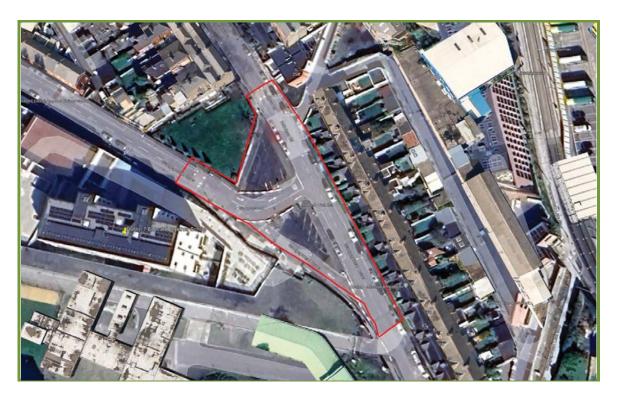


GRANGEGORMAN DEVELOPMENT AGENCY

GRANGEGORMAN UPPER/LOWER JUNCTION PEDESTRIAN AND CYCLE IMPROVEMENTS

TRAFFIC STATEMENT



August 2025



GRANGEGORMAN DEVELOPMENT AGENCY

GRANGEGORMAN UPPER/LOWER JUNCTION PEDESTRIAN AND CYCLE IMPROVEMENTS

TRAFFIC STATEMENT

Nicholas O'Dwyer Ltd Consulting Engineers Nutgrove Office Park Nutgrove Avenue Dublin 14

August 2025

PROJECT NO. 30427								
Revision	Reason for Revision	Prepared by	Reviewed by	Approved by	Issue Date			
-	First Issue	N. Duma	N. Skelton	N. Skelton	Oct 24			
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С								
D								

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1 INTRODUCTION

1.1 Background

Nicholas O'Dwyer has been commissioned by the Grangegorman Development Agency (GDA) to prepare a Transport Statement regarding enhancements to the public realm that will support a planning application to Dublin City Council (DCC). This application also supports the newly constructed Dublin 7 Educate Together National School, and its planning requirements located within the Grangegorman Campus in Dublin 7. The development is as shown in **Figure 1**. Two road safety audits were conducted, and they identified road safety issues and recommendations to solve these. The findings have been listed in this report.

The public realm initiatives include the following components:

- Creating a safe junction configuration that provides ample space for pedestrians to congregate and move freely, establishing a self-regulating low-speed environment suitable for access to the school.
- Developing walkways and pedestrian zones to accommodate the anticipated demand related to the new D7 Educate Together National School.
- Eliminating the left-turn slip lane.
- Incorporating landscaping features.
- Upgrading the road surface treatment along Grangegorman Upper, which includes the installation and reinstatement of ramps.
- Implementing uncontrolled "courtesy" crossings for pedestrian use.
- Improving the public lighting system.
- Providing bicycle parking facilities within the public realm for community access.
- Removing twenty-five parking spaces designated for vehicles and replacing with a landscaped public realm.
- Provision of 2 accessible drop off bays.



Figure 1 - Indicative scheme extents

The proposed development aims to improve the safe transit of children, staff, and parents to and from the new school, while also accommodating the movement of pedestrians and cyclists as TU Dublin and other facilities within Grangegorman are developed. Additionally, it will create a valuable new public space in Dublin 7. These development proposals support the newly constructed Educate Together School and its planning requirements and align with the traffic management and policy goals outlined in the Dublin City Development Plan 2022–2028.

1.2 Objectives

The aim of this report is to articulate the necessity for the proposed scheme, detailing its key design elements and illustrating how these elements effectively address the identified needs. This analysis will provide a comprehensive overview of the rationale behind the scheme, including the specific challenges it seeks to resolve and the benefits it aims to deliver. By examining the design components in depth, the report will demonstrate how the proposed solutions align with the objectives of enhancing safety, accessibility, and overall user experience for the community. Ultimately, this report serves to substantiate the relevance and importance of the scheme within the broader context of urban development and public service enhancement.

1.3 Existing Conditions

The site is located within approximately 1km of Dublin City Centre. The surrounding roads include the North Circular Road to the North, Prussia Street to the West, Phibsborough Road and Constitution Hill to the East. The R135 and R147 are in close proximity to the site and provide strategic movement functions. Parts of the peripheral road network experience short term road congestion delays during the peak traffic periods, which is typical of urban centres with comparably high population densities. Peak-hour congestion naturally limits vehicle volumes, indirectly encouraging modal shift to walking, cycling, and public transport.

Over recent years, the area surrounding Grangegorman has evolved from a busy through route for local and non-local traffic into a more community-focused environment.

In previous years, significant volumes of "through" traffic defined the corridor, but recent traffic management measures have brought about a notable change. These include the installation of a mobility filter on Grangegorman Lower, which restricts vehicle through-traffic while giving priority to cyclists and pedestrians, as well as the temporary removal of certain parking spaces near the Educate Together school. These interventions have improved safety for schoolchildren and residents, encouraged the use of sustainable transport, and better aligned the area with the needs of the newly established TU Dublin campus and the wider community.

Recent changes to parking regulations on Rathdown Road have extended controlled hours from 7:00 AM to 12:00 AM Monday to Sunday, significantly reducing the availability of free on-street parking during evenings and weekends.

The area in the immediate vicinity of the new school does not experience congestion issues, however safety is to be ensured for student and the public, and more efficient flow of traffic is to be achieved with the proposed road development.



Figure 2 Indicative site context (Source: Google maps)

In addition to educational uses, the wider TU Dublin Grangegorman Campus includes facilities such as public green spaces, sports pitches, cultural amenities, and event venues. These uses contribute to varied temporal movement patterns and necessitate flexible transport solutions that accommodate different user groups throughout the day and week.

1.4 Existing Road and Transport Network

The road network surrounding the site provides a variety of movement functions. Cabra Road, Constitution Hill, and Dorset Street serve strategic movement functions by providing connectivity to the Greater Dublin Area. The North Circular Road performs an orbital function within Dublin City Centre and plays an important role in cross-city movement.

At a more local level, Grangegorman Upper, Grangegorman Lower, and Rathdown Road are located in the immediate vicinity of the proposed road development. These roads converge at a junction approximately 300 metres from the North Circular Road, as shown below. This junction comprises a left slip lane to the south and an all-movement junction to the north.

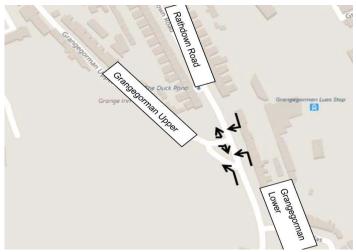


Figure 3 Junction of Grangegorman Upper, Grangegorman Lower and Rathdown Road

In recent years, a mobility filter has been introduced on Grangegorman Lower, permitting only the through movement of bicycle traffic and prohibiting through traffic by motor vehicles. This measure restricts urban traffic from using Grangegorman Lower as a through-route, thereby prioritising active travel and enhancing local environmental quality.



Figure 4 Parking at Rathdown Road / Grangegorman Upper / Grangegorman Lower Junction

Approximately 14 undesignated parking bays had been provided in the triangular area shown in Figure 4 between the two locations where Grangegorman Upper meets Rathdown Road / Grangegorman Lower, and to the north of Grangegorman Upper. Following the opening of the Dublin 7 Educate Together School, these parking areas were closed using temporary barriers as an interim measure to comply with the school's planning conditions. This is illustrated in Figure 5 below.



Figure 5 - Interim Measures Layout

The surrounding streets now largely function as access-only routes, with through traffic no longer permitted via Grangegorman Lower. The majority of vehicular movement in the area is associated with local residents, visitors to the TU Dublin campus, and construction-related access. Current access for TU Dublin construction traffic is managed through a defined route on North Circular Road. All vehicle access points to the campus, including the existing construction access route will evolve into fully controlled access points in the future as the campus develops into a fully operational phases.

The area has footpaths on both sides of Rathdown Road and Grangegorman Road Upper, with tactile paving and dropped kerbs at crossing points. Footpaths are generally 2m wide on Rathdown Road but narrow to about 1.5m on the southwestern end. Grangegorman Road Upper's footpaths are generally 1.5m wide.

While there are no dedicated cycling facilities on Grangegorman Upper, Rathdown Road, or Grangegorman Lower, Dublin Bike Scheme stations are located nearby. Cyclists currently share the road with vehicles, and the existing junction layout, featuring a wide radius left-slip lane and complex give-way/stop arrangements, does not encourage cycling. Improving cycling infrastructure and the junction design could enhance safety and promote active transport in the area. The foot path is as shown on Figure 6 below.



Figure 6 - Footpath on Grangegorman Upper

1.5 Planning Policy

In order to complete this report, Nicholas O'Dwyer has made reference to the following documents:

- The Traffic Management Guidelines 2019 (jointly published by the DOELG, DTO, DOT);
- Design Manual for Urban Roads and Streets, April 2013 (Dept of Transport, Tourism and Sport/Dept of Environment, Community & Local Government);
- TII Traffic and Transport Assessment Guidelines May 2014;
- The Transport Strategy for the Greater Dublin Area (2016-2035);
- Dublin City Council Development Plan (2022 2028); and,
- Traffic Signs Manual (2010).

2 TRAFFIC AND MOVEMENT ANALYSIS

To assess the traffic flows and movement at the proposed junction and surrounding streets, a traffic count survey was conducted in March 2025 in conjunction with a parking survey. This survey aimed to analyse the capacity of the junction and to investigate the parking demand and utilisation within the area.

Peak-time traffic (AM and PM) is assumed to predominantly consist of residents accessing or exiting the area. During off-peak daytime hours, visitors to the TU Dublin campus are assumed to account for a greater share of local movements, supported by the presence of limited paid parking, which discourages long-term stays. After 7pm, when on-street parking becomes free, there is assumed to be an increased use of the area by those accessing TU Dublin's sports pitches and other campus facilities, leading to moderate but manageable increases in evening footfall and vehicle presence. This behaviour is also assumed on weekend mornings where campus facilities are utilised. The extension of parking hours on Rathdown Road to 07:00am-12:00am Monday to Sunday reduces the availability of free on-street parking and will mitigate this increase in vehicle presence and reduce short term parking in the area.

2.1 Traffic Survey

A set of traffic counts were carried out at the Grangegorman Upper and Rathdown Road junction from 07:00 to 10:00 on Monday 24th – Thursday 27th March and from 08:00 to 14:00 on Saturday 29th March 2025. Three peak scenarios were considered: the AM network peak (08:00–09:00), the PM network peak (17:00–18:00), and a campus peak (10:00–12:00 on Saturday).

The worst-case network peak recorded 204 vehicle movements through the junction over a one hour period, while a maximum of 141 vehicle movements was recorded at the junction during the campus peak.

Using PICADY software, junction capacity was assessed for the survey year (2025) and future design years (2030 & 2040) applying conservative growth factors (17.4% to 2030, 42.9% to 2040). In all scenarios, the maximum ratio of flow to capacity (RFC) remained well below the 0.85 threshold, with the highest RFC of 0.19 occurring in the 2040 AM peak and corresponding queuing of just 0.31 PCUs. These results confirm that the upgraded junction retains sufficient capacity and can accommodate both current and forecast traffic without significant queuing or delay

Scenario	Year	Peak Hour	Max RFC	Max Queue (PCUs)
Base	2025	AM	0.12	0.15
Future	2040	AM	0.19	0.31

Table 1 - Traffic Volume Summary

Full details of the traffic survey and analysis are detailed in a Junction Capacity and Parking Review report in Appendix A

2.2 Parking Survey

A parallel parking survey recorded on-street occupancy every 30 minutes during weekdays (07:00–22:00) and Saturday (07:00–14:00). Of the approximately 216 legal parking spaces in the study area, the average peak occupancy was 116 spaces (53.5%), with a maximum of 151 spaces occupied (69.6%) observed at 20:00 on Wednesday 26th March, coinciding with peak use of the TU Dublin sports facilities.



Figure 7 - Extent of Parking Survey

A sensitivity test applying the 42.9% growth factor raised the average occupancy to 172 spaces (79.4%) and a worst-case of 216 spaces (99%). However, this growth rate reflects a theoretical maximum that is unlikely to materialise in this specific urban context. The Grangegorman area is constrained by its physical layout, planning controls, and the absence of through-traffic routes, which collectively limit the potential for significant growth in parking demand. Additionally, the campus facilities are nearing full operational capacity, further reducing the likelihood of future demand increases at the scale assumed in the sensitivity test.

Therefore, even under this extreme and improbable scenario, the available parking supply remains sufficient to meet projected demand. The results reinforce the conclusion that the proposed development, including the removal of 25 parking spaces, will not adversely impact parking availability in the area.

Full details of the parking survey and analysis are detailed in a Junction Capacity and Parking Review report in Appendix A

2.3 Illegal Parking

During the survey instances of illegal parking were observed around the junction, notably adjacent to the school, near the junction at the top of Gragegorman Lower and adjacent to the roundabout adjacent to the Bring Centre on Gragegorman Lower. The new public realm design, supported by strategic landscaping, aims to mitigate illegal parking surrounding the junction through physical deterrents and clearer delineation of public space.

3 PROPOSED INFRASTRUCTURE

3.1 Pedestrian infrastructure and crossings

The proposed scheme includes two pedestrian crossings. These will provide linkages between the plaza area outside the school to the northern plaza area, and between the northern plaza area and the footpath on the east side of Rathdown Road. Appropriate tactile ground surface indicators (TGSIs) will be placed at the pedestrian crossings, in line with TII Pedestrian Crossing Specification and Guidance 2011. Exact details of all crossing facilities will be agreed in writing with Dublin City Council, Environment and Transportation Department. Footpath widths are maximised in the vicinity of the pedestrian crossings. Footway widths are minimum 2m where possible through the scheme area. It is noted that footpaths towards the west of the scheme revert to tie-in with existing footpath widths on Grangegorman Upper.

Following a comprehensive review of pedestrian movement patterns, traffic volumes, and existing infrastructure, it is concluded that a signalised pedestrian crossing at this location is not warranted. The surrounding junction operates well below capacity, and vehicle movements are minimal due to recent traffic management interventions, including the installation of a mobility filter and the removal of through-traffic routes. Furthermore, a signalised crossing already exists on Grangegorman Lower, providing adequate controlled access in the vicinity. The proposed uncontrolled courtesy crossings, supported by tactile paving and appropriate design measures, are sufficient to ensure pedestrian safety and accessibility

3.2 Road infrastructure

The proposed layout aims to enhance safety and connectivity, particularly for children, by implementing several key changes. These include the removal of the left slip-lane to traffic flow. realignment of the priority junction with Road/Grangegorman Upper for better traffic management, and the removal of a speed ramp on Grangegorman Upper to facilitate smoother traffic. A new speed ramp will be introduced on Grangegorman Lower north of Ivy Avenue, along with a raised table between the school plaza and the northern plaza to improve pedestrian crossings. The design prioritizes lower vehicle speeds and pedestrian safety, consistent with Dublin City Council's DMURS guidelines. An analysis using AutoTrack confirmed that while larger vehicles may occasionally cross the centre line, maintaining lower speeds near the school is essential. Overall, the proposed changes prioritize safety and speed reduction over accommodating larger vehicles, avoiding wider turning radii that could encourage higher speeds and diminish pedestrian space.

3.3 Mobility Impaired Set Down Area

A designated mobility impaired set down area serving the school's Special Needs Unit (SNU) is proposed, comprising of 2 accessible parking bays. This area will feature signage, as depicted in Figure 8 below, to clearly communicate its purpose to the public. The signage complies with the Traffic Signs Manual and has been reviewed by Dublin City Council, which confirmed its suitability. The set-down area is strategically located near the

school gate, ensuring easy access for the pupils who require it. The placement of this area has also been informed by consultations with the principal of the D7 Educate Together School.



Figure 8

3.4 Cycle Parking

Parking for 36 bicycles (18 stands) is proposed, including 1 cargo bike stand. These are proposed as Sheffield stands, with final details subject to agreement with Dublin City Council. The parking will serve as a safe parking space for the New Dublin school to utilise. The proposed cycle parking is located near the Dublin 7 Educate Together School and is close to the new entrance gate. The parking is at a safe location and allows the students to walk a short distance to the entrance gate, ensuring safety on the road.

3.5 Public Lighting

The public lighting design has been prepared by CU Phosco and is included in Appendix B. Lighting design levels meet class P2 of BS5489 and are cognisant of Dublin City Council Public Lighting General Specification 2016.

3.6 Landscaping Role

The landscaping has been designed to address the needs and movements of pedestrians and to reinforce safety for all modes, while dissuading illegal parking and providing a legible, gateway area. More detail is proposed in the Landscaping Design Statement and was designed by Dermot Foley Landscape Architects.

3.7 Car Parking

Prior to the implementation of interim traffic management measures in 2023, the surrounding area, including Grangegorman Upper and Rathdown Road, contained approximately 231 parking spaces, comprising mostly paid spaces and around 14 undesignated free spaces. At that time, paid parking hours were limited to 07:00–19:00, Monday to Saturday.

To facilitate the opening of the Dublin 7 Educate Together School, interim measures were introduced that removed the 14 free spaces by installing temporary barriers at two junction locations. The proposed development now formalises the removal of these 14 spaces and eliminates an additional 11 paid spaces, resulting in a total reduction of 25 spaces. Two new accessible bays will be added, leaving 208 paid parking spaces available in the area.

Recent changes to parking regulations on Rathdown Road have extended paid hours to 07:00–24:00, Monday to Sunday, significantly reducing the availability of free evening and weekend parking. This adjustment is particularly relevant during out-of-campus hours when TU Dublin's sports and community facilities are in use. The extended hours discourage short-term parking and help mitigate the impact of removing the 14 unpaid spaces.

A recent parking study recorded an average occupancy rate of 53.5%, indicating low demand. Even under a conservative sensitivity test applying a 42.9% growth factor, the average occupancy would rise to 172 spaces (79.4%) and a worst-case scenario of 216 spaces (99%). However, this growth rate reflects a theoretical maximum that is unlikely to materialise in this specific urban context. The Grangegorman area is physically constrained, with limited scope for expansion and no through-traffic routes. Additionally, the TU Dublin campus is nearing full operational capacity, and further development is expected to be incremental rather than transformative.

As such, the sensitivity test represents an overestimation of future demand. In reality, the combination of extended paid parking hours, low baseline occupancy, and strong public transport connectivity, including LUAS access, ensures that the removal of 25 spaces will have a negligible impact on parking availability. The proposal aligns with Dublin City Council's objective to reduce car dependency and discourage long-term commuter parking, with additional demand management measures available if required.

4 ROAD SAFETY ISSUES IDENTIFIED

Two road safety audits have been carried out for the road junction and the following points were the findings of the audits.

Initially a Stage 2 Road Safety Audit was carried out in August 2022 for the final proposal of this road junction for which this planning pertains to, identifying safety problems and possible solutions.

As the Dublin 7 Educate Together School's planning conditions required an open plaza for the congregation of students, interim measures were designed in agreement with Dublin City Council. A Stage 1 Road Safety Audit was carried out in April 2023 to assess the interim proposals and measures that could be implemented to ensure safety.

Procedure and Scope

These Road Safety Audits were carried out in accordance with the procedures and scope set out in TII publication number GE-STY-01024 - Road Safety Audit. As part of the road safety audit process, the Audit Team examined only those issues within the design which relate directly to road safety.

Minimizing Risk of Collision Occurrence

All problems detailed in the Road Safety Audit reports were considered by the Audit Team to require action in order to improve the safety of the scheme and minimise the risk of collision occurrence.

From the two Audits carried out, the below problems and recommendations were highlighted. It is to be noted that the proposed solutions for each problem are not final measures but for interim measures.

4.1 Stage 2 Road Safety Audit August 2022

4.1.1 Problem: Pedestrian Priority at Courtesy Crossings

Extracted from Stage 2 Road Safety Audit

Location: Side Roads: Grangegorman Upper and Ivy Avenue

"The location of the stop lines will direct drivers to roll through the pedestrian crossing desire line. This could lead to conflicts between vehicles and pedestrians."

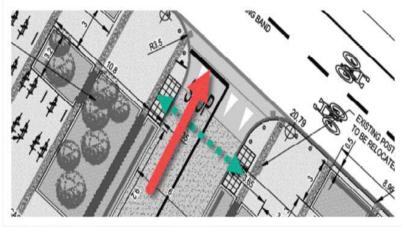


Figure 9 Vehicles Afforded Priority at Crossing Point

Recommendation

"The stop lines should be moved upstream to direct drivers to stop in advance of the pedestrian crossings."

The Stop line was moved back prior to the pedestrian crossing, while maintaining sight lines in collaboration with the landscaping design.

4.1.2 Problem: Envelope of Visibility Obscured

Extracted from Stage 2 Road Safety Audit

Location: Side Road at Junction of Grangegorman Upper and Grangegorman Lower

"The potential remains for street furniture (including trees, knee rails or public lighting columns) to partially obscure the side road's envelope of visibility. This could lead to side-impact type collisions within the junction conflict zone."

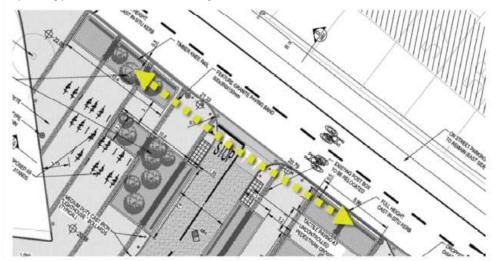


Figure 10 Side Road Envelope of Visibility

Recommendation

"Any significant obstructions associated with street furniture and landscaping should be relocated outside of the envelope of visibility."

All possible obstructions have been analysed and there are no obstructions set to cause disturbances.

4.1.3 Problem: Pedestrian Progression Through Pinch Point

Extracted from Stage 2 Road Safety Audit Location: Disabled Parking Bays on Grangegorman Lower

"The landscaping beds will create a pinch point at a location where heavy footfall is likely to be combined with access and egress movement associated with stationary vehicles in the adjacent disabled parking bays."

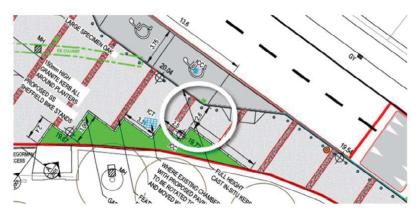


Figure 11 - Pinch Point Near Disabled Parking Bays

Recommendation

"The landscaping beds should be adjusted to remove the pinch point."

The landscaping bed was reconfigured in collaboration with the landscaping design, with the pinch point adjusted to suit and the required path width has been adjusted to remove pinch point.

4.2 Stage 1 Interim Measures Road Safety Audit 2023

A stage 1 Road Safety Audit was carried out for the interim condition where the car parking and left slip lane areas were closed using MASS guard barriers.

The audit identified two road safety issues and are as follows:

- 1. Width of road could lead to inconsiderate parking behaviour resulting in potential collisions. The barriers were placed so as to prevent this occurrence.
- 2. The sharp edges on the barrier ends could cause injury to pedestrians if not terminated properly. The barriers were terminated safely and correctly to minimise the risk of injury.

This interim measure is set to be a temporary solution to close the existing parking, and the MASS Guard Steel Barriers will be removed when the new development is constructed to replace the existing parking space.

A Stage 3 Road Safety Audit will be carried out for the junction following the construction stage.

The audit reports are included in Appendix C.

5 CONCLUSION

The Grangegorman Development Agency (GDA) has commissioned a Transport Statement (TS) for infrastructure works at the Grangegorman Upper and Lower junction.

Key public realm proposals include:

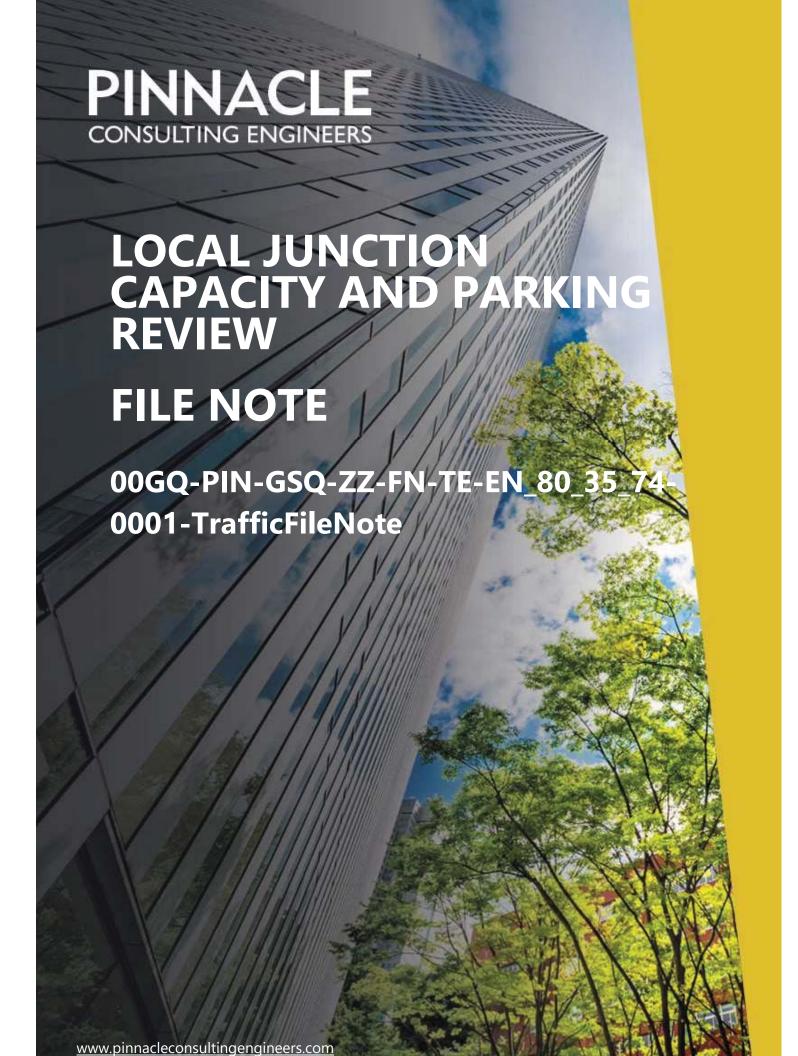
- Creating a safe junction for pedestrians, demonstrated by a completed Road Safety Audit.
- Designing in line with best practices, including DMURS and DCC guidance.
- Establishing pedestrian areas to accommodate the school's demand.
- Providing a set-down area for mobility-impaired vehicle access.
- Removing a left-turn slip lane and some car parking spaces.
- Enhancing cycle routes and enhancing active travel.
- Enhancing landscaping and road surface treatment.
- Installing uncontrolled pedestrian crossings, public lighting, and cycle parking.

Nicholas O'Dwyer has engaged in pre-planning consultation with Dublin City Council and local residents. The site is near major roads and public transport, primarily bus services, with the Luas Cross City Scheme nearby. Current pedestrian conditions are suboptimal, with the existing junction layout encouraging high-speed turns and conflicts leading to the implementation of interim measure such as using MASS guard fencing to close off the slip land and parking facilities. The proposed improvements support Dublin City Council's objectives to reduce car dependency, enhance pedestrian safety, and promote active travel in line with the 2022–2028 Development Plan.

The junction upgrade is essential for the school's safe operation, promoting active travel and community benefits. Despite losing approximately 25 parking spaces, surveys indicate that overall demand is manageable. The project is viewed positively as a necessary enhancement for the area.

Grangegorman Uppr/Lwr Junction			
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APPENDIX A -JUNCTION CAPACITY AND PARKING REPORT





Project: 00GQ-PIN-GSQ-ZZ-FN-TE-En_80_35_74-0001- Date 23 April 2025

TrafficFileNote

Subject: Local Junction Capacity And Parking Review – V3

1. INTRODUCTION

This File Note has been prepared by Pinnacle Consulting Engineers in support of a planning submission to Dublin City Council on behalf of the Grangegorman Development Authority junction, pedestrian and cycle improvements at Grangegorman Upper and Grangegorman Lower.

The study area is outlined in yellow in the figure below.



Figure 1 Study Location

2. SCOPE

The scope of this report is as follows:

- 1. To assess the capacity of the Rathdown Road/Grangegorman Upper priority-controlled junction that has recently been subject to local improvements.
- 2. To assess the local car parking demand and parking impact.



3. Rathdown Road/Grangegorman Upper Capacity Assessment

Traffic Counts

To quantify the volumes of traffic movements at key points on the road network adjacent to the site, a set of classified turning movement traffic counts were commissioned.

Counts were carried out at the Rathdown Road/Grangegorman Upper Priority Controlled Junction.

The counts were carried out from 07:00 to 22:00 on Monday the 24th of March, Tuesday the 25th of March, Wednesday the 26th of March and Thursday the 27th of March. An additional count, from 08:00 to 14:00 on Saturday the 29th of March was carried out.

The count durations and days were chosen to reflect the traditional network peaks of 08:00 to 09:00 in the AM and 17:00-18:00 in the PM as well as Grangegorman peaks which includes the use of on campus sports facilities which are used in the evenings and weekends.

The surveys were carried out on the date identified above to ensure that flows were representative of normal term time and hence not affected by school holidays or other public holidays or events. As such they provide an appropriate and robust representation of a neutral month during a period of normal school and employment activity. The surveys are designed to provide representative values encompassing AM and PM peak periods and campus operations during normal traffic conditions.

The results of the traffic surveys are also set out in Appendix A of this report.

The locations of the surveys are each pertinent to the proposal in terms of being at key nodes in the road network that would be affected by traffic assignment and distribution of flows associated with the development site.

The location of the survey points is depicted below at Figure 2.



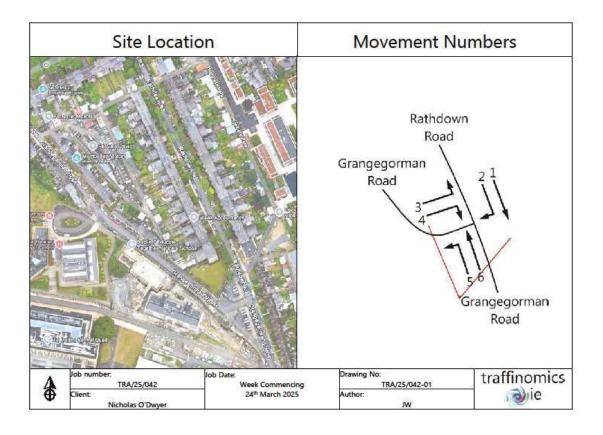


Figure 2 Survey Location

Demand Set

Appendix C illustrates a summary of each day's count during the network peaks and the campus peaks.

Three scenarios were considered for assessment:

- 1. AM Peak (08:00-09:00)
- 2. PM Peak (17:00-18:00)
- 3. Campus Peak (10:00-11:00 / 11:00-12:00)

Based on the number of vehicles through the junction, the hour with the highest through put was put forward as the worst-case scenario.

This is illustrated in the table below.



