



Shared Space, Shared Surfaces and Home Zones from a Universal Design Approach for the Urban Environment in Ireland

Extract: Walking Interviews & Personas to investigate user experiences



TrinityHaus
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Revision History

| Rev | Date | Written By | Checked By | Client |
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| Final Version Rev-01 | 31/08/2012 | Tom Grey and Emma Siddall With contributions from Eoghan O'Shea | Mark Dyer | The NDA's CEUD |

Abstract

Shared Space - Using walking interviews and personas to investigate user experiences

Overall research: This research was undertaken by TrinityHaus (Trinity College Dublin), on behalf of the National Disability Authority's (NDA) Centre for Excellence in Universal Design (CEUD). The aim of the research was to engage with a wide range of stakeholders in a discussion about Shared Spaces, Shared Surfaces and Home Zones in the Irish context. The research explored contemporary national and international practices and thinking on Shared Spaces, Shared Surfaces and Home Zones and investigated these concepts from a Universal Design approach in the Irish urban environment. This report set out key evidence based findings and provides key recommendations in relation to the implementation of Shared Spaces, Shared Surfaces and Home Zones in Ireland.

Working with users and stakeholders: Co-research and co-creation with users of the built environment and key stakeholders was central to this research. In this regard the research team collaborated on a number of activities including:

a) Walking interviews: On-street work with a range of users including a typical motorist, cyclist, parent and child, an older person and a number of people with sensory and mobility difficulties. Each person was accompanied by one researcher and shadowed by a second. The journeys were recorded and issues were discussed as they arose with the participants.

b) Personas & scenarios to investigate user experiences: Workshops where stakeholders were divided into groups, assigned a persona and a scenario, and asked to examine a desk/paper-based journey through the experience of their specific persona. They were asked to consider which aspects of the street assisted the journey and where barriers arose.

Extract: Fieldwork (chapter 6) & Personas (Chapter 7)

For the full report see:

- <https://www.tcd.ie/trinityhaus/research-areas/healthy-and-inclusive-places/shared-spaces/>

- <https://universaldesign.ie/built-environment/shared-space/>

Acknowledgements

Research of this nature depends entirely on the good will and knowledge of people who generously give time, effort and expertise in order to inform these studies. Therefore we would like to sincerely thank all those who contributed to the various interviews, field studies and workshops.

Everyone involved in the fieldwork, Genny, Helen, Ellen, Nick, Sinead, Susan, Natalie, John, Lean.

All stakeholders who attended the first and second workshop who are named in Appendix 5 and Appendix of the full report.

6. Field Studies

Understanding Street Practices and Behaviours



Accompanying a person as they make their way through the street provides an ideal opportunity to directly observe the manner in which they interact with their built environment. This chapter describes the field studies carried out with 11 very different users to gain an insight into how a typical street facilitates or hinders a person's everyday movement.

6.1. Introduction

The field studies were carried out to enable the research team to record the day-to-day issues in relation to travelling through some typical and not so typical Irish streets for a range of users including a typical motorist, cyclist, parent and child, an older person and a number of people with sensory and mobility difficulties. Each person was shadowed by two members of the research team who recorded the journeys and discussed any issues as they arose with the participants.

6.2. Field study methodology

The field studies were carried out on Mondays and Tuesdays between 10am and 12.30pm or 2.30pm and 4pm during November and December 2011 and took place along a route between Abbey Street Luas stop and Talbot Street in Dublin city centre. A plan of the field

study area is shown in Figure 6.1. and illustrates the main sections of the journey. The dates and times were chosen to ensure that the streets were not overly crowded with Christmas shoppers and were intended to be representative of other times of the year.

At numerous points along the field study route (labelled as A to J on figure 6.1) the participants were stopped by the researchers and asked to comment on their experience of the section of the journey covered. Participants were given an opportunity to comment on design features that both helped and hindered their navigation of the space.



Figure 6.1 - Plan of Field Study Area

The field study was conducted with eleven different end users. The end users included the following range of ages, sizes, abilities and disabilities along with four different modes of transport. The methods employed to record observations and identify navigational needs were field notes, photographs and videos. In addition the end users were interviewed during the field study. The field study participants were as follows:

1. A powered wheelchair user
2. A manual wheelchair user
3. A person with hearing difficulties
4. A long cane user
5. A guide dog user
6. A motorist
7. A cyclist
8. A person of small stature

- 9. An older person
- 10. A parent with a child in a buggy
- 11. A parent walking with a small child



Figure 6.2 – Images of some of the field study participants

The first section of the journey shown as orange in Figure 6.1 represents the Lower Abbey Street which contains two Luas stops and corresponding Luas line (see Figure 6.3 below)



Figure 6.3 – Lower Abbey Street Dublin 1

The next section is highlighted in light yellow and this represents O’Connell Street which is a wide boulevard that has recently been extensively upgraded to include dark smooth granite

paving, tactile paving in the form of stainless steel metal studs and other upgrading measures (see Figure 6.4 below).



Figure 6.4 – Lower Abbey Street Dublin 1

The green section of Figure 6.1 shows Earl Street North which is a short pedestrian Street connecting O’Connell Street to Talbot Street (see Figure 6.5 below).



Figure 6.5 – Earl Street North Dublin 1

The darker yellow section on Figure 6.1 represents Talbot street which is a more traditional street with dropped kerb and bollards.



Figure 6.6 – Talbot Street Dublin 1

6.3. Findings from the field study

The field study identified several positive and negative features that either aided or obstructed the end users when attempting to navigate the field study area. This information will need to be taken fully into account when developing a tool box for shared space design in an Irish context. The main issues are as follows:

6.3.1. Clear delineation between the pavement and the carriageway

Vulnerable road users require certainty as to the location of the pavement and clear delineation between the pavement and the carriageway. The majority of the users, including those with mobility difficulties, commented that they were in favour of kerbs and it greatly increased their certainty regarding safety.

6.3.2. Crossing intersections safely

There is also a need for certainty about when it is safe to cross intersections, this is easier at controlled crossings and arose as more of a problem at uncontrolled junctions such as North Prince Street and the junction of North Earl Street and Marlborough Street.

6.3.3. Uncontrolled crossing

The uncontrolled crossing at North Prince Street posed a problem for many users as they often were unaware that they were at an intersection, and those that noted the junction were unaware of which road user had right of way. However, from the perspective of the cyclist and the motorist this junction was easier to navigate due to lack of clear right of way of any one road user, which created a greater sense of negotiation of use of the space and forgiveness of other road users.

6.3.4. Surfaces

Smooth, even surfaces that were well maintained were needed by a wide number of users to ensure a lack of trip hazards. However, most users, including those with mobility impairment, were in favour of tactile paving as it clearly signalled the presence of an intersection and helped to increased certainty about the interpretation of the streetscape. Colour changes associated with tactile paving were also appreciated and several participants in the study were critical of the metal stud tactile paving (Fig. 6.7) used on certain sections of O'Connell Street. There were several issues with accurate design of tactile paving which sometimes left the long cane user and guide dog user confused as to the message intended by the design.



Figure 6.7 – Detail of metal tactile paving used on O'Connell Street

6.3.5. Navigational cues

While most users appreciate wide open spaces such as those found on O'Connell Street, the lack of navigation cues in such a space posed a navigational difficulty for the long cane user.

6.4. Conclusion

These field studies provide a vital opportunity for the research team to observe how the selected stakeholders interact with their built environment and with other the users they encounter such as pedestrians, motorists and cyclists. It also clearly illustrates the many contradictions that can often be observed in terms of various stakeholder needs. Some users found the wide and open footpaths along O'Connell Street very comfortable and allowed much manoeuvring space whether they were pushing a child in a buggy or using a wheel chair. Some other users such as those using a long cane or a guide dog found these spaces disorientating and difficult to navigate.

7. Workshop 1

Personas to investigate users experiences



The first workshop was used primarily to present the research that had been completed up to that point including some agreed definitions for Shared Space, Shared Surfaces and Home Zones. However the main reason was to gather a range of stakeholders representing both providers and end users of various abilities together in one place to discuss the opportunities and challenges associated with shared space design. The use of personas to investigate user experience is a powerful tool to help all stakeholders understand the needs of other users. This workshop facilitated this process and produced some very interesting insights for both the research team and the workshop participants.

7.1. Introduction

The first stakeholder workshop on Shared Space, Shared Surfaces and Home Zones in an Irish context was held on Monday the 16th January 2012 in the Long Room Hub, Trinity College Dublin. The workshop was attended by 22 stakeholders, for full list of attendees please see Appendix 5. The workshop started out with an introduction to the terms Shared Space, Shared Surfaces and Home Zones and a discussion of the positive and negative aspects of such urban design. This was followed by a review of some Irish examples as well as an overview of Shared Space and Home Zone guidelines in operation in the UK. The attendees

were then given an overview of the field study work conducted by the research team during November and December 2011, as detailed in Chapter 6 of this report.

The stakeholders were then divided into groups and tasked with two exercises, during the first exercise each group was assigned a persona and asked to examine a journey through a number of existing streetscape through the experience of their specific persona. They were asked to consider which aspects of the street assisted the journey and where barriers arose.

During the second exercise the stakeholders were asked to complete the same journeys again through the experience of the same persona, this time through streetscapes that had been modified following some current UK based guidelines for Shared Space and Home Zones depending on the context. The stakeholders reported the same information as in the initial exercise and commented on which street design was easier to move through.

7.2. Overview of the workshop exercises

The workshop attendees were divided into seven groups at the start of the first exercise, each group was assigned a different persona. The personas were as follows: a long cane user; a guide dog user; a manual wheelchair user; a child; an older person; a cyclist and a motorist. Each persona description included details about the individuals age; gender; work status; ability and a description about their objectives as they moved through the space, as well as what specific aspects of urban design they find helpful and where barriers might arise. These detailed persona descriptions were written to help the stakeholder empathise with their particular persona; full descriptions are provided in appendix 6.

