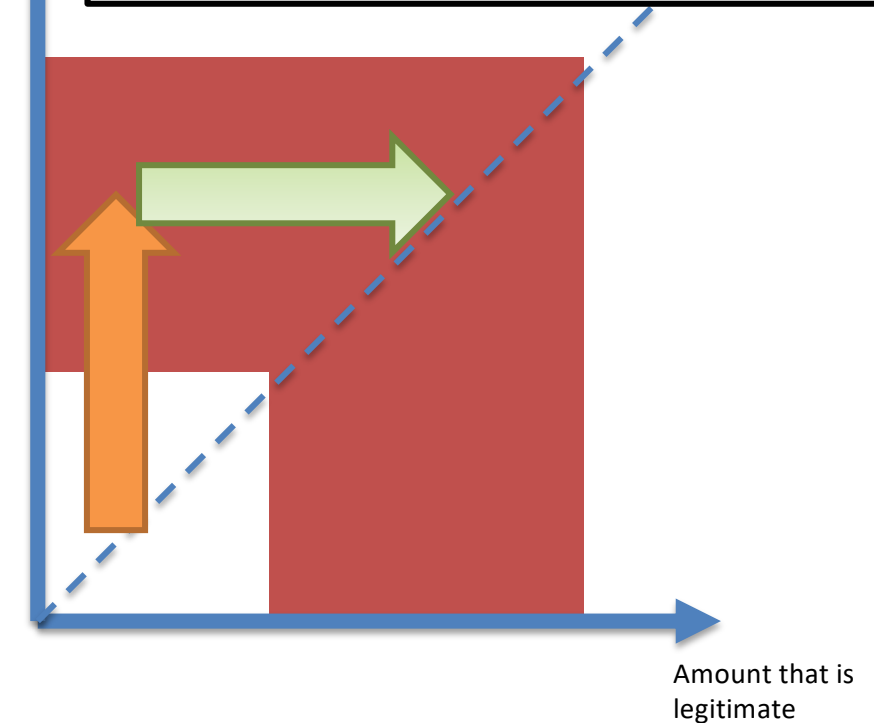
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Pragmatic strategies for implementation

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Amount that is
provided

*"If they had a chance to actually
see it, everyone would love it"
(McKibben 2007).*



Agenda

Introduction

Context

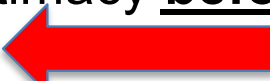
Legitimacy

Pragmatic Strategies

Review and close



Pragmatic strategies for implementation

- ▶ Approach A. Build legitimacy **before** implementation:
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 - A2: Transport planning, and/or
 - A3: Public processes or hearings;
- ▶ Approach B. **Avoid impacts** on other road users:
 - B1: Grade separation,
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 - B3: Subservience;
- ▶ Approach C. Build legitimacy **through** implementation:
 - C1: Bottom-up and incremental,
 - C2: Pop-ups, and/or
 - C3: Trials.

Before: A1. Technical enquiry: legitimise implementation through provision of analysis...

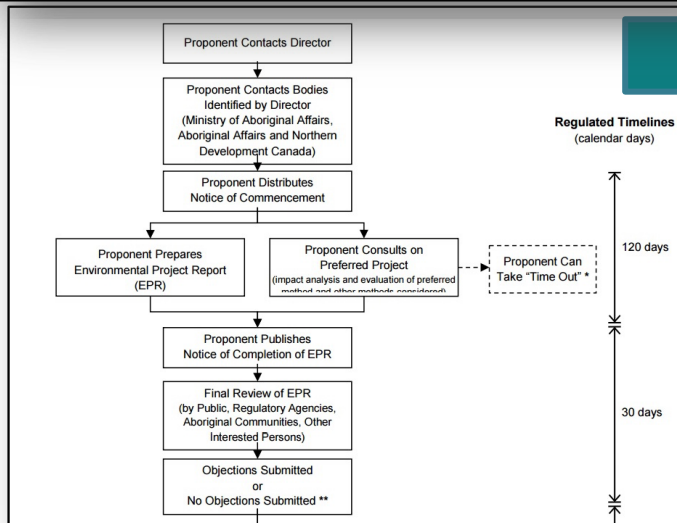
Executive Summary
St. Clair Avenue West Transit Improvements
Class Environmental Assessment



Toronto

1. NEED FOR AN ENVIRONMENTAL ASSESSMENT

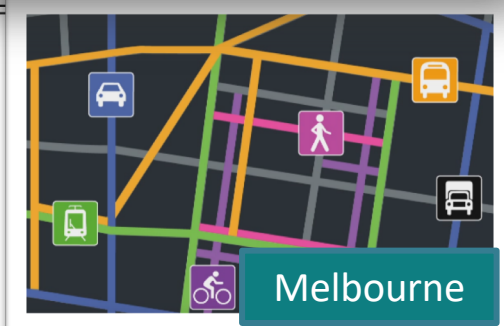
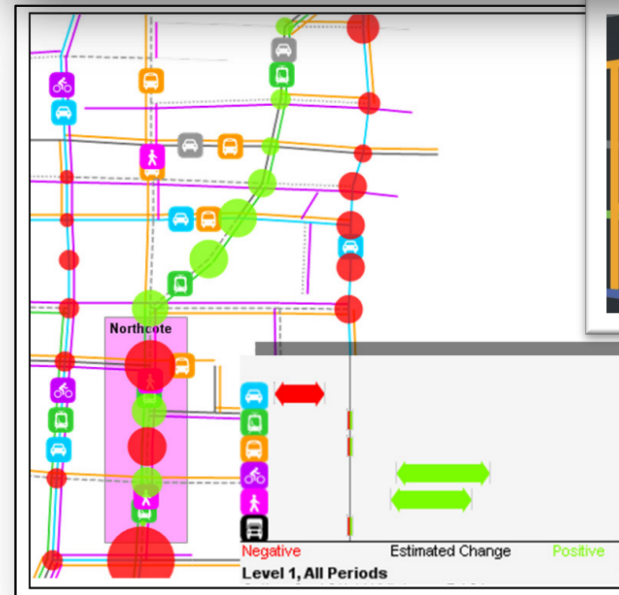
The City of Toronto Official Plan designates St. Clair Avenue West as both a "Surface Transit Priority Segment" and an "Avenue" within the City's urban structure. At present, the St. Clair streetcar route carries about half of all trips made on most of St. Clair Avenue West, at various times of the day. The streetcar serves about 32,000 passengers on a weekday.



Toronto


- ▶ Approach A. Build legitimacy before implementation:
A1: Technical enquiry,
A2: Transport planning, and/or
A3: Public processes or hearings;
- ▶ Approach B. Avoid impacts on other road users:
- ▶ Approach C. Build legitimacy through implementation:

SmartRoads Guidelines Version 1.17 Dec 2011



Sources: City of Toronto (2004); OntarioMECP (2012); VicRoads (2011); City of Toronto, Toronto Transit Commission & Marshall Macklin Monaghan (2004)

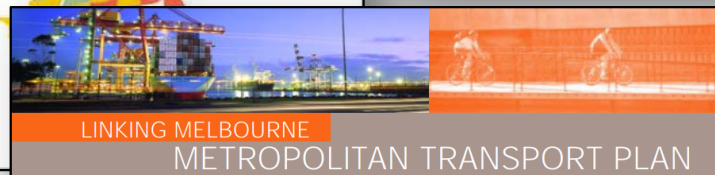
Pragmatic strategies for implementation

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Before: A2. Transport planning: Widely used everywhere...