Survey Data (2025)									
Rathdown Road/Grangegorman Road									
Movement Number 1 2 3 4 5 6 Tota									
Network Peak									
Monday AM (08:00-09:00)	48	33	44	25	28	26	204		
Tuesday PM (17:00-18:00)		11	10	10	16	36	97		
Campus Peak									
Saturday (10:00-11:00)	57	8	7	13	22	36	143		
Saturday (11:00-12:00)	54	11	6	11	13	47	142		

Table 1 Survey Data

Table 1 illustrates the maximum volume of vehicles through the junction at various peak times (AM, PM and Campus Peak). These flows will be subject to application of growth factors for 2030 and 2040. Analysis will be carried out in accordance with guidance set out in TII's Traffic and Transport Assessment Guidelines as follows:

- Survey Year
- Survey Year + 5 Years.
- Survey Year + 15 Years.

Note, TII's Traffic and Transport Assessment Guidelines usually considers the impact of new developments on local junctions. The guidance has been adopted to take into account that this is an existing junction.

Growth Factors

The study area is located in a built-up area. The junction in question and surrounding area is a no through road meaning that it is less likely to attract new trips through the junction. It is also noted that pitch facilities are at maximum occupancy and would not attract any further growth.

In this context, the potential for additional traffic through this junction as a result of growth in background traffic is limited. However, for a robust assessment, maximum growth rates for background traffic will be applied to the survey flows for future design scenarios.



The sensitivity analysis is used as a stress test on the assessed junction. The purpose of this exercise is to test the limits of the junction assessed. Given the context, this is a very conservative approach as the level of growth outlined below is unlikely to materialise.

TII's Project Appraisal Guidelines for National Roads Unit 5.3- Travel Demand Project (PE-PAG-02017) sets out growth rates for forecasting future traffic. Growth rates have been extracted from Table 6.1 for the Dublin Metropolitan Area using central growth rates.

The factor used is outlined below:

PE-PAG-02017							
Year	To Year	Table 5.5.1					
2025	2030	1.174					
2025	2040	1.429					

Table 2 Growth Factors

These growth factors assume high growth sensitivity for Dublin based on Heavy Vehicle (HV) traffic growth. This is the worst-case scenarios for traffic growth with growth expected to be 17.4% between 2025 and 2040 and c. 42.9% from 2025 to 2040.

Junction Capacity Analyses

Junction capacity analyses have been undertaken at junction based on recent survey data. These tests have been carried out using industry standard and approved software for the existing junctions.

The survey data will be put forward for analysis. Following guidance set out in Tll's Traffic and Transport Assessment Guidelines additional analysis will be carried out a 5-year design horizon, namely 2030 and for a 15-year design horizon, namely 2040.

It may be the case at some nodes within the network that following the distribution and assignment of the traffic generated by the development, the actual proportional impact or change in traffic demand would not necessarily warrant further assessment. For the purpose of a robust assessment, all junctions have been put forward for assessment.

The use of the TRL capacity model programme PICADY [Priority Intersection Capacity and Delay] is well established and accepted by the Dublin City Council for the prediction of capacity and incurred delay at priority junctions.

With these well-established methods the results are expressed in terms of a ratio of flow to capacity (RFC) on each approach and the maximum queue length on that approach during the period tested. If the RFC value approaches 1.0 then queuing and delay can be expected to increase. It is normal practice to ensure that the RFC is below 0.85 to achieve a theoretical reserve capacity of greater than 15%, although a value of 0.85 can be marginally exceeded in a future design year situation without any detrimental effect on the satisfactory and safe operation of the junction.



In addition, the sensitivity of a junction to changes in traffic levels is generally assessed by considering the residual capacity of the network under the existing conditions. Where there is a high degree of residual capacity, the network may readily accept and absorb an increase in traffic and therefore the sensitivity may be said to be low. Conversely, where the existing traffic levels are high compared to the road capacity, there is little spare capacity, and the sensitivity to any change in traffic levels will be considered to be high.

The results of the various capacity assessments are summarised in a series of tables. For each flow condition and for each junction the PICADY output has been assessed and the maximum Ratio of flow to Capacity [RFC] tabulated together with the maximum (end) queue value for the relevant time segment.

Geometric Parameters

The geometric parameters used for the junctions have been ascertained from the designed junction as detailed in Figure 3.

In this case, the surveyed junctions will be analysed to determine the extent of resultant highway impact as a result of the sensitivity analysis and the need, if any, for mitigating measures. It is anticipated that the capacity analyses will show how the proposal will be accommodated with a reasonable degree of reserve capacity.

Junction Capacity Analysis

The operation of the priority-controlled junction was modelled using PICADY software, and tested with the 2025 Survey Year, 2030 Opening Year + 5 Years and 2040 Opening Year + 15 Years.

The results of the modelling are summarised in the Table below.





Figure 3 Junction Layout

The following arm destinations are used:

- Arm A Rathdown Road South
- Arm B Grangegorman Upper
- Arm C Rathdown Road North



	АМ					PM			
	Queue (PCU)	Delay (s)	RFC	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	Network Residual Capacity	
			ï	2040 – Network P	eak				
Stream B-AC	0.3	8.58	0.19	281 %	0.1	7.49	0.06	888 %	
Stream C-AB	0.1	6.87	0.09	[Stream B-AC]	0.0	6.81	0.03	000 %	
				2040 - Campus P	eak				
Stream B-AC	0.1	7.91	0.06	746.0/					
Stream C-AB	0.0	6.38	0.02	746 %					
2030 – Network Peak									
Stream B-AC	0.2	8.16	0.16	361 %	0.1	7.34	0.04	900 %	
Stream C-AB	0.1	6.79	0.07	301 %	0.0	6.76	0.02	900 %	
				2030 - Campus P	eak				
Stream B-AC	0.1	7.76	0.05	000.07					
Stream C-AB	0.0	6.41	0.02	900 %					
			;	2025 – Network P	eak				
Stream B-AC	0.2	7.87	0.13	446.07	0.0	7.31	0.04	000.0/	
Stream C-AB	0.1	6.77	0.06	446 %	0.0	6.73	0.02	900 %	
2025 - Campus Peak									
Stream B-AC	0.0	7.66	0.04	000.0/					
Stream C-AB	0.00	6.44	0.02	900 %					

Table 3 Modelling Output



The maximum RFC recorded was 0.19 with a corresponding queue of 0.31 PCUs in the 2040 AM Peak.

The junction operates with an RFC below 0.85 which indicates that the junction is operating below capacity. The junction also operates with a reserve capacity in excess of 15% which indicates that the junction could accommodate additional traffic with little impact on its operation.

4. Parking Assessment

Background

As part of the junction, pedestrian and cycle improvements at Grangegorman Upper and Grangegorman Lower the number of car parking spaces was reduced locally. This in the context of the removal of 'free' car parking spaces locally, Dublin City Council's general policy with respect to reducing car parking across the city in favour of more sustainable modes of travel and the requirement to remove car parking to provide for minimum sight lines and forward sight distance (SSD).

This has raised concerns locally that the remainder of car parking spaces isn't sufficient to meet demand. As parking availability reduces generally, demand for these spaces has increased particularly for local amenities such as Grangegorman and its associated facilities such as the playing pitches.

Therefore, a parking survey was carried out to determine the current demand and assess potential future demand.

Car Parking Spaces

A review of the number of car parking spaces within the study was undertaken. The quantum of car parking spaces in the study area is illustrated in the image below.

Based on the standard measurements of car parking spaces, there is c. 216 car parking spaces located in the study area. As a result of the future proposed development, the number of spaces will be reduced to c. 208.

Note below the No. of free and No. of formal parking spaces for the following scenarios:-

- Pre Traffic Management implement to allow D7ET Open (Pre 2023) (total 231 additional 15 undesignated free parking spaces)
- Current (time of survey/count 2025) (Total 216)
- And post proposed development (total 208)

By way of further explanation, definitions of the following terms are detailed below:

- Un-designated a block of legitimate parking, which doesn't contain any sub-divisions and is not clearly defined as to the exact number of spaces contained therein
- Designated an individual parking space which is clearly defined and bordered on all sides
- Illegitimate a parking space(s) has/have been claimed unlawfully or illegally etc.



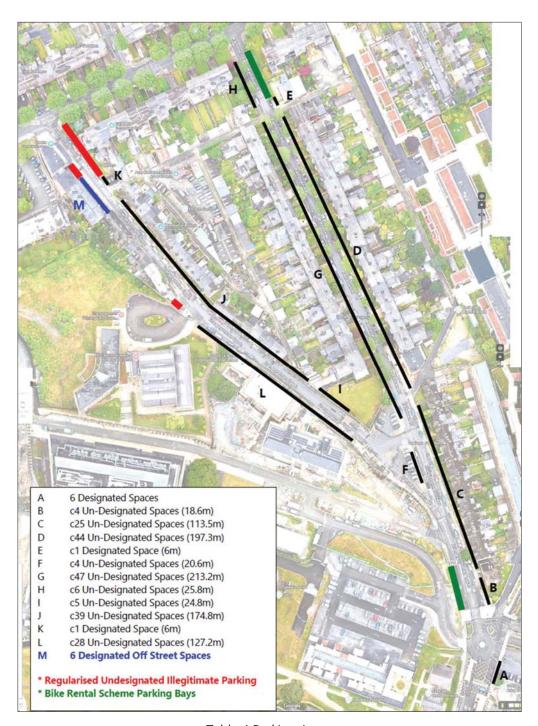


Table 4 Parking Areas

Note, there are no on-street car parking spaces on the North Circular Road. There are various areas of illegal car parking spaces, as noted in red above. These spaces have not been included in the analysis as they may not be available for parking at some point in the future through enforcement.



Car Parking Survey

Similar to the traffic survey, the parking survey was carried out on the following dates:

- Monday 24th of March
- Tuesday 25th of March
- Wednesday 26th of March
- Thursday the 27th of March
- Saturday the 29th of March

The car parking survey consisted of noting the number of cars present at regular intervals. For the weekday surveys, parked cars were recorded every 30 minutes from 07:00 to 09:00, 12:00 to 16:00 & 17:00 to 18:00. For the remaining times, i.e. 10:00 to 12:00, 16:00 to 17:00 & 18:00 to 22:00, cars were recorded every 60 minutes. For the Saturday survey, parked cars were recorded every 30 minutes from 08:00 to 14:00.

A summary of the parking beat is illustrated in the table below.

Time	24th of March Monday	25th of March Tuesday	26th of March Wednesday	27th of March Thursday	Time	29th of March Saturday
0700	140	112	109	103	0800	120
0730	136	112	105	103	0830	119
0800	116	107	104	106	0900	135
0830	136	111	107	120	0930	134
0900	109	96	91	96	1000	137
1000	105	118	91	111	1030	129
1100	118	128	99	108	1100	139
1200	128	113	92	110	1130	137
1230	125	107	88	101	1200	137
1300	101	108	95	113	1230	125
1330	124	114	101	113	1300	127
1400	115	123	115	123	1330	121
1430	133	119	123	121	1400	117



1500	99	107	117	117	
1530	123	120	114	125	
1600	79	100	103	101	
1700	85	92	102	102	
1730	104	89	102	109	
1800	118	111	122	114	
1900	118	133	141	125	
2000	129	145	151	131	
2100	129	117	140	132	
2200	135	109	124	130	

Table 5 Car Parking Survey

Car Parking Survey Analysis

Based on the total number of car parking spaces available to park, the occupancy rate of the car parking spaces has been calculated in both 30 & 60 minute intervals as per Table 5 above.

The average occupancy rate is 116 spaces occupied. This represents 53.51% of the available car parking spaces.

This analysis is illustrated in the figure below.



Figure 4 Car Parking Survey Analysis

The maximum occupancy rate occurred on Wednesday the 26th of March at 20:00 with 151 spaces occupied. This represents 69.59% of the available car parking spaces. The maximum occupancy rates correspond to the peak times for the grass/astro turf pitches usage at Grangegorman.

Figure 5 illustrates peak pitch usage from January to May 2024. Peak occupancy was between 19:00 to 21:00 on Wednesday.

	Monday	Tuesday	Vednesda	Thursday	Friday	Saturday	Sunday
08:00	0%	0%	0%	0%	0%	0%	0%
09:00	59%	46%	53%	50%	53%	62%	96%
10:00	61%	48%	55%	53%	55%	78%	100%
11:00	61%	48%	55%	53%	55%	59%	98%
12:00	63%	48%	55%	53%	53%	66%	100%
13:00	61%	46%	51%	51%	53%	62%	100%
14:00	38%	28%	28%	26%	32%	53%	100%
15:00	40%	26%	28%	28%	32%	50%	98%
16:00	38%	26%	28%	28%	32%	42%	98%
17:00	38%	42%	26%	48%	55%	33%	1%
18:00	42%	61%	55%	57%	50%	32%	1%
19:00	88%	73%	67%	65%	75%	32%	1%
20:00	61%	71%	80%	48%	59%	32%	1%
21:00	59%	51%	53%	48%	32%	25%	1%

Figure 5 Grangegorman Pitch Usage

The data contained in Figure 5 was provided the Grangegorman Development Authority. It provides detail on utilisation of playing pitches on the campus. With 0% utilisation no pitch is being used. A utilisation of 100% indicates that, for all intents and purposes, all pitches are being used. At this utilisation, the number of trips generated by playing pitches would be at its greatest and parking demand at its highest.

Car Parking Survey Sensitivity Analysis

In order to take into account possible future growth in demand for car parking spaces local growth factors have been placed in the existing demand. The growth factors chosen is in line with those outlined in Table 2. Therefore, demand for the available car parking spaces was increased by c. 42.9%.

The study area is located in a built-up area. The study area is a no through road meaning that it is less likely to generate parking demand other than from residents and visitors to the study area. It is noted however, that the study area does include the Grangegorman playing pitches.

In this context, the potential for additional parking demand as a result of growth in background traffic is limited. However, for a robust assessment, maximum growth rates for background traffic will be applied to the survey flows for future design scenarios.

The sensitivity analysis is used as a stress test on the expected parking demand. The purpose of this exercise is to test the limits of local parking. Given the context, this is a very conservative approach as the level of growth in parking demand outlined below is unlikely to materialise.

Based on the additional demand, the average occupancy rate is 172 spaces occupied. This represents 79.42% of the available car parking spaces.

This analysis is illustrated in the figure below.

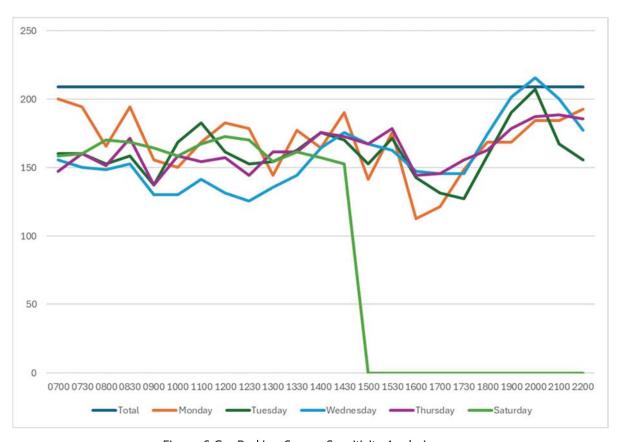


Figure 6 Car Parking Survey Sensitivity Analysis

The maximum occupancy rate is 216 spaces occupied. This represents 103% of the available car parking spaces if the level of growth outlined above materialises.

Summary

A parking survey was carried out in the study area. The survey identified a total of c. 216 car parking spaces. During the car parking survey, the maximum demand was noted as being 151 spaces or 69.59% spaces.

The demand for car parking spaces was increased by 42.9%, which is the maximum expected growth in background traffic. Based on this sensitivity analysis, the maximum demand was noted as being 216 spaces or 99.44% spaces.

The available car parking spaces, excluding the illegal parking, is sufficient to meet current demand and the potential future demand to 2040.

5. Conclusion

Traffic data, including classified traffic movements and car parking occupancy rates, was collected in March 2025.

Using industry standard techniques this data was analysed



- 1. To determine whether the new junction could accommodate existing and predicted traffic in the 15-year design horizon
- 2. The quantum of available car parking spaces can accommodate local demand and any potential uplift from local amenities.

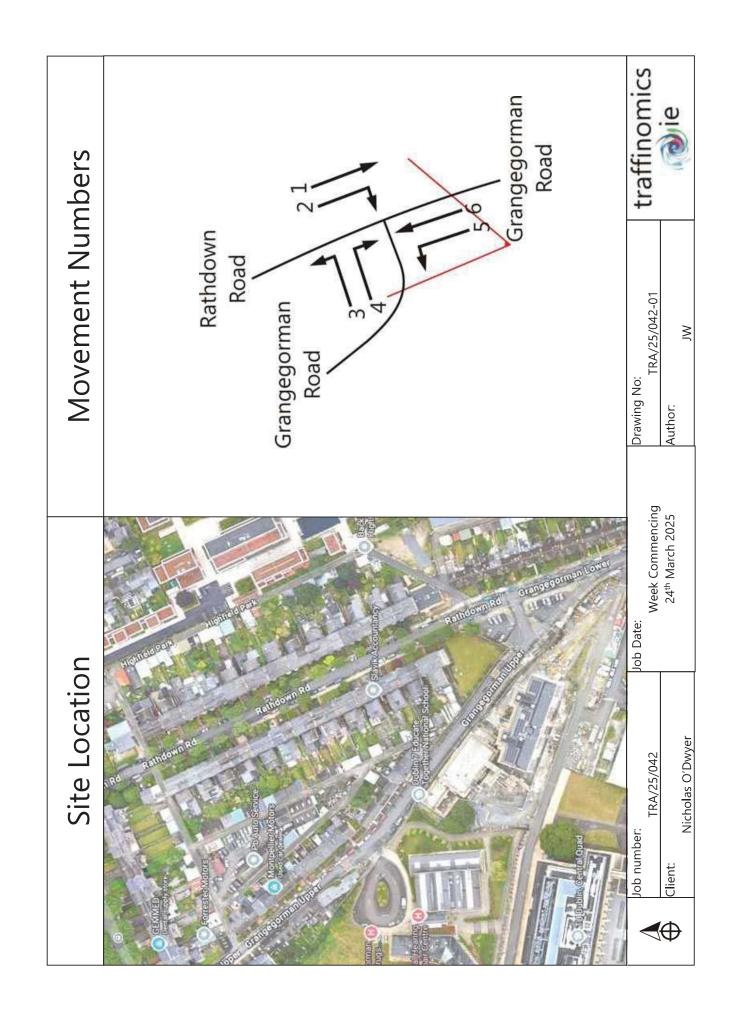
In the first instance, it was found that the junction assessment confirmed that the junction can accommodate anticipated levels of traffic movements now and in the 2040 design year. The maximum RFC recorded was 0.19 with a corresponding queue of 0.31 PCUs in the 2040 AM Peak.

The junction operates with an RFC below 0.85 which indicates that the junction is operating below capacity. The junction also operates with a reserve capacity in excess of 15% which indicates that the junction could accommodate additional traffic with little impact on its operation.

In the second instance, the available car parking spaces are sufficient to meet current demand and the potential future demand to 2040. The growth factors used to estimate future car parking demand was highly conservative, which indicates that available car parking is sufficient to accommodate current and future demands.



Appendix A – Traffic Survey



GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 24th March 2025

		N	/IOVE	MENT	1					N	/IOVEI	MENT	2					N	/IOVE	MENT	3			
TIME	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU
07:00	1	1	1	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	3	2	3	0	0	0	8	6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
07:30	3	4	0	0	0	0	7	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	3	3	4	0	0	0	10	8	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
н/тот	10	10	8	0	0	0	28	21	0	1	0	0	0	0	1	1	0	0	1	0	0	0	1	1
08:00	6	1	3	0	0	0	10	6	3	1	0	0	0	0	4	2	0	2	1	0	0	0	3	3
08:15	5	6	1	0	0	0	12	9	16	10	0	0	0	0	26	15	1	12	1	0	0	0	14	13
08:30	13	11	2	0	0	0	26	17	10	11	0	0	0	0	21	14	7	22	0	0	0	0	29	24
08:45	7	14	1	0	0	0	22	17	0	2	0	0	0	0	2	2	2	3	0	0	0	0	5	4
н/тот	31	32	7	0	0	0	70	48	29	24	0	0	0	0	53	33	10	39	2	0	0	0	51	44
09:00	9	6	1	0	0	0	16	10	0	1	0	0	0	0	1	1	0	2	1	0	0	0	3	3
09:15	5	4	1	0	0	0	10	7	0	3	1	0	0	0	4	4	0	0	1	0	0	0	1	1
09:30	5	4	1	0	0	0	10	7	0	1	0	0	0	0	1	1	0	2	0	0	0	0	2	2
09:45	2	9	1	0	0	0	12	11	0	4	0	0	0	0	4	4	0	1	1	0	0	0	2	2
н/тот	21	23	4	0	0	0	48	33	0	9	1	0	0	0	10	10	0	5	3	0	0	0	8	8
10:00	8	3	0	1	0	0	12	7	0	0	0	1	0	0	1	2	0	0	0	0	0	0	0	0
10:15	3	7	2	0	0	0	12	10	0	1	0	0	0	0	1	1	0	4	0	0	0	0	4	4
10:30	0	1	2	0	0	0	3	3	0	1	0	0	0	0	1	1	0	4	0	0	0	0	4	4
10:45	0	1	2	0	0	0	3	3	0	1	0	0	0	0	1	1	0	2	1	0	0	0	3	3
н/тот	11	12	6	1	0	0	30	23	0	3	0	1	0	0	4	5	0	10	1	0	0	0	11	11
11:00	1	5	0	0	0	0	6	5	0	1	0	0	0	0	1	1	0	8	0	0	0	0	8	8
11:15	4	9	0	1	0	0	14	12	0	0	0	0	0	0	0	0	0	3	1	0	0	0	4	4
11:30	3	13	1	0	0	0	17	15	0	1	0	0	0	0	1	1	0	4	1	0	0	0	5	5
11:45	1	6	1	0	0	0	8	7	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
н/тот	9	33	2	1	0	0	45	39	0	2	0	0	0	0	2	2	0	16	2	0	0	0	18	18

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

 SITE:
 01
 DATE:
 24th March 2025

LOCATION: Rathdown Road/Grangegorman Road DAY: Monday

																									PCU's
		N	/IOVE	MENT	4					N	IOVE	MENT	5					N	IOVE	MENT	6				Through Junction
TIME	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	Junction
07:00	0	4	1	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
07:15	0	1	2	0	0	0	3	3	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	11
07:30	0	0	2	0	0	0	2	2	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	9
07:45	1	0	1	0	0	0	2	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	11
н/тот	1	5	6	0	0	0	12	11	0	3	1	0	0	0	4	4	0	0	0	0	0	0	0	0	38
08:00	1	4	0	0	0	0	5	4	2	0	1	0	0	0	3	2	2	1	2	0	0	0	5	4	20
08:15	8	1	1	0	0	0	10	4	41	0	0	0	0	0	41	12	1	4	0	0	0	0	5	4	58
08:30	40	2	0	0	0	0	42	14	30	3	0	0	0	0	33	12	0	9	1	0	0	0	10	10	91
08:45	5	1	0	0	0	0	6	3	3	1	0	0	0	0	4	2	0	6	2	0	0	0	8	8	35
н/тот	54	8	1	0	0	0	63	25	76	4	1	0	0	0	81	28	3	20	5	0	0	0	28	26	204
09:00	1	2	0	0	0	0	3	2	0	3	2	0	0	0	5	5	0	5	0	0	0	0	5	5	26
09:15	2	4	1	0	0	0	7	6	1	3	0	0	0	0	4	3	1	4	1	0	0	0	6	5	26
09:30	2	4	0	0	0	0	6	5	0	2	0	0	0	0	2	2	3	5	1	0	0	0	9	7	23
09:45	0	1	1	0	0	0	2	2	1	3	0	0	0	0	4	3	1	5	0	0	0	0	6	5	27
н/тот	5	11	2	0	0	0	18	15	2	11	2	0	0	0	15	14	5	19	2	0	0	0	26	23	102
10:00	1	2	1	1	0	0	5	5	1	0	0	0	0	0	1	0	3	1	1	1	0	0	6	4	18
10:15	2	0	1	0	0	0	3	2	1	1	2	0	0	0	4	3	2	4	1	0	0	0	7	6	25
10:30	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	2	0	0	0	3	2	11
10:45	2	2	0	0	0	2	6	7	2	0	0	0	0	0	2	1	0	3	1	0	0	0	4	4	18
н/тот	5	5	2	1	0	2	15	14	4	1	2	0	0	0	7	4	6	8	5	1	0	0	20	16	73
11:00	1	2	0	0	0	0	3	2	1	1	0	0	0	0	2	1	1	4	0	0	0	1	6	6	24
11:15	3	2	0	0	0	0	5	3	1	3	0	0	0	0	4	3	1	8	0	1	0	1	11	12	34
11:30	0	1	0	0	0	0	1	1	0	2	1	0	0	0	3	3	1	8	2	0	0	0	11	10	35
11:45	0	2	0	0	0	0	2	2	0	1	2	0	0	0	3	3	2	8	0	0	0	0	10	9	22
н/тот	4	7	0	0	0	0	11	8	2	7	3	0	0	0	12	11	5	28	2	1	0	2	38	37	115

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 24th March 2025

		ľ	/IOVE	MENT	1					N	MOVE	MENT	2					N	/IOVE	MENT	3			
TIME	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	сус	CAR	LGV	OGV1	OGV2	BUS	тот	PCU
12:00	4	2	2	0	0	0	8	5	0	2	1	0	0	0	3	3	0	2	0	0	0	0	2	2
12:15	1	1	0	1	0	0	3	3	0	1	0	0	0	0	1	1	0	3	2	0	0	0	5	5
12:30	1	5	0	0	0	0	6	5	0	1	1	0	0	0	2	2	0	2	0	0	0	0	2	2
12:45	5	4	1	0	0	0	10	7	1	2	0	0	0	0	3	2	0	5	1	0	0	0	6	6
н/тот	11	12	3	1	0	0	27	20	1	6	2	0	0	0	9	8	0	12	3	0	0	0	15	15
13:00	0	2	0	0	0	0	2	2	0	1	0	0	0	0	1	1	2	8	0	0	0	0	10	9
13:15	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	9	0	0	0	0	10	9
13:30	5	5	3	1	0	0	14	11	0	2	0	0	0	0	2	2	0	1	0	0	0	0	1	1
13:45	1	6	0	0	0	0	7	6	0	1	0	0	0	0	1	1	0	2	0	0	0	0	2	2
н/тот	7	13	3	1	0	0	24	20	0	4	0	0	0	0	4	4	3	20	0	0	0	0	23	21
14:00	2	8	1	0	0	0	11	10	2	2	0	0	0	0	4	3	7	8	0	0	0	0	15	10
14:15	3	1	0	0	0	0	4	2	0	0	0	0	0	0	0	0	11	13	0	0	0	0	24	16
14:30	2	6	0	0	0	0	8	7	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	2
14:45	1	4	0	0	0	0	5	4	0	3	0	0	0	0	3	3	2	4	1	0	0	0	7	6
н/тот	8	19	1	0	0	0	28	22	2	5	0	0	0	0	7	6	20	26	2	0	0	0	48	34
15:00	0	3	1	0	0	0	4	4	1	5	0	0	0	0	6	5	0	2	2	0	0	0	4	4
15:15	1	5	2	0	0	0	8	7	0	1	0	0	0	0	1	1	0	10	0	0	0	0	10	10
15:30	3	2	0	0	0	0	5	3	1	2	0	0	0	0	3	2	1	2	0	0	0	0	3	2
15:45	5	2	2	0	0	0	9	6	0	0	1	0	0	0	1	1	0	4	0	0	0	0	4	4
н/тот	9	12	5	0	0	0	26	20	2	8	1	0	0	0	11	10	1	18	2	0	0	0	21	20
16:00	4	3	1	0	0	0	8	5	0	5	0	0	0	0	5	5	0	4	0	0	0	0	4	4
16:15	2	5	1	0	0	0	8	7	1	1	0	0	0	0			0	10	0	0	0	0	10	10
															2	1								
16:30	5	2	0	0	0	0	7	4	0	1	1	0	0	0	2	2	1	1	0	0	0	0	2	1
16:45	2	4	2	0	0	0	8	7	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
H/TOT	13	14	4	0	0	0	31	22	1	8	1	0	0	0	10	9	1	15	0	0	0	0	16	15

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 24th March 2025

LOCATION: Rathdown Road/Grangegorman Road DAY: Monday

																									PCU's
		N	/IOVE	MENT 4	4					N	10VE	MENT	5					N	MOVE	MENT	6				Through Junction
TIME	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	Junction
12:00	3	2	0	0	0	0	5	3	0	2	0	0	0	0	2	2	2	7	2	0	0	0	11	10	25
12:15	0	3	0	0	0	0	3	3	1	1	0	1	0	0	3	3	2	5	0	0	0	0	7	6	20
12:30	0	3	0	0	0	0	3	3	0	2	0	0	0	0	2	2	4	5	0	0	0	0	9	6	21
12:45	0	1	1	0	0	0	2	2	1	4	0	0	0	0	5	4	5	7	0	0	0	0	12	9	30
н/тот	3	9	1	0	0	0	13	11	2	9	0	1	0	0	12	11	13	24	2	0	0	0	39	30	95
13:00	9	1	0	0	0	0	10	4	2	0	0	0	0	0	2	1	0	2	1	0	0	0	3	3	19
13:15	16	1	0	0	0	0	17	6	0	2	0	0	0	0	2	2	4	5	1	0	0	0	10	7	25
13:30	1	2	0	0	0	0	3	2	0	2	0	0	0	0	2	2	0	4	0	0	0	0	4	4	22
13:45	0	2	0	0	0	0	2	2	2	3	0	0	0	0	5	4	1	3	1	0	0	0	5	4	19
н/тот	26	6	0	0	0	0	32	14	4	7	0	0	0	0	11	8	5	14	3	0	0	0	22	19	85
14:00	8	3	0	0	0	0	11	5	8	3	1	0	0	0	12	6	3	12	1	0	0	0	16	14	48
14:15	36	0	0	0	0	0	36	11	0	2	1	0	0	0	3	3	3	10	2	0	0	0	15	13	45
14:30	2	1	0	0	0	0	3	2	0	1	0	0	0	0	1	1	4	6	1	0	0	0	11	8	19
14:45	0	2	0	0	0	0	2	2	2	2	0	0	0	0	4	3	2	6	2	0	0	0	10	9	26
н/тот	46	6	0	0	0	0	52	20	10	8	2	0	0	0	20	13	12	34	6	0	0	0	52	44	138
15:00	4	1	0	0	0	0	5	2	6	1	2	0	0	0	9	5	1	3	1	0	0	0	5	4	25
15:15	17	1	0	0	0	0	18	6	1	4	1	0	0	0	6	5	5	4	2	0	0	0	11	8	37
15:30	4	2	0	0	0	0	6	3	1	2	1	1	0	0	5	5	1	8	2	0	0	0	11	10	26
15:45	0	0	0	1	0	0	1	2	2	2	2	0	0	0	6	5	6	8	3	0	0	0	17	13	29
н/тот	25	4	0	1	0	0	30	13	10	9	6	1	0	0	26	20	13	23	8	0	0	0	44	35	117
16:00	8	0	0	0	0	0	8	2	2	5	2	0	0	0	9	8	6	4	3	1	0	0	14	10	35
16:15	4	3	0	0	0	0	7	4	2	4	1	0	0	0	7	6	5	5	2	0	0	0	12	9	36
16:30	2	2	0	0	0	0	4	3	3	2	2	0	0	0	7	5	3	8	1	0	0	0	12	10	24
16:45	2	1	0	0	0	0	3	2	2	0	0	0	0	0	2	1	5	1	2	0	0	0	8	5	14
н/тот	16	6	0	0	0	0	22	11	9	11	5	0	0	0	25	19	19	18	8	1	0	0	46	33	109

