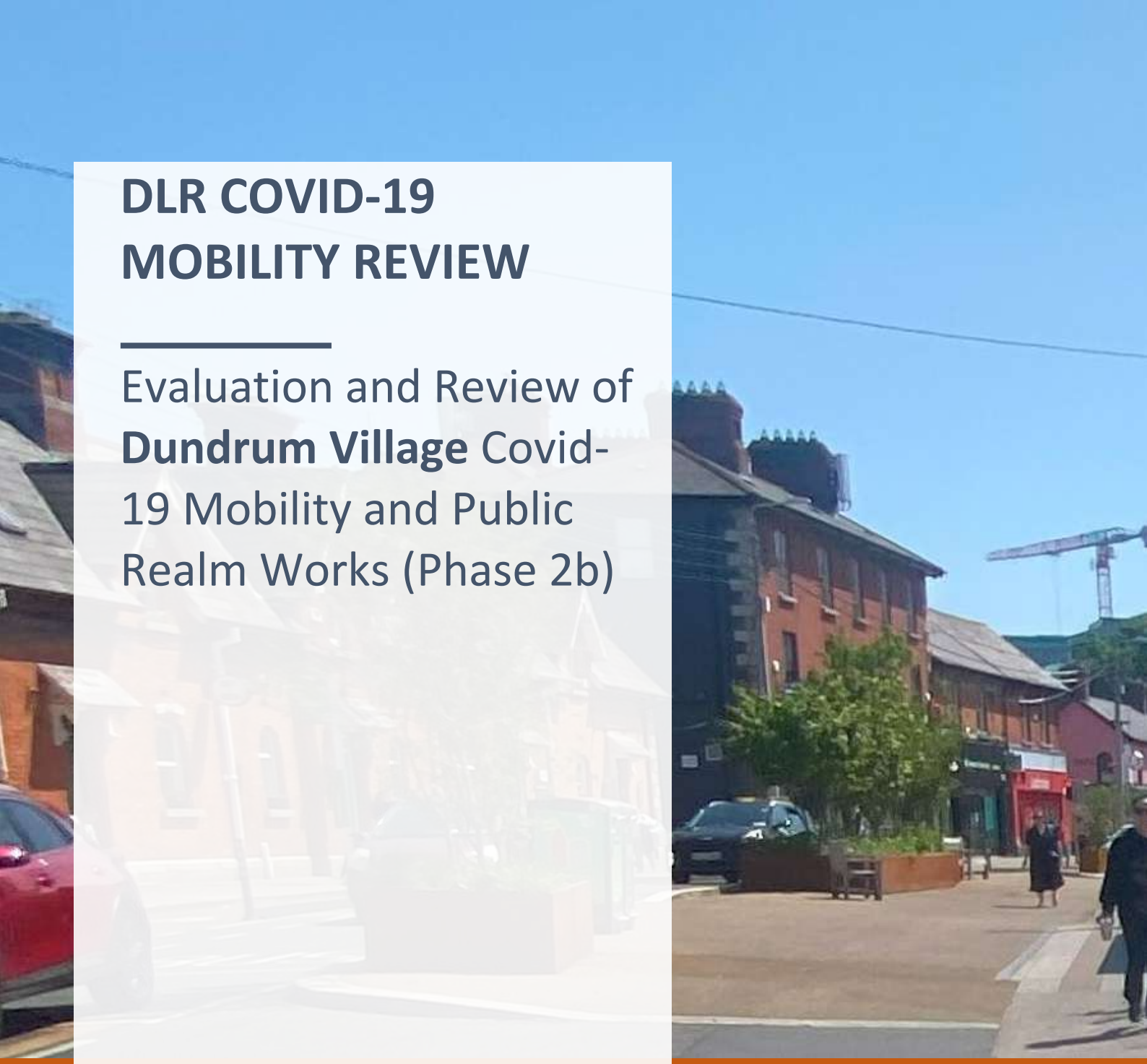
DLR COVID-19 MOBILITY REVIEW

Evaluation and Review of **Dundrum Village** Covid-19 Mobility and Public Realm Works (Phase 2b)



FINDINGS - APRIL 2024

Technological University Dublin

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For Issue

Ollscoil Teicneolaíochta Bhaile Átha Cliath
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dlr
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Funder: Dún Laoghaire-Rathdown County Council**.**

DLR Dundrum Covid Mobility Research

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+19%

*using the TfL Healthy Streets Toolkit

improvement in the overall 'health' of Dundrum Main Street increasing from 51% to 70%*

+26%

increase in public space available in Dundrum Main Street

-10km/h

*85th percentile speeds 2019 v 2022

lower vehicle speeds on Dundrum Main Street*, and traffic volumes reduced

'There is much more of a feeling of village, and community, and people socialising, than I had felt prior.'

'Some older people... are still unhappy about the distances they have to walk to get particular buses.'

'Those kerb separators just seem to be a hazard.'

'I think the changes as I see them, it is the pathways widening that gives us back our...sociability in Dundrum. I think that should stay because that's not just a Covid related issue, that is basically bringing people back on the streets.'

'Into the fullness of time...I think the idea that it will be fully pedestrianised is something that we should be aiming for.'

'New trees were put in last year but nobody looked after them.'

'There is a sense that the one-way street has increased footfall and created a place for people to gather"

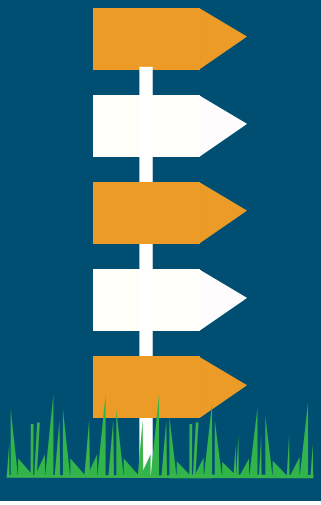
'Earlier engagement is important for any plans going forward'

'It's quite frustrating...the only exit from Main Street is on to the by-pass and the by-pass can be very congested.'

'A two-way road system would have been a turn-off for us as a business. A two-way road is not attractive for people walking or seated, or for the hospitality and service industry in general'

'The big concern I would have is if a bus breaks down or there is any need of an emergency vehicle, the place is just chopped.'

The recommendations are forward looking with a view to:



- Facilitating a local community and business representative forum to help guide and champion the regeneration of Dundrum Main Street and village/town centre.
- Stitching the two sides of Main Street together and further improving the pedestrian & footfall environment, especially along Sandyford Road.
- Additional traffic calming on village/town centre streets and by-pass.
- Embracing and respecting heritage and conservation in public realm and active travel infrastructure design.
- Improving wayfinding, walkability and prominence of local tram and bus-stops.

EXECUTIVE SUMMARY

BACKGROUND

Following the impact of the Covid-19 pandemic, the Government of Ireland issued guidance to local authorities on 'Mobility and Public Realm Works' to help facilitate safe physical distancing, and support businesses reopening following the initial lockdown and improve options for active mobility.

In August 2020 Dún Laoghaire Rathdown County Council commenced works along Dundrum Main Street and adjacent streets. This involved the reallocation of space within the Main Street from a two-lane two-way carriageway, to a one-lane northbound street for vehicular traffic and bicycles, and a southbound contra-flow bicycle lane. It also included widening of pedestrian pavements, extended public realm and some bus stop relocation.

This report, covering phase 2b of the Dún Laoghaire-Rathdown County Council 'Covid-19 Mobility and Public Realm Works' study, is a socio-economic, urban realm and mobility evaluation and review of the temporary 'Covid Mobility' works focusing on Dundrum, using an methodology that brings together key elements of 'people', 'place' and 'movement'.

The mixed-method 'People-Place-Movement' triangulation approach used in preparing the report involved interviews with community representatives and business stakeholders, a street and policy audit, and mobility analysis.

STUDY FINDINGS

The Report notes that the temporary Covid Mobility works aligned with Government Guidance and are a positive step in support of longer-term alignment with national climate change, road safety and health policies.

A 26% increase in public space, as well as the introduction of three new pedestrian crossings on Main Street/Sandyford Road have been delivered through these amending works.

The 'Healthy Street Check' (TfL) highlighted a 19% improvement in Dundrum Main Street's overall 'health,' with wider footpaths, enhanced public realm, and improved street furniture contributing positively. Some challenges were identified including the black rubber kerbs delineating the contraflow cycle lane, which presented crossing difficulties for some and are not popular locally.

The technical mobility analysis found reductions in traffic volumes and speeds facilitated by the one-way constrained carriageway, creating a safer environment. The analysis did, however, also note significant volumes of through-traffic and some high traffic speeds in parts remain, limiting the potential footfall and vibrancy of the Main Street and surrounding streets.

In terms of people cycling, there are similar levels during weekdays on Dundrum Main Street as found on Blackrock Main Street, where similar works were undertaken. There are less at weekends compared with Blackrock, however, illustrating the more limited range of cyclists using Dundrum Main Street and the limiting nature of a cycle-route that is not currently connected into a wider high-quality network. Though before-works pedestrian data availability is very limited, indications are that footfall levels have increased on Main Street.

The interviews conducted revealed a community with complex and nuanced perspectives.

Many found it hard to separate the Covid Mobility works from a long running feeling of neglect and planning stasis around Dundrum Main Street and the Old Shopping Centre site in particular, as well as the impacts of adjacency to a regional scale shopping mall.

The response to the changes in Dundrum's Main Street, has however, revealed an overall appreciation of and preference to retain the more pedestrian-friendly Main Street enabled by the 'Covid Mobility and Public Realm' interventions but with certain modifications, in particular, around the contraflow cycle-lane defender kerbs.

Recognising that the more pedestrian, community and footfall friendly Main Street was facilitated by the reallocation of road-space from a 2-way vehicular carriageway to a 1-way vehicle carriageway was largely recognised as a trade-off worth having by most. Others found this difficult to reconcile. Frustration around redirected traffic and associated reduction in vehicle-based accessibility was particularly voiced by some of the retail business community.

While this research is focussed on the outcomes and impacts of DLR's 'Covid Mobility & Public Realm Works', the context for the study is really much bigger than that. It is also about the future of traditional Main Streets and their regeneration. The question of what qualities and attributes to retain and how to balance movement on the Main Street against making space for it being a high quality and attractive place come into focus as its' future is shaped.

Thriving Main Streets rely on a diverse mix of businesses and community services supported by pedestrian friendly infrastructure, accessibility and well designed public spaces. They also require a strong community identity.

The interviews found a highly engaged community, deeply connected with its' village, and concerned about the future welfare and heritage of Main Street, traditionally the central mainstay of their village.

STUDY RECOMMENDATIONS

The qualitative and quantitative analysis shows that DLR's 'Covid Mobility and Public Realm Works' have provided clear public space gains for Dundrum Main Street and an improvement in its 'health'. These gains and the enhanced pedestrian-friendly nature of the Main Street are largely supported by the wider community interviewed, despite some strong misgivings by a number of traders.

Thus, it is recommended that these works are built further upon through:

- More immediate/short-term improvements that can be made to the current temporary Covid Mobility works, and
- The development of a collaboratively-developed permanent public realm and regeneration plan for Dundrum.

Short Term Recommendations (condensed), including:

1. Community Engagement and Capacity Building:
    - Consider the investment in capacity building initiatives amongst Dundrum village/town centre and business community to foster inclusivity and mitigate against polarisation.
    - Facilitate a local community and business representative forum to help guide, facilitate and support the regeneration of Dundrum Main Street and village/town centre.
    - Support the establishment of a local business representative body for the Dundrum business community.

2. Managing Vehicular Speed and Traffic Calming:
    - Implement and enforce a 30km/hr maximum speed limit zone (or less) on Main Street and adjacent streets to support enhanced vitality and road safety.
    - Introduce traffic calming measures on connecting roads with excessive speeds to address specific safety concerns such as accessing bus stops, schools and adjacent residential areas.

3. Active Travel Infrastructure and Connectivity:

- Implement further step-free pedestrian crossings on Main Street and Sandyford Road and improve existing crossings.
- Enhance pedestrian environments and connectivity with local schools (including 'Safe Routes to School') and Balally Luas Station.
- Reassess signage and road markings to remove confusion and ensure clarity for all modal users with regard to shared cycle use on the carriageway and directionality of the contraflow cycle-lane.

4. Public Transport Access and Connectivity:

- Audit local bus stops and pedestrian network connectivity, noting in particular accessibility, security and shelter, and safe crossings.
- Ensure inclusive bus access and egress is considered in the placement of objects like bins and planters.
- Enhance accessibility and surroundings of the Dundrum Luas station, including an attractive wayfinding strategy.

5. Supportive Services:

- Review loading bay and customer car-parking timings in collaboration with Main Street businesses.
- Establish cross-departmental collaboration for tree and planting maintenance.

Medium-Term Recommendations (condensed), including:

1. Improve Pedestrian Experience, Links with Public Transport and Footfall:

- Enhance pedestrian priority by increasing step-free crossing opportunities.
- Minimise through-traffic to enhance pedestrian safety and comfort.
- Improve physical and visual connectivity to Dundrum and Balally Luas stations.

2. Improve Cycling Experience:

- Review the cycling infrastructure design on the Main Street, emphasising walkability and supporting safe crossing movements.
- Review surface material and colour of the Main Street carriageway to visually reinforce its shared-use nature (for vehicles and cycles).
- Support connectivity to wider Greater Dublin Area & DLR cycle networks and plans.

3. Celebrate Heritage, Embrace Placemaking, and Enable Events:

- Collaborate with local businesses and the community to celebrate Dundrum's heritage.
- Minimise unnecessary signage and road markings and aim to turn grey spaces to green spaces, considering shelter, shade, drainage and biodiversity.
- Improve accessibility and public realm around Dundrum Luas station and reconnect with Usher's Monument.
- Facilitate car-free public spaces and temporary road closures for events.

These recommendations aim to create a vibrant, inviting, and accessible Dundrum Main Street for the benefit of the local community, businesses, and visitors.

Recommendations are also provided for a general Main Street/Town Centre environment. It is recommended that monitoring and evaluation forms a key component of similar projects in the future.

The collection of comprehensive pre-intervention base-line data is an important part of the evaluation process. It is necessary that such evaluations should continue and that they be seen as part of the management of Dundrum village and its environs, as well as other centres undergoing transformation/regeneration.

As a Main Street/Town Centre is an environment where vitality, walkability and liveability are likely to be important objectives, it is recommended specific public realm and mobility metrics are considered that capture these objectives.

Active Travel and other transport infrastructure needs to be carefully considered and integrated into such environments, with pedestrian priority being the key guiding principle in a Main Street context.

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1 Introduction

1.1 Outline

This report presents research findings on the short to medium term socio-economic and mobility impacts of the 'Covid-19 Mobility and Public Realm works' that were put in place in Dundrum Village in August 2020. It is part of a wider evaluation and review of the Council's mobility and public realm response to Covid-19 2020.

The wider study, of which this report forms part of, has been carried out and reported in the following phases:

- Phase 1 DLR Covid-19 Mobility Review (June 2021) explores the social-economic mobility impacts of the public realm and mobility works in Blackrock Main Street, and the mobility impacts of the Coastal Mobility Route (CMR). It involved developing and piloting evaluation and audit methodologies to assess the Covid-19 mobility and public realm works in Blackrock Village and on the Coastal Mobility Route (CMR).
- Phase 1-b CMR Mobility Update (July 2022) followed a recommendation from the Phase 1 review for ongoing monitoring. It focused on the Coastal Mobility Route with monitoring and evaluation of the changing mobility patterns throughout 2021 and 2022, as continued responses to the Covid-19 pandemic changed and evolved.
- Phase 2-a CMR Economic Development & Community Business Feedback (February 2023) explores feedback from the business community along the Coastal Mobility Route.
- Phase 2-b, as presented in this report**,** explores the socio-economic and mobility impacts in Dundrum Village/Main Street with the findings covered by this report.

This and all phases of this TU Dublin research have been carried out independently with mixed methods research and analysis.

Covid-19 and Government Guidance in relation to Mobility and Public Realm Works

It can be easy to forget the significant impact that the Covid-19 pandemic had in Ireland from the early months of 2020. On the 22 May 2020, the National Transport Authority issued correspondence to Local Authorities acknowledging this:

> *"The Covid-19 pandemic has affected all our lives and the way in which we work, socialise and communicate. It also has had enormous impacts on our transport system, radically reducing current travel levels and likely to alter our patterns of movement for some time to come. In addition, it has dramatically impacted businesses, requiring new operational approaches by many retailers, restaurant, cafes and other businesses for many months to come".*[1]

The levels of societal and economic 'lockdown' varied as differing waves of Covid-19 saw the closure of all but 'essential' retail and services, and 'stay-at-home' and 'work-from-home when possible' orders being put in place. It wasn't until February 2022 that most restrictions, including mandatory mask-wearing were finally removed.

[1] *National Transport Authority correspondence to Local Authorities https://www.dmurs.ie/supplementary-material*

On the 23rd June 2020, the Government of Ireland provided an Interim Advice Note in response to an escalating requirement to mitigate the Covid-19 related health, socio-economic and mobility challenges[2]. This note was complementary to the Governments' *'Design Manual for Urban Roads and Streets'* (DMURS)[3] which outlines Government policy on urban design street. Funding supports were also offered for putting in place improved walking and cycling infrastructure nationwide. Dún Laoghaire-Rathdown County Council (DLR) was one of the first Local Authorities in Ireland to introduce significant mobility and public realm measures in response to some of the challenges associated with Covid-19 challenges.

Referred to in this document as 'Covid-19 Mobility and Public Realm works' (or simply 'Covid Mobility' works), these included the reconfiguration and redesign of Blackrock Village Main Street, the introduction of the Coastal Mobility Route (CMR) cycle-way along the coast road from Seapoint to Sandycove, followed by Covid-19 works in Glasthule Village, Dundrum Village and Dalkey Village.

DLR's key objectives of the 'Covid Mobility' works were to:

- Increase outdoor social distancing space for pedestrians in villages;
- Increase cycling and pedestrian comfort and safety;
- Reduce pressure on public transport capacity by providing a sustainable mobility alternative;
- Decrease reliance on private vehicles for short journeys, while increasing the use of walking and cycling as transport modes for a wide range of users; and
- Support economic development in villages/urban centres.

Two aspects of the Covid-19 Pandemic Response Interim Advice Note hold particular significance for the research findings and discussion that follow:

1. Public engagement/consultation: On public consultation, the advice contained pertained to section 38 of the Road Traffic Act 1994, which deals with the implementation of "traffic calming measures" and confirmed that the public consultation requirement was *'not mandatory for interventions implemented under this section'*.

2. Longer term alignment: The advice note states that: *'Local Authorities should also consider broader Government policies on road safety, transport planning, accessibility for people with disabilities and climate change'* in accordance with the principles contained in the Design Manual for Urban Roads and Streets, and relevant broader Government policies[4].

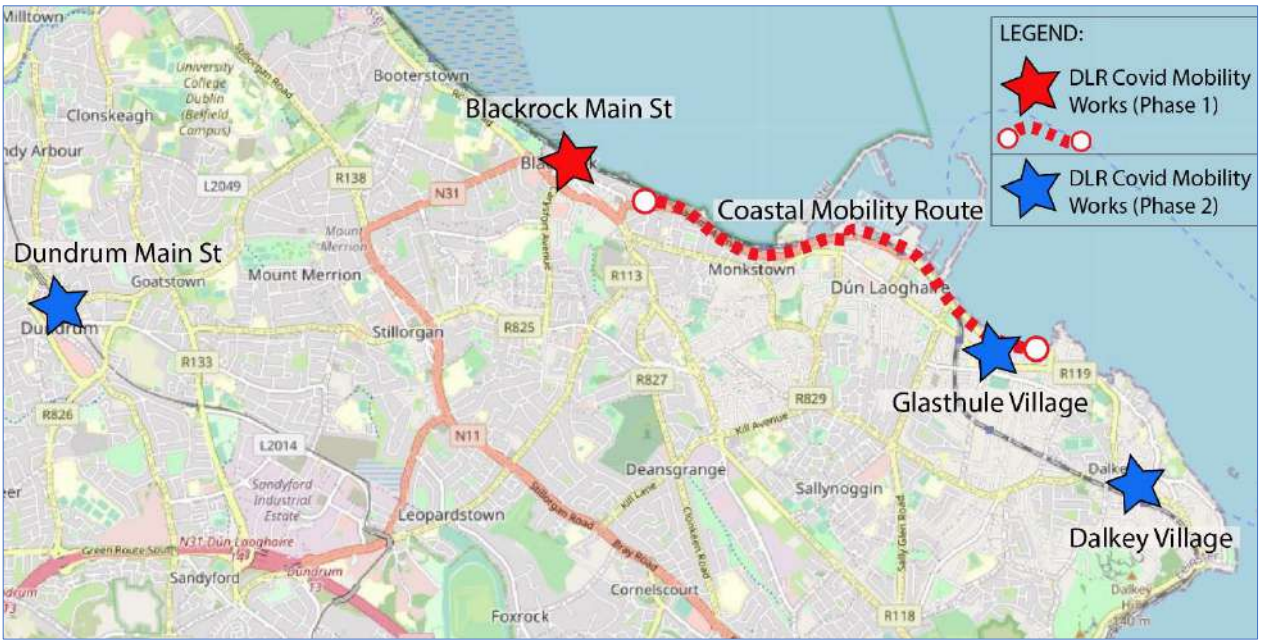
In relation to longer term alignment, there are other geopolitical factors such as the Russian invasion of Ukraine that can impact global oil and gas supplies and serve to reinforce the need for more resilient

[2] INTERIM ADVICE NOTE - Covid 19 Pandemic Response. https://www.dmurs.ie/supplementary-material
[3] https://www.dmurs.ie/
[4] "This Note advises that Local Authorities, when considering Covid-19 related measures, also consider the longer term alignment with the principles, approaches and measures contained within the Design Manual for Urban Roads and Streets which prioritises sustainable modes of transport (walking, cycling and public transport), advocates a multi-disciplinary approach to street design and promotes the principles of universal design" INTERIM ADVICE NOTE - Covid 19 Pandemic Response; May 2020; https://www.dmurs.ie/supplementary-material

transport and planning systems that support more sustainable behaviours, and that can also adapt to these evolving complexities.

The first two reconfiguration projects implemented were those on Blackrock Village Main Street and the CMR along the coast road from Seapoint to Sandycove, followed closely by Glasthule Village, Dundrum Village and Dalkey Village (see Figure 1-1).

Figure 1-1 Showing DLR's key Covid-19 Mobility and Public Realm Projects (source map from Openstreetmap.org, adapted by author)



1.2 Covid Mobility Works in Dundrum

The Covid-19 'mobility and public realm works' in Dundrum were introduced over two phases from August 2020. They were in line with the above noted objectives, broadly to facilitate safe physical distancing, businesses reopening post the initial lockdown and options for more active mobility[5]. With these objectives in mind, DLR's Covid Mobility focus in Dundrum was on widening pedestrian pavements, providing areas for outdoor dining, creating safer cycle routes, and on maintaining access to the local bus and Luas stops. Additional non infrastructural supports were also provided to mitigate the impact of the lockdown that impacted particularly heavily on the retail and hospitality sectors. These included financial aid for businesses, the Pandemic Unemployment Payment for affected individuals[6], rent and mortgage support, a restart grant for micro and small businesses[7].

[5] The initial lockdown in Ireland began on March 12, 2020. Restrictions were gradually lifted in phases, and the country moved through different levels of lockdown measures. Pubs serving food were allowed to reopen in late June and "wet" pubs, or pubs that do not serve food did not reopen until September 2020.

[6] The COVID-19 Pandemic Unemployment Payment (PUP) was a social welfare payment for employees and self-employed people who lost their employment due to the COVID-19 public health emergency.

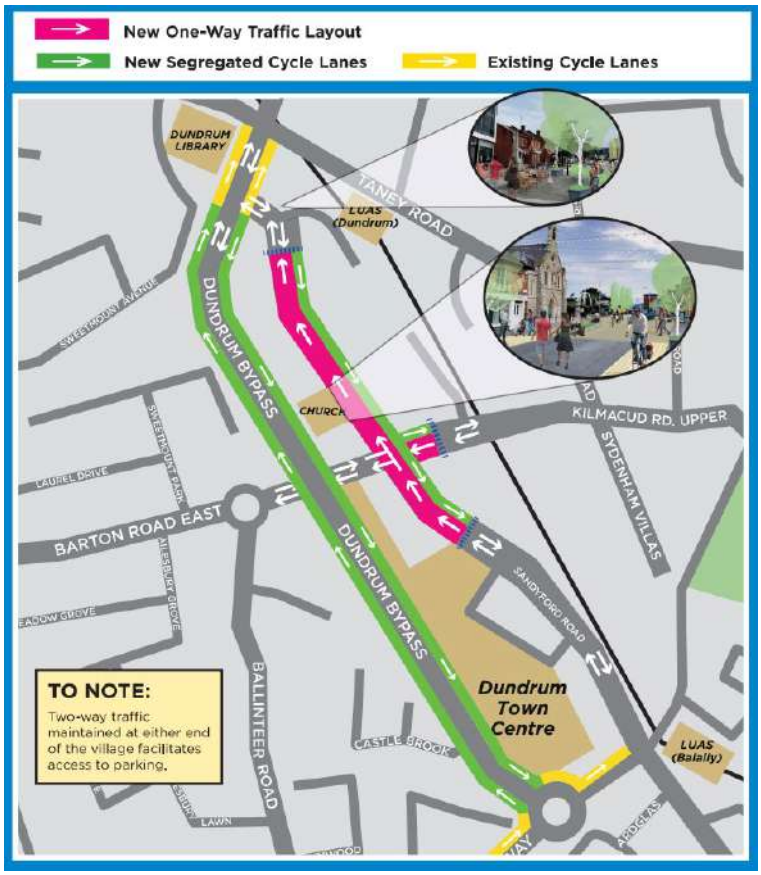
[7] More information can be found here: https://www.gov.ie/en/publication/fe8f00-government-outlines-further-measures-to-support-businesses-impacted-/

The Covid Mobility works in Dundrum consisted of a new one-way northward vehicular traffic arrangement from the point of, but not including the public car park (Dom Marmion) on Sandyford Road (located at the back of Holy Cross National School) and through the junction at Ballinteer Rd and Kilmacud Rd Upper (Dundrum Cross) along the Main Street (see Figure 1-2).

This was accompanied by a one-way westbound vehicular traffic arrangement from Dundrum Cross at Kilmacud Road Upper.

These works enabled widening of the pavement along the Main Street, the addition of safer pedestrian crossings and a southbound (contra-flow) segregated cycle lane along the Main Street to the point of two-way traffic at the Sandyford Road public car park and along a short segment of Kilmacud Road Upper.

Figure 1-2 DLR diagram illustrating the Dundrum Village and Main Street mobility interventions (source DLR)



The Covid Mobility Works also included new cycle lanes on the Dundrum Bypass (which are not assessed as part of this study) and some bus stop relocation (this is outlined in further detail in Chapter 3).

1.3 Overview of findings from Phase 1a, 1b and Phase 2A

The overall findings from Phase 1, Phase 1b and Phase 2a of this study, which focused on Blackrock Main Street and the Coastal Mobility Route (CMR) found that:

- Along the Coastal Mobility Route, there were increases in both the number and range of people cycling. In addition, there were positive indications of a cycle network effect that can occur following the implementation of enabling infrastructure. This in turn leads to further gains in the numbers and range of people cycling in the wider area.
- The CMR is now a key performer across the whole of the NTA's Dublin cycle counter network. Phase 1b found that it has become a well-recognised route and has achieved high pedestrian and cycling demand throughout the course of the day on both weekdays and weekends.
- A review of surrounding public transport and vehicular patterns also pointed to how complementary and supportive transport planning measures are essential to enabling a key cycling network element such as the CMR. Examples are safe speed traffic management, clear and legible active travel connectivity to public transport connections, and other key destinations.

- Along Blackrock Main Street, the Covid Mobility works were very positively supported by businesses and the community, who also showed a strong desire to retain the public space gains made. It was noted that the businesses in Blackrock were represented by the Blackrock Business Network, which was highly active, and directly engaged with DLR during the Covid Mobility works process in order to help address some of the challenges associated with Covid-19 and its impacts on trading.
- Issues identified by businesses along the Coastal Mobility Route included wayfinding, pedestrian safety and an absence of loading bay facilities as the most pressing.

The above findings were based on mobility analysis, structured counts and observational studies, as well as interviews of community and business representatives located directly along or within the zone of influence of the CMR.

1.4 Objectives of this study

In September of 2020, Technological University Dublin (TU Dublin) were tasked by DLR to develop research options reflecting the uniqueness of the wider Covid-19 context and the lack of precedence in Ireland for such an emergency/rapid response in the terms of urban mobility and public realm planning, and evaluation there-of.

The overall objectives of the TU Dublin research on the socio-economic effects of the 'Covid-19 mobility and public realm works' (focusing on Blackrock Village, the DLR Coastal Mobility Route and Dundrum Village) are to:

- Explore the short-medium term mobility and socio-economic impacts of DLR's COVID Mobility and public realm works using an explorative methodology suited to a Local Authority context;
- Contribute to a developing knowledge base on the impacts of urban cycleways within Ireland; and
- Explore the role and longer-term potential of temporary public realm and active travel (walking and cycling) interventions.

This study (phase 2B of the wider research project) focuses on how the public works carried out by DLR fared against its original Covid Mobility objectives in Dundrum village (as outlined in Section 1.1 above), as well as against the TU Dublin research objectives listed above.

1.5 Dundrum Local Area Plan

The Dundrum Local Area Plan 2023[8] (LAP), undertaken by Dún Laoghaire Rathdown County Council during 2023, sets out a medium-long term vision for the redevelopment and regeneration of Dundrum Town Centre, with a view to:

[8] *For more information see https://www.dlrcoco.ie/dundrumlap*

- Establishing planning and development principles;
- Managing population growth in a sustainable and climate resilient manner;
- Benefiting the local community with the inclusion of provision for housing, new library and civic centre;
- Meeting carbon reduction targets; and
- Improving public realm and pedestrian movement.

The Dundrum LAP is also the first Local Area Plan, within an Irish planning context, to include an Area-Based Transport Assessment (ABTA)[9]. This process reevaluated recent interventions in the context of the wider transport network and its objectives. In summary these are stated as improving walking and cycling facilities, enhancing public transport access, supporting the area's vibrancy, and maintaining strategic access to car parking while reducing traffic volume. The ABTA concluded that the Covid-19 Mobility interventions align with the ABTA recommendations and the broader transport network. The Covid-19 Mobility interventions were seen to enhance connectivity via sustainable modes and promote a vibrant 'Major Town Centre'. The ABTA recommends retaining the Covid-19 Mobility interventions and extending the one-way traffic layout on Main Street to create a traffic-calmed area and improved public realm, safe pedestrian access to transport hubs and potential civic centre sites.

The ABTA study acknowledges DLR's planned "DLR Connector" scheme: an 8km segregated cycle route, running east-west and connecting Dundrum from Barton Road East through Dundrum Cross to Stillorgan and finally to Dún Laoghaire[10]. Pertinent to the Main Street, the ABTA study noted:

- that high volumes of traffic impact on active travel as an attractive choice. The ABTA investigated traffic routing through Dundrum Main Street, finding that approx. 64% of trips travelling from Ballinteer Road to the Main Street is through-traffic finding access to the wider network.
- the implementation of segregated cycle infrastructure, as will be required to complete the DLR Connector scheme, is hindered by a pinch point at Ballinteer Rd. This also hinders improving the pedestrian footpath.

To mitigate this, the ABTA study proposes a Bus Gate on Ballinteer Road to Dundrum Cross, allowing bus and cycle movements only. It would also facilitate the reallocation of road space for segregated cycle facilities (see Figure 1-3)[11].

Additionally, a one-way eastbound traffic layout on Kilmacud Road Upper is recommended to facilitate a two-way segregated cycle facility. The DLR Connector scheme further proposes upgrading the Barton Road East and Ballinteer Road roundabout to a 'Dutch Style' roundabout and installing a new signalised

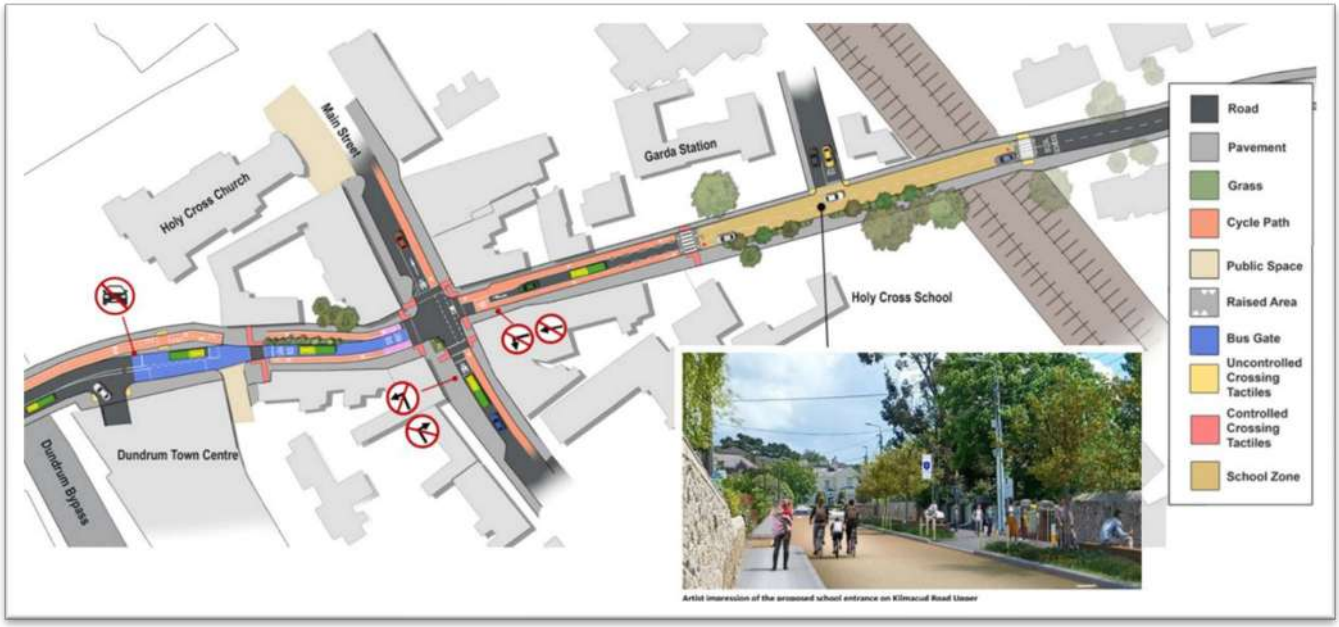
[9] According to the National Transport Authority ABTA Advice Note (2018), an 'Area Based Transport Assessment (ABTA) is one of a number of complementary assessment processes, used in the preparation of local area plans, planning schemes (such as SDZs) and Masterplans. The intended effect of ABTA is to ensure that the assessment of transport demand and its associated impact plays a central role in informing the development proposals…Essentially, its function is to place the integration of land use and transport planning at the centre of the Plan preparation process.'(p.5)

[10] For more information see: https://www.dlrcoco.ie/sites/default/files/atoms/files/dlr_connector_2022.pdf

[11] Note: To further facilitate bus access in the area, two additional bus gates were also recommended at Taney Cross Junction and Sweetmount Avenue.

pedestrian crossing on Ballinteer Road west of Dundrum Cross. These measures are set out with the aim of enhancing facilities for pedestrians and cyclists and improving connectivity within the area[12].

