MetroLink

Transport Infrastructure Ireland

Pedestrian Impact for Dartmouth Road

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MetroLink

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Project Manager:	Paul Brown
Author:	Matthew Foy
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Jacobs Engineering Ireland Limited

Merrion House
Merrion Road
Dublin 4, D04 R2C5
Ireland
T +353 1 269 5666
F +353 1 269 5497
www.jacobs.com

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Contents

1. Introduction

There was a query about whether the pedestrian impact assessment at Charlemont station had included Dartmouth Road. To assist with responding to this query, we have detailed below the elements of the EIAR that contain the pedestrian impact assessment and also provided an expanded image of the Level of Service Heat Map contained within Appendix A9.2-B of the EIAR.

2. Pedestrian Impact Assessment

2.1 Dartmouth Road

Section 6.1.3 of Appendix A9.2-B Traffic and Transport Assessment – Charlemont Station, of the EIAR details the Pedestrian Impact Assessment for Charlemont station. The pedestrian impact assessment at Charlemont station included Dartmouth Road.

Dartmouth Road was assessed using the recommendations within Dublin City Council's (DCC's) Pedestrian Space Calculator from 'The Heart of Dublin City Centre Public Realm Masterplan' (Dublin City Council, 2016) and using Transport for London's "Pedestrian Comfort Guidance for London" spreadsheet tool.

Based on this analysis the pedestrian flows on Dartmouth Road were within DCC's guidelines and its performance was deemed as "comfortable" with the Metrolink in operation.

The classification of "comfortable" means "This level (of pedestrian comfort) provides enough space for normal walking speed and some choice in routes taken."

2.2 Overview of Pedestrian Impact Assessment

Firstly, a static analysis in the form of a pedestrian comfort assessment was undertaken. The static analysis takes the total pedestrian movements on the street and assesses it against recommendation in the Pedestrian Space Calculator from 'The Heart of Dublin City Centre Public Realm Masterplan' (Dublin City Council, 2016). If the pedestrian volumes were below the footfall numbers noted within DCC's document, then the footpaths were considered to be "Comfortable". If pedestrian numbers were above the recommendation within DCC's document, then Transport for London's (TFL) "Pedestrian Comfort Guidance for London" tool was utilized.

The general gradings have been taken from TfL's guidance document and range from "Comfortable, Acceptable, At Risk, Unacceptable /Uncomfortable". For the Metrolink assessment work, Acceptable and At Risk were grouped together as Acceptable. An explanation of these gradings is given below:

- Comfortable: This level provides enough space for normal walking speed and some choice in routes taken.

- Acceptable: Normal walking speed is still possible, but conflicts are becoming more frequent, in retail areas people start of consider avoiding the area. In other, areas such as Transport Interchange, increased uncomfortable pedestrian spaces are acceptable, until it gets to a point that the majority of people experience conflict or closeness with other pedestrians and bi-directional movement becomes difficult.

- Unacceptable: Walking speeds are restricted and reduced and there are difficulties in bypassing slower pedestrians or moving in reverse flows. This can increase to the point that people have very little personal space and speed and movement is very restricted.

If the result of the assessment was that the footpaths were 'Unacceptable' then a microsimulation VISWALK model was prepared. A microsimulation model was used to assess in greater detail the potential pedestrian impacts, the pedestrian level of service and to develop appropriate mitigation at the specific proposed station locations. The level of service ratings from the VISWALk model are Fruin Level of Services and range from A to F, LOS A corresponds to free flows, while LOS F corresponds to critical situations of density with extreme difficulty in walking movements.

2.3 Charlemont Station- Pedestrian Impact Assessment

For Charlemont, a pedestrian comfort assessment was used to assess the impact of the MetroLink on the comfort of the footway provisions following the increased volume of pedestrians on the network.

The results of this pedestrian comfort assessment are assessed for two scenarios, Scenario A 2050 design year and Scenario A 2065, with the latter being assessed as the 'worst-case scenario' for passenger numbers.

Figure 6.9 from Appendix A9.2B shows the result of the Pedestrian Comfort Assessment in Scenario A 2065.