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 24th March 2025

		N	/IOVE	MENT	1					N	/IOVE	MENT	2					N	/IOVE	MENT	3			
TIME	сус	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	сус	CAR	LGV	OGV1	OGV2	BUS	тот	PCU
17:00	1	4	1	0	0	0	6	5	1	0	0	0	0	0	1	0	3	2	0	0	0	0	5	3
17:15	6	2	0	0	0	0	8	4	1	2	0	0	0	0	3	2	4	1	0	0	0	0	5	2
17:30	3	3	0	0	0	0	6	4	1	2	1	0	0	0	4	3	0	2	0	0	0	0	2	2
17:45	0	5	0	0	0	0	5	5	0	3	0	0	0	0	3	3	0	1	1	0	0	0	2	2
н/тот	10	14	1	0	0	0	25	18	3	7	1	0	0	0	11	9	7	6	1	0	0	0	14	9
18:00	2	8	0	1	0	0	11	10	0	1	0	0	0	0	1	1	1	1	1	0	0	0	3	2
18:15	2	7	0	0	0	0	9	8	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
18:30	1	3	0	0	0	0	4	3	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
18:45	0	4	0	0	0	0	4	4	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
н/тот	5	22	0	1	0	0	28	25	0	3	1	0	0	0	4	4	1	1	1	0	0	0	3	2
19:00	5	2	1	0	0	0	8	5	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
19:15	2	2	0	0	0	0	4	3	0	3	0	0	0	0	3	3	0	0	0	0	0	0	0	0
19:30	2	3	0	0	0	0	5	4	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
19:45	3	8	0	0	0	0	11	9	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
н/тот	12	15	1	0	0	0	28	20	0	3	0	0	0	0	3	3	0	4	0	0	0	0	4	4
20:00	6	4	0	0	0	0	10	6	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
20:15	4	2	1	0	0	0	7	4	0	3	0	0	0	0	3	3	1	0	0	0	0	0	1	0
20:30	1	4	0	0	0	0	5	4	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	2
20:45	2	2	1	0	0	0	5	4	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	1
н/тот	13	12	2	0	0	0	27	18	0	4	0	0	0	0	4	4	2	2	1	0	0	0	5	4
21:00	4	2	0	0	0	0	6	3	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1
21:15	3	1	0	0	0	0	4	2	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0
21:30	1	3	0	0	0	0	4	3	0	1	0	0	0	0	1	1	0	2	0	0	0	0	2	2
21:45	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	0	2	0	0	0	0	2	2
н/тот	9	6	0	0	0	0	15	9	2	2	0	0	0	0	4	3	1	5	0	0	0	0	6	5
P/TOT	179	249	47	5	0	0	480	357	40	89	7	1	0	0	137	110	46	179	19	0	0	0	244	212

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 24th March 2025

LOCATION: Rathdown Road/Grangegorman Road DAY: Monday

																									PCU's
		N	/IOVE	MENT	4					N	/IOVE	MENT	5					N	/IOVE	MENT	6				Through Junction
TIME	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	Junction
17:00	5	1	0	0	0	0	6	3	0	6	0	0	0	0	6	6	9	6	1	0	0	0	16	10	27
17:15	0	2	0	0	0	0	2	2	4	1	0	0	0	0	5	2	3	5	1	0	0	0	9	7	19
17:30	6	2	0	0	0	0	8	4	3	1	0	0	0	0	4	2	10	3	1	0	0	0	14	7	22
17:45	3	0	0	0	0	0	3	1	3	2	0	0	0	0	5	3	9	4	0	0	0	0	13	7	21
н/тот	14	5	0	0	0	0	19	9	10	10	0	0	0	0	20	13	31	18	3	0	0	0	52	30	89
18:00	2	2	0	0	0	0	4	3	2	0	0	0	0	0	2	1	2	6	1	1	0	0	10	9	26
18:15	1	2	0	0	0	0	3	2	2	0	0	0	0	0	2	1	3	4	0	0	0	0	7	5	16
18:30	0	1	1	0	0	0	2	2	2	2	0	0	0	0	4	3	5	4	0	0	0	0	9	6	14
18:45	4	1	0	0	0	0	5	2	1	3	0	0	0	0	4	3	3	0	1	0	0	0	4	2	12
н/тот	7	6	1	0	0	0	14	9	7	5	0	0	0	0	12	7	13	14	2	1	0	0	30	21	69
19:00	0	1	0	0	0	0	1	1	2	3	0	0	0	0	5	4	14	2	0	0	0	0	16	6	17
19:15	0	1	0	0	0	0	1	1	4	0	1	0	0	0	5	2	8	7	0	0	0	0	15	9	18
19:30	1	1	0	0	0	0	2	1	3	2	0	0	0	0	5	3	3	5	0	0	0	0	8	6	15
19:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	5	3	13
н/тот	1	3	0	0	0	0	4	3	9	5	1	0	0	0	15	9	28	16	0	0	0	0	44	24	63
20:00	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	6	0	0	0	0	8	7	14
20:15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	3	3	0	0	0	0	6	4	12
20:30	0	0	0	0	0	0	0	0	6	0	0	0	0	0	6	2	2	4	0	0	0	0	6	5	13
20:45	1	2	0	0	0	0	3	2	1	1	0	0	0	0	2	1	2	1	1	0	0	0	4	3	11
н/тот	2	2	0	0	0	0	4	3	7	2	0	0	0	0	9	4	9	14	1	0	0	0	24	18	50
21:00	1	2	0	0	0	0	3	2	0	1	0	0	0	0	1	1	8	4	1	0	0	0	13	7	15
21:15	0	1	0	0	0	0	1	1	3	2	0	0	0	0	5	3	8	4	0	0	0	0	12	6	13
21:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	1	4	1	0	0	0	0	5	2	9
21:45	0	0	0	0	0	0	0	0	2	2	0	0	0	0	4	3	2	3	0	0	0	0	5	4	10
н/тот	1	3	0	0	0	0	4	3	7	5	0	0	0	0	12	7	22	12	1	0	0	0	35	20	47
P/TOT	210	86	13	2	0	2	313	169	159	97	23	2	0	0	281	171	184	262	48	4	0	2	500	375	1393

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 25th March 2025

		Ŋ	MOVE	MENT	1					N	/IOVE	MENT	2					N	/IOVE	MENT	3			
TIME	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	сус	CAR	LGV	OGV1	OGV2	BUS	тот	PCU
07:00	2	0	2	0	0	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	1	1	5	0	0	0	7	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	2	4	2	0	0	0	8	7	0	1	0	0	0	0	1	1	0	2	0	0	0	0	2	2
07:45	6	3	0	0	0	0	9	5	0	1	1	0	0	0	2	2	0	0	0	0	0	0	0	0
н/тот	11	8	9	0	0	0	28	20	0	2	1	0	0	0	3	3	0	2	0	0	0	0	2	2
08:00	5	2	4	0	0	0	11	8	7	1	0	0	0	0	8	3	0	1	0	0	0	0	1	1
08:15	8	9	1	0	0	0	18	12	35	3	1	0	0	0	39	15	1	15	0	0	0	0	16	15
08:30	10	6	1	0	0	0	17	10	11	5	0	0	0	0	16	8	12	32	0	0	0	0	44	36
08:45	16	5	1	0	0	0	22	11	2	3	0	0	0	0	5	4	1	4	0	0	0	0	5	4
н/тот	39	22	7	0	0	0	68	41	55	12	1	0	0	0	68	30	14	52	0	0	0	0	66	56
09:00	5	5	2	0	0	0	12	9	1	0	0	0	0	0	1	0	0	2	0	0	0	0	2	2
09:15	9	10	1	0	0	0	20	14	0	1	0	0	0	0	1	1	0	2	0	0	0	0	2	2
09:30	4	5	2	0	0	0	11	8	0	3	0	0	0	0	3	3	0	1	1	0	0	0	2	2
09:45	4	9	2	0	0	0	15	12	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
н/тот	22	29	7	0	0	0	58	43	1	4	0	0	0	0	5	4	0	9	1	0	0	0	10	10
10:00	2	5	1	0	0	0	8	7	0	1	1	0	0	0	2	2	0	1	1	0	0	0	2	2
10:15	2	4	1	0	0	0	7	6	0	0	0	0	0	0	0	0	0	4	2	0	0	0	6	6
10:30	1	6	1	1	0	0	9	9	0	2	0	1	0	0	3	4	0	0	0	0	0	0	0	0
10:45	0	4	0	0	0	0	4	4	0	4	0	0	0	0	4	4	0	6	1	0	0	0	7	7
н/тот	5	19	3	1	0	0	28	25	0	7	1	1	0	0	9	10	0	11	4	0	0	0	15	15
11:00	2	3	2	0	0	0	7	6	0	4	0	0	0	0	4	4	0	3	0	0	0	0	3	3
11:15	3	3	2	1	0	0	9	7	0	0	2	0	0	0	2	2	0	4	0	0	0	0	4	
																								4
11:30	1	3	0	0	0	0	4	3	0	0	0	0	0	0	0	0	0	6	1	0	0	0	7	7
11:45	3	1	1	0	0	0	5	3	0	0	0	0	0	0	0	0	0	1	1	0	0	1	3	4
H/TOT	9	10	5	1	0	0	25	19	0	4	2	0	0	0	6	6	0	14	2	0	0	1	17	18

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 25th March 2025

LOCATION: Rathdown Road/Grangegorman Road DAY: Tuesday

																									PCU's
		N	10VE	MENT 4	4					N	10VE	MENT	5					N	/IOVE	MENT	6				Through Junction
TIME	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	Janetion
07:00	0	2	1	0	0	0	3	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	6
07:15	1	1	2	0	0	0	4	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	11
07:30	0	0	1	0	0	0	1	1	0	0	2	0	0	0	2	2	2	0	0	0	0	0	2	1	13
07:45	2	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
н/тот	3	3	4	0	0	0	10	8	0	0	2	0	0	0	2	2	3	1	0	0	0	0	4	2	37
08:00	2	4	1	0	0	0	7	6	0	1	0	0	0	0	1	1	3	0	3	0	0	0	6	4	22
08:15	12	1	0	0	0	0	13	5	65	0	0	0	0	0	65	20	2	2	0	0	0	0	4	3	69
08:30	39	1	1	0	0	0	41	14	5	1	0	0	0	0	6	3	0	9	0	0	0	0	9	9	79
08:45	10	0	0	0	0	0	10	3	2	2	0	0	0	0	4	3	4	3	0	0	0	0	7	4	29
н/тот	63	6	2	0	0	0	71	27	72	4	0	0	0	0	76	26	9	14	3	0	0	0	26	20	199
09:00	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3	3	2	2	0	0	0	0	4	3	16
09:15	2	3	1	0	0	0	6	5	0	1	0	0	0	0	1	1	2	2	0	0	0	0	4	3	25
09:30	2	3	1	0	0	0	6	5	1	1	0	0	0	0	2	1	1	9	1	0	0	0	11	10	29
09:45	0	2	1	0	0	0	3	3	2	2	0	0	0	0	4	3	1	7	0	0	0	0	8	7	29
н/тот	4	8	3	0	0	0	15	12	3	5	2	0	0	0	10	8	6	20	1	0	0	0	27	23	100
10:00	1	1	0	0	0	0	2	1	0	0	1	0	0	0	1	1	0	7	0	0	0	0	7	7	20
10:15	1	1	0	0	0	0	2	1	0	0	1	0	0	0	1	1	5	4	1	0	0	0	10	7	20
10:30	0	1	1	0	0	0	2	2	0	0	1	0	0	0	1	1	1	6	2	1	0	0	10	10	25
10:45	1	4	1	0	0	0	6	5	1	2	0	0	0	0	3	2	1	2	0	0	0	0	3	2	25
н/тот	3	7	2	0	0	0	12	10	1	2	3	0	0	0	6	5	7	19	3	1	0	0	30	26	90
11:00	0	1	1	0	0	0	2	2	0	0	0	0	0	0	0	0	0	2	2	0	0	0	4	4	19
11:15	0	1	1	0	0	0	2	2	0	1	1	0	0	0	2	2	1	2	4	0	0	0	7	6	24
11:30	1	2	0	0	0	0	3	2	0	0	0	0	0	0	0	0	1	5	1	0	0	0	7	6	19
11:45	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1	2	5	1	0	0	0	8	7	16
н/тот	1	4	3	0	0	0	8	7	0	1	2	0	0	0	3	3	4	14	8	0	0	0	26	23	77

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 25th March 2025

		P	MOVE	MENT	1					N	/IOVE	MENT	2					N	/IOVE	MENT :	3			
TIME	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	сус	CAR	LGV	OGV1	OGV2	BUS	тот	PCU
12:00	2	2	1	1	0	0	6	5	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3
12:15	3	5	1	1	0	0	10	8	0	2	0	0	0	0	2	2	0	3	0	0	0	0	3	3
12:30	1	2	0	1	0	0	4	4	1	1	0	0	0	0	2	1	0	1	0	0	0	0	1	1
12:45	2	5	1	1	0	0	9	8	1	2	0	0	0	0	3	2	0	5	0	0	0	0	5	5
н/тот	8	14	3	4	0	0	29	25	2	5	0	0	0	0	7	6	0	12	0	0	0	0	12	12
13:00	1	6	0	0	0	0	7	6	1	2	0	0	0	0	3	2	2	10	1	0	0	0	13	12
13:15	1	8	2	0	0	0	11	10	0	1	0	0	0	0	1	1	2	7	0	0	0	0	9	8
13:30	10	3	1	0	0	0	14	7	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0
13:45	1	5	2	1	0	0	9	9	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1
н/тот	13	22	5	1	0	0	41	32	2	5	0	0	0	0	7	6	4	18	1	0	0	0	23	20
14:00	2	4	2	0	0	0	8	7	3	0	0	0	0	0	3	1	10	18	0	0	0	0	28	21
14:15	2	1	0	0	0	0	3	2	0	2	1	0	0	0	3	3	15	14	0	0	0	0	29	19
14:30	0	5	0	0	0	0	5	5	0	3	0	0	0	0	3	3	0	9	1	0	0	0	10	10
14:45	3	9	0	0	0	0	12	10	0	1	1	0	0	0	2	2	0	3	0	0	0	0	3	3
н/тот	7	19	2	0	0	0	28	23	3	6	2	0	0	0	11	9	25	44	1	0	0	0	70	53
15:00	5	4	0	0	0	0	9	6	2	2	0	0	0	0	4	3	3	12	1	0	0	0	16	14
15:15	1	6	0	0	0	0	7	6	0	2	2	0	0	0	4	4	0	0	1	0	0	0	1	1
15:30	3	6	0	0	0	0	9	7	0	1	0	0	0	0	1	1	0	2	0	0	0	0	2	2
15:45	1	7	0	0	0	0	8	7	0	1	0	0	0	0	1	1	1	4	0	0	0	0	5	4
н/тот	10	23	0	0	0	0	33	26	2	6	2	0	0	0	10	9	4	18	2	0	0	0	24	21
16:00	2	1	1	0	0	0	4	3	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
16:15	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	1	0	0	0	0	0	1	0
16:30	2	3	2	0	0	0	7	6	0	2	0	0	0	0	2	2	1	2	0	0	0	0	3	2
16:45	2	3	0	0	0	0	5	4	1	0	0	0	0	0	1	0	0	5	0	0	0	0	5	5
н/тот	7	7	3	0	0	0	17	12	1	3	0	0	0	0	4	3	2	9	0	0	0	0	11	10

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

 SITE:
 01
 DATE:
 25th March 2025

																									PCU's
		N	/IOVE	MENT	4					N	10VE	MENT	5					N	10VE	MENT	6				Through Junction
TIME	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	Janetion
12:00	1	2	0	0	0	0	3	2	0	1	0	0	0	0	1	1	2	3	2	1	0	0	8	7	19
12:15	3	2	1	0	0	0	6	4	0	4	1	0	0	0	5	5	0	2	1	1	0	0	4	5	27
12:30	1	1	2	0	0	0	4	3	0	3	0	0	0	0	3	3	0	4	2	0	0	0	6	6	18
12:45	1	1	0	0	0	0	2	1	1	3	1	0	0	0	5	4	0	4	1	1	0	0	6	7	28
н/тот	6	6	3	0	0	0	15	11	1	11	2	0	0	0	14	13	2	13	6	3	0	0	24	24	91
13:00	12	3	0	0	0	0	15	7	0	0	0	0	0	0	0	0	5	5	0	0	0	0	10	7	33
13:15	6	0	0	0	0	0	6	2	4	6	1	0	0	0	11	8	5	6	2	0	0	0	13	10	38
13:30	0	0	0	0	0	0	0	0	1	2	1	0	0	0	4	3	5	2	2	0	0	0	9	6	18
13:45	1	2	0	0	0	0	3	2	5	0	0	1	0	0	6	3	2	7	0	0	0	0	9	8	23
н/тот	19	5	0	0	0	0	24	11	10	8	2	1	0	0	21	15	17	20	4	0	0	0	41	29	113
14:00	15	2	0	0	0	0	17	7	4	4	2	0	0	0	10	7	8	3	1	0	0	0	12	6	49
14:15	24	1	0	0	0	0	25	8	1	1	0	0	0	0	2	1	2	8	1	0	0	0	11	10	42
14:30	3	1	0	0	0	0	4	2	1	2	0	0	0	0	3	2	2	3	2	0	0	0	7	6	28
14:45	0	1	0	0	0	0	1	1	1	0	0	1	0	0	2	2	4	9	3	0	0	0	16	13	31
н/тот	42	5	0	0	0	0	47	18	7	7	2	1	0	0	17	13	16	23	7	0	0	0	46	35	150
15:00	0	3	1	0	0	0	4	4	5	3	1	0	0	0	9	6	5	6	0	0	0	0	11	8	39
15:15	13	0	0	0	0	0	13	4	2	2	1	0	0	0	5	4	2	4	1	0	0	0	7	6	24
15:30	0	0	0	0	0	0	0	0	4	1	2	0	0	0	7	4	3	9	1	0	0	0	13	11	25
15:45	2	1	0	0	0	0	3	2	3	5	2	0	0	0	10	8	2	9	1	0	0	0	12	11	33
н/тот	15	4	1	0	0	0	20	10	14	11	6	0	0	0	31	21	12	28	3	0	0	0	43	35	121
16:00	2	1	0	0	0	0	3	2	2	0	1	0	0	0	3	2	10	7	2	0	0	0	19	12	20
16:15	2	0	0	0	0	0	2	1	5	2	1	0	0	0	8	5	4	4	0	0	0	0	8	5	12
16:30	7	0	0	0	0	0	7	2	3	3	1	0	0	0	7	5	7	4	1	0	0	0	12	7	24
16:45	6	1	0	0	0	0	7	3	9	0	0	0	0	0	9	3	5	4	2	0	0	0	11	8	22
н/тот	17	2	0	0	0	0	19	7	19	5	3	0	0	0	27	14	26	19	5	0	0	0	50	32	78

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 25th March 2025

		N	/IOVE	MENT	1					N	/IOVE	MENT	2					N	/IOVE	MENT	3			
TIME	сус	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	сус	CAR	LGV	OGV1	OGV2	BUS	тот	PCU
17:00	1	1	0	0	0	0	2	1	1	5	0	0	0	0	6	5	3	1	0	0	0	0	4	2
17:15	2	2	0	0	0	0	4	3	0	1	0	0	0	0	1	1	1	1	0	0	0	0	2	1
17:30	1	2	1	0	0	0	4	3	0	2	1	0	0	0	3	3	0	1	0	0	0	0	1	1
17:45	3	6	0	0	0	0	9	7	0	2	0	0	0	0	2	2	2	4	0	1	0	0	7	6
н/тот	7	11	1	0	0	0	19	14	1	10	1	0	0	0	12	11	6	7	0	1	0	0	14	10
18:00	6	10	0	0	0	0	16	12	0	1	1	0	0	0	2	2	0	0	0	0	0	0	0	0
18:15	1	3	0	0	0	0	4	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
18:30	1	3	0	0	0	0	4	3	0	2	1	0	0	0	3	3	1	0	0	0	0	0	1	0
18:45	3	10	0	0	0	0	13	11	0	1	0	0	0	0	1	1	0	3	0	0	0	0	3	3
н/тот	11	26	0	0	0	0	37	29	0	4	2	0	0	0	6	6	2	3	0	0	0	0	5	4
19:00	1	7	1	0	0	0	9	8	0	2	1	0	0	0	3	3	0	2	2	0	0	0	4	4
19:15	6	7	0	0	0	0	13	9	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
19:30	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3
19:45	1	1	2	0	0	0	4	3	0	1	0	0	0	0	1	1	0	0	1	0	0	0	1	1
н/тот	8	16	3	0	0	0	27	21	0	3	1	0	0	0	4	4	0	9	3	0	0	0	12	12
20:00	2	1	0	0	0	0	3	2	0	1	0	0	0	0	1	1	0	4	0	0	0	0	4	4
20:15	3	2	0	0	0	0	5	3	0	3	0	0	0	0	3	3	0	4	0	0	0	0	4	4
20:30	2	2	0	0	0	0	4	3	0	1	0	0	0	0	1	1	0	3	0	0	0	0	3	3
20:45	2	3	0	0	0	0	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
н/тот	9	8	0	0	0	0	17	11	0	5	0	0	0	0	5	5	0	11	0	0	0	0	11	11
21:00	1	1	0	0	0	0	2	1	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
21:15	3	1	0	0	0	0	4	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
21:30	1	1	1	0	0	0	3	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
21:45	3	3	0	0	0	0	6	4	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
н/тот	8	6	1	0	0	0	15	9	0	1	0	0	0	0	1	1	0	3	0	0	0	0	3	3
Р/ТОТ	174	240	49	7	0	0	470	352	67	77	13	1	0	0	158	112	57	222	14	1	0	1	295	257

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 25th March 2025

LOCATION: Rathdown Road/Grangegorman Road DAY: Tuesday

																									PCU's
		N	/IOVE	MENT 4	4					N	10VE	MENT	5					N	/IOVE	MENT	6				Through Junction
TIME	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	Junction
17:00	9	0	0	0	0	0	9	3	3	2	0	0	0	0	5	3	10	7	3	0	0	0	20	13	27
17:15	0	1	0	0	0	0	1	1	6	3	0	0	0	0	9	5	8	3	0	0	0	0	11	5	16
17:30	1	1	0	0	0	0	2	1	5	1	1	0	0	0	7	4	7	4	0	0	0	0	11	6	18
17:45	2	4	0	0	0	0	6	5	7	3	0	0	0	0	10	5	5	9	1	0	0	0	15	12	36
н/тот	12	6	0	0	0	0	18	10	21	9	1	0	0	0	31	16	30	23	4	0	0	0	57	36	98
18:00	3	1	0	0	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
18:15	1	3	1	0	0	0	5	4	3	1	0	0	0	0	4	2	7	8	0	0	0	0	15	10	20
18:30	0	1	0	0	0	0	1	1	4	2	0	0	0	0	6	3	8	3	1	0	0	0	12	6	17
18:45	4	8	0	0	0	0	12	9	5	7	0	0	0	0	12	9	9	8	1	0	0	0	18	12	44
н/тот	8	13	1	0	0	0	22	16	12	10	0	0	0	0	22	14	24	19	2	0	0	0	45	28	97
19:00	1	10	0	0	0	0	11	10	0	7	0	0	0	0	7	7	6	3	0	0	0	0	9	5	37
19:15	0	6	0	0	0	0	6	6	2	2	0	0	0	0	4	3	6	5	0	0	0	0	11	7	28
19:30	0	4	0	0	0	0	4	4	0	1	0	0	0	0	1	1	8	3	0	0	0	0	11	5	14
19:45	0	6	0	0	0	0	6	6	2	1	1	0	0	0	4	3	2	2	0	0	0	0	4	3	17
н/тот	1	26	0	0	0	0	27	26	4	11	1	0	0	0	16	13	22	13	0	0	0	0	35	20	97
20:00	1	2	0	0	0	0	3	2	1	4	0	0	0	0	5	4	2	6	0	0	0	0	8	7	20
20:15	0	1	0	0	0	0	1	1	0	4	0	0	0	0	4	4	4	9	1	0	0	0	14	11	26
20:30	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	1	4	2	0	0	0	0	6	3	11
20:45	0	0	0	0	0	0	0	0	2	2	0	0	0	0	4	3	2	3	0	0	0	0	5	4	10
н/тот	1	3	0	0	0	0	4	3	4	11	0	0	0	0	15	12	12	20	1	0	0	0	33	25	67
21:00	0	3	0	0	0	0	3	3	2	1	1	0	0	0	4	3	4	6	1	0	0	0	11	8	16
21:15	0	0	0	0	0	0	0	0	2	1	0	0	0	0	3	2	3	6	0	0	0	0	9	7	11
21:30	0	0	0	0	0	0	0	0	1	2	0	0	0	0	3	2	3	4	1	0	0	0	8	6	12
21:45	0	0	0	0	0	0	0	0	2	3	0	0	0	0	5	4	4	3	1	0	0	0	8	5	14
н/тот	0	3	0	0	0	0	3	3	7	7	1	0	0	0	15	10	14	19	3	0	0	0	36	26	53
P/TOT	195	101	19	0	0	0	315	179	175	102	27	2	0	0	306	185	204	265	50	4	0	0	523	382	1465

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 26th March 2025

		Ŋ	MOVE	MENT	1					N	/IOVE	MENT	2					N	/IOVE	MENT	3			
TIME	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	сус	CAR	LGV	OGV1	OGV2	BUS	тот	PCU
07:00	3	0	1	0	1	0	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	2	1	2	0	0	0	5	4	0	0	0	0	0	0	0	0	0	2	2	0	0	0	4	4
07:30	2	4	4	0	0	0	10	9	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
07:45	4	1	4	0	0	0	9	6	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
н/тот	11	6	11	0	1	0	29	23	0	1	0	0	0	0	1	1	0	4	2	0	0	0	6	6
08:00	11	5	1	1	0	0	18	11	24	2	0	0	0	0	26	9	0	1	0	0	0	0	1	1
08:15	8	9	0	0	0	0	17	11	34	8	1	0	0	0	43	19	7	17	0	0	0	0	24	19
08:30	3	5	1	0	0	0	9	7	11	1	0	0	0	0	12	4	2	10	0	0	0	0	12	11
08:45	6	5	0	1	0	0	12	8	2	2	0	0	0	0	4	3	0	3	0	0	0	0	3	3
н/тот	28	24	2	2	0	0	56	37	71	13	1	0	0	0	85	35	9	31	0	0	0	0	40	34
09:00	5	9	3	0	1	0	18	16	0	1	0	0	0	0	1	1	0	2	0	0	0	0	2	2
09:15	7	6	1	0	1	0	15	11	0	1	1	0	0	0	2	2	0	0	0	0	0	0	0	0
09:30	2	1	0	0	0	0	3	2	0	3	0	0	0	0	3	3	0	0	0	0	0	0	0	0
09:45	1	7	0	0	0	0	8	7	0	3	0	0	0	0	3	3	0	1	0	0	0	0	1	1
н/тот	15	23	4	0	2	0	44	36	0	8	1	0	0	0	9	9	0	3	0	0	0	0	3	3
10:00	2	6	1	1	1	0	11	11	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	2
10:15	1	11	1	0	0	0	13	12	0	3	0	0	0	0	3	3	0	2	1	0	0	0	3	3
10:30	2	6	1	0	1	0	10	10	0	1	1	0	0	0	2	2	1	2	0	0	0	0	3	2
10:45	1	6	1	0	0	0	8	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
н/тот	6	29	4	1	2	0	42	41	0	4	1	0	0	0	5	5	1	5	2	0	0	0	8	7
11:00	3	5	1	0	0	0	9	7	0	3	0	0	0	0	3	3	0	5	0	0	0	0	5	5
11:15	1	0	0	0	0	0	1	0	0	2	0	0	0	0	2	2	0	3	0	0	0	0	3	3
11:30	2	7	0	0	0	0	9	8	0	2	0	0	0	0	2	2	0	4	0	0	0	0	4	4
11:45	0	4	1	0	0	0	5	5	0	1	0	0	0	0	1	1	0	7	0	0	0	0	7	7
H/TOT	6	16	2	0	0	0	24	20	0	8	0	0	0	0	8	8	0	19	0	0	0	0	19	19

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 26th March 2025

LOCATION: Rathdown Road/Grangegorman Road DAY: Wednesday

																									PCU's
		N	/IOVE	MENT	4					N	IOVE	MENT	5					N	/IOVE	MENT	6				Through Junction
TIME	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	Junction
07:00	0	1	0	0	0	0	1	1	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	8
07:15	2	0	2	0	0	0	4	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2	12
07:30	0	1	1	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
07:45	3	5	1	0	0	0	9	7	1	0	1	0	0	1	3	3	0	0	0	0	0	0	0	0	17
н/тот	5	7	4	0	0	0	16	13	1	0	1	0	1	1	4	6	0	0	2	0	0	0	2	2	50
08:00	4	2	1	0	0	0	7	4	0	3	1	0	0	0	4	4	0	2	1	0	0	0	3	3	32
08:15	6	0	0	0	0	0	6	2	54	1	0	0	1	0	56	20	0	4	0	1	0	0	5	6	77
08:30	12	1	0	0	0	0	13	5	5	1	0	0	0	0	6	3	0	8	0	0	0	0	8	8	37
08:45	4	2	0	0	0	0	6	3	1	1	0	0	0	0	2	1	2	4	0	0	0	0	6	5	23
н/тот	26	5	1	0	0	0	32	14	60	6	1	0	1	0	68	27	2	18	1	1	0	0	22	21	169
09:00	1	1	0	0	0	0	2	1	4	0	0	1	1	0	6	5	1	4	0	0	0	0	5	4	29
09:15	3	0	0	0	0	0	3	1	2	0	3	0	0	0	5	4	1	4	0	0	0	0	5	4	22
09:30	2	0	0	0	0	0	2	1	1	0	0	0	0	0	1	0	1	3	0	1	0	0	5	5	10
09:45	0	3	1	0	0	0	4	4	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	1	17
н/тот	6	4	1	0	0	0	11	7	7	0	3	1	1	0	12	9	4	12	0	1	0	0	17	15	79
10:00	2	2	1	0	0	0	5	4	0	0	1	0	0	0	1	1	1	5	1	1	0	0	8	8	26
10:15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	3	0	0	0	0	3	3	22
10:30	3	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	2	5	2	0	0	0	9	8	23
10:45	1	3	0	0	0	0	4	3	0	4	1	0	0	0	5	5	1	4	0	0	0	0	5	4	20
н/тот	6	5	1	0	0	0	12	8	0	5	2	0	0	0	7	7	4	17	3	1	0	0	25	23	91
11:00	2	0	0	0	0	0	2	1	1	2	0	0	0	0	3	2	0	6	1	0	0	0	7	7	25
11:15	1	2	0	0	0	0	3	2	0	2	1	0	0	0	3	3	0	3	0	0	0	0	3	3	14
11:30	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3	0	3	0	0	1	0	4	5	22
11:45	1	1	0	0	0	0	2	1	0	2	0	0	0	0	2	2	0	7	2	0	0	0	9	9	25
н/тот	4	3	0	0	0	0	7	4	1	9	1	0	0	0	11	10	0	19	3	0	1	0	23	24	86