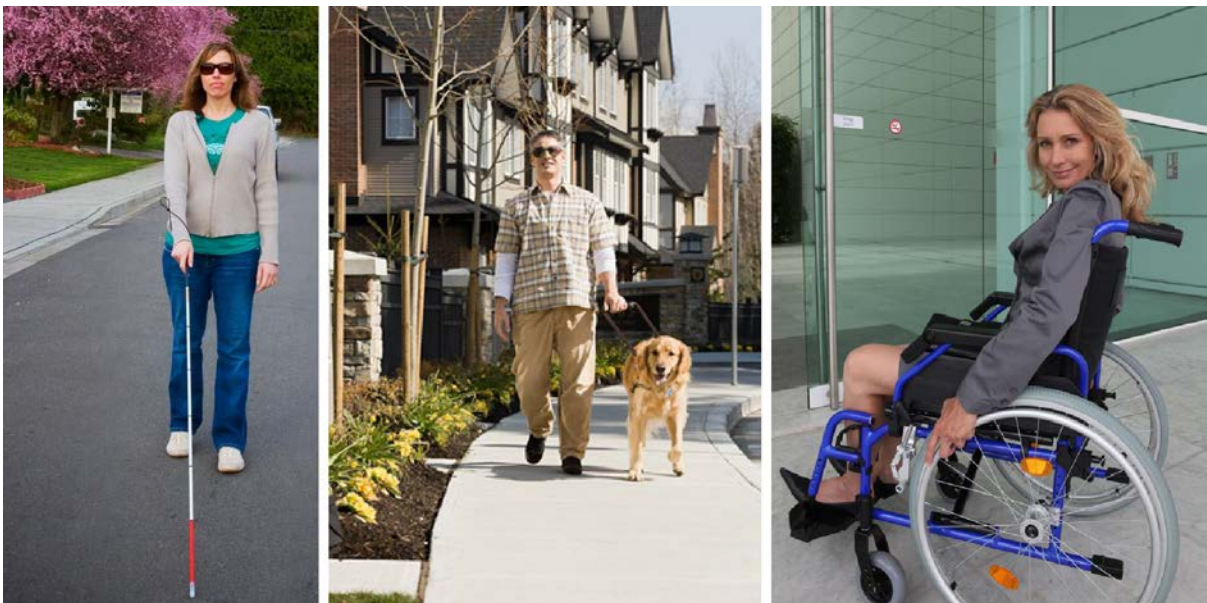


Figure 7.1.A: Persona images – Long cane user, Guide dog user and Wheelchair user



Figure 7.1.B: Persona images - Child with parents and older gentleman



Figure 7.1.C: Persona images - Cyclist and motorist

The exercises completed during the workshop asked the stakeholders to consider their specific persona as they hypothetically walk a journey that started at the GPO plaza, on O'Connell Street, and ended at the junction of Talbot Street and Gardiner Street. (see Figure 7.2) The stakeholders were asked to visualise this journey with the help of street plans and

photographs. The participants were asked to carefully consider the various elements of the street environments that help or hindered their personas navigation of the space.

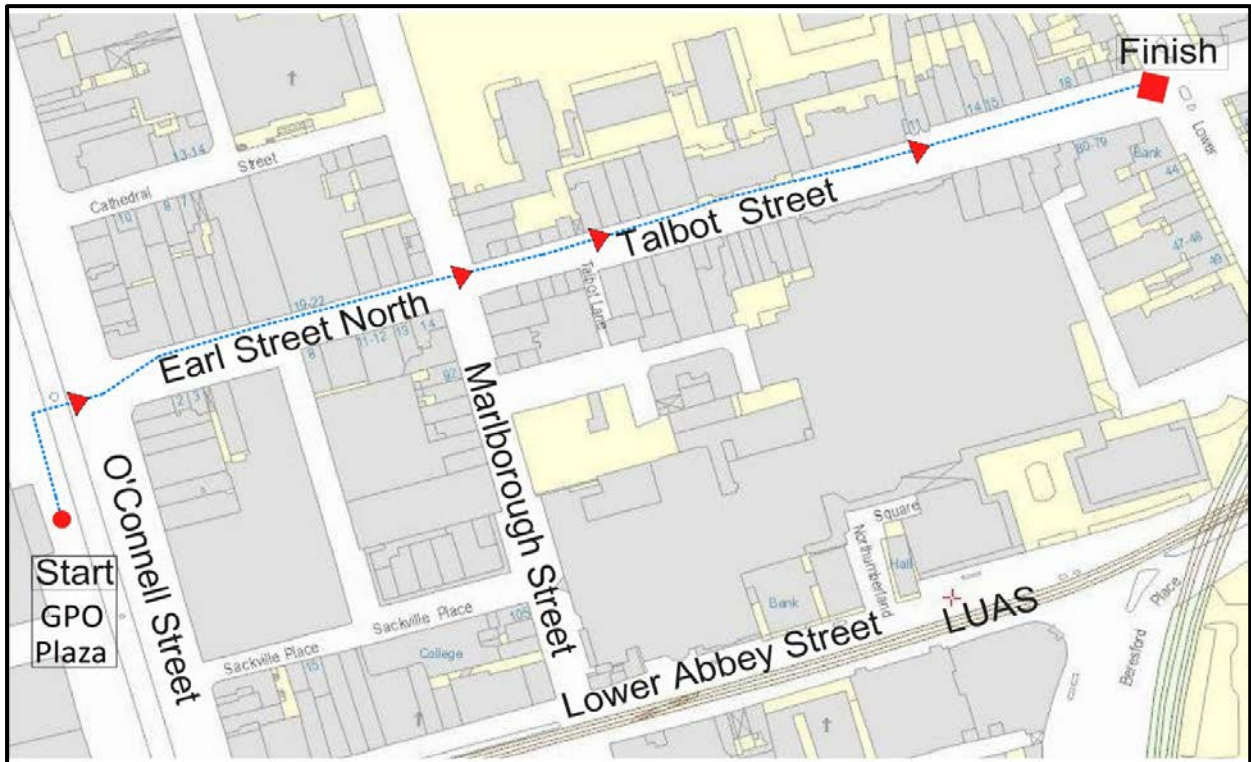


Figure 7.2: Plan of city centre case study route

Once each group had completed the city centre section of their journey they were asked to consider a journey through a typical residential street through the eyes of their persona. The stakeholders were asked to refer to the street plans and photographs and consider the impact of the street design on their persona’s journey.

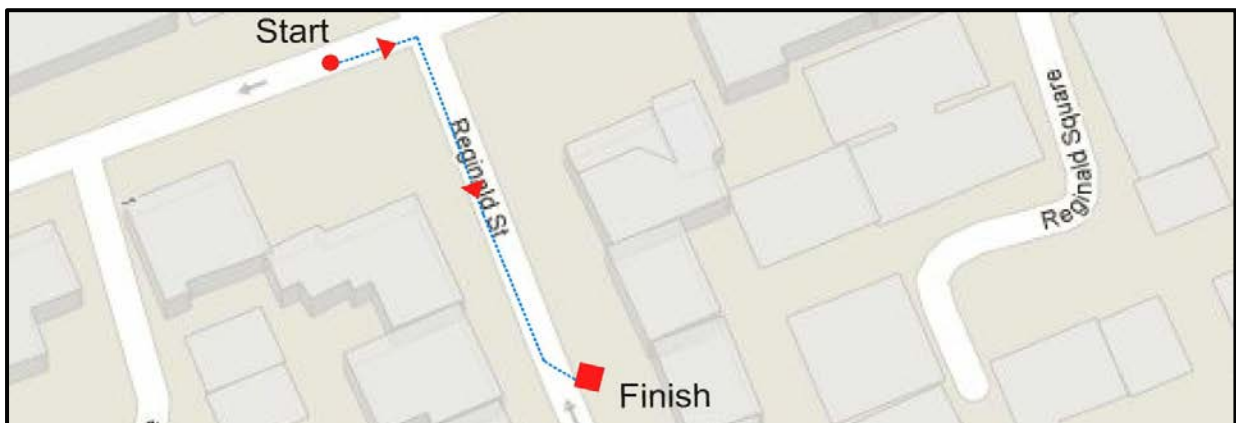


Figure 7.3: Plan of residential street case study route

7.2.1 Exercise 1

In the first exercise the workshop attendees considered their persona’s journey from the GPO Plaza to Talbot Street route as the streetscape is currently designed. Each group was

provided with plan drawings of the route as well as photographs to illustrate the various different physical street features of the case study site. (See Figure 7.4 and Appendix 7).