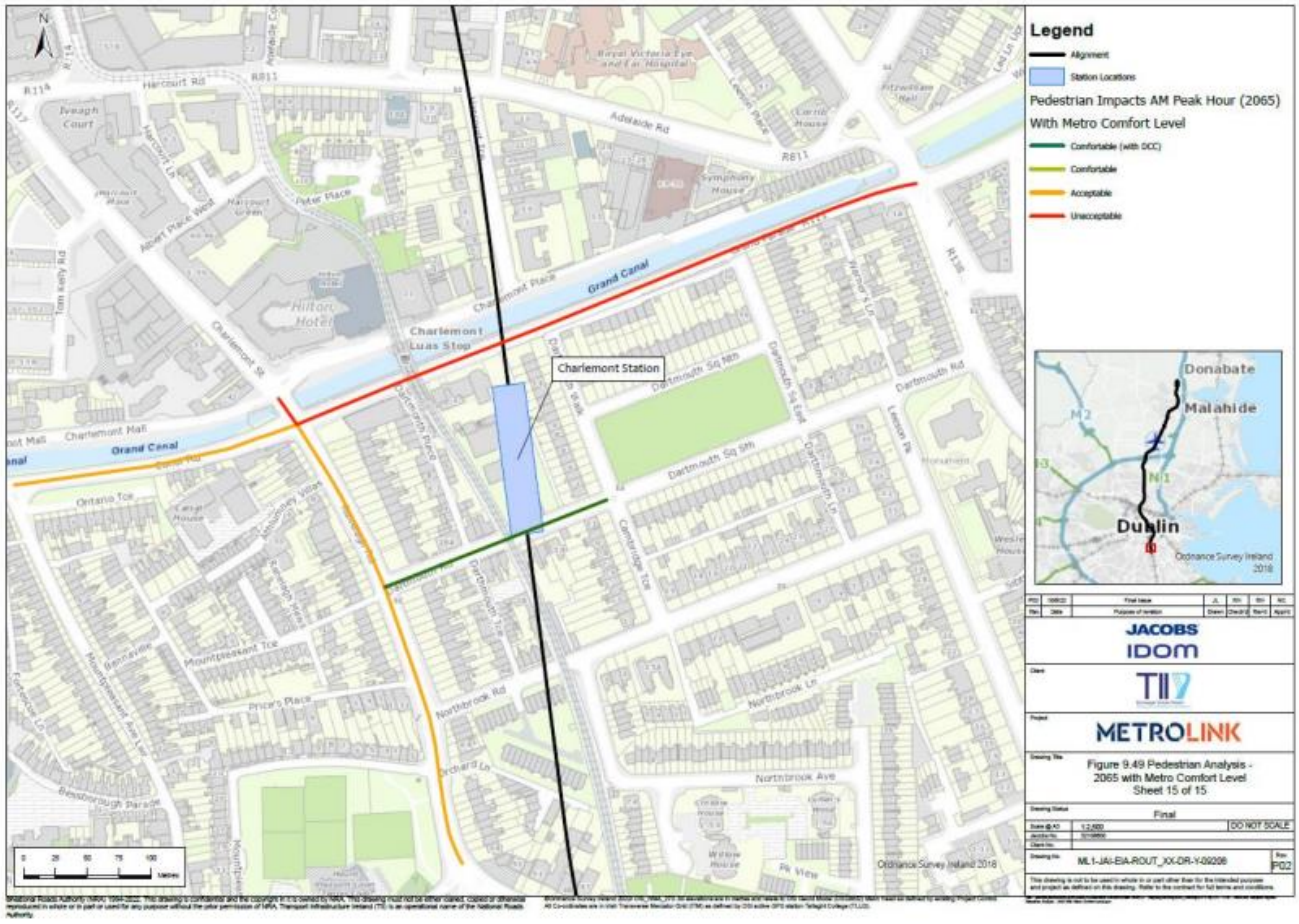

Figure 6.9: Pedestrian Comfort Assessment with the Project Scenario A 2065 AM Peak Hour

Dartmouth Road was assessed as 'Comfortable' and meets with DCC's guidelines. Ranelagh Road was assessed as 'Acceptable' and Grand Parade was deemed to be an 'Unacceptable' level of comfort during the static assessment.