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 26th March 2025

		N	/IOVE	MENT	1					N	/IOVE	MENT	2					N	/IOVE	MENT	3			
TIME	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU
12:00	0	4	0	1	0	0	5	6	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
12:15	2	4	0	0	0	0	6	5	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
12:30	2	5	0	1	0	0	8	7	0	2	1	0	0	0	3	3	0	1	0	0	0	0	1	1
12:45	2	2	0	0	0	0	4	3	1	3	0	0	0	0	4	3	0	4	0	0	0	0	4	4
н/тот	6	15	0	2	0	0	23	20	1	5	1	0	0	0	7	6	0	9	0	0	0	0	9	9
13:00	0	7	2	0	0	0	9	9	2	2	1	0	0	0	5	4	0	5	0	0	0	0	5	5
13:15	5	1	1	0	0	0	7	4	0	0	0	0	0	0	0	0	2	3	1	0	0	0	6	5
13:30	3	3	0	0	0	0	6	4	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3	3
13:45	1	5	1	0	0	0	7	6	0	3	0	0	0	0	3	3	0	1	1	0	0	0	2	2
н/тот	9	16	4	0	0	0	29	23	2	5	1	0	0	0	8	7	2	10	4	0	0	0	16	15
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15	0	6	1	0	0	0	7	7	3	8	0	1	0	0	12	10	5	10	0	0	0	0	15	12
14:30	3	3	1	0	0	0	7	5	0	2	0	0	0	0	2	2	12	19	0	0	0	0	31	23
14:45	1	3	0	0	0	0	4	3	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	1
н/тот	4	12	2	0	0	0	18	15	3	10	0	1	0	0	14	12	18	30	0	0	0	0	48	35
15:00	1	8	1	0	0	0	10	9	0	3	0	0	0	0	3	3	0	1	0	0	0	0	1	1
15:15	1	3	0	0	0	0	4	3	0	0	0	0	0	0	0	0	3	7	0	0	0	0	10	8
15:30	2	3	0	0	0	0	5	4	1	1	0	0	0	0	2	1	0	1	1	0	0	0	2	2
15:45	0	5	1	0	0	0	6	6	0	1	0	0	0	0	1	1	0	3	0	0	0	0	3	3
н/тот	4	19	2	0	0	0	25	22	1	5	0	0	0	0	6	5	3	12	1	0	0	0	16	14
16:00	3	1	0		0	0							0							0				0
				0			4	2	1	1	0	0		0	2	1	1	0	0		0	0	2	
16:15	1	3	1	0	0	0	5	4	1	1	0	1	0	0	3	3	2	1	0	0	0	0	3	2
16:30	3	3	0	0	0	0	6	4	1	2	1	0	0	0	4	3	0	2	0	0	0	0	2	2
16:45	2	5	0	0	0	0	7	6	1	2	0	0	0	0	3	2	0	0	0	0	0	0	0	0
H/TOT	9	12	1	0	0	0	22	16	4	6	1	1	0	0	12	10	3	3	0	0	0	0	6	4

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 26th March 2025

LOCATION: Rathdown Road/Grangegorman Road DAY: Wednesday

																									PCU's
		N	/IOVE	MENT	4					N	10VE	MENT	5					N	/IOVE	MENT	6				Through Junction
TIME	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	Janetion
12:00	3	3	1	0	0	0	7	5	0	5	1	0	0	0	6	6	1	0	0	0	0	0	1	0	19
12:15	1	1	0	0	0	0	2	1	0	3	0	0	0	0	3	3	1	9	1	0	0	0	11	10	21
12:30	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	2	1	0	1	0	0	4	3	16
12:45	1	1	0	0	0	0	2	1	1	3	0	0	0	0	4	3	3	2	0	0	0	0	5	3	17
н/тот	6	5	1	0	0	0	12	8	1	12	1	0	0	0	14	13	7	12	1	1	0	0	21	17	73
13:00	0	2	0	0	0	0	2	2	3	1	0	0	0	0	4	2	5	3	2	0	0	0	10	7	28
13:15	2	2	1	0	0	0	5	4	1	0	0	0	0	0	1	0	4	7	3	0	1	0	15	14	26
13:30	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	3	4	1	0	0	0	8	6	15
13:45	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	4	2	0	0	0	7	6	18
н/тот	3	6	1	0	0	0	10	8	5	1	0	0	0	0	6	3	13	18	8	0	1	0	40	32	87
14:00	9	2	0	0	0	0	11	5	5	1	0	0	0	0	6	3	4	9	1	0	0	0	14	11	18
14:15	31	1	0	0	0	0	32	10	1	1	0	0	0	0	2	1	3	2	1	0	0	0	6	4	44
14:30	1	2	0	0	0	0	3	2	1	0	0	0	0	0	1	0	4	5	1	0	0	0	10	7	39
14:45	2	3	0	0	0	0	5	4	2	0	0	0	0	0	2	1	4	3	0	0	0	0	7	4	13
н/тот	43	8	0	0	0	0	51	21	9	2	0	0	0	0	11	5	15	19	3	0	0	0	37	27	115
15:00	5	0	0	0	0	0	5	2	5	1	0	0	0	0	6	3	2	6	0	0	0	0	8	7	24
15:15	9	0	0	0	0	0	9	3	5	1	1	0	0	0	7	4	2	9	2	0	0	0	13	12	29
15:30	2	0	0	0	0	0	2	1	0	3	2	0	0	0	5	5	1	9	2	0	0	0	12	11	24
15:45	2	1	0	0	0	0	3	2	3	5	3	0	0	0	11	9	4	2	0	0	0	0	6	3	24
н/тот	18	1	0	0	0	0	19	6	13	10	6	0	0	0	29	20	9	26	4	0	0	0	39	33	100
16:00	1	0	0	0	0	0	1	0	4	2	0	0	0	0	6	3	2	4	3	0	0	0	9	8	15
16:15	4	4	1	0	0	0	9	6	1	2	0	0	0	0	3	2	3	2	2	0	0	0	7	5	22
16:30	5	2	0	0	0	0	7	4	2	1	0	0	0	0	3	2	3	4	5	0	0	0	12	10	24
16:45	5	1	0	0	0	0	6	3	3	2	0	0	0	0	5	3	3	5	3	0	0	0	11	9	22
н/тот	15	7	1	0	0	0	23	13	10	7	0	0	0	0	17	10	11	15	13	0	0	0	39	31	83

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 26th March 2025

		N	/IOVE	MENT	1					N	/IOVE	MENT	2					N	/IOVE	MENT	3			
TIME	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU
17:00	4	1	0	0	0	0	5	2	0	2	0	0	0	0	2	2	0	1	0	0	0	0	1	1
17:15	2	4	0	0	0	0	6	5	0	3	0	0	0	0	3	3	0	3	0	0	0	0	3	3
17:30	2	5	0	0	0	0	7	6	0	1	1	0	0	0	2	2	0	2	0	0	0	0	2	2
17:45	3	6	0	0	0	0	9	7	0	2	1	0	0	0	3	3	0	0	0	0	0	0	0	0
н/тот	11	16	0	0	0	0	27	19	0	8	2	0	0	0	10	10	0	6	0	0	0	0	6	6
18:00	1	10	1	0	0	0	12	11	0	2	0	0	0	0	2	2	2	1	1	0	0	0	4	3
18:15	5	13	0	0	0	0	18	15	0	2	0	0	0	0	2	2	1	1	0	1	0	0	3	3
18:30	4	1	1	0	0	0	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	5	3	0	0	0	0	8	5	0	3	0	0	0	0	3	3	0	1	1	0	0	0	2	2
н/тот	15	27	2	0	0	0	44	34	0	7	0	0	0	0	7	7	3	3	2	1	0	0	9	7
19:00	4	6	0	0	0	0	10	7	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1
19:15	2	3	0	0	0	0	5	4	2	0	0	0	0	0	2	1	0	2	0	0	0	0	2	2
19:30	2	5	1	0	0	0	8	7	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1
19:45	3	3	0	0	0	0	6	4	1	1	0	0	0	0	2	1	0	4	0	0	0	0	4	4
н/тот	11	17	1	0	0	0	29	21	5	1	0	0	0	0	6	3	0	8	0	0	0	0	8	8
20:00	5	1	0	0	0	0	6	3	0	1	1	0	0	0	2	2	0	2	0	0	0	0	2	2
20:15	3	0	0	0	0	0	3	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1
20:30	0	1	0	0	0	0	1	1	0	2	0	0	0	0	2	2	0	2	0	0	0	0	2	2
20:45	1	2	0	0	0	0	3	2	0	1	1	0	0	0	2	2	0	0	0	0	0	0	0	0
н/тот	9	4	0	0	0	0	13	7	0	5	2	0	0	0	7	7	0	5	0	0	0	0	5	5
21:00	3	2	0	0	0	0	5	3	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
21:15	2	1	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
21:30	1	3	0	0	0	0	4	3	0	0	1	0	0	0	1	1	0	1	0	0	0	0	1	1
21:45	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
н/тот	7	6	0	0	0	0	13	8	1	1	1	0	0	0	3	2	0	3	0	0	0	0	3	3
P/TOT	151	242	35	5	5	0	438	341	88	87	11	2	0	0	188	127	39	151	11	1	0	0	202	175

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 26th March 2025

LOCATION: Rathdown Road/Grangegorman Road DAY: Wednesday

																	I								PCU's
		N	/IOVE	MENT	4					N	10VE	MENT	5					N	/IOVE	MENT	6				Through Junction
TIME	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	Junction
17:00	4	1	1	0	0	0	6	3	4	3	1	0	0	0	8	5	6	4	0	0	0	0	10	6	19
17:15	1	0	1	0	0	0	2	1	2	1	0	0	0	0	3	2	6	2	2	0	0	0	10	6	19
17:30	1	1	0	0	0	0	2	1	5	2	1	0	0	0	8	5	4	7	1	0	0	0	12	9	25
17:45	5	1	0	0	0	0	6	3	4	3	0	0	0	0	7	4	5	4	1	0	0	0	10	7	23
н/тот	11	3	2	0	0	0	16	8	15	9	2	0	0	0	26	16	21	17	4	0	0	0	42	27	86
18:00	1	3	0	0	0	0	4	3	3	3	0	0	0	0	6	4	7	5	0	0	0	0	12	7	30
18:15	0	1	0	0	0	0	1	1	5	7	0	0	0	0	12	9	6	0	0	0	0	0	6	2	31
18:30	1	1	0	0	0	0	2	1	1	0	0	0	0	0	1	0	5	4	0	0	0	0	9	6	10
18:45	2	2	1	0	0	0	5	4	3	1	0	0	0	0	4	2	7	4	1	0	0	0	12	7	22
н/тот	4	7	1	0	0	0	12	9	12	11	0	0	0	0	23	15	25	13	1	0	0	0	39	22	93
19:00	0	0	0	0	0	0	0	0	12	2	0	0	0	0	14	6	7	4	0	0	0	0	11	6	20
19:15	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	5	6	0	0	0	0	11	8	15
19:30	1	0	0	0	0	0	1	0	0	1	1	0	0	0	2	2	2	9	0	0	0	0	11	10	20
19:45	0	4	0	0	0	0	4	4	2	0	0	0	0	0	2	1	6	5	0	0	0	0	11	7	21
н/тот	2	4	0	0	0	0	6	5	14	4	1	0	0	0	19	9	20	24	0	0	0	0	44	30	76
20:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	1	4	0	0	0	0	0	4	1	8
20:15	0	3	0	0	0	0	3	3	0	1	0	0	0	0	1	1	2	4	0	0	0	0	6	5	12
20:30	0	1	0	0	0	0	1	1	1	1	0	0	0	0	2	1	3	6	0	0	0	0	9	7	14
20:45	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2	0	0	0	0	3	2	7
н/тот	1	4	0	0	0	0	5	4	4	2	0	0	0	0	6	3	10	12	0	0	0	0	22	15	41
21:00	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3	4	7	0	0	0	0	11	8	14
21:15	0	0	0	0	0	0	0	0	1	1	1	0	0	0	3	2	3	6	0	0	0	0	9	7	13
21:30	2	0	0	0	0	0	2	1	3	2	0	0	0	0	5	3	1	3	0	0	0	0	4	3	12
21:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	1	2	0	0	0	0	0	2	1	3
н/тот	2	0	0	0	0	0	2	1	6	6	1	0	0	0	13	9	10	16	0	0	0	0	26	19	42
P/TOT	152	69	13	0	0	0	234	128	158	84	19	1	3	1	266	161	151	238	43	4	2	0	438	337	1269

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 27th March 2025

		N	/IOVE	MENT	1					N	/IOVE	MENT	2					N	/IOVE	MENT	3			
TIME	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU
07:00	2	0	0	0	0	0	2	1	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
07:15	2	1	0	0	0	0	3	2	0	1	0	0	0	0	1	1	0	2	0	0	0	0	2	2
07:30	3	3	3	0	0	0	9	7	1	1	0	0	0	0	2	1	0	2	0	0	0	0	2	2
07:45	5	4	0	0	0	0	9	6	1	1	0	0	0	0	2	1	0	0	0	0	0	0	0	0
н/тот	12	8	3	0	0	0	23	15	2	4	0	0	0	0	6	5	0	4	0	0	0	0	4	4
08:00	3	3	1	0	0	0	7	5	7	2	0	0	0	0	9	4	0	0	0	0	0	0	0	0
08:15	3	2	2	0	0	0	7	5	79	3	1	0	0	0	83	28	0	9	0	0	0	0	9	9
08:30	7	6	1	0	0	0	14	9	10	1	0	0	0	0	11	4	9	36	1	0	0	0	46	40
08:45	8	3	0	0	0	0	11	5	0	2	1	0	0	0	3	3	0	2	0	0	0	0	2	2
н/тот	21	14	4	0	0	0	39	24	96	8	2	0	0	0	106	39	9	47	1	0	0	0	57	51
09:00	4	2	0	0	0	0	6	3	0	2	0	0	0	0	2	2	0	0	1	0	0	0	1	1
09:15	5	4	2	2	0	0	13	11	0	2	0	0	0	0	2	2	0	1	1	0	0	0	2	2
09:30	7	2	0	0	0	0	9	4	0	0	0	0	0	0	0	0	0	4	1	0	0	0	5	5
09:45	4	6	0	0	0	0	10	7	0	3	0	0	0	0	3	3	0	3	0	0	0	0	3	3
н/тот	20	14	2	2	0	0	38	25	0	7	0	0	0	0	7	7	0	8	3	0	0	0	11	11
10:00	1	4	1	0	0	0	6	5	0	0	0	0	0	0	0	0	0	4	1	0	0	0	5	5
10:15	0	7	2	0	0	0	9	9	0	4	0	0	0	0	4	4	0	5	1	0	0	0	6	6
10:30	1	5	1	0	0	0	7	6	0	0	1	0	0	0	1	1	0	1	0	0	0	0	1	1
10:45	2	5	0	0	0	0	7	6	0	0	1	0	0	0	1	1	0	4	1	0	0	0	5	5
н/тот	4	21	4	0	0	0	29	26	0	4	2	0	0	0	6	6	0	14	3	0	0	0	17	17
11:00	0	5	1	0	0	0	6	6	1	1	0	0	0	0	2	1	0	2	1	0	0	0	3	3
11:15	2	3	0	0	0	0	5	4	0	0	1	0	0	0	1	1	0	1	0	0	0	0	1	1
11:30	2	6	0	0	0	0	8	7	0	1	1	0	0	0	2	2	0	1	1	0	0	0	2	2
11:45	0	2	0	0	0	0	2	2	0	2	0	0	0	0	2	2	0	4	1	0	0	1	6	7
н/тот	4	16	1	0	0	0	21	18	1	4	2	0	0	0	7	6	0	8	3	0	0	1	12	13

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 27th March 2025

																									PCU's
		N	/IOVE	MENT	4					N	10VE	MENT	5					N	/IOVE	MENT	6				Through Junction
TIME	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	Janetion
07:00	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
07:15	2	0	1	0	0	0	3	2	0	0	1	0	0	0	1	1	0	1	0	0	0	0	1	1	8
07:30	3	1	1	0	0	0	5	3	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	14
07:45	2	0	0	0	0	0	2	1	1	0	1	0	0	0	2	1	0	1	0	0	0	0	1	1	10
н/тот	7	2	2	0	0	0	11	6	2	0	2	0	0	0	4	3	0	3	0	0	0	0	3	3	35
08:00	3	1	2	0	0	0	6	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	14
08:15	5	2	0	0	0	0	7	4	39	2	0	0	0	0	41	14	0	3	2	0	0	0	5	5	64
08:30	21	2	0	0	0	0	23	8	24	2	0	0	0	0	26	9	2	1	0	0	0	0	3	2	72
08:45	1	0	1	0	0	0	2	1	2	0	0	0	0	0	2	1	0	3	0	1	0	0	4	5	17
н/тот	30	5	3	0	0	0	38	17	65	4	0	0	0	0	69	24	2	7	3	1	0	0	13	12	166
09:00	6	1	0	0	0	0	7	3	1	1	0	0	0	0	2	1	2	3	1	0	0	0	6	5	15
09:15	3	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	2	1	0	0	0	3	3	18
09:30	2	1	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3	14
09:45	0	3	0	0	0	0	3	3	1	2	0	0	0	0	3	2	0	6	2	2	0	0	10	11	30
н/тот	11	5	0	0	0	0	16	8	2	3	0	0	0	0	5	4	2	14	4	2	0	0	22	22	77
10:00	0	2	0	0	0	0	2	2	1	1	0	0	0	0	2	1	2	7	1	0	0	0	10	9	22
10:15	0	1	0	0	0	0	1	1	1	1	2	0	0	0	4	3	0	3	2	1	0	0	6	7	30
10:30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	3	1	0	0	0	4	4	13
10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4	16
н/тот	0	3	0	0	0	0	3	3	2	3	2	0	0	0	7	6	2	17	4	1	0	0	24	23	81
11:00	1	2	0	0	0	0	3	2	0	4	2	0	0	0	6	6	1	6	1	0	0	0	8	7	26
11:15	0	1	0	0	0	0	1	1	1	3	1	0	0	0	5	4	0	2	1	0	0	0	3	3	14
11:30	0	1	0	0	0	0	1	1	0	0	2	0	0	0	2	2	2	3	0	0	0	0	5	4	17
11:45	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	1	4	0	0	0	0	5	4	17
н/тот	1	5	0	0	0	0	6	5	1	8	5	0	0	0	14	13	4	15	2	0	0	0	21	18	74

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 27th March 2025

		N	/IOVE	MENT	1					N	/IOVEI	MENT	2					N	/IOVE	MENT :	3			
TIME	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU
12:00	0	6	1	1	0	0	8	9	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
12:15	0	7	1	1	0	0	9	10	0	1	1	0	0	0	2	2	0	2	0	0	0	0	2	2
12:30	2	5	0	0	0	0	7	6	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1
12:45	5	8	1	1	0	0	15	12	2	2	0	0	0	0	4	3	0	2	0	0	0	0	2	2
н/тот	7	26	3	3	0	0	39	36	2	4	1	0	0	0	7	6	0	5	1	0	0	0	6	6
13:00	1	2	0	0	0	0	3	2	3	1	0	0	0	0	4	2	2	5	2	0	0	0	9	8
13:15	2	2	0	0	0	0	4	3	0	1	0	0	0	0	1	1	0	4	0	0	0	0	4	4
13:30	4	3	0	0	0	0	7	4	0	3	0	0	0	0	3	3	0	1	0	0	0	0	1	1
13:45	5	5	2	0	0	0	12	9	0	2	0	0	0	0	2	2	0	3	0	0	0	0	3	3
н/тот	12	12	2	0	0	0	26	18	3	7	0	0	0	0	10	8	2	13	2	0	0	0	17	16
14:00	5	5	2	0	0	0	12	9	1	2	0	0	0	0	3	2	13	14	1	0	0	0	28	19
14:15	2	3	0	0	0	0	5	4	0	0	0	0	0	0	0	0	2	5	0	0	0	0	7	6
14:30	7	1	0	1	0	0	9	5	1	1	0	0	0	0	2	1	0	7	0	0	0	0	7	7
14:45	3	6	0	0	0	0	9	7	0	0	0	0	0	0	0	0	1	2	0	0	0	0	3	2
н/тот	17	15	2	1	0	0	35	24	2	3	0	0	0	0	5	4	16	28	1	0	0	0	45	34
15:00	5	5	0	0	0	0	10	7	0	4	0	0	0	0	4	4	0	1	0	0	0	0	1	1
15:15	3	2	0	0	0	0	5	3	0	1	0	0	0	0	1	1	1	7	1	0	0	0	9	8
15:30	4	7	1	0	0	0	12	9	2	3	1	0	0	0	6	5	0	12	1	0	0	0	13	13
15:45	0	2	1	0	0	0	3	3	1	0	1	0	0	0	2	1	1	2	0	0	0	0	3	2
н/тот	12	16	2	0	0	0	30	22	3	8	2	0	0	0	13	11	2	22	2	0	0	0	26	25
16:00	6	4	0	0	0	0	10	6	0	2	0	1	0	0	3	4	0	2	0	0	0	0	2	2
16:15	3	1	0	0	0	0	4	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
16:30	3	1	0	0	0	0	4	2	1	0	1	0	0	0	2	1	0	3	0	0	0	0	3	3
16:45	2	2	0	0	0	1	5	5	0	3	1	0	0	0	4	4	0	0	0	0	0	0	0	0
H/TOT	14	8	0	0	0	1	23	14	1	5	2	1	0	0	9	9	0	7	0	0	0	0	7	7

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 27th March 2025

LOCATION: Rathdown Road/Grangegorman Road DAY: Thursday

																									PCU's
		N	/IOVE	MENT	4					N	IOVE	MENT	5					N	/IOVE	MENT	6				Through Junction
TIME	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	Janetion
12:00	2	1	0	0	0	0	3	2	0	3	0	0	0	0	3	3	2	5	0	1	0	0	8	7	21
12:15	0	0	1	0	0	0	1	1	1	0	0	0	0	0	1	0	1	5	2	0	0	0	8	7	22
12:30	0	1	0	0	0	0	1	1	0	2	0	0	0	0	2	2	2	2	0	0	0	0	4	3	13
12:45	0	0	0	0	0	0	0	0	1	2	0	0	0	0	3	2	3	9	3	0	0	0	15	13	32
н/тот	2	2	1	0	0	0	5	4	2	7	0	0	0	0	9	8	8	21	5	1	0	0	35	30	88
13:00	20	2	0	0	0	0	22	8	1	3	0	0	0	0	4	3	3	3	1	1	0	0	8	6	30
13:15	5	0	0	0	0	0	5	2	0	1	0	0	0	0	1	1	4	3	0	0	0	0	7	4	14
13:30	2	1	0	0	0	0	3	2	0	1	0	0	0	0	1	1	3	3	0	0	0	0	6	4	15
13:45	1	2	0	0	0	0	3	2	2	2	1	0	0	0	5	4	6	2	0	0	0	0	8	4	23
н/тот	28	5	0	0	0	0	33	13	3	7	1	0	0	0	11	9	16	11	1	1	0	0	29	18	82
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
14:15	8	2	1	0	0	0	11	5	13	4	1	0	0	0	18	9	2	5	3	0	0	0	10	9	32
14:30	13	0	0	0	0	0	13	4	2	3	2	1	0	0	8	7	6	14	0	0	0	0	20	16	40
14:45	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	8	2	0	0	0	0	10	4	14
н/тот	22	2	1	0	0	0	25	10	15	7	3	1	0	0	26	16	16	21	3	0	0	0	40	29	115
15:00	0	0	0	0	0	0	0	0	3	3	1	0	0	0	7	5	4	8	1	0	0	0	13	10	27
15:15	2	1	0	0	0	0	3	2	1	3	2	0	0	0	6	5	3	5	1	0	0	0	9	7	26
15:30	0	2	0	0	0	0	2	2	1	2	4	0	0	0	7	6	0	7	3	1	0	0	11	12	47
15:45	0	0	0	0	0	0	0	0	0	2	1	0	0	0	3	3	2	8	2	0	0	0	12	11	20
н/тот	2	3	0	0	0	0	5	4	5	10	8	0	0	0	23	20	9	28	7	1	0	0	45	39	119
16:00	1	0	0	0	0	0	1	0	1	4	1	0	0	0	6	5	6	8	6	0	0	0	20	16	33
16:15	3	1	0	0	0	0	4	2	5	2	1	0	0	0	8	5	6	3	1	0	0	0	10	6	16
16:30	6	0	0	0	0	0	6	2	1	1	0	0	0	0	2	1	8	1	0	0	0	0	9	3	13
16:45	3	1	0	0	0	0	4	2	4	3	0	0	0	0	7	4	5	6	2	0	0	0	13	10	24
н/тот	13	2	0	0	0	0	15	6	11	10	2	0	0	0	23	15	25	18	9	0	0	0	52	35	86

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 27th March 2025

		N	/IOVE	MENT	1					N	/IOVE	MENT	2					N	/IOVE	MENT	3			
TIME	сус	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU
17:00	0	3	0	0	0	0	3	3	0	5	0	0	0	0	5	5	0	2	0	0	0	0	2	2
17:15	1	1	1	0	0	0	3	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
17:30	1	3	2	0	0	0	6	5	0	1	1	0	0	0	2	2	0	0	0	0	0	0	0	0
17:45	3	1	0	0	0	0	4	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
н/тот	5	8	3	0	0	0	16	13	0	6	1	0	0	0	7	7	0	4	0	0	0	0	4	4
18:00	1	4	0	1	0	0	6	6	0	0	0	0	0	0	0	0	1	2	0	0	0	0	3	2
18:15	4	2	0	0	0	0	6	3	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
18:30	2	1	0	0	0	0	3	2	0	1	0	0	0	0	1	1	0	2	0	0	0	0	2	2
18:45	4	6	1	0	0	0	11	8	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1
н/тот	11	13	1	1	0	0	26	19	0	2	1	0	0	0	3	3	1	5	0	0	0	0	6	5
19:00	2	5	0	0	0	0	7	6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
19:15	2	6	1	0	0	0	9	8	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
19:30	2	3	1	0	0	0	6	5	0	2	0	0	0	0	2	2	1	1	0	0	0	0	2	1
19:45	0	3	1	0	0	0	4	4	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
н/тот	6	17	3	0	0	0	26	22	0	3	0	0	0	0	3	3	1	4	0	0	0	0	5	4
20:00	2	2	0	0	0	0	4	3	2	1	0	0	0	0	3	2	2	0	0	0	0	0	2	1
20:15	1	2	0	0	0	0	3	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
20:30	4	8	0	0	0	1	13	11	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
20:45	1	3	0	0	0	0	4	3	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1
н/тот	8	15	0	0	0	1	24	19	3	3	0	0	0	0	6	4	2	1	0	0	0	0	3	2
21:00	2	1	0	0	0	0	3	2	1	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1
21:15	1	3	0	0	0	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:30	3	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:45	2	2	0	0	0	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
н/тот	8	6	0	0	0	0	14	8	1	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1
P/TOT	161	209	30	7	0	2	409	302	114	68	13	1	0	0	196	117	33	170	17	0	0	1	221	199

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

 SITE:
 01
 DATE:
 27th March 2025

																									PCU's
		N	/IOVE	MENT	4					N	10VE	MENT	5					N	/IOVE	MENT	6				Through Junction
TIME	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	Junction
17:00	6	0	0	0	0	0	6	2	4	3	0	0	0	0	7	4	8	4	0	0	0	1	13	8	24
17:15	2	1	0	0	0	0	3	2	1	1	0	0	0	0	2	1	4	2	1	0	0	0	7	4	10
17:30	5	2	0	0	0	0	7	4	1	1	0	0	0	0	2	1	3	4	1	0	0	0	8	6	18
17:45	4	0	0	0	0	0	4	1	2	2	0	0	0	0	4	3	2	2	0	0	0	0	4	3	9
н/тот	17	3	0	0	0	0	20	8	8	7	0	0	0	0	15	9	17	12	2	0	0	1	32	21	62
18:00	0	1	0	0	0	0	1	1	6	3	0	0	0	0	9	5	9	4	0	0	0	0	13	7	21
18:15	2	0	0	0	0	0	2	1	2	2	0	0	0	0	4	3	4	1	1	1	0	0	7	5	12
18:30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	2	1	0	0	0	0	3	2	7
18:45	3	0	0	0	0	0	3	1	1	2	0	0	0	0	3	2	5	4	1	0	0	0	10	7	20
н/тот	5	1	0	0	0	0	6	3	9	8	0	0	0	0	17	11	20	10	2	1	0	0	33	20	60
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	6	0	0	0	0	16	9	16
19:15	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	3	4	0	0	0	0	7	5	16
19:30	0	6	3	0	0	0	9	9	4	2	0	0	0	0	6	3	5	3	0	0	0	0	8	5	25
19:45	1	5	1	0	0	0	7	6	0	0	0	0	0	0	0	0	3	5	0	0	0	0	8	6	18
н/тот	1	13	4	0	0	0	18	17	4	2	0	0	0	0	6	3	21	18	0	0	0	0	39	24	74
20:00	1	1	0	0	0	0	2	1	1	0	0	0	0	0	1	0	2	2	1	0	0	0	5	4	10
20:15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	7	0	0	0	0	8	7	11
20:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2	0	0	0	0	2	2	15
20:45	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	4	5	2	0	0	0	11	8	16
н/тот	1	1	0	0	0	0	2	1	2	2	1	0	0	0	5	4	7	16	3	0	0	0	26	21	51
21:00	0	0	0	0	0	0	0	0	2	1	0	0	0	0	3	2	2	6	0	0	0	0	8	7	11
21:15	1	0	0	0	0	0	1	0	3	3	0	0	0	0	6	4	11	0	0	0	0	0	11	3	11
21:30	1	0	0	0	0	0	1	0	1	1	0	0	0	0	2	1	1	3	0	0	0	0	4	3	6
21:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	1	0	1	0	0	0	0	1	1	4
н/тот	2	0	0	0	0	0	2	1	8	5	0	0	0	0	13	7	14	10	0	0	0	0	24	14	32
P/TOT	142	52	11	0	0	0	205	106	139	83	24	1	0	0	247	150	163	221	45	8	0	1	438	329	1202