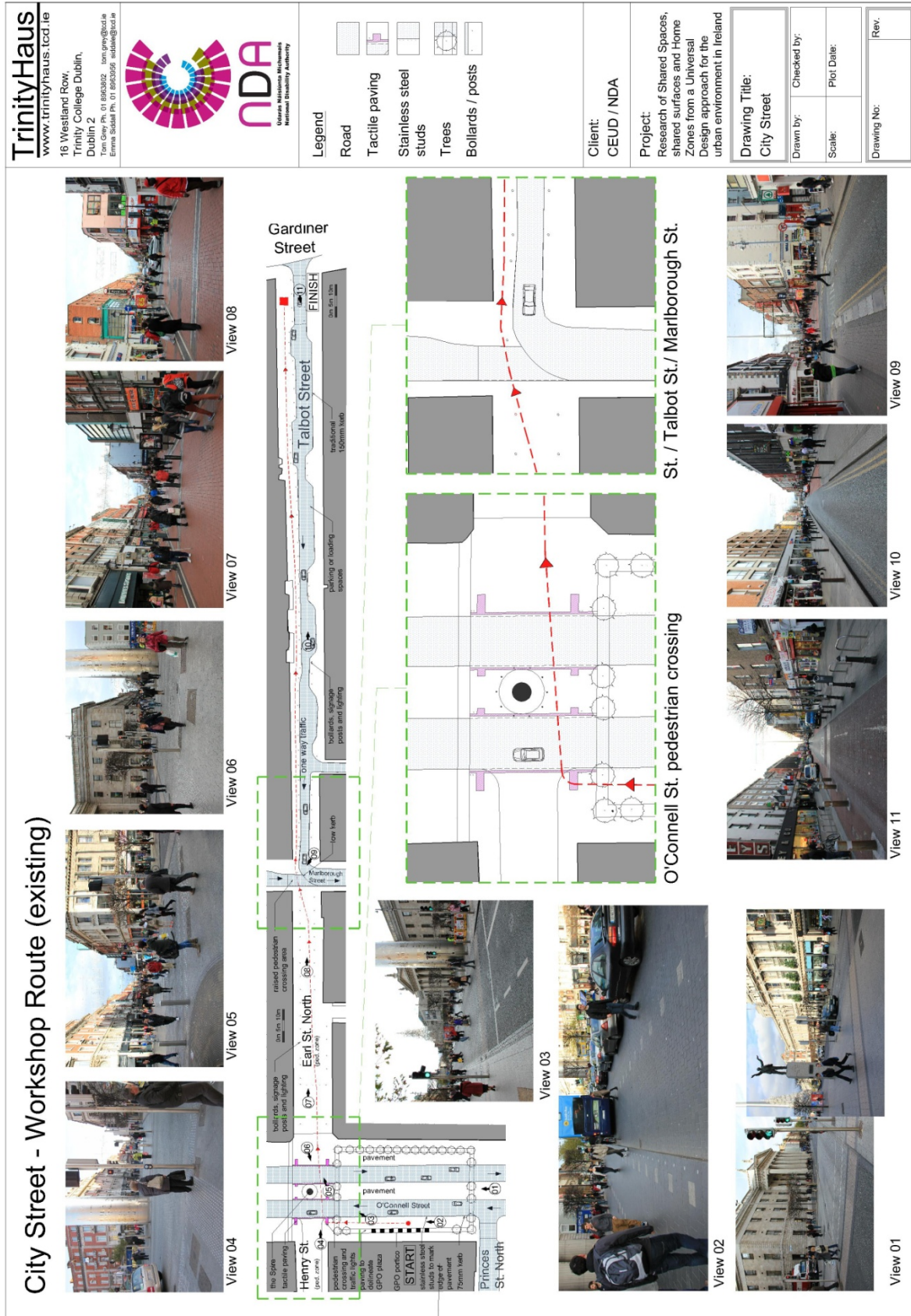


Figure 7.4: Plan drawing and photos of the traditional city street route (exercise 1, route 1

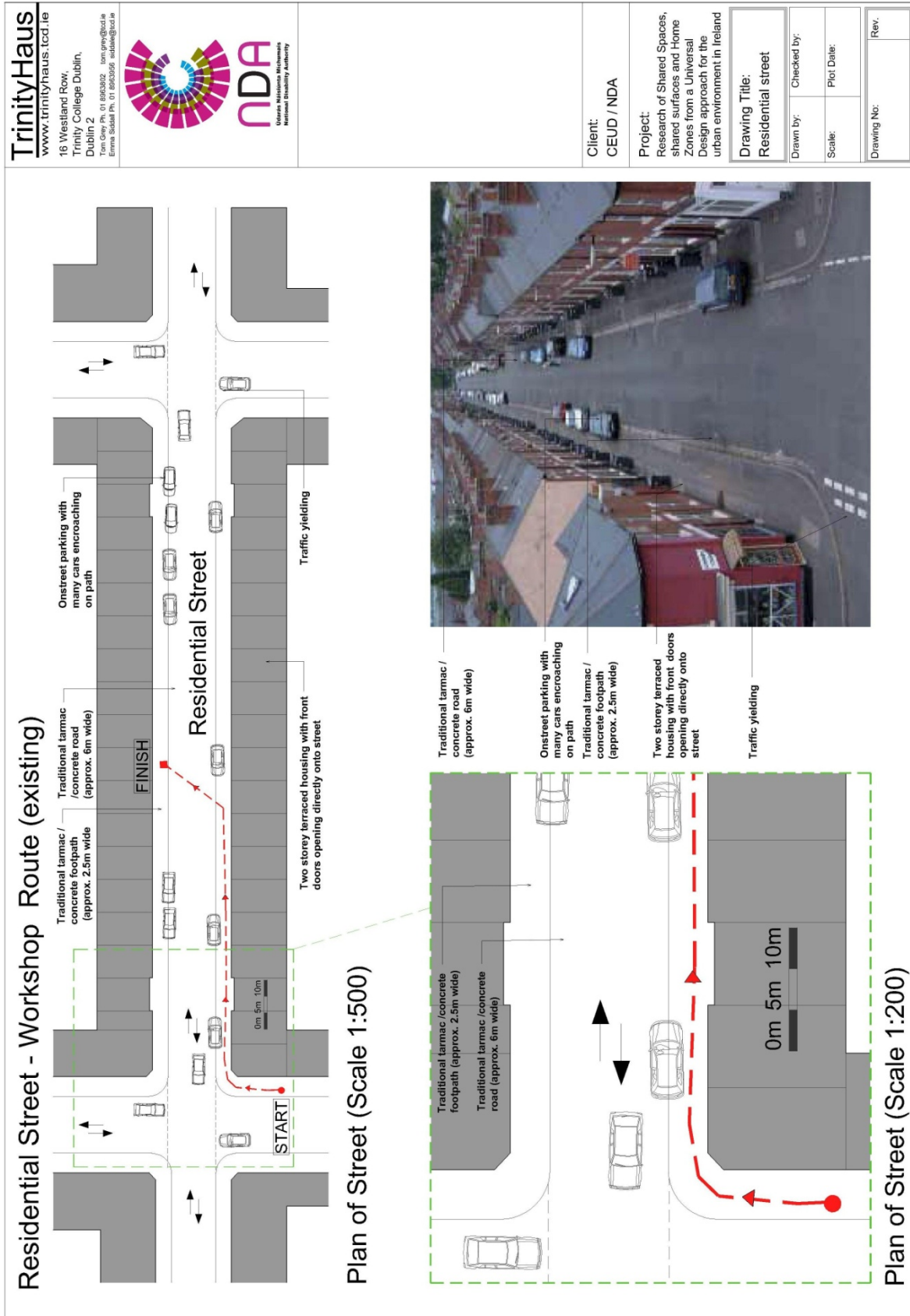


Figure 7.5: Plan drawing & photos of the traditional residential street route (exercise 1, route 2)

The second part of the first exercise provided the attendees with a plan drawing and photographs of a typical residential street with terraced houses opening directly onto the pavement. For this exercise the workshop participants were asked to consider a short journey which starts on a street perpendicular to the case study street, takes the participants around the corner onto the street and then gets them to cross the carriageway to one of the houses approximately half way up the street. Figure 7.5 above and appendix 8 illustrates the maps and photographs supplied for this section of the exercise

During both parts of the exercise each group was asked to consider between three to five physical features of the route that were helpful in completing the journey, and three to five design features that may pose a difficulty for their persona.

7.2.2. Exercise 2

The second exercise followed a similar format to the first; however in this exercise the GPO Plaza on O'Connell Street to Talbot Street route had been modified to represent Shared Space in accordance with the UK Shared Space guidelines (Department for Transport UK, 2011c). Details of these modifications were provided via plan drawings and photographs, please see Figure 7.6 and Appendix 9.

The design of the street in the second exercise handout had been modified to follow Home Zone guidelines (Department for Transport UK, 2005b), again drawings and photographs illustrated the changes. (See figure 7.7 and appendix 10 of this document.)

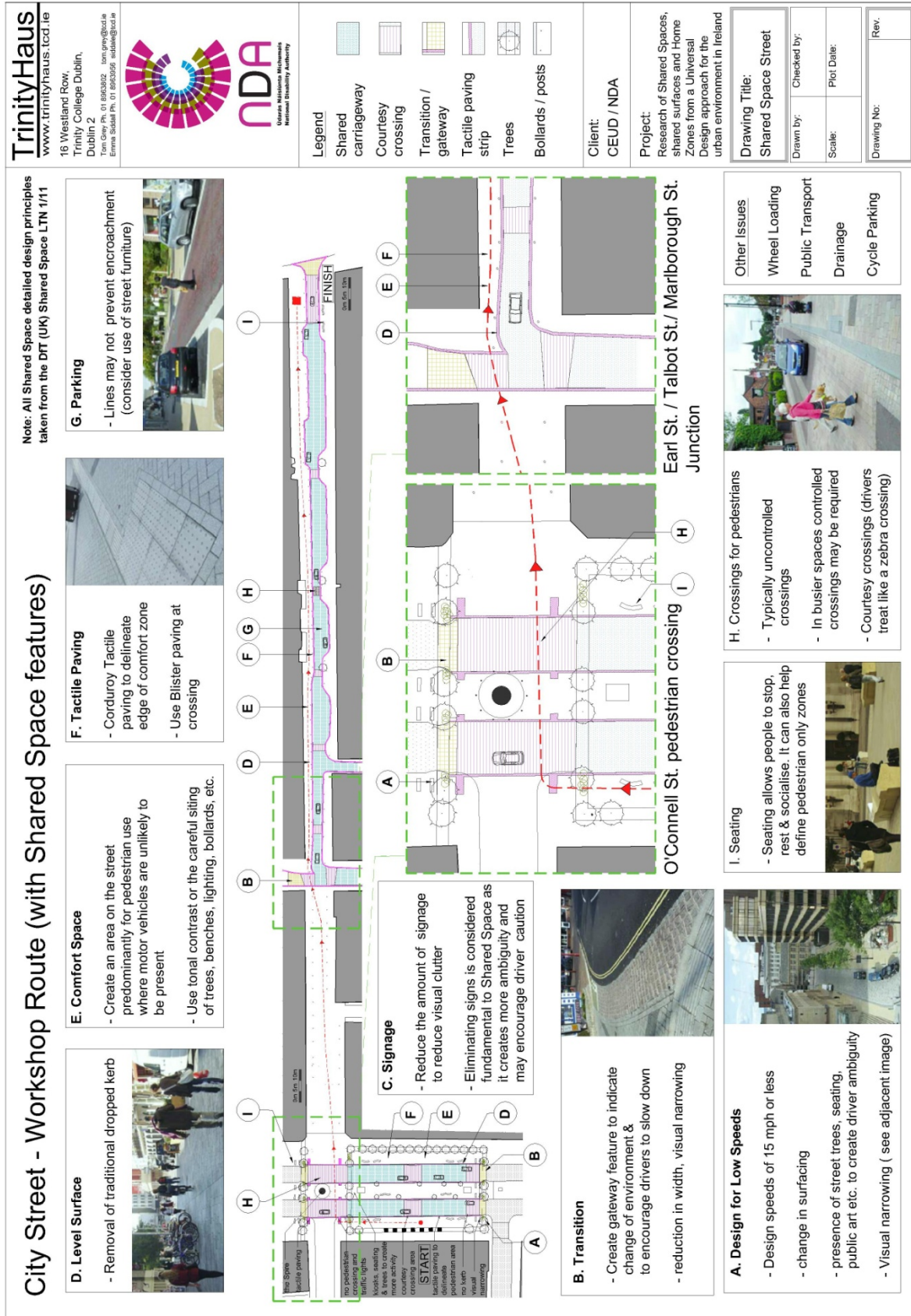


Figure 7.6: Plan drawing & photos of the Shared Space city street route (exercise 2, route 1)

