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Potential for a Public Bikes Scheme in Waterford

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- Background on the international development of public-bike schemes

- Waterford
  - Potential for cycling
  - Demand predictions
  - Possible locations of docking stations
  - Sustainable transport in general
  - Next steps

Three generations of cycle hire schemes

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- 1960s Amsterdam

- 1970s to 90s (e.g. Bycyklen, Copenhagen)

- 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

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- 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

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

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

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- Large city schemes, journeys last 13-17 minutes on average (3km to 4km)

- Density of docking stations (Paris and London) approximately 8/km^2 or 1 station every 300m. Lower density in smaller places e.g. Calais 1.5/km^2

- 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)


JCDecaux
JCDecaux

Obstacles to successful schemes

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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
- Congestion affecting motorised transport
- Limited availability and/or high cost of car parking
- Climate and weather

Focus on Waterford

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- Population of approximately 60,000 including approximately 14,000 students
- Cycle commuting mode share is around 2%
- The topography is cycle-friendly in some parts
  - The land rises steeply north of the river, and west of the city centre (to 50m above sea level – enough to deter most people from cycling)
- Congestion in the peak hour is not a big problem, and it is relatively cheap and easy to park in the centre (from just 3 Euros per day)
- Permeability for cycling in the city centre is partly restricted due to one-way streets and pedestrianised areas
- The main road (R680) attracts very high HGV flows – a particular hazard for cycle traffic

Focus on Waterford (2)

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- Some attractive innovative cycle parking in the city centre
- Waterford is an attractive historic city with an appealing waterside location – these factors would increase the appeal of a bike sharing scheme
- However, there is little congestion, cheap and plentiful car-parking, a very high HGV flow on the main route through, and some relatively steep topography – these would all act to suppress demand for a bike-sharing scheme

Demand predictions for bike-sharing scheme in Waterford

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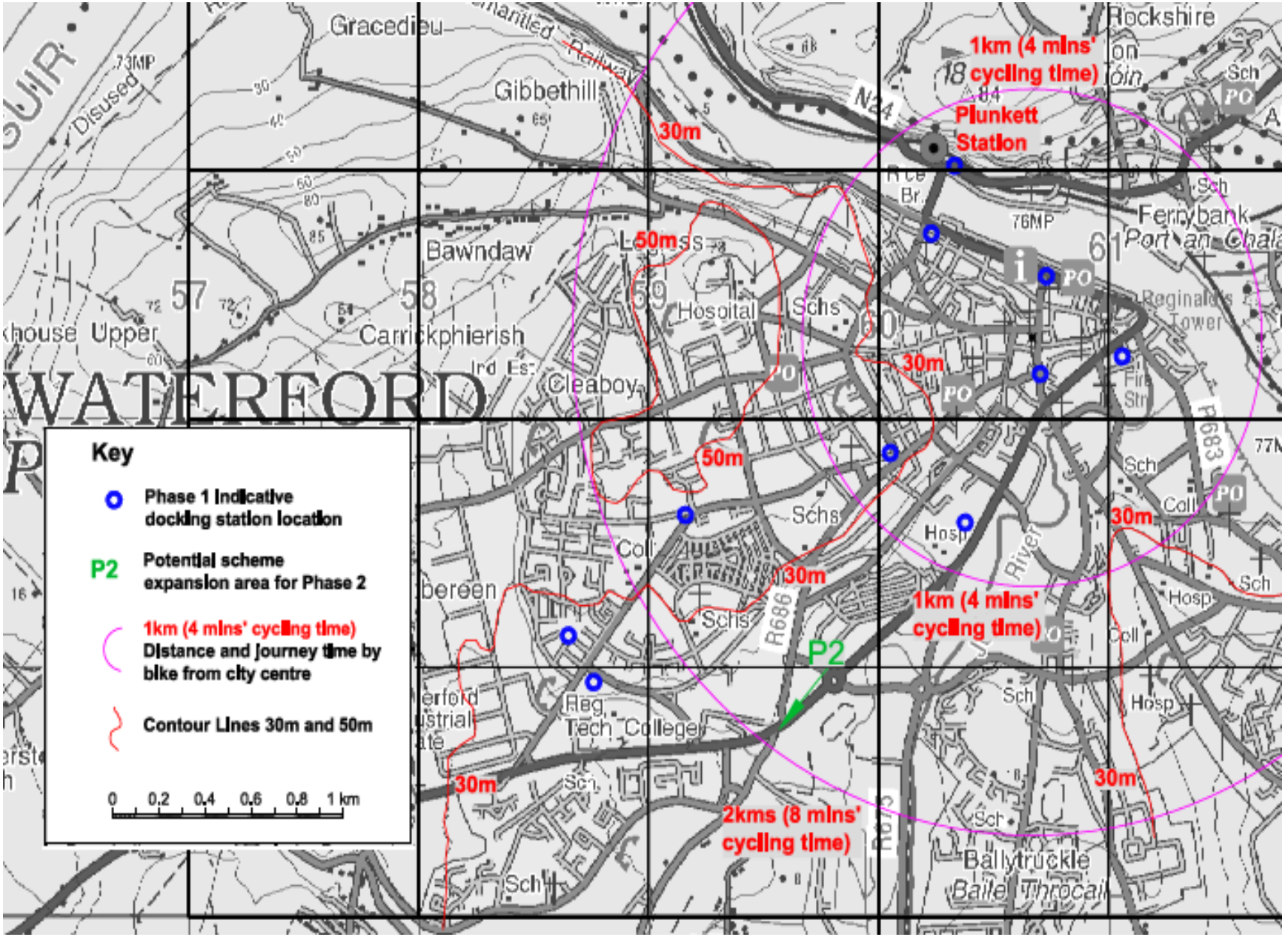
- Overall, it is predicted that the demand for a bike-sharing scheme would be lower than average for a city of Waterford's size
- A fleet of **80-100 bikes** is recommended with **10 docking stations**
- It is predicted that a scheme would attract up to **900 members**
- The proposed deployment area is focused around the city centre with one station to the north of the river serving Plunkett station
- There is an additional proposed spine to the western side of the city serving the Institute of Technology
- The proposed stations avoid the steeper gradients – the obvious route to the western end of the deployment area would climb to over 30m but avoids steep climbs