- ▶ Approach A. Build legitimacy before implementation:
 - A1: Technical enquiry,
 - A2: Transport planning**, and/or
 - A3: Public processes or hearings;
- ▶ Approach B. Avoid impacts on other road users:
- ▶ Approach C. Build legitimacy through implementation:

Melbourne



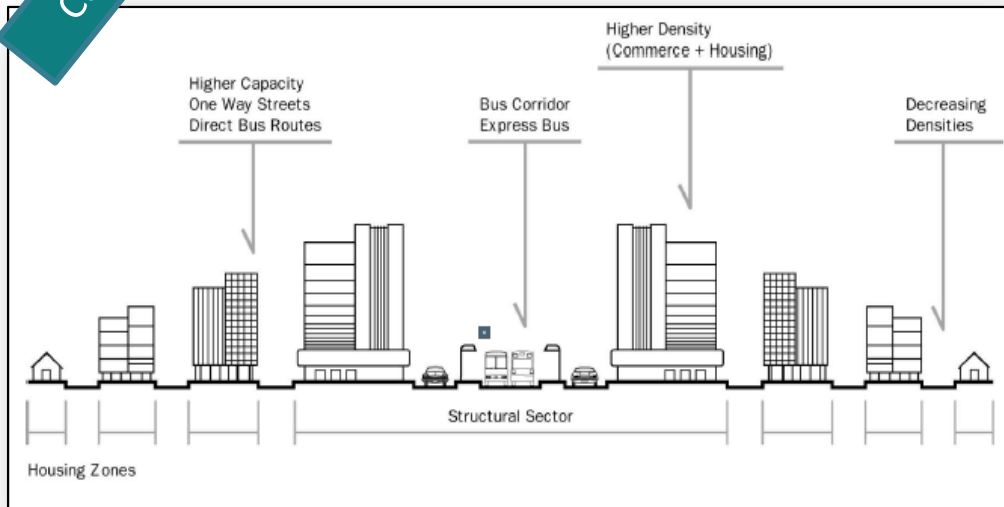
Toronto

Before: A2 Transport planning: ...but might work well with vision-based plans

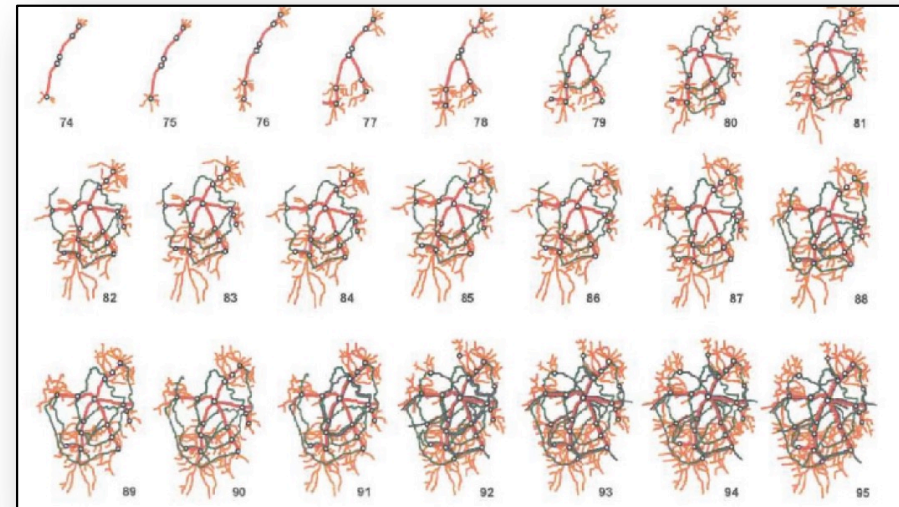
- ▶ Approach A. Build legitimacy before implementation:
 - A1: Technical enquiry,
 - A2: Transport planning**, and/or
 - A3: Public processes or hearings;
- ▶ Approach B. Avoid impacts on other road users:
- ▶ Approach C. Build legitimacy through implementation:

Curitiba

Plano Diretor: Structural Axes system



Evolution of Integrated Bus Network 1974-95



Sources: Levinson, Zimmerman, et al. (2003b, pp. 24-5),
Suzuki et al. (2010, p. 172)

Pragmatic strategies for implementation

- ▶ Approach A. Build legitimacy **before** implementation:
 - A1: Technical enquiry,
 - A2: Transport planning, and/or
 - A3: Public processes or hearings;
- ▶ Approach B. **Avoid impacts** on other road users:
 - B1: Grade separation,
 - B2: Build new capacity, and/or
 - B3: Subservience;
- ▶ Approach C. Build legitimacy **through** implementation:
 - C1: Bottom-up and incremental,
 - C2: Pop-ups, and/or
 - C3: Trials.



Before: A3. Public processes and hearings: formal public participation in decision making, citizens' juries, direct voting

Zurich

Citizens' Transit Priority Initiative

At the expense of the investments fund, a credit of 200 million francs will be approved to permit, in the course of the ten years following the referendum, at a rate of 15 to at most 25 million francs per year, the financing of structural additions and improvements to the network of the transportation company of the City of Zürich, which will serve exclusively and substantially to eliminate all interference by private traffic and internal problems within the companies, so that the vehicles of the VBZ (Zürich transport company) can travel along their lanes or tracks virtually as fast as is technically possible.

On March 13, 1977, the voters narrowly approved the People's Initiative for the Promotion of Public Transport by a vote of:

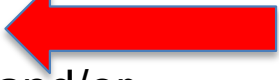
- YES - 61,599 - (51.25%)
- NO - 58,588 - (48.75%) ⁷⁸

Source: Nash and Sylvia (2001)

- ▶ Approach A. Build legitimacy before implementation:
 - A1: Technical enquiry,
 - A2: Transport planning, and/or
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- ▶ Approach B. Avoid impacts on other road users:
- ▶ Approach C. Build legitimacy through implementation:



Pragmatic strategies for implementation

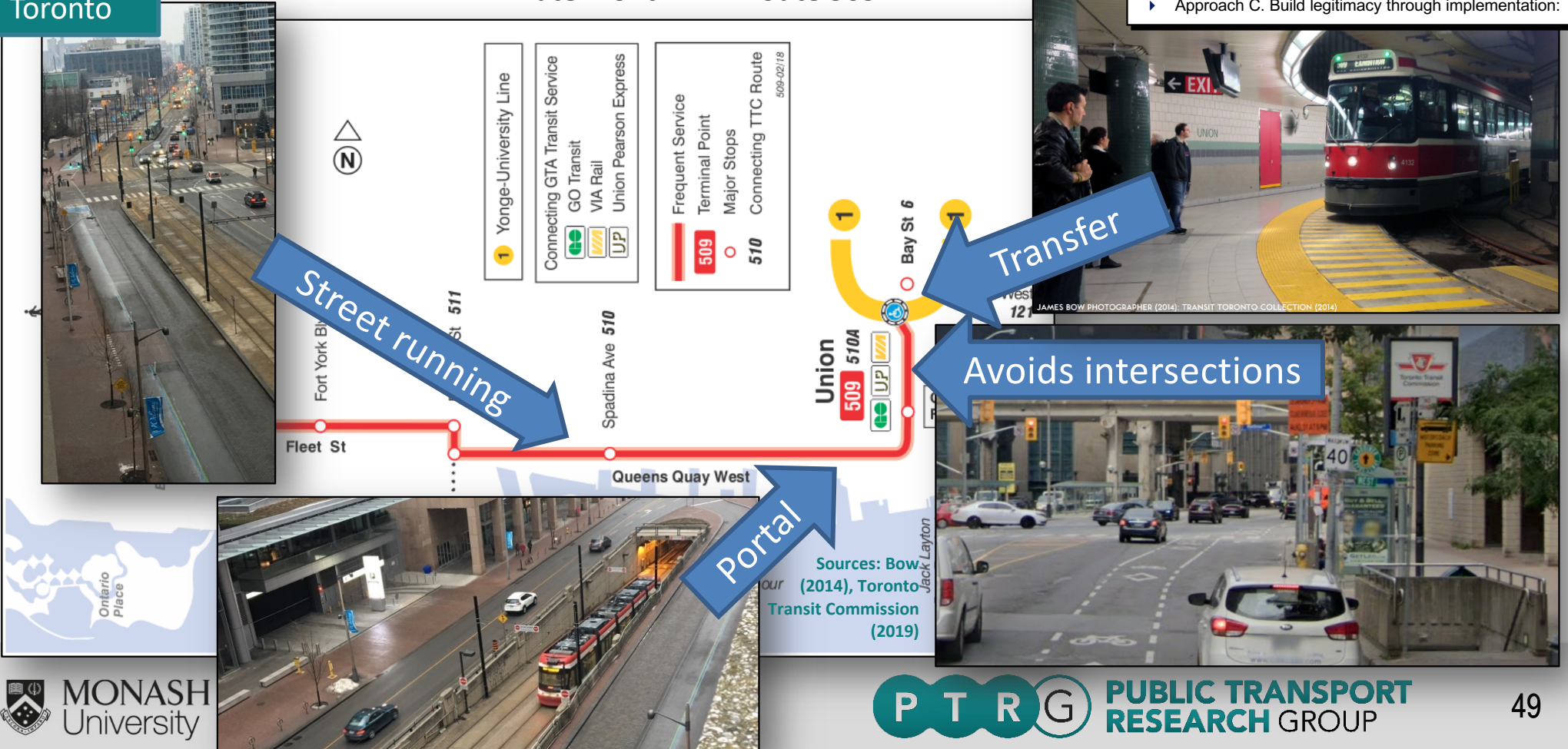
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 - B1: Grade separation, 
 - B2: Build new capacity, and/or
 - B3: Subservience;
- ▶ Approach C. Build legitimacy **through** implementation:
 - C1: Bottom-up and incremental,
 - C2: Pop-ups, and/or
 - C3: Trials.

Avoid: B1. Grade separation: Underground interchanges with subway common.
 Allows ticketless transfers, but also avoids intersections


- ▶ Approach A. Build legitimacy before implementation:
- ▶ Approach B. Avoid impacts on other road users:
 - B1: Grade-separation,**
 - B2: Building new capacity, and/or
 - B3: Subservience;
- ▶ Approach C. Build legitimacy through implementation:

Toronto

Waterfront LRT – Route 509



Pragmatic strategies for implementation

- ▶ Approach A. Build legitimacy **before** implementation:
 - A1: Technical enquiry,
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 - C1: Bottom-up and incremental,
 - C2: Pop-ups, and/or
 - C3: Trials.

Avoid B2. Building new capacity: Busways, road widening, shoulder running etc.

Melbourne

- ▶ Approach A. Build legitimacy before implementation:
- ▶ Approach B. Avoid impacts on other road users:
 - B1: Grade-separation,
 - B2: Building new capacity**, and/or
 - B3: Subservience;
- ▶ Approach C. Build legitimacy through implementation:

Springvale Road




Add New Lane to Road for bus lane

Eastern Freeway



Use Freeway Emergency Stopping Lane to for bus lane

Pragmatic strategies for implementation

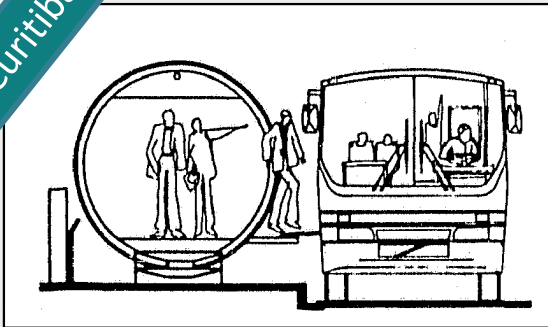
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 - B3: Subservience; 
- ▶ Approach C. Build legitimacy **through** implementation:
 - C1: Bottom-up and incremental,
 - C2: Pop-ups, and/or
 - C3: Trials.

Avoid: B3. Subservience: measures that help transit/cyclists/pedestrians etc... ...but have little impact on others

- ▶ Approach A. Build legitimacy before implementation:
- ▶ Approach B. Avoid impacts on other road users:
 - B1: Grade-separation,
 - B2: Building new capacity, and/or
 - B3: Subservience;**
- ▶ Approach C. Build legitimacy through implementation:

Curitiba

Boarding tubes



Clarendon Street tram stop trial gets the hook



Turn bans retained


Hook turns retained

Sources: Dera (1995);
Rabinovitch &
Leitmann (1996);
Google (undated)

Melbourne



Pragmatic strategies for implementation

- ▶ Approach A. Build legitimacy **before** implementation:
 - A1: Technical enquiry,
 - A2: Transport planning, and/or
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 - ▶ Approach B. **Avoid impacts** on other road users:
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 - B3: Subservience;
 - ▶ Approach C. Build legitimacy **through** implementation:
 - C1: Bottom-up and incremental,
 - C2: Pop-ups, and/or
 - C3: Trials.
- 

Through: C1. Bottom-up and incremental: small change over time...