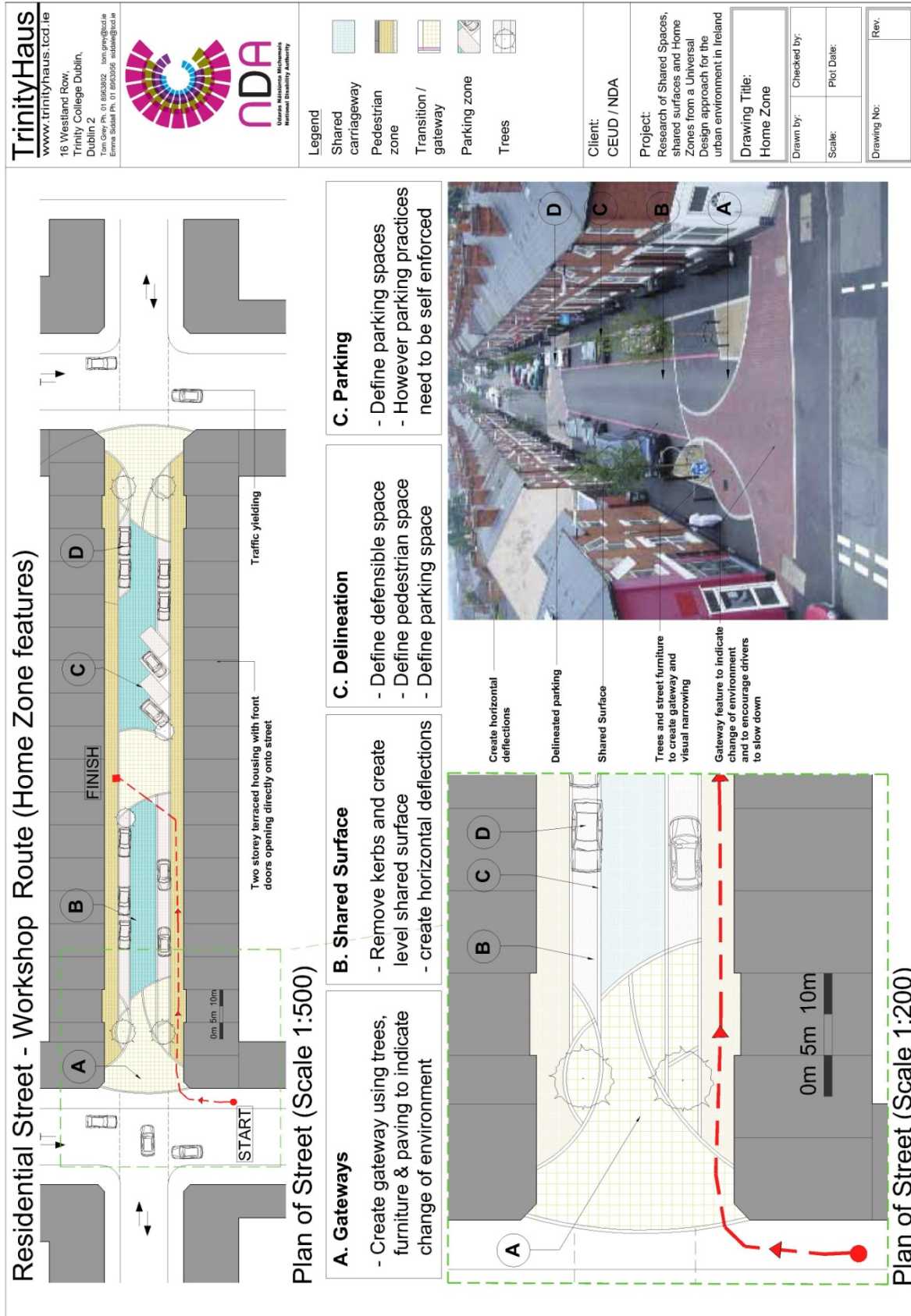


Figure 7.7: Plan drawing & photos of the Home Zone route (exercise 2, route 2)

7.3. Summary of workshop findings

Both the research team and the stakeholders who attended the workshop found it a useful event. From the discussions during and after the workshop several issues became clear regarding the implementation of Shared Space, Shared Surfaces and Home Zones in Ireland.

- The overriding issue that arose was whether the benefits of Shared Space require the total removal of dropped kerbs; it became evident that there was greater support for Shared Spaces than Shared Surfaces. It was also suggested that any Shared Space project needs to maintain a comfort zone to ensure vulnerable users are not excluded from the space.
- The location of any Shared Space project needs to be given careful consideration as it was suggested that such designs are much more likely to be successful in areas with low traffic volumes and no bus routes.
- There was general support for Home Zones, however again it was suggested that the benefits of such design could be achieved without kerb removal.
- For any form of Shared Space or Home Zone it is essential that the implementation of the project includes proper driver, cyclist and pedestrian education on how to use these spaces, as well as adequate transition zones designed into the space to alter user behaviour when they enter and exit.
- The economic implications of Shared Space design are multifaceted and both positive and negative. It emerged from the workshop that further discussion and consideration needs to be given to this aspect of the research including discussions with the Irish Society of Quantity Surveyors.
- Before any guidelines regarding the development of Shared Space, Shared Surfaces and Home Zones can be developed for Ireland there needs to be a greater period of pilot studies completed to facilitate the collection of unbiased quantitative data on the experience of various users in such street design to facilitate evidence based decision making.

9. Case Study Urban Spaces

Key Urban Spaces in Ireland and Home Zones



Having outlined a range of user and provider needs in Chapter 8, this chapter briefly looks at some key urban spaces in Ireland and also examines a number of existing Home Zones. This brief examination puts the user and provider needs in context and illustrates some of the urban spaces in which these needs are played out.

9.1. Introduction

The following sections look at two distinct kinds of spaces. The first examples relate to two major inner urban public spaces in Ireland's largest cities, while the second group focuses on a two recently completed Home Zones in Dublin. These examples provide a flavour of the urban spaces and residential areas discussed in this research.

As part of this project the research team visited a large number of sites in the Dublin area, Cork City and Galway City including the recently upgraded Eyre Square and some Home Zones in the Ballybane area to the east of Galway city. In each case key people from the local authority were contacted and interviewed to understand more fully the main aspects of the urban spaces or Home Zones being examined. This section of the report selects two urban areas and two Home Zones to illustrate the research carried out.

9.2. Irish case studies

9.2.1. GPO Plaza, O'Connell Street, Dublin City Centre

The GPO Plaza is a recently created area on O'Connell Street in Dublin. It aims to create a better sense of place outside the General Post Office and to introduce some traffic calming and rebalance the pedestrian and motorist relationship on O'Connell Street. Figure 9.1 below shows a map of the O'Connell Street area with the GPO Plaza area highlighted in red, while Figure 9.2 provides a typical image of the street.

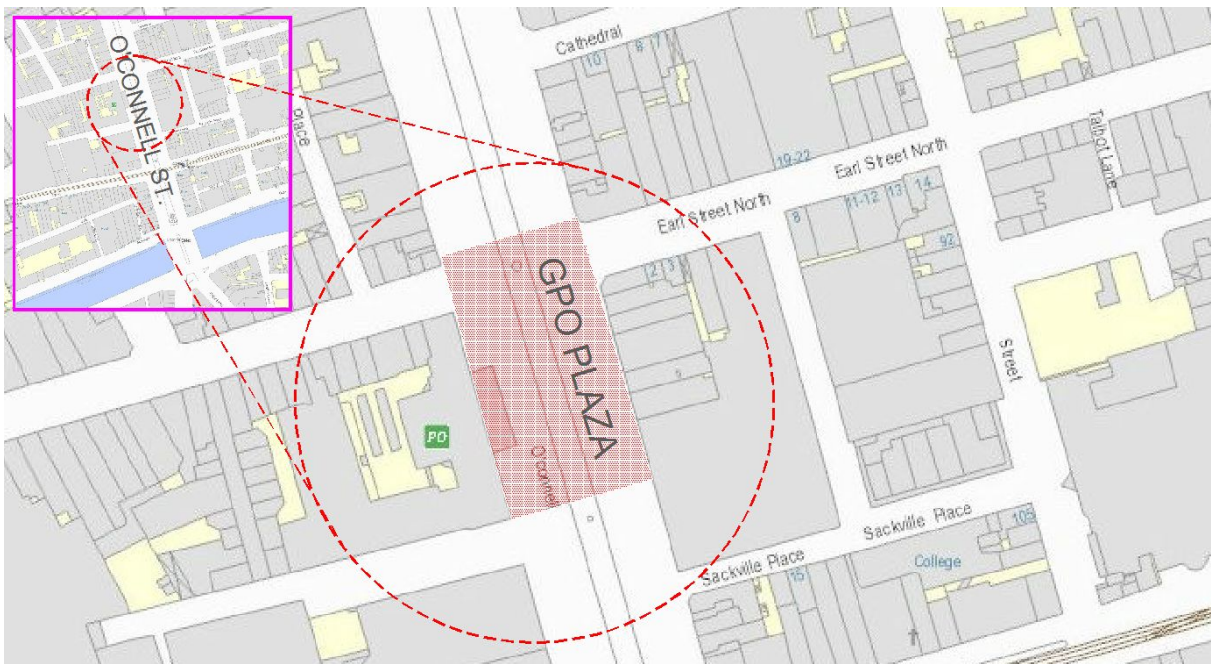


Figure 9.1 – Map of O'Connell Street, Dublin, highlighting the GPO Plaza in red.