Figure 1-3 DLR ABTA recommendations for Dundrum Cross, including options being considered as part of the 'DLR Connector' & 'Safe Routes to School' Schemes



The Draft LAP was adopted by the Council at a special Council meeting on the 10th October 2023. Acknowledging a level of overlap in timing, this TU Dublin study operated independently of the DLR Local Area Plan process.

1.6 Data sources and limitations

As with all studies, there are limits to what the study can cover within a reasonable time period and within the resources and data available. Both primary and secondary data sources have been used as part of this study. The main primary data source is interview data. The main secondary data sources utilised and analysed are:

- Historic traffic counts commissioned by DLR (undertaken by IDASO) and made available for this study for snapshot time periods.
- The TomTom Move dataset, which uses location data from anonymous GPS devices.
- Raw pedestrian, cyclist, and vehicle counts utilising DLR's data from their internal Vivacity counters. This dataset provides 24 hr x 7 day counts continuously from February 2023 onwards.
- Road space reallocation data for Dundrum, commission by DLR (undertaken by Barry Transportation) and made available for this study.

This study acknowledges a number of data limitations, notably:

[12] *For more information see: https://www.dlrcoco.ie/sites/default/files/2023-06/DLAP-Dundrum%20ABTA%20Final%20Report.pdf*

- The Healthy Streets Check methodology (used in Chapter 2) is intended for application both before and after proposed works. In the situation of Dundrum, and for the purposes of this study, some 'before works' data was not available. This necessitated use of best available proxies, such as historical Google Street Views from July 2018. Or in the absence of available local air quality monitoring data, estimates based on proxy data were made (as noted in the Healthy Streets Check analysis - see Appendix 1).
- There is very limited baseline pedestrian, cyclist and vehicle data available for comparisons with the pre Covid-19 situation. Therefore, best available proxies were by necessity used. For example, the vehicular traffic counts utilised as part of the Healthy Streets Check were snapshot counts and were measured before the Covid Mobility works took place, but during a time when some Covid-19 travel restrictions were still in place (June 2020), thus potentially impacting on the data representativeness[13].
- Interviews, as a research methodology, provide for very rich study insights that can add great value to a study. Interviews were chosen over a questionnaire approach as a key methodology in this study as it was felt that the particular context required deeper investigation of issues than a questionnaire would allow for. Interviewing is a very time and resource intensive methodology, and by it's nature there are limits to the number of people that can be interviewed. In addition, not all people/organisations that were invited to interview were in the position to accept the invitation. However, every effort was made to include as wide and representative a perspective as possible within the research sample.

1.7 Report structure and methodology

This report, covering phase 2b of the study, is a socio-economic, urban realm and mobility evaluation and review of the Covid 19 Mobility works in Dundrum village, using an explorative methodology that brings together key elements of 'place', 'movement' and 'people' These three elements are key to best practice in urban design, urban planning and transport planning and their integration.

The report is prepared with a view to understanding how Dundrum Main Street is currently used, lessons that can be learnt, as well as insights into the local business and community perspectives. This report makes recommendations for the future of Dundrum Main Street, and immediate context.

The approach taken involved a mixed-method 'People-Place-Movement' triangulation approach involving a street and policy audit, mobility analysis, and analysis of interviews with community representatives and business stakeholders. In mixed methods research triangulation refers to the practice of cross-checking findings from different research strategies including quantitative and qualitative methods in order to increase the confidence in the separate findings (Bryman et al., 2021). The structure and methodological approach taken in each section of the report is as summarised in brief below:

- Chapter 2 'Dundrum: Streets and Public Spaces Audit' focuses on **PLACE**. The section explores the public space along the Dundrum Main Street and how the reallocation of space was measured

[13] https://www.cso.ie/en/releasesandpublications/ep/p-tb/transportbulletinmay2021/trafficcountdata/

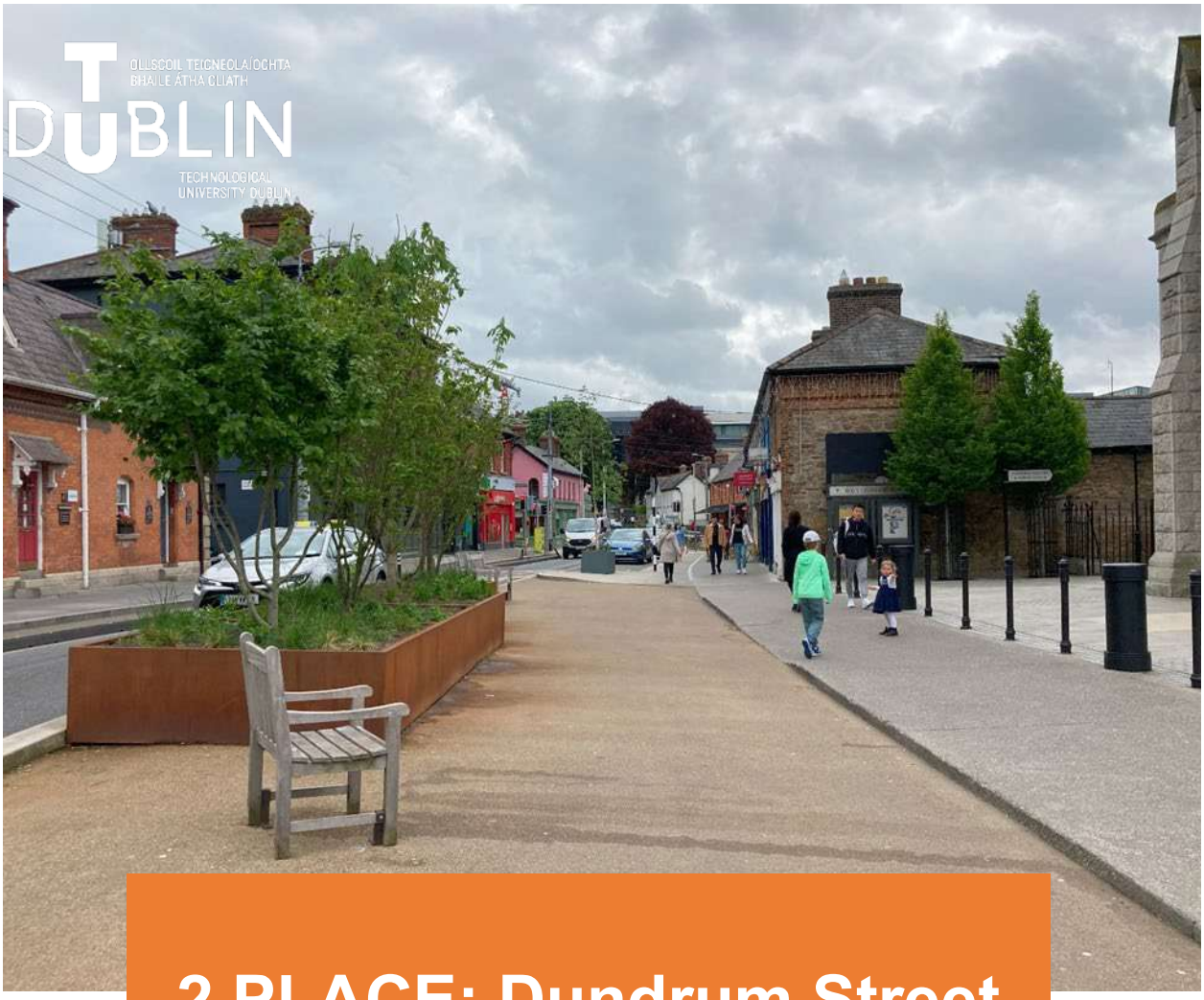
against the aims of relevant Covid-19 government guidelines (DMURS Interim Advice Note[14]); A public realm audit of Dundrum Main Street was carried out in May 2023 to consider the health and quality of the high street environment, using a Transport for London 'Healthy Street Check' audit methodology.

- Chapter 3 'Dundrum: Technical Mobility Analysis' focuses on **MOVEMENT**. This section analyses the Dundrum Village Main Street environment from a mobility perspective, comparing walking, cycling, public transport and car movements.

- Chapter 4 'Dundrum: Business and Community Interviews' has its focus on **PEOPLE**. This report section is an exploration of the business and community perspective. This was carried out through a thematic and content analysis of interviews with a range of community representatives and businesses with a interest in Dundrum Main Street.

- Chapter 5 'Conclusions and Recommendations' provides an overview of observations and discussion, with conclusions and recommendations for both Dundrum and for other 'Main Street' contexts.

[14] https://www.dmurs.ie/supplementary-material



2 PLACE: Dundrum Street & Public Space Audit

2.1 Introduction

This chapter explores the quality of Dundrum Main Street as a public place. It considers its use and how it is experienced. Dundrum Main Street is marked by the crossroad at Ballinteer Road, Sandyford Road and Kilmacud Road (commonly referred to as Dundrum cross) in the south and Taney Cross in the north.

Dundrum Main Street has been the traditional centre of the local community. The street features Holy Cross Church, residential terraces and commercial activity including the old Dundrum Shopping Centre. Today, it can be acknowledged that its traditional sense of place and identity has been disrupted with a commercial shift towards the modern shopping centre to its south. The site of the old shopping centre has been earmarked for redevelopment, and is currently subject to a 'Strategic Housing Development' planning application to An Bord Pleanála[15] (decision pending) for a significant level of large scale residential and mixed-use development.

This chapter is organised as follows:

- Section 2.2 provides an analysis of public space reallocation. It introduces the proposed, and as-implemented, reallocation of road space from carriageway space focused on vehicle movement towards a more rebalanced use of the Main Street by pedestrians, cyclists, public transport and private vehicle users.
- Section 2.3 examines the reallocation of space against the aims of relevant Covid-19 government guidelines (DMURS Interim Advice Note).
  Section 2.4 outlines the results of Dundrum Main Street and public realm audit, which considers the health and quality of the street environment undertaken primarily utilising the Transport for London 'Healthy Street Check' methodology.

2.2 Use of Public Space

DLR's Covid Mobility objectives for Dundrum included increasing outdoor space for pedestrians; increasing pedestrian and cyclist comfort and safety; and supporting the local economy.

Prior to the Covid Mobility works, the Main Street's public realm in Dundrum was predominantly occupied by a two-way vehicular carriageways and parking space for private vehicles (see Figure 2-1). The quantity of public space dedicated to pedestrians and general village footfall comprised of comparatively minimum levels of provision, with many sections of footpath falling below the minimum width of 3m[16] recommended for an urban centre (see Figure 2-1).

Between August 2020 and September 2020, Covid Mobility-related road space reallocation measures were put in place. The introduction of a one-way vehicular traffic layout facilitated wider footpaths, and a new contraflow bike lane. The concept design sketches that were made available on DLR's website are shown below in Figure 2-2. The works largely followed similar design principles as the Covid Mobility works in

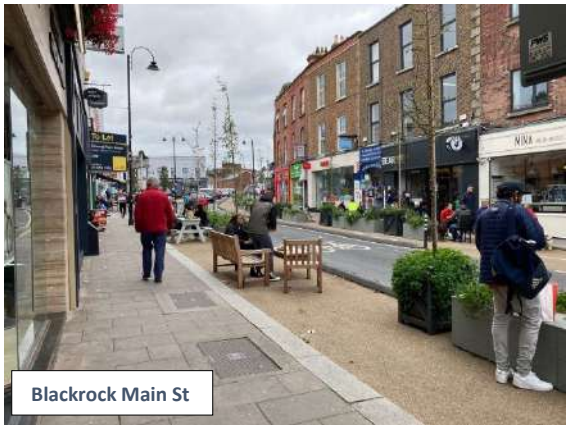
[15] *For planning application details, see https://www.pleanala.ie/en-ie/case/313220 and www.dundrumvillageshd.ie*
[16] *See Section 4.3.1 Footways, Verges and Strips in Ireland's national Design Manual for Urban Roads and Streets (2013, 2018).*

Blackrock Main Street, which were implemented a number of weeks previous to Dundrum's. A key difference is that the additional footpath and public space provided in Dundrum is placed at the same level/grade as the footpath (and thus better for accessibility and useability), whereas in Blackrock, the reallocated road space is kept at the carriageway level (see Figure 2-3).

Figure 2-1Images of Dundrum Main Street before the Covid Mobility works were undertaken (May 2020)

Figure 2-2 Schematic illustrations by DLR showing the concept designs for the Covid Mobility works in Dundrum (source: DLR)

Figure 2-3 Images of the Covid Mobility works in Dundrum Main St (left) and Blackrock Main St (right)



The Covid Mobility works in Dundrum resulted in an 25.9% increase in the footpath/public space (see Table 2-1). Overall, there was a 19.4% reallocation of space towards public space and active travel on the Main Street and Sandyford Road (see Appendix 1). Additional cycle path infrastructure was also put in place on the Dundrum By-pass as part of the Covid Mobility works. These are not considered as part of this healthy streets assessment.

Table 2-1 showing the pre and post Covid Mobility works footpath and public space quantum (data sourced from Barry Transportation & DLR)

	Pre-Covid Works	**Post Covid Works**
Total footpath/public space	3946sqm	4967sqm
Total carriageway (incl. loading and parking areas)	5976sqm	4053sqm
Dedicated cycling lane	0sqm	902sqm
Total area dedicated to walking and cycling	3946sqm	5869sqm
Total street area	9922sqm	9922sqm
Reallocated footpath/public space during Covid works		**1021sqm**
% of total area dedicated to footpath/public space	39.7%	50%
% increase in footpath/public space		**25.9%**
Total area for people walking and cycling as % of total street area	39.7%	59.2%
% increase in space allocated to public space, and people walking & cycling		**19.4%**

Figure 2-4 Illustration of the Covid Mobility works undertaken along the northern (top), middle, and southern ends (bottom) of the Main Street and Sandyford Road, Dundrum (source image: Barry Transportation & DLR).

Figure 2-4 above illustrates the Covid Mobility works undertaken in and around the Main Street in Dundrum. The buff/sandy colour on the drawings illustrates the extended footpath and public spaces, which has prominently been provided on the western side of the street (east facing). This additional space has been facilitated by a reduction of the two-way vehicular roadway to a one-way vehicular roadway, and provision of a two-way route choice for bicycles. Sample street sections are conceptualised in Figure 2-7 and Figure 2-8.

In Figure 2-8 for example, the 'before' cross-section featured a 13.7m street, with 61% of the space dedicated to passing motor vehicles and parked motor vehicles. Only 39% of space is allocated to walking and pedestrian activity. The 'after' cross-section decreases the space dedicated to passing and parked motor vehicles to 41% and increases the pedestrian space to 46% and introduces new dedicated space for cyclists (13%).

Good walking and pedestrian facilities are generally regarded as essential for a vibrant and successful main street (e.g. Gehl, 2010 and Montgomery, 2013). Government policy (DMURS, 2018) seeks a minimum footpath width of 3m in areas of high pedestrian activity such as this. Prior to the Covid Mobility Works several points along the Main Street and Sandyford Road fell below this minimum standard, with pinch points and long stretches of footpaths measuring widths of only 1.5 – 1.9m in width, particularly on the western side of Main Street (see Figure 2-1 and Figure 2-8). At one point, adjacent to the 'Dundrum Town Centre' shopping centre public space, the footpath pinched to a very substandard 1.2m, completely insufficient for what should be a pedestrian priority area.

The Covid Mobility works' road-space reallocation facilitated a much improved pedestrian environment. It substantially reduced the length of footpath falling below this 3m level. Nearly all the additional footpath width is provided on the western side (east facing) of Main Street, although in some places the reclaimed roadway space is allocated to on-street car-parking areas rather than additional footpath width. The vast majority of footpaths on the eastern side of Main Street already exceeded 3m in width, although much of the eastern side footpath of the Sandyford Road part of the street falls below 3m. Three new pedestrian crossing facilities were also provided on Main Street/Sandyford Road including one zebra crossing and two step-free courtesy crossings (see Figure 2-9).

Figure 2-5 Image of Main Street showing a typical example of widened footpaths through the Covid Mobility Works

Figure 2-6 Image of Main Street illustrating road-space reallocation on the western side of the street to wider footpaths in part (bringing the footpaths up to standard) and car-parking areas in other locations (with footpath remaining below standard in these locations for a Main Street context).

Figure 2-7 Indicative Dundrum Covid Mobility Main St cross-section (at location outside the Church) showing road space reallocation (source: Barry Transportation & DLR)

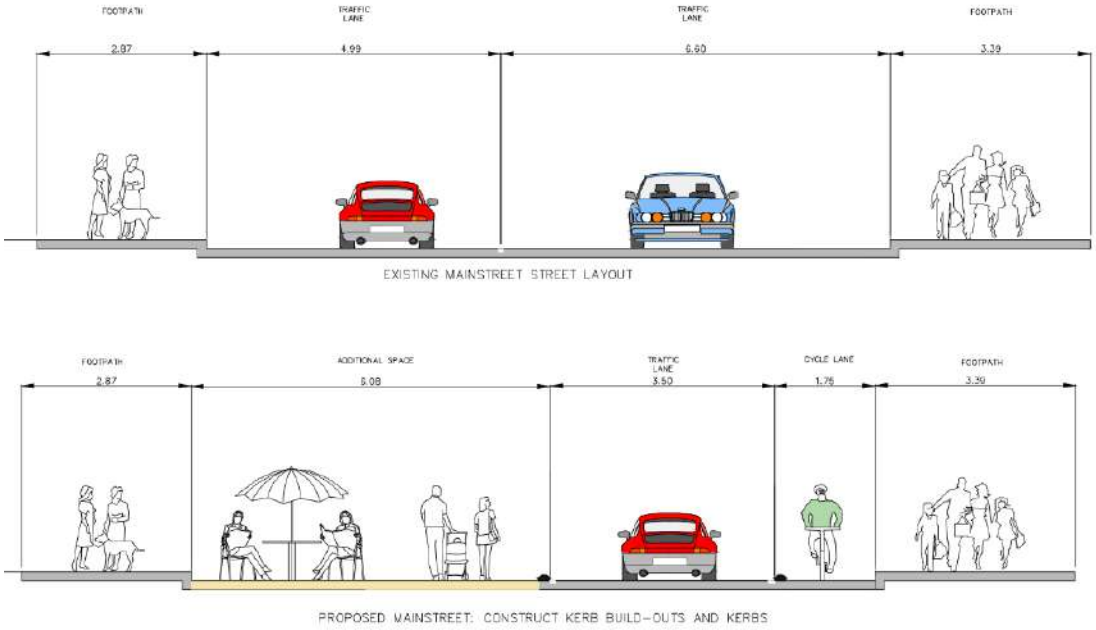


Figure 2-8 Indicative Dundrum Covid Mobility Main St cross-section showing road space reallocation (source: Barry Transportation & DLR)

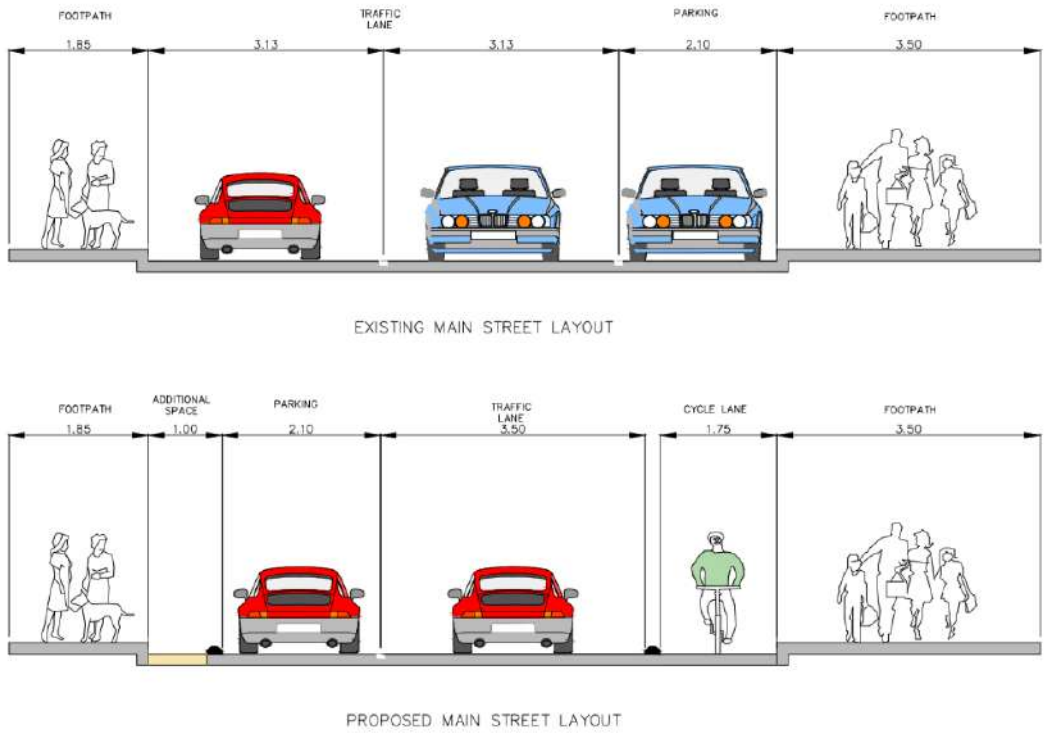


Figure 2-9 The Covid Mobility works in Dundrum resulted in 2 new step-free courtesy pedestrians crossings on Main Street and a new zebra crossing on Sandyford Road (images sourced from Google Streetview).

Post Dundrum Covid Mobility & Public Realm Works	*Pre Dundrum Covid Mobility & Public Realm Works*
 Image from May 2018 - No dedicated pedestrian crossing @ Don Marmion Car Park, Sandyford Road	 *Image from Sept 2022 - New Zebra Crossing @ Don Marmion Car Park, Sandyford Road*
 Image from July 2018 – No dedicated pedestrian crossing @ Pembroke Cottages, Dundrum Main Street	 *Image from Sept 2022 – New courtesy step-free pedestrian crossing @ Pembroke Cottages, Dundrum Main Street*
 Image from July 2018 – No dedicated pedestrian crossing Old Shopping Centre @ Callaghan's Robe Makers, Dundrum Main Street	 *Image from Sept 2022 – New courtesy step-free pedestrian crossing, Old Shopping Centre @ Callaghan's Robe Makers, Dundrum Main Street*

2.3 Policy Audit of Covid Mobility Works

The Interim Advice Note published on 23rd June 2020 (Government of Ireland, 2020) and referenced in the introduction (Section 1.1) complement the existing DMURS guidelines[17]. Short, medium and longer-term changes were discussed in the Advice Note. The importance of monitoring and evaluating data arising from newly introduced measures was highlighted, particularly if longer term funding might be required. The *National Transport Authority (NTA)* wrote to all 31 Local Authorities offering support with the implementation of these measures. It was recognised that many Irish cities and towns would be challenged, given constrained current inherited layouts, with respect to the provision of safe passage for social distancing for pedestrians and cyclists.

[17] *For more information see https://www.dmurs.ie/_files/ugd/f378bf_0a66fb5405a544e087e38eb23319ee9e.pdf*

The measures suggested by the NTA included:

- Widening of footpaths, to facilitate queuing at retail points, and distancing.
- Pedestrianisation of some streets to accommodate social distancing and support business activities.
- Creating one-way systems, where removing traffic was a solution to facilitate footpath widening.
- Altering traffic signal times to prevent crowding of waiting pedestrians, also enabling automatic, or motion-sensitive signal push buttons.
- Providing additional temporary facilities for cyclists.
- Providing additional outdoor space to support local businesses.

An immediate response was encouraged, to ensure the transfer of space from private vehicles to pedestrians and cyclists. The importance of maintaining business viability in urban centres, and promoting active travel were highlighted.

Table 2-2 assesses the Government suggested approach to Covid Mobility works by the Advice Note in terms of 'immediate measures' compared with the approach taken by DLR in Dundrum. The table uses a simple three step assessment system of '*good*, '*potential for improvement* ' and either '*not undertaken'* or '*not applicable'*.

Table 2-2 DMURS Interim Advice Note Recommendations for Immediate Covid-19 Mobility Response

	Immediate Response Advice Note Recommendation	**Dundrum Main Street Covid Mobility Works**	**Response level**
Pedestrians	Provision of a clear path to facilitate 2m social distancing, including use of car-parking/loading areas	The total pavement previously had significant pinch points with as little as 1.2m at the busy point of 'Dundrum Town Centre' shopping centre. The extended pavement width is generally now the min of 3m on both sides of the Main Street.	Good
Pedestrians	Installation of temporary signage illustrating alternative walking & cycling routes through quieter areas	Largely not applicable in this location.	Not undertaken/ not applicable
Pedestrians	Footpath markings encouraging pedestrians to keep to the left and illustrating 2m distance	Not undertaken.	Not undertaken
Cyclists	Add segregated cycle lanes on key routes	Provided southbound contra flow on the Main Street and part of Sandyford Rd (in addition to new on-road cycle lanes on the by-pass). Mixed with vehicular traffic northbound along the Main Street, with lower road speed and traffic volumes. Practically it meets what was required, however there remains some lack of legibility in their use and a lack of good network connectivity.	Potential for improvement
Cyclists	Maximising Advance Stopping Lines (ASL) at traffic lights for cyclists	New ASLs and dedicated cycle lights are provided at Dundrum Cross on Sandyford Rd, Kilmacud Rd and Ballinteer Rd. However heading south from Main St by bike on the bike lane, buses turning onto the Main Street can pose a threat as the turning circle comes	Potential for improvement

	Immediate Response Advice Note Recommendation	Dundrum Main Street Covid Mobility Works	Response level
		close or overreaches the point at which the contra flow cycle lane ends. There are no ASL's provided where Main St meets the by-pass. This is an environment where an ASL would be important.	
Cyclists	Increase the width of cycle lanes on major routes (or in part where possible) to cater for increased numbers of cyclists (provided sufficient space is also provided for pedestrians).	Addressed by installation of 1.75m southbound segregated contra flow cycle lane but mixed with regular traffic southbound (with additional pedestrian space prioritised).	Good
Street Activity	Provide additional space (in addition to that provided above for pedestrian movement) outside shops and adjacent to bus stops to facilitate queuing. Consideration should also be given to the allocation of space for outdoor tables/seating associated with food service.	Increased particularly on the west side of the Main Street. Public furniture and picnic tables provided at various points, although minimal level provided on the sunnier west facing side of street.	Good
Traffic Manage-ment	Examine movement within the broader network and identify alternative routes for through traffic.	Main street and part of Sandyford Road converted to one-way northbound for motor traffic, and part of Kilmacud Road limited to westbound traffic movement.	Good
	Minimise the width of vehicular carriageway to calm traffic and increase the space available to pedestrians and cyclists	As above, southbound traffic removed from Main St and northbound traffic slowed by lane width. Road space reallocated to pedestrians and cyclists.	Good
	Implement one-way systems. Where there is a conflict between maximising space for pedestrians and cyclists and maintaining two-way traffic with a broader traffic management view applied e.g. contra-flow lanes for cyclists should be provided.	Good balance of road space reallocation expressed with southbound vehicular lane redistributed with a northbound dedicated contraflow lane and additional pedestrian space. The remaining of 3.5m carriageway functions as a shared northbound vehicular and cycle lane (noting this space also caters for large vehicles including buses).	Good
	Other limited road closures to restrict through movement by private vehicles within a Local Street network	Addressed by the introduction of one-way system and the elimination of southbound traffic on Main Street & part of Sandyford Road, and the closing of Upper Kilmacud Road to west-bound vehicular traffic at Dundrum Cross (while facilitating east bound cycle movements). However considerable through-traffic still present.	Good

	Immediate Response Advice Note Recommendation	Dundrum Main Street Covid Mobility Works	Response level
	Adjusting signal timings at busy crossing locations to reduce queuing for pedestrians, including possible automation.	Only 6 seconds of 'green-man' time provided at the Dundrum Cross junction although reasonable pedestrian crossing time provided overall. However, the vehicle cycle is quite long here, resulting in long waits for pedestrians including school-going children crossing onto Kilmacud Rd Upper.	Potential for improvement
	Application of Special Speed limits (i.e.) or Advisory Speed Limits as an interim measure (30km/h)	Road space reallocation goes someway to calm street in a self-reinforcing way, however 50km/h is in place through this section.	Potential for improvement
	Installation of temporary signage advising drivers of changed layouts	New signage in place on Ballinteer Rd, and Kilmacud Rd Upper, however on Kilmacud Rd Upper there is still a sign to turn left onto Sandyford Rd to access the Red Car Park (this should be removed as it is likely to cause confusion). There is no signage on Sandyford Rd, however the south bound lane is not available just north of the Sandyford car park, so no signage is necessary here.	Needs improvement
Car Parking	Close off on-street parking spaces and loading areas. Loading areas, alternative locations should be provided with directions and signposting where appropriate. Regarding car parking, directions should be provided to edge of centre or other alternative facilities within walking/ cycling distance and/or public transport.	Parking spaces were not removed, however there was an improvement in accessible parking spaces. The road-space reallocation provided significant additional footpath space so additional footpath space through closing off on-street parking spaces was not necessary.	Largely not applicable
	Provide 'Park and Stride' facilities on the edges of centre (where people make the first part of their journey by car, park on the edge of a centre, and make the final part of their journey by foot, bicycle or via public transport).	This is largely not applicable in this location however, there are some car-parks such as the Dom Marmion car-park and the Old Shopping Centre car-park that could have enhanced park-'n' stride features including improved footpaths and signage/information particularly at Dom Marion car-park (which would also benefit Holy Cross School).	Potential for improvement

2.3.1 Conclusions: Policy Audit

Table 2-2 above summarises the immediate measures outlined and actioned by DLR as a response to Covid-19. An overall positive response to the Interim Advice Note was provided on Dundrum's Main Street based on its reconfiguration to a tightened one-way northbound vehicular traffic layout shared with cycle traffic set against a southbound contra flow to facilitate people cycling. Not all of the Advice Note's recommendations applied to the Dundrum context, and as the pandemic context has evolved, not all are relevant in an ongoing capacity. The assessment also suggests opportunities exist to refine some of these measures should they become more permanent.

As an immediate response to the Interim Advice Note, the measures undertaken provided increased safety and access for non-vehicular mobility on the Main Street and the northern end of Sandyford Road and have by-and-large responded very well to the recommendations of the Advice Note. Importantly, in terms of broader/longer term policy alignment such as with climate change and health, they signal a positive direction, though acknowledging some room for improvements remain.

2.4 Healthy Streets Check

A Dundrum Main Street and Public Spaces Audit was undertaken to compare the 'health' of Dundrum Main Street before and after the 'Covid-19 Mobility and Public Realm Works'. This was undertaken on 8 May 2023 and focused on the Main Street section from Dundrum Cross to the old Shopping Centre. The approach uses the Transport for London 'Healthy Streets Check for Designers' (hereinafter Healthy Streets Check). The Healthy Streets Check is an internationally recognised street audit approach for measuring and comparing the public health value of a street layout before and after planned interventions using a 'human centred framework'[18].

The approach provides a replicable methodology that facilitates urban street environments to be compared. It was first used by Transport for London and has since been used in various adaptations across the UK, Europe, Australia and New Zealand[19]. *Before* and *after* street layouts are compared against 31 specific metrics, which contribute to 10 overall indicators that together support an assessment of the accessibility, inclusivity, quality, safety and overall 'health' of the street environment (see Figure 2-11). These are designed to be intuitive but logical and easy to explain. The result provides an estimated percentage of 'health' out of a total of 100% for each of the 10 indicators.

Figure 2-11 The 10 Indicators of a Healthy

Caveats and acknowledgements regarding use of the Healthy Streets Check:

1. As with any standardised tool, there are also some drawbacks. The Healthy Streets Check assessment categories have a limited range (from 0-3). This means that nuances associated with some of the metrics can be missed. For example, even though there is a reduction in overall vehicle volumes passing through the Main Street[20] in the one-way format, the category reference range did not result in a change of score, thus the benefit for people walking and cycling associated with this reduction was not fully considered. Comments in the audit spreadsheet in Appendix 1 make a note of this where relevant.

[18] https://www.healthystreets.com/what-is-healthy-streets

[19] *The Healthy Streets Check methodology was reviewed by the University of Westminster on behalf of Transport for London in 2017 with strong support found for the tool. In addition it has been used by the Business Improvement Districts of London (Aldred and Sharkey, 2018) and the approach endorsed by the Greater London Authority, and Auckland Transport in New Zealand (Saunders, 2020).*

[20] *This metric contributes to indicators including 'people feel safe', 'People feel relaxed', 'Easy to Cross' and 'Pedestrians from all walks of life'.*

2. This street audit draws on both quantitative and qualitative data and assessment. A limitation associated with the street audit is that it was undertaken after the works were implemented in the Main Street. The Healthy Streets Check was originally designed to be undertaken before as well as after/proposed works. This meant that some of the 'before works' data was unavailable and proxies had to be used. These are noted where relevant; sources of information for the previous layout that were most used were:
    - 'Audit of the villages, towns and local centres of 'Dún Laoghaire-Rathdown County Council, March 2017' - report by Alan Mee Architects (March, 2017);
    - Available historic traffic counts; and
    - Google Earth and photographs.
3. The pre Covid Mobility works traffic data that was available for this study is a data measure from before the Covid Mobility works took place, but nonetheless during a period when Covid-19 restrictions were in place. The traffic data was therefore likely to have already been suppressed compared to traffic prior to the imposed Covid-19 restrictions[21]. Other indications of pre Covid traffic in Dundrum can be found in Alan Mee Architects audit report (2017) that noted *"car users of this [Dundrum] major town centre tend to dominate the private and public parts like crossings and junctions. Some wide road junctions make it difficult to cross to and in the town centre for pedestrians*."
4. The HSC scores are based on daytime observations. This may positively influence both before and after scores relating to natural surveillance. Use of Google maps (current and July 2018 version) and photos, were also studied.

It is acknowledged that the Covid Mobility works put in place by DLR were undertaken as a rapid response, as recommended at the time. It is recommended that suitable evaluation related data be considered and collected in readiness for future projects and other monitoring requirements (see Chapter 5 for further recommendations).

Complementary Assessments relating to Accessibility and Inclusion

The National Disability Authority (NDA) and Age Friendly Ireland (AFI)'s 'How Walkable is Your Town?' report (2015) was also considered in order to gain a further understanding of the needs of the elderly and the disabled. The report features many shared principles with the Healthy Streets Check. There were, however, three additional questions considered from the report's survey and walkability audit. This was to obtain greater accuracy in measuring accessibility and inclusivity for elderly and disabled people. The additional issues considered are:

- Extent of obstacles that particularly impede elderly and disabled citizens (this includes narrow pathways and obstacles such as hoardings and parked bicycles).
- Is there enough time for elderly/disabled to make crossing at pedestrian lights?
- Do public seats have a back and arm-rest for people to rest against?

[21] *Reduced levels of traffic compared to pre-Covid-19 lockdown levels was noted by CSO data "Following the re-introduction of Level 5 restrictions on 27 December 2020, car traffic volumes dropped significantly, but have been growing slowly over the first months of this year, and more rapidly recently when travel restrictions changed in week 15 (on the 12 April)." https://www.cso.ie/en/releasesandpublications/ep/p-tb/transportbulletinmay2021/trafficcountdata/)*

The National Transport Authority also issued a Universal Design Walkability Audit Tool for Roads and Streets in January 2021. The tool was developed as a collaboration between the National Transport Authority, Age Friendly Ireland, Green-Schools and the National Disability Authority's Centre for Excellence in Universal Design. This community-focused tool builds on the 2015 NDA/AFI report findings.