Melbourne

Fitzroy Street, St Kilda



- ▶ Approach A. Build legitimacy before implementation:
- ▶ Approach B. Avoid impacts on other road users:
- ▶ Approach C. Build legitimacy through implementation
 - C1: Bottom-up and incremental**
 - C2: Pop-ups, and/or
 - C3: Trials

Source: Google (undated)

Through: C1. Bottom-up and incremental: ... or including priority into other projects

Melbourne

- ▶ Approach A. Build legitimacy before implementation:
- ▶ Approach B. Avoid impacts on other road users:
- ▶ Approach C. Build legitimacy through implementation
 - C1: Bottom-up and incremental**
 - C2: Pop-ups, and/or
 - C3: Trials




Through: C1. Bottom-up and incremental: ... or including priority into other projects

Melbourne

- ▶ Approach A. Build legitimacy before implementation:
- ▶ Approach B. Avoid impacts on other road users:
- ▶ Approach C. Build legitimacy through implementation
 - C1: Bottom-up and incremental**
 - C2: Pop-ups, and/or
 - C3: Trials



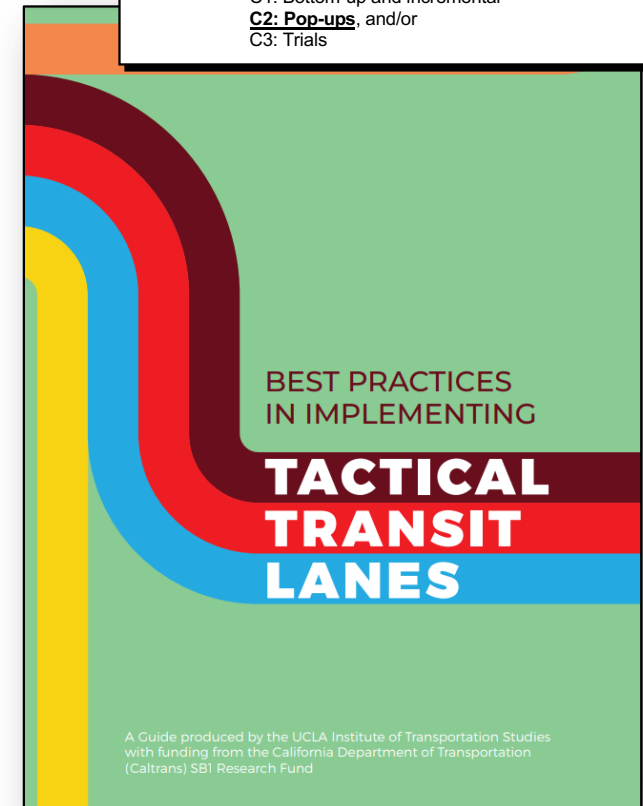
Pragmatic strategies for implementation

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 - ▶ Approach C. Build legitimacy **through** implementation:
 - C1: Bottom-up and incremental,
 - C2: Pop-ups, and/or
 - C3: Trials.
- 

Through: C2. Pop-ups: low risk, and can just pop-down again

- ▶ Approach A. Build legitimacy before implementation:
- ▶ Approach B. Avoid impacts on other road users:
- ▶ Approach C. Build legitimacy through implementation
 - C1: Bottom-up and incremental
 - C2: Pop-ups**, and/or
 - C3: Trials

Boston Tests Faster Bus Service Simply By Laying Out Orange Cones



Sources: Schmitt (2017); Gahbauer & Matute (2019)

Through: C2. Pop-ups: ... tactical urbanism, 'guerrilla' action!

Seattle

Guerrilla road safety group 'politely' installs illegal bike lane protectors on Cherry Street

Posted on April 4, 2013 by Tom Fucoloro



Image from the Reasonably Polite Seattleites

An extremely polite group of anonymous guerrilla road safety activists armed with \$350 worth of reflective plastic pylons turned the painted Cherry Street bike lane under I-5 into a protected bike lane Monday morning.


Seattle Makes Guerrilla Bike Lane Permanent

By Angie Schmitt | Jul 16, 2013 | [COMMENT HERE](#)



How about a round of applause for Seattle? This spring, a group of activists calling themselves “Reasonably Polite Seattleites” installed a protected bike lane on Cherry Street. How did Seattle officials react? Well, this week the city made it permanent.

Pragmatic strategies for implementation

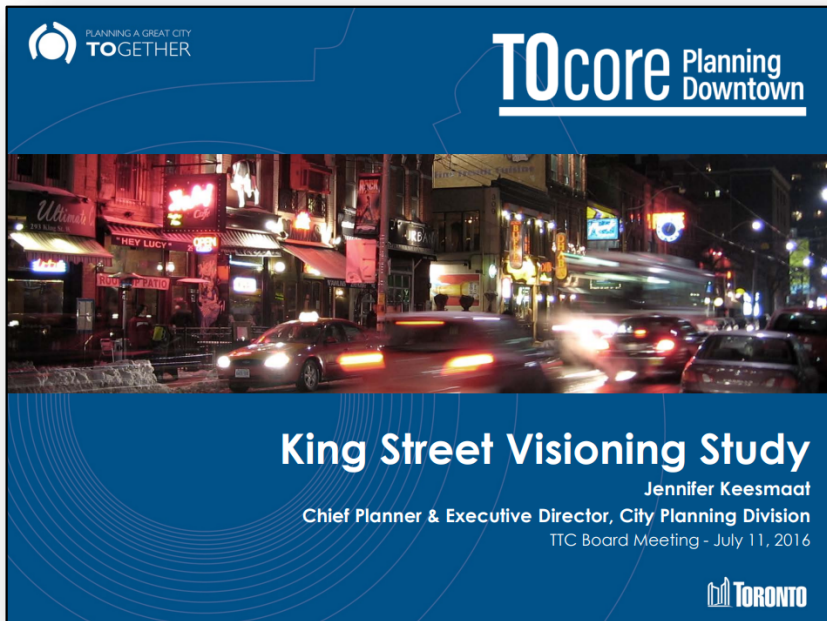
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Through C3. Trials: Using a formal trial to get from a plan...

Toronto

- Busiest streetcar in Toronto - 65,000 passengers per day.
- “...we want to...move people quick(ly) but also want to make sure we don’t impact businesses” (Councillor Pam McConnell in Cheung (2016)).

- ▶ Approach A. Build legitimacy before implementation:
- ▶ Approach B. Avoid impacts on other road users:
- ▶ Approach C. Build legitimacy through implementation
 - C1: Bottom-up and incremental
 - C2: Pop-ups, and/or
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City needs to solve King Street congestion, councillors say



Council will mull a revamp of busy King Street in December when it looks at downtown plan

[Michelle Cheung](#) · CBC News · Posted: Nov 08, 2016 8:02 AM ET | Last Updated: November 9, 2016

King Street plan good for transit, bad for families, Ryerson professor warns

A 'transit priority' King Street is part of comprehensive city planning study for downtown core

Trevor Dunn · CBC News · Posted: Nov 09, 2016 5:00 AM ET | Last Updated: November 13, 2016


Source: Cheun (2016)

Through: C3. Trials: ...to having legitimacy for an experiment,...

Toronto



- ▶ Approach A. Build legitimacy before implementation:
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- ▶ Approach C. Build legitimacy through implementation
 - C1: Bottom-up and incremental
 - C2: Pop-ups, and/or
 - C3: Trials**

 **TORONTO**

EX26.1

REPORT FOR ACTION

Proposed King Street Transit Pilot: Bathurst Street to Jarvis Street

Date: June 9, 2017
To: Executive Committee
From: General Manager, Transportation Services and Chief Planner and Executive Director, City Planning
Wards: 20 (Trinity-Spadina), 28 (Toronto Centre-Rosedale)

SUMMARY

This report has been prepared in collaboration with the Chief Executive Officer of the Toronto Transit Commission (TTC).

This report seeks Council authority to proceed with implementation and monitoring of a proposed King Street Transit Pilot between Bathurst Street and Jarvis Street in the Downtown.

