Transport Inequity & Car Dependency: A Self Reinforcing Relationship

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Beechdale, Ballycullen

Image source: Google Streetview
Kennedy Place, Navan Town Centre

Image Source: S. Rock
Images source: www.pka.ie

Original vision for a shared public space.
Trend towards 2 car households

Dublin data:

We have increasing levels of car ownership now & in Ireland there is a strong relationship between car ownership & use.

Source: CSO Census of Population data, adapted by S.Rock
We are back buying cars

(Ireland wide data)

Figure 46  Private Cars per 1,000 of Population

We are travelling further by car

(Ireland wide data)

Total mileage by private cars increased by 52% over the period 2000 – 2015.

We are travelling less by Active Modes

Data relates to Dublin.

We are travelling more by car and less by walking, cycling & public transport.

Source: S.Rock, based on CSO Census of Population 2011 data
The newer the dwelling, the less sustainable the journey

Particularly for the journey to school:

- Worse in areas developed from 1991 onwards.
- 11% fewer children walking to school in areas built after 2001 than before 2001.

Source: S.Rock, based on CSO Census of Population 2011 data
Primary school journey even more unsustainable:

- **Dublin**: 48.5% of primary children driven to school; **Ireland**: 61.4%; Celtic Tiger areas within Dublin: 55.6% (CSO, 2012)
- **Finland**: 20%*
- **Norway**: 22%*
- **Great Britain**: 44%^  

_Data sources: *Fyrhi et al., 2011; ^UK Government, 2014_
Primary School

- **Majority children driven** to primary school in areas developed from 1991 onwards.

- **Proxy for local trip making** - points to failure in transport planning and land-use integration at the local level.

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*Source: S. Rock, based on CSO Census of Population 2011 data*
How does Dublin & other Irish cities compare internationally?

http://www.epomm.eu/
European platform on mobility management – all daily trips made (mobility) by what mode.
What’s the Problem with all this?

Sustainable Development & Sustainable Mobility - Convergence of 3 pillars of:

1. social equity
2. environmental protection
3. economic development.

Balanced?
Social Equity: Transport Equity

Transport has **impacts** – positive & negative.

Transport Equity – **fair distribution** of these impacts.

- ‘Fair’ – value laden, for simplicity it’s about ‘Comparative Fairness’ *(how people fare relative to each other)*

- Key concept: access to ‘Equity of Opportunity’ - in an urban environment, does a person without a car have access to comparable job/education/healthcare opportunities as a person with a car?

- **Car** is one part of the transport system, but can be argued as being the **least equitable**, as it has the **most negative social, environmental & economic impacts overall**.
Social Equity: Transport Equity

Most equitable hierarchy overall is the **sustainable transport hierarchy**:
- Pedestrian first, then cyclist and public transport user,
- Then service & commercial vehicles,
- Then all other vehicles.

Planning & designing for the car is a **negative self-reinforcing cycle** – the more one caters for travel by car, the more one reduces the ability to effectively travel by other means.

Car dependency is **our increasing over-reliance on the car** (and **increasing exclusion from services** & amenities for those without a car). Dynamic process that usually increases over time.

References: Lucas & Jones, 2009; Goodwin, 1995; Newman & Kenworthy, 1999; Mattioli, 2014
Uncompetitive Public Transport

- Map of Dublin showing additional travel time by public transport compared to travel by car.

- Impacts on people’s lives of additional travel time – who will the burdens most likely to fall upon?
Percentage of households with **long commutes** (90min+) to work related to **household income** (data from suburban case study areas, Dublin)

![Bar graph showing percentage of households with long commutes related to income.](image)

Low & middle income households that are experiencing the longest commutes.

*Source: S. Rock, 2015 – Income refers to after-tax income*
Access to Opportunities

Access (transport) related barriers to employment opportunities related to car availability (Dublin suburbs case study areas)

Those without cars felt they experienced significant barriers to employment opportunities compared to those with cars.

Pearson Chi-Square (54.99; df 4) ≤.000
Gamma = .330 (p≤.000)
Impacts: Obesity

Clear correlation between lack of active travel & obesity

In the late 1960s Appleyard conducted a renowned study on livable streets, comparing three residential streets in San Francisco which on the surface did not differ on much else but their levels of traffic.

His research showed that residents of Light Street had three times more friends and twice as many acquaintances as the people on Heavy Street. (www.pps.org)
Impacts: Accidents, Injuries & Fatalities

**HARD AND FAST FACTS**

- **Pedestrians hit by a car...**
  - at 30 km/h: 1 in 10 will die
  - at 50 km/h: 5 in 10 will die
  - at 60 km/h: 9 in 10 will die

**Cyclists:**
- March 2017 – 5 deaths
- June 2017 – 8 deaths

*Source: Road Safety Authority & Irish Times*

Cyclist death toll for 2017 now half of total for last year

Five cyclists killed in road collisions so far this year in Counties Dublin, Kildare, Clare

© Tue, Mar 20, 2017, 17:23 | Updated: Tue, Mar 20, 2017, 17:35

Rachel Flaherty, Pat Flynn

Cyclist Des Butler was fatally injured in a collision with a camper van in Co Clare on March 26th. File photograph: Facebook

The number of cyclists killed this year has already reached half of last year’s total of 10 deaths, just three months into 2017.