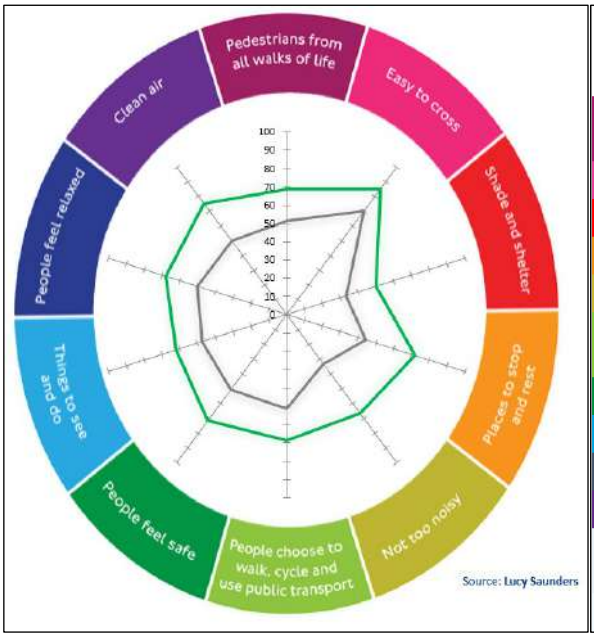
2.4.1 The Healthy Street Check: Results and Interpretation

Figure 2-12 below illustrates the overall results of the Healthy Streets Check. **The previous street layout and design achieved an estimated score of 51% while the reconfigured and redesigned street achieved an estimated score of 70%.** This represents a significant **19% increase in the 'health' or improvement of the street environment through the implementation of the temporary Covid Mobility and Public Realm Works** undertaken, compared with the previous arrangement. Three metrics in the previous layout received the lowest score of zero, where no metrics achieved a zero score in the redesigned Main Street.

The 10 overall indicators improved in the order of 14-33% from the previous arrangement of Main Street. Indicators showing a considerable improvement include: 'Not too Noisy' (33% improvement), 'Clear Air' (25% improvement) and 'Places to Stop and Rest' (22% improvement). Although 'Clean Air' is only an estimate as supporting scientific data is currently unavailable, the score nonetheless is a positive indication of likely significant improvement owing to the one-way vehicle layout leading to a substantial reduction in vehicular traffic through the main street.

The healthy street check suggests that there has been a significant improvement across all ten healthy street indicators, and therefore that the post Covid Dundrum Main Street is overall 'healthier' for the local community and its visitors.

Figure 2-12 Healthy Streets Check Spider Diagram (left) and Indicator Scores (right), Dundrum Main Street



	Original Layout	Covid temp layout	Change in indicator score
Pedestrians from all walks of life (Accessibility)	52	69	+ 17
Easy to cross	70	85	+ 15
Shade and shelter	33	50	+ 17
Places to stop and rest	44	72	+ 28
Not too noisy	33	67	+ 33
People choose to walk, cycle and use public transport	52	69	+ 17
People feel safe	52	71	+ 19
Things to see and do	52	67	+ 14
People feel relaxed	50	68	+ 18
Clean Air	50	75	+ 25
Overall Healthy Streets Check score	51	70	+ 19
Number of 'zero' scores	3	0	- 3

The Healthy Streets Check did however highlight a few areas worthy of further consideration in any future plan for Dundrum Town Centre/Village Centre:

1. **Shade and shelter**

Apart from the recently planted trees in planter boxes, which have modest canopies at this stage, there is room for more robust canopy screening from sun or precipitation (and related maintenance thereof). In addition to trees, awnings and greenery can support activity in the Main Street, and can be particularly supportive of economic and social activity, as well as providing improved drainage on rainy days.

2. **Safety for people cycling**

The lower traffic environment, and the contraflow cycle lane adds to the local cycling network and improves cycle safety. The collision risk between cyclists and traffic seems relatively low overall. However, a few points were noted:

- the discontinuation of the contra flow cycle lane is c.10 metres north of Dundrum Cross. There is a noted tendency for some cyclists to cycle beyond this to the point of the crossroads (based on observations on day of audit and afterwards). There appears to be a risk in relation to the substantial turning circle required by larger left-turning vehicles in particular buses, coming from Ballinteer Road to Main Street. During our observations, buses navigating this junction occasionally mounted the contraflow cycle kerb. It is advisable to reevaluate the junction's design to address this issue.
- A number of people were witnessed using the contraflow lane in the with-traffic direction, at the same time as other cyclists traveling northwards. The latter cyclists, although correctly sharing the traffic lane, are sometimes getting beeped at. It is apparent that some drivers wrongly believe the person cycling should be in the 'dedicated cycle lane'. This point was also repeated in the interviews (outlined in Chapter 4).
- The northbound carriageway is narrow, which has the effect of restricting traffic from overtaking cyclists who share the lane. However, during observations, it was noted that some people still chose to cycle close to parked vehicles. Exploring ways to further nudge cyclists to position themselves more centrally away from parked cars and opening doors may be helpful.

3. **Accessibility and inclusion issues**

Additional accessibility and inclusion issues were considered, with observations being made concerning the extent of obstacles that may impede elderly and disabled citizens in particular. Many of the footpaths were widened considerably along Dundrum Main Street (and the northern parts of Sandyford Rd) as part of the Covid Mobility works (outlined in the introduction). Along the footpaths, there were no obvious significant obstacles of note to impede pedestrians, and the footpath space generally allows for a degree of clearance of the primary footpath of obstacles. However, there were a few observations worth considering in advance of any permanent design scheme.

Black rubber 'defender' kerbs: these delineate the contra flow cycle lane from the vehicular traffic lane. They provide a degree of segregation and safety for people cycling in the contra-flow lane, which is key for vulnerable cycling groups. However they can also act as a barrier for some pedestrians seeking to informally cross the Main Street. As discussed further in Chapter 4, the business and community interviews found them to be the most controversial issue on the Main Street. They are perceived as a tripping hazard with recounted falls and valid concerns raised about older citizens or those with reduced mobility or vision issues.

Figure 2-13 Black rubber defender kerbs (top) on Main St and concrete upstand kerbs on Sandyford Rd (bottom)

It is noted that in the Sandyford Road section, the black 'defender' kerbs have been replaced with lower profile concrete upstand kerbs, which are easier to step on and to see. This solution does not appear to present the same concerns as the black rubber kerbs (see Figure 2-13).

Retrofit kerb design with 'waves': In October 2023, the Council retrofitted the defender kerbs with reflective 'waves' after requests from Elected Representatives and others (see Figure 2-14 compared to Figure 2-15). Given the strength of local feeling (see Chapter 4 for more information), this appears to be a reasonable short-term response to the issue at hand. However, this is not recommended as a medium- or long-term solution for an accessible Main Street. Vibrant and healthy Main Streets environments generally facilitate safe and easy criss-crossing by people on foot so that people can seamlessly navigate the retail and other services offered. This is an important element of the traditional 'Main Street'/Town Centre environment as streets thrive on people being able to frequent both sides easily. This environment also enables street-based festivals and events such as the 'Dundrum Festival' (see Figure 2-17). As Chapter 3 and 4 will discuss, such community and cultural events are locally valued and can prove economically beneficial as they attract increased footfall.

Figure 2-14

Figure 2-15 Reflective 'waves' retrofitted onto defender kerbs.

Figure 2-16

Figure 2-17 Dundrum Festival (June 2023)

<u>*Other:*</u> The raised pedestrian courtesy crossing adjacent to Pembroke Cottages was noted several times to be used as an informal car-parking space, blocking safe pedestrian crossing, warranting design attention (Figure 2-18).

Figure 2-18 Courtesy crossing on Main St sometimes used as a car-parking space.

Figure 2-19 Dundrum Cross – where Main St, Sandyford Rd, Ballinteer Rd, and Upper Kilmacud Rd meet.

4. **Pedestrian crossing times at Dundrum Cross**

The signalised pedestrian crossings along Main Street are in compliance with the Government's *Traffic Management Guidelines*[22] (2003). However more recent research shows that older people, for example, need longer to cross the road that these standards recommend[23]. At the time of this survey, it was also noted that the waiting time for pedestrians crossing at the signalised lights at Dundrum Cross seems excessive within a Main Street context. On the day of observation, pedestrian times were noted as c. 40 seconds for N-S vehicle phase + c. 40 seconds for E-W vehicles phase + 16 seconds for pedestrian phase + inter-greens. In addition, there are only 6 seconds of 'green-man' time provided and a further 10 seconds of amber crossing time. These short 6 second intervals, in

[22] *https://assets.gov.ie/30277/e3faaeaef9f74832947150bd6de1fae2.pdf (see p. 190)*

[23] *For example research by Asher et Al. (2012), demonstrates that older people (≥ 65) need more crossing time at pedestrian lights than current standards recommend. Older women's mean walking speed is 0.8m and older men's is 0.9m/s, as opposed to the speed of 1.2m/s that is currently used (in conjunction with the standard 6 seconds of 'green time'). Pontevedra City Council, Galicia, Spain generally recommend 0.65-0.8m/s to sufficiently cater for children and older people and those with less mobility.*

particular, are not in alignment with international best practice for inclusive, age and child-friendly environments. It is recommended that additional pedestrian green man crossing time is provided here in addition to the current amber time. This could be implemented immediately.

5. **Public seating with back and arm-rests**

The redesigned Main Street provided for a substantial increase in temporary seating opportunities for people, with the pleasant addition of informal planters. These are all currently confined to the west side of the street. It is recommended that seating opportunities with arm and back rests are maintained on the Main Street. It is also recommended that these might be considered for adjacent streets in any permanent design, as well as seeking opportunities for increased seating and tables on the eastern side of the street, as this receives good solar access.

2.5 Conclusions

The Covid Mobility works in Dundrum Main Street have resulted in a significant improvement in the quality and accessibility of the public realm. This reallocation of road space partially away from private vehicles and towards a more inclusive and safer environment, supports people walking, wheeling and cycling. The policy audit finds that, as an immediate response to the government's Covid-19 Mobility Interim Advice Note, the measures that have been provided have increased safety and access for non-vehicular mobility. For the most part they have responded well to the recommendations of the Advice Note and have met two of DLR's main Covid Mobility objectives to increase cycling and pedestrian comfort and safety, as well as increasing outdoor social distancing space for pedestrians. Importantly, in terms of broader/longer term policy alignment such as with climate change and health, they signal a positive direction, though acknowledging room for improvements therein.

The Healthy Street Check reveals a significant 19% improvement in the 'health' of Dundrum Main Street utilising the recognised auditing approach. Wide footpaths are particularly important in a Main Street context. The Covid Mobility works resulted in footpaths improving substantially from the pre-Covid provision and the majority meeting the Government's recommended minimum width of 3m[24] for busy pedestrian environments, as well as the provision of 3 new dedicated pedestrian crossing points. The Healthy Street Check also noted that the introduction of street furniture and planting supports the use of public space and outdoor socialisation. These are important steps in facilitating public life and vitality on Dundrum Main Street.

While room for improvement has been identified in places and should be considered in any proposals for a permanent public realm enhancement plan for Dundrum Main Street (e.g. around barrier and step-free pedestrian crossing movements), the achievements of these temporary and rapidly constructed works also deserve recognition. As outlined in Chapter 4, there is much support for a renewed vibrancy and activity by the wider community, and as such the works are generally seen as a tangible benefit. However as is also discussed in Chapter 4, while many issues have been remediated to some extent, there are some complexities that still need to be untangled.

[24] *See DMURS, 2018 for more information.*

3 MOVEMENT: Mobility Analysis

3.1 Introduction

The Covid-19 pandemic led to an unprecedented shift in mobility patterns, both in Ireland and internationally. Some of the biggest changes included substantial reductions in the capacity and use of public transport, the reduction in traditional morning and evening peak-hour travel, and an increase in daytime and more locally based trip making. These impacts are discussed in more detail in Ph1 and Ph1b of this study relating to Blackrock and the Coastal Mobility Route (see Section 1.1).

This mobility analysis study for Dundrum takes a somewhat different focus to that of previous phases. This is for a number of reasons including: the considerable passage of time since the Covid Mobility works were implemented; the lack of 'before' mobility data available for Dundrum (except for mainly vehicle speed data available through the TomTom Move[25] database); the imminent changes to the bus network in Dundrum due to the roll-out of the national BusConnects program; and the Councils 'Area Based Transport Assessment' (ABTA) process that was being undertaken separately and concurrently by DLR through external consultants, as part of the Dundrum Local Area Plan process. Key findings from the ABTA are outlined in Section 1.5. This chapter draws on two main data sources: the recently installed Vivacity mobility counters by DLR in the main streets of Blackrock, Dundrum and Dún Laoghaire; and the TomTom Move database.

Analysis focuses on the use of the Main Streets by pedestrians, cyclists and vehicles. Pedestrian footfall and the experience of visitors are particularly important in a Main Street context. Both are often recognised as a predictor of economic activity and success. According to the Institute of Place Management and Manchester Metropolitan University[26], *'footfall is the most important factor that influences town centre/high street vitality and viability'* (p.1). Studies in the UK also show that where the pedestrian experience is improved on main/high streets, footfall can increase by 20-35%, and buck the UK trend of a 22% decline in footfall between 2007-2017 (Living Streets, 2018[27]). Therefore the use of Dundrum Main Street by pedestrians is a particular focus of this mobility analysis, and how it fares in comparison to Blackrock and Dún Laoghaire. How the segregated contraflow cycle lane is used, compared with shared vehicle is explored. The impact of the seasons is also considered. A vehicle analysis is conducted which focuses on vehicle speeds, volume and routing, as they can have a significant negative impact on the health of a traditional main street.

Chapter 1 and 2 outlined many of the key changes to the mobility environment brought about by the Covid Mobility works in Dundrum. The figures below and overleaf are before and after images along the Main Street and Sandyford Road, illustrating the reallocation of road-space to additional footpath, greenery, cycle parking and a segregated contraflow cycle lane.

[25] TomTom Move sample size is estimated to be between 5-15% of the total traffic and is based on anonymous consumer-driven GPS based measurements. According to TomTom, they 'receive signals from anonymous TomTom connected car in-dash navigation systems, portable navigation devices and anonymous GPS-equipped mobile phones'.

[26] For more information see https://squidex.mkmapps.com/api/assets/ipm/footfall-a-key-performance-indicator.pdf

[27] For more information see https://www.livingstreets.org.uk/media/2t0hyzcm/pedestrian-pound-2018.pdf

Figure 3-1 Before and After Covid Mobility photos at Sandyford Rd from Dundrum Cross showing additional footpath, segregated cycle flow lane and cycle parking.

Figure 3-2 Before and After Covid Mobility photos of Main Street showing extended public realm outside the Church and the bus-stop (images taken from different aspects on the same section of the street)

Figure 3-3 Images of the before and after northern end of Main Street Covid works showing the extended footpath space and new contraflow cycle-lane (left image source: Google St View)

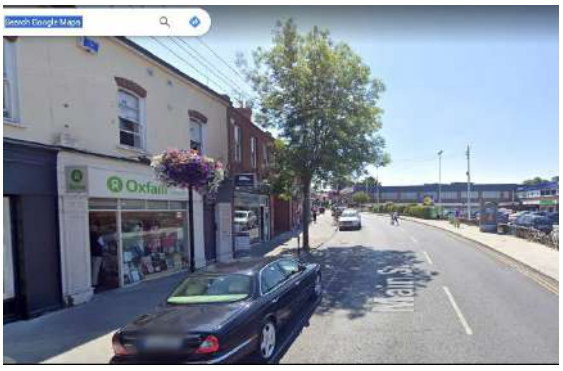
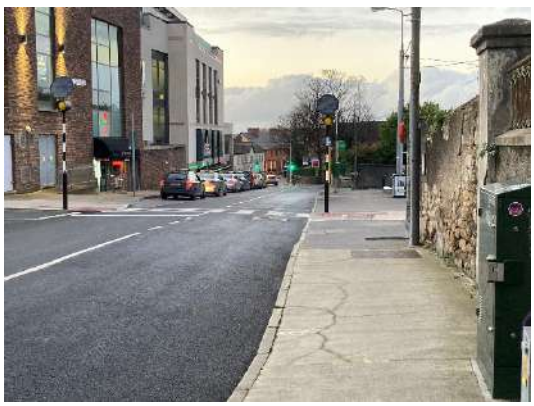


Figure 3-4 Before and after images of Sandyford Road, illustrating the new zebra crossing implemented as part of Covid Mobility (left image source: Google Street View)



3.2 Movement Modes, Footfall & Pedestrians

Figure 3-5 overleaf shows the daily movement of people, cycles and vehicles averaged over a six-month period in the Main Streets of Dundrum, Dún Laoghaire and Blackrock. While this does not represent person trips[28], the graph is indicative of the important role that pedestrians have on each of the Main Streets. Strong footfall, as well as how people use and experience public spaces, are important for an economically and socially active street; and in this regard a quality pedestrian environment with appropriate allocation of public space is key to supporting the primacy of pedestrians on a Main Street.

The DLR Development Plan 2022-2028 designates Dún Laoghaire and Dundrum as 'Major Town Centres' and Blackrock as a 'District Centre' in the retail hierarchy [29]. Looking at pedestrian movement, the counts show Dún Laoghaire to be the best performer, followed by Dundrum, and Blackrock (c.6% and 10% lower than Dún Laoghaire respectively). Additional research in the area of footfall and vibrancy in Irish towns and modern Main Streets would share further light on the relative health of such numbers, however it would appear that Dundrum Main Street, being part of a 'Major Town Centre', has further room for improvement in relative footfall levels. Although the Covid Mobility works are similar in both Dundrum and Blackrock, the land-use conditions are somewhat different. For example, in addition to having one of the country's largest shopping malls adjacent to its Main Street (which according to Hammersons' website, the 'Dundrum Town Centre' shopping centre attracts 15.1 millions visitors per annum, equating to approx. 41,500 visitors daily[30]), Dundrum appears to have a higher quantum of street-level retail unit vacancy than Blackrock. Blackrock also contains two shopping malls, but they are smaller. Blackrock also has a high level of locational amenity, being immediately adjacent to the coast and a park. Both locations feature high quality fixed-lined public transport (DART and Luas).

Table 3-1 Pedestrian counts on Main Street (01 Feb-01 August 23 incl. including event days) (data source: DLR Vivacity Counters)

	Pedestrian Counts[31]	Approx. average count/day
Dundrum Main St	1,442,683	7,927
George's St Lwr, Dún Laoghaire	1,540,783	8,466
Blackrock Main St	1,385,269	7,611

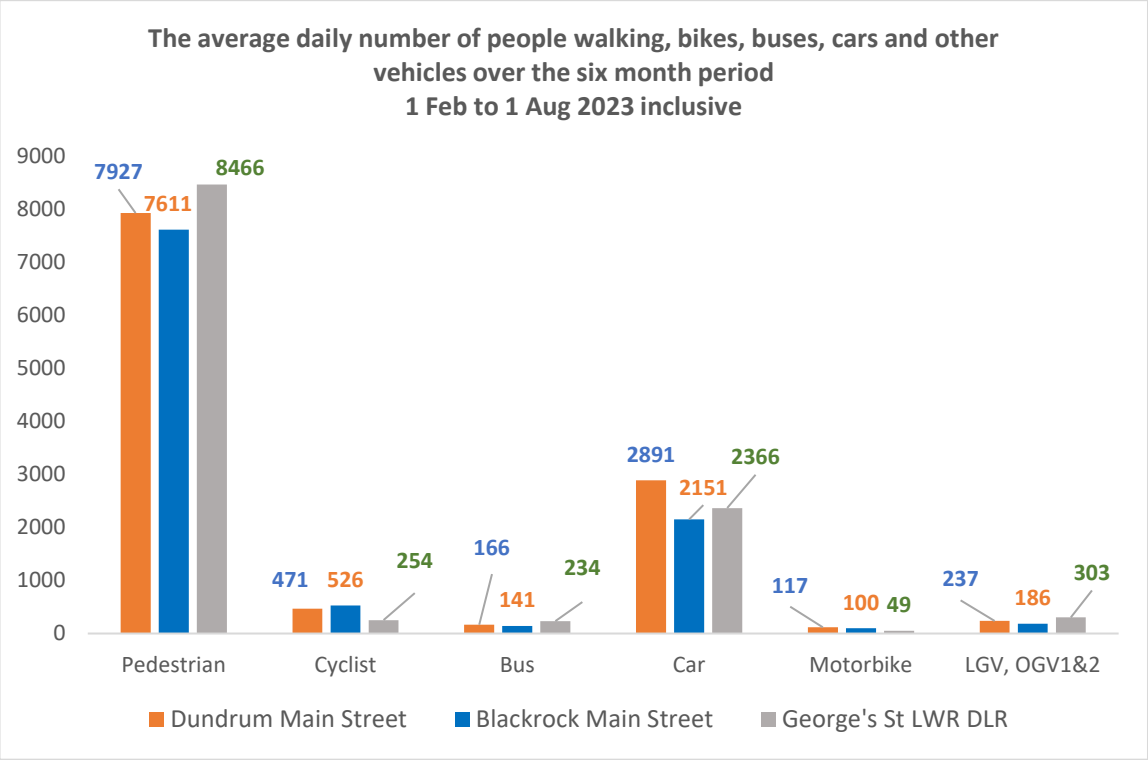
[28] For example, the average bus occupancy is 37.4 based on the 2022 Dublin Canal Cordon, and the average car/taxi occupancy is 1.25 people. However, these figures are likely to be different in Dundrum. For more information see ttps://councilmeetings.dublincity.ie/mgConvert2PDF.aspx?ID=41523

[29] https://www.dlrcoco.ie/sites/default/files/atoms/files/chapter_7_towns_villages_and_retail_development_0.pdf

[30] https://www.hammerson.com/destinations/dundrum-town-centre

[31] Dundrum counts are taken on Main Street just north of Dundrum Cross. Blackrock counts are taken in Main St, just south of Bath Place. Dun Laoghaire counts are taken on George's St Lower, in between Sussex St and St. Michael's Hospital.

Figure 3-5 Movement mode comparison using average of total daily counts over six month period in Dundrum, Dún Laoghaire and Blackrock Main Streets (data sourced from DLR Vivacity Counters).



LGV = Light Goods Vehicle
OGV = Other Goods Vehicles

In **Dundrum** there is a fairly consistent usage by pedestrians through the 6-month time period studied with **typical peak usage shown on Fridays followed by Saturdays**, and the least usage on Sundays (see Figure 3-10 and Figure 3-7). These similar patterns are also show in Blackrock (See Figure 3-8). **Dún Laoghaire Main Street is shown to be a more of a Saturday destination**, with its peak on Saturday, followed by Friday, and the lowest numbers on Sundays. Mondays show the lowest weekday pedestrian count across all three centres (see Figure 3-9).

Good and bad weather appears to impact Blackrock more in both a positive and negative way, illustrating that it is a place that people feel particularly attracted to in good weather. Met Eireann recorded June 2023 as being a particularly good month weather wise in Dublin, and July 2023 was a particularly rainy month.[32] In June for example, there was on average 1099 more daily pedestrians in Blackrock than in July, compared with 723 more in Dundrum and 349 more in Dún Laoghaire.

[32] https://www.met.ie/climate-statement-for-august-2023

Figure 3-6 Pedestrian Counts with peaks noted at the St. Patrick's Day event in Blackrock (17 March 2023) and Dundrum Festival (late June 2023) (data sourced from DLR Vivacity Counters).

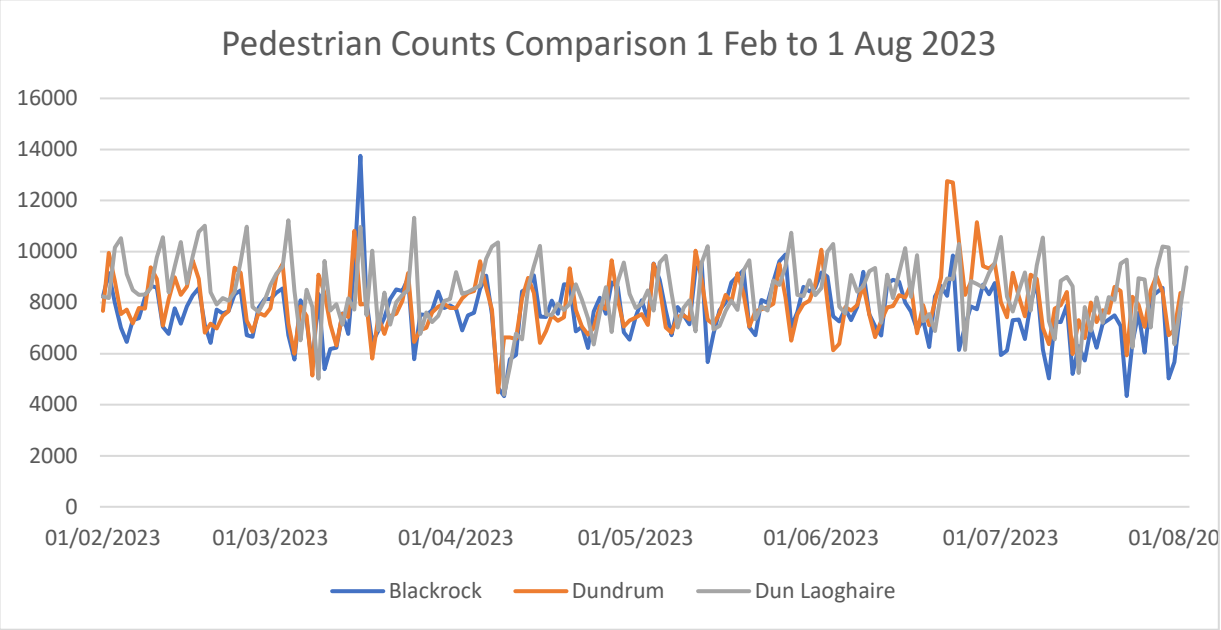


Figure 3-7 Dundrum Pedestrian Counts pedestrian levels by day of week (1 Feb-1 Aug 23) (image and data sourced from DLR Vivacity Counters).

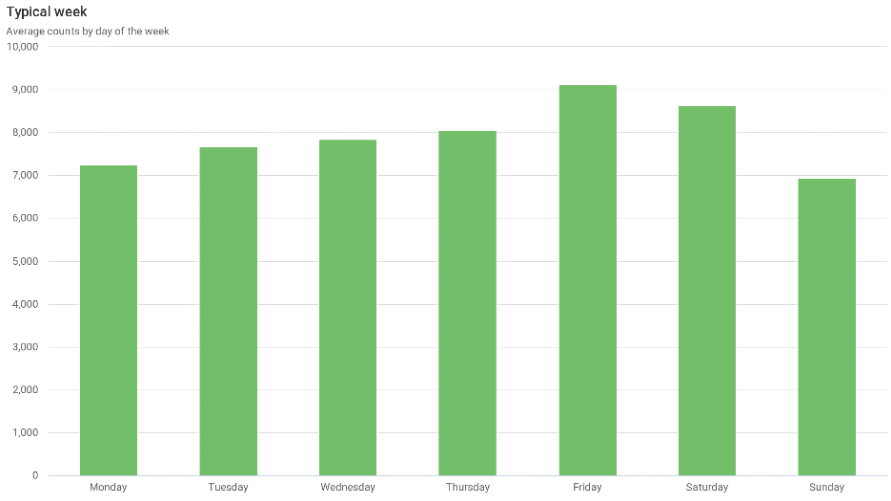


Figure 3-8 Blackrock pedestrian levels by day of week (1 Feb-1 Aug 23) (image and data sourced from DLR Vivacity Counters).

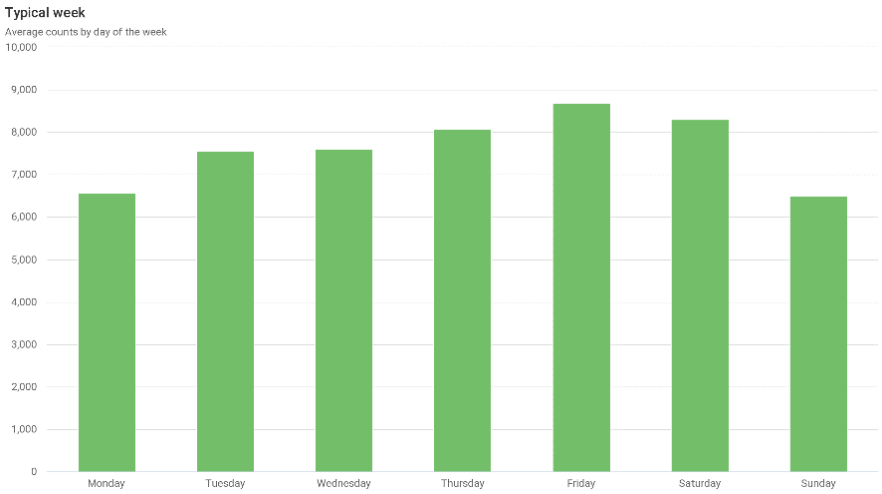
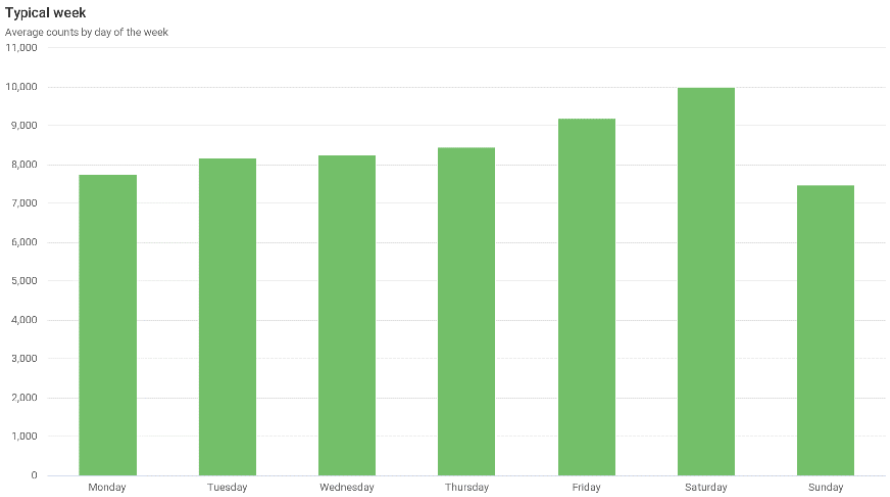


Figure 3-9 Dún Laoghaire pedestrian levels by day of week (1 Feb-1 Aug 23) (image and data sourced from DLR Vivacity Counters).



Dundrum's hourly pedestrian counts show a fairly regular usage throughout the day and in the early evening. This is consistent with what one would expect of a district town centre, with only some small peaks at the morning, lunchtime and evening rush hours. Blackrock in comparison, is much more reliant on its footfall peaks during the morning and evening rush hours, and with a notable peak during the week at lunchtime. While at the weekend, Blackrock also shows a more consistent day-time use spread over day-time hours. Late evening/night-time usage appears to be quite limited in both locations.

There is an opportunity within Dundrum as a County Town in particular to explore the potential for a greater level of nighttime economy – and one where additional residential populations within the centre, as well as a higher level of leisure and cultural uses, would contribute too.

Figure 3-10 Dundrum pedestrian hourly usage patterns (image and data sourced from DLR Vivacity Counters)

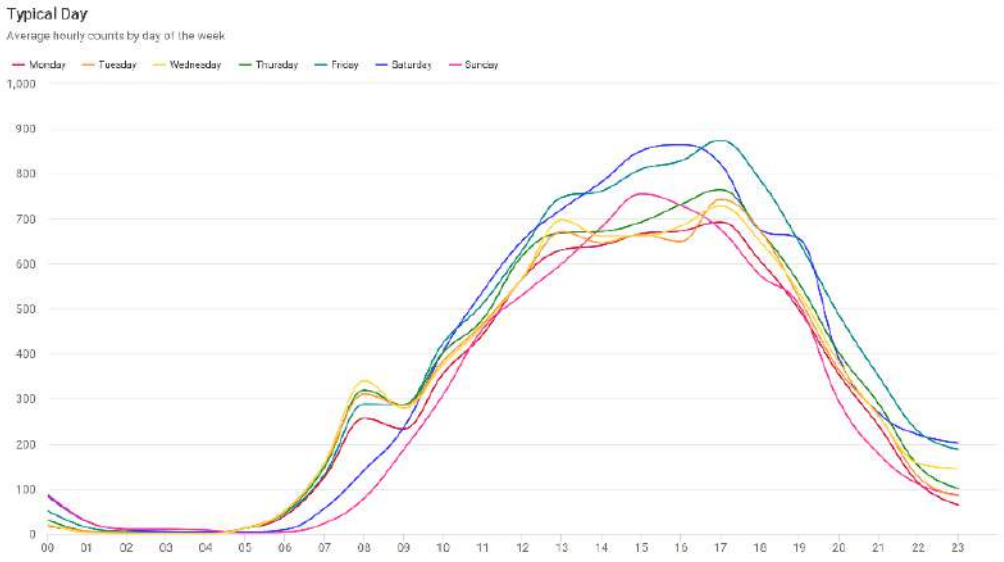


Figure 3-11 Dun Laoghaire pedestrian hourly usage patterns (image and data sourced from DLR Vivacity Counters)

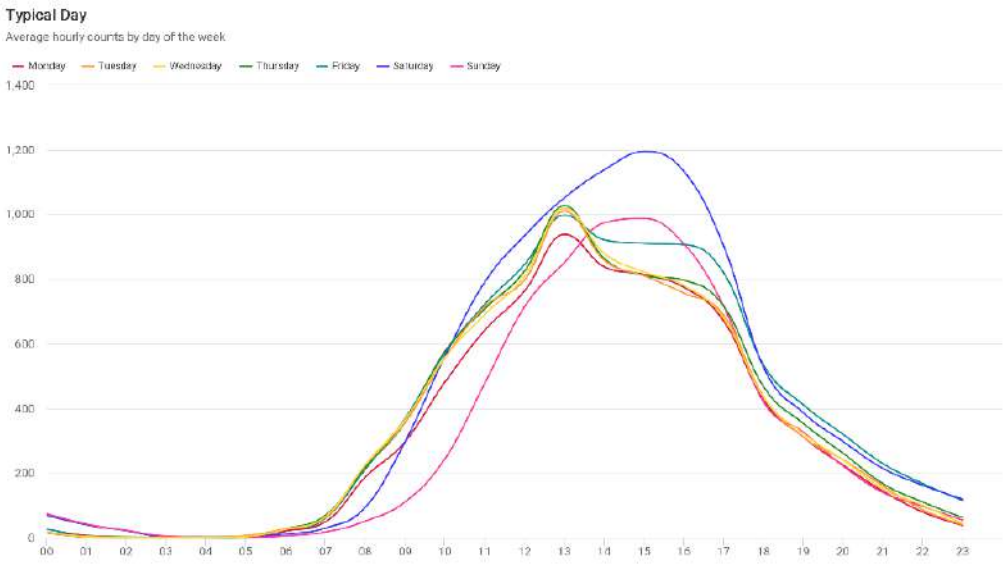


Figure 3-12 Blackrock pedestrian hourly usage patterns (image and data sourced from DLR Vivacity Counters)

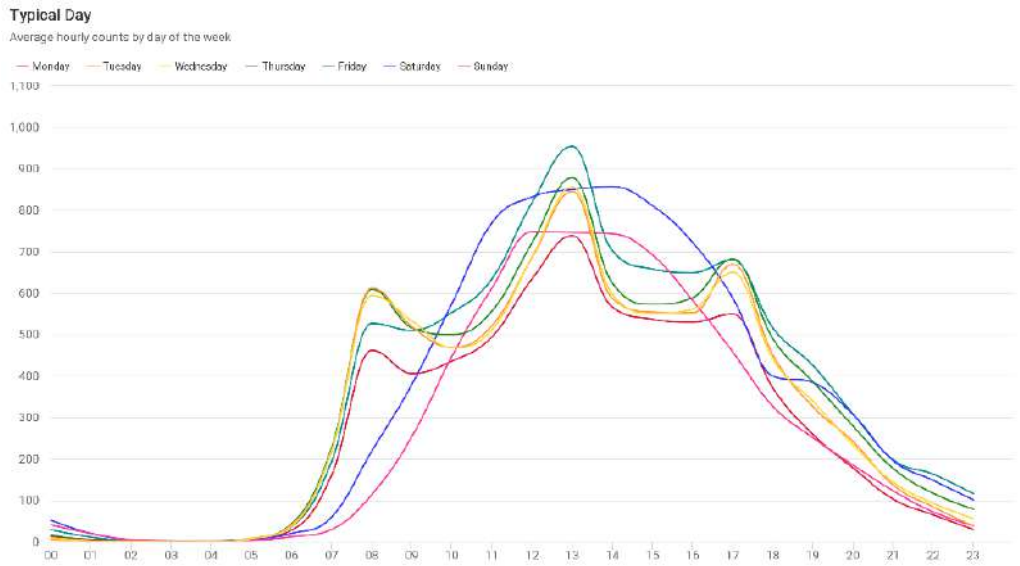


Figure 3-6 and Figure 3-13 also illustrates **the importance of street events and festivals for footfall numbers and potential associated economic gain for Main Streets**. Blackrock ran a St. Patrick's Day Festival (The Leprechaun Chase[33]) on 17th March 2023 (public holiday) resulting in almost doubling (13, 750) of the average daily pedestrian footfall for March 2023 (7470, excluding St. Patrick's Day). Part of the Main Street was closed to vehicular traffic to facilitate the event and maximise footfall potential. Similarly, the Dundrum Festival[34] ran from 18th-25th June 2023, with key events on Saturday 24th June (based around the Band Stand in the 'Dundrum Town Centre') and on Main Street on Sunday 25th June (with the street closed to vehicular traffic). On the 24th June, 12,703 pedestrians were counted, and on the 25th June, 10,381 pedestrians were counted. These figures are significantly higher than the average daily count for the rest of June, which (excluding 23rd-25th and 28th June[35]) was 8,018.

