



Potential for a Public Bikes Scheme in Cork

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- Background on the international development of public-bike schemes
- Cork
 - Potential for cycling
 - Demand predictions
 - Possible locations of docking stations
 - Sustainable transport in general
 - Next steps

Three generations of cycle hire schemes

- 1960s Amsterdam
 - poorly regulated, prone to vandalism, abandonment and theft
- 1970s to 90s (e.g. Bicyklen, Copenhagen)
 - Simple and convenient but subject to theft and vandalism (could not keep track of bikes and users)
- Third (and current) generation – combats vandalism/theft through technology and secure docking stations.
 - Rennes 1998
 - Major schemes in Paris and Barcelona 2007 credited with 'big bang' effect
 - First Ireland scheme: Dublin 2009
 - First UK scheme: London 2010



The world's biggest schemes

- Velib in Paris was the world's largest when introduced in 2006 – over 20,000 bikes and over 100,000 trips per day
- Hangzhou, China (2008), now the largest with over 60,000 bikes
- For comparison, Dublinbikes (2009) has 550 bikes (as of Summer 2011)



The third generation of cycle hire schemes – key characteristics

- Have become known as 'bike-sharing schemes'
- Business model includes major advertising firms (JC Decaux in Paris), scheme sponsorship (Barclays, pictured below), and car-park revenue (Barcelona)
- Bikes are available for a free half hour – beyond this period, prices rise exponentially
- Different levels of subscription – daily, weekly and annual



The third generation of cycle hire schemes – key characteristics (2)

- Large city schemes, journeys last 13-17 minutes on average (3km to 4km)
- Density of docking stations (Paris and London) approximately 8/km² or 1 station every 300m. Lower density in smaller places e.g. Calais 1.5/km²
- Bikes have several essential characteristics
 - unique, **robust** parts to deter vandals, minimise maintenance and make visible
 - mudguards and chain-guards to enable use in **normal clothes**
 - permanently illuminated dynamo **lights**
 - easily **adjustable** saddle height suitable for most adults (1.5m -1.9m)





Obstacles to successful schemes

European research project identified the following obstacles to a successful scheme:

1. Existing high levels of cycle ownership and mode share
2. **Underestimated demand** causing low availability
3. Competition with traditional hire
4. **Vandalism/theft** in cities without a cycling culture
5. Intensive use leading to **frequent breakdowns** damaging integrity of scheme
6. **Empty or full stations** prevent hire or return of bikes - users waste time and lose trust in scheme
7. Registration/rental fees don't cover costs
 - external revenues needed

Factors which influence demand

- Topography
 - steep hills or prolonged gentler gradients considerably reduce demand
- Congestion affecting motorised transport
 - congestion for cars and poor priority for public transport
- Limited availability and/or high cost of car parking
- Comprehensiveness of public transport services; and fares
- Climate and weather



Focus on Cork

- Population of around 150,000 – the largest of the regional cities
- Levels of cycling have remained low in the last 20 years – 2% in 1992 to 0.5% in 2002, thought to be between 0.5% and 1% now
- Cycle-friendly topography (away from the northern side), and the compactness of the city centre will support demand
- Relatively expensive car parking and considerable congestion in the peak hour will assist with the appeal of a bike-sharing scheme
- Multi-lane, one-way streets in city centre make cycling more intimidating, and hamper navigation
 - But the attractive urban streetscapes in the retail area are well suited to bike-sharing scheme trips

Focus on Cork (2)