Garda figures show 10 cyclists died in road incidents in 2016. Five cyclists
‘Forced’ Car Ownership

Survey response to question regarding whether owning a car was seen as a necessity where they lived:

- Yes, definitely: 79.5%
- Yes, to some extent: 18.5%
- No: 2%

But, car ownership is causing significant financial burdens on many households.
Good Public Transport Helps

**Extent of access barriers to employment experienced related to self-rated quality of public transport service (Dublin suburbs case study areas)**

- **Yes, a significant barrier to finding job**
  - Very good/good: 19.9%
  - Average/okay: 45.2%
  - Very poor/poor: 39.8%

- **Barrier to some extent to finding a job**
  - Very good/good: 25.0%
  - Average/okay: 29.8%
  - Very poor/poor: 29.8%

- **No barrier to finding job**
  - Very good/good: 32.5%
  - Average/okay: 10.4%
  - Very poor/poor: 32.5%

*Pearson Chi-Square (106.92; df 4) ≤.000
Gamma = -.504 (p≤.000)*

**Good public transport reduces access barriers to employment opportunities.**
Transport Equity Principles to Guide Future Development

1. Transport should **not be a barrier to equity of opportunity** to key life chances.

2. **Groups vulnerable to transport disadvantage** should be given special consideration in plans & projects (e.g. lower income; children; elderly; lone parents; mobility & sensory impaired).

3. People are **entitled to use walking, cycling and public transport as an effective, safe** and efficient mode of transport.

4. People should be able to have zero-car ownership in urban areas, and be able to **reach key local and strategic destinations** (at least) by effective walking, cycling or public transport.
Opportunity to Help Shape Future Policy

Online Public Consultation on Statement of Strategy 2018 to 2022

The Authority is commencing a public consultation on our new Strategy Statement for 2018 to 2022. We want to develop the opportunities that arise to see the continued improvement of all modes of public transport services to the public. The challenges we face for the next few years involve a continued growth in demand of services with our population growth. From 2014 we have seen an increase in transport usage for all modes – bus, commuter rail, Luas and cycling. Car travel has also increased over the Dublin region and on the M50 users of the motorway are experiencing increased journey times during peak hours. On all major radial routes we have seen increased traffic volumes which leads to longer commuting times.

Traffic congestion impacts on all of us whether you are a commuter, car driver, on a business or leisure trip. It is important to note that congestion also impacts on the efficiency of the bus service as most bus journeys are conducted in general traffic. Traffic congestion is a growing problem and can only be solved through the delivery of appropriate public transport alternatives including cycling and walking.

In drafting our new consultation we will consider emerging technologies and we will also look at the Rural Transport programme – Local Link bus service which seeks to address the issue of rural social inclusion and ensure that as we develop any future services that they are integrated with other public transport services. We also have obligations in respect of Climate Change and we need to make progress in reducing carbon emissions from transport. We would like to continue to increase the number of public transport users by

Public consultation will close on Wednesday 21st June 2017 at 12pm to all submissions.
Our Vision

National Transport Authority Statement of Strategy 2015-2017

“Greater share of high quality, accessible sustainable transport being used by all”

Our Mission

Our Mission is to increase the share of travel by sustainable transport across the country by

1. Regulating and procuring attractive, high quality and safe public transport services,
2. Securing the development and implementation of an accessible and integrated transport system,
3. Contributing to the effective integration of transport and land use planning policy and investment, and
4. Enhancing the perception and raising awareness of public transport

in a manner that supports Government policies and priorities and contributes to economic development, environmental sustainability and social cohesion in the State.

- Bolder vision needed?
- The link between car dependency and social inequity needs recognition.
- Greater focus on walking and cycling needed – as safe, effective & equity modes of transport.
DMURS: Sustainable Transport Hierarchy

Design Manual for Urban Roads and Streets

Dept. of Transport, Tourism & Sport, 2013

Table 2.2.1: User hierarchy that promotes and prioritises sustainable forms of transportation
Proposed Navan Town Centre Public Transport Hub

Part 8 Public Consultation currently underway by Meath County Council for series of **public realm and sustainable transport improvements** around Navan Town.

Source:
http://www.meath.ie/CountyCouncil/MajorProjects/Navan2030Plan/

Figure 10: Kennedy Road, incorporating set back bus stops and taxi ranks, increased pedestrian space and potential for a new ticketing/information facility.
Stop Polluting.

The icebergs are collapsing! Walk instead!