Figure 3-13 Image from Dundrum Festival in June 2023 (left) and from the Leprechaun Chase in Blackrock in March 2023 (right)

[33] https://blackrock.ie/leprechaun-chase-2023/

[34] www.dundrumfestival.ie

[35] It should be noted that there was a number of other events such as major concerts in the nearby Marlay Park that would have increased pedestrian levels around the village during June including on the 23rd, 24th and 28th June that increased evening time numbers beyond what is typical. For more information see https://mcd.ie/news/marlay-park-2023-public-information-notice

3.2.1 Before and After Pedestrian Counts

There is very limited baseline data available from with which to compare the pedestrian footfall situation before and after the Covid Mobility works. However, a snapshot count was undertaken by IDASO on behalf of DLR in June 2020. Although snapshot counts are very dependent on local conditions, such as weather, it still provides a useful indicator of change. This was also at a time when 'Level 2' Covid-19 restrictions were in place. Table 3-2 shows pedestrian numbers taken from the snapshot count from Monday June 22-Sunday June 28 2020, and from the nearest equivalent week in June 2023 (at a time free from the Dundrum Festival and major concerts held in nearby Marlay Park). There is a 63.4% increase in pedestrians numbers on Dundrum Main Street noted in June 2023 compared with June 2020. Some caution should be taken directly comparing these snapshot numbers (for example, see paragraph below), however they are still indicative of a potential positive change in pedestrian footfall that should be continuously monitored over a longer time period and throughout the seasons.

Phase 1 of the DLR Covid-19 Mobility Review found a decline in both pedestrian and cyclist numbers as the volume of rainfall increased along the Coastal Mobility Route. Historical records suggest that rain was present on some of the days listed below, with light-moderate rain in June 2020 including moderate rainfall on Friday 26th and Sunday 28th 2020; and heavy rainfall on Monday 12th June 2023 and Friday 16th June 2023[36]. This can reduce numbers considerably, particularly where there is moderate and heavy rain (based on research shown in the Ph1 Interim Findings report – Section 5.3.2, which showed a 32-39% decrease in the numbers of pedestrians between no rainfall and heavy rainfall days).

Table 3-2 Snapshot pedestrian counts on Main Street June 2020 and June 2023 (data sources DLR/IDASO/Vivacity)

Date*	Pedestrian numbers (June 2020)	Date	Pedestrian numbers (June 2023)
Mon 22-Jun-2020	4991	Mon 12-Jun-2023††	7291
Tues 23-Jun-2020	5084	Tues 13-Jun-2023	7810
Wed 24-Jun-2020	5395	Wed 14-Jun-2023	7869
Thurs 25-Jun2020	5100	Thur 15-Jun-2023	8294
Fri 26-Jun-2020†	5169	Fri 16-Jun-2023††	8197
Sat 27-Jun-2020	4229	Sat 17-Jun-2023	8686
Sun 28-Jun-2020†	3662	Sun 18-Jun-2023	6799
Total Pedestrians	***33630***		***54946***
Avr. Pedestrians/day	***4804***		***7849***
Additional pedestrians/day (no.)			3045
Additional pedestrians/day (%)			63.4%

** Note that Level 2 Covid-19 restrictions were in place at this time.*

† Moderate rain fall (3.8mm on Fri 26th June 2020; 3.5mm on Sun 28th June 2020)

†† High rainfall (6.5mm on Monday 12th June 2023;7.4mm on Fri 16th June 2023)

[36] *This is based on data captured from Ballyboden and Ballyedmonduff House stages downloaded from* https://www.met.ie/climate/available-data/historical-data

3.3 Cycling

Figure 3-5 illustrates cyclist users on Dundrum Main Street compared with other travel modes and the Mains Street of Blackrock and Dún Laoghaire Lower George's Street. The relative proportion is highest in Blackrock (c.4.9%), followed by Dundrum (c.4%) and Dún Laoghaire (2.2%). Both Dundrum and Blackrock allow for two-way cycling via a one-way segregated cycle-lane in one direction, and a shared vehicle lane in the other direction. George's Street Lower does not contain any segregated cycling infrastructure, and only permits one-way cycling shared with vehicles. This modal share is an average over 6 months and varies considerably with the seasons (see below for further discussion).

The segregated contraflow bike infrastructure facilitates a considerably greater usage by cyclists in Dundrum and Blackrock compared with the shared roadway, and illustrates the value of dedicated infrastructure, where appropriate.

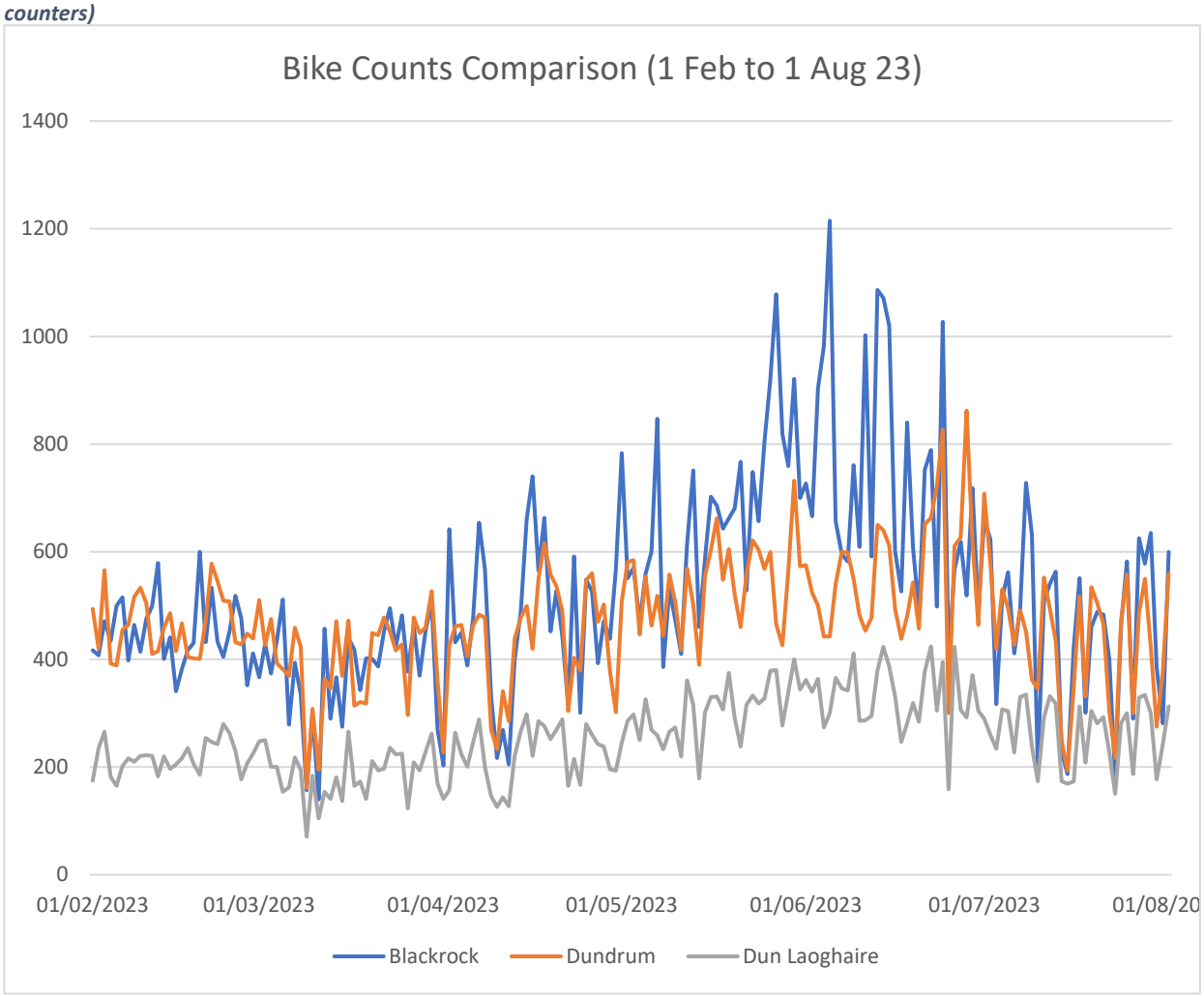
There are also a number of cyclists who cycle the 'wrong way' down the cycle-lane (14.1% in Dundrum and 4.3% in Blackrock). While there may be some confusion from some users regarding the one-way only nature of it, a likely key reason for this is that cyclists feel safer segregated from the vehicular traffic regardless of the intended one-way only nature of the cycle-lane here. **The higher volumes of passing vehicles and higher vehicles speeds in Dundrum, compared with Blackrock, is likely to have an impact on cyclists' perceptions of personal safety,** and therefore may impact on where they choose to cycle (see Section 3.5 for more details on vehicle volumes and speed).

Table 3-3 Daily average cyclists in Dundrum and Blackrock (from 01.02.23-01.08.23) (data sourced from DLR Vivacity counters)

Dundrum Cycle Path usage			Blackrock Cycle Path usage		
Weekday	**Average Daily Counts**		**Weekday**	**Average Daily Counts**	
Monday	**246**		**Monday**	**287**	
Tuesday	**275**		**Tuesday**	**315**	
Wednesday	**280**		**Wednesday**	**289**	
Thursday	**267**		**Thursday**	**309**	
Friday	**263**		**Friday**	**294**	
Saturday	**224**		**Saturday**	**339**	
Sunday	**192**		**Sunday**	**376**	
	1747			**2209**	
Dundrum Bike usage of Shared Road-way			Blackrock Bike usage of Shared Road-way		
Weekday	**Average Daily Counts**		**Weekday**	**Average Daily Counts**	
Monday	**195**		**Monday**	**177**	
Tuesday	**230**		**Tuesday**	**207**	
Wednesday	**219**		**Wednesday**	**193**	
Thursday	**202**		**Thursday**	**200**	
Friday	**202**		**Friday**	**191**	
Saturday	**190**		**Saturday**	**184**	
Sunday	**180**		**Sunday**	**186**	
	1418			**1338**	

Figure 3-14 illustrates the seasonal nature of cycling in these urban centres, with a late Spring and Summer (April, May & June 2023) boost evident is Blackrock in particular, but also in Dundrum and Dún Laoghaire. Blackrock is likely to experience a particular boost from its coastal amenity location. It may also benefit from a "network effect"[37] due to the adjacent high quality cycling infrastructure that exists in Blackrock Park as well as along the Coastal Mobility Route (as discussed in the Phase 1b Coastal Mobility Route Mobility Update Report, July 2022). Any potential network effect in Dundrum would be very limited, in comparison, as the Covid cycling infrastructure currently does not connect with a similar high quality segregated cycling infrastructure, or with a similarly high level of amenity. However, the planned DLR Connector project[38] should also improve the future network effect potential of Dundrum Main Street's cycle facilities, with associated levels of cycling growth among a wider range of people including more women and girls, children and older people.

Figure 3-14 Seasonal nature of cycling comparing Blackrock, Dundrum and Dún Laoghaire (source data: DLR Vivacity counters)

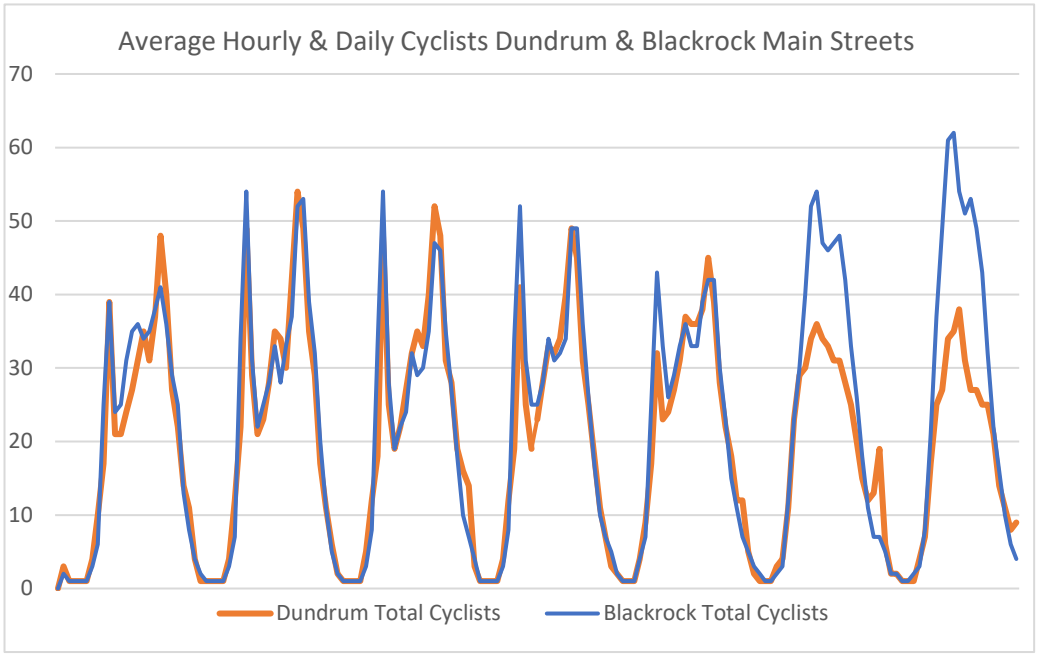


While there are 10.8% more cyclists overall in Blackrock Main Street compared with Dundrum Main Street, most of this increased numbers happens at weekends (see Figure 3-15). From Monday to Friday there are

[37] *A network effect is where economies of scale and interconnectivity of a high quality cycling network can lead to further usage and growth. For more information see McLeod et al. (2020) and Mees (2010).*
[38] *For more information see https://www.dlrcoco.ie/active-travel/dlr-connector*

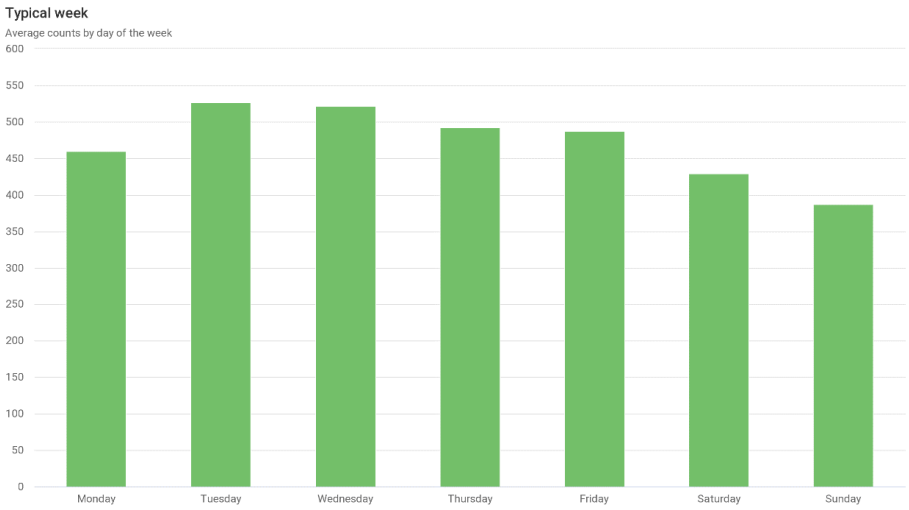
only 3.4% more cyclists in Blackrock over Dundrum, thus Dundrum is performing relatively well in terms of commuter or utilitarian style cyclists, but has room to improve for more every day and leisure cyclists.

Figure 3-15 Average hourly and daily cyclists in Dundrum & Blackrock Main Streets (source data from DLR Vivacity counters)



The busiest cycling day is on Tuesdays, reflecting wider travel trends[39] (Figure 3-16). The hourly usage trends (see Figure 3-16) of the cycle path shows some traditional commuter style patterns with morning and evening peaks (as well as a smaller lunchtime peak) on Monday-Friday. There is also evidence of more leisure cycling patterns on weekends, with a more consistent level of day-time usage.

Figure 3-16 Dundrum daily bike usage



[39] *NTA03 Journeys taken on travel reference day by Day of Week, Year and Statistic https://data.cso.ie/*

3.3.1 Before and after Cycling Counts

There is very limited baseline data available from with which to compare the cycling numbers on Dundrum Main Street before and after the Covid Mobility works. However, a snapshot count was undertaken by IDASO on behalf of DLR in June 2020. Although snapshot counts are very dependent on local conditions, such as weather, it still provides a useful indicator of change. This was also at a time when 'Level 2' Covid-19 restrictions were in place. Table 3-4 shows cyclists numbers taken from the snapshot count from Monday June 22-Sunday June 28 2020, and from the nearest equivalent week in June 2023 (at a time free from the Dundrum Festival and major concerts held in nearby Marlay Park). There is a marginal 2.7% increase in cycling numbers on Dundrum Main Street noted in June 2023 compared with June 2020. Some caution should be taken directly comparing these snapshot numbers (for example, see paragraph below), however they are still indicative of a potential marginally positive change that should be continuously monitored over a longer time period and over different seasons.

Phase 1 of the DLR Covid-19 Mobility Review found a decline in both pedestrian and cyclist numbers as the volume of rainfall increased along the Coastal Mobility Route, particularly so for cyclists. Historical records suggest that rain was present on some of the days listed below, with light-moderate rain in June 2020 including moderate rainfall on Friday 26th and Sunday 28th 2020; and heavy rainfall on Monday 12th June 2023 and Friday 16th June 2023[40]. This can reduce numbers considerably, particularly where there is moderate and heavy rain (based on research shown in the Ph1 Interim Findings report – Section 5.3.2, which showed a 52-54% decrease in the numbers of people cycling between no rainfall and heavy rainfall days).

Table 3-4 Snapshot pedestrian counts on Main Street June 2020 and June 2023 (data sources DLR/IDASO/Vivacity

Date*	Cycling numbers (June 2020)	Date		Cycling numbers (June 2023)
Mon 22-Jun-2020	527	Mon 12-Jun-2023††		478
Tues 23-Jun-2020	502	Tues 13-Jun-2023		650
Wed 24-Jun-2020	683	Wed 14-Jun-2023		640
Thurs 25-Jun2020	680	Thur 15-Jun-2023		612
Fri 26-Jun-2020†	578	Fri 16-Jun-2023††		494
Sat 27-Jun-2020	399	Sat 17-Jun-2023		438
Sun 28-Jun-2020†	322	Sun 18-Jun-2023		480
Total Cyclists	***3691***			***3792***
Avr. Cyclists/day	***527***			***542***
Additional cyclists/day (no.)				14
% Additional cyclists/day (%)				2.7%

** Note that Level 2 Covid-19 restrictions were in place at this time.*

† Moderate rain fall (3.8mm on Fri 26thJune 2020; 3.5mm on Sun 28th June 2020)

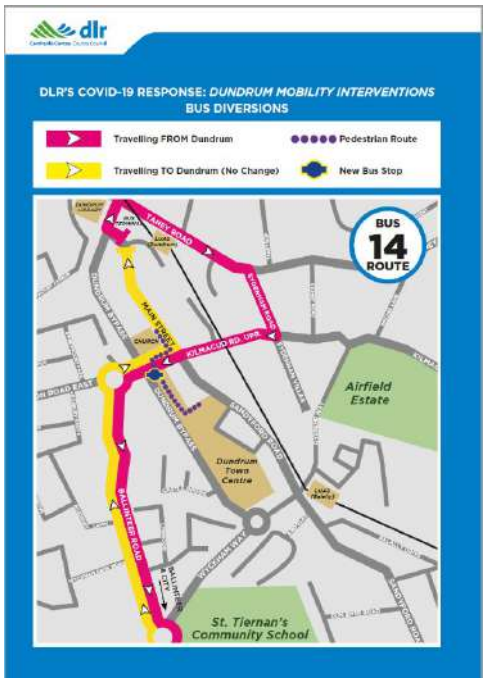
†† High rainfall (6.5mm on Monday 12th June 2023;7.4mm on Fri 16th June 2023)

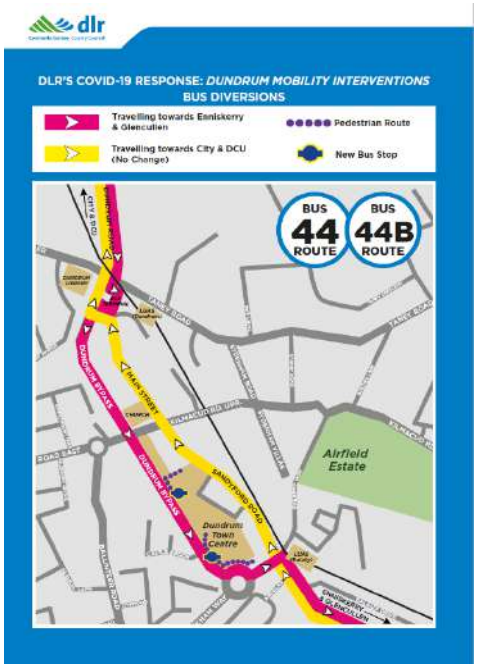
[40]*This is based on data captured from Ballyboden and Ballyedmonduff House stages downloaded from* https://www.met.ie/climate/available-data/historical-data

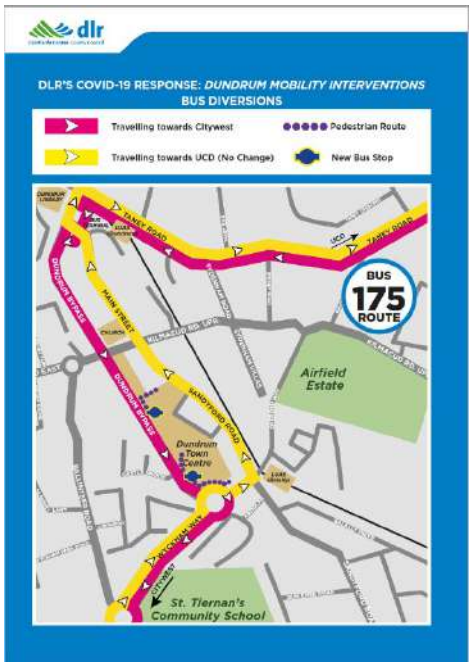
3.4 Public Transport: Buses

The reallocation of road space on Main Street that accommodated the Covid Mobility works required rerouting the south-bound bus services and associated bus stops away from Main Street either to (i) the adjacent Dundrum By-Pass or (ii) through Taney and Sydenham Road into Kilmacud Road Upper. The affected routes were 14, 44, 75, 75A, and 175 (see Figure 3-17). Services 14 and 44 are operated by Dublin Bus, under contract to the National Transport Authority. Services 75, 75A and 175 are operated by Go Ahead Ireland, under contract to the National Transport Authority.

Figure 3-17 Covid Mobility changes made to bus services in Dundrum







Bus services no. 14, 75 & 75A resulted in a relatively minor relocation of the southbound bus-stop to the nearby Ballinteer Road, which is easily accessible from the Main Street, and is located in an area with relatively good passive surveillance and activity, similar to the Main Street.

However, the relocated stops on the by-pass are in areas that are less accessible and have limited pedestrian crossings. This area does not generally have good passive surveillance, and may not feel comfortable for some people to use, particularly in evening/dark hours[41].

While new BusConnects services commenced 26th November 2023, it is recommended that due consideration is given to the environment to make it more comfortable and safer for bus users including:

- reviewing bus stop locations to ensure they are in the areas with the most passive surveillance on the by-pass
- reviewing vehicle speed mitigation tools as currently speeds are in excess of the speed limit in the area (see Chapter 3 for more details)
- reviewing pedestrian crossing facilities to ensure that pedestrians can safely cross the by-pass
- reviewing lighting conditions to ensure that lighting is suitable for pedestrians, including those waiting for buses
- reviewing waiting conditions for bus users to reduce impact of rain and wind here.

Figure 3-18 Relocated southbound bus-stop for bus no.s 14, 75 & 75a on Ballinteer Road (source: Google Street View)

[41] For additional context on the experiences on females using public transport, see 'Travelling in a Women's Shoes' by Transport Infrastructure Ireland & ARUP (July, 2020).

Figure 3-19 Relocated southbound bus-stop 1 on by-pass for bus no.s 44, 44B & 175 (source: Google Street View)

Figure 3-20 Relocated southbound bus-stop 2 on by-pass for bus no.s 44, 44B & 175 source: Google Street View)

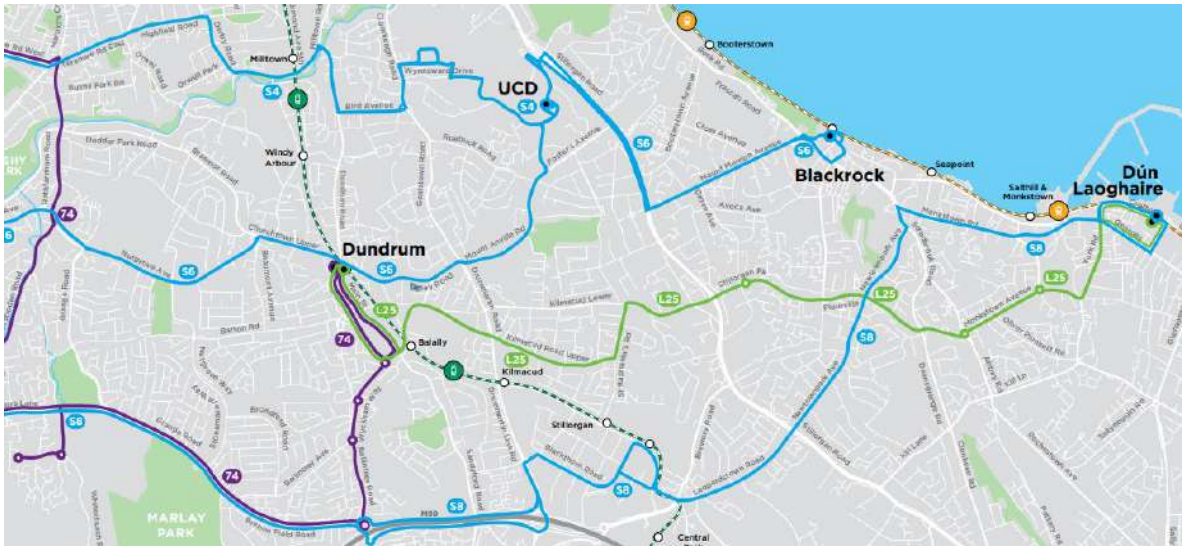
The Bus Connects Network Redesign entered its 5b phase on November 26th 2023, introducing eight new Southern Orbital, Radial, and Local bus routes in South Dublin. Those relevant to Dundrum are:

- Orbital Routes: S6, connecting Dundrum with Tallaght, Rathfarnham Shopping Centre, UCD, and Blackrock Station; and S8, runs south of Dundrum, linked by the 74 at Taylors Lane from where it connections can be made to Dún Laoghaire, Tallaght, and Citywest.
- Local Routes: L25, connecting Dundrum Luas to Stillorgan, and Dún Laoghaire.
- Radial Route: 74, connecting Dundrum Luas with Marlay Park, Whitechurch, Terenure, Crumlin, The Coombe Hospital, and Eden Quay.

Dublin Bus will operate routes 74, and L25 and Go-Ahead Ireland will operate routes S6 and S8 (see Figure 3-21). The new BusConnects network in Dundrum is being implemented in phases by the National Transport Authority[42]. Given the passage of time, and the considerable change to the bus network that commenced on the 26th November 2023 as part of BusConnects, this study undertakes a limited assessment of the impacts of Covid Mobility to public transport. In addition to the details above, please also see Chapter 4.

[42] *For more information, see https://busconnects.ie/cities/dublin/new-dublin-area-bus-network/*

Figure 3-21 The new BusConnects network in Dundrum (source BusConnects/NTA)[43]



3.5 Vehicles: Through-Traffic & Volume

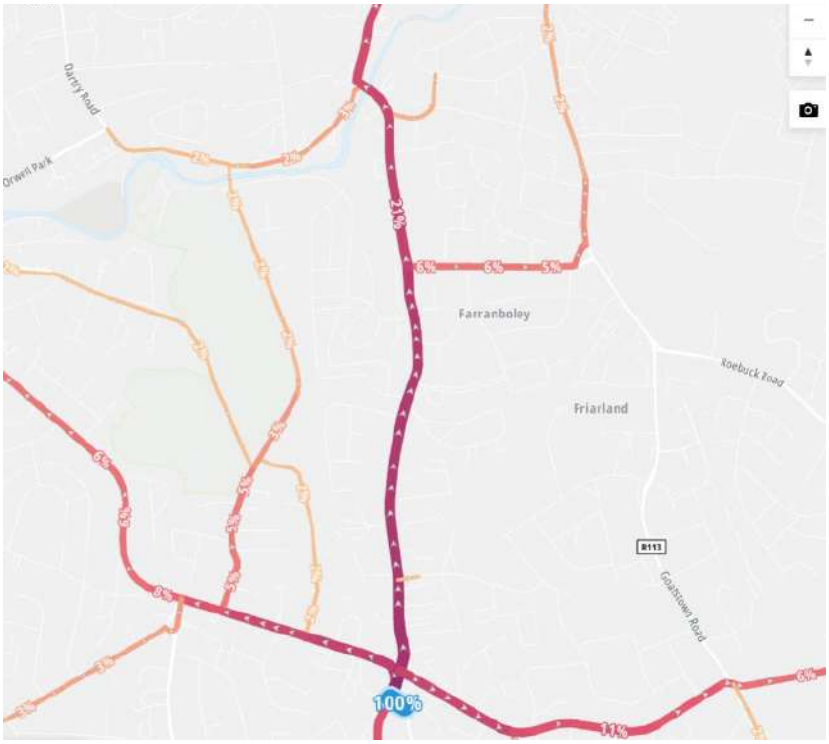
Main Street

Figure 3-5 illustrates the daily average volume of vehicles (2891) on Dundrum Main Street (over a 6-month period), which is considerably higher than both Dun Loaghaire which also has a 'Major Town Centre' designation (2366) and Blackrock (2151) which has a District Centre designation. Much of this vehicular traffic in Dundrum Main Street appears to be through-traffic (i.e., traffic that is primarily using the Main Street as a way to pass through, and on to another destination); a point that is also noted in DLR's recent Area Based Transport Assessment and Local Area Plan for Dundrum.

The primary function of a 'by-pass' such as the one to the west of Dundrum Main Street is to take the majority of strategic or through-traffic, and to free the adjacent village centre from unnecessary vehicular traffic. Vibrant and thriving traditional Main Streets do not usually have a dominance of through-traffic. The by-pass function does not currently appear to be happening effectively in Dundrum, as the balance is tipped in favour of through-traffic. The fact that the by-pass is at a different grade to the Main Street, with limited access from the central section of the village (either side of Dundrum Cross) would contribute to this issue.

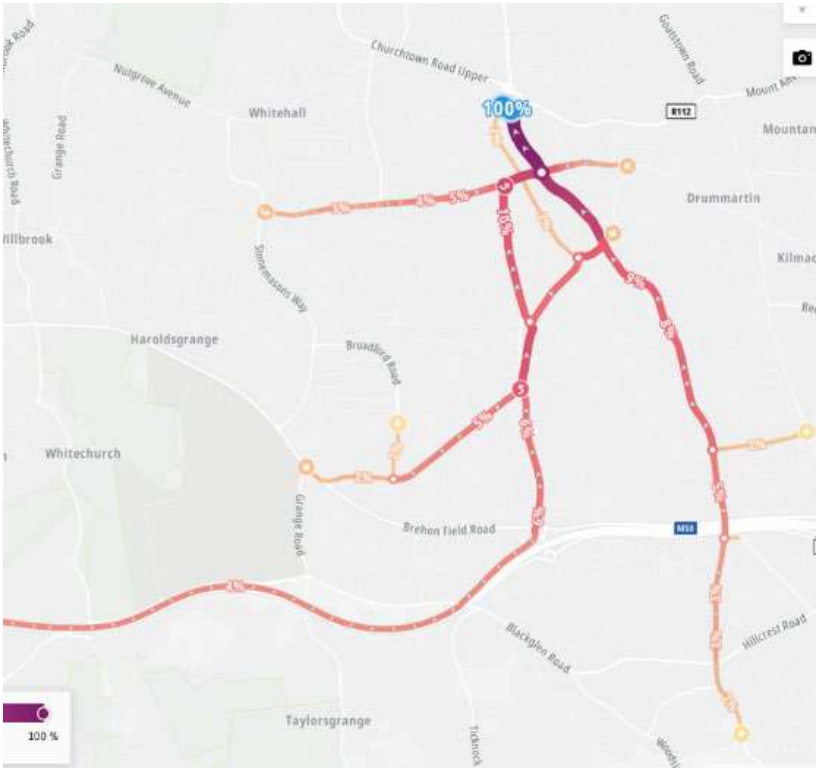
[43] https://www.transportforireland.ie/wp-content/uploads/2023/11/Phase-5b-WEB-27.10.23-english.pdf

Figure 3-22 TomTom Move O/D analysis illustrating outbound through-traffic on Dundrum Main Street Oct/Nov 2022. Oct/Nov 2022 heading north/city bound.