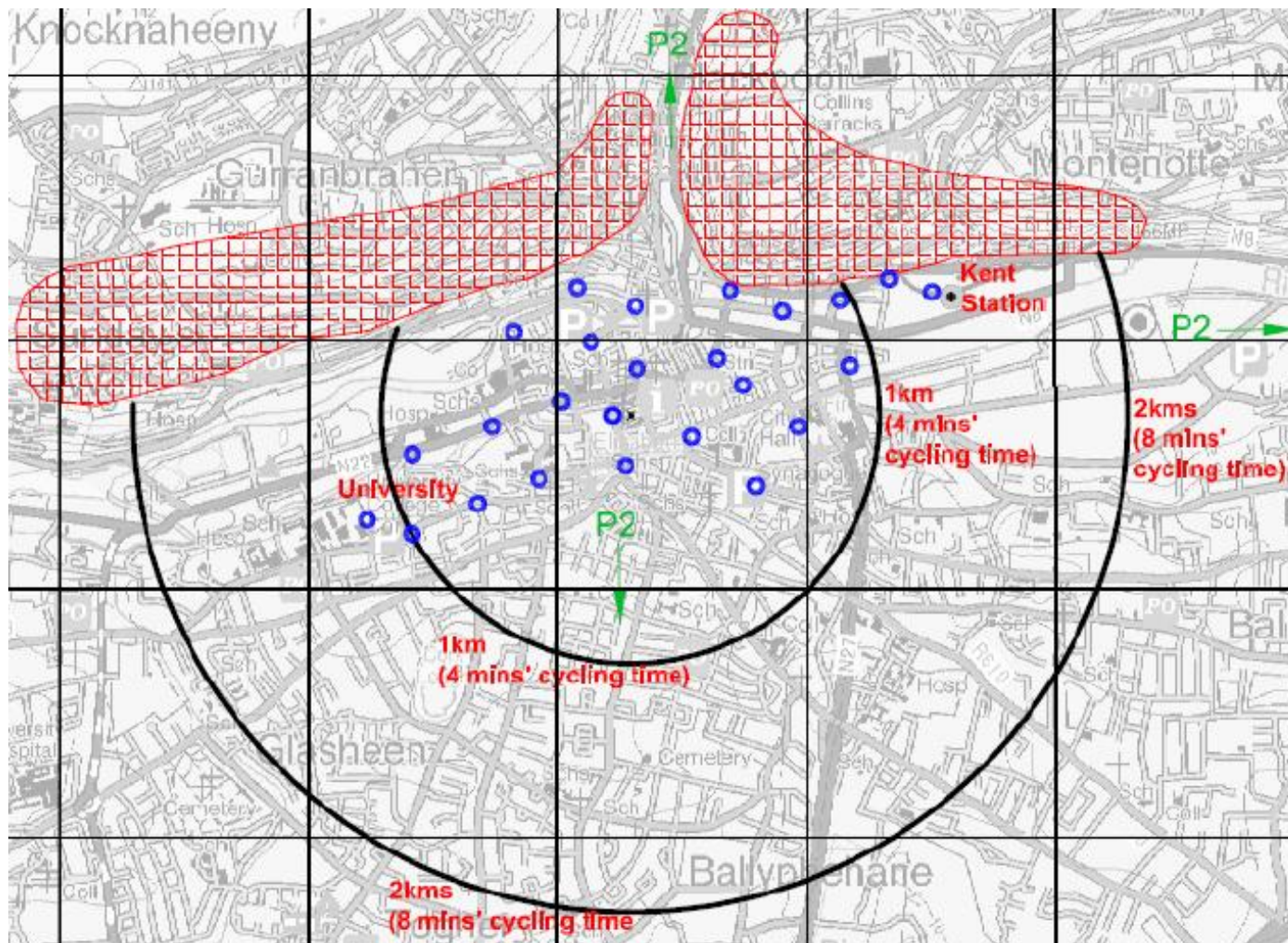
- Cycle parking (including at the station) is well used
- Footway cycling indicates suppressed demand
- Compared with similar sized European schemes, we estimate demand will be average, so median ratios from European schemes have been applied



Demand predictions for bike-sharing scheme in Cork

- A fleet of approximately **300 bikes**
- It is predicted that the scheme would attract **2,000 to 2,500** members
- Approximately **25** docking stations
- Proposed deployment area would stretch from Kent Station in the east to University College Cork in the west
- Proposed deployment area is linear due to steep hills to the north, distribution of the main trip attractors close to river, and location of railway station and university

Potential location for Docking Stations



Sustainable transport in Cork – a bigger picture

A bike scheme would complement other initiatives

- Traffic management grants supporting
 - Bus priority
 - Walking
 - Cycling
- A national cycle manual to guide best design
 - www.cyclemanual.ie
- Real time passenger information
- Optimisation of bus services

The NTA is administering €2.84 million in grant funding to Cork City Council in 2011 on behalf of the Department of Transport, Tourism & Sport

Bus Priority and Park & Ride projects - €1.3 million

1.	€1.1 m	Ballincollig Green Route (QBC)
2.	€200,000	Detailed Design of Carrigrohane Park & Ride facility

Bus Stop Accessibility - €120,000

1.	€ 70,000	South Mall (Upgrade)
2.	€ 25,000	Glenheights - North Ring Road (Upgrade)
3.	€ 25,000	Curraheen Road (New)

Jobs Initiative Fund - €1.42 million

1.	€150,000	Pedestrian Crossing Facilities
2.	€50,000	Regional Freight Management Strategy (Phase 1)
3.	€170,500	City Centre Accessibility Monitoring
4.	€350,000	Sunvalley Drive Project
5.	€175,000	Boreenmanna Road Project
6.	€125,000	Footpath Renewal Project
7.	€400,000	Cork City Cycle Network – Phase 1

The Cork Cycle Study identified three priority cycle routes for the Cork Metropolitan Area

1.	Route 1	Douglas Route - 12.3 km
2.	Route 2	Ballyvolane Route - 14 km
3.	Route 3	Ballincollig Route - 3.3 km

The overall objective of the cycle network is to provide an integrated, safe and functional cycleway for the Cork Metropolitan Area.