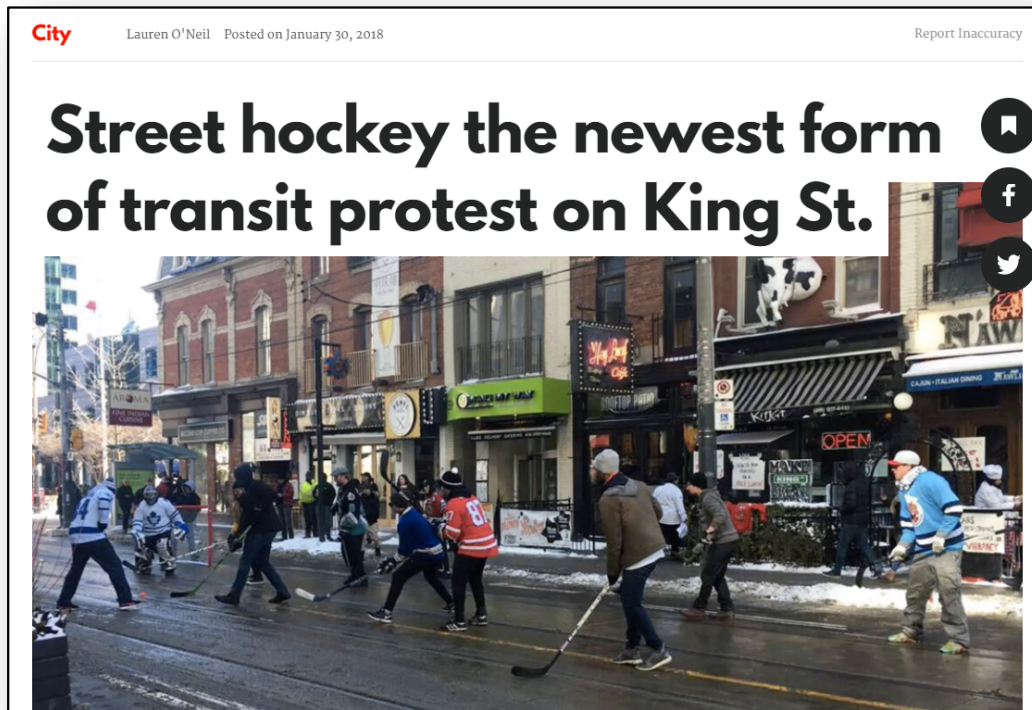
King Street is the busiest surface transit route in the entire city, moving more than 65,000 riders on an average weekday, compared to only 20,000 vehicles. Only the Yonge-University and Bloor-Danforth subway lines carry more people on transit.

But King Street is not currently working well for transit. Streetcar service can be slow, unreliable, and erratic, with unpredictable travel times, especially during rush hours, but also during some late evening and weekend times. People end up having to plan for their slowest trip. Along some parts of King Street, walking is sometimes faster, especially between Bathurst Street and Jarvis Street, where we see the most traffic congestion. When streetcars do arrive, they are often overcrowded, especially in rush hours. The TTC estimates that the line is currently about 20% overcapacity.

The King Street Transit Pilot is about moving people more efficiently on transit, improving public space, and supporting business and economic prosperity along King Street. Primarily, the transit pilot is about improving *transit reliability, speed, and capacity* on the busiest surface transit route in the entire city.

Through: C3. Trials: ...past protest,...

Toronto



Sources: O'Neil (2018); Harris (2018)

- ▶ Approach A. Build legitimacy before implementation:
- ▶ Approach B. Avoid impacts on other road users:
- ▶ Approach C. Build legitimacy through implementation
 - C1: Bottom-up and incremental
 - C2: Pop-ups, and/or
 - C3: Trials**

Some businesses give an icy middle finger to King St. pilot



Through: C3. Trials: ...to improve the trial,...

Toronto

Chris Selley: Give Toronto's King Street pilot a fair shot

For the love of God, let's not repeat the humiliating spectacle of shutting down King for TIFF — the act of a profoundly unserious city.

"Listen, this is a pilot. Nobody said it was going to be perfect on day one. In fact, it's not supposed to be. But it is the direction our city must go, needs to go and together ... we are going to make sure it's a success for everybody."

Sources: Selley (2018); Draaisma (2018)

- ▶ Approach A. Build legitimacy before implementation:
- ▶ Approach B. Avoid impacts on other road users:
- ▶ Approach C. Build legitimacy through implementation
 - C1: Bottom-up and incremental
 - C2: Pop-ups, and/or
 - C3: Trials**



Mayor unveils plan to 'animate' King Street amid business complaints about pilot project

Through: C3. Trials: ...and to gain and publicise real-world data,...

Toronto

May and June 2018 dashboard report for the King Street Transit Pilot

- ▶ Approach A. Build legitimacy before implementation:
- ▶ Approach B. Avoid impacts on other road users:
- ▶ Approach C. Build legitimacy through implementation
 - C1: Bottom-up and incremental
 - C2: Pop-ups, and/or
 - C3: Trials**

TRANSIT RIDERSHIP



TRANSIT RELIABILITY



TRANSIT TRAVEL TIMES

The reliability of streetcar travel times has improved.



CAR TRAVEL TIMES & VOLUMES



Over May and June, westbound car travel times increased compared to the period before the pilot. This increase is counter to results from previous months, where variations in car travel time had varied (+/-) less than a minute.



This increase may be partially related to the commencement of "construction season" which began in early May. Specifically, emergency sewer work that was required from May 7th to 16th, which reduced Richmond Street to one lane and utility work from June 26 to 29, which reduced Queen Street to one lane from Jarvis Street to University Avenue.



The downtown traffic network has been largely able to absorb and respond to the changes in routing that drivers have made.



Drivers on King Street continue to access local businesses or residences, conduct loading and deliveries, and pick-up/drop-off passengers. Traffic previously using King Street has generally shifted to alternative east and west routes.

PEDESTRIAN VOLUMES

Changes in the number of pedestrians from November to May and June show similar trends on both King Street and Queen Street. Pedestrian volumes in May and June increased from those in April at some locations, which is consistent with expected seasonal changes.



On King Street...



Weekday all-day pedestrian volumes indicate that mid-day and evening volumes remain relatively high.

CYCLING VOLUMES

Cycling volumes in May and June showed a significant increase from those in April, which is consistent with expected seasonal changes.

Cycling volumes on King Street (PM Peak at Spadina Avenue) increased by +550 trips in May and +520 trips in June compared to the baseline.



ECONOMIC POINT-OF-SALE DATA

Customer spending on King Street since the pilot began has seen slight growth (0.3%) from the average rate of spending over the same months from the year before.

Average year-over-year growth in the same period was 5.7% for the area surrounding the pilot and 3.8% for the City overall.

Generally, the trends in customer spending observed during the first six months of the pilot are in line with trends from the six months before the pilot began.