Figure 9.2 – Photograph of O'Connell Street, Dublin.

Overall the area in front of the GPO has been defined using dark granite paving slabs which cover both the footpath and carriage way areas in an effort to create coherence across the full plaza to visually form one large space without too much differentiation between pedestrian areas and vehicle area, see Figure 9.3 below.

The main pedestrian areas to either side have been widened and are segregated from the carriageway by 75mm high kerbs. The dark grey paving material extends to the carriageway but the edge of the paving is marked with stainless steel studs as indicated below in Figure 9.3. The overall effect is that people tend to use the overall plaza space to cross the street and there is less definition between the pedestrian footpaths and the carriageway.



Figure 9.3 - Photographs showing junction of footpath and kerb at the GPO Plaza, O'Connell Street, Dublin

Most users and stakeholders interviewed agree that the upgrade has improved the area and it is now a more pleasant place to use because of the wider footpaths, the smoother surfaces, the higher quality materials and an overall better sense of place. However, there were still specific concerns, including:

- Lack of clear distinction between the footpath and the carriage way due to the low kerb and the lack of colour differentiation between the pedestrian and traffic areas. This was particularly an issue for those with visual difficulties and older people.
- The use of stainless steel studs set in the granite slabs, as a form of tactile paving, was considered slippery when wet and may cause glare under certain light conditions.
- Tactile paving used to signal crossing stopped short of building lines and therefore was absent in the building line zone used by long cane users.
- Lack of seating or resting spaces

9.2.2. Patrick Street, Cork City Centre

Patrick Street in Cork forms one of the main shopping thoroughfares in the city and was upgraded in 2008 to improve the overall space and provide a higher quality pedestrian environment. Figure 9.4 below shows the location and general layout of the street while Figure 9.5 provides a typical image of the street.

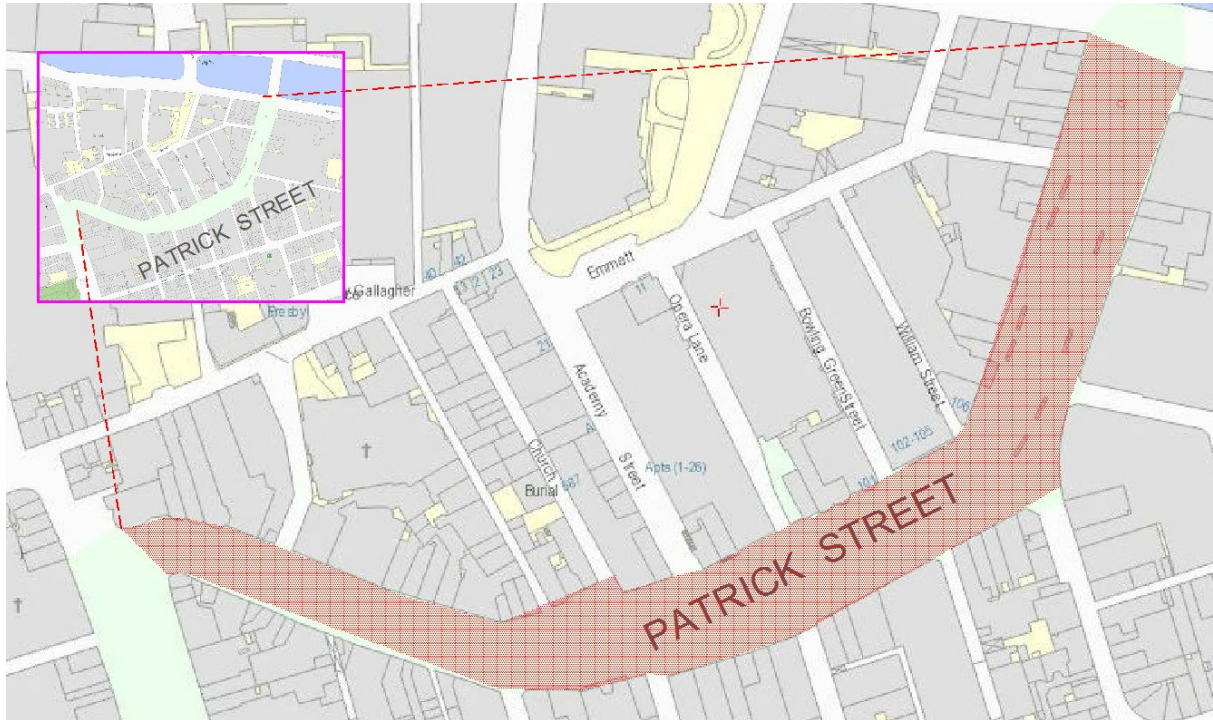


Figure 9.4 - Map of Patrick Street in Cork City.



Figure 9.5 - : Photographs of Patrick Street in Cork City

The pedestrian area on the north side of the street was significantly widened and the kerb was mostly removed along the junction between the carriageway and the footpath.

However asphalt was used for the carriageway in the main with only the crossing points having paving similar to the footpath. Large blocks of stone and ‘standing seats’ were introduced as resting places while large feature lighting was placed along each side of the street. Significant amounts of tactile paving were utilised to provide some warnings and demarcation along the street.



Figure 9.6 . A - Patrick Street in Cork. Tactile paving spine.



Figure 9.6. B - Patrick Street in Cork. Image 1 – Kerbless edge / level surface . Image 2 – lighting stands

Similar to the O’Connell Street upgrade, many users and stakeholders interviewed agree that the upgrade has been a great improvement to the overall quality of the pedestrian experience because of the wider footpaths, the smoother surfaces, the higher quality materials. However, some users now find the space very difficult to navigate and a few have reported that they now avoid using the space altogether. There were some strong concerns about specific aspects of the upgrade as follows:

- Multiple finishes and paving types causing confusion with the tactile paving (see Figure 9.6.A).
- Lack of consistency with the tactile paving. A spine of corduroy paving runs up the pedestrian area on the north side of the street but it is broken, inconsistently located and often leading directly into obstacles (see Figure 9.6.A).
- Lack of clear distinction between the footpath and the carriageway along the north side of the street due to the lack of kerbs, especially for those with visual difficulties and guide dog users (see image 1 Figure 9.6.B).
- The stands for the street lighting along the south side of the street are X-shaped and therefore meet the ground in two places. This greatly reduces passage width and is very confusing for people using a long cane or a guide dog (see image 2 Figure 9.6.A).

9.2.3. Home Zone 1 - Castlegate Downs, Adamstown, Co. Dublin.

Adamstown is a Special Strategic Development Zone in South Dublin County Council and is located to the west of Dublin City. The master plan for the new development, parts of which are still under construction, has a specific street network composed of the Adamstown Boulevard, avenues, side streets and back streets. Castlegate Downs is in one of the completed parts of Adamstown and forms one of these back streets. Figure 9.7 below shows the location and general layout of the street while Figure 9.8 provides a typical image of the street.

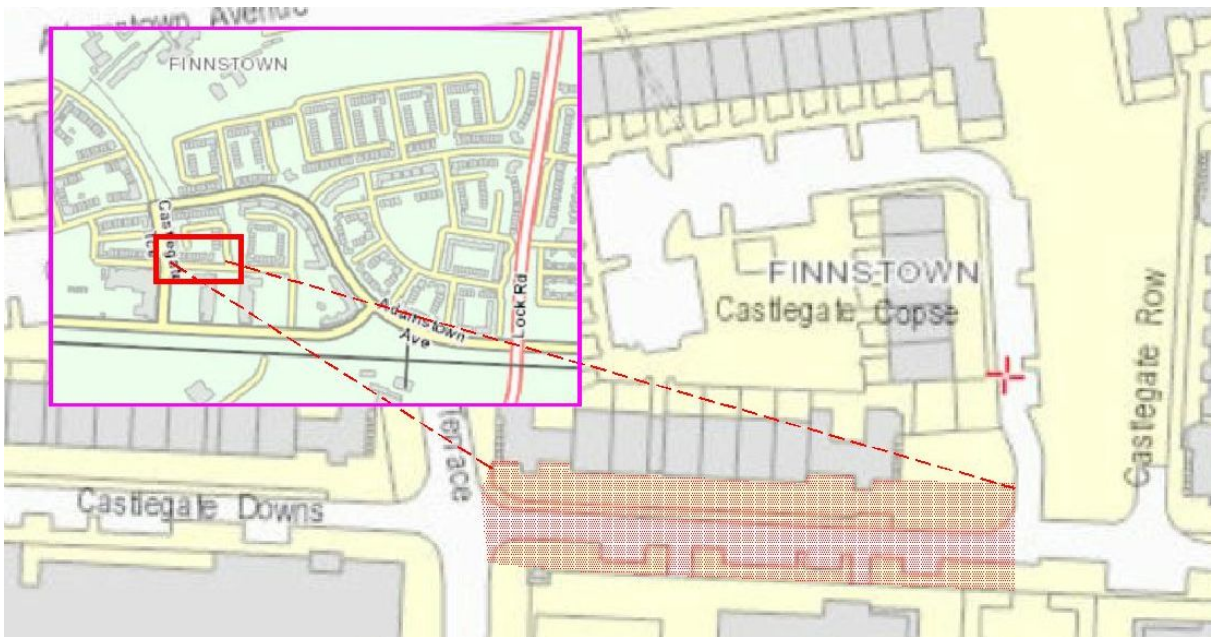


Figure 9.7 - Location and general layout of Castlegate Downs, Co. Dublin



Figure 9.8 - Entrance to Castlegate Down, Co. Dublin

The Adamstown Master Plan and the Adamstown Design Guide permit the creation of Home Zones on the back streets of the development and provide specific guidance in terms of design and construction details. The Castlegate Downs Home Zone contains a Shared Surface to the front of the residential units where sloped, slightly raised kerbs are used to delineate defensible space in front of each unit. The Home Zone is clearly identified with signage (see Figure 9.8. above) and a raised table of different coloured paving to form the entrance.



