DTO Cycling Policy

Adopted by the DTO Steering Committee
DTO Cycling Policy

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Genesis of this policy document

The current strategic approach to cycling within the GDA is set in *A Platform for Change*. Since *A Platform for Change* was published, significant progress has been made in the provision of infrastructure for cycling. However, the benefits of these improvements to date appear to have been confined to slowing the rate of decline in cycling numbers, compared to other Irish cities.

DTO Steering Committee members have expressed concerns over the effectiveness of investment to date in cycling infrastructure in encouraging cycling, and some members have also expressed their view that cycling investment had focussed too much in the past on infrastructure measures, and not sufficiently on other measures that may support and encourage cycling.

In this context, it was considered that an up-to-date stand-alone Cycle Policy document should be prepared, against which cycle programmes and individual cycle projects could be developed and assessed.

A Draft Cycling Policy paper was submitted to the DTO Steering Committee in May 2005. The paper was not approved by the Steering Committee.

More recently, the DTO Traffic Management Grants Committee noted at its April 2006 meeting that there is no formal Cycling Policy against which cycle investment proposals brought to the TMG Committee can be appraised. They requested that the DTO Steering Committee should agree a policy on cycling to inform investment decisions.

The DTO Executive has, therefore, reviewed and revised the 2005 Draft Cycling Policy Paper. The revised document takes into account observed trends in cycling to work and school, the Dublin City Council Cycle Review document (dated January 2006), Dublin City Council market research data reported at Velo-City 2005, and other conclusions of the 2005 Velo-City conference hosted by DTO, Dublin City Council and the Department of Transport.

This Draft Policy Paper was circulated to GDA local authority Directors of Transport and Planning Services for comment in July 2006. Comments were received from Dublin City Council Planning Department, and have been taken into account in the final draft.

As part of the agency consultation process, the DTO also met Dublin City Council Traffic Department to discuss the working arrangements that may be appropriate for taking forward any agreed cycle policy. The City Council and the DTO agreed that the terms of reference of any GDA Cycle Working Group would need to be clearly established from the outset and the functions of any Working Group should avoid detailed design issues and duplication of local authority roles. The City Council also proposed to submit the draft cycle policy document to its newly established Cycle Forum for consideration.

Status of this Document

This is a final document adopted by the DTO Steering Committee at its September 2006 meeting.
1 INTRODUCTION
The promotion and facilitation of cycling as a mode of transport in the GDA is a key aspect of DTO policy as set out in A Platform for Change. Cycling has considerable potential to improve the quality of life of people who live, work and study in the GDA, and to improve the accessibility of the city region.

The creation of a cycle friendly environment has a positive effect on people’s experiences of the area, whether in doing business, visiting a city as a tourist, enjoying the city from a leisure perspective or simply going about their daily business. Many leading European cities and city regions have demonstrated that developing cycling as a means of travel can result in lower congestion, more efficient public and private transport movements, a cleaner environment and a better overall quality of life.

The DTO Strategy as set out in A Platform for Change stated that the completion of the strategic cycle network and links to public transport remain the principal objectives for the cycling mode. It stated that the overall objective of the DTO Strategy in relation to cycling was to

<table>
<thead>
<tr>
<th>DTO Cycling Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>This Cycle Policy is a statement of intent by the Dublin Local Authorities, the DTO and other members of the DTO Steering Committee as follows:</td>
</tr>
<tr>
<td><strong>To enhance the cycling environment and facilitate cycling in the GDA by a variety of means, including:</strong></td>
</tr>
<tr>
<td>• Creating a continuous cycle friendly environment on cycle routes, as required, by</td>
</tr>
<tr>
<td>o Reducing traffic volumes (in particular heavy vehicles) and slower traffic</td>
</tr>
<tr>
<td>o Improved and additional cycle infrastructure and priority and good quality road surfaces</td>
</tr>
<tr>
<td>o Appropriate levels of enforcement</td>
</tr>
<tr>
<td>• Provision of sufficient and appropriately designed cycle parking facilities</td>
</tr>
<tr>
<td>• Cycle friendly planning and design of new developments</td>
</tr>
<tr>
<td><strong>To promote cycling in the GDA through a variety of means including:</strong></td>
</tr>
<tr>
<td>• Training and other education measures, targeted in particular at those of school going age</td>
</tr>
<tr>
<td>• Promoting cycling as a healthy activity</td>
</tr>
<tr>
<td>• Marketing of cycling as a sensible choice, focussed on areas where good potential for cycling is identified, and where good quality cycle facilities exist</td>
</tr>
<tr>
<td><strong>To further develop the GDA cycling strategy by:</strong></td>
</tr>
<tr>
<td>• Establishing a GDA Cycle Working Group, consisting of local authorities and other relevant implementing/funding agencies</td>
</tr>
<tr>
<td>• Forming partnerships with other stakeholders, e.g. through the establishment of a Cycle Forum in each local authority area.</td>
</tr>
<tr>
<td>• Further research and analysis of cycling behaviour and attitudes, focussing on cycling for non-work or school purposes, and reasons for not cycling</td>
</tr>
<tr>
<td>• Setting realistic targets for growth in cycle use</td>
</tr>
<tr>
<td>• Preparing cycle programmes to support policy objectives</td>
</tr>
<tr>
<td>• Preparing a monitoring strategy to enable comparison of outcomes with targets set and to inform future Cycle Policy reviews and programmes</td>
</tr>
</tbody>
</table>