National Cycle Manual

- 1.0 The Basics**
 - 1.1 Sustainable Safety
 - 1.2 Five Needs of Cyclists
 - 1.3 Conflict and Risks
 - 1.4 Quality of Service
 - 1.5 Width
 - 1.6 Link Types
 - 1.7 Integration and Segregation
 - 1.8 Right of Way
 - 1.9 Pedestrians and Cyclists
- 2.0 Legislation and Policy**
- 3.0 Planning for the Bicycle**
- 4.0 Designing for the Bicycle**
- 5.0 Getting the Details Right**
- 6.0 Maintenance**
- 7.0 Tools and Checklists**

1.1 Sustainable Safety

Cycling is a vulnerable mode in traffic terms. Safety is at the heart of all good design. The designer should ensure that the Principles of Sustainable Safety have been applied to all schemes.

The principles of Sustainable Safety were developed in 1992, and in the following years in the Netherlands. They underpin all road design and the adherence to those principles has contributed to the Netherlands leading record in road safety.

This manual subscribes to the principles of Sustainable Safety and has used them in the determination of content.



There are five principles as follows:

- 1.1.1 Functionality
- 1.1.2 Homogeneity
- 1.1.3 Legibility
- 1.1.4 Forgivingness
- 1.1.5 Self-awareness

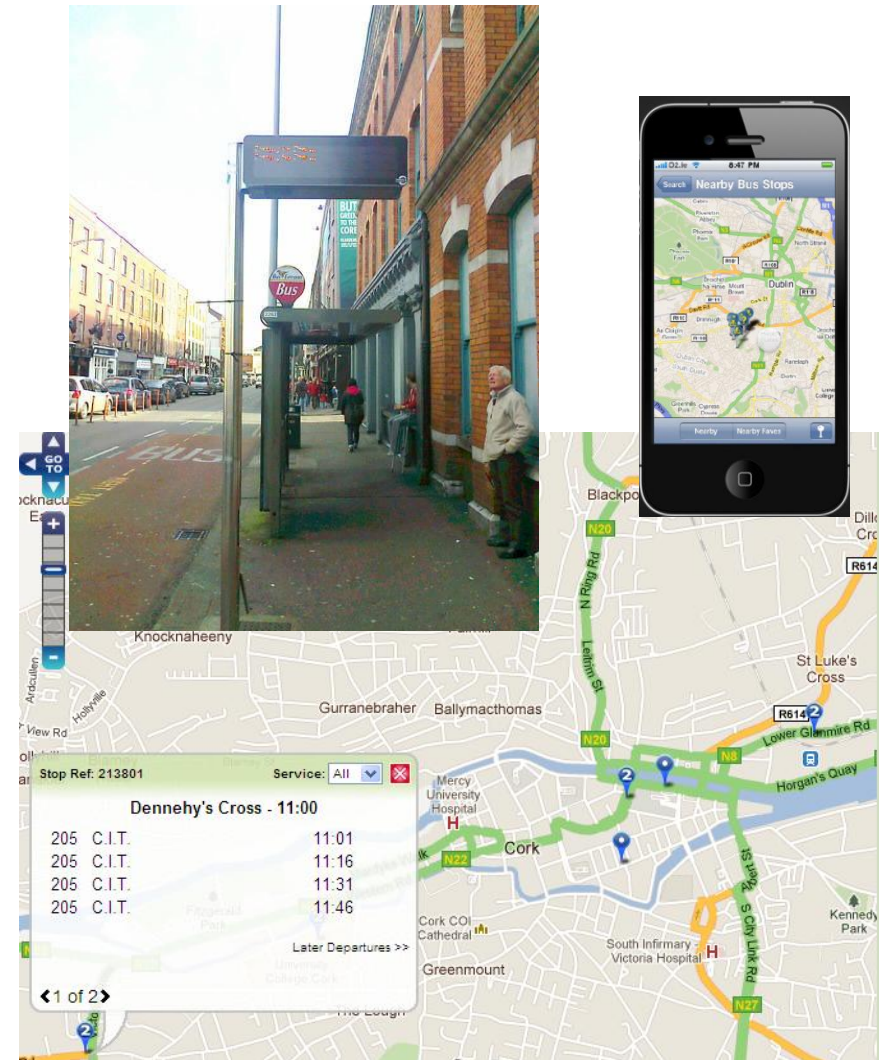


RTPI Cork

- 47 locations planned for Cork
- First test sign up
- Extensive testing required

When Data is dependable,
information will be available for all
stops in Cork via:

- Website
www.TransportforIreland.ie
- Smart Phone Apps
- One SMS number for all real time bus services in the country



Next Bike scheme steps

- Commercial analysis
- More detailed survey work
 - Likely take-up
 - Potential locations of docking stations
- Examine costs more closely and devise best VFM model