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

SITE: 01 DATE: 29th March 2025

		N	MENT 1				/IOVE	MENT				N												
TIME	СҮС	CAR	LGV	OGV10	OGV2	BUS	тот	PCU	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	СҮС	CAR	LGV	OGV1	OGV2	BUS	тот	PCU
08:00	2	1	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	1	1	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	4	4	0	0	0	0	8	5	0	2	0	0	0	0	2	2	0	0	1	0	0	0	1	1
08:45	2	6	1	0	0	0	9	8	0	1	0	0	0	0	1	1	0	3	1	0	0	0	4	4
Н/ТОТ	9	12	1	0	0	0	22	16	0	3	0	0	0	0	3	3	0	3	2	0	0	0	5	5
09:00	5	5	0	0	0	0	10	7	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1
09:15	2	2	0	0	0	0	4	3	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
09:30	3	3	0	0	0	0	6	4	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
09:45	2	9	0	0	0	0	11	10	0	1	0	0	0	0	1	1	0	0	1	0	0	0	1	1
н/тот	12	19	0	0	0	0	31	23	0	2	1	0	0	0	3	3	0	3	1	0	0	0	4	4
10:00	4	12	2	0	0	0	18	15	0	4	0	0	0	0	4	4	0	1	0	0	0	0	1	1
10:15	3	13	1	0	0	0	17	15	0	1	0	0	0	0	1	1	0	0	0	1	0	0	1	2
10:30	1	14	1	0	0	0	16	15	0	1	0	0	0	0	1	1	0	2	1	0	0	0	3	3
10:45	1	11	0	0	0	0	12	11	0	0	0	1	0	0	1	2	1	0	1	0	0	0	2	1
н/тот	9	50	4	0	0	0	63	57	0	6	0	1	0	0	7	8	1	3	2	1	0	0	7	7
11:00	4	18	1	0	0	0	23	20	0	2	0	0	0	0	2	2	0	3	0	0	0	0	3	3
11:15	4	7	1	0	0	0	12	9	0	2	0	1	0	0	3	4	0	0	0	0	0	0	0	0
11:30	2	9	0	0	0	0	11	10	0	3	0	0	0	0	3	3	0	1	0	0	0	0	1	1
11:45	5	13	0	0	0	0	18	15	0	2	0	0	0	0	2	2	0	2	0	0	0	0	2	2
н/тот	15	47	2	0	0	0	64	54	0	9	0	1	0	0	10	11	0	6	0	0	0	0	6	6
12:00	4	5	1	0	0	0	10	7	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
12:15	2	7	0	0	0	0	9	8	0	2	1	0	0	0	3	3	0	0	0	0	0	0	0	0
12:30	1	9	1	0	0	0	11	10	1	1	0	0	0	0	2	1	0	0	0	0	0	0	0	0
12:45	0	14	1	0	0	0	15	15	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0
н/тот	7	35	3	0	0	0	45	40	1	5	1	0	0	0	7	6	0	2	0	0	0	0	2	2
13:00	0	5	1	0	0	0	6	6	1	1	0	0	0	0	2	1	1	0	0	0	0	0	1	0
13:15	0	2	0	0	0	0	2	2	0	2	0	0	0	0	2	2	0	1	0	0	0	0	1	1
13:30	2	9	1	0	0	0	12	11	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1
13:45	3	8	0	0	0	0	11	9	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1
н/тот	5	24	2	0	0	0	31	28	2	4	0	0	0	0	6	5	1	3	0	0	0	0	4	3
P/TOT	57	187	12	0	0	0	256	216	3	29	2	2	0	0	36	34.9	2	20	5	1	0	0	28	27.1

GRANGEGORMAN TRAFFIC COUNTS MANUAL CLASSIFIED JUNCTION TURNING COUNTS

MARCH 2025 TRA/25/042

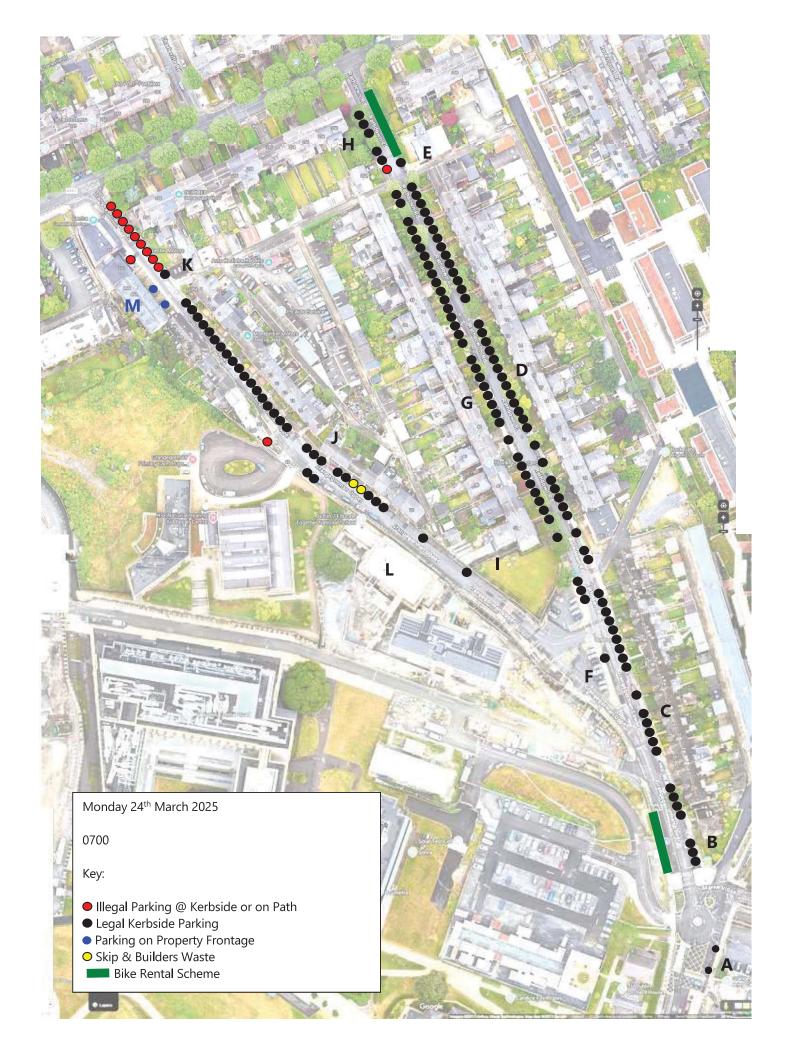
SITE: 01 DATE: 29th March 2025

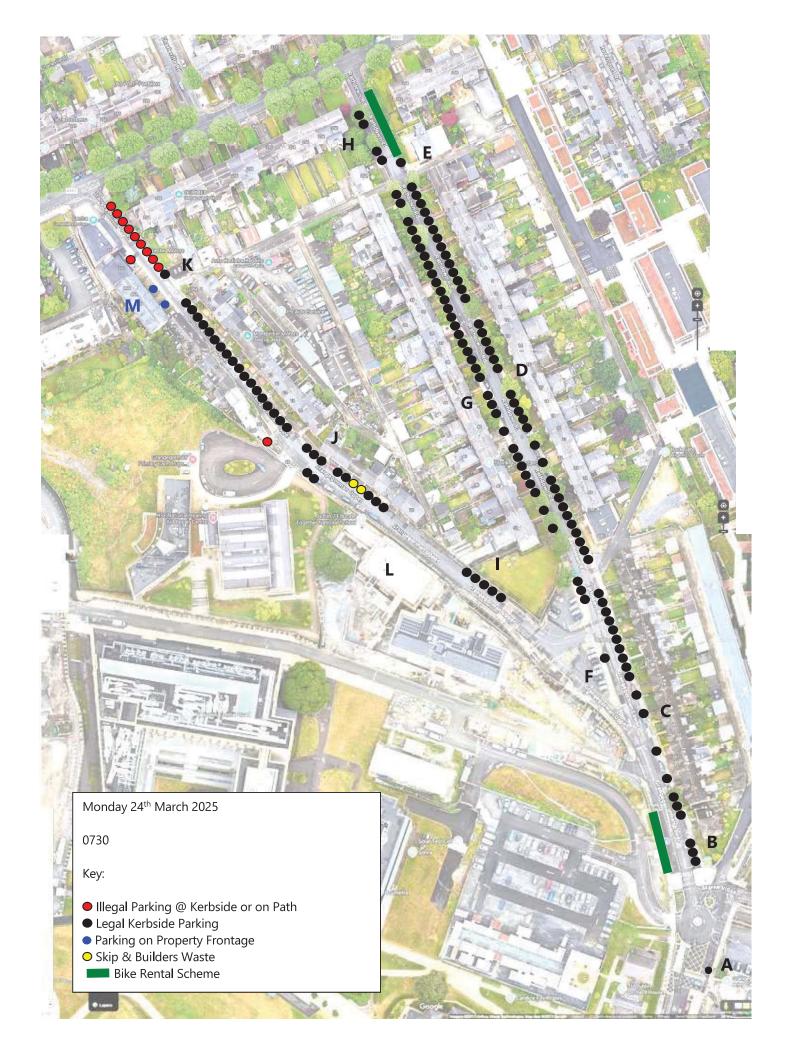
LOCATION: Rathdown Road/Grangegorman Road DAY: Saturday

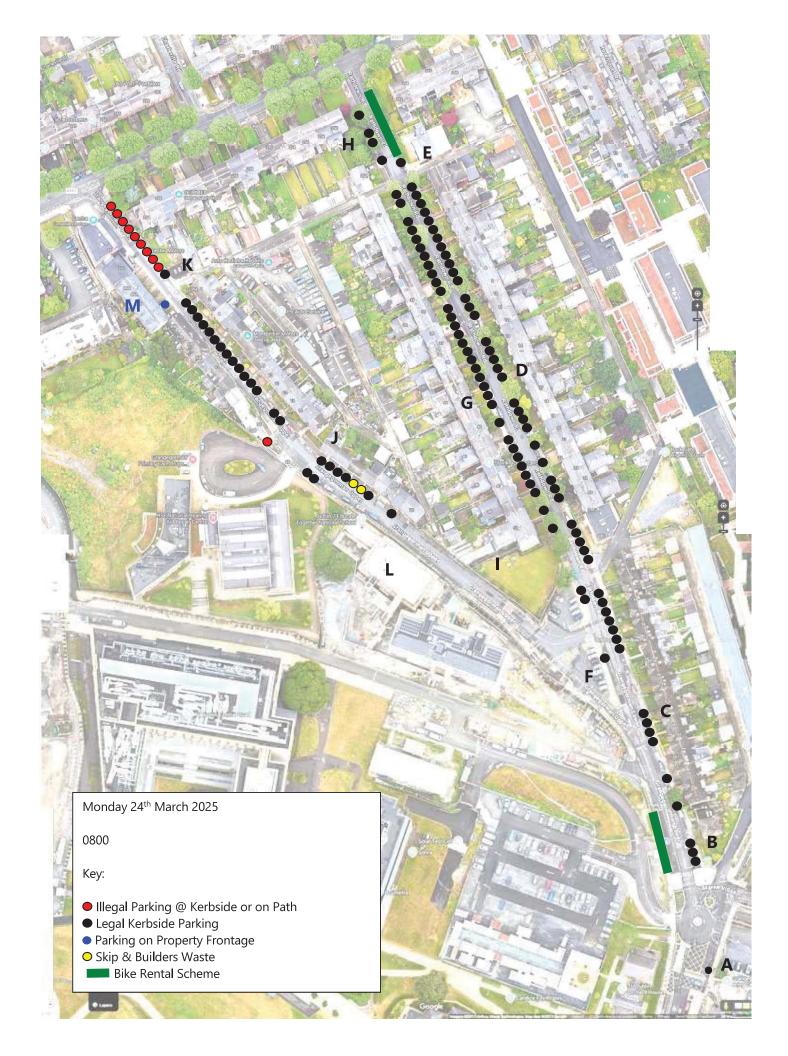
															PCU's											
	MOVEMENT 4								MOVEMENT 5									MOVEMENT 6							Through Junction	
TIME	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	CYC	CAR	LGV	OGV1	OGV2	BUS	тот	PCU	Junction	
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	3	
08:15	1	0	1	0	0	0	2	1	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	4	
08:30	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	4	2	0	0	0	6	6	15	
08:45	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2	3	1	0	0	0	6	5	19	
H/TOT	1	2	2	0	0	0	5	4	0	1	0	0	0	0	1	1	2	8	3	0	0	0	13	12	41	
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4	13	
09:15	1	0	3	0	0	0	4	3	1	2	1	0	0	0	4	3	0	3	1	0	0	0	4	4	15	
09:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	3	1	0	0	0	0	4	2	7	
09:45	1	2	0	0	0	0	3	2	0	3	0	0	0	0	3	3	1	3	1	0	0	0	5	4	21	
H/TOT	2	2	3	0	0	0	7	6	2	5	1	0	0	0	8	7	4	11	2	0	0	0	17	14	56	
10:00	2	1	0	0	0	0	3	2	2	5	1	0	0	0	8	7	1	9	1	0	0	0	11	10	39	
10:15	0	4	1	0	0	0	5	5	0	2	3	0	0	0	5	5	0	11	1	0	0	0	12	12	39	
10:30	2	1	1	0	0	0	4	3	0	7	0	0	0	0	7	7	2	7	0	0	0	0	9	8	37	
10:45	1	3	0	0	0	0	4	3	0	2	1	0	0	0	3	3	1	6	0	0	0	0	7	6	27	
H/TOT	5	9	2	0	0	0	16	13	2	16	5	0	0	0	23	22	4	33	2	0	0	0	39	36	141	
11:00	1	4	0	0	0	0	5	4	0	6	0	0	0	0	6	6	2	19	1	0	0	0	22	21	56	
11:15	0	1	0	0	0	0	1	1	1	3	1	0	0	0	5	4	0	9	0	0	0	0	9	9	27	
11:30	1	2	0	0	0	0	3	2	0	1	0	0	0	0	1	1	0	6	1	0	0	0	7	7	24	
11:45	0	3	0	0	0	0	3	3	0	2	0	0	0	0	2	2	1	10	0	0	0	0	11	10	34	
н/тот	2	10	0	0	0	0	12	11	1	12	1	0	0	0	14	13	3	44	2	0	0	0	49	47	141	
12:00	3	1	0	0	0	0	4	2	0	2	0	0	0	0	2	2	1	8	1	0	0	0	10	9	22	
12:15	1	2	1	0	0	0	4	3	0	4	1	0	0	0	5	5	2	6	0	0	0	0	8	7	26	
12:30	1	2	1	0	0	0	4	3	0	3	2	0	0	0	5	5	2	7	0	0	0	0	9	8	28	
12:45	1	0	0	0	0	0	1	0	0	3	0	0	0	0	3	3	2	12	1	0	0	0	15	14	34	
н/тот	6	5	2	0	0	0	13	9	0	12	3	0	0	0	15	15	7	33	2	0	0	0	42	37	109	
13:00	0	2	0	0	0	0	2	2	1	3	2	0	0	0	6	5	5	3	0	0	0	0	8	5	19	
13:15	3	0	0	0	0	0	3	1	1	3	0	0	0	0	4	3	3	5	0	0	0	0	8	6	15	
13:30	2	0	0	0	0	0	2	1	1	1	0	0	0	0	2	1	1	8	0	0	0	0	9	8	22	
13:45	0	1	0	0	0	0	1	1	2	3	0	0	0	0	5	4	2	6	2	0	0	0	10	9	24	
н/тот	5	3	0	0	0	0	8	5	5	10	2	0	0	0	17	14	11	22	2	0	0	0	35	27	81	
P/TOT	21	31	9	0	0	0	61	46.3	10	56	12	0	0	0	78	71	31	151	13	0	0	0	195	173	569	