Figure 9.9 – Design features of Castlegate Down Home Zone. Image 1 – Shared Surface. Image 2 – Home Zone signage.

Castlegate Downs is a recently occupied development and there is little feedback in terms of resident satisfaction. In terms of the overall success of the space in relation to Home Zone best practice, the research team has drawn the following conclusions:

- The entrance to the Home Zone is well defined by a raised table and signage but there is little horizontal deflection or visual narrowing to further slow motorists (see Image 1 Figure 9.9).
- The Shared Surface integrates the housing with the street and therefore should encourage greater colonisation of the space (see Image 1 Figure 9.9).
- The car parking areas, while traditional in layout, are clearly designated and therefore should avoid reckless parking (see Image 1 Figure 9.9).
- The street in front of the houses is very much a Shared Surface but some more vulnerable pedestrians might find the lack of comfort space disconcerting (see image 1 Figure 9.9).

- The signage provided at the entrance is explicit and leaves the motorist in no doubt as to who has priority within the space (see Image 2 Figure 9.9).
- The 10 km/h speed limit within the Home Zones should create a very safe pedestrian environment and provide a secure place for children to play (see Image 2 Figure 9.9).

9.2.4. Home Zone 2 - Dolmen Lane, Ballymun, Dublin 11

Dolmen Lane was completed in the last few years as part of the Ballymun Regeneration Programme. This is a social housing development and lies parallel to Balbutcher Lane which is a reconstructed street in Ballymun west. Figure 9.10 below shows the location and general layout of the street while Figure 9.11 provides a typical image of the street.



Figure 9.10 - Location and general layout of Dolmen Lane, Dublin 11



Figure 9.11 - Entrance to Dolmen Lane Home Zone, Dublin 11

Dolmen Lane has been designed as a Home Zone in an attempt to integrate the dwellings with the adjacent public spaces and create a safer play environment for children directly adjacent to their homes. Dolmen Lane has two vehicular entrances, both of which have a change in materials and signage to indicate that the driver is entering a Home Zone. There are also a number of pedestrian access points.



Figure 9.12.A – Design features of Dolmen Lane Home Zone.– Pedestrian area.



Figure 9.12.B – Design features of Dolmen Lane Home Zone.– 1 – planting. Image 2 – Horizontal deflection

While visiting the site the researchers had the opportunity to talk with some of the residents who had a number of observations and some concerns, mostly to do with anti-social behaviour in the space. The following points outline the main observations from the site visit and some of the residents comments:

- The entrance to the Home Zone is defined by a change in materials and some signage but there is little horizontal deflection or visual narrowing to further slow motorists (see Figure 9.12 B).
- The Shared Surface integrates the housing with the street only to a limited extent as the houses are provided with low walls and railings to clearly delineate defensible space (see Image 2 Figure 9.12.B).
- There are some pedestrian only spaces which provide some shared comfort space for pedestrians (see Figure 9.12.A).
- The car parking spaces are indicated using surface materials and if adhered to would provide horizontal deflection (See image Figure 9.12.B).
- The lane is a Shared Surface and some vulnerable pedestrians might find the lack of comfort space disconcerting (see image 2 Figure 9.12.B).
- The residents spoken to had a number of concerns about the Shared Surface and reported that while the large planting boxes restricted cars the lane was often used as a rat run by speeding motorcyclists.
- The other concern expressed was common to other Home Zones in Ballymun and those visited elsewhere, and related to children being perceived as a nuisance. The lack of defensible space or front adequately sized front gardens allow children to play right up against neighbours housing and this is causing some level of conflict.

9.3. Conclusion to Part 2

Part of this research report has outlined the stakeholder engagement process undertaken to fully explore various end user and provider needs in relation to the use, design, provision and management of streets and related public spaces. This process also educated many users about Shared Space, Shared Surfaces and Home Zones and managed to bring the various stakeholders together to form a shared understanding of each other's needs and agree some key definitions and terminology central to the research.

In addition to this stakeholder engagement a number of locations were visited in Dublin, Cork and Galway to examine the physical context for the activities of the stakeholders. This onsite analysis provides a better understanding of how people interact with their urban environment on a day-to-day basis and thus greatly informs the overall research.

The activities described in Part 2 illustrates the process undertaken to achieve a deeper understanding of user needs and a better knowledge of the streets, squares, residential areas and existing Home Zones, that provides the physical Irish urban context in which Shared Space, Shared Surfaces or Home Zones may be implemented. This research was used to create a set of key findings that were presented to the various stakeholders for their comments and feedback. The amended findings formed one of the main outputs from this

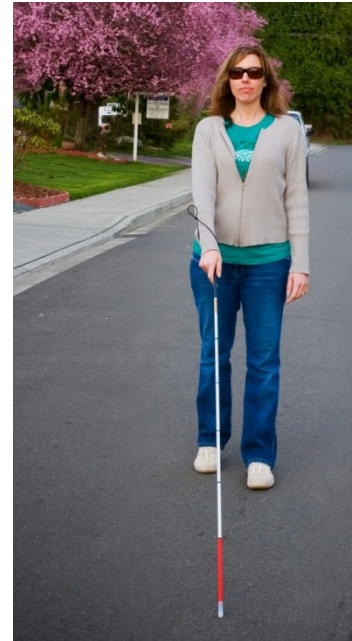
research and inform a set of evidence based recommendations, which are further discussed in Part 3 of this report.

Appendix 6 – Workshop Personas

Persona 1 – Long cane user

Grace is a long cane user and is 32 years old. She lives in a Northside suburb of Dublin and works just outside the North City Centre.

Grace was blind from birth and therefore relies on her cane, memory, sound and tactile signals for her navigation of the built environment. She finds certain aspects of street design key to her successful navigation of the built environment. Clear delineation between the pavement and the road is important coupled with consistent use of tactile paving which give Grace confidence that she is walking on the safety of the pavement. Controlled junctions with audio crossings also increase her confidence as to when it is safe to cross the road. Excessive street clutter can make it difficult for Grace to manoeuvre along pavements, however very wide pavements with no navigational cues can also make navigation difficult as she may become disorientated.



Persona 2 – Guide dog user

Paul is a guide dog user and is 51 years old. He lives in a Southside suburb of Dublin. He is an avid music lover and frequently goes to the city centre to attend concerts.

Paul retains approximately 10% of his vision after his retinas detached 15 years ago. He has been a guide dog user for 10 years and Bruno is his second guide dog. Paul relies largely on his guide dog for navigation, but can detect colour contrasts using his residual sight. He also pays attention to tactile cues in the environment. Paul is independent and will often go on his own to parts of the city centre with which he is familiar.



However; Paul finds certain aspects of street design key to his successful navigation of the built environment. Clear delineation between the pavement and the road is important coupled with consistent use of tactile paving which allows Paul to correct Bruno should he make mistakes in guiding him. Controlled junctions with audio crossings also increase Paul's confidence as to when it is safe to cross the road. Narrow streets and clutter

pavements cause barriers for Paul and make it difficult for him and Bruno to walk side by side.

Persona 3 – Manual wheelchair user

Sinead is a manual wheelchair user and is 38 years old. She lives and works in a Southside suburb of Dublin. She has a good social life and a large circle of friends and regularly comes into the city centre to socialise.

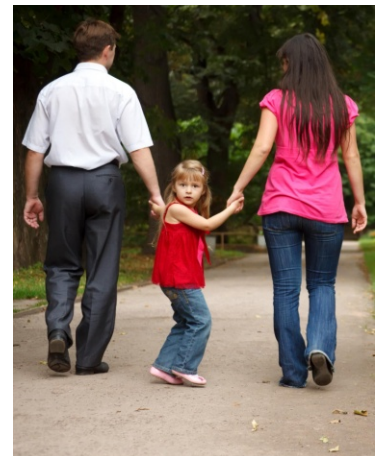
Sinead is a manual wheelchair user as she was in a car accident at 18, she is well adapted to the use of her chair at this point in her life; however she finds certain aspects of street design a hindrance to her navigation of the built environment. Uneven or broken pavements can make it difficult for her to manoeuvre her chair and she often has to concentrate harder on such surfaces. On the plus side wide, flat street surfaces and well designed pavements with appropriate dished kerbs signalled by a colour contrast allow Sinead to move easily around the built environment.



Persona 4 – Small child with parent

Sophie is five years old and has recently started primary school. She lives in a Southside suburb of Dublin and goes to school walking distance from her home. She regularly walks to school with one of her parents.

Sophie occasionally comes to town with one or both of her parents. She finds the city centre very different to the quite suburb where she lives. There is much more traffic, especially buses and taxis, but her parents are careful to always keep a tight hold of her hand. Sophie doesn't like this as at home she is allowed to walk on the pavement without holding her parents' hands. She knows the safe cross code and always stops when she sees a pavement or pedestrian traffic lights



Persona 5 - Older person

Henry is an older person of 78 years. He lives alone in a Northside suburb of Dublin and has been retired for the past 18 years. He goes to the city centre quite infrequently and finds the large changes to the city since his retirement often confuse him. Although Henry is quite active and doesn't use any mobility aids, he has started to suffer from arthritis in his hips in recent years and is also starting to suffer from mild hearing difficulties.