*Key Point 1: Proposed Cycling Policy*
increase the proportion of short trips (up to 6km) made by bicycle to 30% by 2016. Trips to places of education and commuting trips of up to 10km in length were to be particularly targeted as suitable for cycling.

Since *A Platform for Change* was published, significant progress has been made in the provision of infrastructure for cycling. However, the benefits of these improvements to date have been confined to slowing the rate of decline in cycling numbers compared to other Irish cities. If this decline is to be reversed, a more comprehensive cycling policy is required. It is the purpose of this document to outline such a policy.

An increase in cycling in the GDA will have significant benefits for all parties involved in transport and travel in the region, from transport providers and local authorities to cyclists themselves and all other road users

2 BENEFITS OF A GDA CYCLING POLICY

An agreed GDA cycling policy is an essential first step towards the development of a wider cycling strategy for the Greater Dublin Area that incorporates the cycling policy as well as associated targets and cycling programmes.

The policy will provide a transparent approach to cycling in the GDA for the public, planning and transport bodies and other partners able to contribute to the regions cycling objectives. It will be important for cycling policies to integrate with other policies in the transport and planning sector and elsewhere.

The benefits of a successful cycle policy, and follow on programmes are well summarised in the Velo-Mondial *Charter Plan for Cycle Friendly Communities*.

Increased cycle use can:

- Improve the environment by reducing the impact on residents of pollution and noise, limiting greenhouse gases, and improving the quality of public spaces.
- Reduce congestion by shifting short trips (the majority of trips in cities) out of cars. This will also make cities more accessible for public transport, walking, essential car travel, emergency services, and deliveries.
- Save lives by creating safer conditions for bicyclists and, as a direct consequence, improve the safety of all other road users. Research shows that increasing the number of cyclists on the street improves bicycle safety.
- Increase opportunities for residents of all ages to participate socially and economically in the community, regardless of income or ability. Greater choice of travel modes also increases independence, especially among seniors and children.
- Boost the economy by creating a community that is an attractive destination for new residents, tourists and businesses.
- Enhance recreational opportunities, especially for children, and further contribute to the quality of life in the community.
- Save city funds by increasing the efficient use of public space, reducing the need for costly new road infrastructure, preventing crashes, improving the health of the community, and increasing the use of public transport.
- Enhance public safety and security by increasing the number of “eyes on the street” and providing more options for movement in the event of emergencies, natural disasters, and major public events.
- Improve the health and well being of the population by promoting routine physical activity.

In the Dublin context, increased bicycle use could also:

- Increase numbers using public transport by extending the catchment beyond the walking catchment to a wider population
- Improve accessibility, particularly at a local level
- Support opportunities for intensification of land use at appropriate locations.
- Provide support, through improved accessibility, for local businesses and services.