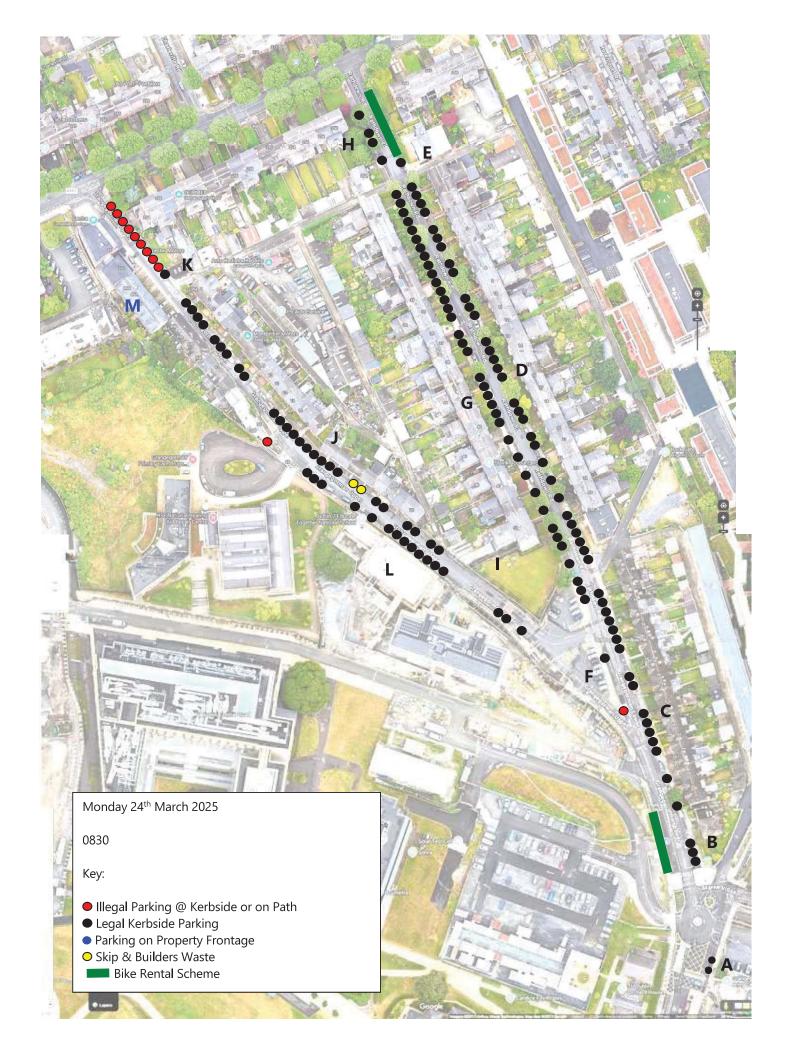


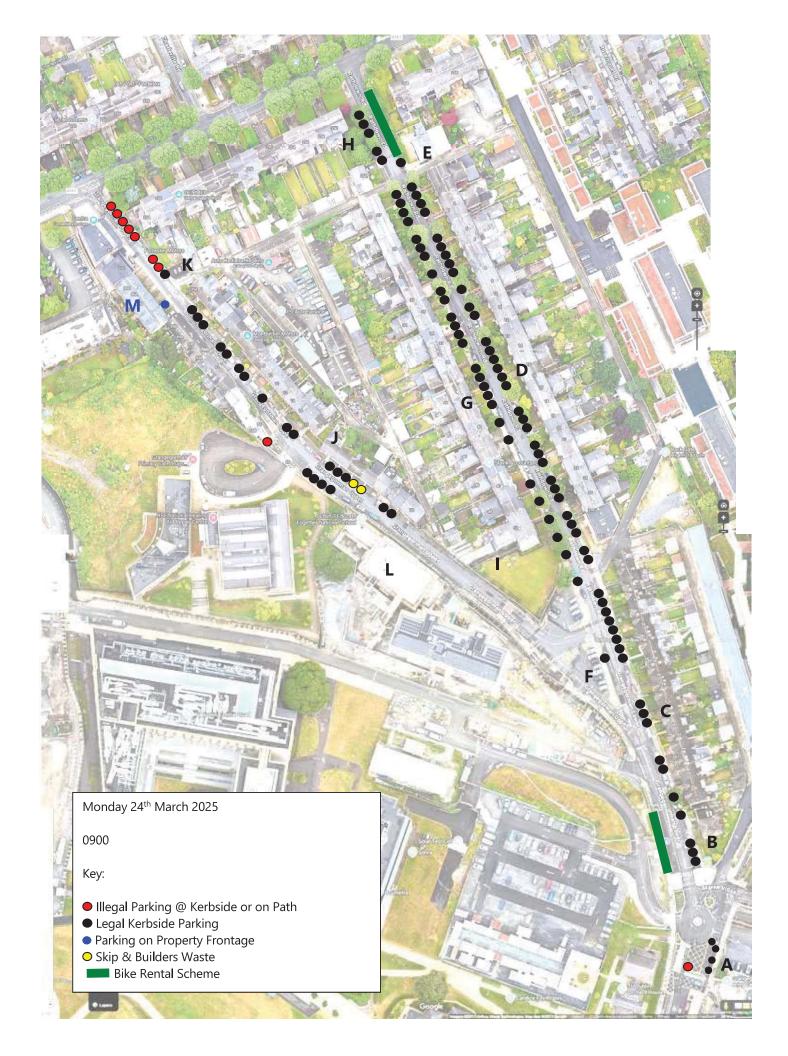
Appendix B – Parking Survey

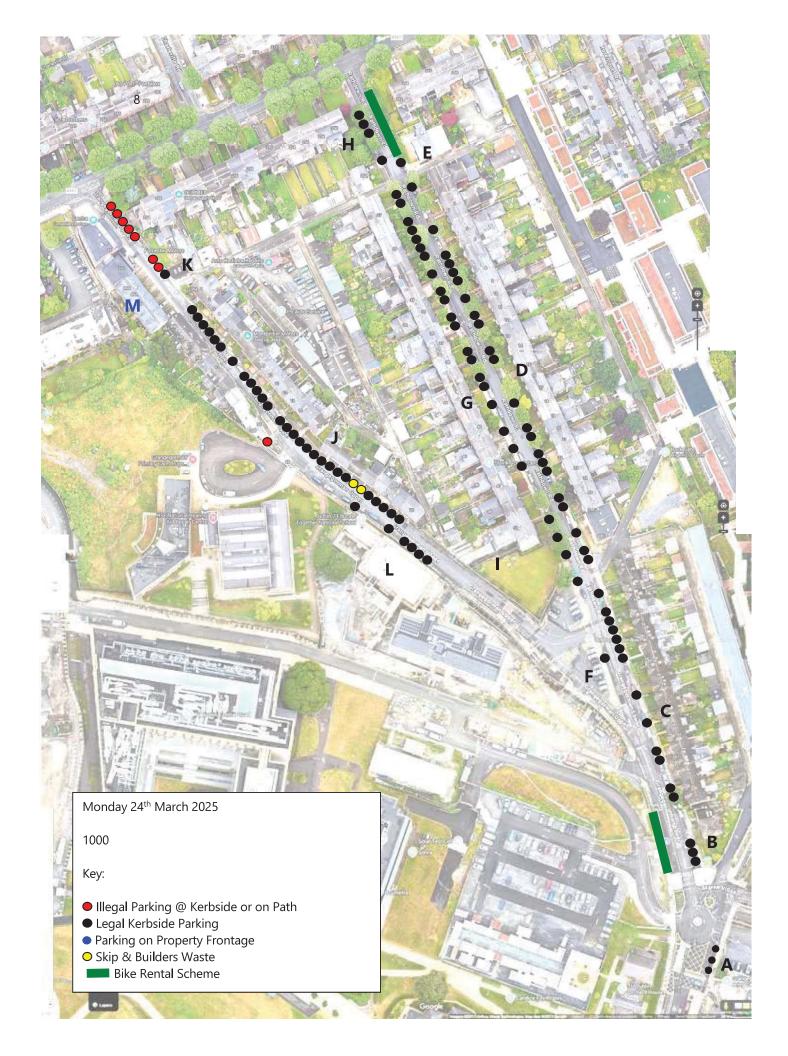


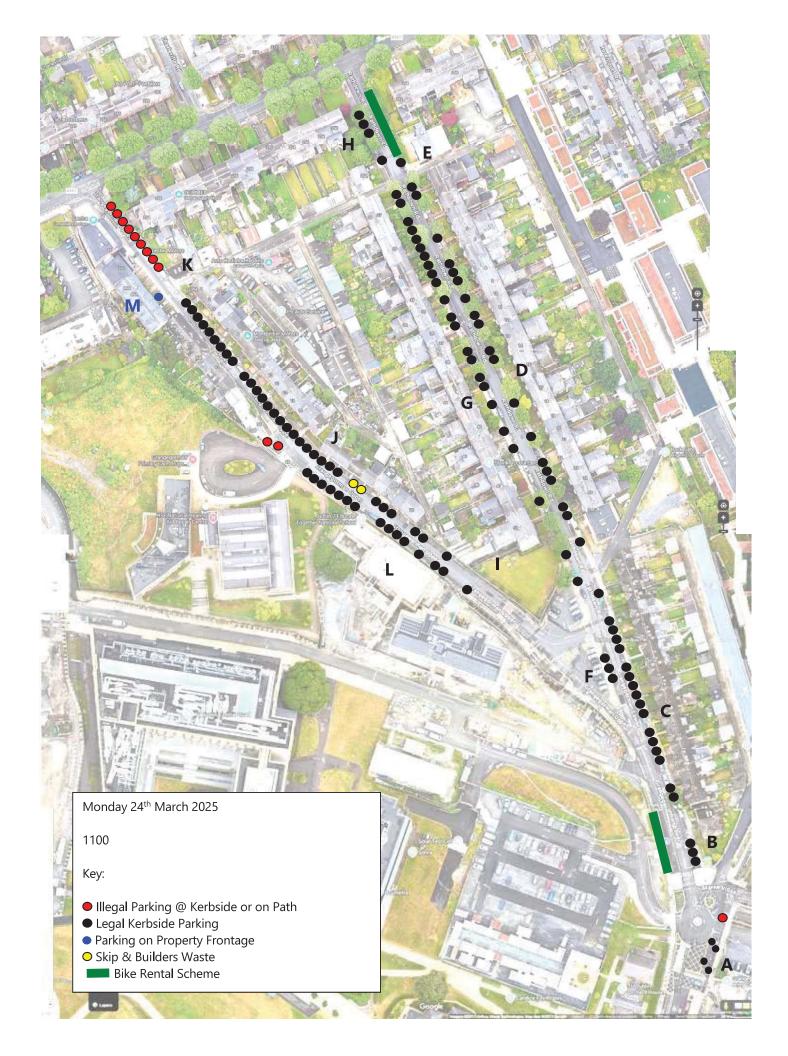


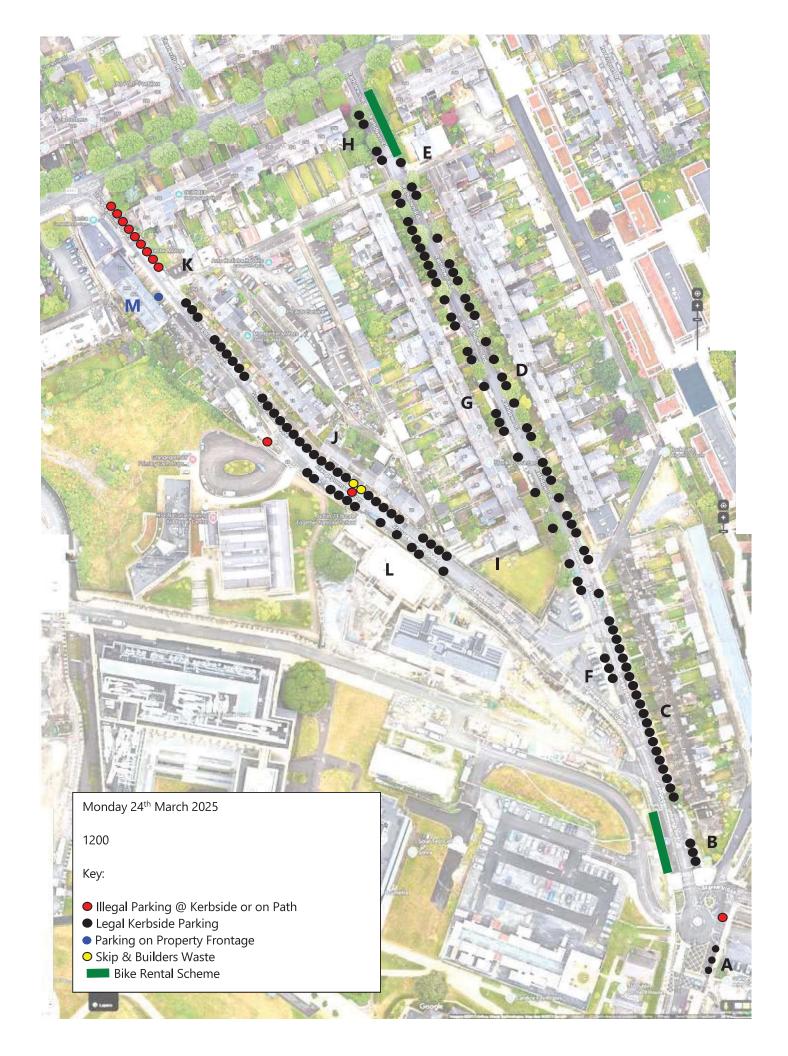


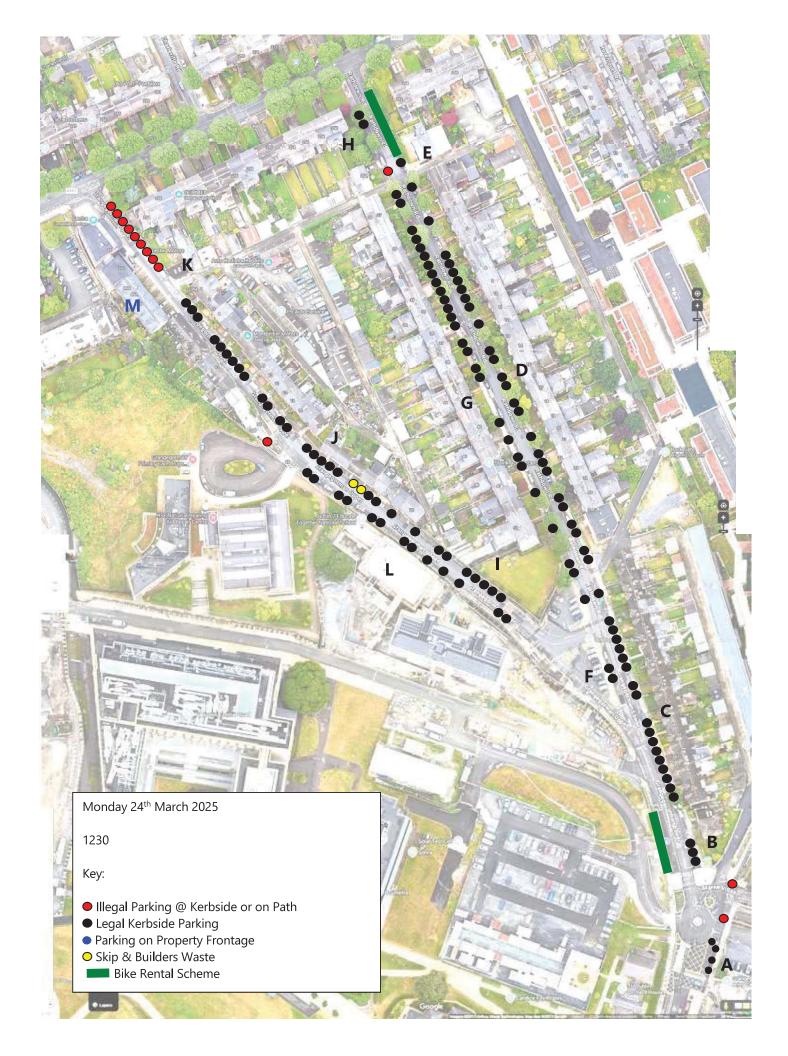


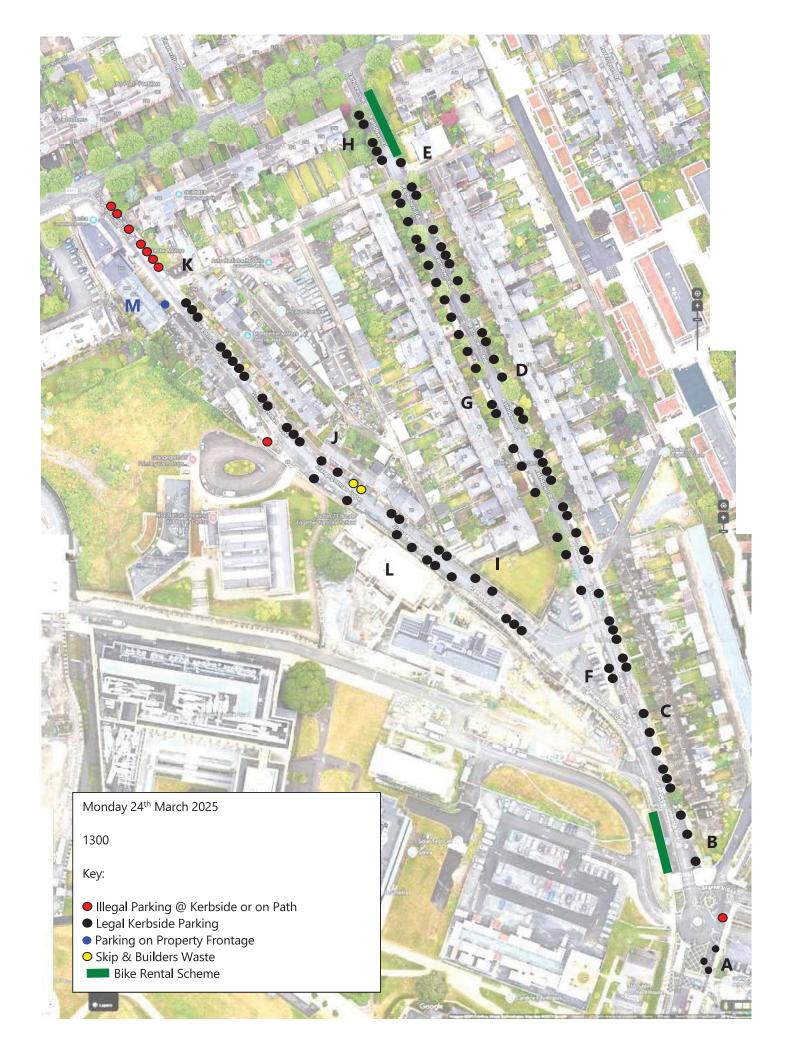


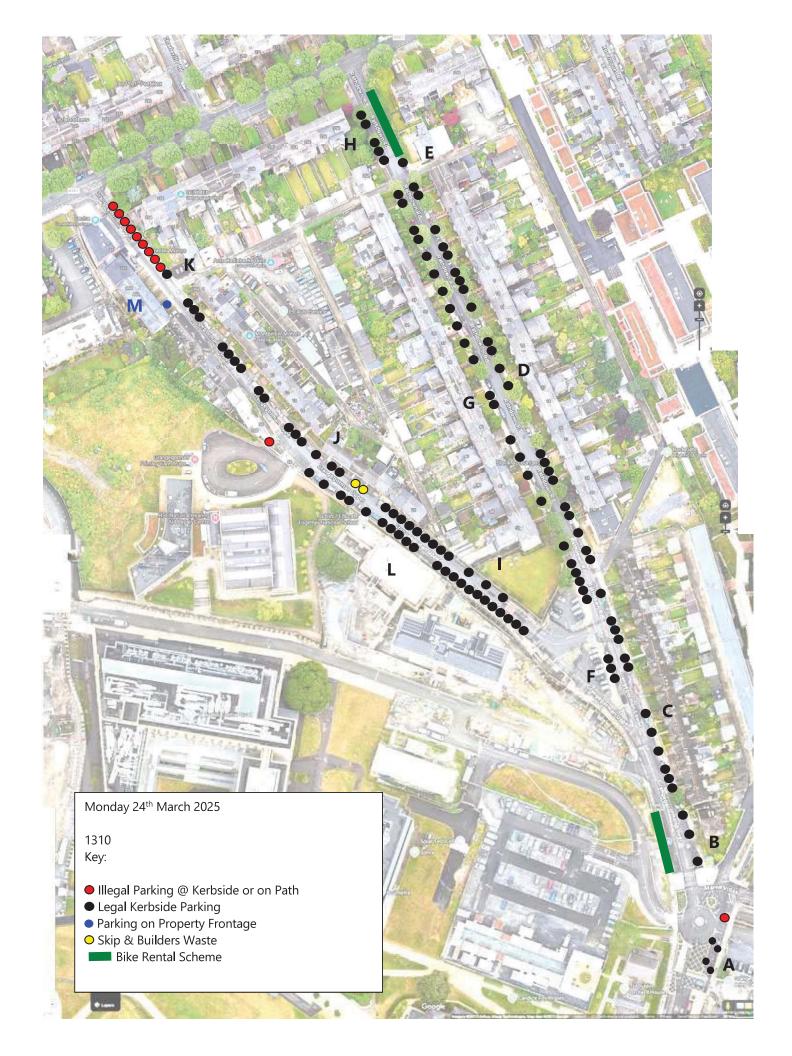


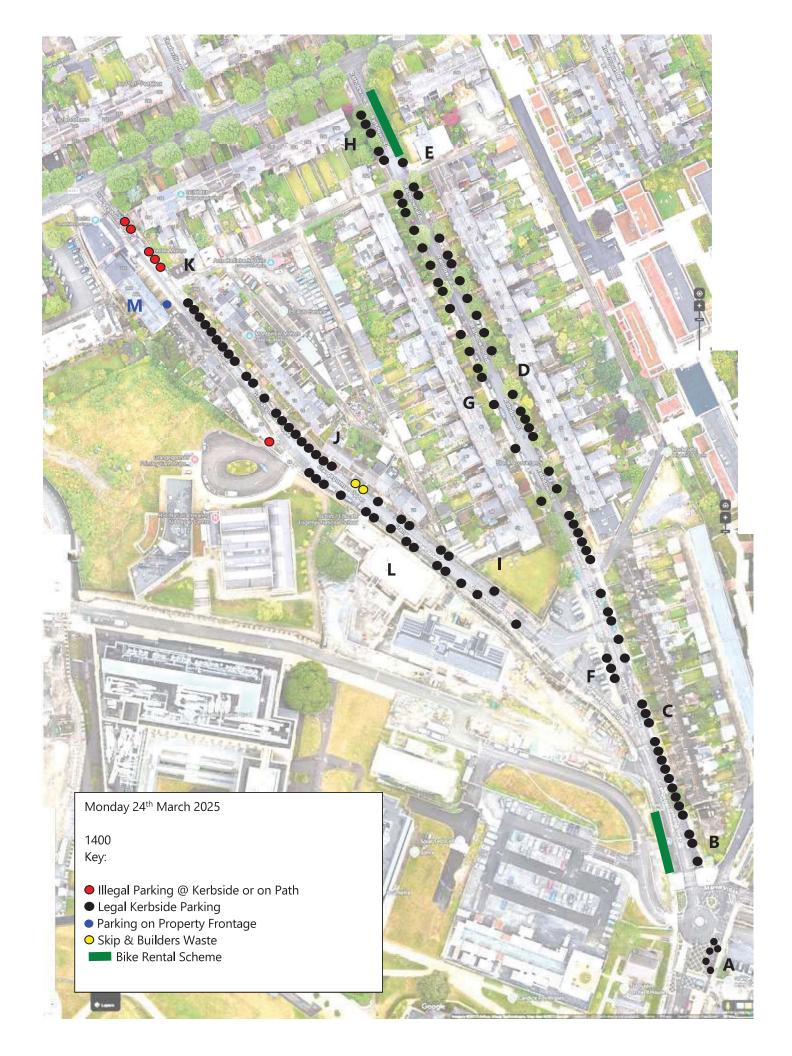


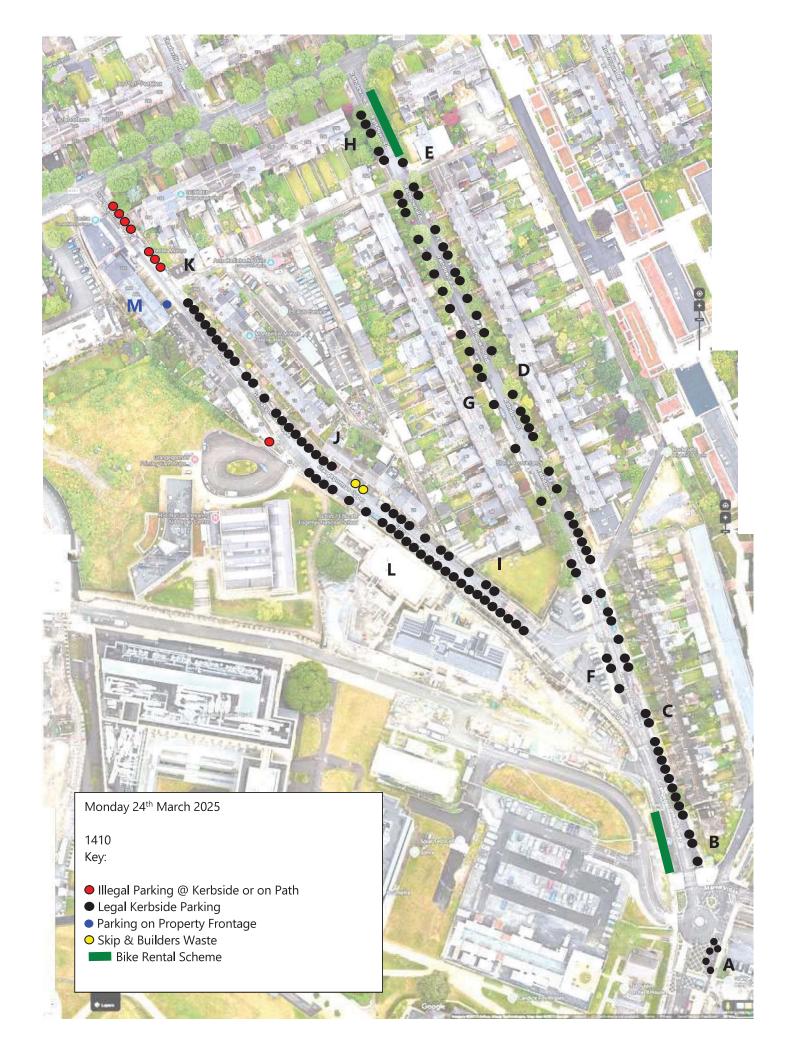


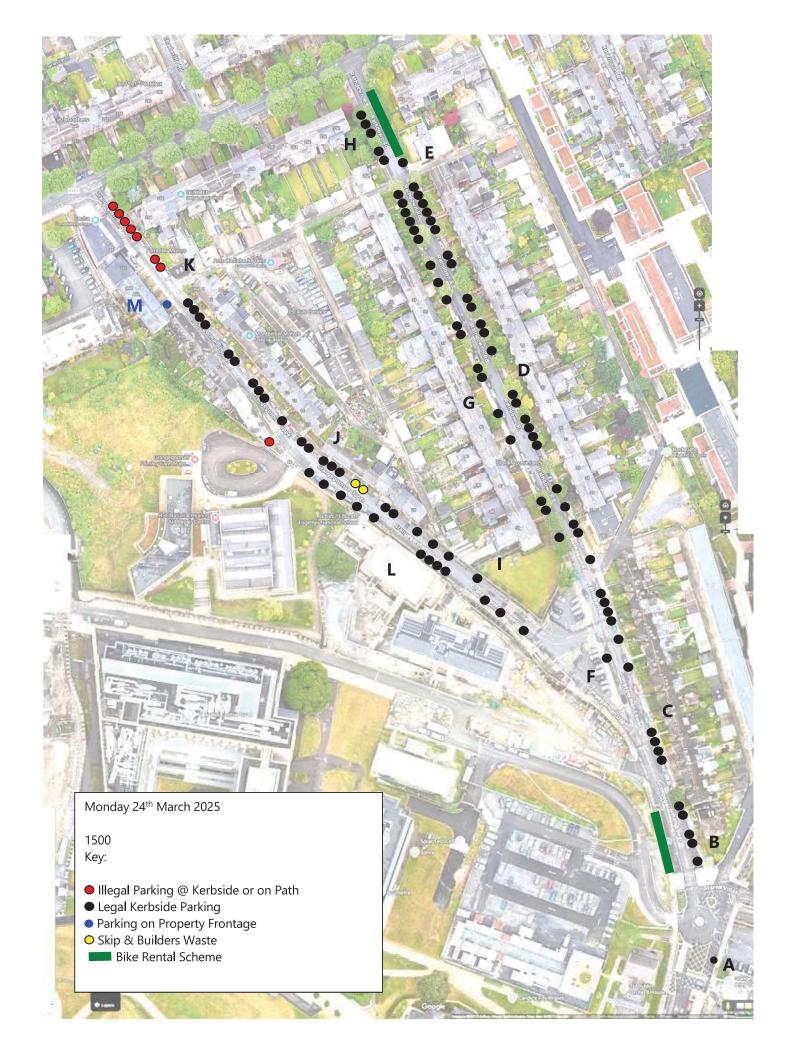


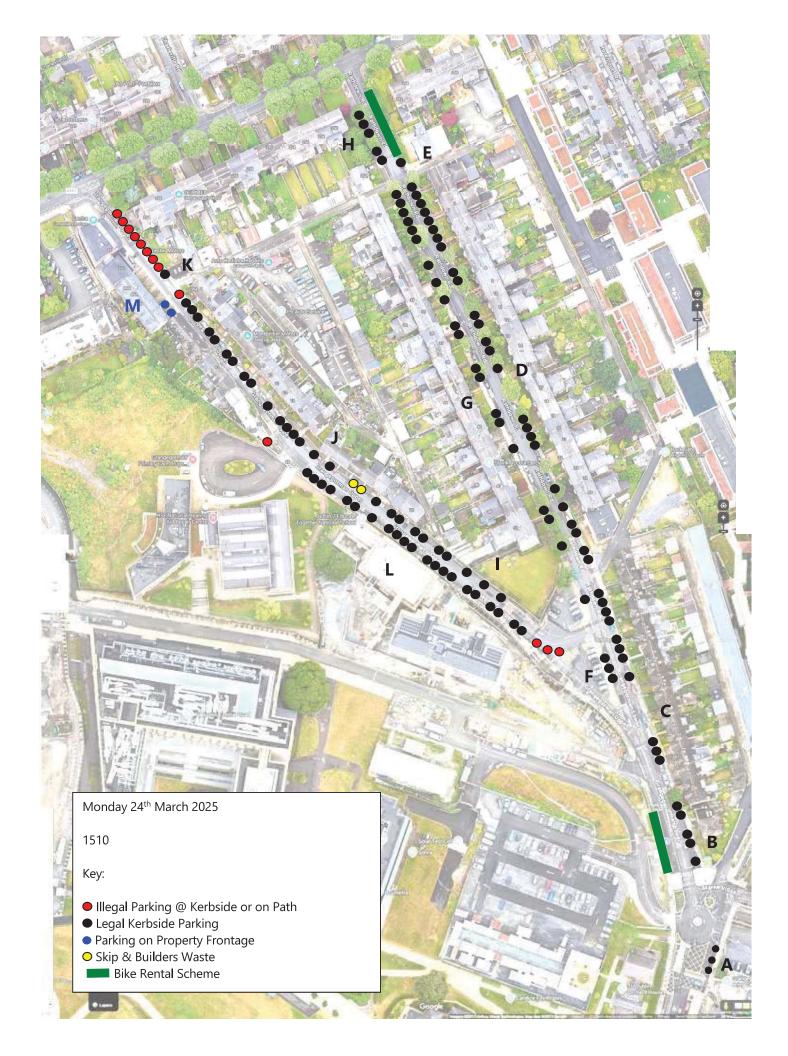


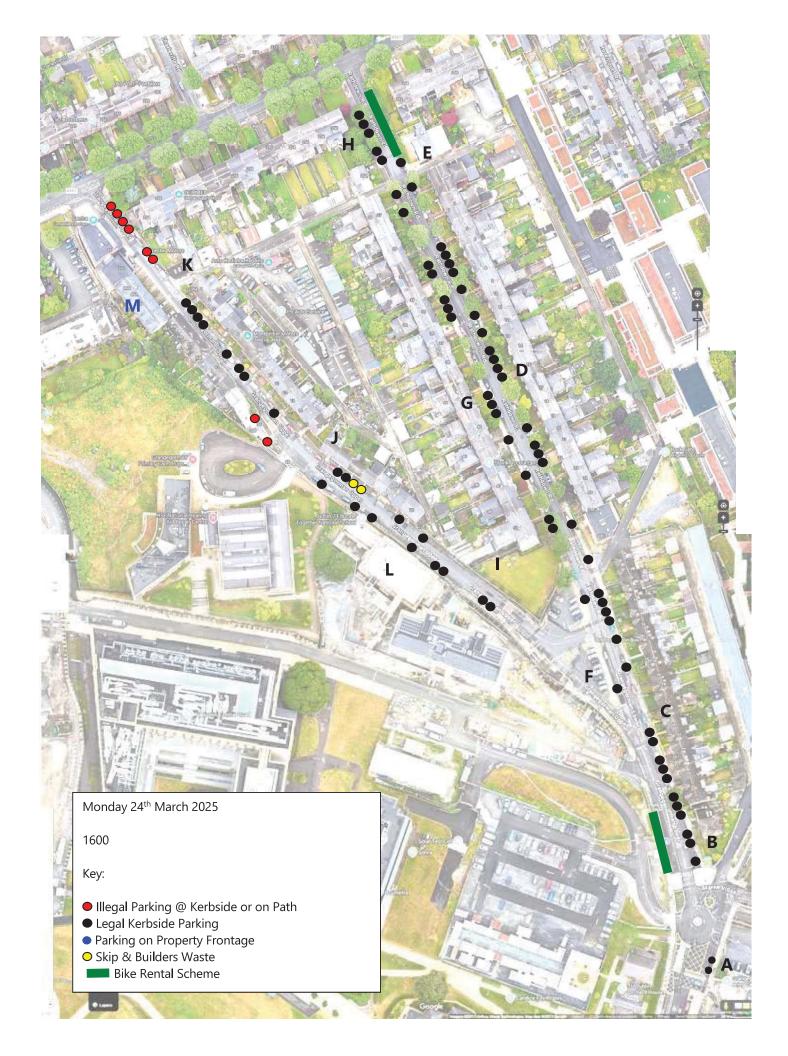