Henry finds certain aspects of street design key to his successful navigation of the built environment. Due to his arthritis, Henry can often find tactile paving a trip hazard, however good colour contrast helps him to be aware of this. Controlled junctions with audio crossings also increase his confidence as to when it is safe to cross the road; however Henry can often find that the pedestrian lights change too fast for him to cross the road. Excessive street clutter and crowds can make it difficult for Henry to manoeuvre along pavements. As he often gets tired and therefore regular seating enhances Henry's enjoyment of the streetscape.

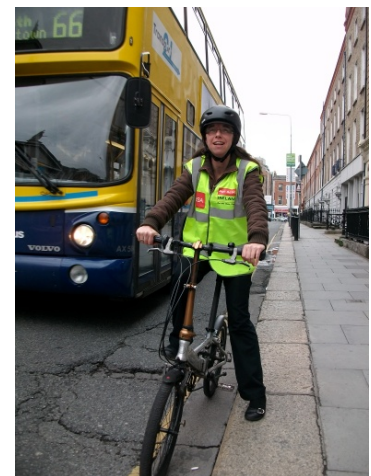


Persona 6 - Cyclist

Alice is regular cyclist in the city centre and uses her bike as her primary mode of transport. She is 27 years old and lives in the South Inner City. She works in the city centre.

Alice has been a commuter cyclist for the past eight years. She has noticed a greater number of cyclists on the roads since the introduction of the bike to work scheme and the Dublin Bike Scheme. She feels that the greater number of cyclists on the road make drivers more aware.

The primary obstacle for Alice cycling in the city is the mixing of all modes of traffic together, in particular it can be difficult to navigate between a large number of buses. Also the road surfaces can often be potholed which forces Alice to concentrate further of her safe manoeuvring through the street. Often the one way street system in the city centre can frustrate Alice and she has to get off and push her bike to avoid a long detour. Pedestrians often don't seem to see Alice and she finds she is often forced to ring her bell, call out or swerve around pedestrians that walk out onto the road.



Persona 7 - Motorist

Frank is a 46 year old, regular driver who lives in South County Dublin, he rarely drives in the city centre.

When Frank drives into Dublin City Centre he often finds himself confused by the one way system. He needs to concentrate very hard on all the different signals he receives, such as traffic markings, road signs, buses, taxis and pedestrians. Frank often finds that pedestrians walk out in front of him and cyclists tend to break the rules of the road quite frequently.



Appendix 7 – Plan drawing and photographs of the traditional city streetscape

City Street - Workshop Route (existing)



View 04



View 05



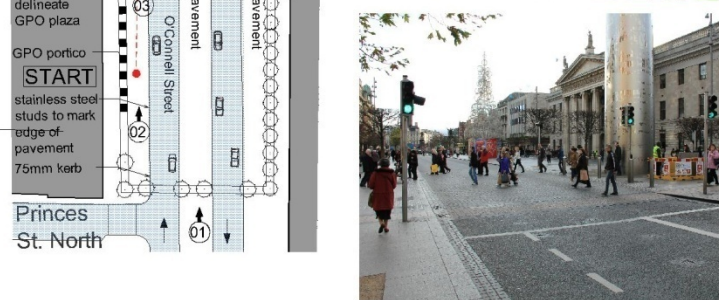
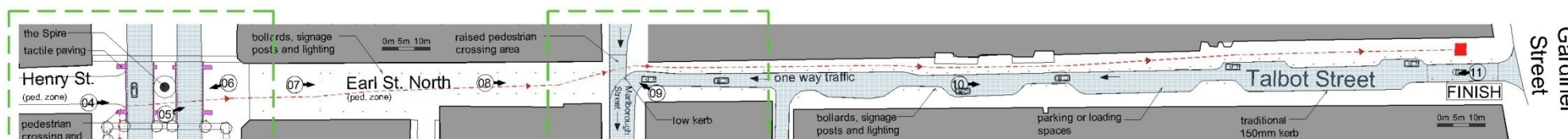
View 06



View 07



View 08



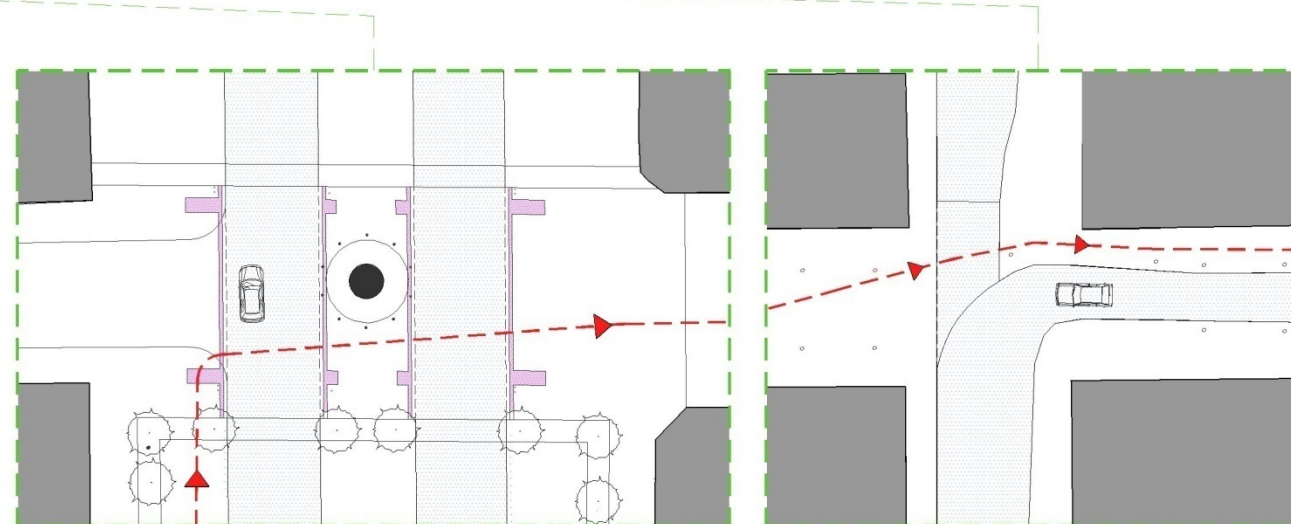
View 03



View 02



View 01



O'Connell St. pedestrian crossing

St. / Talbot St./ Marlborough St.



View 11



View 10



View 09

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NDA
Údarás Náisiúnta Micimhais
National Disability Authority

Legend

- Road
- Tactile paving
- Stainless steel studs
- Trees
- Bollards / posts

Client:
CEUD / NDA

Project:
Research of Shared Spaces,
shared surfaces and Home
Zones from a Universal
Design approach for the
urban environment in Ireland