A TomTom Move Origin/Destination (O/D) Link analysis was performed on the northern end of Dundrum Main Street as it reaches the junction with Dundrum Bypass. This indicates that c. 88% of the sample vehicles turning onto the bypass are turning right towards the cross-roads with Dundrum Road, Upper Churchtown Road and Taney Road. Only c.12% turn left on to the bypass. This may suggest that a large portion of the traffic travelling through the village centre uses it as a through-route. The journeys from this section (Oct/Nov 2022 all day) indicate a substantial portion of the traffic is travelling down the Dundrum Road towards Milltown and the city.

Figure 3-23 TomTom Move O/D illustrating inbound traffic Oct/Nov 2022 (all day)



Inbound journeys to this point for the same period show a small portion coming from the M50 to Dundrum, using the village as a potential rat-run (Figure 3-23). Of the sample vehicles reaching the junction with the Dundrum bypass, 69% originate at the crossroads with Ballinteer Road/Sandyford Road. This suggests that 31% of the traffic could originate in the village itself (such as shoppers), with the rest passing through. The 69% is made up mainly of traffic joining from Sandyford Road (c. 37/38%), Ballinteer Road (c. 20/21%) and Kilmacud Road Lower (c. 10%). This results in a relatively steady flow of vehicular traffic from about 8am in the morning until about 5pm every day Monday-Friday.

Figure 3-24 and Figure 3-26 show a comparison between Dundrum and Blackrock, illustrating the higher traffic levels in Dundrum. At weekends, the flows are lower and more condensed in Dundrum. High vehicle

numbers, particularly through-traffic, work against the regeneration of Main Streets. The change to a one-way traffic layout substantially improves the situation, however, traffic numbers are still relatively high on an hourly basis (as too are vehicles speeds– see further below) which would impact on the ability of pedestrian footfall to easily cross the Main Street with a sense general comfort, safety and amenity. Suggestions are made to mitigate the impact of vehicle speeds and to increase the comfort of those on foot in Ch. 5.

Figure 3-24 Hourly vehicular traffic flow (by day), Dundrum Main Street (left); Blackrock Main Street (Right) (data from DLR Vivacity counters)

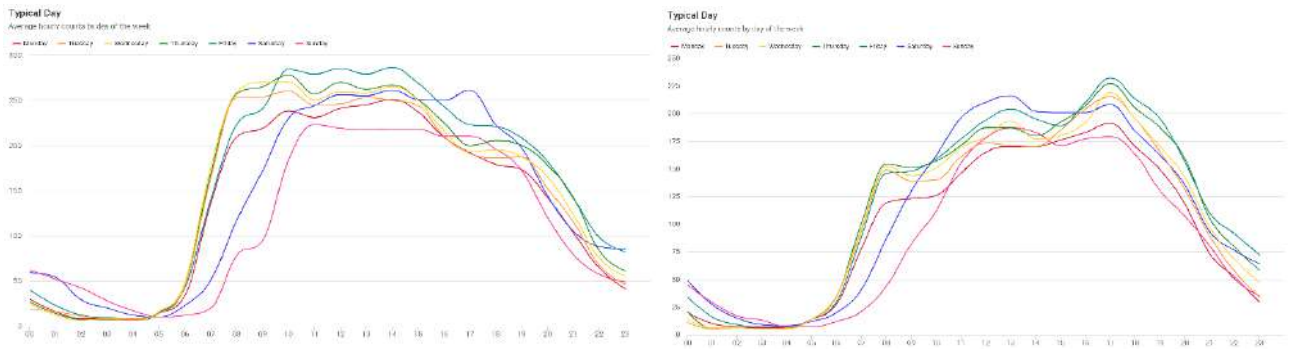


Figure 3-25 Dundrum Modal Counts - Footfall & Car Drivers (01 Feb - 01 Aug 23) (data from DLR Vivacity counters)

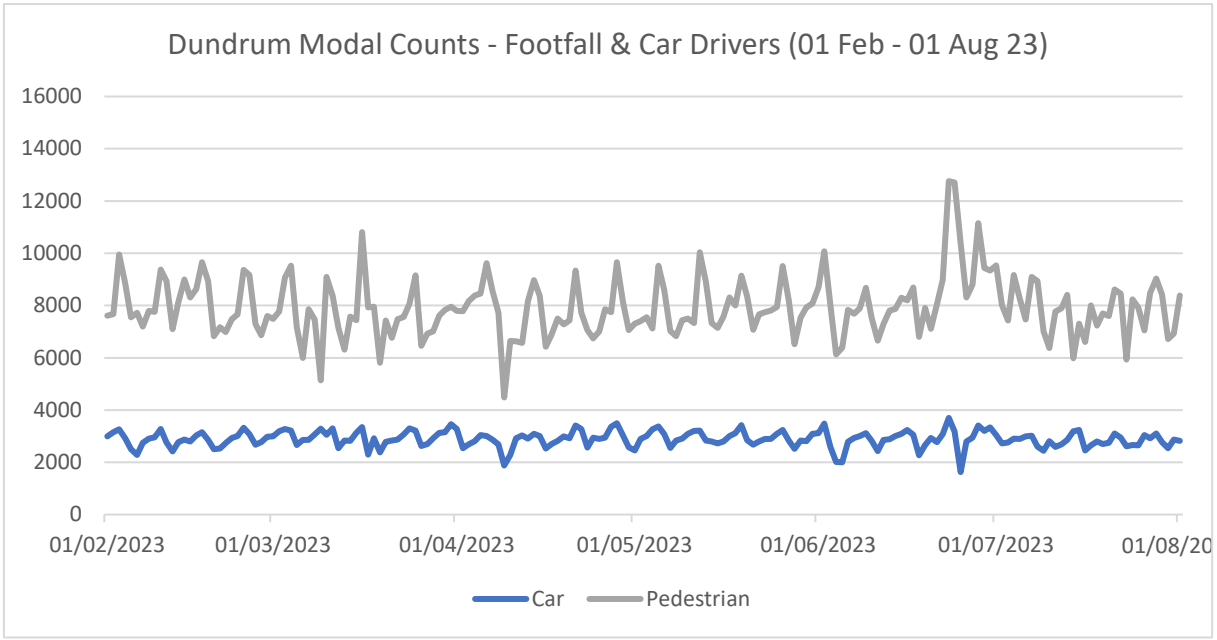
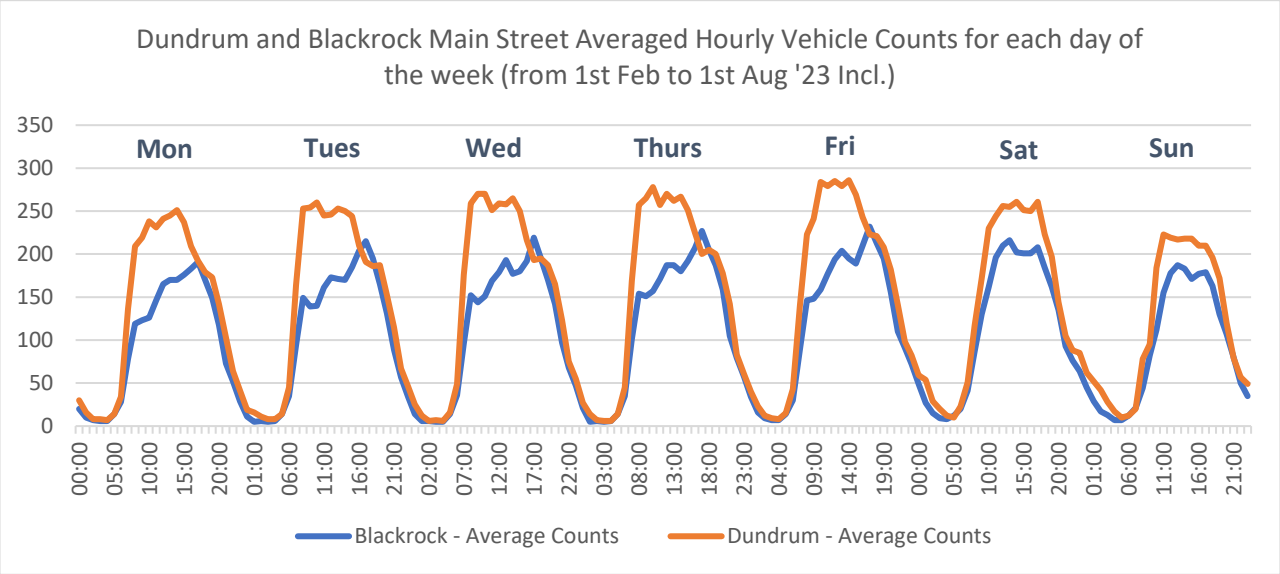


Figure 3-26 Dundrum (northbound) and Blackrock (southbound) Main Street Hourly Vehicle Counts (data from DLR Vivacity counters)



Kilmacud Road Upper/Ballinteer Road/Dundrum Cross

An inbound and outbound link analysis (see Figure 3-27 and Figure 3-28) shows that the remaining one-way system at Dundrum Cross allows the street to operate for vehicular traffic in an east-west function. Across the whole day (Oct/Nov 2022), typically 80% of vehicles travelling down Kilmacud Road Lower continue straight on onto the Ballinteer Road.

Figure 3-27 TomTom Move O/D Link Analysis illustrating the Dundrum Cross/Kilmacud Rd junction (Oct/Nov 2022)

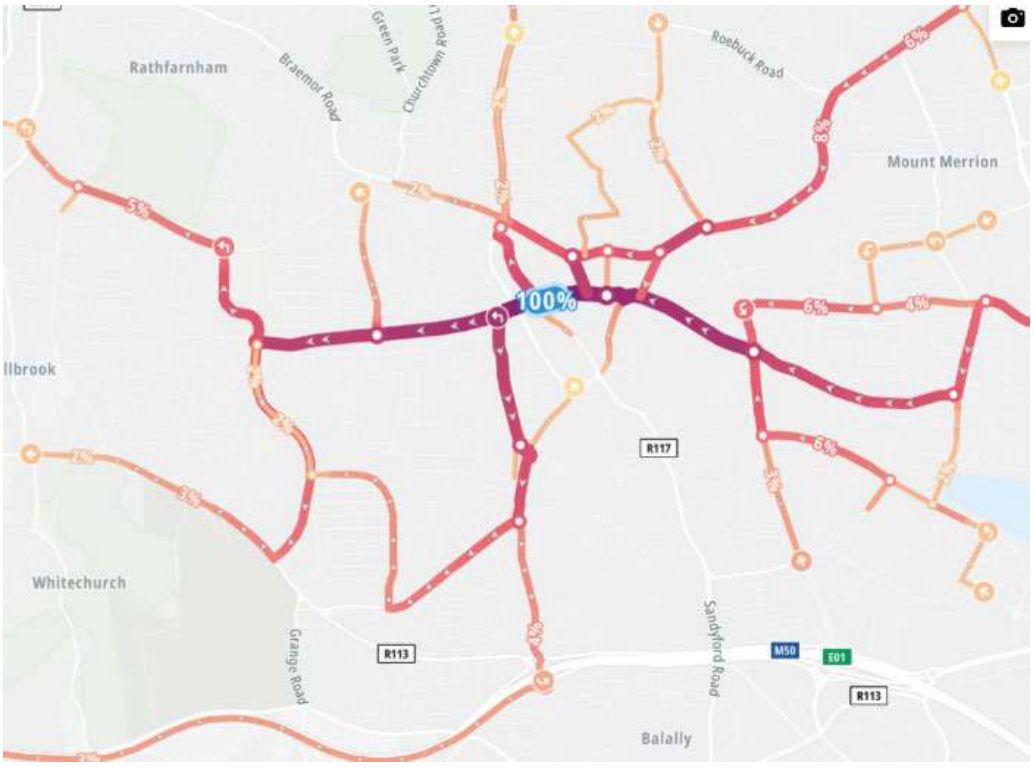


Figure 3-28 Close-up of TomTom Move analysis above centred on Dundrum Cross

3.5.1 Vehicle Speeds

This section looks at vehicle speeds before and after the Covid Mobility works on Main Street and Sandyford Road, and examines the status of vehicle speeds on the by-pass, Kilmacud Road Upper and Ballinteer Road. While few interventions were undertaken on these surrounding routes, a key change was the implementation of a one-way for vehicles on the part of Kilmacud Road Upper that joins with Main Street.

Main Street

A vehicular speed comparison before and after the Covid Mobility works was undertaken using the TomTom Move database. October and November 2019 represented the before date, and October and November 2022 represented the after date. A northbound segment north of Dundrum Cross (adjacent to Holy Cross Church) on Main Street is chosen as the primary comparator segment. **Vehicular speeds on Main Street are notably lower in 2022 after the Covid Mobility works road space reallocation, compared to 2019. Such slower speeds are much more appropriate for a Main Street setting with high levels of pedestrian activity than previously; however, speeds are still in excess of 30km/hr.**

Utilising 24-hour 7 day figures, the 85th percentile speed before Covid was 43km/hr. **There is a very significant 10km/hr reduction in 85th percentile vehicle speeds recorded in 2022 at 33km/hr.** Median speeds reduced from 32km/hr to 25 km/hr. **However it should be noted that median speeds of 33km/hr are still in excess of 30km/hr, and further traffic calming is recommended to reduce these speeds further.**

Examining speeds over different time periods of the day reveals some further interesting findings, although the sample sizes reduce considerably when disaggregating the data. In more free flowing evening conditions (7pm-7am), 85th percentile speeds prior to the road-space reallocation, were recorded at higher speeds of 47 km/hr, reducing to 34km/hr in 2022. During the day (10am-4pm) when most people are about the Main Streets, speeds were recorded at 38km/hr in 2019 and 32km/hr in 2022.

Table 3-5 Before and after Covid Mobility 85th percentile speeds on Dundrum Main Street (source data TomTom Move)

	Oct/Nov 2019 85th percentile speeds	Oct/Nov 2022 85th percentile speeds
7pm-7am	47km/hr	34km/hr
7am-10am	44km/hr	35km/hr
10am-4pm	38km/hr	32km/hr
4pm-7pm	39km/hr	33km/hr

Figure 3-29 Average speeds Dundrum Main St Oct/Nov 2019 (TomTom Move)

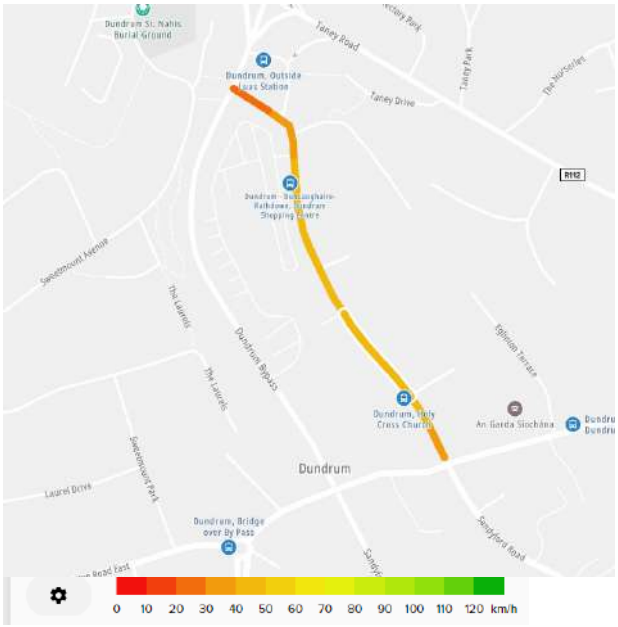
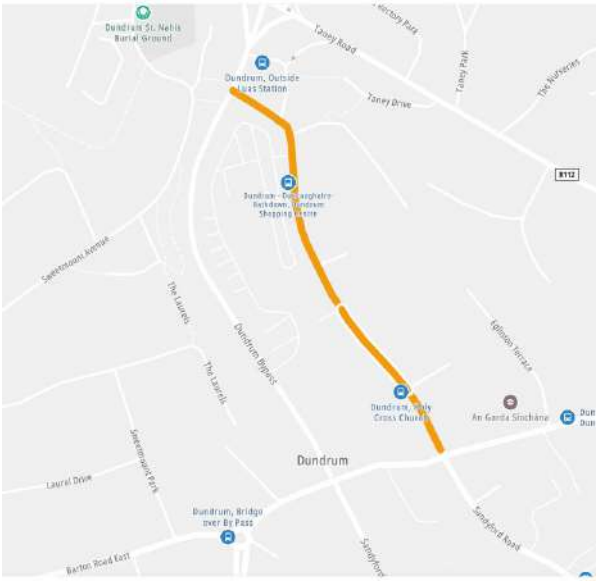


Figure 3-30 Average speeds Dundrum Main St Oct/Nov 2022 (TomTom Move)



Sandyford Road

Limited change in vehicular speeds is recorded in the Sandyford Road section pre and post the Covid Mobility Works in comparison. Taking a segment adjacent to the public square at Dundrum Town Centre where road space was reallocated to additional footpath space, a segregated cycle-lane and one-way vehicular traffic, the 85th percentile speeds were in the range of 27-39km/hr in 2019, and 29-37km/hr in 2022 (see Table 3-6). Although the default speed limit is currently 50km/hr here, given the busy location here adjacent to the 'Dundrum Town Centre' main public space. **Speed limits should be reduced to 30km/hr maximum in this area and additional traffic calming measures should be implemented to bring speeds under 30km/hr across day and night-time.**

Table 3-6 Before and after Covid Mobility 85th percentile speeds on Sandyford Road (source data TomTom Move)

	Oct/Nov 2019 85th percentile speeds	Oct/Nov 2022 85th percentile speeds
7pm-7am	39km/hr	35km/hr
7am-10am	37km/hr	37km/hr
10am-4pm	29km/hr	29 km/hr
4pm-7pm	27km/hr	29km/hr

Kilmacud Road Upper

Kilmacud Road Upper received a minimal level of road-space reallocation as part of the Covid Mobility works. However, significantly, access across Dundrum Cross was reduced to one-way westbound for vehicles (walkers and cyclists are still able to travel eastbound) (see Figure 3-31).

Kilmacud Road Upper is a hilly road falling down towards the Main Street with a default speed limit of 50km/hr currently. It also contains a number of community and educational facilities including the Holy Cross Primary School.

In the lower segment (no. 1) closest to Main Street, speeds have increased across all time zones (see Figure 3-32 and Table 3-7), most significantly in the 4-7pm time slot (from 23km/hr in 2019 to 32km/hr in 2022). In the upper segment (no. 2), **speeds have also increased across all time zones between 5-7 km/hr**. This may be partially due to less congestion in this area post Covid Mobility. Given the downhill direction of travel, and importantly the location of community and educational facilities here, it is recommended, for road safety and pedestrian comfort, that a maximum speed limit of 30km/hr is put in place here, and that traffic calming interventions are implemented within the carriageway to bring the design speed below 30km/hr.

Figure 3-31 Covid Mobility works at Dundrum Cross with a focus on Kilmacud Rd Upper

Figure 3-32 7pm-7am vehicle speeds Kilmacud Rd Upper (Oct/Nov 2022) (TomTom Move)

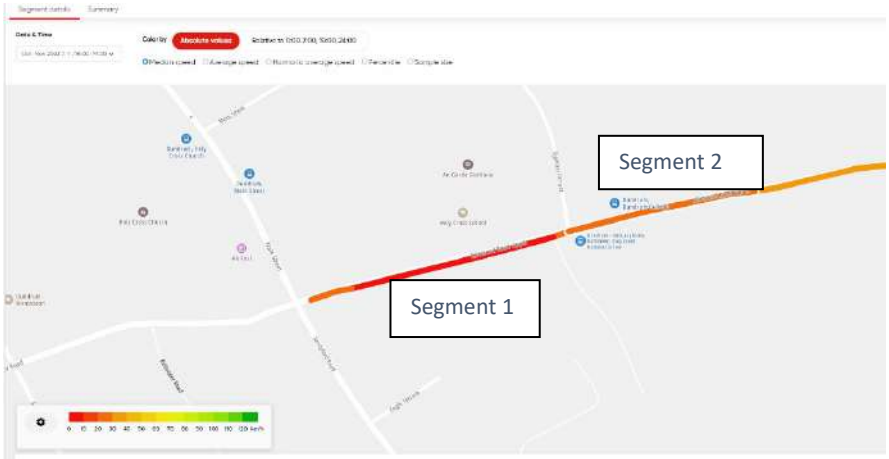


Table 3-7 Kilmacud Rd Upp. 85th percentile speeds - data from TomTom Move (segment 1 – left; segment 2 - right)

	Oct/Nov 2019 85th percentile speeds	Oct/Nov 2022 85th percentile speeds
7pm-7am	34km/hr	37km/hr
7am-10am	40km/hr	38km/hr
10am-4pm	27km/hr	32km/hr
4pm-7pm	23km/hr	32km/hr

	Oct/Nov 2019 85th percentile speeds	Oct/Nov 2022 85th percentile speeds
7pm-7am	46 km/hr	52 km/hr
7am-10am	45 km/hr	51 km/hr
10am-4pm	42 km/hr	47 km/hr
4pm-7pm	38 km/hr	45 km/hr

Dundrum Bypass

Unfortunately, source traffic data is missing from the Tom-Tom dataset, in use for this study, for most segments on the Dundrum Bypass for 2019. Only a short segment under the Ballinteer Road bridge is available, and this was analysed. A minor reduction in speeds is observable here; 7am to 10am weekday

speeds southbound, which might be expected to receive more journeys due to the removing of the southbound vehicle lane in Dundrum Main Street, drop from 62kph (85th percentile) to 59kph. 10am to 4pm (all week) shows little change; 58kph in 2019 and 57kph in 2022 (both 85th percentile). Conversely, travelling northbound, 10am to 4pm (all week) declines from 62kph to 59kph, while the 7am to 10am city-bound traffic speeds changed little, going from 60kph in 2019 to 59kph (85th percentile). Overall, little change is observed in the speeds on Dundrum Bypass, however it should be noted that **all speeds in this analysis of the Dundrum Bypass were noted to be at levels in excess of the posted speed limit of 50km/hr, which raises safety concerns that should be addressed.**

3.6 Conclusion

This chapter focuses on the use of the Main Streets by pedestrians, cyclists and vehicles. Pedestrian footfall and the experience of visitors are particularly important in a Main Street context. Both are often recognised as a predictor of economic activity and success. The proportion of pedestrians (as compared with other users of the Main Street) reiterates the important role that pedestrians have in a traditional Main Street context. The reallocation of road-space and quality of the footfall environment is key to supporting their primacy and associated economic and social activities.

Although there is a perception among some interviewee respondents (see Chapter 4) that the cycle lane is not well used, the data shows that the contraflow cycle-lane attracts more users than the adjacent shared carriageway, and performs reasonably well for a cycle lane that is not currently part of a wider high quality cycle network, such as Blackrock Main Street. It primarily performs in a commuter capacity, with most usage taking place during traditional morning and evening peak-hours on weekdays, particularly the evening peak due to the 'outbound' or southbound nature of the contraflow cycle lane. There is also a small increase in usage at lunch-times. Where it differs from Blackrock Main Street is primarily at weekends, where Dundrum does not appear to benefit from the more leisure and recreational type of cyclist. The Covid Mobility works also resulted in a change to the bus network particularly southbound services impacting the comfort and accessibility of new bus stops relocated to the by-pass.

The road space reallocation has facilitated a large reduction in vehicular traffic volumes in Main Street through the change from two-way traffic to one-way vehicular traffic. This reduction allows for a much more comfortable environment for pedestrians, however, the proportion of pedestrians is still higher in Dún Laoghaire and Blackrock, and the volume in Dundrum is below Dún Loaghaire. This is perhaps not surprising however given the adjacent large scale shopping malls (the scale of which does not exist in Dún Laoghaire), as well as the somewhat limited diversity in the retail, hospitality and civic/community offerings in Dundrum Main Street.

The Covid Mobility works have also led to a large reduction in vehicular speeds on Main Street allowing for a safer and more comfortable street environment. However, excessive vehicular speeds are noted on the by-pass and Kilmacud Road, and speed reductions are warranted on Sandyford Road given its high level of pedestrian activity. Low vehicle speeds are particularly important for safety and comfort in traditional Main Street settings. Vehicle speeds also impact on people's ability to cross between either side of a Main Street. This is generally regarded as important for economic vitality and street vibrancy. The maximum vehicle speed in a main street with a grade separated carriageway such as in Dundrum is 30km/hr, however a lower vehicle speed is more desirable. Dundrum Main Street still also experiences relatively high levels of northbound through-traffic.

4 PEOPLE: Business & Community Interviews

4.1 Introduction

This chapter explores the business and local community's perspective on the Dundrum Main Street public realm and mobility works that were carried out in late summer/autumn 2020 in the context of COVID-19. A socially based qualitative research approach is used. A summary of contextual factors to the research that follows is provided first.

4.2 Methodology and Approach

Qualitative survey methodology

'Dundrum: Business and Community Interviews' were carried out with a number of community and enterprise representatives as well as a number of businesses along the Main Street/Sandyford Road. The methodology used was using a mix of formal and informal interview approaches:

1. The formal approach included email invitations followed with structured questionnaires shared in advance, followed by online interviews recorded with consent.
2. The informal approach was a drop-in one to facilitate operating businesses on the Main Street to be represented more easily and used semi-structured questionnaires and note taking during the interview. Most of these traders did not want to be identified, thus this group has been anonymised.

Although interviews are time and resource intensive, and by their nature therefore limited, a key benefit is that a very rich and detailed dataset can be gleaned. The interviews were primarily conducted between February and June of 2023, with some additional formal interviews taking place over Autumn 2023 where a suitable interview date was unable to be secured earlier. Details of interviewees are provided below.

The semi-structured interview format was chosen to maximise the opportunity to investigate specific themes while allowing flexibility to explore details relevant to a particular stakeholder. This allowed for an open and interactive dialogue to explore key themes and allow for new themes to emerge. It also facilitated a diversity of businesses/community viewpoints to arise and then be explored in more depth or more broadly as considered most relevant. The interview questions were designed to cover the following general themes from the outset:

(a) assess the impacts of the Covid Mobility Works on the business and broader community,
(b) explore the nature of the engagement approach or process deployed by DLR to deliver the infrastructure; and
(c) gauge participant views on what they would like to see happen to the Covid Mobility Works, and any aspirations around the future of Dundrum.

In keeping with the explorative nature of the study, the findings are largely based on a thematic analysis methodology, whereby commonly recurrent themes or patterns were identified and extracted (Bryman, 2021).

The Dundrum Business and Community interviews were carried out with a number of community and enterprise representatives as well as several businesses along the Main Street/Sandyford Road. Below is an overview of the relevant groups and individuals where interviews were agreed, with more detail

provided in Table 4-1 below. There were also additional people/groups invited to interview, however not all invitations resulted in an interview being undertaken.

Dundrum Local Community Groups:
The local community perspective included representatives of Imagine Dundrum; two Elected Representatives; members the DLR Public Participation Network (PPN); a representative of DLR Disability Consultation Group and NCBI; and the local Parish Priest.

Imagine Dundrum
Imagine Dundrum is of notable significance as a local community group with a core team of seventeen people (and a mail list of c.1,500). The group was formed in 2016 against the backdrop of the sale of the old Dundrum Shopping Centre site and buildings on Main Street to Hammerson. Their aim from the outset *"has been to bring a strong community voice to the decisions about the built environment in Dundrum Village that will shape our place for generations*."[44]

It envisions Dundrum as a sustainable and healthy place for the community supported by a vibrant local economy. Village and neighbourhood thinking is core in their thinking to support a local quality of life, and further supported in their identification of eight fundamental principles to underpin their planning responses. These are:

- A strong identity and sense of place
- A lively Main Street, respectful of the village heritage and character
- A human scale, connected place
- An inclusive residential community
- Enhancing community, cultural and civic pride
- Enriching the public space in the village
- A green, sustainable, future-proofed place
- A thriving local economy.

Local representatives
Two of the seven local Elected Representatives were interviewed:

- Cllr. Anne Colgan, an Independent Councillor, and member of the Strategic Policy Committee: Planning and Citizen Engagement.
- Cllr. Jim O'Leary, a Fine Gael Councillor, member of the Strategic Policy Committee: Planning and Citizen Engagement and Chairperson of the Environment and Climate Change Strategic Policy Committee.

The Elected Representatives were nominated for interview by the Chairpersons of the Strategic Policy Committees on Planning and Citizen Engagement, and Transportation and Marine Policy.

The DLR Public Participation Network (PPN)
The DLR Public Participation Network (PPN) is an independent network, which aims to facilitate communication between community groups and the local authority. It is made up of community,

[44] https://www.imaginedundrum.ie/wp-content/uploads/2023/05/Imagine-Dundrum-Brochure2022.pdf

voluntary, social inclusion, and environmental organisations active in the Dún Laoghaire-Rathdown County area. The DLR PPN helpfully sought individuals interested in the Dundrum area to come forward to be interviewed.

Dundrum Local Business & Enterprise

The business community did not have a formal local representative group in the way that the community sector has. This presented challenges for the study, and is discussed further below. To overcome this in so far as was feasible, a selected cross-segment of traders on, or very close to the Main Street/Sandyford Road were informally interviewed in person after a suitable time was requested, with two additional pre-arranged interviews with businesses on the Main Street. While others were also contacted, there was a reluctance from some traders to participate in the study. Many of the traders, in particular, did not wish to be identified. Five traders from a range of sectors including hospitality, retail, and retail services were interviewed. The wider enterprise perspective was also provided through an interview with the Chief Executive Officer of the local Credit Union, Capital Credit Union, and the Senior General Manager of 'Dundrum Town Centre'.

Public Transport: A representative of one of the key bus operators was represented by Transport Consultant, Go-Ahead Ireland, Derry O'Leary.

Table 4-1 Community and businesses stakeholders interviewed for this research.

Community/business/ group representative	Interview type	Interviewee name	About
Local governance and community	Online	Cllr. Anne Colgan	One of 7 local ward councillors (Independent), member of Strategic Policy Committee: planning and citizen engagement; Chairperson of the Imagine Dundrum community group
Local governance and community	Online	Cllr. Jim O'Leary	One of the 7 ward councillors (Fine Gael), Chairperson of the Environment and Climate Change SPC,
Imagine Dundrum Community Group	Online	Nick Armstrong	Representing Imagine Dundrum, an active "community based connected organisation" (with a large mailing list of local residents, residents' associations, and local TDs)
Local community Church (Holy Cross Parish)	Online	Fr. John Bracken	Parish priest (at the time of interview, and has since moved to a new parish) of Holy Cross Church, Dundrum
Main Street Bank/Credit Union	Online	Gerry McConville	CEO, Capital Credit Union (at the time of interview, since retired), Credit Union
Business on the Main Street	Informal, in person and semi-structured, notes taken with consent	Managers/owners of range of businesses on Main Street	5 traders on Main Street/Sandyford Road

Business – Town Centre (New Shopping Centre)	Online	Don Nugent	'Dundrum Town Centre' Senior General Manager (part of Hammerson)
Group interview with Public Participation Network	Online	Miriam Callanan Alison Kennedy Muireann O'Higgins Angela Irving	Support Worker DLR PPN (& Southside Partnership) DLR PPN (& Irish Country Women's Association) DLR PPN (& Imagine Dundrum) DLR PPN (& Imagine Dundrum)
Disability Consultative Group	Online	Helena Mollaghan	Chairperson of the DLR Disability Consultation Group and NCBI, Working for People with Sight Loss, trained advocate
Local Authority Representative	Online	Seán McGrath	Senior Engineer Road Traffic and Safety, DLR, involved in Covid Mobility Works, 2020
Public Transport Provider	Online	Derry O'Leary	Transport Consultant, Go-Ahead Ireland

4.3 Findings and Discussion: The Community & Business perspective

About this section

This section provides research findings on local community and business perspectives of Covid-19 mobility works, including past and present views, and future aspirations. It follows the key themes identified below, starting with the perception of DLR's engagement before the Covid Mobility works from local community and business viewpoints, followed by the perceived impacts of the works as they generally relate to pedestrians and accessibility, cycling, public transport, and car users.

The Key Themes Identified

To explore how the local community and businesses view the Dundrum Covid Mobility works, the key themes derived from the interviews are as follows:

- Theme 1: Perspectives on Stakeholder Engagement
- Theme 2: Walkability and Accessibility
- Theme 3: Cycling and Related Infrastructure
- Theme 4: Public Realm, Maintenance and Street Activity
- Theme 5: Public Transport and Modified Bus Routes
- Theme 6: Vehicular Traffic Arrangements and Spillover Effects
- Theme 7: Did it serve its Purpose, and should it be Retained?
- Theme 8: Regeneration and a Vision for the Main Street

4.3.1 Theme 1: Perspectives on Stakeholder Engagement

The context for the approach to public engagement in Dundrum was outlined in the Government's "INTERIM ADVICE NOTE - Covid 19 Pandemic Response"[45]. This recognised the immediacy of the challenges facing local communities and businesses and confirmed that for the purposes of Covid Mobility "traffic calming measures",[46] public consultation was not mandatory as the works largely fell under section 38 of the Road Traffic Act 1994 (see Chapter 1 for more detail). Regardless of the non-statutory context of public consultation, the interviews revealed some different perceptions as to the extent of public engagement undertaken by DLR.

The DLR Senior Engineer responsible for road traffic and safety who was involved with the Dundrum Mobility Works recalled the emergency nature of Covid-19, but that they nonetheless carried out *'extensive'* stakeholder consultation with elected representatives, local businesses, the Dundrum Town Centre, and Imagine Dundrum. He also recalled further that they *"liaised with…. schools, namely Holy Cross and Taney Parish Primary School."* A DLR Senior Architect also recalled their Covid Mobility approach as being "*about meeting stakeholders regularly on the ground and addressing issues and concerns in a live and dynamic way as a response to the rapid nature of the works*"[47].

Representing Imagine Dundrum, Nick Armstrong, recalled that the DLR team were '*forthcoming about the project*'. Their positive recall of the engagement experience likely builds on Imagine Dundrum's pre-existing relationship with the DLR team developed from established shared interest in Dundrum's future plans:

> "*We've always had a very good relationship with the council … so when….COVID… started, we were contacted by the council in relation to their idea. We had a meeting with them in Dún Laoghaire, I think that was the first meeting in relation to the COVID [works].*"

And also added:

> *"there was nothing cloak and dagger about it at all and we had a lot of discussions with Robbie Burns and some of the engineers in relation to the plans and on two or three occasions we met with them on the street and they brought their plan along".*
>
> "*They did actually listen, they didn't just come along and say, oh what's your view on this and then disappear and you see something completely different drawn up, no, far from it…maybe if some of the businesses weren't properly consulted".*

[45] https://www.dmurs.ie/supplementary-material

[46] *"The definition of "traffic calming measures" is very wide, including "measures which facilitate the safe use of public roads by different classes of traffic (including pedestrians and cyclists)". Given the breadth of the coverage of this section, it is likely that most transport related Covid-19 measures will be implemented under the provisions of Section 38. … It has been confirmed that no regulations have been made prescribing categories of traffic calming measures for the purpose of Section 38 of the 1994 Act, and, accordingly, the public consultation requirement is not mandatory for interventions implemented under this section." (extract from the above mentioned Interim Advice Note)*

[47] https://arrow.tudublin.ie/cgi/viewcontent.cgi?article=1011&context=beschsprep

This view was, however, not widely shared. The lack of a local business representative group may have exacerbated the issue, particularly within a pandemic context where the nature of how people engaged with each other significantly changed. While the community group of Imagine Dundrum felt well engaged with the Covid Mobility proposals and works, others, including a number of businesses did not.