Ppotential locations for Docking Stations



Sustainable transport in Waterford – a bigger picture

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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 €1.87 million in grant funding to Waterford City Council in 2011 on behalf of the Department of Transport, Tourism & Sport

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Bus Priority and Park & Ride - €800,000

1.	€800,000	South Quays Green Route (Colbeck St. to Kaiser St.)

Jobs Initiative - €1,087,000

1.	€20,000	Cycle Network Improvements
2.	€60,000	Pedestrian Accessibility Programme
3.	€15,000	Cycle & Pedestrian Way Finding Signage
4.	€300,000	South Quays Green Route (Kaiser St. to Conduit Lane)
5.	€140,000	Traffic Calming at Schools Programme
6.	€30,000	School Crossing Upgrades
7.	€22,000	Diagonal Pedestrian Crossings
8.	€500,000	Upgrade of Cycle Tracks, Bus Routes & Pedestrian Crossings

The Waterford City Council Development Plan 2007 to 2013 – Cycling Objectives

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To develop a strategic citywide network of cycle-ways connecting educational, residential, retail, amenity and employment centres.

To encourage modal change from private use towards increased use of walking, cycling and public transport.

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

Mandatory Lanes, Side Streets

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Box Turns

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Driveways / Crossover

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Left Hand Traffic Pocket

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Pedestrian Priority Shared Area

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RTPI Waterford

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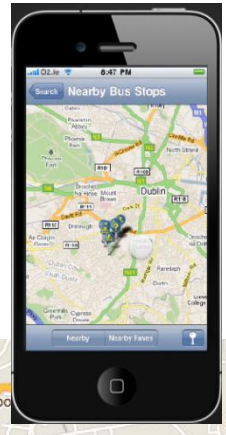
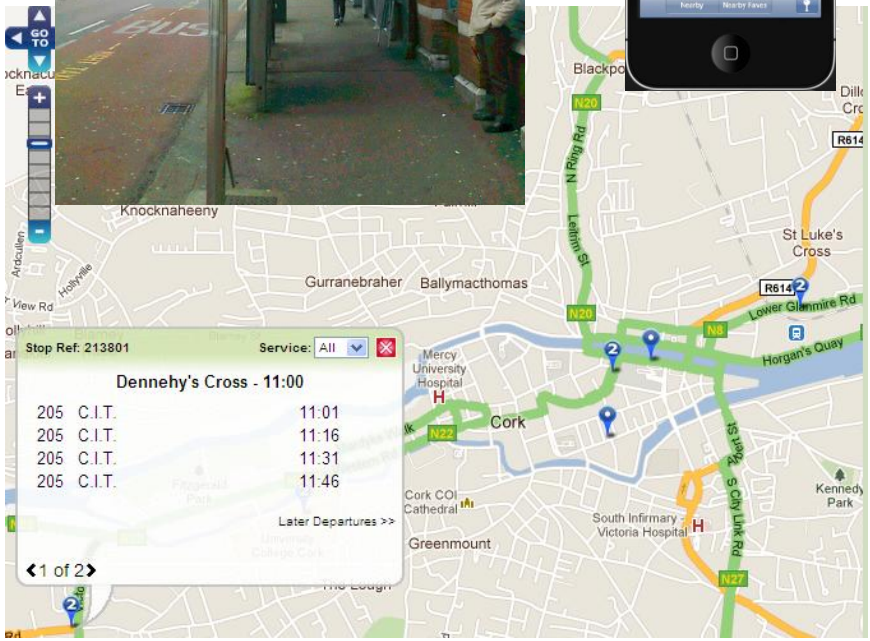
- First Bus Éireann Test Sign Up in Cork - Cork is the pilot for Bus Éireann signs
- When data is reliable it will enable a quick roll out to Waterford.

When Data is dependable, information will be available for all Bus Éireann stops in Waterford via:

- Signs in busy locations (10-15 approx.)
- Website www.TransportforIreland.ie
- Smart Phone Apps
- One SMS number for all real time bus services in the country





Next Bike scheme steps

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- Commercial analysis

- More detailed survey work
  - Likely take-up
  - Potential locations of docking stations

- Examine costs more closely and devise best VFM model

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