Drawing Title:
City Street

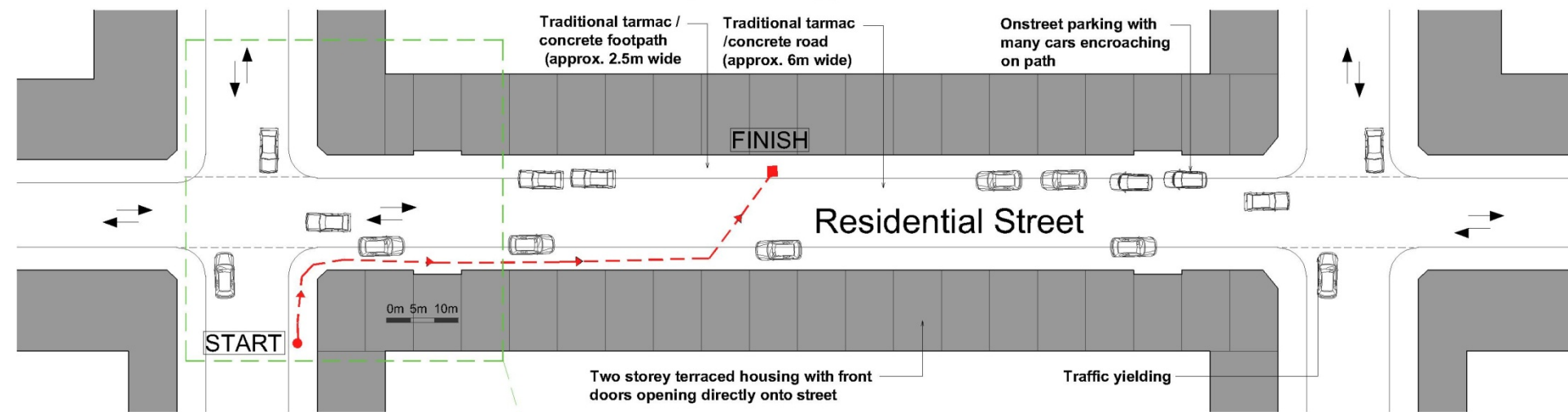
Drawn by: _____ Checked by: _____

Scale: _____ Plot Date: _____

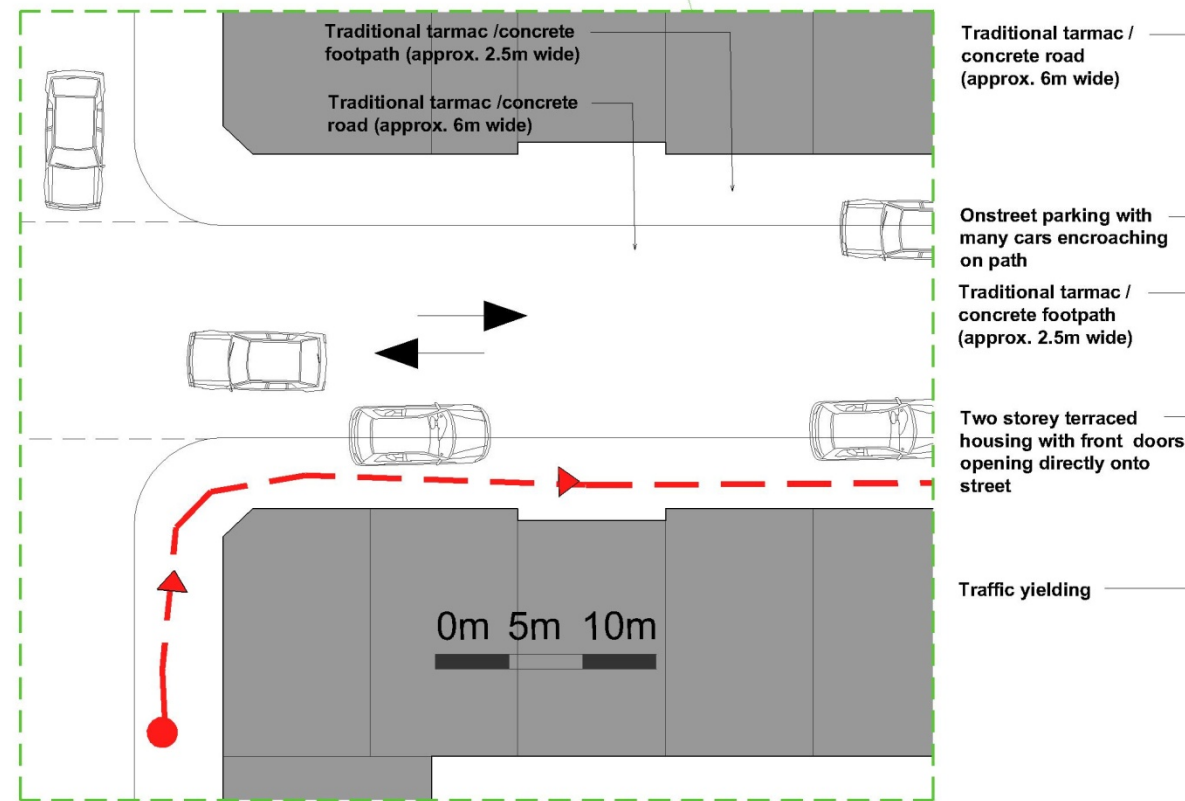
Drawing No: _____ Rev. _____

Appendix 8 – Plan drawing and photographs of traditional residential street

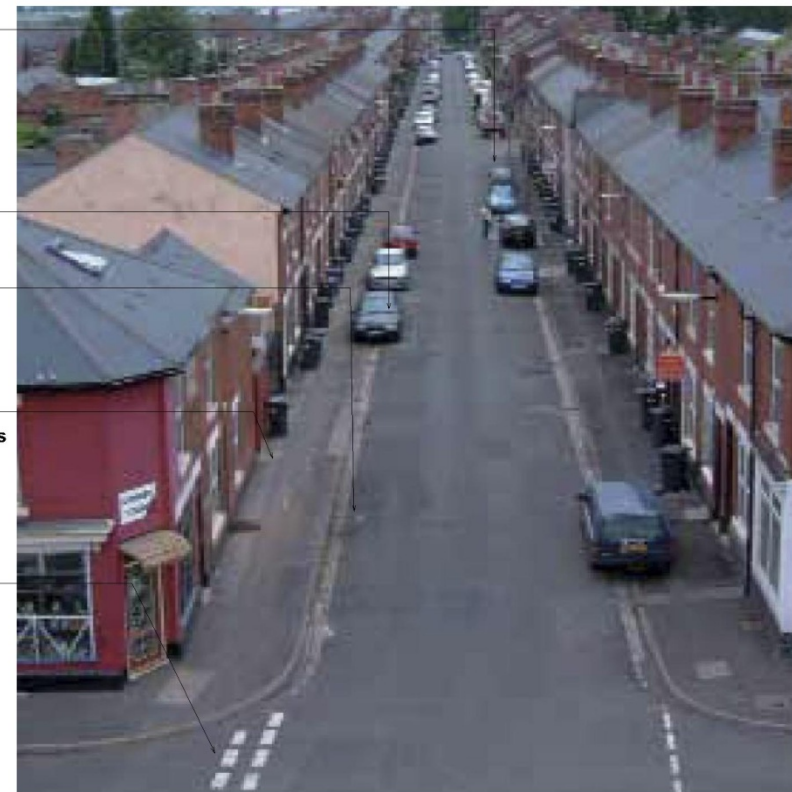
Residential Street - Workshop Route (existing)



Plan of Street (Scale 1:500)



Plan of Street (Scale 1:200)



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NDA
Udarás Náisiúnta Micheimais
National Disability Authority

Client:
CEUD / NDA

Project:
Research of Shared Spaces,
shared surfaces and Home
Zones from a Universal
Design approach for the
urban environment in Ireland

Drawing Title:
Residential street

Drawn by: _____ Checked by: _____

Scale: _____ Plot Date: _____

Drawing No: _____ Rev. _____

Appendix 9 – Plan drawing and photographs of the city street with Shared Space and shared surface design features

City Street - Workshop Route (with Shared Space features)

Note: All Shared Space detailed design principles taken from the DfT (UK) Shared Space LTN 1/11

D. Level Surface

- Removal of traditional dropped kerb



E. Comfort Space

- Create an area on the street predominantly for pedestrian use where motor vehicles are unlikely to be present
- Use tonal contrast or the careful siting of trees, benches, lighting, bollards, etc.

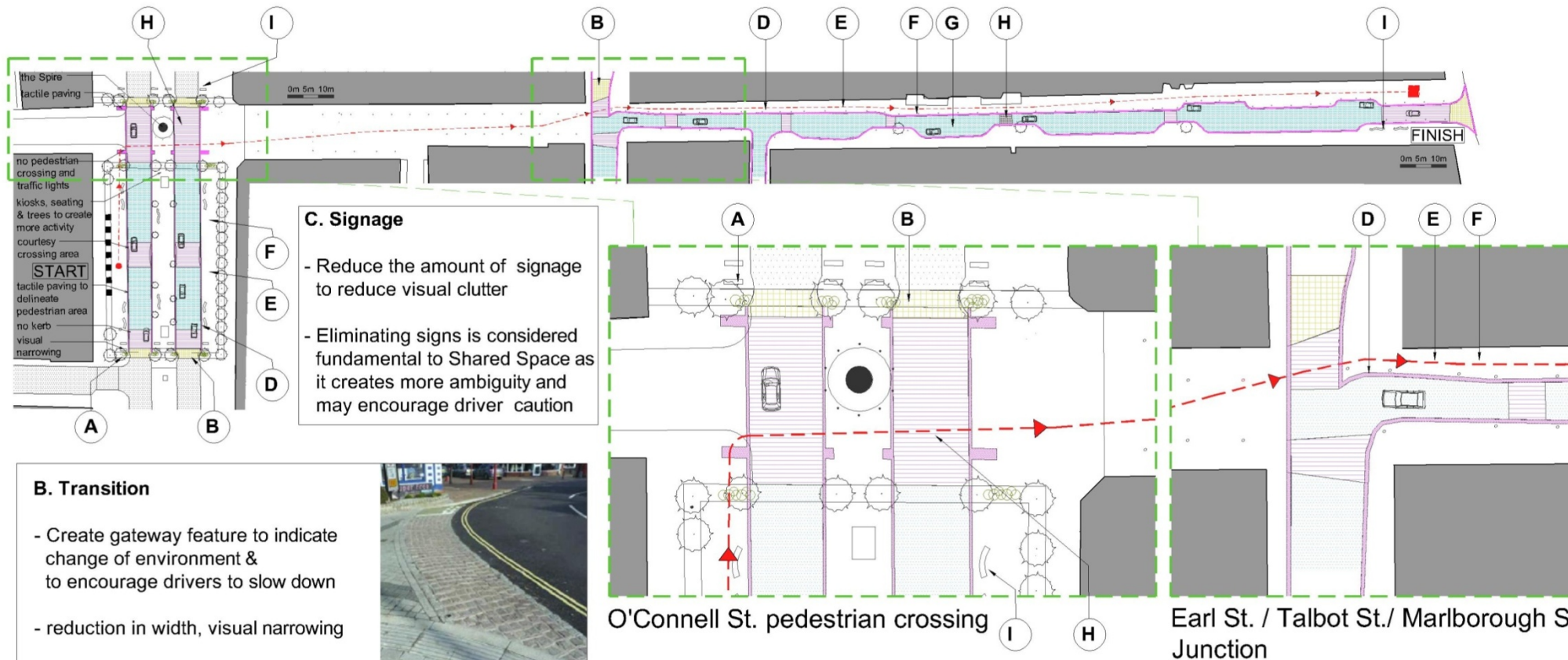
F. Tactile Paving

- Corduroy Tactile paving to delineate edge of comfort zone
- Use Blister paving at crossing



G. Parking

- Lines may not prevent encroachment (consider use of street furniture)



C. Signage

- Reduce the amount of signage to reduce visual clutter
- Eliminating signs is considered fundamental to Shared Space as it creates more ambiguity and may encourage driver caution

B. Transition

- Create gateway feature to indicate change of environment & to encourage drivers to slow down
- reduction in width, visual narrowing



A. Design for Low Speeds

- Design speeds of 15 mph or less
- change in surfacing
- presence of street trees, seating, public art etc. to create driver ambiguity
- Visual narrowing (see adjacent image)



I. Seating

- Seating allows people to stop, rest & socialise. It can also help define pedestrian only zones



H. Crossings for pedestrians

- Typically uncontrolled crossings
- In busier spaces controlled crossings may be required
- Courtesy crossings (drivers treat like a zebra crossing)



Other Issues

- Wheel Loading
- Public Transport
- Drainage
- Cycle Parking

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Legend

- Shared carriageway
- Courtesy crossing
- Transition / gateway
- Tactile paving strip
- Trees
- Bollards / posts

Client:
CEUD / NDA

Project:
Research of Shared Spaces,
shared surfaces and Home
Zones from a Universal
Design approach for the
urban environment in Ireland

Drawing Title:
Shared Space Street

Drawn by: Checked by:
Scale: Plot Date:

Drawing No: Rev.

Appendix 10 – Plan drawing and photographs of residential street with Home Zone features