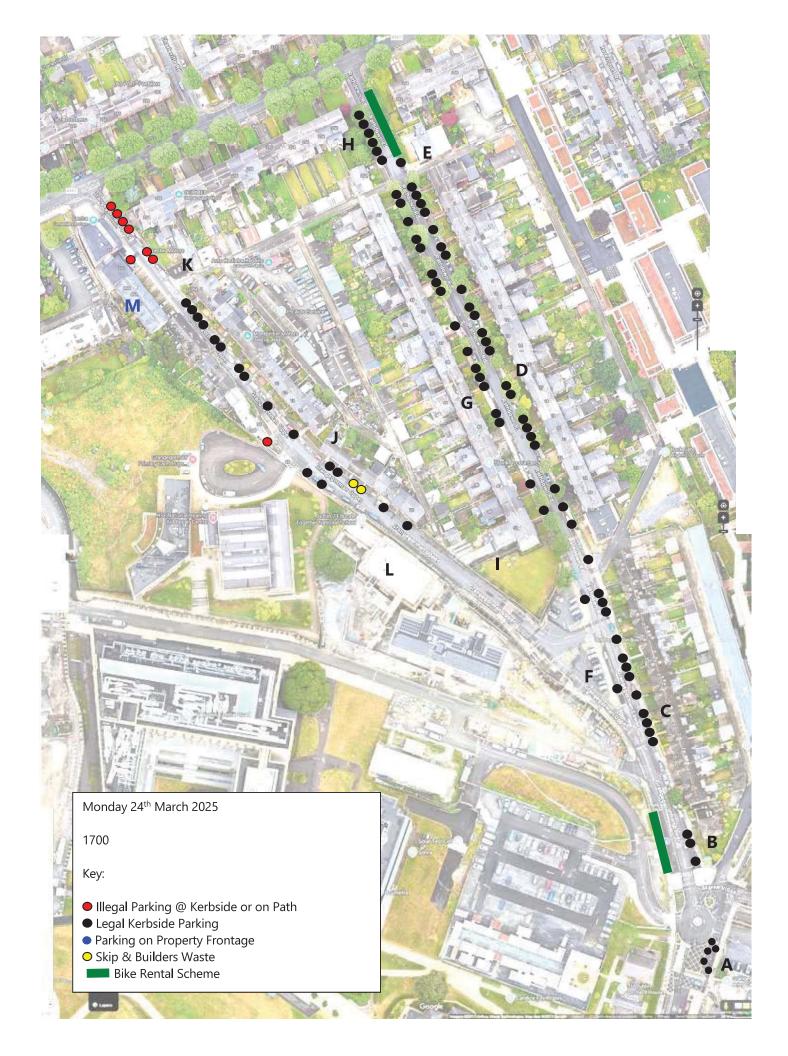


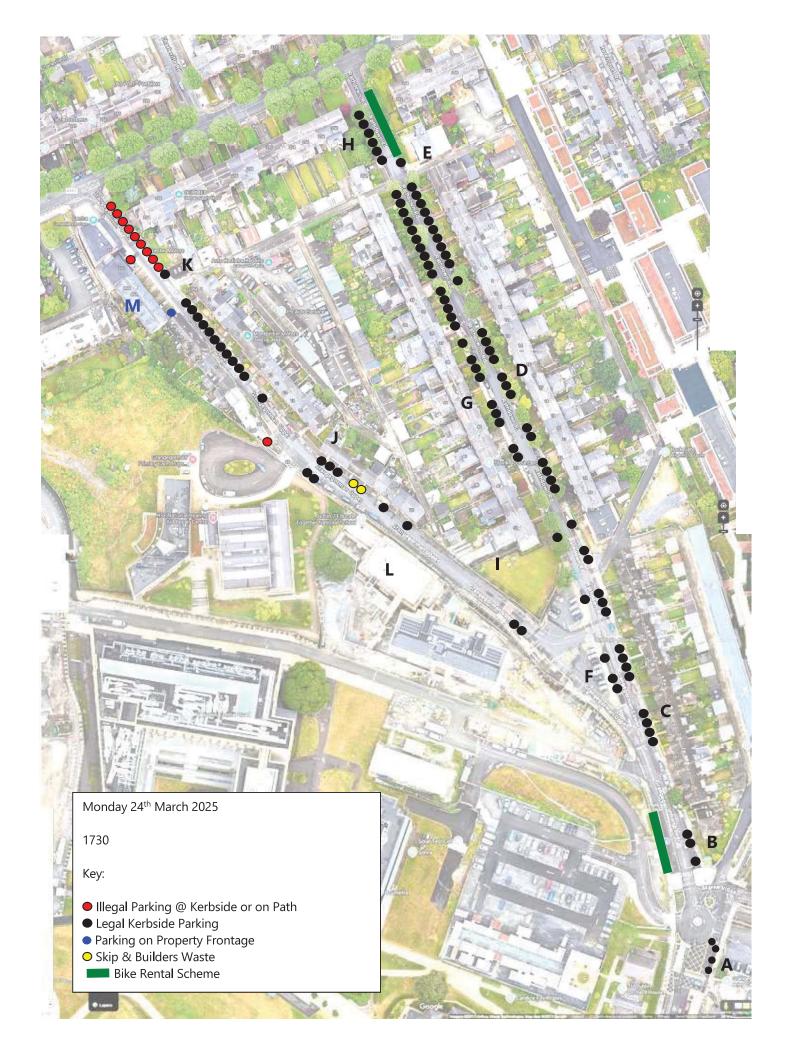


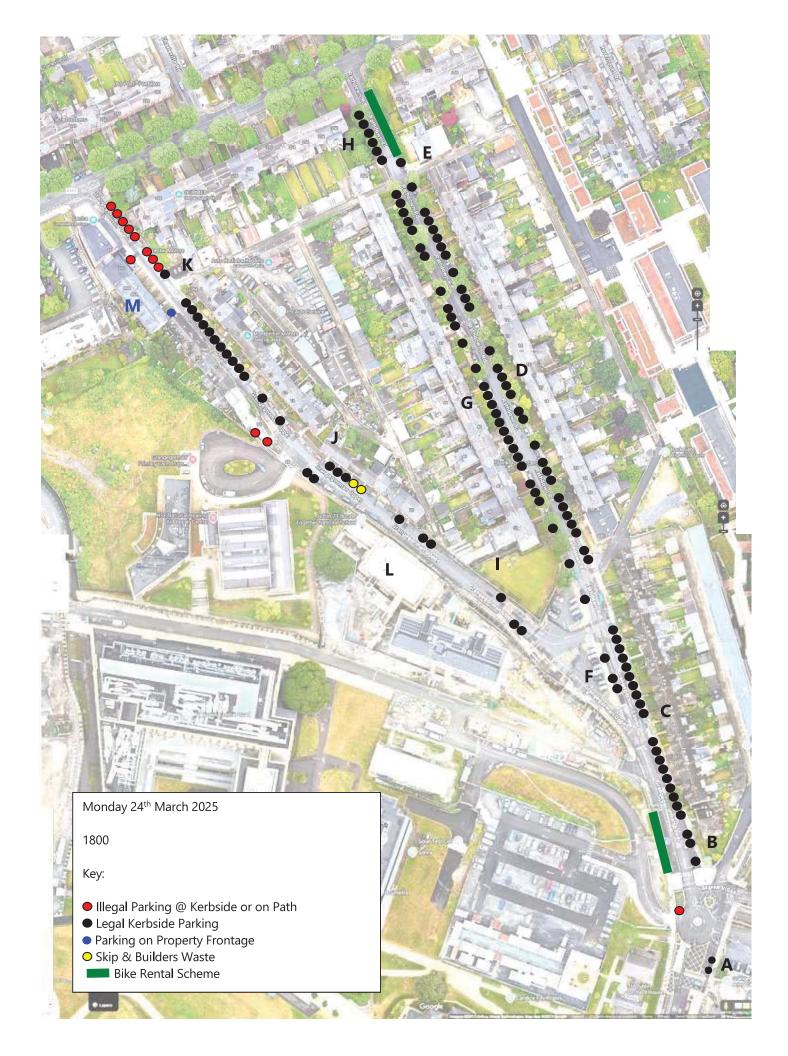


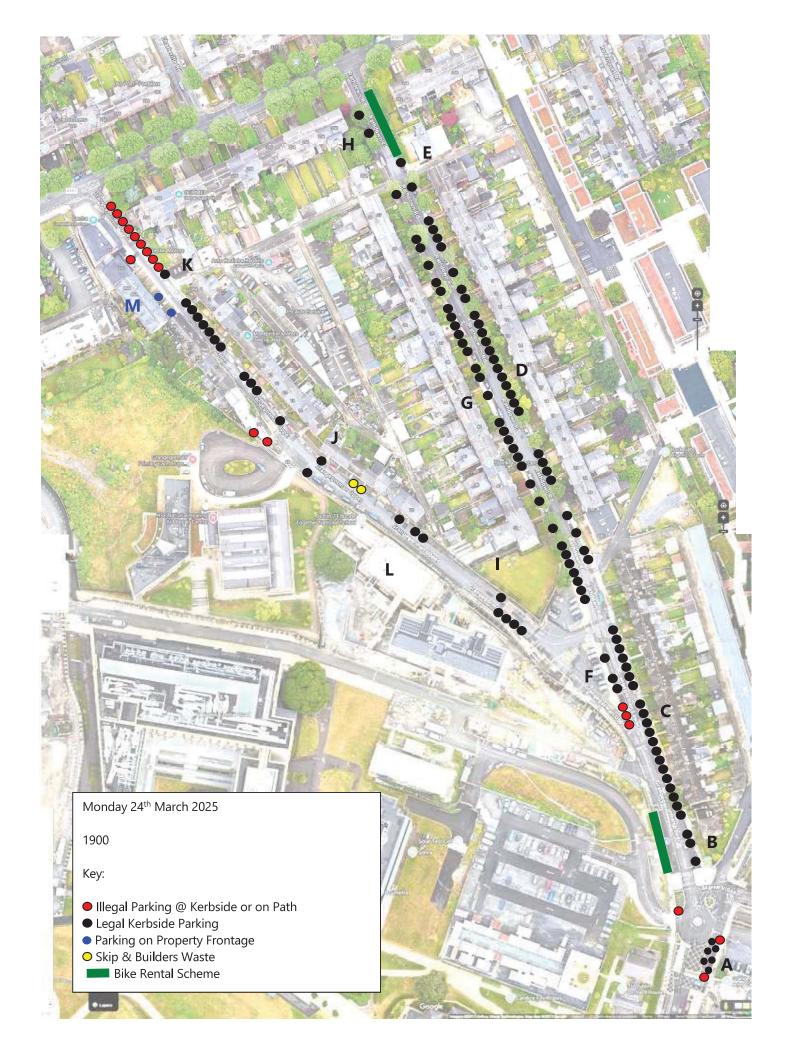


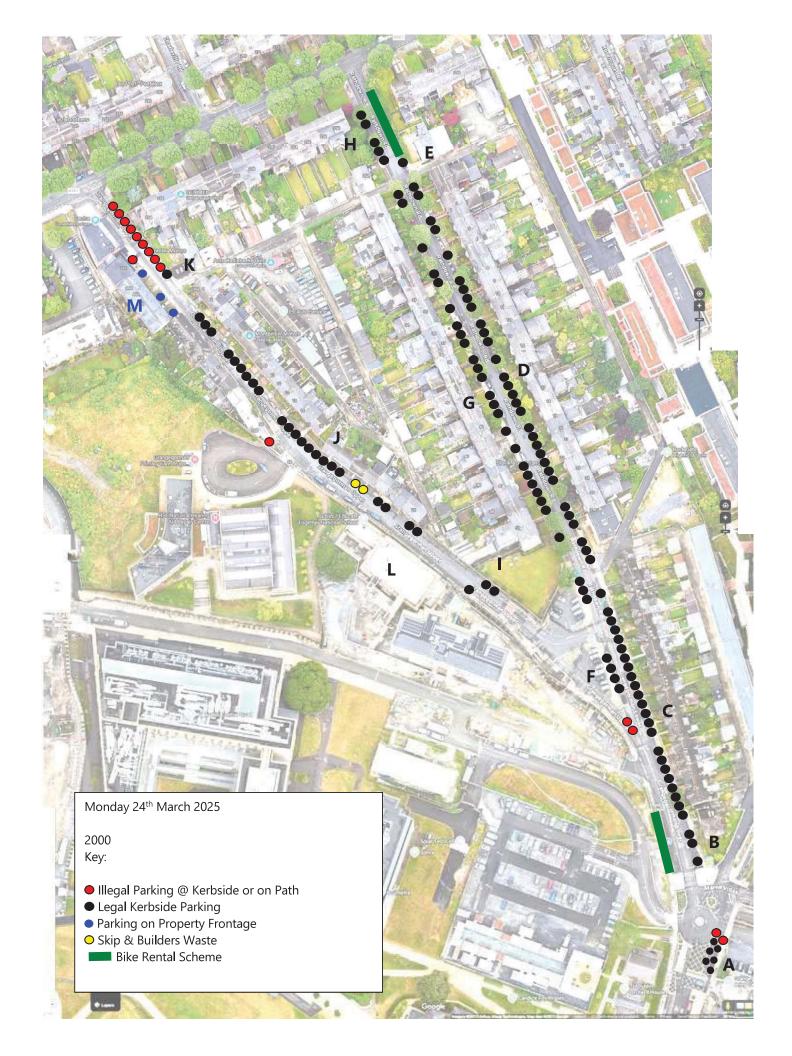


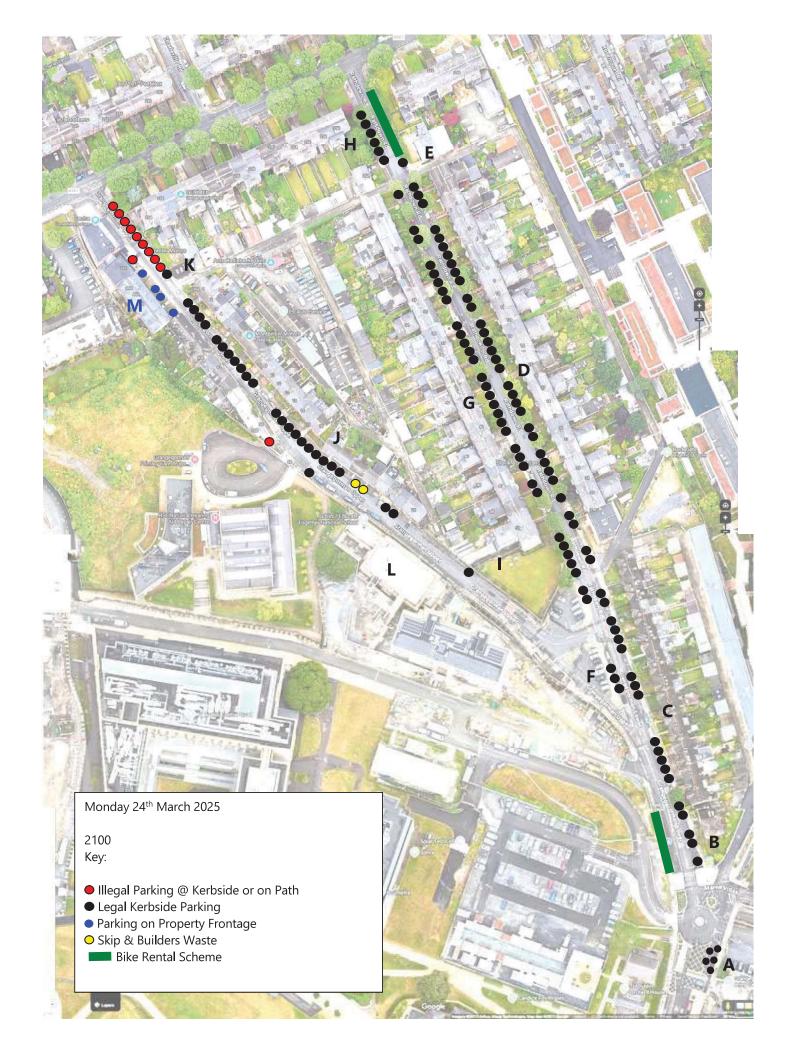


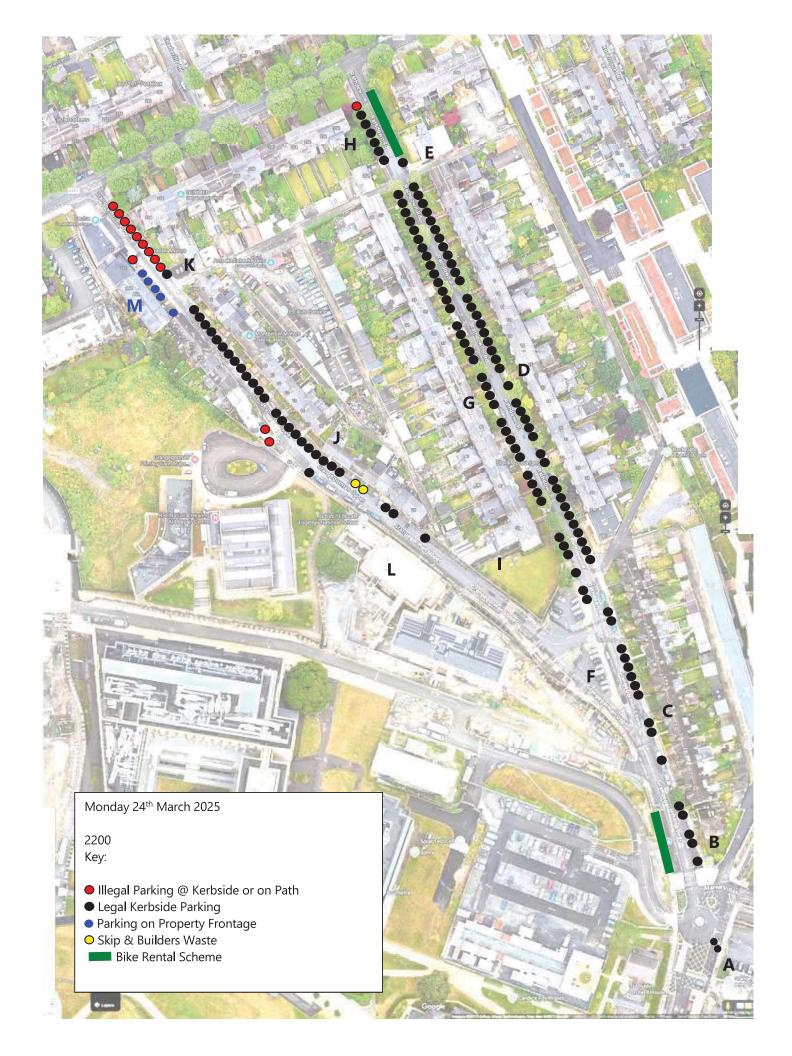


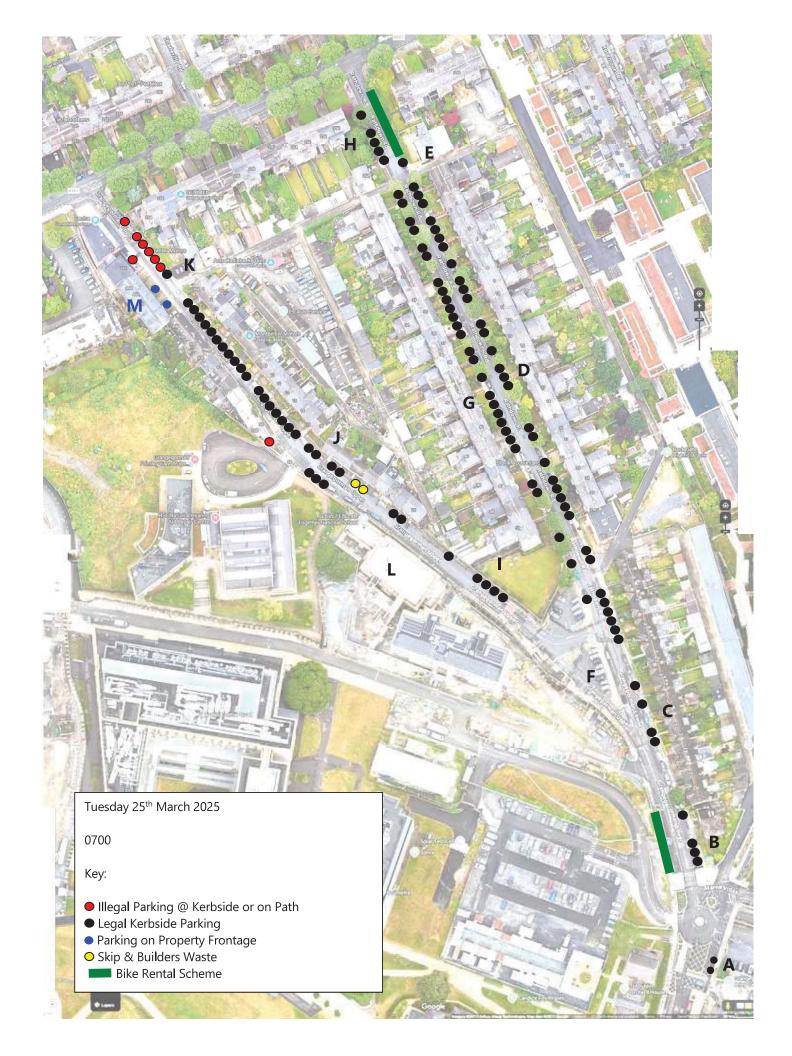


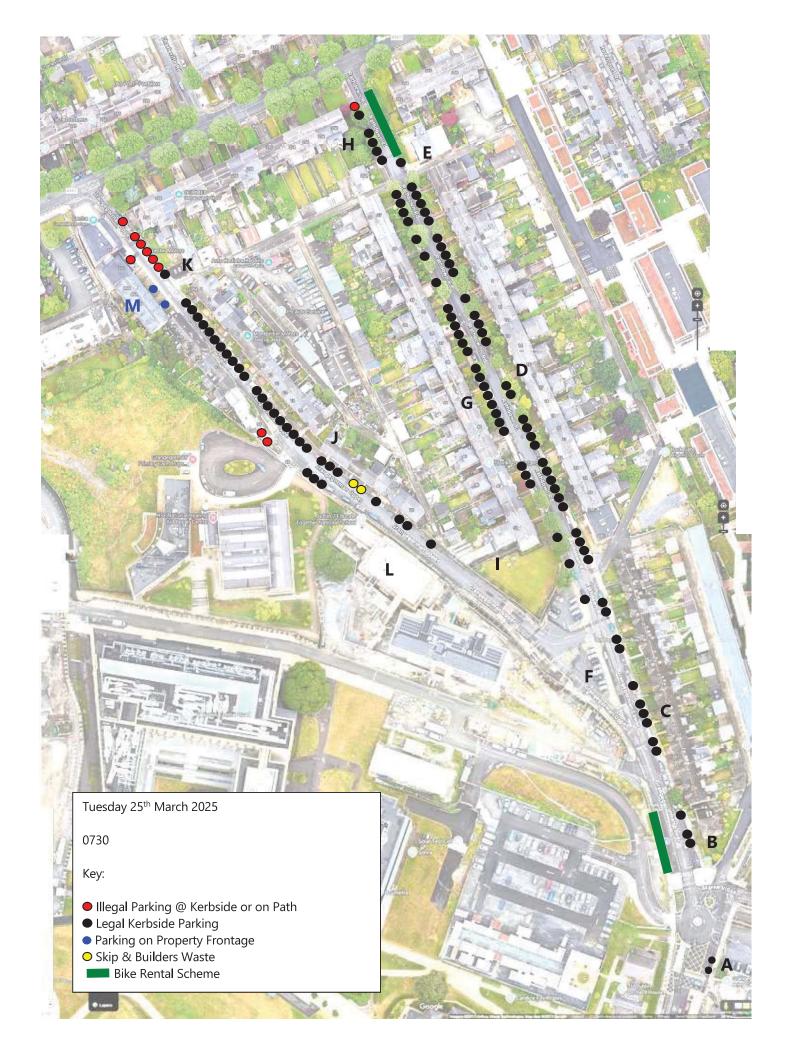


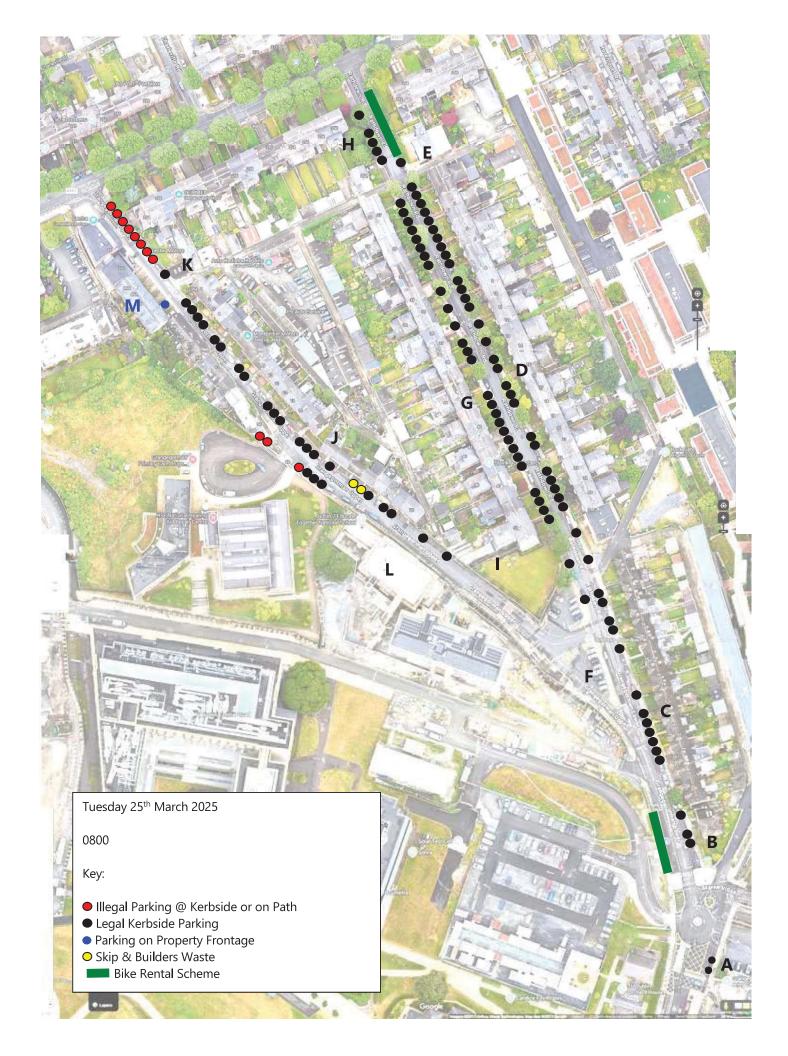


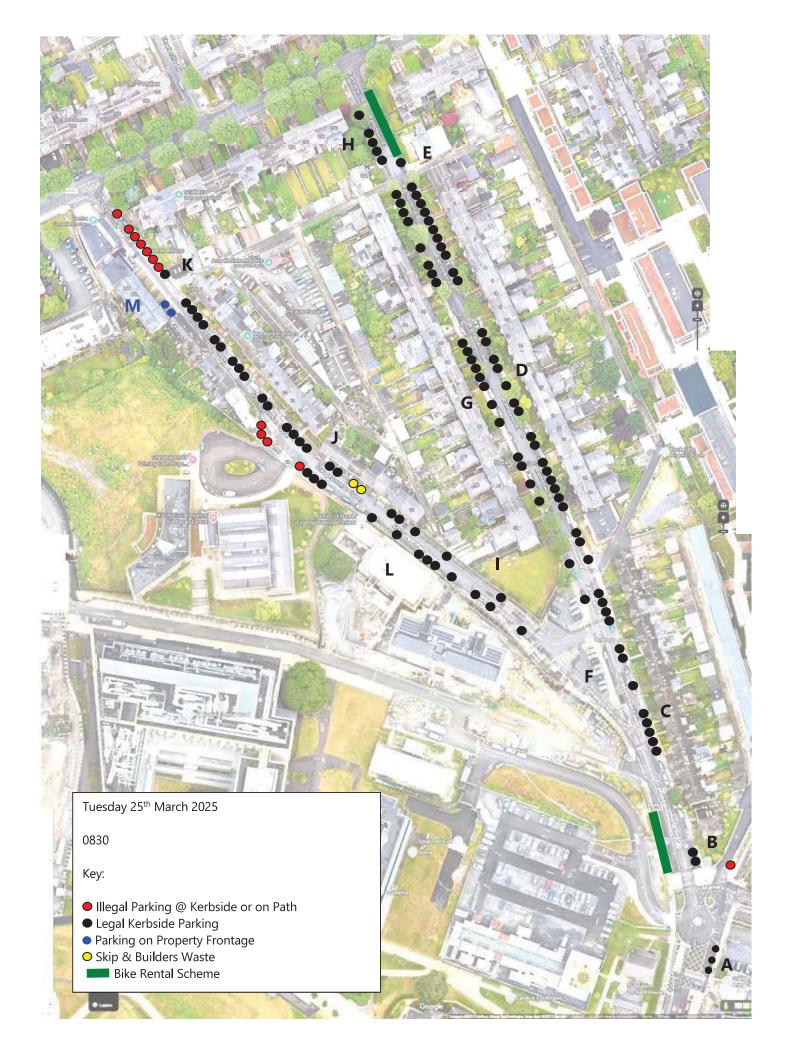


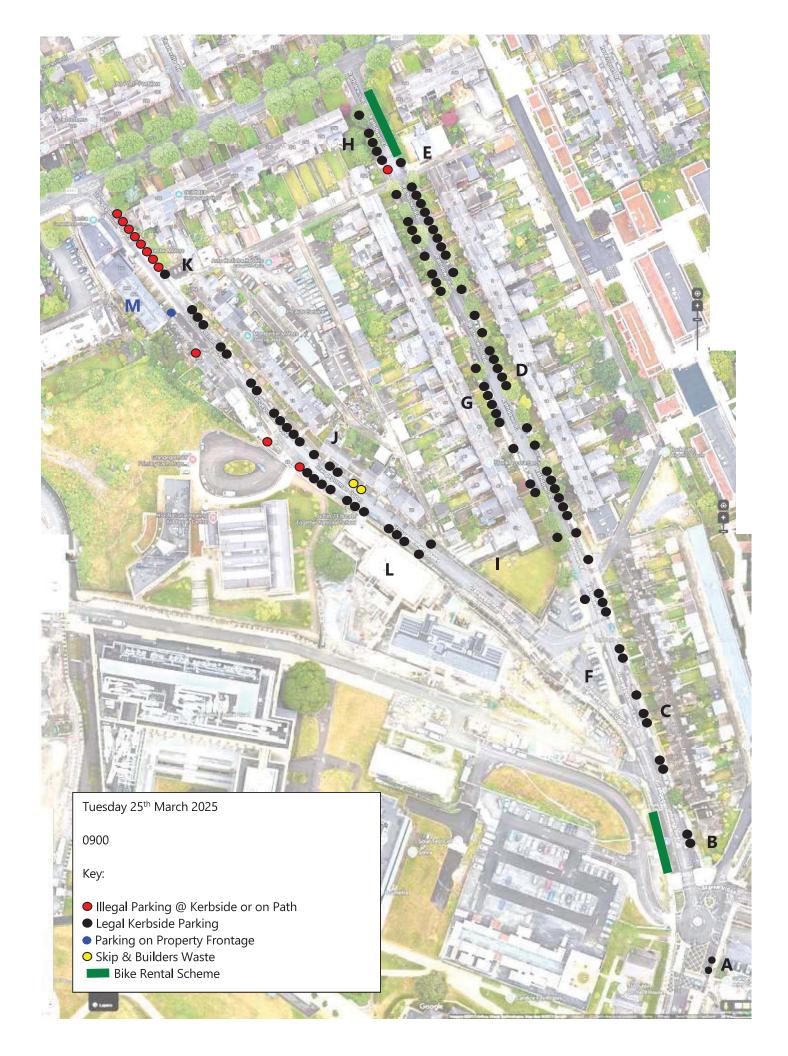


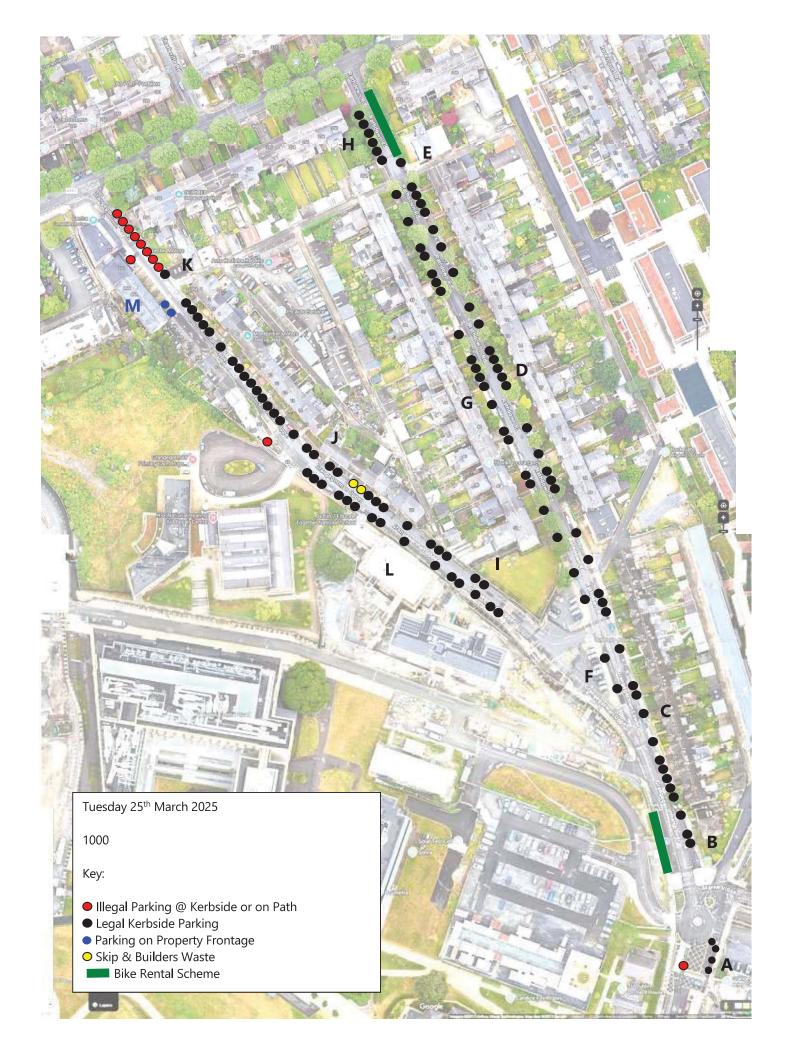