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1 Velo-mondial Charter for Cycle Friendly Communities
http://www.velomondial.net/PDFFiles/ActionPlan.pdf. Dublin City Council is a signatory of this Charter
3 DEVELOPING THE POLICY

3.1 Examination of Cycling Trends in Dublin

Key points:

- The number of persons in the Greater Dublin Area cycling to work and school in 2002 was approximately 36,000 each day, a mode share of 3.3%.
- Cycling mode share is much higher in the Dublin region (3.8%) than in the mid East Region (1.5%).
- There has been a decline in cycling to work and education. The mode shares for cycling to school and to work have both declined by over one third between 1996 and 2002. Because of the large growth in employment, the actual numbers cycling to work have declined much less.
- Between 1996 and 2002, the decline in numbers cycling to school and work in the GDA (17%) has been much less severe than in other Irish cities (declines ranging from 27% in Galway to 57% in Limerick).
- The average trip length to work, by bicycle, in the GDA is 5.7km (3.6 miles) and over 75% of cycling trips to work are less than 8km.
- The intensity (trips/km²) of short trips to work (by all modes) is highest in the city centre.
- Other areas outside the city centre with a high number of short trips to work (less than 8km) include Ballsbridge, Dun Laoghaire, Sandyford, Tallaght, Beaumont and Blanchardstown.
- Cycling to work in the GDA is predominantly a male activity. Trips peak in the 18 - 34 age group, although they remain relatively high up to retirement age.
- Very few females cycle to school.
- The average trip length to school, by bicycle, is 2km (1.2 miles), roughly one third of the length of the average cycle trip to work.
- The intensity of short trips to school (by all modes) is largest in the city centre (within the Canals), and remains high in the City Council area generally, but it is also relatively large in many other areas scattered throughout the Greater Dublin Area.
- Little is known of trends in cycling for other purposes such as leisure and shopping

Background data, from which the above key points are extracted, is presented in Appendix A of this paper.

3.2 Cycling to Work - Dublin City Council Market Research

The research² was conducted on 300

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² Velo-city 2005 paper Attitudes of Car Commuters and Cyclists to Cycling in Dublin
Examination of Dublin City Council cycle to work market research suggests that a GDA Cycling Policy should

- Acknowledge the current situation that the majority of car commuters would not consider cycling
- Encourage cycling for those of school going age, as they are much more likely to cycle to work in later years
- Enhance the cycling environment, and improve safety, by a variety of means including improved infrastructure, reduced traffic volumes (in particular heavy vehicles), slower traffic and improved road surfaces
- Include measures to promote cycling as a healthy activity
- Recognise that the majority of car commuters support better provision for cycling, even at the expense of the car.

Key Point 3: Policy directions suggested by Dublin City Council Market Research

car commuters and 300 people who cycle commuters, who live within 8 miles of their work

Key points (cycle commuters):

- Those cycling to work tend to be younger, male (twice as likely as female), and in similar social classes to car drivers
- The overall quality of road surfaces, the presence of cycle lanes, the flexibility offered by cycling, the ability to avoid traffic congestion and exercise/fitness benefits were the most important factors for cyclists in deciding to cycle.
- Satisfaction of cyclists with facilities was relatively high overall

Key points (car commuters):

- 21% of car commuters would consider cycling to work. They tend to be male, younger, and ABC1 social class.
- The main reasons for car commuters not cycling to work are a preference to drive (24%), too dangerous because of traffic (21%), too lazy/too strenuous (20%), poor weather conditions (19%) and too far distance to travel (16%).
- The main initiatives that would encourage car commuters to cycle to work are more dedicated cycle lanes (41%), reduced traffic (39%), improved road surface (39%), reduced heavy vehicle volumes (38%) and reduced traffic speed (33%).

Key points, comparing cycle and car commuters

- Only 29% of cyclists never cycled to secondary school, however 54% of car commuters never did.
- 69% of cyclists would let their children cycle to secondary school, but the corresponding figure for car commuters is only 43%
- The majority of both cyclists and car commuters responded positively to the changes in provision for cyclists over the previous 5 years.
- They majority of both groups also consider more cycle lanes would encourage people to cycle more, and that cyclists should be given more priority in the city centre, even if it makes things difficult for car drivers.
- The majority of both groups consider cycling is less safe than other modes of travel. Car commuters consider cycling less safe than cycle commuters.

3.3 Dublin City Council cycle policy review

Examination of the Dublin City Council Cycle Policy Review suggests that a cycling policy should

- Become part of a wider cycling strategy incorporating targets and programmes
- Focus (Dublin City Council) infrastructure improvements on improving conditions in the inner city area
- Encourage cycling to school
- Include a programme of cycle training, with on-road training at its core
- Incorporate the formation of partnerships with stakeholders
- Incorporate the preparation of a cycle marketing strategy
- Incorporate the preparation of a monitoring strategy

### Key Point 4: Policy directions suggested by Dublin City Council Cycle Policy Review

This policy review was carried out on behalf of Dublin City Council and the review document³ was published in January 2006.