Due to 'Unacceptable' grading of Grand Parade, a more detailed assessment was required, and this was achieved through a microsimulation model. A microsimulation VISWALK model was developed for the full extent of the publicly accessible station area including the immediate vicinity of the station entrance at street level, the Luas stop and nearby junctions at Charlemont Bridge. The model extended the full area, including Dartmouth Road.

As seen in Figures 6.13 and 6.14 of Appendix A9.2-B Traffic and Transport Assessment, only VISWALK images of the operation of Charlemont microsimulation model along Grand Parade were presented in the EIAR because only this street during the static assessment was deemed as an 'Unacceptable' level of comfort.

The outcome of the microsimulation model is detailed within the EIAR, and notes the following:

"the Vissim microsimulation model indicates that R111 Grand Parade will have a Level B Level of Service overall, however at the location of the proposed pedestrian crossing the Level of Service is lower with 'some restriction in selection of walking speed and ability to pass others', this occurs as pedestrians are required to wait for a green phase at the signals. Overall, it is considered that the model displays an acceptable level of network performance in the assessment."

For information, we have presented below the full image of the VISWALK model.

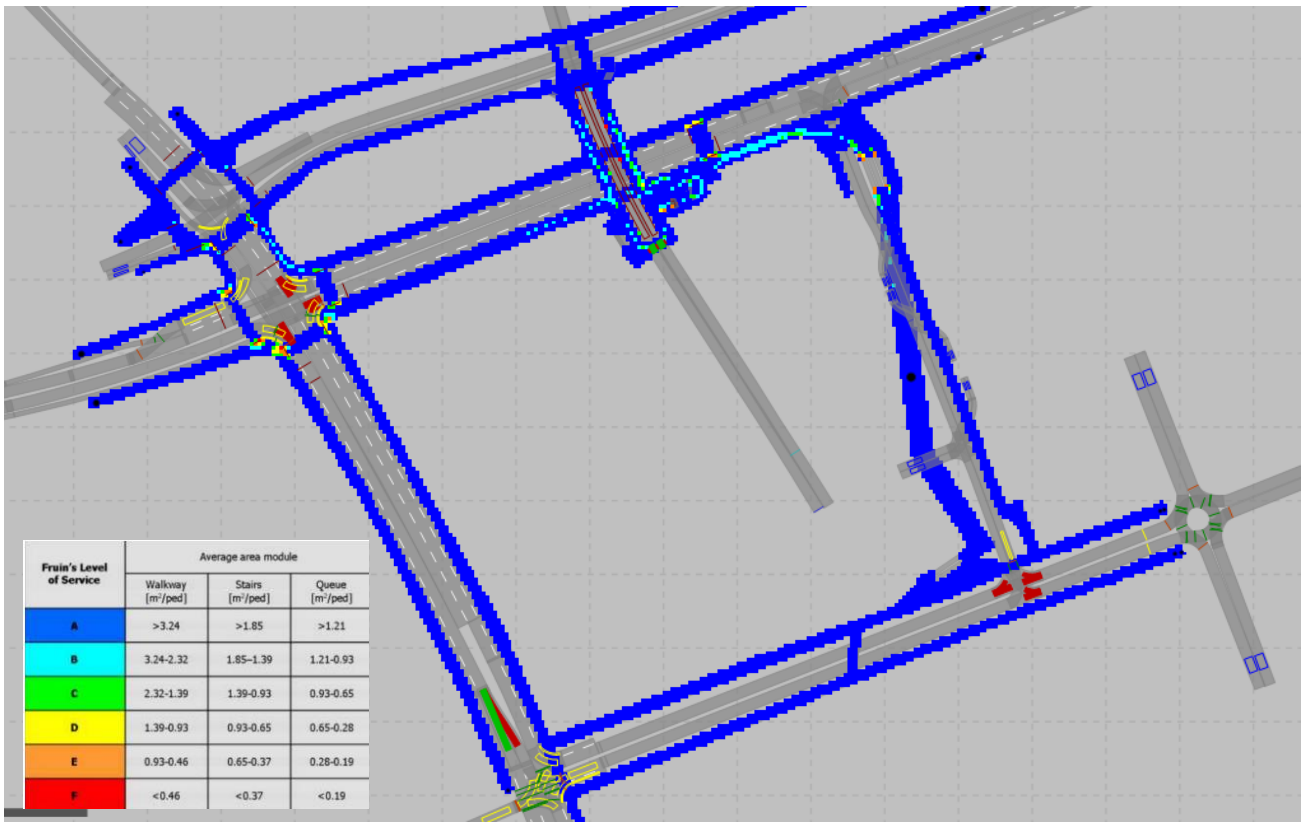

Figure 1: Level of Service Heat Map for Charlemont during 2050 AM Peak.

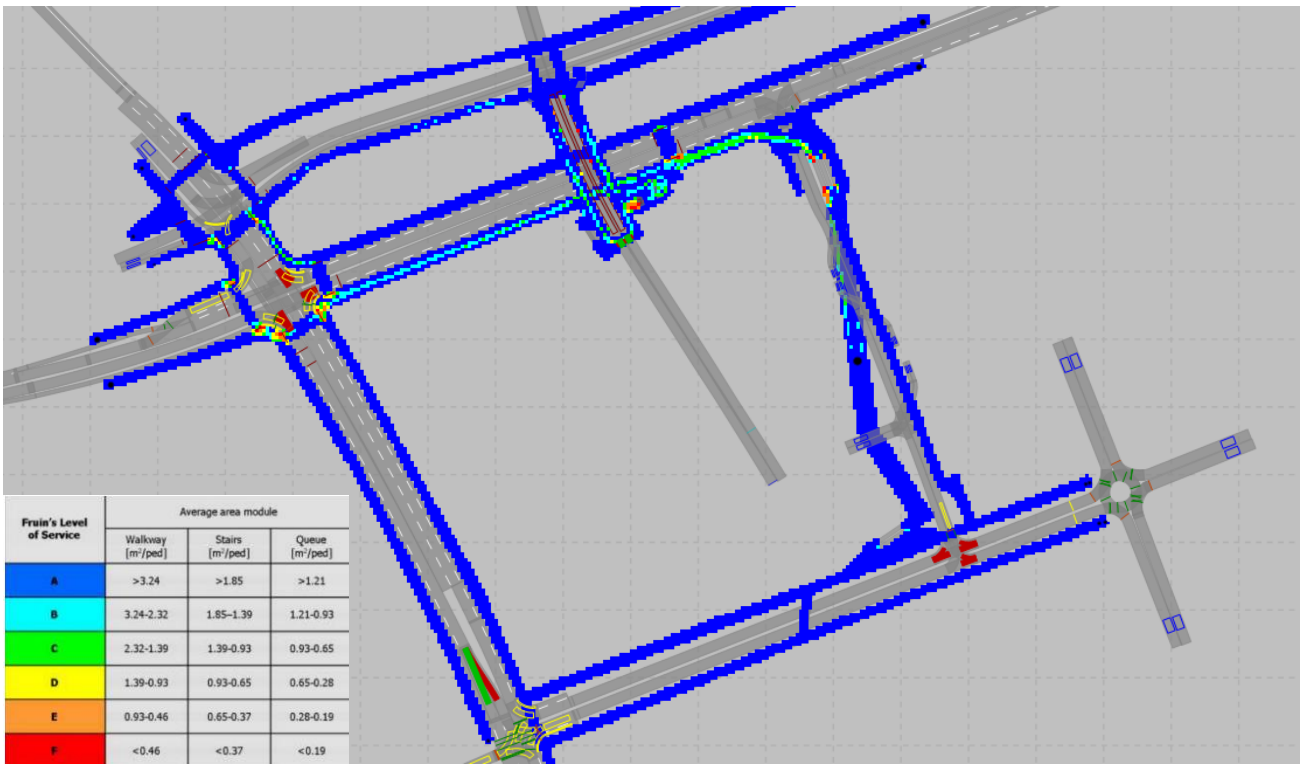

Figure 2: Level of Service Heat Map for Charlemont during 2050 PM Peak.