The interviews with other individuals recall a general sense of their being little initial engagement, and of any that did occur, as being more unstructured and reactive in nature. Councillor Anne Colgan acknowledged the challenges faced saying "*I suppose there wasn't any structured mechanism for getting feedback."*

With a sense of being overlooked, Fr. Bracken noted that "*I was not really consulted until near the end, and that was a big mistake because they actually never thought about how we would manage funerals... So, they had to redesign the concept… It was only the intervention of a local councillor that drew attention to the need to talk to the 'church'. Then they had to go back and relook at how they would actually reconfigure that."*

The' Dundrum Town Centre' Senior General Manager interviewed also shared this general view and recommended earlier engagement in the future:

> *"it did require considerable effort by our consultants to steer the council. It would have been beneficial for all concerned if engagement had happened earlier. By the time we were engaged, the proposals had already been drawn up; I would say earlier engagement is important for any plans going forward. The relationship with the council was strong and, once we spoke with them, they did listen and we have continued to maintain a good relationship."*

Helena Mollaghan, Chairperson of the DLR Disability Consultation Group and trained advocate for NCBI, Working for People with Sight Loss spoke about the challenges faced by individuals with disabilities in accessing and using reconfigured streets and bus services. In this context, she expressed concerns about the lack of early inclusive consultation. She emphasised the need for locally representative disability groups to be seen as a positive helpful asset and urged that this gets urgent attention. Perceiving that "*the biggest barrier to engagement is time"* added that improvements in communication, time management, and funding are crucial factors for more effective engagement.

There were also strong sentiments among some of the retail businesses, who had a sense that there was very little direct engagement from DLR, and where there was, it was initiated by the business:

> *"We should have been consulted - there was none. Found out it was happening by chance and then the can was kicked down the road so to speak for two and a half months until the deal was already done. There were a few meetings over the six months during COVID, but they were initiated by us.''*

Not all businesses shared such strongly negative views, some were more neutral in nature, with another business owner saying, *"I'm not saying there wasn't any [consultation], it is a while ago now, there may have been a leaflet dropped".* There was a general acknowledgement that once stakeholders initiated engagement with the DLR team, there was a sense that they were listened to. Fr. Bracken recounting a more recent "*episode with the new planters put in overnight"* as being an example of a lack of understanding around church operations, but acknowledged DLR's quick response once contacted: *"they*

were moved within 24 hours, well maybe 36 hours. It was definitely moved very quickly ….. I said we can't have a funeral until you move it, but they realised and there was a bit of engagement."

Both elected representatives spoke about the importance of engagement and that it might be easier *"for the council to engage when there are structured organisations with whom they can engage with"* such as an established business association and residents' associations close to the Main Street. One elected representative suggested the idea of stakeholder mapping, adding "*any such engagement structures should begin with the councillors, they know the terrain, they know who's there, they know what groups are there and they have their views about what needs to happen born as a result of their role".*

4.3.2 Theme 2: Walkability and Accessibility

There is some overlap between the themes of active travel and mobility and that of urban design and public realm.

Imagine Dundrum identified a pre-existing need for investment in Dundrum's Main Street. Councillor Anne Colgan acknowledges this, attributing the lack of public realm investment as a negative influence on accessibility and active travel. She comments:

> *"With the Imagine Dundrum hat on…we had previously drawn attention to several aspects of Main Street that we felt needed to change. And there had been no investment whatever in the public realm in Dundrum. And the pavements were crowded with unnecessary street furniture, the narrow paths were a big issue for people with mobility impairments..."*

A general positive response to wider pavements from the community:

Some accessibility issues were vocally raised, in particular around the defender kerbs delineating the contra flow cycle path (discussed later), the over-arching feeling coming back from the community representatives was positive. Representatives from the PPN shared that:

> *"Yeah, I was surprised, actually, I wasn't expecting such radical changes, but I'm very glad they did come about."*

> *"it was necessary for social distancing to have a more pedestrian friendly thoroughfare in the village. And previously the village was very cluttered, and the pavements were very narrow.*

> *"it's a much more accessible place then obviously for people with disabilities also, to shop in Dundrum."*

Father Bracken captured the duality of feelings around the contra flow cycle path discussed further under theme 3:

> *"The slightly wider pathways, have certainly helped pedestrians, and the bicycle lane, there is something positive to that, but some not."*

The mobility works and more pedestrian feel were also seen as a needed first step in right direction, demonstrating the potential to go further, and for restoring a village feel and footfall that can support local businesses.

Councillor O'Leary suggested that *"into the fullness of time…whether it is 10 years or 20 years, I think the idea that it will be fully pedestrianised is something that we should be aiming for"* as a means to reclaim a village feel, whilst also stressing the importance of "*maintaining commercial viability of businesses".*

The general business viewpoint is less supportive:
The businesses interviewed can be divided into hospitality, retail and other. Two hospitality businesses that were interviewed were generally positive about the changes perceiving an increase in footfall, one of them going so far as to say that the Mobility works was a key factor in their decision to locate in Dundrum.

> *"A two-way road system would have been a turn off for us as a business. A two-way road is not attractive for people walking or seated, or for the hospitality and service industry in general. We have a local customer base, but it's been busy".*

Other individuals in the retail businesses interviewed revealed strong misgivings about the Covid Mobility works. One retail business referred to the Covid Mobility works as *"a disaster"*, and later added *"people find it difficult to navigate Dundrum with all the changes with so many one-way systems and different ways in and out and that people are avoiding Dundrum and going elsewhere."* They were particularly exercised about elements such as the traffic diversions, contra flow system or, for some, around loading bays and parking (discussed under related sections).

While increased pavement was perceived an accessibility win, the contra-flow divider kerbs were not:
Accessibility challenges prior to the works were recalled during some interviews, in particular issues around narrow pavements at key spots including Campbells Corner and the crossing point at the old shopping centre. [48]

> *"The pavement at the bottom of the escalators in the old shopping centre was only 1.6 metres wide, so difficult coming along with a couple of kids or a double buggy, … the other dangerous spot was Campbells Corner, that was a very, very narrow bit of pavement.*" (Mr. Armstrong, Imagine Dundrum)

Meanwhile the accessibility benefits post the Covid Mobility works have been noticed. In the PPN network group, a member emphasised the enhanced accessibility for people with disabilities, making Dundrum a more inclusive shopping destination.

> *"it's a much more accessible place then obviously for people with disabilities also, to shop in Dundrum."* (PPN member)

Having walked the street with someone with lived experience, Councillor Colgan acknowledged the positive outcome for individuals with visual impairments but acknowledged room for improvement: *"those dividers were an issue.*" The defender kerbs, criticised for being a tripping hazards, were a recurring

[48] *Improved Accessibility on the Main Street following the Covid Mobility Works were written up in the October 2020 Imagine Dundrum Newsletter: "As part of the mobility works in the Village, many of our requests for a more accessible Village have been addressed. Poles have been taken away, those planters at the Usher monument are gone, pavements are wider and wheelchair friendly seating is available. The pavement on route to the Mill Pond in Dundrum Town Centre is now much more wheelchair friendly. We would like to thank the Dun Laoghaire Rathdown engineers and architects for creating a safer and more accessible public realm in Dundrum." https://www.imaginedundrum.ie/wp-content/uploads/2021/02/ImagineDundrum_A4_Newsletter3_proof2.pdf*

accessibility issue in most interviews and are discussed further under their own heading below under cycling infrastructure.

With regard to feedback from DLR Disability Consultation group members about the Covid Mobility works, Helena Mollaghan, Chairperson of the group reported that "*difficulties in navigating the new road layout and connecting safely with bus stops"* were identified and stressed the importance of finding new ways to address safety concerns. A safety audit is one such way, noting funding is an obstacle added *"there is a need to think of some new ways of thinking about funding this."* Looking to a period beyond the Covid mobility works, towards a more inclusive accessibility, Ms Mollaghan added that *"traffic reduction would be good especially for mobility issues".*

Figure 4-1 Bin placement at bus stop - a minor hindrance for many but a significant obstruction for others, such as wheelchair users.

Concern was also shared linking greater car dependency with older people, emphasising the need for accessible car parking facilities.

> "*they [older people] are completely dependent on the car going down. And they're dependent also on the car parking facilities allowed in the old shopping centre and without that Dundrum would be closed off for them."* (PPN member)

4.3.3 Theme 3: Cycling and Related Infrastructure.

The Covid Mobility works supported cycling by providing a shared northbound vehicle and cycle carriageway and a dedicated southbound contraflow cycle-lane delineated by a black rubber 'defender kerb'. This runs along almost the entirety of the Main Street, a very small portion of Kilmacud Rd Upper and a short way up Sandyford Road, where it is delineated instead by a lighter coloured cement kerb from the point of Elm Lawn (Flye Fit Gym) and ending at Dom Marmion car park. The key elements relating to cycling infrastructure arising from the research are: i) the contra flow cycle lane, ii) shared carriageway use with people cycling in the same direction and iii) defender kerbs.

i) The Contra flow cycle lane and a level of confusion

The community and business representatives interviewed mostly spoke about the cycling infrastructure from a pedestrian or car user perspective; only one person spoke from a cycling perspective. The general attitude towards the contra-flow cycle lane is fairly well captured by one person's comment *"it is the one thing that I would change at the moment, if possible".* The positives such as contributing to a developing cycle network and facilitating people cycling to feel safer from traffic were acknowledged also but by few and at times a little obliquely, or from one cyclist's perspective with an added touch of frustration as to why more people aren't using it:

> *"The evidence from the cycling campaign is that it is a step in the right direction. The council's intent is to create a safe space for cycling."*
>
> *"it's very positive for cyclists if they want to use it" (PPN member)*

The research indicates that both user and non-users of the contra flow lane recognise that there are benefits for people cycling, however, there seems to be a level of confusion due to a lack of clear direction, causing uncertainty for people cycling and pedestrians:

"… I don't actually know what way the cyclists will go, whenever I go down,…" (Cyclist and member of the PPN)

"It's a reverse cycle lane but not everybody knows that… So, you might be looking out for bikes coming up the main street and then the next thing a bike comes down the main street".
(Fr. Bracken, Holy Cross Parish)

"There is still some confusion that you have bikes coming up the street in a dedicated bike lane but you also have bikes going down the street on the main street. So, you know you might be looking out for bikes coming up the main street and then the next thing a bike comes down the main street." (Gerry McConville, Capital Credit Union)

ii) Perception that contra flow cycle lane gets very little use.

In addition to confusion, there appears to be a sense by some that that the contra flow lane is not being used as illustrated by the comments below:

"Whenever I go down, I'm surprised to see hardly any cyclists, if any, on the cycle lanes, which is a bit of a mystery to me." (PPN member)

"I would say the reverse bicycle lane gets very little use and maybe would be better gone." (Fr. Bracken)

"People [are] saying that they never see any bikes on the cycle paths. And they are very little used too, have to say for some reason. I don't know why." (Cllr. Colgan)

iii) Shared carriageway use with people cycling in the same direction also appears to be causing confusion

The research found that the confusion around the contra-flow lane extends to the one-way traffic lane that is shared with cycling in the same direction. Despite the road markings, some interviewees shared that some drivers perceive wrongly (for more than one reason) that a person cycling on the traffic lane should be in *'the cycle lane'.*

"*You get some very interesting things happening with cyclists and cars because the cyclists who understand the contra flow will stay in the middle of the road* [with traffic flow], *and you might end getting a car beeping them."* (Fr. Bracken, Holy Cross Parish)

Fr. Bracken also added his concern from a driver's perspective:

"if you were reversing into a parking space and you stop a car and bike is coming down the hill at quite a speed. There is no safety for bikes in that situation".

iv) The defender kerbs

As noted in the section on accessibility, the contra flow defender kerbs are widely perceived as a tripping hazard, noted as particularly concerning for more vulnerable groups, and there is an overwhelming sense that they needed to be modified and some felt that they should be removed. The main issue perceived was that the black rubber defender kerbs camouflage with the road surface with some recalling accidents they have witnessed or heard about.

"We've seen falls, one lady smashed her collarbone recently. That the cycle kerb has no contrast with the road is an issue." (retail business)

They were also noted as particularly concerning for older people. A local trader and a PPN member raised concerns about falls among the elderly, with suggestions for improvements, such as colouring the kerbs.

"Cyclists can sometimes forget as well that there are elderly pedestrians as well. So, cyclists can be unaware of other road users and the scooters."

"Older people are scared walking across because they had to really plan it out" (PPN member)

"The kerbs in the village are a problem causing falls amongst elderly people. They need to be coloured." (local business)

Proposed Solutions for Enhancing Contra-Flow Lane Effectiveness

A range of proposed solutions were shared, which encompassed options such as enhancing visibility by painting the cycle kerb, widening the contra-flow to accommodate two-way traffic, integrating it into an extended network, and advocating for a traffic-free Main Street environment to render the need for the contra-flow lane obsolete.

Members of the PPN and Gerry McConville, CEO, Capital Credit Union suggested painting the kerbs to visually contrast with carriageway:

"*Those kerb separators just seem to be a hazard really. Like, even if there were a different colour, I think that they're just so - the colour is just so similar. The dark colour is just so similar to the road*." (PPN member)

"The division between the Main Street vehicle traffic and the bike lane is by means of a grey plinth. And that needs to be more clearly sort of defined maybe with fluorescent paint or something." (Mr. McConville, Capital Credit Union)

Nick Armstrong, Imagine Dundrum spoke about the need for safe and connected cycle networks:

"A connected environment, is really important in relation to developments round the whole town and where we want to see cycleways link up, pedestrian facilities, [that are] clear and safe."

While there was also the suggestion that increasing familiarity over time may be reducing the tripping risk, the elected representatives interviewed were united in their view something had to be done about them:

"These kinds of things annoy people more than the big picture stuff."

"I suppose where we are at now is the seven Councillors have been given commitments that we will get proper delineators."[49]

4.3.4 Theme 4: Public Realm, Maintenance & Street Activity

In the Government Interim Advice note 'Street Activity' was included as a measure to be considered[50] with the objective of providing *"additional space (in addition to that provided above for pedestrian movement) outside shops and adjacent to bus stops to facilitate queuing. Consideration should also be given to the allocation of space for outdoor tables/seating associated with food service."*

This section explores the response to public realm and design features such as the extended public realm outside Holy Cross Church, tables and benches, and plants (and maintenance), and how they are experienced.

A positive community response on the overall extended public realm and design features

In addition to the widened pavement, community representatives interviewed showed an overall positive response to public realm furnishings making it a pedestrian friendly environment.

*"The planters and the street furnishings, and the seats outside the cafe in Dundrum – that it's more pedestrian and cycle friendly." (*PPN member)

"a terrific job was done" (Mr. Armstong, Imagine Dundrum)

Some significant additional public realm and community space was created on Dundrum Main Street in front of Holy Cross Church that included a newly located bus stop as well as benches. Father Bracken commented that:

"this is a place for people to gather… and certainly funerals and weddings, that has kind of created a more private space, it is not on the roadside that would have been there before with two lanes of traffic coming up." He also observed that *"there are definitely advantages because there is more footfall".*

Figure 4-2 Funeral gathering at Holy Cross Church (photo: Google Maps, Sept. 2022 https://maps.app.goo.gl/LL9ofw2AM9S4CsFx5)

More than just tables and benches adding community value and sense of village.

Tables and benches, included under street activity in the Covid Government Interim Advice note, contribute to the economic viability of local communities. The community value related to the public realm

[49] *Since the interviews, in October 2023, new reflective kerb waves (similar to those along sections of the Coastal Mobility Route near the West Pier in Dún Laoghaire) have been retrofitted to the rubber defender kerbs (for more discussion on this, see Chapter 2).*

[50] https://www.dmurs.ie/supplementary-material

extension and furnishings were discussed by the PPN representatives. They spoke about their success in fostering a vibrant and sociable community atmosphere, and how they contribute to the restoration of a village feel.

> *"I think the changes as I see them, is the pathways widening that gives us back our sort of sociability in Dundrum. I think that should stay because that's not just a Covid related issue, that is basically bringing people back on the streets."* (PPN member)

> *"there is much more of a feeling of village, and community, and people socialising, than I had felt prior, on previous visits."* (PPN member)

The sense of village is something that cuts across almost all interviews and will be discussed further under the theme of the future for the Main Street.

Tables and benches were also seen as economically beneficial, supporting community inclusion, providing opportunities to rest, and enhancing the local ambiance. The observed increase in social activities, particularly among different age groups, was noted as a positive mental health benefit.

> *"I often go down to Dundrum and have coffee. It was a thing we never did before – we would go somewhere else. And it's lovely that we've got to know some of the coffee owners."* (PPN member)

One member also shared her observed differences in how the space is used between age groups:

> *"It's just really lovely and I'm thinking for elderly people , it's so much easier for them to actually sort of be able to come down and actually do things like that. The younger people seem to actually congregate up around the town centre. … I really think that for this sake the Council actually can make people happier."*

Another member added the mental health value in enabling village communities to come together:

> *"You see much more people going out and sitting around. And I think that's really good, especially in a time when COVID keeps people indoors. I think it's very beneficial for people's mental health at times like this, and at other times as well, you know."*

The added value of the street furniture was recognised by a hospitality business saying *"benches placed outside on [the eastern side] of the road, would have been great."* The Dundrum Town Centre Senior General Manager, Don Nugent, also commented on this:

> *"Most of the seating is on west side of Main Street but the east side gets more sun so more consideration could be given to the east side. That's in keeping with the plans."*

Planting that sensitively placed is appreciated but maintenance proves to be a crucial concern.
The community response to the newly added planting indicates the community's appreciation for their potential in enriching the street environment. It was also noted that it is placed with consideration to heritage and design as well as accessibility. Father Bracken spoke about how planting done well can positively frame rather than block views to important heritage buildings.

"I was a bit concerned about the trees might grow so big that they would take away from the facade of the church, because of the lovely aspect that as you walk up the Main Street…it is one of the few listed building on the main street and located in the Conservation area… it was that facade, the connection with cottages across the road and ourselves, that that wouldn't be lost in this." (Fr. Bracken)

Figure 4-3 Trees placed in front of Holy Cross church façade.

There were also strongly expressed concerns about their (lack of) maintenance. The interviews recalled instances of seeing newly planted trees decay and shared a desire for proactive maintenance measures to prevent planters and shrubs from dying.

"New trees were put in last year but nobody looked after them and they died, so a waste of taxpayers money."

"They [footpaths] are better, and certainly the new trees add beauty. Previously they put in the beech trees and I watched them die."

"I was just wondering about the planters how they're maintained. Because last year, a lot of the plants or the shrubs in particular died back … so, if we could have trees, not just in boxes, … if something like that could be explored."

Suggestions for more permanent planting methods, as seen in Stillorgan, were proposed to ensure longevity and better resistance to environmental challenges.

"A lot of the mature trees were all cut down in Dundrum... I would like to see those trees being put in permanently… not in boxes... I want to see those trees planted properly… when I look at Stillorgan planting, I realise that it could be a lot better. They've done a fantastic job [there]."

Concerns about the lack of attention to maintenance and upkeep in Dundrum Village were raised by both Councillor O'Leary and Councillor Colgan. Councillor O'Leary highlighted a recent initiative by the Council to replace wooden planters with permanent ones, addressing the oversight in maintenance. Councillor Colgan spoke about the importance of optimising existing infrastructure to minimise grounds for complaints.

*"there was zero attention given to maintenance and upkeep. So, we had a major problem then with the Council even in terms of trying to find out what Directors had responsibility to try and get it maintained which has led to a new piece of work in the last two months, where they are getting rid of all the wooden planters and are replacing them with a permanent kind." (*Cllr. O'Leary)

*"… it's all that investment in optimising what's there so that people don't have smaller grounds for complaints, rather than the big picture stuff … you lose people unnecessarily." (*Cllr. Colgan)

The DLR Senior Engineer acknowledged the need for better collaboration between roads and parks departments, suggesting that maintenance teams should be more involved in the design process to ensure long-term sustainability.

> "*Architects and Parks Departments were coming from different perspectives... maintenance teams should be more involved in the design.*"

4.3.5 Theme 5: Public Transport and Modified Bus Routes

Dundrum is served by several services operated by Dublin Bus and Go-Ahead Ireland. The changes that were brought in to facilitate the reallocation of road space on Main Street during Covid are outlined further in Chapter 3. In summary they involved the rerouting of the southbound bus services from Main Street to the adjacent Dundrum by-pass or via Taney and Sydenham Road into Kilmacud Road Upper and associated new bus stops. The routes affected are routes 14, 44, 75, 75A and 175. As explained by the DLR Senior Engineer, the revised routing was chosen to ensure that passengers could board and alight on the more accessible side of the by-pass, i.e. the Main Street/Shopping Centre side.

Derry O'Leary, Transport Consultant speaking on behalf of Go-Ahead Ireland expressed that is difficult to assess the impacts of the route changes with two and half years lapsing but suggested that adjustments have normalised over time:

> "*it's a difficult call to make at this stage, as we are two and a half years on so difficult to compare now…the route adjusts, people adjust, and after a time everything settled down, you wonder what the fuss was about."*

Concern regarding bus route and bus stop accessibility were raised by Mr. O'Leary and Councillor Colgan, with a focus on ensuring convenience for passengers:

> *"we don't like changing the route on the return so if we come in the Main Street, we like to go out the Main Street, you may have fragile passengers who get on the bus and get off at a certain stop, on the return, they want to get back on across the road*." (Mr. O'Leary, Go Ahead)

> "*there have been a couple of issues around the location of the bus stops….some older people who are still are unhappy about the distances they have to walk to get particular buses.*" (Cllr. Colgan)

There was little direct user experience of the bus routes in the interview responses. Instead, responses related to how the modifications impacted others. A perception of increased bus patronage was shared by Go Ahead consultant, Mr O'Leary and by Father Bracken, while Councillor Colgan expressed apprehension that *"bus movement through the village, if it came back, would kind of swamp the village"*.

> *"I think there are more people using the bus then before. I don't know why this is the case but, in the evenings, and during the summer particularly the bus area outside the church can be very busy".* (Fr. Bracken, Holy Cross Parish)

> "*In terms of patronage, things came back with a gusto after Covid, and what I can say is that patronage levels are more than pre-pandemic now, and similarly so across Dublin."* (Mr. O'Leary, Go-Ahead)

Derry O'Leary, consultant with Go Ahead Ireland spoke about forthcoming changes and how the Dundrum area will be served by well-defined orbital routes, the S6 and S8:

> *"There will be higher frequencies so that is a good thing. What you get is proper orbital routes with proper frequencies which is something that we have been looking for, for a long time."*
>
> The plan is that "*they won't cross each other like some of the current orbital routes do*". Instead, they will *"be running almost in parallel to each other, so they will run in concentric circles from the city centre".*

The need for additional or improved bus stops with waiting shelters was emphasised by The Dundrum Town Centre Senior General Manager, Don Nugent, along with the importance of enhancing the footpath from Balally Luas stop to Sandyford Road. Referencing bus stops, he highlighted what he sees as potential "*outstanding items*", commenting that "*one on the bypass and one on Dom Marmion bridge, both of those bus stops are waiting shelters that are badly needed. One other thing that ties in with this is the stretch of footpath from the Balally Luas stop to Sandyford Road past Ashfield College, it needs to be more inviting."*

Dundrum Luas (Tram) Stop

Again, there was little direct user experience expressed in the interviews around Dundrum Luas. One member of the PPN group had some quite considered thoughts around station access, station visibility and enhancing the surrounding public realm to including the Ushers monument.

> "*I get the Luas to work. And just that area around the Ushers monument*[51] *is kind of an area that maybe is a place making area… more seating there… hopscotch for the young children, the entrance to the Luas needs a bit of work… it isn't even very obvious to a lot of people that the Luas is actually there. So, I just think even some planters or even just to brighten up that area on the way up to the Luas, should help."*

Figure 4-4 Front Cover of J. Nolan's 1980s book on 'The Changing Face of Dundrum' showing the original and moved position of the Usher Monument (top pic left) and the monument today (right).

4.3.6 Theme 6: Vehicular Traffic Arrangements and Spillover Effects

The positives around the public realm extension and the frustration felt about the one-way system are in a sense two sides of the same coin. Cllr Colgan *"with the Imagine Dundrum hat on"* recalled that before Covid, they had *"made the case for a one-way system"* primarily focusing on managing traffic issues. The sense that moving from a two-way to one-way traffic arrangement created space for increased footfall and

[51] *The Usher Monument remembers Dr. Isaac Usher, a well-regarded local resident of Dundrum, killed in 1917 when a reversing car driver struck him as he approached Dundrum station, now Dundrum Luas stop.*

sociability as well as a more peaceful less polluted street was recognised. Several people interviewed shared a duality of frustration with the changes around routing.

> "*I think the immediate thing that would strike anybody was the reduction in traffic along the street and coming with that of course, is a reduction in air pollution making the street much more pleasant for people to walk along, and the one-way system largely enabled wider pavements and the cycleway - it makes a lot of sense."*
>
> *"I think traffic has been inconvenienced. The car has been inconvenienced. And in one sense that's good, right? Because we need to get rid of the excessive cars."*
>
> *"the street one-way has advantages, it certainly has quietened the street...As a resident it has been a right pain because you have to go around the world to kind of [get somewhere], it takes a while for the brain to get that into your [thought process]... However, there is a sense that the one-way street has increased footfall and created a place for people to gather."*

Gerry McConville; Capital Credit Union spoke about traffic delays, and loss of route choice:

> "*It's quiet frustrating, you know… the only exit from Main Street is on to the by-pass and the by-pass can be very congested."* And later added "*even before the new arrangements were brought in there could be delays but at least you had a choice of going down the Main Street or going up the Main Street.*"

The DLR Senior Engineer acknowledged that the Blackrock Main street's connection to the bypass (Frascati Road) provides a more "*reasonable alternative*" for traffic compared to in Dundrum where the traffic coming from the Barton Road extension can't access the bypass "*because its bridged over and separated."*

The Town Centre Manager noted some issues from the perspective of the Town Centre:

> *"I would say the Main Street is now a nicer environment in the sense that there is a flow to it with the two-way to one way traffic. However, there are three issues to note, it does have an impact on emergency access to Dundrum village; it has put more pressure on the bypass; and limits egress from the car park at the northern end of the shopping centre on to Dom Marmion Bridge. The interventions to encourage a part-removal of traffic means that cars no longer have the option to drive east up Kilmacud Road. This raises the question as to whether they considered the volume of customers leaving Dundrum Town Centre and this is a very important consideration."* Adding that: *"Over 17.5 million people through the centre every year and we need to consider the importance of access and egress for car-born visitors as more than 75% of our customers come by car."* (Mr. Nugent, Dundrum Town Centre)

Gerry McConville of Capital Credit Union spoke about a perceived reduced numbers of customers coming into the business, noting that online and phone banking are also a possible cause, delays experienced by staff who drive and identified traffic sequencing as a potential means to reducing the issue.

> " *Yeah, I would say it definitely has reduced the numbers coming into the office, but it doesn't seem to have impacted on the business. So, I think more people are either using one of our other branches or they are phoning in or going online."*

"i*n terms of staff, there can be significant delays exiting the Main Street in busy times. So, coming up to Christmas or even a Thursday or Friday evening when it is a busy shopping time, it could take 20 minutes to get out of the main street".*

" … maybe rather than having timed traffic lights maybe have them responding to volume of traffic.... some sort of co-ordinated traffic light response. " He also added *"in the evening, you want to prioritise traffic leaving Dundrum" (*Mr. McConville, Capital Credit Union)

Spillover effects of the new street layout:
Concerns were expressed relating to firstly, the emergency services, secondly, perceived parking and loading bays; and thirdly, traffic flow management and impacts on school routes. These were all raised in discussions emerging as issues relating to the new layout. They are outlined below are along with the discontent expressed by some retail businesses.

1. **Concern around access by Emergency Services:**

Concern about emergency services being impeded and accident-related delays were perceived as being made worse or caused by the one-way system and/or the contra-flow cycle lane by several people interviewed for the research.

*"The big concern I would have is if a bus breaks down or there is any need of an emergency vehicle, the place is just chopped … one man was knocked down just outside Lidl there, the traffic was miles back.... I have seen the ambulances use the cycle lane and were able to go up a little". (*Fr. Bracken)

"*There's also an issue with emergency vehicles getting blocked – can be for up to an hour with traffic backed up. A Garda car had to get in against flow by going half on the kerb and half in the cycle lane." (*local business)

2. **Parking bays and perception of reduced parking:**

Whilst the number of car parking spaces were not reduced, the perception was otherwise. There was also concern from businesses about a lack of proximal loading bays. One of the elected representatives noted that "*… a large part of the objection was traffic and parking... but in fact there was one extra space along the main part of the street."* Gerry McConville of Capital Credit Union spoke about a customer perception of reduced spaces at least initially:

"*… some members complained at the start because they couldn't get parking. So, the amount of parking was reduced but again we don't hear that anymore."*

One of the retail businesses felt let down by a failed promise of having "two loading bays" operational for regular parking after 4:00 PM. *"This did not happen, and no reason has been given. The shopping centre have their own loading bays."* Don Nugent, Senior General Manager for The Town Centre also said: *"One thing we would like to see is a requirement for more set-down areas for business deliveries".*

3. **The journey to school and safer routes:**

A number of people interviewed were concerned about the new traffic arrangement impacting access to schools by car. Councillor Colgan noted some controversy over changes in traffic flows preventing people from driving directly from Ballinteer Road to schools like Holy Cross School and Taney Parish School.

"the change in the traffic flows, which stopped people from going from the Ballinteer Road straight through the junction in the village up to two schools [Holy Cross School and Taney Parish School]. That was very controversial because it's stopped people using the shortest route to drive their kids to school. " (Cllr. Colgan)

"Schools are on the east side of the village so if you live on the west side you now have to walk kids instead of driving them." (local business)

Change can require time to be accepted and for benefits to be understood. One interviewee recalled Grafton Street as an example of this:

"Grafton Street would be a classic example, you'd get lynched if you tried to make that, with traffic going up and down that street now by the very people who were objecting to it at the time you know."

The concerns raised here are a reminder that the Main Street is part of a wider network, which needs consideration particularly locally. Addressing specific issues, such as establishing safer active travel routes to schools, particularly those originating from Barton Road East and Ballinteer Road, could potentially mitigate the highlighted challenges. It is important to thoroughly investigate both tangible barriers based on user experiences and perceived obstacles from those interested but currently hesitant, including aspects like narrow pavements, insufficient cycling infrastructure along Ballinteer and Kilmacud Roads, the Dundrum Cross junction, and traffic light phasing.

4. The retail businesses' discontent:

The responses indicate strongly that the retail businesses on the Main Street are least optimistic about the changes and most concerned about the future. One of the local representatives recalled that *"most of the feedback, initially was negative, because it was introducing a one-way system…the reaction from the businesses was exceptionally negative".* The DLR Senior Engineer felt that the retail business groups in Dundrum were more resistant to change compared to Blackrock. He thought that in Blackrock *"they were organised with the Blackrock Business Network, there they were in favour and supportive."*

It became evident from the research that a group of retail businesses on the Main Street come together in their shared frustration. They expressed a shared concern about falling retail vibrancy on Dundrum's Main Street, and a lack of variety of shops and high rents. Comments included:

"there are a very limited range of shops on the Main St. It's like the Main Street is dying on its feet."

"we don't have businesses on the Main Street to draw consumers. The rent is too high. I mean rents on the Main Street are the same as in the Shopping Centre! And we don't even have parking, that was promised at least in the evening. Feels like there is no village."

"There is a lot of antisocial behaviour has been pushed north of the street for example recently two lads in a stolen car just missed the optician owner. It's not safe at night, people are getting nervous. I would describe the northern end of the Main St as 'messy' at night, can feel threatening, change has happened in the last couple of years. My thinking is, there is little for young people to do in the community."

There is an overall negative sentiment amongst the retail businesses interviewed with the exception of those in the hospitality sector.

4.3.7 Theme 7: Did it serve its Purpose, and should it be Retained?

Views on whether the Covid Mobility works met objectives
The perspectives on whether the Covid Mobility works achieved their purpose during Covid varied on the work's alignment with Covid related needs and its impact on the village.

Councillor Colgan's response was nuanced acknowledging a pre-existing requirement relating to accessibility and also questioned whether it reached its economic objective:

> *"I think broadly yes, because the wider [foot]paths supported the Covid requirements for example, and they did serve an existing need for mobility impaired people by widening the path and taking away a lot of unnecessary street furniture for example and reducing the traffic through the village, I suppose. And definitely I think… there are more children walking to school and cycling to school. So from that point of view, I think they did meet those aims."*

> *"…beyond that, I suppose there are just maybe two places on the Main Street that have outdoor furniture. It doesn't lend itself to there being huge economic benefits because of the relatively low level of enterprises on the street that would benefit from that."*

Nick Armstrong of Imagine Dundrum, emphasised the then necessity of creating more pedestrian friendly space for social distancing and commented that it "*a terrific job was done".* Councillor O'Leary noted that "*my initial reaction was that I thought that it was positive insofar as that it was investment in the public realm, something that hadn't happened as I said in 15 years.*"

Some of the PPN group said they were surprised by the radical changes but appreciated the efforts to widen the thoroughfare, acknowledging both positive aspects and potential drawbacks:

> *"it was necessary to have, for social distancing to have a more pedestrian friendly thoroughfare in the village… previously the village was very cluttered and the pavements were very narrow. So yes, I felt that it was necessary to have to widen the thoroughfare."*

> *"I was surprised, actually, I wasn't expecting such radical changes, but I'm very glad they did come about."*

> *"I was impressed that they went ahead, and they did it radically and they did it quite well. But there are drawbacks."*

Some others were more sceptical seeing it as opportunistic, rather than necessary during the early phases of Covid-19. For example, Fr. Bracken noted *"my perspective was Covid presented an opportunity to do something that DLR were planning anyway"* and that the coffee shop was the likely only real commercial beneficiary.

Views on retention of the Covid Mobility Works

Most interviewed, with the exception of some of the business community, are broadly in favour (some cautiously and some very positive) of retaining the works with some modifications primarily concerning the contra-flow cycle-lane and associated black defender kerbs, and to a lesser extent improving facilities for deliveries and emergency access. Some also expressed a desire for similar public realm works to be extended beyond Main Street and northern end of Sandyford Road to extend the benefits to a wider area.