Key recommendations

- Prepare a cycle strategy, incorporating policies, targets and cycle programmes
- Appoint a cycling officer at a senior level
- Infrastructure provision should focus on improving conditions for cyclists within the inner city area and integrating cycling within measures arising out of the reduction of traffic as a consequence of the opening of the Port Tunnel, speed reduction schemes and "Transport 21" proposals
- A programme of cyclist training should be introduced based on best practice i.e. with on-road training at its core
- Introduce a “safe routes to school” programme conforming to best practice
- A marketing strategy, to promote the benefits of cycling and to publicise the cycle network should be introduced


3.4 Lessons from other Cities

Key measures adopted in other cities with successful cycling policies include

- Extensive Traffic calming (particularly in city centres)
- High quality cycle routes, with cycle inclusive road design
- Reductions in traffic volumes in city centres and other key destinations
- Promoting cycling at primary schools
- Cycle-friendly signals & dedicated bicycle signals

### Key Point 5: Lessons from other Cities

A key lesson from European experience in particular is that declines in cycling
numbers are by no means unique. However, they can be arrested and reversed, given the right policies and measures.

Successful cycling outcomes have taken place in cities and countries with very good overall road safety records, especially for vulnerable road users (e.g. Denmark, Netherlands, Germany). These countries have also attracted women as large percentages or the majority of the overall cycling numbers.

4 THE PROPOSED POLICY

A successful cycle policy for the Greater Dublin Area needs to acknowledge current behaviour and attitudes towards cycling. It should take into consideration expert advice on policy development and draw on lessons learnt and successful approaches elsewhere.

In carrying out this exercise, many common themes emerge and it is proposed to use these as the foundations for a policy for cycling in Dublin.

4.1 Proposed Cycling Policy

The proposed policy is to enhance the cycling environment and facilitate cycling in the GDA by a variety of means, including:

- Reduced traffic volumes (in particular heavy vehicles) and slower traffic on cycle routes
- Improved and additional cycle infrastructure and priority and good quality surfaces on cycle routes
- Provision of sufficient and appropriately designed cycle parking facilities
- Cycle friendly planning and design of new developments

The proposed policy is also to promote cycling in the GDA through a variety of means including:

- Training and other education measures, targeted in particular at those of school going age
- Promoting cycling as a healthy activity
- Marketing of cycling as a sensible choice, focussed on areas where good potential for cycling is identified, and where good quality cycle facilities exist

Finally, the policy proposes to further develop the GDA cycling strategy by:

- Establishing a GDA Cycle Working Group, consisting of local authorities and other relevant implementing/funding agencies
- Forming partnerships with other stakeholders, e.g. through the establishment of a Cycle Forum in each local authority area.
- Setting realistic targets for growth in cycle use
- Preparing cycle programmes to support policy objectives
- Preparing a monitoring strategy to enable comparison of outcomes with targets set and to inform future Cycle Policy reviews and programmes.

5 NEXT STEPS

5.1 Establish a GDA Cycle Working Group

The Cycle Policy proposes that a GDA Cycle Working Group should be established, consisting of local authorities and other invited bodies such as the OPW, Health Promotion Unit of the Department of Health, Failte Ireland and the Department of Education, who could either implement or fund cycling measures in line with the GDA cycling policy. The Chair of the Cycle Working Group would report to the DTO Steering Committee.

It is intended that the Working Group will propose targets for cycling where appropriate, and then draw together a regional cycle action plan and programme based on individual agency programmes, for consideration by the DTO Steering Committee.

In setting targets and programmes the Working Group will need to take account of existing research and analysis of cycling behaviour and attitudes. Where information gaps exist that hinder the development of targets or programmes for particular sectors, the Working Group could propose means of rectifying them as appropriate.

It is proposed that the DTO will draw up draft terms of reference for the Group in advance of its first meeting, and upon ratification, these would be forwarded to the DTO Steering Committee.
5.2 Targets
Targets will need to be set, against which the success of the policy can be monitored. The GDA Cycle Working Group should propose the areas in which targets should be set, and what those targets should be. It should examine the implications of those targets in terms of required measures and resources to achieve the targets. Subsequently, the DTO Steering Committee would need to consider the proposed targets and their resource implications in advance of ratification.