Source: City of Toronto and Toronto Transit Commission (2018)

Through: C3. Trials: ...which build legitimacy for retention

- ▶ Approach A. Build legitimacy before implementation:
- ▶ Approach B. Avoid impacts on other road users:
- ▶ Approach C. Build legitimacy through implementation
 - C1: Bottom-up and incremental
 - C2: Pop-ups, and/or
 - C3: Trials**

Toronto

Posted on June 29, 2018

Report Inaccuracy

Nobody is complaining about King Street anymore



King Street transit pilot working, must continue, Toronto Mayor John Tory says

City Tanya Mok Posted on October 27, 2018

Future of the King Street Pilot uncertain beyond this year



City council votes to make King Street pilot permanent

Through: C3. Trials: However, it has to be believed to be a real trial...

Melbourne

The Clarendon Street Campaign

- ▶ Approach A. Build legitimacy before implementation:
- ▶ Approach B. Avoid impacts on other road users:
- ▶ Approach C. Build legitimacy through implementation
 - C1: Bottom-up and incremental
 - C2: Pop-ups, and/or
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MEDIA RELEASE

Embargoed until 11AM, Wednesday 16 March

16 March 2005

Batchelor's Tram Experiment Fails Clarendon Street www.clarendonstcampaign.org

Don Watson, a South Melbourne newsagent who has run his Clarendon Street business for 22 years, says that the recent traffic and tram stop changes on the street may force him and others to close down.

The changes – which are part of a trial conducted by VicRoads, Yarra Trams and the City of Port Phillip – have eliminated around 35 percent of Clarendon Street's car parks, and introduced hook turns that are confusing motorists and endangering cyclists and pedestrians.

"They haven't thought this through," according to Mr Watson.

A delivery driver who often works on Clarendon Street, Jo Giaccotto, believes that the changes have made the strip dangerous for drivers.

"You nearly get killed every time you go through that intersection. It makes it very hard to do my job," Mr Giaccotto said.

Don Watson is concerned that the initiative which was promoted as a trial is in fact set in concrete.

"We were told that, after the trial period, there would be genuine evaluation and consultation. We are now getting the message loud and clear that this is a done deal. It makes a mockery of the government's so-called commitment to consultation.

"In the interests of traders, motorists, cyclists, shoppers and residents, the government must act now to return Clarendon Street to its original state," Mr Watson said.

Source: Quin (2005a)

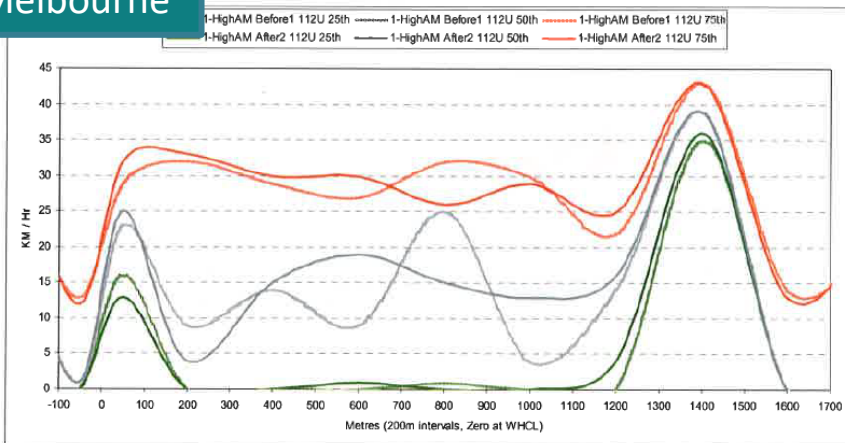
Through: C3. Trials: ... and presenting results clearly to the public is critical

- ▶ Approach A. Build legitimacy before implementation:
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- ▶ Approach C. Build legitimacy through implementation
 - C1: Bottom-up and incremental
 - C2: Pop-ups, and/or
 - C3: Trials**

Yarra Trams Clarendon Street technical analysis

Variability in travel times is best demonstrated by plotting the average speed from the polling data across distance traveled. These plots are displayed for the 25%ile, 50%ile and 75%ile of speeds in appendix 3. A sample plot is shown below. The darker coloured lines show the speed after treatments and the lighter coloured lines are for before treatment. The 50%ile data (grey lines) demonstrates that the net effect of the treatments is to deliver a more consistent tram speed through the area. The variability has been reduced which enables a driver to more easily adhere to his schedule rather than trying to deal with widely fluctuating speeds.

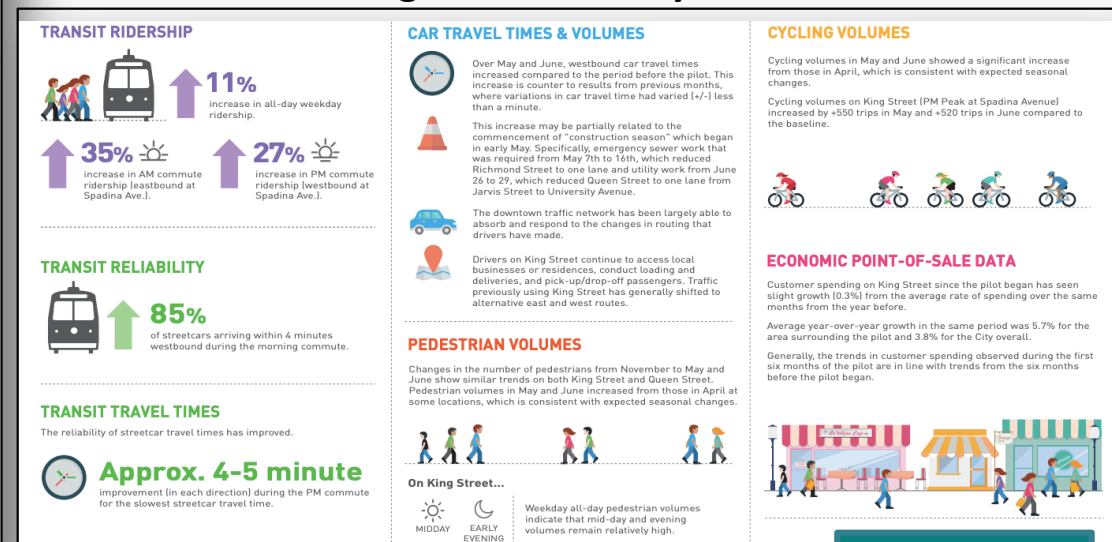
Melbourne



6

Source: Yarra Trams (2005)

King Street monthly dashboard



Toronto

Source: City of Toronto and Toronto Transit Commission (2018)

Agenda

Introduction

Context

Legitimacy

Pragmatic Strategies

Review and close



This seminar has been about pragmatic strategies for making change...

...and legitimacy

Pragmatic strategies for implementation

- ▶ Approach A. Build legitimacy **before** implementation:
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 - B3: Subservience;
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 - C1: Bottom-up and incremental,
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 - C3: Trials.