The following is a sample of comments, which illustrates the broadly positive, but varying views:

> *"I think overall it has made the village a more pleasant place to be in."* *"Some members have given us feedback and some staff. They like the atmosphere you know, the sense of space in the Main Street and just the overall atmosphere in the Main Street is a lot more pleasant for pedestrians in particular……but there is still some confusion that you have bikes coming up the street in a dedicated bike lane but you also have bikes going down the street on the Main Street."* (Mr. McConville, Capital Credit Union)
>
> *" I definitely think they should be kept, I think they are… hugely popular now, it makes the street so much nicer… Some people seem to think that we had done this, you know, so we kept getting emails thanking us for the wonderful job we'd done, just because we were promoting the changes and everything like that, we had to tell no, that Dún Laoghaire-Rathdown [County Council] were…..they're the ones who've done this, not us."* (Mr. Armstrong, Imagine Dundrum)
>
> *"On the whole, I think the….changes that occurred about for Covid have been 85% really, really good. And I would hate to see them go. I'd hate to get back to the actual sort of situation that it was before, where you just went down did your shopping, got the hell out, you know, and hopped in your car by the way, you didn't actually walk down."* (PPN member)
>
> ''*I welcome the intervention. I think it was timely….I would like to see it remain in some fashion or form.''* (Cllr. O'Leary)
>
> ''*Our view is that we accept that the one-way system will be maintained, but we believe that there is potential for further footpath widening and this would form part of the Hammerson development proposal for Dundrum.''* (Mr. Nugent, Dundrum Town Centre)

The retail businesses interviewed were least supportive of the changes made, with some vocally calling for a reversal to the previous two-way Main Street. One retailer, for example, said that they see *'no benefits'* from the works and that it has been a *'disaster'* for their business. Another said: *"bring back the two-way Main Street; the cycle lanes are not used."* When asked instead what could make it work, the retailer said:

> *"Fix the parking, the kerbs need to go, and needs to be reconfigured for emergency services."*

Suggested modifications recommended in interviews.

Ideas of how the Covid Mobility works could be improved and/or extended were also expressed and have largely been discussed in their related sections. For example, like others, Father Bracken emphasised the improvement of the contra-flow bicycle lane for safety. Capital Credit Union highlighted the importance of extending the benefits observed on Main Street into the development of the old shopping centre.

Councillor Colgan suggested exploring more attractive and permanent enhancement features as well as emphasising tree/planting maintenance. And like some of the retail businesses, Dundrum Town Centre suggested additional set-down and delivery/loading areas. He also spoke about enhanced consideration of footpaths along Sandyford Road. The following are related comments illustrating some of the arising ideas:

> "*I think - I personally would prefer it in some modified form, and that would involve getting rid of the reverse bicycle lane or making it safer".* (Fr. Bracken, Holy Cross Parish)
>
> "*having done the work they have done in Main Street and having seen the benefits for pedestrians, it would be really important I think to continue that into the development for the old shopping centre."* (Mr. McConville, Capital Credit Union)
>
> *"we think there's scope for a lot more attractive work to be done and some of that would be about work that would have that permanent feel about it."* (Cllr. Colgan)
>
> *"it probably makes sense to progress and maintain them, but we think there is an opportunity for (a) additional set down areas and (b) greater consideration be given to the footpaths along Sandyford Road from Balally Luas stop to the Main Street."* (Mr. Nugent, Dundrum Town Centre)

4.3.8 Theme 8: Regeneration and a Vision for Main Street

It became clear from the interviews that the community of Dundrum share a sense of community on the Main Street, which holds significance for residents and businesses alike. Concerns about loss of retail vibrancy, heritage, and the impact of future developments on the village character were prevalent. There is a conscious awareness regarding its growing population size. Against the quantum of potential development, there is a collective desire for more public and green pedestrian spaces, a vibrant feel to the Main Street and consideration of the village's unique character and identity, with events like the Dundrum Arts and Culture Festival deemed important. Some of the comments below try to capture this:

Vision and a question of it being a village or a town:

> ***"****we obviously want to see a thriving Dundrum Main Street, which reflects and respects the character and streetscape of the old Main Street and its very unique character. We want an appropriate balance in the village between the residential commercial public and civic spaces."*
>
> "*I don't like the word village applied there because it's a metropolitan town centre now, …in my view the Dundrum Town Shopping Centre, town centre should never have got the name Dundrum Town Centre, it's a shopping centre, not a town centre."*
>
> *"We want a village for the community…..We need a diversity of shops, maybe an Asian supermarket or something to draw people down. It needs a heart again."*
>
> "*We have to remember the Dundrum village, is a village, and it's our village, and should be kept as a village."*

Planning stasis and heritage:

"*Dundrum finds itself in an unfortunate situation in that effectively all development or progress around the village has been in stasis for nearly 15 years.''*

"Regardless they [Hammerson Group] are obviously going to get some type of planning for apartments and that is going to change the feel of the Main Street. If they get what they plan for now, I think it will be a monstrosity. It will bring a lot of people into a small area too."

"Many are very unhappy with what has been proposed by Hammerson for the Main Street with six storey buildings there... we in Imagine Dundrum don't feel it's in keeping with the heritage of the village; we're very supportive of the modern feel for the Village but not one that departs completely from the look and feel of the heritage building and it is an architectural conservation area and therefore deserves that kind of respect and any new building should be in tune with that unique character of the village and respect that status we feel."

"Dundrum is an older settlement than anything on the coast, but we have not been able to leverage that… Things don't have to stay exactly as they are, but that doesn't mean you rip everything up either."

Concern was also raised about built heritage "*such as Glanville Terrace… getting more and more derelict as time goes on, until it gets dangerous and then you have to knock it down because it's dangerous you know".*

Safeguarding a human scale:

"You kind of need a bigger kind of a space... say a market, that kind of a size. I think that it's good that they're planning parks, a kind of a plaza area, because I think something like that is necessary… the population is growing hugely and it will obviously be continuously to grow."

"Sweetman Park is not a suitable green space to include, because it is on a hill. I suppose it is creating spaces for people to gather. …. I just think of all the people that could be living there, where would they have to go?''

"Having done the work they have done in Main Street and having seen the benefits for pedestrians, it would be really important I think to continue that into the development for the old shopping centre. The other thing I think would be really important would be a limit on the height at street level, I wouldn't like to see it becoming very high. It could take the whole village no matter how pedestrian friendly it is, feel surrounded by high buildings."

"When you have high density, you have more people living together. That it brings its own issues with them because I think people are more, you know, they need to get out and socialise. So, to have facilities where they can come down into the open air."

A street for commerce, coffee, markets and festivals:

"*There is the Dundrum Festival which will be for a week here now, but there is no great sense of community or pride, and I mean there definitely was before, but when the town centre opened the*

focus moved from the Main Street. It really has become dilapidated. So yeah, there is no pride and... It has kind of been forgotten by DLR up until they started these [Covid Mobility] works."

One of the newer businesses on the street said they "*got a letter about an upcoming street festival, which we are embracing."* Two people also commented that since the Covid Mobility works that the available space has become "*much more restricted than they were. So there was a bit of unhappiness there about that*". While festivals are irregular, there are important events that support community and the local economy. The extent of obstacles on the street can impact on the ability for such temporary pedestrianisations to operate.

One member of the Public Participation Network also touched on the need for more event space: "*placemaking and public seating… there isn't an awful lot. You kind of need a bigger kind of a space for say a market".*

Councillor O'Leary spoke about *"a vibrant pedestrianised area"* and spoke about widened foot paths, tables, restaurants, and commercial frontages and illustrating some local pride, added thoughts around a "*civic square*" and being able to hold public celebrations and gatherings.

One of the businesses interviewed felt "*there is a need to do something to bring people back to the Main Street"* and wondered if it could become more "*tourism friendly".*

Is there scope for communicating Climate and Sustainability in the context of a Vision for Regeneration?
Sustainability and climate issues are not directly relevant to whether the Covid Mobility works served their purpose but are central to considering the future of Dundrum's transport and town planning. And though interviewees were not directly asked about the related issues, commentary on them was voluntarily raised by some interviewees with the overlapping relationship with governance. The DLR Senior Engineer interviewed said that "*Climate change has meant higher standards"* and considered the issues not only in terms of mitigation, but also in terms of adapting to its reality when he spoke about protecting civic space and drainage issues.

Nick Armstrong of Imagine Dundrum spoke passionately about the need for "*future proofed"* Dundrum, acknowledging the need *"to reduce greenhouse gas emissions by 50% by 2030, … that includes a 130% rise in public transport and a 50% rise in cycling".* Councillor Colgan recognised climate and biodiversity as interconnected objectives along with issues such as disability awareness, and as such emphasised the need for a multidisciplinary approach. She said "*something like this shouldn't be separated from whatever their climate change objectives are, or whatever their biodiversity objectives are, or whatever their disability awareness objectives are. So that whole notion of multidisciplinary, cross disciplinary working, I think is really important."*

Councillor O'Leary reflected *"I think if I was to be honest, they were using Covid as an opportunity to move forward with climate or transport modal shift agenda."* He spoke frankly about the need for councils to bring the community along with them on projects and to "d*emonstrate that they have a thought-out the process and that it stands up to scrutiny*".

Is there room for a more collaborative approach?
The importance of collaborative engagement with all segments of the community from the beginning emerged as a strong theme in the interviews. The DLR Senior Engineer spoke about how Blackrock and Dundrum were received very differently, in particular business groups in Dundrum were more resistant to change compared to Blackrock but also spoke about the need to *"stick to your convictions... many people come around once they see the constructed changes."*

Recent ERSI research suggests that people tend to be more negative if evaluating proposed active travel layouts compared to a more balanced view when evaluating existing ones[52]. It also suggests encouraging reflective thinking around the positives of a planned active travel layout over the negatives of a more car dependent society can help towards its acceptability. This raises the question of whether a collaborative, trial-based approach enabling people to see what is proposed in action and work iteratively, could help reach healthier street designs and urban regeneration more expediently? The effectiveness of such an approach may depend on factors like project scope, duration, and level of engagement and sense of influence. Whether a collaborative trial approach can lend a hand towards broader earlier support is an area of research interest[53].

4.4 Summary of Interview Insights

The following section summarises and reflects on the key findings from the interviews. Further discussion and recommendations, where relevant, are outlined in Chapter 5 for consideration.

Stakeholder Engagement:
Covid-19 produced challenges across all communities and types of businesses. Allowing for a more expedient response from local authorities in providing Covid Mobility "traffic calming measures", public consultation was not mandatory.

What is evident from the consultation is that there is a division of opinion on the interventions made, but with some level of overlap between most people interviewed. Within the business sector there is a difference between those in the hospitality sector for example who have found the changes helpful to their operations and some traders who see the reduced car access as problematic for their business model. Those interviewed from the community perspective were universally appreciative of many of the alterations including the widening of the pavements, seating, trees and other amenities. All were in agreement that they had issues with the black rubber defender kerb separating the cycle lane and the roadway. There was also a clear message that the area needed ongoing management. It was also clear that the ownership of some of the premises and the pending planning application around the area where the old shopping centre is located hung over the village.

[52] *https://www.esri.ie/publications/status-quo-bias-impedes-active-travel-policy-by-changing-the-process-of-opinion*
[53] *Luca Bertolini (2020) 'From "streets for traffic" to "streets for people": can street experiments transform urban mobility?', https://www.arc.ed.tum.de/en/lao/research/research-platforms/research-projects/munich-lab/street-space-experiments-muc-2023/ and https://www.tandfonline.com/doi/full/10.1080/01441647.2020.1761907*

In relation to DLR's engagement concerning the Dundrum Covid Mobility works, the local business and community responses suggest that it was more reactive and relatively unstructured. The interview findings suggest:

1. An initial lack of structured engagement led to some misunderstandings that resulted in a few issues being missed early on and the need for later adjustments.
2. The findings also suggest that once engagement was initiated, many of the community concerns were listened to and addressed promptly, but the delay led to avoidable challenges.
3. The research also suggest that an inclusive approach is important; some of the business community in particular felt that they had been given little notice of the works, and it left a sense of frustration.
4. Some businesses felt they were not listened to or engaged with.

It was acknowledged that the lack of a business representative group, particularly in the early period of the pandemic emergency situation hampered the Council in its engagement with the sector.

Structured and proactive engagement is important even in emergencies, and that engagement and consultative process need to be embedded in the management of areas. It would suggest that coherent sectoral structures are needed at a local level to facilitate such engagement and collaboration.

Walking & Accessibility:

1. The findings highlighted the sense that there was a pre-existing need for public realm investment in Dundrum's Main Street.
2. The community welcomed the wider pavement space for pedestrians, shoppers and social distancing measures.
3. From a pedestrian perspective, the black rubber defender kerb delineating the cycle path on the Main Street elicited significant concerns, viewed as a tripping hazard by many and noted as particularly effecting older people and people with visual impairments.
4. Aside from the defender kerbs, accessibility was considered to be helpfully improved, especially for people with disabilities. Specific improvements around key areas, like Campbell's Corner at Dundrum Cross and the crossing point and pavement area at the old Dundrum Shopping Centre were acknowledged.

Cycling & Cycling Infrastructure:

The findings highlighted a few observations:

1. The segregated contra-flow cycle lane permits safe cycling against one-way vehicular traffic flow. It appears there is a level of confusion around its use, with some people cycling in in the wrong direction, leading to potential conflict with others.
2. Some driver confusion was also witnessed on the one-way shared carriageway, with observations of people correctly cycling with traffic on the one-way carriageway being beeped at inferring wrongly that they should be in the cycling lane.

Street Activity, Public Realm & Maintenance:

1. The extended public realm such as outside Holy Cross Church, and the tables and benches and plants were welcomed and seen as providing a sense of dignity and sensitivity for those attending funerals, as well as enhancing sociability, supporting inclusion and a positive village atmosphere.

2. The improved sociability afforded by the extended public realm, wider pavements and seating areas also appears from the findings to have given a new hope in terms of reestablishing a sense of Dundrum village and community.
3. The lack of maintenance around trees and plants adversely affected the overall perception of the public realm and public satisfaction. Community representatives were strong on the need for ongoing maintenance of trees and plants and strongly suggested that permanent rather than temporary solutions like planters were required.

Public Transport and Modified Bus Routes:

1. Some concern was expressed that increases in bus movement through the Main Street might overwhelm the street and sense of village, and the one-way Covid Works helped mitigate against that.
2. DLR spoke about the chosen bus rerouting options aiming to ensure passengers disembark on the Main Street/Shopping Centre side of the Dundrum bypass, minimising the need to cross it. Some concern was expressed that the rerouted buses led to increased walking distances, impacting accessibility, especially for older users and school going children.
3. Limited visibility and awareness of the location of Dundrum Luas stop was noted with suggestions made to improve accessibility and the public realm around it such as better signage and making use of Dr. Isaac Usher's monument as a feature. Opportunities to improve pedestrian accessibility from the Balally Luas stop to the village centre were raised.

Vehicular Traffic & Spillover Effects:

- The research found a duality in responses with generally positive feedback to the more pedestrian friendly pavement and public realm on the Main Street counterbalanced by a more negative reaction to the key intervention that enabled it, i.e., the one-way vehicular traffic layout. The frustrations that emerged were largely car-focused, notably about car delays and restrictions particularly coming from Ballinteer Road through Dundrum Cross to Kilmacud Road Upper, and implications for parents driving their children to school.
- Despite an small increase in the number of car-parking spaces (one additional space), there was a perception of reduced car-parking spaces, particularly by businesses.

Covid Mobility Works, Regeneration & The Future of Main Street:

The response to the changes in Dundrum's Main Street and village revealed a nuanced picture:

1. In relation to whether Covid Mobility works should be retained was generally supported by the community but with modifications relating, in particular, to the cycle-lane black defender kerbs. Opinion diverged considerably amongst the business community in comparison, of which suggestions included: re-instatement of the pre-Covid original road-layout; removal of the defender kerbs; additional loading facilities and reconfiguring the layout for easier emergency vehicle access.
2. Almost all the Main Street/Sandyford Road businesses interviewed (covering retail, financial and hospitality) reported sensing a loss of retail buoyancy over many years. Suggestions for this included high rents, a lack of variety in property ownership, and in turn a poor variety of shops. Deterioration around the old shopping centre was considered to exacerbate this issue, and to draw anti-social behaviours, as well as a sense of neglect and lack of investment in the Main Street over the last few decades. This frustration was also felt by some traders who argued that the Covid

Mobility works added to the problems of the village by making the Main Street more difficult to navigate by car.

3. The research found that the overall local viewpoint was that the wider footpaths and increased public realm supported many Covid-19 objectives. Whilst some perceived more children walking to school supportive of wider objectives, others were critical of children having to walk to school rather than have their parents being able to drive them there[54].
4. There was a sense by some that Covid-19 was used as an opportunity to make changes that had been planned anyway.
5. There was also strong forward-looking aspirations to reignite the vitality and sense of local community and "village" identity once synonymous with the Main Street and the importance of its' heritage to the community.
6. The question of whether "village" as a frame of reference has been outgrown, and should be referred to as a town instead, was also raised.

[54] *There is ample research to illustrate the physical and mental health benefits of active travel, as well as international evidence that demonstrates that car emissions pose real health risks (exacerbating or causing lung, heart and brain health issues) to children. The Government also recently launched 'Your Journey Counts' campaign to support active travel (walking and cycling) to school as healthier, lower cost, more inclusive and sustainable modes. These compliments the ongoing An Taisce's Green Schools and Safe Routes to School programmes which also aim to encourage active travel to school as well as improved supportive infrastructure in the school vicinity.*

5 Discussion and Recommendations

5.1 Discussion and Conclusions

While this research study is focussed on the outcomes and impacts of DLR's 'Covid Mobility & Public Realm' works, the context for the study is really much bigger and more nuanced than that – it's also about the future of traditional Main Streets, it's about regeneration and the role that the reclamation of public space has in regeneration. Dundrum Main Street like so many traditional Main Streets around the country has suffered from radically shifting paradigms in approaches to town planning since the advent of mass private car ownership and associated mobility, and shift away from public transport and moving about one's village centre on foot or by bicycle. As the former Dundrum Chamber of Commerce said in its c.1990 publication, *'Dundrum was fortunate in having the station location within the village and it brought with it economic activity and benefits'* and that "t*he closure of the tram in 1958 was a massive loss for Dundrum*". Not only did the people suffer, but the village and it's economic and social vibrancy suffered.

The 1970s brought the 'old shopping centre' and the 2000s brought a by-pass and the 'new shopping centre'. Progress was associated with the private car, and traditional ways of using a Main Street fell out of fashion. Dundrum wasn't unique with this, with many main streets and urban centres experiencing decline and high levels of vacancy not only around Ireland, but also internationally.

The Main Street of Dundrum had seen little investment in the decades prior to the 'Covid Mobility and Public Realm Works'. It slowly lost many of its shops and businesses as the changing nature of retail, property ownership, development cycles and customer habits took hold. These changes, coupled with surrounding extensive suburban sprawl serviced by large roads that focussed on car based travel while travel by foot, bike and public transport was neglected, has left Dundrum with a challenging legacy.

Main Streets that thrive tend to have a number of characteristics in common including:

- a vibrant mix of businesses, including those that are locally owned and run;
- a mix of uses including residential, leisure and community uses that bring people and activity to the street when shops may be closed;
- pedestrian friendly infrastructure where pedestrian comfort is key and knits both sides of the street together;
- well-designed and comfortable public spaces that encourage social interaction and people to spend time; and
- a sense of community identity that fosters a strong connection between residents, businesses and their urban environment.

The 'Healthy Streets Check' brings together some of those key ingredients and puts it in a toolkit making it easier to understand how all the strands come together. It demonstrates that the Main Street before Covid was one where many of these characteristics were being challenged, and how the 'Covid Mobility and Public Realm' works sought to address some of those deficiencies.

The toolkit demonstrated a 19% increase in the Healthy Streets 'score' from 51% to 70% accompanied by a significant 26% extra footpath/public space. It also showed that temporary works such as these can only go so far. In Blackrock, the 'Covid Mobility and Public Realm works', coupled with the adjacent Coastal Mobility Route and connections with Dún Laoghaire have been a catalyst for the rejuvenation of the village centre there. The recovery of public space and the reorganisation of the mobility network in Blackrock

benefitted from some pre-existing fundamentals that included an already engaged business and community network serving to spur on positive change.

The situation in Dundrum has proven more complex, and many of these fundamentals need to be addressed in addition to the public realm and mobility context. The mobility analysis shows that in terms of numbers of people moving about the village, there is still room for improvement given the extensive catchment area. In terms of people cycling, there are similar levels during weekdays on Dundrum Main Street as found on Blackrock Main Street. However, there are less at weekends illustrating the more limited range of cyclists using the Main Street and the limiting nature of a cycle-route that is not currently connected into a wider high-quality network. The data analysed as part of this study also found that the segregated contraflow cycle lane attracts higher numbers of people cycling than was found in the adjacent carriageway (where cyclists have to share the space with drivers). This suggests that the sense of safety provided by segregating cycling from traffic attracts more people cycling. The Covid Mobility works were also shown to align well with the Government's DMURS Interim Mobility Advice Note at the time (June 2020).

Despite a notable reduction in passing vehicular traffic facilitated by the one-way carriageway, significant volumes of through-traffic and some high traffic speeds remain, limiting the potential footfall and vibrancy of the Main Street and surrounding streets. There is an important point that needs to be addressed in this regard. The vehicular traffic in and around Dundrum may reflect an increased economic prosperity, as well as being induced by the intensity of retail and road development in the locality. However, it comes at the expense of reaching climate goals, as well as impacting negatively upon public health and wellbeing and reducing independent choice. If we are to avoid further eroding our commitment to reducing emissions in Ireland and a commitment to our younger generation at the very least, we need to start by acknowledging this[55].

In addition to the quantitative part of the study, this research has benefited from the generous cooperation and valuable insights from a range of Dundrum stakeholders that include representatives from the community and local businesses. The overwhelming sense that came from the stakeholder interviews

[55] *For example:*

- *In 2022 the transport sector was responsible for 19.1% of Ireland's greenhouse gas emissions: a 130% increase since 1990's figure of 9.2% (https://www.epa.ie/our-services/monitoring--assessment/climate-change/ghg/transport/),undermining Ireland's commitment to reducing emissions by 51% by 2030 and achieving carbon neutrality by 2050. https://www.epa.ie/our-services/monitoring--assessment/climate-change/ghg/transport/*
- *The air quality impact of motorised cars on public health is significant, contributing to an estimated 1,700 premature deaths due to pollution annually in the republic of Ireland: https://www.tudublin.ie/research/news/air-pollution-and-mortality-on-the-island-of-ireland-report-states-1000-lives-could-be-saved.html*
- *Sedentary lifestyles are considered a modern emergency. Obesity rates in Ireland have more than doubled since 1990, with 23% of the population classified as obese and an additional 37% overweight with a growing burden of chronic diseases like cardiovascular disease and diabetes: https://www.epa.ie/our-services/monitoring--assessment/climate-change/ghg/transport/*
- *Over the past three decades, the number of children being driven to primary school by car has risen significantly, from 24% of journeys in 1986 to 59.8% in 2016 (CSO).*

is that the vast majority of people share a similar vision for Dundrum and an aspiration for its Main Street to exist as a focal point for the community - one that has a thriving diversity of retail and hospitality businesses, and that is a comfortable, enjoyable and inclusive place to be. The difficulty arises about how to get to that point.

What came out strongly from the interviews was that many found it hard to separate the Covid Mobility works from a long running feeling of neglect and planning stasis around Dundrum Main Street and the Old Shopping Centre site in particular, as well as the impacts of adjacency to a regional scale shopping mall. The response to the changes in Dundrum's Main Street, has however, revealed an overall appreciation of and preference to retain the more pedestrian-friendly Main Street enabled by the 'Covid Mobility and Public Realm' interventions but with certain modifications, in particular, around the contraflow cycle-lane defender kerbs. Recognising that the more pedestrian and footfall friendly Main Street was facilitated by the reallocation of road-space from a 2-way vehicular carriageway to a 1-way vehicle carriageway and a 2-way cycle way, was largely recognised as a trade-off worth having by many, but difficult to reconcile by others.

'Dundrum Town Centre'/Hammerson, a notable stakeholder of influence in the future of Dundrum, were both helpful and forthcoming in this research, overall expressing general acceptance towards the Covid Mobility works and a desire to further progress them. DLR acknowledged that they engage with them regularly. Community elected and other representatives, were also very helpful and forthcoming when engaged for this research, showing a keen interest in the future wellbeing of Dundrum's community, and highlighted a range of concerns relating to its future redevelopment. These related to the sense of stasis on the Main Street and concern about losing a community focal point and sense of village. The interviews also indicated that some of the longer resident businesses on the Main Street, in particular, the retail businesses, feel they have value to add but are being overlooked. Finding a representative balance of influence and engagement around these elements in the regeneration of Dundrum Main Street is crucial. The Imagine Dundrum group, established in 2016 following the sale of the Old Dundrum Shopping Centre, actively advocates for a robust community voice in decisions shaping Dundrum Village's built environment, emphasising their commitment to influencing outcomes for generations to come. Finding space and time to recognise and understand the broader spectrum of stakeholders' contributions and the values they hold even in advance of a potential emergency is a lesson that can be taken from this study.

History tells us the key ingredients of successful village and town centres on one hand – but we also know that changes to our society, economy and environment over the last few decades mean that traditional village and town centres need to adapt, and Dundrum Main Street is no different. The Covid Mobility works have showed that there is a real community and stakeholder desire to regenerate Dundrum Main Street and Village, and that there is an increased recognition of the value of reclaiming public space in order to contribute to that process.

The issues in Dundrum are complex but not insurmountable, and many of these are also recognised in the recently published Dundrum Local Area Plan 2023. As one of DLR's two designated 'Major Town Centres', the future of Dundrum will require active, engaged and positive stakeholder engagement to drive it forward and create a new level of vitality that will be appropriate for a town/village centre in the twenty first century.

In terms of DLR's original Covid Mobility objectives, it is clear that the Covid Mobility works have met their key objectives of increasing outdoor social distancing space for pedestrians in the village; increasing cycling and pedestrian comfort and safety; and by providing a sustainable mobility alternative to the private vehicle at a time when public transport capacity was significantly reduced during the height of the pandemic. As the baseline data is very limited, it is hard to clearly conclude whether or not the works have decreased the reliance on private vehicles, while increasing the use of walking and cycling as transport modes for a wide range of users. The indications are that cycling numbers and the amount of people walking have increased.

In terms of the additional DLR objective of supporting economic development during Covid-19 works, the main (mobility- and public realm infrastructure-focussed) support was provided in the form of additional outdoor space for social distancing and for outdoor dining for hospitality businesses. An issue in Dundrum appears to be that there was only a small number of hospitality businesses in operation at the time that were able to directly benefit from the additional outdoor space. Footfall is also a key indicator of economic vitality, and while the pre-Covid footfall data is very limited, there are indications that footfall has increased. Pedestrian comfort is an important contributor to numbers of people walking. This has certainly improved, as demonstrated through the Healthy Streets Check, the increased footpath widths, and the reductions in passing vehicular traffic volumes and speeds.

5.2 Considerations and Recommendations

The considerations and recommendations made here are largely limited to the scope of this study, however where additional insights from wider issues arose as part of the study, we have also included them. Issues relating to the redevelopment and management of the Old Shopping Centre and properties within the ownership and level of control of the Hammerson Alliance in particular are not directly included, although it is recognised that this is a fundamental part of the regeneration of Dundrum Main Street.

The qualitative and quantitative analysis shows that DLR's 'Covid Mobility and Public Realm Works' have provided clear public space gains for Dundrum Main Street and an improvement in its 'health'. These gains and the enhanced pedestrian-friendly nature of the Main Street are largely supported by the wider community, despite some strong misgivings by a number of traders. Thus, it is recommended that these works are built further upon through:

(1) More immediate/short-term improvements that can be made to the current temporary Covid Mobility works, and
(2) The development of a collaboratively-developed permanent public realm and regeneration plan for Dundrum.

Many of the insights gained through this phase of the research, in additional to earlier phases, are also relevant to more general Irish Main Streets and similar town centre environments, thus an additional section is included on 'General Recommendations for a Main Street Context'.

Short-Term Dundrum Specific Recommendations:

(1) Community and Business Engagement:

a. **Capacity building:** Evidence from the community feedback illustrated the importance of early engagement and value of community initiatives. It is recommended that DLR consider investing in such capacity building initiatives. The aim is to empower the community,

including the local businesses, with a sense of ownership and pride in the development and regeneration process, and to harnessing their collective intelligence and creativity to achieve more inclusive and well-informed decision-making processes. And importantly also to mitigate against local polarisation. Local representatives particularly of minority groups were eager to make the point that their perspective can and should be a 'positive asset'. It is recommended that resources are invested in developing and building capacity that will enable the Council and local key stakeholders to engage early and to capture concerns, ideas and diverse view points on the development of a more inclusive Dundrum.

b. **Business Representative Body:** During the Blackrock Village phase of this research, the presence of a pro-active business and enterprise representative body clearly proved to be beneficial for all parties. This evidently contributed to a supportive and cooperative experience during the Covid Mobility works that took place there. By contrast the lack of a cross-sectoral representative local business body in Dundrum may have contributed to an atmosphere of relative distrust and negativity between some of the business community and DLR, making it more difficult to move forward on a cohesive vision for Dundrum. It is recommended that DLR consider how it could engage with local businesses on Dundrum Main Street/Village to facilitate the development and evolution of a similar representative body. This could take a variety of forms, such as a Business Improvement District, Business Chambers or a local business association. This should be considered as part of the recommended local capacity building.

c. **Local Forum (Business & Community):** Access to and incorporation of good local knowledge can assist in facilitating a quicker, more proactive and inclusive engagement process. Elected Councillors are very often critical to this process, both as members of the elected council, but also through their links to the diverse local community and involvement in the day-to-day life of the area. The council and the PPN can and should be embraced as an asset in mapping stakeholders, particularly disability and minority groups. Structured routine engagement with local community groups and business representative entities, such as recommended above, could provide insights, and foster a sense of unity and identity in Dundrum. The interviews suggest that key proactive community groups can help lead parts of the engagement activity and be local voices for what is important. It is recommended that DLR, in conjunction with the PPN and key local organisations, consider the establishment of a local forum where issues of importance to the village can be discussed in a facilitated manner, and where a dialogue can continue to make the village a better and more functional place.

(2) Vehicular Speed Management & Speed Limits:

a. All streets outside of the by-pass in the vicinity of Dundrum Village including the Main Street, Sandyford Road, Ballinteer Road west of the by-pass, and Kilmacud Road Upper west of Overend Way should have a **maximum speed limit of 30km/hr (or less)** for all modes of transport (including cars, buses and large vehicles, bicycles). This is essential for both the safety, liveability and vitality of the village centre.

b. Additional **traffic calming and urban design measures** should be implemented to ensure vehicle speeds are **self-reinforcing to a maximum of 30 km/hr (or less)**.

    i. Specific attention should be paid to areas with excessive speeds currently including **Kilmacud Road Upper**, particularly around Holy Cross National School and the College of Further Education, and to reduce speeds downhill on the approach to

Dundrum Cross. Measures considered should include wide raised tables that also act as step-free zebra or other pedestrian crossings, the implementation of a School Zone (as part of An Taisce's 'Safe Routes to School' programme), and the placement of landscaping elements to humanise the street and to visually encourage slower traffic speeds.

ii. **Sandyford Road** – while the northern/Main Street end of Sandyford Road benefited from the Covid Mobility works, the southern end adjacent to the 'Dundrum Town Centre' remains a hostile environment to pedestrians. It is a vehicle-dominated environment not suitable for a town centre and contains poor pedestrian links to Balally Luas station. It is recommended that a review of this section of road is undertaken in order to implement traffic calming and urban design measures, including implementation of wide raised tables that provide a duality of functions (traffic calming and pedestrian crossings); addition of street trees; widening of footpaths; and implementation of pedestrian priority measures at vehicle crossovers and side streets.

iii. **Main Street** - although much improved from pre-Covid, further interventions are needed for road safety, accessibility, economic and social vitality to bring the 85th percentile vehicle speeds under 30km/hr (or less) for all time periods throughout the day and night. In the short-term, this should include the introduction of 2 additional wide (c. 3.5-4m wide) step-free raised pedestrian zebra crossings along Main Street that also act as traffic calming, and to upgrade the two existing courtesy crossings (particularly the one at Pembroke Cottages) to zebra crossings.

iv. **By-Pass** – vehicle speeds here appear to be consistently in excess of the 50km/hr speed limit in place. As this by-pass also has housing accessed directly off it and functions as a bus route with associated bus stops, and as people travel both on foot and bicycle on the route, the *design speed* needs to be reduced so that actual vehicle speeds are in alignment with the posted speed limit. Example measures include the introduction of traffic calming measures, such as a tree-lined median in parts that would visually and physically constrain road width and facilitate safer mid-block pedestrian movement; strategic raised tables and a review of pedestrian crossing facilities.

(3) Pedestrian Crossings & Pedestrian Infrastructure:

a. **Additional step-free pedestrian priority crossings are recommended on Main Street/Sandyford Road** to improve accessibility, universal design and economic and social activity on both sides of the street. This is particularly important with the current street layout. It is recommended that two additional step-free crossings are considered in the Main Street section, and that the existing crossing adjacent to Pembroke Cottages is improved.

b. **Review timings of the signalised crossing at Dundrum Cross** to allow for additional 'green-man' crossing time and less wait time for pedestrians.

c. **Particular attention needs to be given to improving the pedestrian environment (focussing on comfort and safety) on Sandyford Road as well as its connection to the Balally Luas station.** It is recommended that a review of this section of road is undertaken in order to implement traffic calming and urban design measures, including implementation of wide raised tables that provide a duality of functions (traffic calming

and pedestrian crossings); addition of street trees; widening of footpaths; and implementation of pedestrian priority measures at vehicle crossovers and side streets.

(4) Cycle Infrastructure:

a. Reassess signage and existing road markings with a view to better communicating the purpose and directionality of the contraflow cycling lanes and review the set-back line from Dundrum Cross to minimise potential conflict with turning buses from Ballinteer Road.
b. The contraflow cycle lane defender kerbs have been retrofitted in October 2023 to enhance visibility in the short term. In the long term, it is recommended to consider how/if they fit within a broader vision for the future of the Main Street (see Medium Term Recommendations further below).
c. Assess overall network connectivity for people cycling to/from the Main Street and consider the appropriate level, location and type of cycle parking.

(5) Public Transport Access and Connectivity:

Bus-stops:

a. **Safety and security at bus stops:** Conduct a user audit and review of the bus stops located along the by-pass and the bus stops on Ballinteer Road, focusing on lighting, shelter provision, universal design and overall placement for improving passive surveillance, safety, comfort, amenity and security. Collaborate with the National Transport Authority and other key stakeholders for a comprehensive assessment. The NTA's Universal Walkability Audit Tool should be employed.
b. **Safety and security accessing bus stops:** Conduct an accessibility audit review, specifically addressing safety and security for users accessing the bus stops on the bypass. Particular attention is needed around creating safe pedestrian crossings, and linking to the pathway through the old Shopping Centre, ensuring adjustments as required for enhanced safety and convenience. There is also a need to consider safe crossings and more direct access for local residents to the west of the bypass e.g. areas around Dundrum Castle, the Laurens and Sweetmount. Encourage key stakeholders, in particular in relation to future plans for the new and old shopping centres, to enhance façades for a more visually active and appealing streetscape that supports passive surveillance.
c. Be mindful of **inclusive bus access and egress at bus stops** when considering placement of objects such as bins and planters.

Dundrum LUAS Station:

d. Enhancing the accessibility and surroundings of the Dundrum Luas station is recommended, including a well designed and attractive wayfinding strategy. This could link in and additionally consider heritage (for e.g., the Ushers Monument), festivals/events and the desire for a vibrant pedestrian area. This could involve collaborative efforts with local businesses, and community representatives who have a noted interest to create an attractive and functional space (see related recommendation under Medium-Term no. 8. 'Festivals, Gatherings & Events').