Targets could include:
- numbers cycling to school
- numbers cycling to work
- traffic volumes on key cycle routes
- road surface quality
- number of children participating in cycle training each year

etc

5.3 Action Plan/ Programme
Once the regional policy and associated targets are agreed, it is expected that local authorities and other participating bodies will present relevant cycle proposals and programmes to the Cycle Working Group. These would be used by the Working Group as a basis for setting region-wide cycle programme priorities, consistent with policy objectives and agreed targets.

Any regional cycling programme will need to be mindful of existing initiatives and programmes, both inside and outside the GDA transport sector, that support GDA Cycling Policy objectives.

The Chair of the Cycle Working Group will be responsible for submitting regular progress reports to the DTO Steering Committee, including
- Cycle programmes prepared by various responsible agencies
- Proposals for monitoring against policy and associated targets
- Results of monitoring

Proposed updates to the Cycle Policy as required

5.4 Funding
In circumstance where funding for measures included in the regional programme is required by a particular agency, it could be sought through the DTO Traffic Management Grants process.

Dublin Transportation Office
September 2006
6 APPENDIX A

1. Cycle use and trends in the GDA

The number of cyclists to work and school in the GDA declined between 1996 and 2002. The decline is particularly pronounced for the journey to school.

There has been a decline in numbers cycling to work and to school in every GDA local authority area.

The 2002 mode share for cycling to work was 3.4%, for cycling to school it was only slightly higher at 4%. Against a background of increasing travel to work, the mode shares for cycling to school and to work have both declined by over one third since 1996.

<table>
<thead>
<tr>
<th>Year</th>
<th>Cycling to Work</th>
<th>Cycling to School</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Trips</td>
<td>Mode share</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trips</td>
</tr>
<tr>
<td>1996</td>
<td>25,567</td>
<td>5.3%</td>
</tr>
<tr>
<td>2002</td>
<td>21,326</td>
<td>3.4%</td>
</tr>
</tbody>
</table>

Table A1: Cycling to school and work in the GDA 1996 and 2002

Cycling to school and work in GDA is predominantly a male activity. Trips peak in the 18 - 34 age group, although they remain relatively high up to retirement age. Very few females cycle to school.
2. **Cycling use trends in Dublin and other Irish cities**

Cycle numbers to work and to school fell in every major city in the state between 1996 and 2002.

<table>
<thead>
<tr>
<th></th>
<th>1996</th>
<th>2002</th>
<th>Reduction</th>
<th>% reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dublin City and County</strong></td>
<td>22,250</td>
<td>19,311</td>
<td>2,939</td>
<td>13%</td>
</tr>
<tr>
<td><strong>GDA</strong></td>
<td>25,567</td>
<td>21,326</td>
<td>4,241</td>
<td>17%</td>
</tr>
<tr>
<td>Cork City</td>
<td>1,436</td>
<td>963</td>
<td>473</td>
<td>33%</td>
</tr>
<tr>
<td>Limerick City</td>
<td>1,275</td>
<td>806</td>
<td>469</td>
<td>37%</td>
</tr>
<tr>
<td>Galway City</td>
<td>1,266</td>
<td>919</td>
<td>347</td>
<td>27%</td>
</tr>
<tr>
<td>Waterford City</td>
<td>688</td>
<td>325</td>
<td>363</td>
<td>53%</td>
</tr>
</tbody>
</table>

*Source: Census 2002, Road User Monitoring Report 2004*

### Table A2: Cycling to Work in Irish Cities 1996 and 2002

<table>
<thead>
<tr>
<th></th>
<th>1996</th>
<th>2002</th>
<th>Reduction</th>
<th>% reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dublin City and County</strong></td>
<td>16,772</td>
<td>10,848</td>
<td>5,924</td>
<td>35%</td>
</tr>
<tr>
<td><strong>GDA</strong></td>
<td>20,970</td>
<td>12,562</td>
<td>8,408</td>
<td>40%</td>
</tr>
<tr>
<td>Cork City</td>
<td>2,623</td>
<td>918</td>
<td>1,705</td>
<td>65%</td>
</tr>
<tr>
<td>Limerick City</td>
<td>1,271</td>
<td>680</td>
<td>591</td>
<td>46%</td>
</tr>
<tr>
<td>Galway City</td>
<td>2,113</td>
<td>661</td>
<td>1,452</td>
<td>69%</td>
</tr>
<tr>
<td>Waterford City</td>
<td>624</td>
<td>173</td>
<td>451</td>
<td>72%</td>
</tr>
</tbody>
</table>

*Source: Census 2002, Road User Monitoring Report 2004*

### Table A3: Cycling to School in Irish Cities 1996 and 2002

When we compare Dublin with other Irish cities, the rate of decline in cycling to school and to work is noticeably less. The rate of decline has also been less in Dublin city and county than in outer GDA counties. This may provide some evidence that the investment in cycling facilities in Dublin city and county over the past 10 years has played a part in slowing the rate of decline in cycling.