- *normative legitimacy*
the law requires accessible tram stops
- *legitimacy through reasonableness*
unreasonable there is no wheelchair access
- *legitimacy as trust*
engineers recommend a platform stop
- *sociological legitimacy*
widespread support for DDA compliance
- *legitimacy through consent*
voted on by our political representatives
- *unconditional duty*
cyclists must always have a bike lane(?)
- *conditional normative support* (NIMBYism)
I agree with the idea of DDA compliance,
but not without a bike lane...
....or the loss of on-street parking

Thesis: Detailed literature review, case studies, framework development



A framework and pragmatic strategies for transit priority implementation

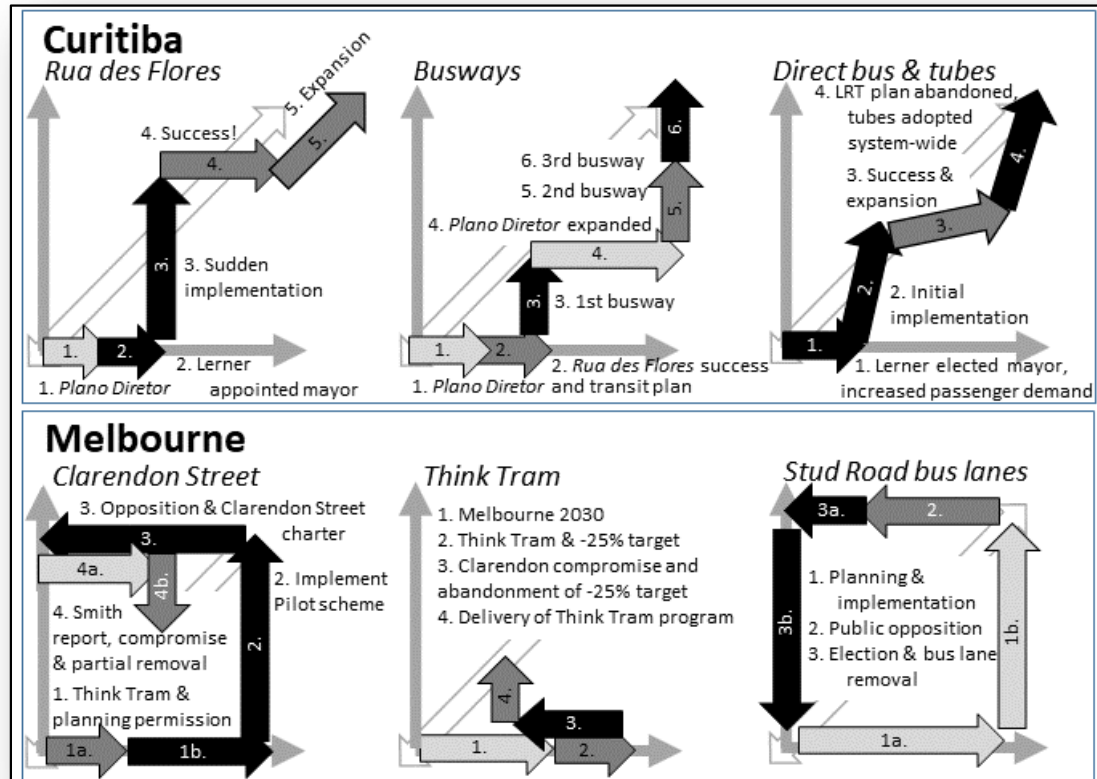
Julian James Reynolds

BEng (Hons), Dip Music, M Traffic, M Transport

A thesis submitted for the degree of Doctor of Philosophy at

Monash University in 2020

Part of the Sustainable and Effective Public Transport Graduate Research Industry Partnership (SEPT-GRIP) at the Public Transport Research Group (PTRG), Institute of Transport Studies, in the Department of Civil Engineering



https://bridges.monash.edu/articles/thesis/A_framework_and_pragmatic_strategies_for_transit_priority_implementation/13377680

Papers: Bottom-up & incremental, public policy approaches; Thesis overview book chapter

Top-down versus bottom-up perspectives on streetcar priority

PAPER NUMBER 18-06428

FINAL SUBMISSION

James Reynolds
PhD Candidate, Public Transport Research Group, Institute of Transport Studies, Department of Civil Engineering,
Building 60, Monash University, Clayton, Victoria 3800, AUSTRALIA, Email: james.reynolds@monash.edu

Graham Currie*
Professor, Public Transport Research Group, Institute of Transport Studies, Department of Civil Engineering, Building
60, Monash University, Clayton, Victoria 3800, AUSTRALIA Phone: +61 3 9905 5574, Fax: +61 3 9905 4944, Email:
graham.currie@monash.edu

Geoff Rose
Professor, Public Transport Research Group, Institute of Transport Studies, Department of Civil Engineering, Building
60, Monash University, Clayton, Victoria 3800, AUSTRALIA Phone: +61 3 9905 5574, Fax: +61 3 9905 4944, Email:
geoff.rose@monash.edu

Alistair Cumming
Managing Director
Kew, Victoria
Alistair Cumming
Australasian Transport Research Forum 2017 Proceedings
27 – 29 November 2017, Auckland, New Zealand
Publication website: <http://www.atrf.info>

Moving beyond techno-rationalism: new models of transit priority implementation

James Reynolds¹, Graham Currie¹, Geoff Rose¹, Alistair Cumming²

¹Sustainable and Effective Public Transport Graduate Research Industry Partnership (SEPT-GRIP),
Public Transport Research Group, Institute of Transport Studies, Department of Civil Engineering,
Building 60, Monash University, Clayton, Victoria 3800, AUSTRALIA

²VicRoads, 60 Denmark Street, Kew, Victoria 3101, AUSTRALIA

Email for correspondence: graham.currie@monash.edu

10. New approaches and insights to managing on-road public transport priority

James Reynolds and Graham Currie

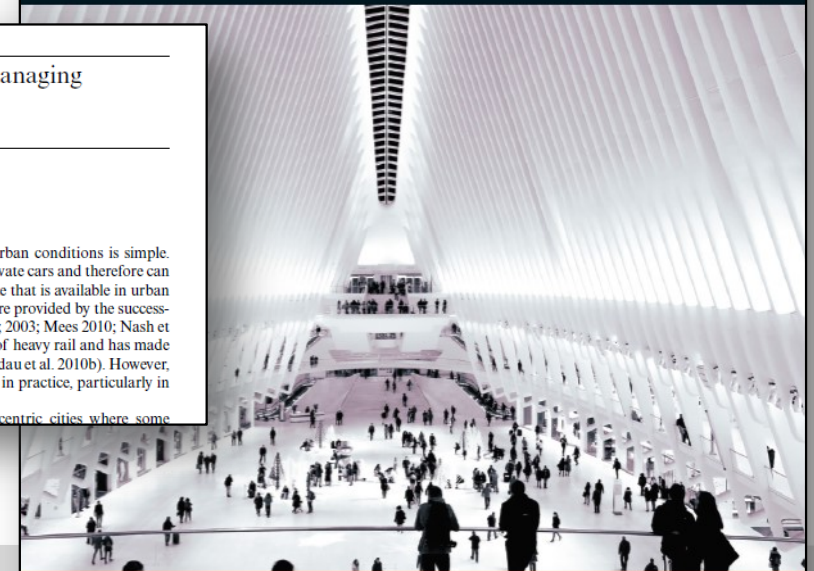
10.1 INTRODUCTION

The technical justification for transit priority in congested urban conditions is simple. Buses and streetcars can move people more efficiently than private cars and therefore can make better use of the limited road space and intersection time that is available in urban areas.¹ Clear examples of the potential of prioritising transit are provided by the successful implementation of priority measures in Zurich (Nash 2001; 2003; Mees 2010; Nash et al. 2018) and Curitiba's bus system, which rivals the capacity of heavy rail and has made the city famous as the 'cradle of Bus Rapid Transit' (BRT) (Lindau et al. 2010b). However, implementing transit priority measures is not necessarily easy in practice, particularly in more car-centric cities where opposition may be more likely.