(6) Signage:

a. Review signage in wider village/town centre environment to ensure that it's fit for purpose (for example there is out-of-date signage on Kilmacud Road Upper relating to access to the 'Dundrum Town Centre' car-parks), and remove unnecessary duplication/reduce street clutter where possible.

(7) Safe Routes to School:

a. Particular attention should be given to addressing and implementing in a timely manner the already planned 'School Zone' for Holy Cross National School[56] and to ensure that safe routes to school (including better walking and cycling infrastructure as well as park 'n' stride) are well considered and implemented as part of this, including for families coming from the Barton Road East/Ballinteer Road direction.

(8) Loading & Deliveries:

a. Review loading bay and on-street customer car-parking timings in collaboration with Main Street businesses.

(9) Maintenance:

a. It was clear from the stakeholder interviews that maintenance of planting is widely considered important to the community. This may require process review in order to embed a culture of cross-departmental collaboration across the DLR organisation.
b. Consider engaging the community/residents in maintenance efforts through volunteer programs to enhance community ownership.

Medium Term Dundrum Specific Recommendations:

It is reasonable to conclude, based on the qualitative and quantitative research, that Dundrum needs a longer-term vision for the regeneration of Main Street and the wider Village Centre and its environs. As part of this scenario **the temporary Covid Mobility and Public Realm works are recommended to be converted and replaced with a permanent plan**, whereby key stakeholders are an active part of the process. This is also recognised by DLR in the Dundrum Local Area Plan 2023.

The following is a list of key recommendations, based on the findings of this research, for incorporation into any public realm regeneration plan. These are put forward in recognition that the wider on-going areas of redevelopment, discussed through-out the report, form part of a broader regeneration issue for Dundrum. This section assumes the current general configuration of a shared one-way for vehicles, buses and bikes, and a contra-flow cycle lane is largely retained as it provides a much more balanced approach than was the case pre-Covid, but does not preclude other approaches.

[56] *For more information see https://dlrcoco.citizenspace.com/transportation/traffic-and-road-safety-holy-cross-national-school/results/srtsholycrossns_dundrum_postconsultreport_2023-01-16.pdf*

1. **Pedestrian Priority & 2-Sided Barrier-Free Main Street:** Pedestrian priority is key to a thriving Main Street. Pedestrian priority can take many forms, from full pedestrianisation to wider footpaths with regular (c.50-100m) step-free crossings (including a combination of signalised and wide zebra crossings) supported by low a low speed (for all modes) and low vehicle traffic environment. A key objective of any permanent plan should aim to remove as many physical and psychological barriers to crossing Main Street on foot as possible.

2. **Through-Traffic:** The one-way vehicle system has been very important in reducing levels of through-traffic in the Village. That said, additional strategic vehicular through-traffic reduction measures for Main Street in particular should be considered. Further through-traffic reduction would allow for a Main Street that supports higher levels of pedestrian activity, safety and comfort which are very important to a thriving Main Street. It will also improve bus reliability and improve cyclist comfort and safety, particularly for women, children, older people and other vulnerable groups.

3. **Heritage, Placemaking & Public Realm Treatment:** Dundrum is a centre with a rich heritage, and includes many fine historic buildings and streetscapes, including an Architectural Conservation Area. Mobility and public realm infrastructure interventions need to be mindful of, as well as celebrate this fact.
    a. In this regards, planting should be carefully placed to frame and not obscure significant historic facades, such as Holy Cross Church.
    b. Signage, road markings, bollards and poles etc should be consolidated and minimised, and their visual impact - especially their cumulative impact - carefully considered.
    c. Historic features, such as the Usher Monument, have a rich place-based and social history that is currently less than it could be. The Usher Monument once stood proud in memory to Dr. Usher who was knocked down by a driver on the link to Dundrum Train Station. There is an opportunity to further re-establish the importance of this monument in Dundrum Main Street in any permanent design.

4. **Grey to Green:** Increase planting/greenery and street trees particularly along Main Street, Sandyford Road, Ballinteer Road, and the by-pass.

5. **Seasons, Extreme Weather & Street Vitality:** Consider additional opportunities for shelter on Main Street, particularly in the form of awnings and street trees, so that the Main Street can still support economic and social activity in periods of heavy rain (and heatwaves).

6. **Cycle Infrastructure Design:** Good cycling infrastructure supports increased cycling rates and a wider range of uers. In any permanent design, infrastructure needs to be appropriate to the Main Street context, complement walkability and recognise the primacy of pedestrian movement, including crossing movements. If maintaining a one-way traffic layout with an associated contraflow cycle-lane, the key principles for permanent cycle infrastructure design are:
    a. On a carriageway shared with vehicles: the surface material should not be standard black-top/tarmac and should be chosen to visually reinforce the shared nature of the carriageway and to encourage slow vehicle speeds (in the order of 15-20km/hr) on the Main Street section in particular.

b. On a contraflow cycle lane:
    i. segregation features need to be sensitive to the historic nature of the streetscape, should be carefully considered to minimise impeding pedestrian crossing movements, and should consider tripping potential (choice of colour, material and grade are important here). For example, street trees and planting can be used to provide some segregation with the roadway, and street furniture and other planting to the footpath.
    ii. Low speeds should also be encouraged on the cycle-lane by reinforcing the Main Street's sense of place, thus surface materials and reducing linearity may help with this.

7. **Visual & Physical Connectivity to Luas Stations:** It is recommended to improve both the physical and visual links from Main St/Sandyford Road to both the Dundrum and Ballally Luas (tram) stations. For Balally Luas Station this should include a walkability and wayfinding audit, and greening strategy, and a walkability audit for the Dundrum Luas station. There is also an opportunity to **reestablish the prominence of the Usher Monument to improve the station's access legibility**, as well as heritage links (see point 3.c. above).

8. **Festivals, Gatherings & Events**: A Main Street should be able to facilitate both permanent and dedicated car-free public space as well as temporary road closures to support occasional festivals, gatherings and events, such as the Dundrum Arts and Cultural Festival, as well as markets, community events etc. This requires consideration of the grading of footpaths, roadways, cycle-ways etc so that there is a good degree of barrier-free and level surface treatments to facilitate such events.

General Recommendations for a Main Street Context:

1. Monitoring and Evaluation:

- It is recommended that monitoring and evaluation forms a key component of similar projects in the future. Collection of comprehensive pre-intervention base-line data is an important part of the evaluation process. The nature of baseline data will vary depending on the project, it's scale, context and aims. More traditional metrics may include:
    - Pedestrian and footfall counts, particularly live counts where change can be monitored over a longer time period and through different seasons.
    - Cyclists counts, particularly live counts where change can be monitored over a longer time period and through different seasons.
    - Public transport usage and performance data.
    - Vehicle counts including vehicle mix, particularly live counts where change can be monitored over a longer time period.
    - Traffic speeds recorded over different days and time periods (e.g. 7am-10am; 10am-4pm; 4pm-7pm, 7pm-7am).
    - Air quality and noise data, particularly live sensor data where change can be charted over a long period of time and over different seasons.

As a Main Street/Town Centre is an environment where vitality, walkability and liveability are likely to be important objectives, additional public realm and mobility metrics that may also be appropriate to consider (and therefore ensuring that the appropriate baseline data is collected before any works commence) include:

- Percentage change in quantum of public space and/or footpaths.
- Percentage of footpaths that meet national policy minimums for busy urban areas of 3-4m depending on levels of pedestrian activity (see Design Manual for Urban Roads and Streets, 2019).
- Number of additional step-free pedestrian crossings in non-pedestrianised streets.
- Number of additional side-street continuous footpaths.
- Number of street lengths (meters) with a maximum 30km/hr speed limit, or less.
- Observation studies into use and occupation of space.
- Percentage change in the 'health' of a street, such as through a Healthy Streets Assessment, or similar.

Additional research in the area of footfall levels, pedestrian comfort and Main Street/town centre/village centre vitality is also recommended within an Irish context.

2. **Active Travel Infrastructure & Main Streets:** Main Streets tend to be the social and economic hubs of a town or village. Active Travel and other transport infrastructure needs to be carefully considered and integrated into such environments, with pedestrian priority being the key guiding principle in a Main Street context. Here walkability, accessibility for all, public realm quality, vitality and liveability are key. In addition, many are historic environments and the quality of infrastructure must not detract from this setting. Many of the recommendations listed above in relation to Dundrum would be relevant to other towns and villages, including (but not limited to):

i. Capacity building and engagement
ii. Pedestrian priority & barrier-free Main Streets
iii. Visual & physical connectivity to public transport
iv. Grey to green & associated maintenance
v. Cycle infrastructure design
vi. Seasons, extreme weather & street vitality
vii. Festivals, gatherings & events
viii. Heritage, placemaking & public realm treatment
ix. Through-traffic & speed limits
x. Loading & deliveries, and parking management.

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Chapter 5

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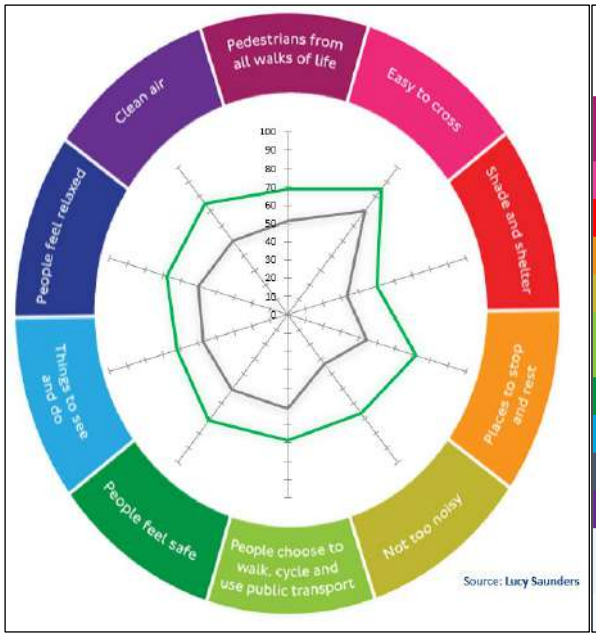
APPENDIX 1
HEALTHY STREETS CHECK

	Healthy Streets Check	Scoring System					Enter score here		Notes
		3	2	1	0	More info on each questio	Existing layout	Proposed layout	Please supplement your answers with detailed notes where possible
1	**Total volume of two way motorised traffic**	There are fewer than 500 vehicles per hour at peak.	There are 500 to 1000 vehicles per hour at peak.	There are more than 1000 vehicles per hour at peak, where people cycling are separated from motorised traffic.	**There are more than 1000 vehicles per hour at peak, where people cycling are mixed with motorised traffic.**	ⓘ	3	3	Traffic counts taken between the 17 April - 15th May 2023 (Vivacity) and 22 -29 June 2020 (Idaso). The 2023 data shows traffic tended to peak between 8-9am sometimes reaching > 300 vehicles/hr. The 2020 data shows a more sporadic picture with mini peaks during the middle of the day sometimes > 400 vehicles/hour reflecting Covid impacts. No other pre 2020 data was available, thus no change in the HSC score recorded
2	**Interaction between large vehicles and people cycling**	No large vehicles are using the street, or cycle traffic is separated from motorised traffic.	The proportion of large vehicles is less than 2% of motorised traffic, 7am to 7pm.	The proportion of large vehicles is 2% to 5% of motorised traffic, 7am to 7pm. **or** The proportion of large vehicles is greater than 5% of motorised traffic, 7am to 7pm, and people are cycling either: - in a nearside general traffic lane or bus lane at least 4.5m wide, or - in a cycle lane where the combined width of the cycle lane and the next general traffic lane is at least 4.5m.	**The proportion of large vehicles is greater than 5% of motorised traffic, 7am to 7pm, and people are cycling either:** **- in a nearside general traffic lane or bus lane less than 4.5m wide, or** **- in a cycle lane where the combined width of the cycle lane and the next general traffic lane is less than 4.5m.**	ⓘ	1	1	Comparing traffic counts (17.04.23-14.05.23) and IDASO traffic counts (22.06.20-29.06.20) between 7am-7pm, it is noted that larger goods vehicles (OGV1 and OGV2) are low in numbers throughout the day in before and after counts, however there is also a steady bus count in both of between 8-14 buses/hour from 6am to 10pm. With the inclusion of buses, the % of larger goods vehicles can be between 4 to 9%. However as per HSC scoring guidance, there are notable attributes in the newer street layout that facilitate safer cycling: (1) the narrow northbound only carriageway (3.5m) helps prevent dangerous passing of bicycles that share the lane and (2) the additional segregated contraflow lane for cyclists enables greater safety for people cycling in a southerly direction. Therefore, the new layout was given a score of 1. This could be further monitored with appropriate indicators.
3	**Speed of motorised traffic**	85th percentile speed is less than 20mph. **or** Existing 85th percentile speed is 20 to 25 mph, but there are some proposals to reduce speed further. **or** Existing 85th percentile speed is over 25 mph but a complete redesign of the street environment should reduce this to below 20mph	85th percentile speed is 20 to 25mph. **or** Existing 85th percentile speed is 25 to 30 mph, but there are some proposals to reduce speed further.	85th percentile speed is 25 to 30mph. **or** Existing 85th percentile speed is greater than 30 mph, but there are some proposals to reduce speed further.	**85th percentile speed is greater than 30mph.** **or** **Existing 85th percentile speed is greater than 30 mph, and there are no proposals to reduce this speed.**	ⓘ	1	2	New layout shows a definite reduction in speed, however the category change is borderline between '2' and '3' and further traffic calming is recommended in order to increase the health of the street by further reducing traffic speeds. Pre works 85th percentile were measured at 37km/hr at Main St site ATC2 northbound direction (IDASO Mon 22 Jun 2020 — Mon 29 Jun 2020, 7am-7pm). TomTom Move Oct/Nov 2022 7am-7pm 85th percentile speed = 33km/hr (20.5 mph). 2019 version = 40km/hr. TomTom February 2020 free speed 7pm to 7am show a 85th percentile of 48km/hr (29.8mph); Oct 2022 = 35km/hr (21.8mph). TomTom Move 24hr Oct/Nov 2019 v Oct/Nov 22 show a 10km/hr reduction in the 85th percentile speed from 43km/hr (26.7mph) to 33km/hr (20.5mph).
4	**Traffic noise based on peak hour motorised traffic volumes**	There are fewer than 55 vehicles per hour (c. <58 DB).	There are 55 to 450 vehicles per hour (c. 58-70 DB).	There are more than 450 vehicles per hour (c. >70 DB).	–	ⓘ	1	2	Based on above traffic counts. The 2020 total two-way traffic counts show over 400 vehicles/hour daytime. It is reasonable to assume a total traffic count without Covid restrictions of over 450 vehicles/hour, hence the former is scored 1. The new lay out can total >300 vehicles at peak times and is scored 2.
5	**Noise from large vehicles**	The proportion of large vehicles is less than 5% (c. +0 to +3DB).	The proportion of large vehicles is 5 to 10% (c. +3 to +5 DB).	The proportion of large vehicles is greater than 10% (c. +5 DB and over).	–	ⓘ	1	2	Based on above traffic counts, the 2023 count shows low #'s larger vehicles (OGV1 and OGV2), a steady bus count of c.8-15 buses/hr through the day. The % of total (bus and larger goods vehicles) ranges between 4-9%. June 2020 data shows % of total bus and larger goods vehicles to be regularly over 10% particularly in early morning (e.g. 20% at 7- 8am 22 June '20).
6	**NO2 concentration** (from London Atmospheric Emission Inventory)	**If assessing existing:** The NO2 concentration is less than 32µg/m3. **If assessing proposal:** The existing NO2 concentration is less than 32µg/m3 **or** the existing concentration is 32 to 40µg/m3 with local traffic volume reduction measures proposed.	**If assessing existing:** The NO2 concentration is 32 to 40µg/m3. **If assessing proposal:** The existing NO2 concentration is 32 to 40µg/m3 with no proposal to reduce local traffic volume **or** the existing NO2 concentration is greater than 40µg/m3 with local traffic volume reduction measures proposed.	**If assessing existing:** The NO2 concentration is greater than 40µg/m3 (legal limit value). **If assessing proposal:** The existing NO2 concentration is greater than 40µg/m3 with no proposal to reduce local traffic volume.	–	ⓘ	3	3	***Estimated figure only . Recommend installation of air quality monitors, at key village points around county. No local air quality monitor in place. The nearest appears to be Clonskeagh but does not measure NO2. Proxies used instead as per Blackrock reading: EPA NO2 Modelled Air Quality (2017) for area; and (EPA monitor in Dun Laoghaire) for 1-30 Sept 2020 (average 18.3µg/m3), however figures within HSC refer to an annual mean. Interestingly the average EPA NO2 measure (based on downloaded data-plot of Air Quality Levels at Dun Laoghaire between 1 Jan 2023 until 26 May 2023 is lower at 14.49 µg/m3.
7	**Reducing private car use**	There is no through-movement for motorised traffic, with access limited to local residents, deliveries and public service vehicles.	There are some time or movement restrictions for motorised traffic.	There are no access restrictions for motorised traffic.	–	ⓘ	1	2	Pre layout (existing) had little or no access restrictions. Main Street now has a range of traffic management features including a one-way for cars with an introduced dedicated contra-flow lane for cyclists. This marks a significant street space reallocation.
8	**Ease of crossing side roads for people walking**	Side roads are closed to motor traffic. **or** Side roads are one-way out for motor vehicles and have features to encourage drivers to turn cautiously.	Side roads are two-way or one-way in for motor vehicles, and have features to encourage drivers to turn cautiously.	Side roads have dropped kerbs only.	**Side roads have no dropped kerbs.**	ⓘ	2	2	There are no significant side ways apart from one way entrances to Dundrum car park at the southwest end of the street and to TSB centre east. All side roads have dropped curbs.
9	**Controlled crossings to meet pedestrian desire lines**	**If assessing existing:** All main pedestrian desire lines are provided for with controlled crossings. **If assessing proposal:** A new controlled crossing(s) is proposed or crossing(s) relocated to meet all main desire lines.	Only some of the main pedestrian desire lines are provided for with controlled pedestrian crossings.	No main pedestrian desire lines are provided for with controlled pedestrian crossings.	–	ⓘ	2	3	This new layout includes 4 crossings, 2 at either end of the segement are controlled with signals. The other two are table top crossing points with indicative tactile paving. The maximum distance between two crossing points is circ 116m, the shortest is 52m. It is about 210m between the two signalised controlled crossing points. Prior to the current/proposed layout, only the signalled crossing at the cross roads and the signalised crossing near the other end of the segment at the start of the Old Dundrum Shopping Centre existed.
10	**Type and suitability of pedestrian crossings away from junctions**	Crossing is uncontrolled, with conflicting traffic volume less than 200 vehicles per hour. **or** A Zebra or parallel crossing is provided. **or** Crossing is signalised so that people crossing the main carriageway have priority, while traffic on the main carriageway has on-demand green.	Crossing is uncontrolled, with conflicting traffic volume between 200 and 1000 vehicles per hour. **or** Crossing is signalised and straight-across where the distance to cross is less than 15m or greater than 15m in a 20mph speed limit. **or** Crossing is signalised and staggered where the distance to cross is greater than 15m in a 30mph+ speed limit.	Crossing is uncontrolled, with conflicting traffic volume greater than 1000 vehicles per hour. **or** Crossing is signalised and straight-across where the distance to cross is greater than 15m in a 30mph+ speed limit.	–	ⓘ	2	2	As noted above, crossing points are well placed. The average per hour traffic counts would be reduced, particularly due to one-way vehicular system, for example between 7am to 7pm on Friday (busiest day) 21 April 2023, the average was 266 while on Fri 26-Jun-2020, it was 385 (acknowledging Covid context) . The current layout has many improvements for the pedestrian with traffic reduced to one lane and slowed down, as well as more choice of crossing points, however it was given a 2 due to the following observations and received noted comments: 1) the contra flow cycle kerb is a tripping hazard for some; and 2) the tactile paving at the point of the table top crossing positioned just after Dundrum car park opposite Pembroke Cottages is used as an informal car parking space (during street audit, it was noted that as one car pulled out, another took its place within minutes).
11	**Additional features to support people using controlled crossings**	Controlled crossings have many additional features to enhance their quality (please see scoring guidance).	Controlled crossings have some additional features to enhance their quality (please see scoring guidance).	Controlled crossings have no additional features to enhance their quality (please see scoring guidance). **or** There is no step-free access at the crossing point and/or there is no physical delineation between the footway and carriageway away from crossing	–	ⓘ	2	3	The two noted signalised crossing points had tactile paving in both instances, in the previous instance, there was two-way traffic, in the current layout, there is just one-way traffic but with a contra flow cycle lane. Notably in new (proposed) layout, there are two additional table crossing points that didn't exist previously, helpful additions for people wanting same level crossing.
12	**Width of clear continuous walking space**	There is 2m or more clear width for walking in quiet locations (flows of <600 pedestrians an hour). **or** There is 2.5m or more clear width for walking in moderately busy locations (flows of 600-1200 pedestrians an hour). **or** There is 3m or more in busy locations (flows of >1200 pedestrians an hour)	There is 2m to 2.5m clear width for walking in moderately busy locations (flows of 600-1200 pedestrians an hour). **or** There is 2.5m to 3m in busy locations (flows of >1200 pedestrians an hour).	There is 1.5m to 2m clear width for walking in quiet and moderate locations (flows of <1200 pedestrians an hour). **or** There is 2m to 2.5m clear width for walking in busy locations (flows of >1200 pedestrians an hour).	**There is less than 1.5m clear width for walking.**	ⓘ	1	3	The eastern pavement has remained the same and is mostly over 3m wide. The western pavement has been increased considerably and is now largely over 3m in width. A couple of pinch points where however noted (e.g. a 1.5m pinch point where a sandwich board was located).

Healthy Streets Check		Scoring System					Enter score here		Notes
		3	2	1	0	More info on each questio	Existing layout	Proposed layout	Please supplement your answers with detailed notes where possible
13	**Sharing of footway with people cycling**	No part of the footway is designated as shared use for walking and cycling.	Part or all of a footway wider than 3m with fewer than 200 pedestrians per hour is designated as shared use.	Part or all of a footway used by more than 200 pedestrians per hour is designated as shared use. **or** Part or all of a footway less than 3m wide is designated as shared use.	–	ⓘ	3	3	No part of the footway is designated shared use in new (proposed) or previous lay outs. However it is that the area in front of Dundrum Church could be interpreted as shared use.
14	**Collision risk between people cycling and turning motor vehicles**	Side roads are closed to motorised traffic, or turning movements by motor vehicles are minimised. **and** At signal-controlled junctions, all conflicting movements between cycle traffic and turning motor traffic are separated.	Some measures are in place to reduce turning movements by motor vehicles at priority junctions. **and** At signal-controlled junctions, cycle movements are not separated and fewer than 5% of turning vehicle movements are made by larger vehicles but mitigation measures are in place.	There are no restrictions on turning movements by motor vehicles at side roads and other uncontrolled accesses. **and** At signal-controlled junctions, cycle movements are not separated and more than 5% of turning vehicle movements are made by larger vehicles but mitigation measures are in place.	**At signal-controlled junctions, cycle movements are not separated, more than 5% of turning vehicle movements are made by larger vehicles and there are no mitigation measures in place.**	ⓘ	0	1	The collision risk seems low overall. However it may be higher at the signalised cross roads at Kilmacud Upper and Ballinteer roads, particularly for people cycling contra flow who continue to the lights despite the discontinuation of the cycle lane (as observed). Here the risk is on meeting left turning traffic coming from Ballinteer Rd onto Main St (e.g. buses in this tight space swinging around sometimes mounting the contra flow cycle kerb as observed). It is recommended that some further thought is given to this. Some confusion was also observed e.g. a number of people cycling use the contra flow as a with-traffic cycle lane (increasing risk of colliding with another person cycling.
15	**Effective width for cycling**	**Where cycles are separated from other traffic,** the width of the lane or track is 2.2m or more (one-way) or 3.5m or more (two-way). **Otherwise:** Width of the nearside bus lane, general traffic lane (where there is no cycle lane) or width of the cycle lane plus adjacent general traffic lane is 4.5m or more.	**Where cycles are separated from other traffic,** the width of the lane or track is 1.5m to 2.2m (one-way) or 2.5m to 3.5m (two-way). **Otherwise:** Width of the nearside bus lane, general traffic lane (where there is no cycle lane) or width of the cycle lane plus adjacent general traffic lane is between 4m and 4.5m.	**Where cycles are separated from other traffic,** the width of the lane or track is less than 1.5m (one-way) or less than 2.5m (two-way). **Otherwise:** Width of the nearside bus lane, general traffic lane (where there is no cycle lane) or width of the cycle lane plus adjacent general traffic lane is 3.2m or less.	**Width of the nearside general traffic lane (where there is no cycle lane) or width of the cycle lane plus adjacent general traffic lane is between 3.2m and 3.9m.**	ⓘ	0	2	The lane is currently an effective width for the numbers cycling.
16	**Impact of kerbside activity on cycling**	There is no kerbside activity. **or** People cycling are physically separated from parking or loading facilities.	There is occasional kerbside activity, and people cycling can keep at least 1.0m clearance to vehicles parked or loading.	There is frequent or continuous kerbside activity, and people cycling can keep at least 1.0m clearance to vehicles parked or loading.	**People cycling cannot maintain at least 1.0m clearance from vehicles parked or loading, or they are required to change lane to do so.**	ⓘ	0	1	In the newer layout, the traffic lane is narrow so that intuitively people cycling can position themselves in the middle of the lane away from opening doors of parked vehicles. However observing street activity, we noted a postal service person cycle close to parked vehicles, making opening of doors a risk. Exploring ways to further nudge people cycling to position themselves more centrally away from parked cars may be helpful. This notwithstanding, the previous street layout, indicates a higher risk of car door collision, given the two way
17	**Quality of carriageway surface**	The carriageway surface is even and smooth, with sufficient skid resistance. **or** There are defects but resurfacing of the whole carriageway is proposed.	There are a few minor defects in the carriageway surface (please see scoring guidance).	There are many minor defects in the carriageway surface (please see scoring guidance).	**There are major defects in the carriageway surface (please see scoring guidance).**	ⓘ	3	3	An even and smooth carriageway surface was observed in the current (proposed) layout with no obvious defects on the carriageway or contraflow cycle way. Using Google Maps (July 2018) to assess the previous (existing) layout, it appears that the carriageway was similarly even and smooth.
18	**Quality of footway surface**	There is an even and level surface for walking on footways. **or** There are defects but resurfacing of the whole footway is proposed.	There are a few minor defects in the footway surface (please see scoring guidance).	There are many minor defects in the footway surface (please see scoring guidance).	**There are major defects in the footway surface (please see scoring guidance).**	ⓘ	3	3	The footway surface current (proposed) layout is a clear, level surface for walking that is also smooth without any holes or other defects. Using Google maps (July 2018) to examine previous (existing) layout, it can be seen that it similarly showed a clear level surface for walking but did show at a minor defect with no more than 1m of damaged surface between Dundrum Village store and Glenville House. This may have been rectified by 2020.
19	**Surveillance of public spaces**	There is constant surveillance – because mixed use buildings overlook the street or space, or because there are many people using the space or walking through.	There is intermittent surveillance – because surrounding buildings are single-use or do not completely overlook the street, or because there are few people using the space or walking through.	There is poor surveillance – because few buildings overlook the street or space, there is little activity.	–	ⓘ	2	2	Observing the current layout on a sunny daytime May Thurs 2023, a good level of pedestrian activity was noted based on at least one person being visible on both sides of the road from any point. The retail frontages on the street and street seating and umbrellas also gave a sense of added passive surveillance and safety. However, there are a number of single use premises (for example little shop-top housing) and vacant premises.
8	**Provision of cycle parking**	Cycle parking exceeds existing demand and is accessible by all.	Cycle parking meets existing demand and is accessible by all.	Cycle parking does not meet existing demand. **or** Cycle parking meets existing demand but is not accessible by all.	–	ⓘ	1	2	Good cycle parking provision can be found within short distances: 7 Sheffield stands at Old Shopping Centre (3 between planters), with good additional cycle parking provision at either ends of this audited segment. It is an improvement from the previous layout (Google maps 2018) with just 3 Sheffield stands in front of the old shopping centre at the wall minimising to 1 bike/stand. However, a demand for more bicycle parking closer to Dundrum Cross was noted (based on
21	**Street trees**	**If assessing existing:** There are multiple trees, with canopies spaced less than 15m apart on average. **If assessing proposal:** All existing trees are to be retained and the street is already tree-lined with less than 15m between tree canopies. **or** All existing trees are to be retained, with planting of new trees designed to reduce the average canopy spacing to less than 15m.	**If assessing existing:** There are multiple trees, with canopies spaced more than 15m apart on average. **If assessing proposal:** Not all existing trees are to be retained, however new planting will ensure the overall number of trees is maintained or increased. **or** All existing trees are to be retained, however the canopy spacing will remain more than 15m on average.	**If assessing existing:** There are no trees, or only one tree. **If assessing proposal:** There are no existing or proposed trees. **or** The number of trees has been reduced.	–	ⓘ	1	2	There has been a significant improvement in canopy provision (mostly planters) of about 15m to 25m width apart compared to little or none in the previous layouts. They are young and while planters might stagnate growth and therefore shelter, they also need to be maintained.
8	**Planting at footway-level** (excluding trees)	**If assessing existing:** There is substantial planting in good condition designed to create or improve social space and/or act as a connection between other green spaces (eg pocket park, rain garden, community garden area). **If assessing proposal:** Existing greenery is to be enhanced with integrated SuDS features or new planting or new areas of greenery are proposed.	**If assessing existing:** There is some planting, eg shrubs, verges, hedges, ornamental flower beds, or adaptation for some animal species. **If assessing proposal:** Existing standalone greenery is to be retained.	**If assessing existing:** There is no planting, or existing planting is in a poor condition. **If assessing proposal:** No green infrastructure is proposed, or the size of existing greenery is to be reduced.	–	ⓘ	1	2	There was very little if any planning in the previous layout, while the current (proposed) layout has well-spaced planting as well as one nicely placed small pocket park embedded into the pavement (circa size of a car parking space).
8	**Walking distance between resting points** (benches and other informal seating)	There is less than 50m between resting points on both sides of the road.	There is between 50m and 150m between resting points on at least one side of the road.	There is more than 150m between resting points on at least one side of the road.	–	ⓘ	1	2	The spacing between resting points is very good on the western side of the northern and the middle parts of the segment, and there is also seating in front of the church in the southern part of the section. This is a very notable improvement on the previous layout as seen from Google Maps (July 2018)
8	**Walking distance between sheltered areas protecting from rain.** Including fixed awning or other shelter provided by buildings/infrastructure	There is less than 50m between sheltered areas.	There is between 50m and 150m between sheltered areas.	There is more than 150m between sheltered areas.	–	ⓘ	1	1	Limited opportunity for shelter for old and new layouts. Some public shelter provided by umbrella covered seating at centre of the segment, and a small level of shade from the small canopies, also some shade provided by the bus stop. Only shelter provided was by the bus stop in the previous layout.

Healthy Streets Check	Scoring System					Enter score here		Notes
	3	2	1	0	More info on each questio	Existing layout	Proposed layout	Please supplement your answers with detailed notes where possible
	Are there any bus services running on this street? (Y/N) If not, do not complete metrics 25-28					y	y	An answer is required here in order to generate results
# Factors influencing bus passenger journey time	There are positive influences on bus journey time, e.g. bus lanes, and/or exemptions for buses from movement bans for general traffic.	Buses are mixed with traffic but not significantly delayed.	There are negative influences on bus journey time, e.g. unclear markings, narrow lane width, parking/loading issues, short cage length, mixing with congested traffic.	-	ⓘ	2	1	The bus layout is reasonable but may pose some challenges for buses turning on to the main street from Balinteer Rd e.g. the turning circle of the bus coming from Balinteer Rd facing some lane restriction between allocated car parking and the cycle track kerb (observed bus mounting the cycle kerb on one occasion, see photo, and a person cycling in the contra flow track at the cross road lights having to quickly move onto the
# Bus stop accessibility	Bus stop is wheelchair accessible, with a shelter, clear space for boarding and alighting and there is a clearway in place at the bus stop.	Bus stop is wheelchair accessible but either there is no shelter or the cage length is insufficient for the bus service frequency.	Bus stop is not wheelchair accessible, i.e. the kerb height is less than 100mm and/or there is a lack of boarding or alighting space for a wheelchair user.	-	ⓘ	2	2	Church stop: Seating & shelter provided with relatively clear space for boarding & good kerb height. However, two public bins close to bus stop at church could obstruct mounting passengers particularly if mobility impaired. Southbound buses relocated thus potentially impacting accessibility. Old Shopping Centre bus-stop: No shelter or seating, but more space for
# Bus lane operation	Bus lanes operate 24/7.	Bus lane hours of operation are limited and do not cover all hours of the day / week.	There are no bus lanes.	-	ⓘ	1	1	There are no bus lanes.
# Impact of kerbside activity on bus operations	There is no parking or loading that adversely impacts on bus performance.	There is occasional parking or loading activity, but with minimal impact on bus operations.	There is frequent or continuous kerbside activity, regularly impacting on bus performance.	-	ⓘ	2	2	Bus stops are brought out via build-outs so that bus maintains position in traffic. The wider area at the bus stop in front of the church provides the potential for pavement parking as was observed and as noted above, two public bins on the pavement also have the potential to cause a minor obstruction.
	Are there any rail/underground/bus stations accessible from this street? (Y/N) If not, do not complete metrics 29-31					y	y	An answer is required here in order to generate results
# Bus stop connectivity with other public transport services	The bus stop is within sight of another service – less than 50m away.	The bus stop is between 50m and 150m away from another service.	The bus stop is more than 150m away from another service.	-	ⓘ	2	2	The bus stop is between 50 m and 150 m away from other bus stops and the Luas tram stop. However some buses were relocated to the by-pass to facilitate the Covid works, reducing their accessibility.
# Step-free access from the street to the station entrance	All entry points to the station are step-free.	The main entry point to the station is not step-free but step-free alternatives are provided.	There is no step-free access to the station.	-	ⓘ	2	2	There is a lift available to the Luas stop but not at the main access point and the kerb is sufficiently high to allow bus access.
31 Support for interchange between cycling and underground/rail	Secure cycle parking is provided close to station access points, and suitably exceeds existing demand.	Cycle parking is available close to station access points that meets existing demand.	There is insufficient cycle parking to meet demand, or cycle parking is poorly located for station access points.	-	ⓘ	1	2	There is cycle parking very close to the LUAS station, though the LUAS station itself is just outside of this street segment being assessed.



	Original Layout	Covid temp layout	Change in indicator score
Pedestrians from all walks of life (Accessibility)	52	69	+ 17
Easy to cross	70	85	+ 15
Shade and shelter	33	50	+ 17
Places to stop and rest	44	72	+ 28
Not too noisy	33	67	+ 33
People choose to walk, cycle and use public transport	52	69	+ 17
People feel safe	52	71	+ 19
Things to see and do	52	67	+ 14
People feel relaxed	50	68	+ 18
Clean Air	50	75	+ 25
Overall Healthy Streets Check score	51	70	+ 19
Number of 'zero' scores	3	0	- 3