3. **What areas and groups in Dublin should we target as a priority?**

We have relatively detailed information on cycling to education and work in Dublin, and we can usefully examine this data to determine which areas of Dublin are most likely to contain existing or potential cyclists.

### Journey to work

**Average cycle journey length**

The average trip length by cycle to work in the GDA is 3.6 miles (5.7km).
<table>
<thead>
<tr>
<th>Mode of travel</th>
<th>Average Distance (miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk</td>
<td>1.7</td>
</tr>
<tr>
<td>Cycle</td>
<td>3.6</td>
</tr>
<tr>
<td>Bus</td>
<td>5.7</td>
</tr>
<tr>
<td>Car</td>
<td>6.4</td>
</tr>
<tr>
<td>Rail</td>
<td>9.6</td>
</tr>
</tbody>
</table>

Source: 2002 CSO Census travel to work data-for trips to work with origins and destinations inside Dublin County Area

Table A5: Average distance to work in the GDA by mode of travel

Figure A3 shows that over 75% of cycling trips to work are less than 8km (approximately 5 miles). These relatively short trips are clearly the target market for work cycling trips.

Figure A3: Distribution of cycle trip lengths to work in Dublin City and County
Where do trips to work take place?

The map in Figure A4 shows the density of work trips to each GDA zone, in the morning travel to work period (measured in trips/km$^2$), for trips under 5 miles in length (the target market for cycling to work).

The map shows that the city centre and approaches to the city centre are the priority areas to target for cycle trips to work, as they contain a high number of trip to work destinations and a high proportion of these trips are under 5 miles in length. The most promising areas (coloured red, blue and green on the map) all lie within the Canal cordon.

It also shows that whereas short work trip densities are generally lower elsewhere, many employment areas could also be usefully targeted for cycling, as resources permit (e.g. Dun Laoghaire, Ballsbridge, Tallaght, parts of Blanchardstown, Beaumont etc.). Note that only one area of the GDA outside of the map area shown has relatively high short trip densities (Sandyford Industrial Estate). However, zone areas are generally larger outside of the map area shown, and local concentrations of short work trips (e.g. in town centres within a larger zone may occur, and if so it would be sensible to target these trips too.

![Figure A4: Trip Density (Trips/km²) Journeys to Work < 5 miles](image-url)
**Journey to school**

Average trip lengths to school in the GDA for all modes are much shorter than trip lengths to work. The average trip length by cycle to school is 1.2 miles (2km), roughly one third of the length of the average cycle trip to work.

<table>
<thead>
<tr>
<th>Mode of Travel</th>
<th>Average Distance (miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk</td>
<td>0.6</td>
</tr>
<tr>
<td>Cycle</td>
<td>1.2</td>
</tr>
<tr>
<td>Car</td>
<td>2.1</td>
</tr>
<tr>
<td>Bus</td>
<td>3.1</td>
</tr>
<tr>
<td>Rail</td>
<td>5.8</td>
</tr>
</tbody>
</table>

*Source: 2002 CSO Census travel to work data for trips to work with origins and destinations inside Dublin County Area*

**Table A6: Average distance to school in the GDA by mode of travel**

*Where do trips to school/college take place?*

The density of education trips to each GDA zone, in the morning travel to school period (measured in trips/km²) was calculated, for trips under 3 miles in length (taken to be the target market for cycling to education).

The map in Figure A5 shows the density of school/college trips under 3 miles in length, in the morning travel to work period.

The map shows that there are areas throughout the GDA that have high trip densities to school as well as a high proportion of trips under 3 miles in length. There is potential to attract more cyclists to school in these areas.

Depending in part on the support of individual school authorities, the blue and red areas appear to be the most promising for promoting cycling to school.
Figure A5: Trip Density (Trips/km2) Journeys to School < 3 miles