Toronto and Melbourne provide examples of more car-centric cities where some

EE Elgar HANDBOOK OF Public Transport Research

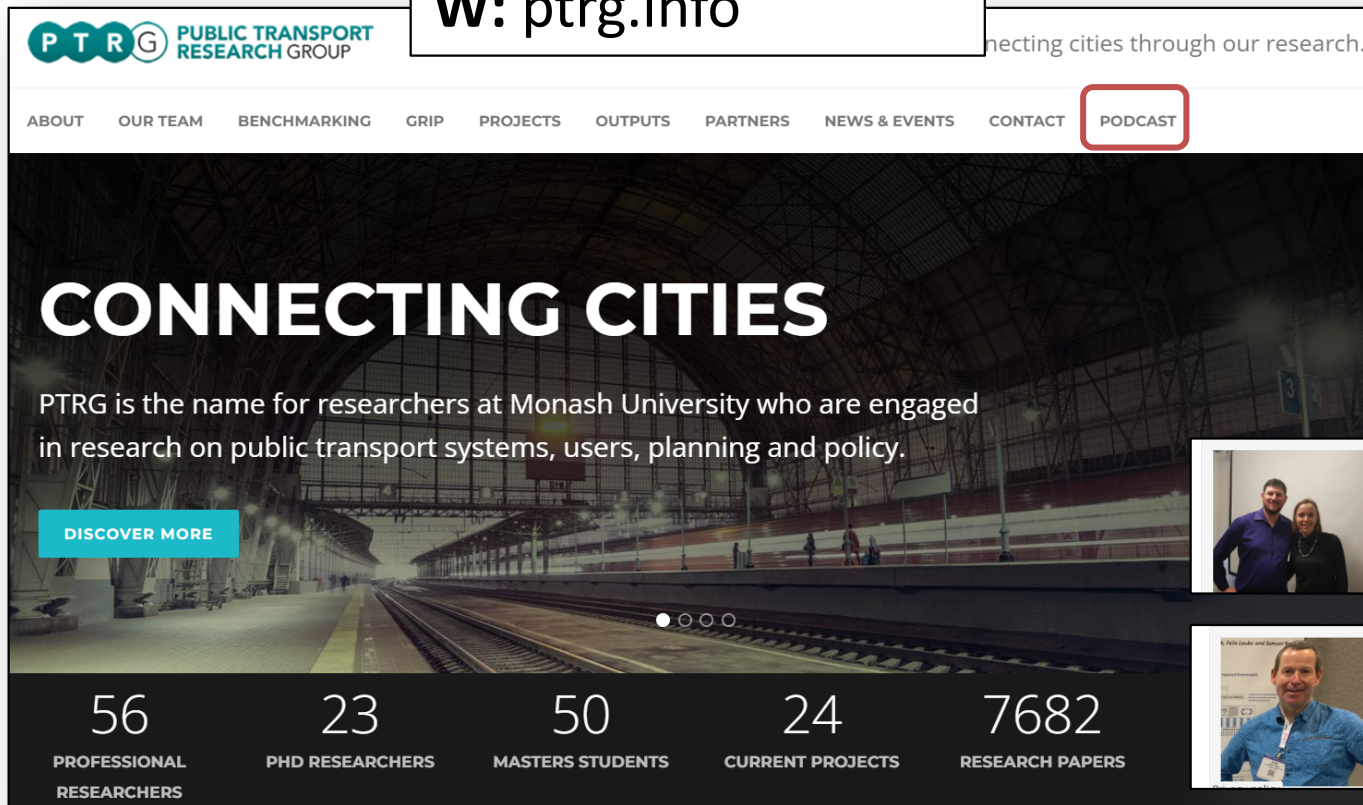
Edited by
Graham Currie



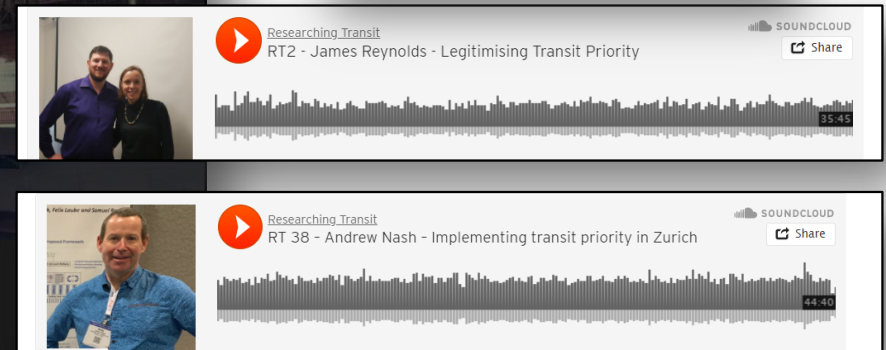
RESEARCH HANDBOOKS IN TRANSPORT STUDIES

Two episodes of the Research Transit podcast on transit priority implementation

W: ptrg.info



The screenshot shows the PTRG website homepage. At the top left is the PTRG logo and the text 'PUBLIC TRANSPORT RESEARCH GROUP'. To the right is a navigation menu with links: ABOUT, OUR TEAM, BENCHMARKING, GRIP, PROJECTS, OUTPUTS, PARTNERS, NEWS & EVENTS, CONTACT, and PODCAST (which is highlighted with a red box). Below the navigation is a large banner image of a train station with the text 'CONNECTING CITIES' in large white letters. Below this is a paragraph: 'PTRG is the name for researchers at Monash University who are engaged in research on public transport systems, users, planning and policy.' and a 'DISCOVER MORE' button. At the bottom of the banner is a statistics section with five columns: '56 PROFESSIONAL RESEARCHERS', '23 PHD RESEARCHERS', '50 MASTERS STUDENTS', '24 CURRENT PROJECTS', and '7682 RESEARCH PAPERS'.



The image shows two podcast episode thumbnails from the 'Researching Transit' podcast. The top thumbnail is for episode 'RT2 - James Reynolds - Legitimising Transit Priority' and features a photo of James Reynolds and a woman. The bottom thumbnail is for episode 'RT 38 - Andrew Nash - Implementing transit priority in Zurich' and features a photo of Andrew Nash. Both thumbnails include a play button icon, the episode title, and a waveform visualization.

Questions?

Pragmatic strategies for implementation

- ▶ Approach A. Build legitimacy before implementation:
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 - C1 : Bottom-up and incremental,
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 - C3: Trials.



Dr James Reynolds
PhD Researcher



Professor Graham Currie
Main Supervisor



Professor Geoff Rose
Associate Supervisor



Alistair Cumming
Industry Supervisor

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