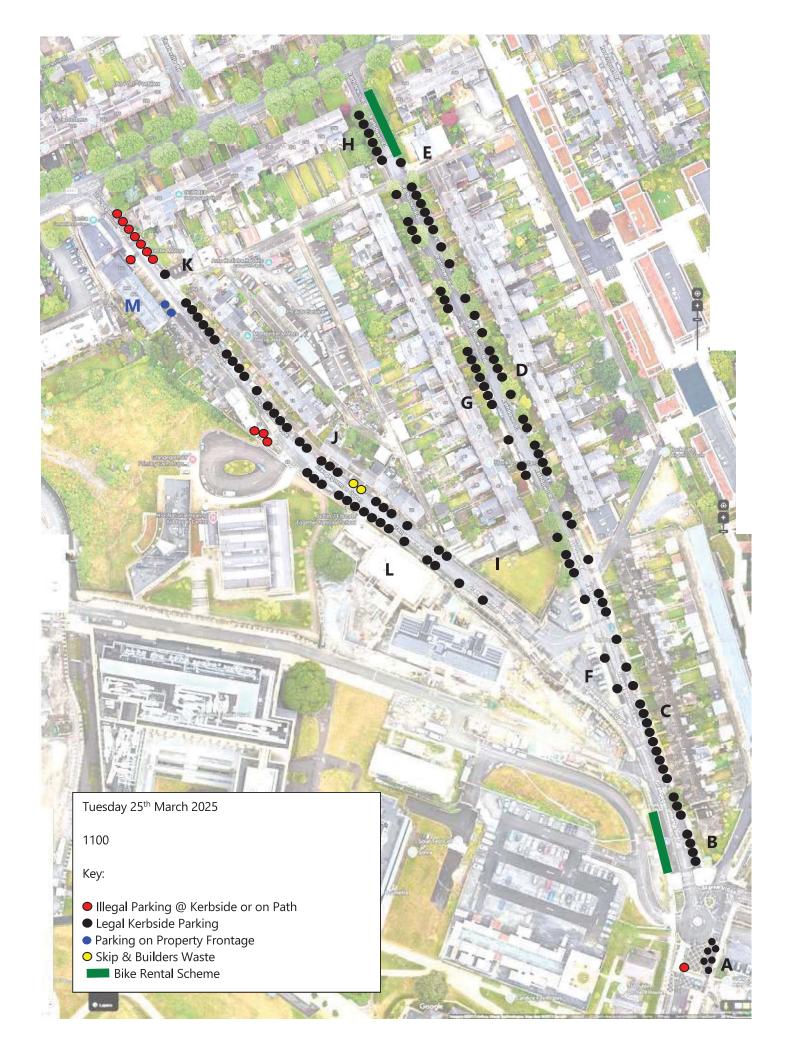


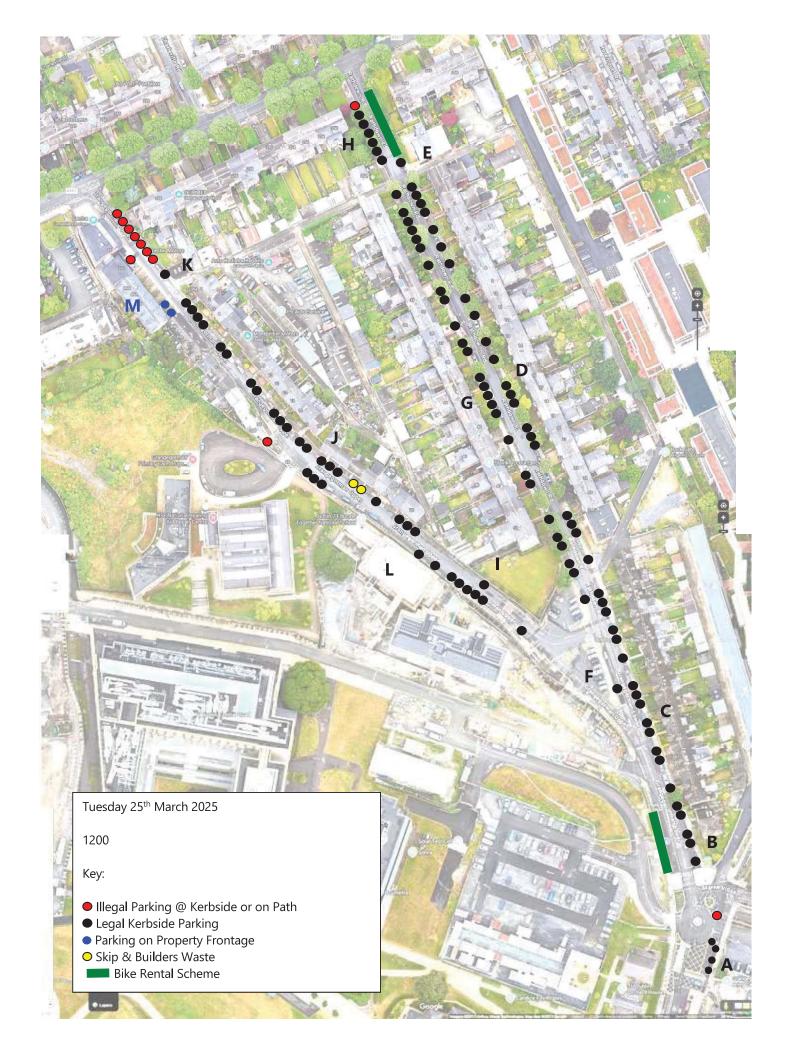


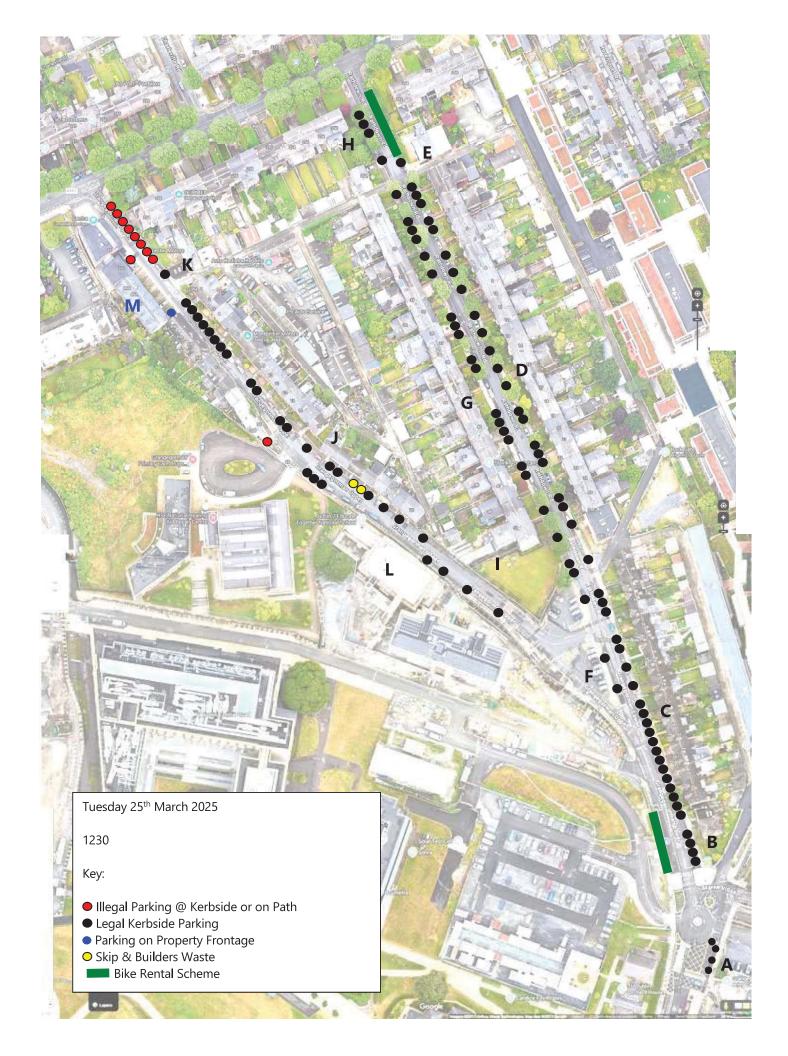


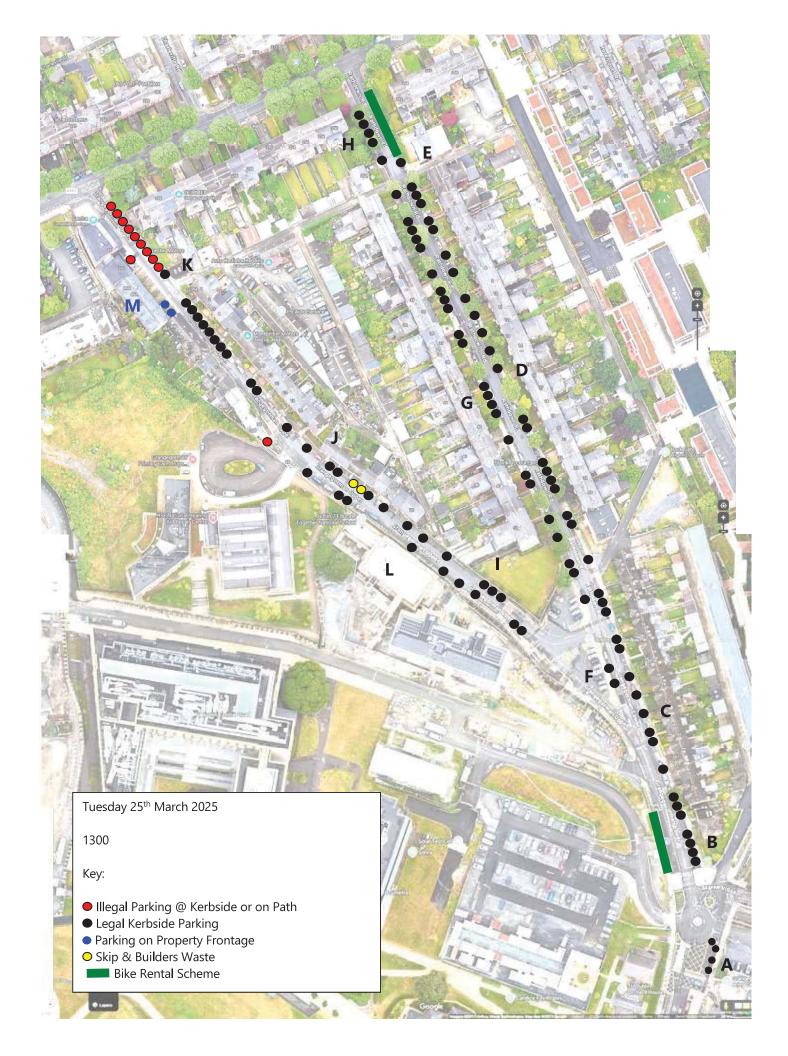


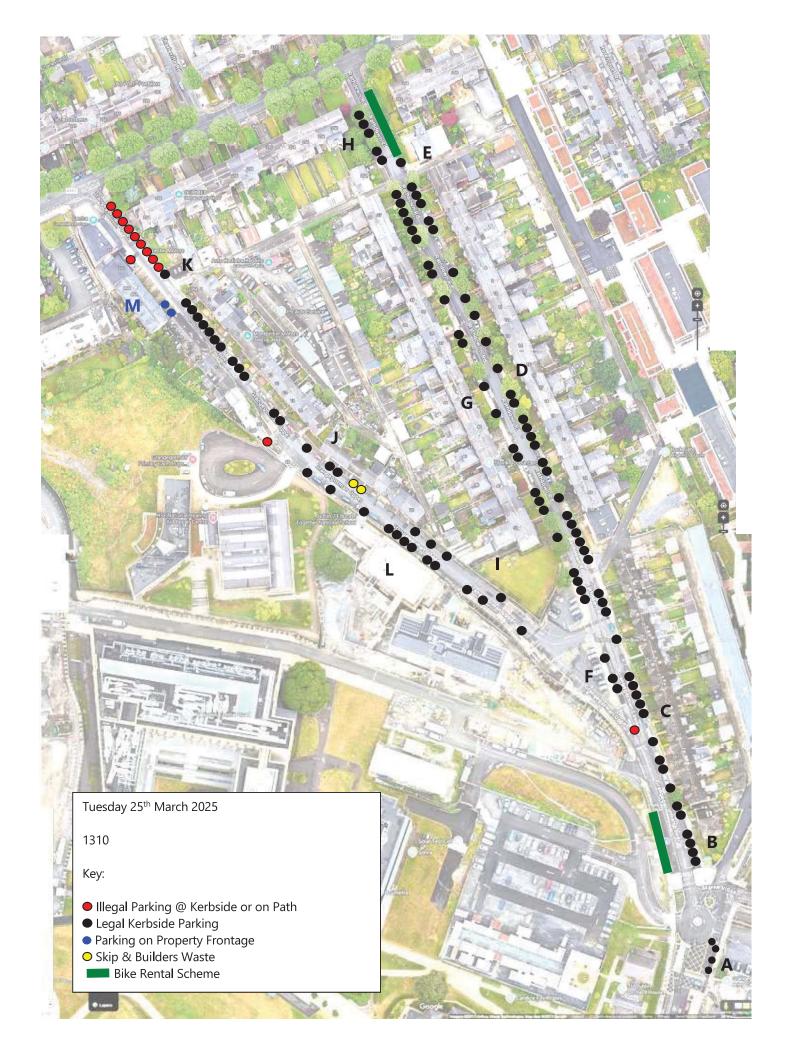


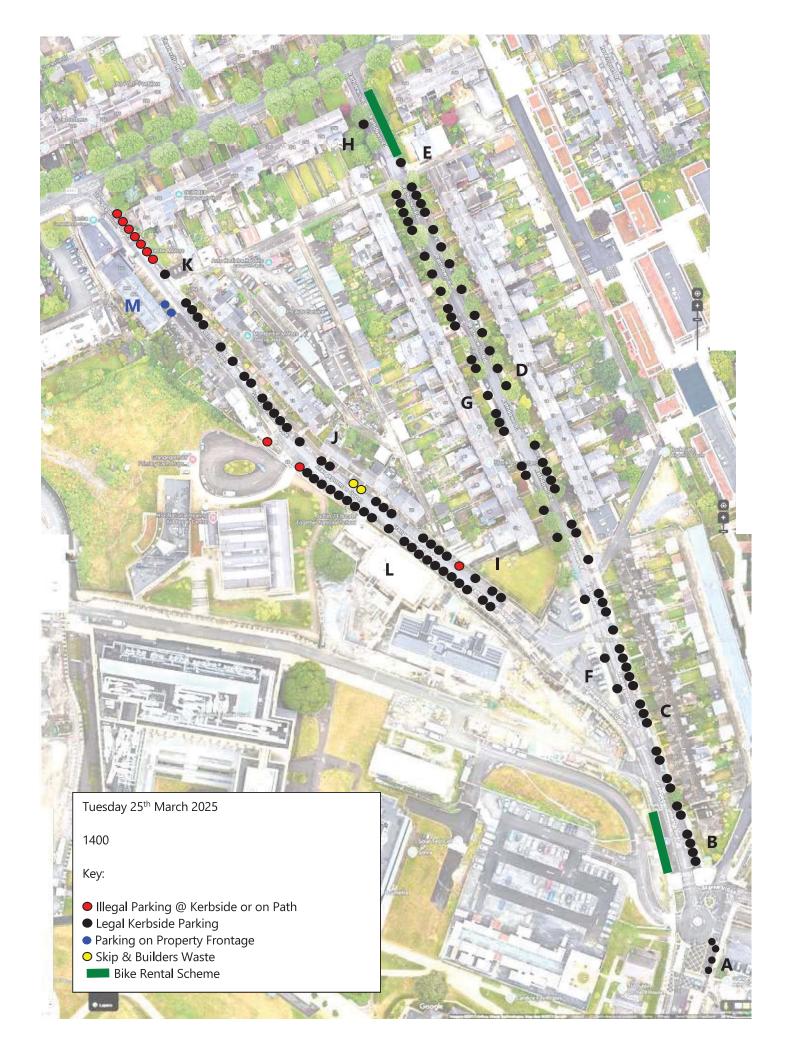


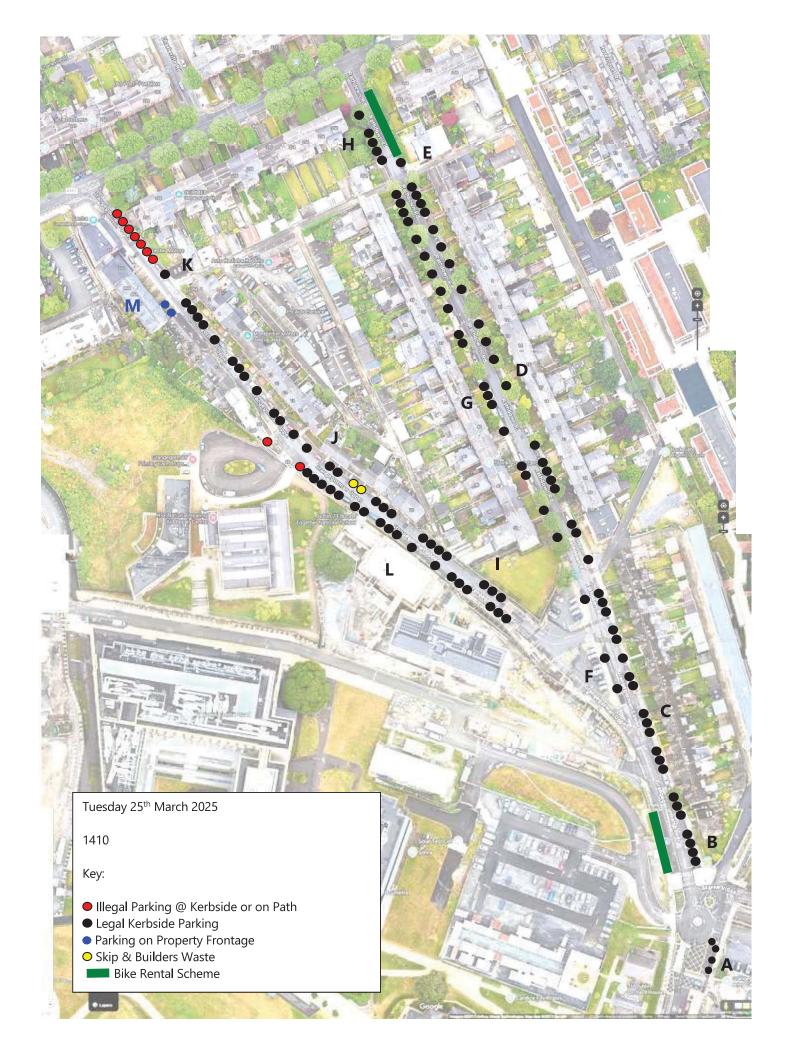


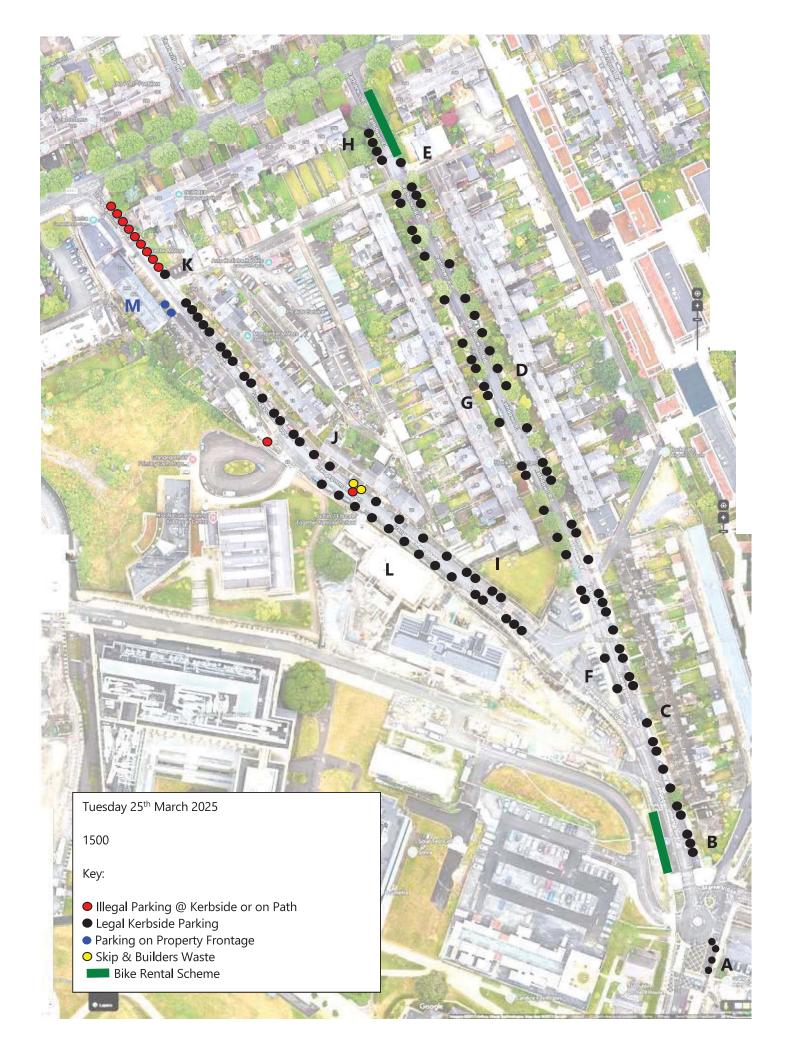


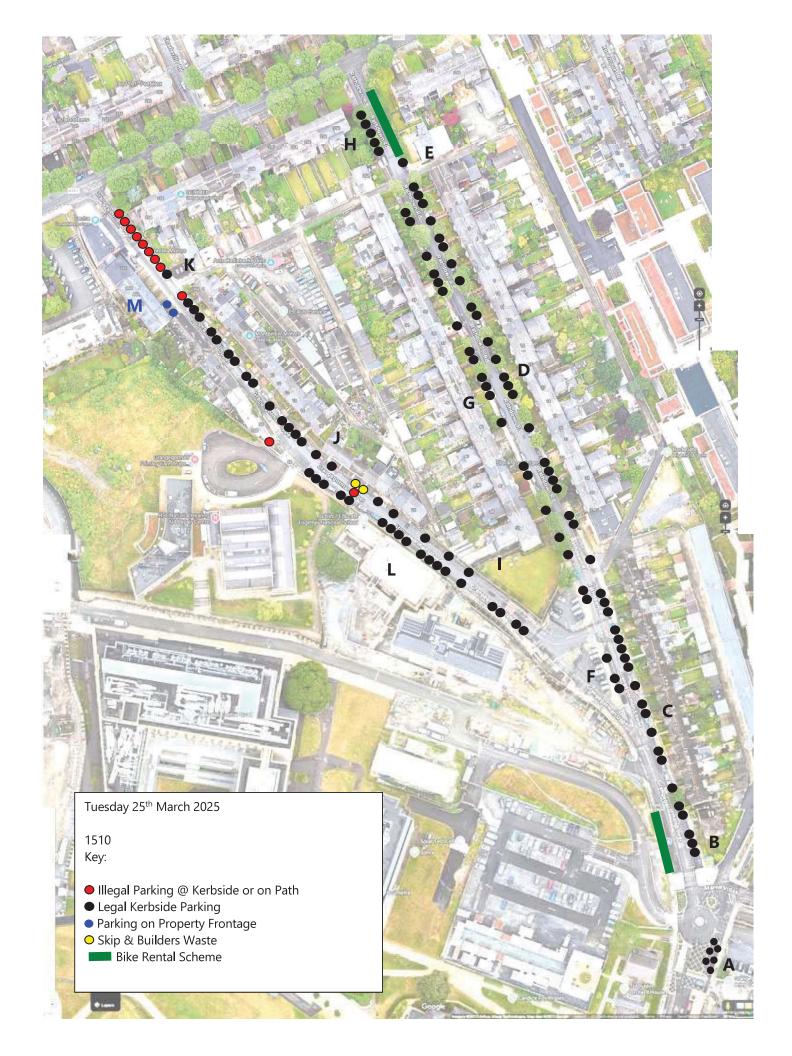


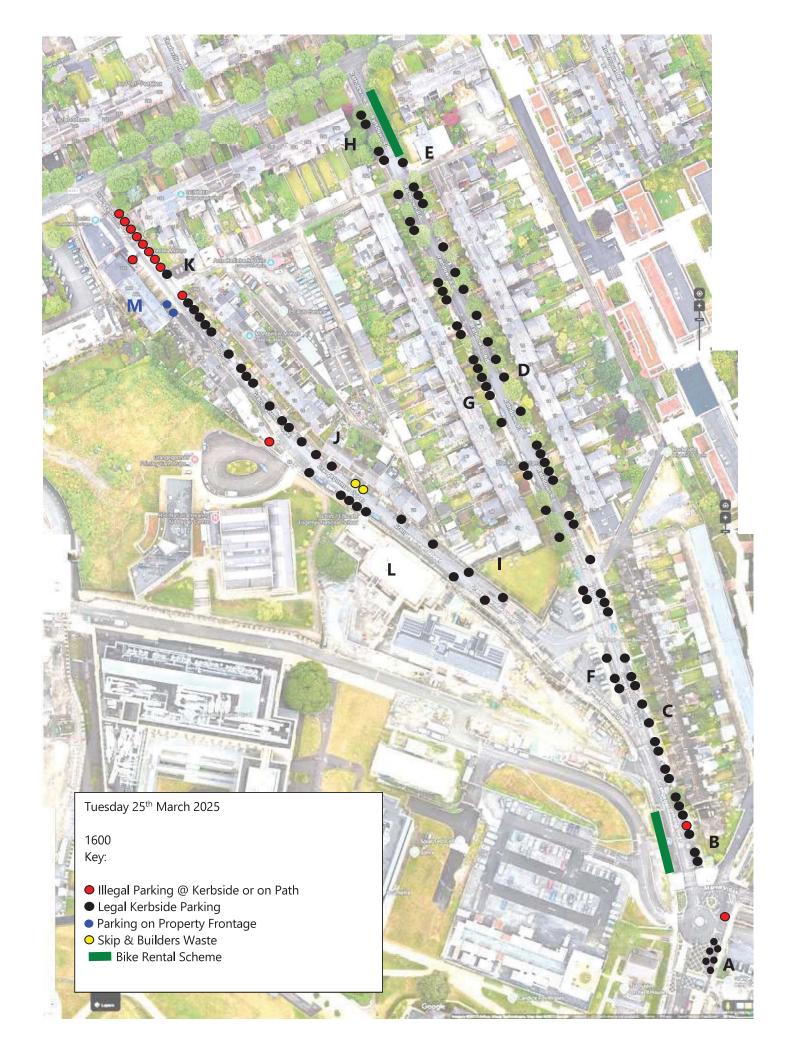


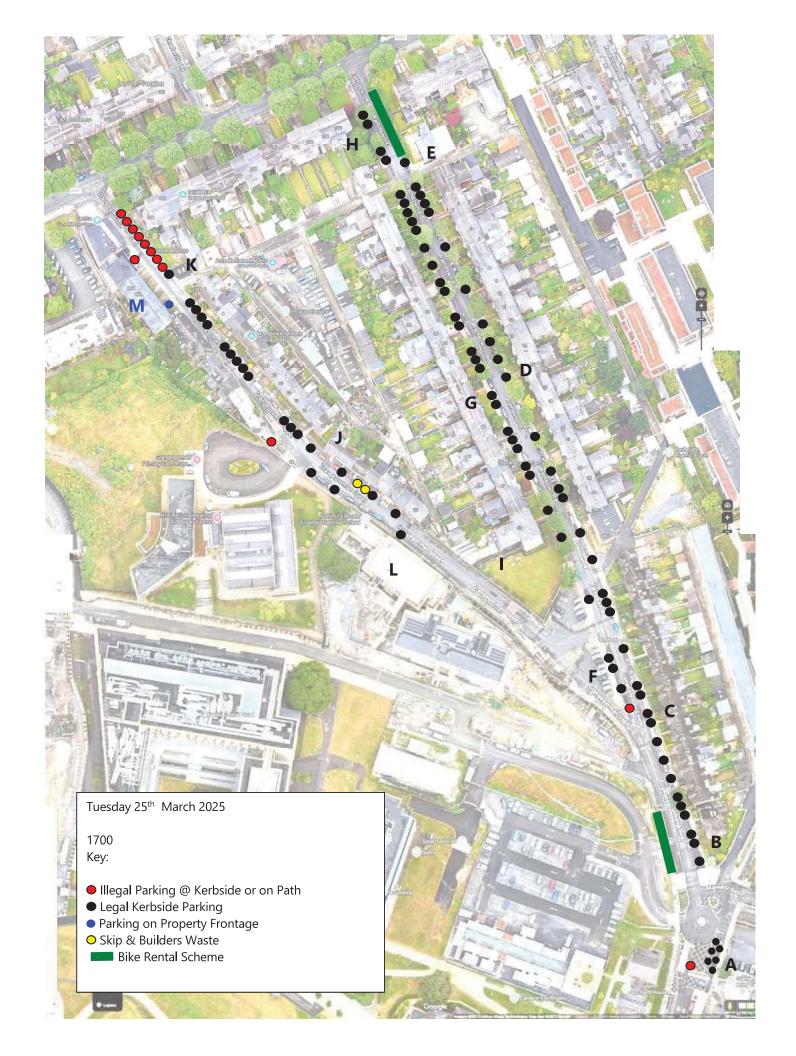


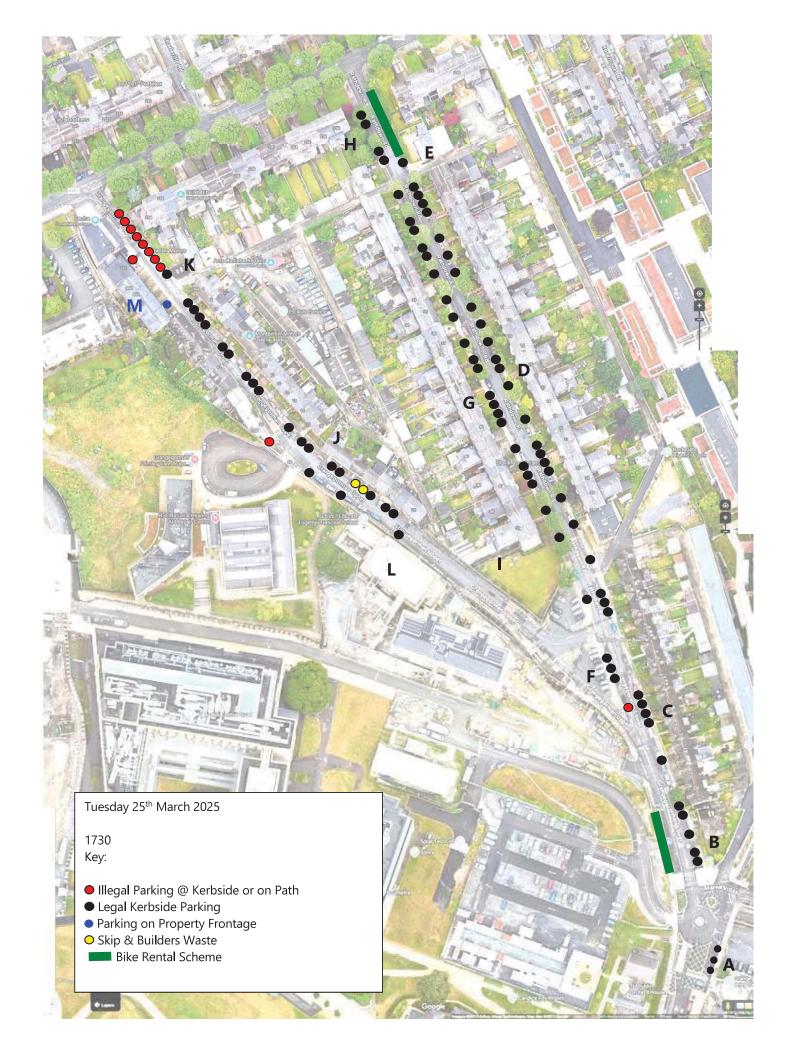


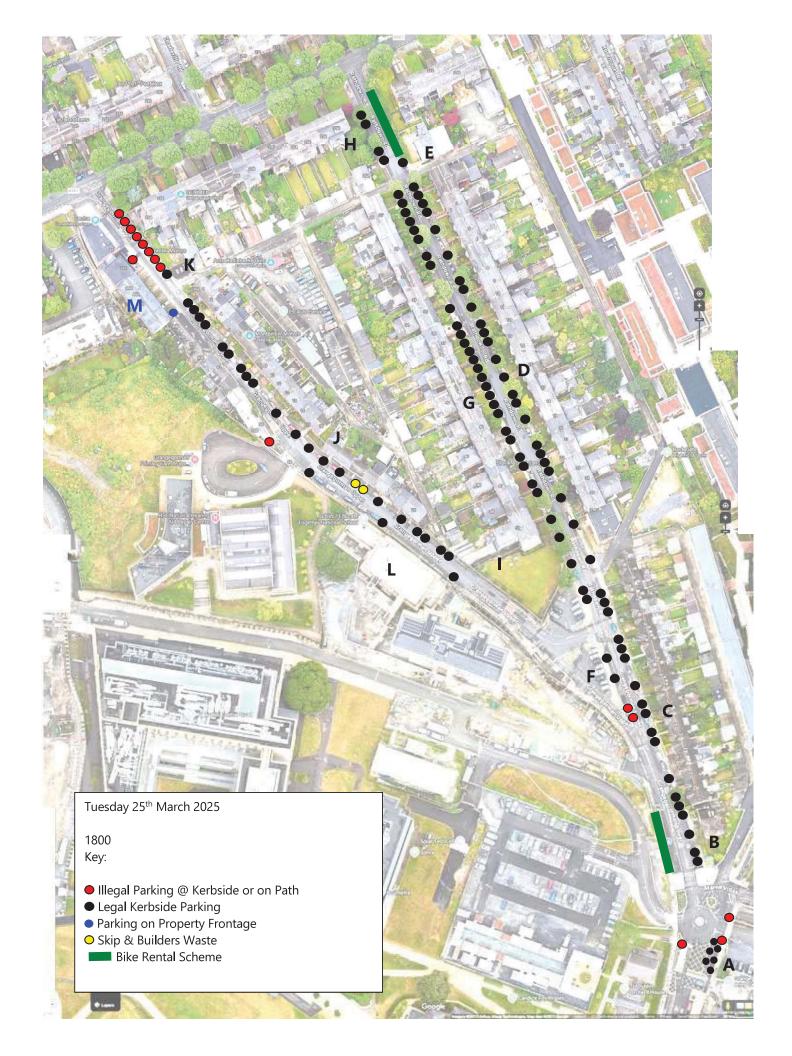


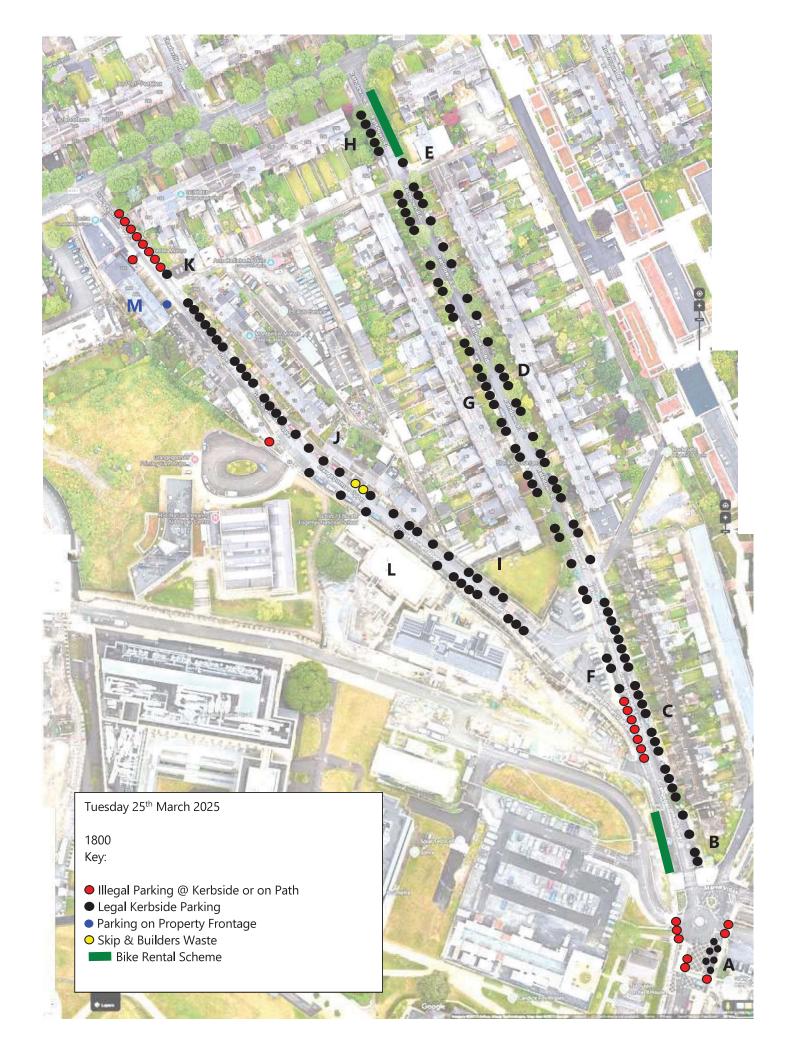


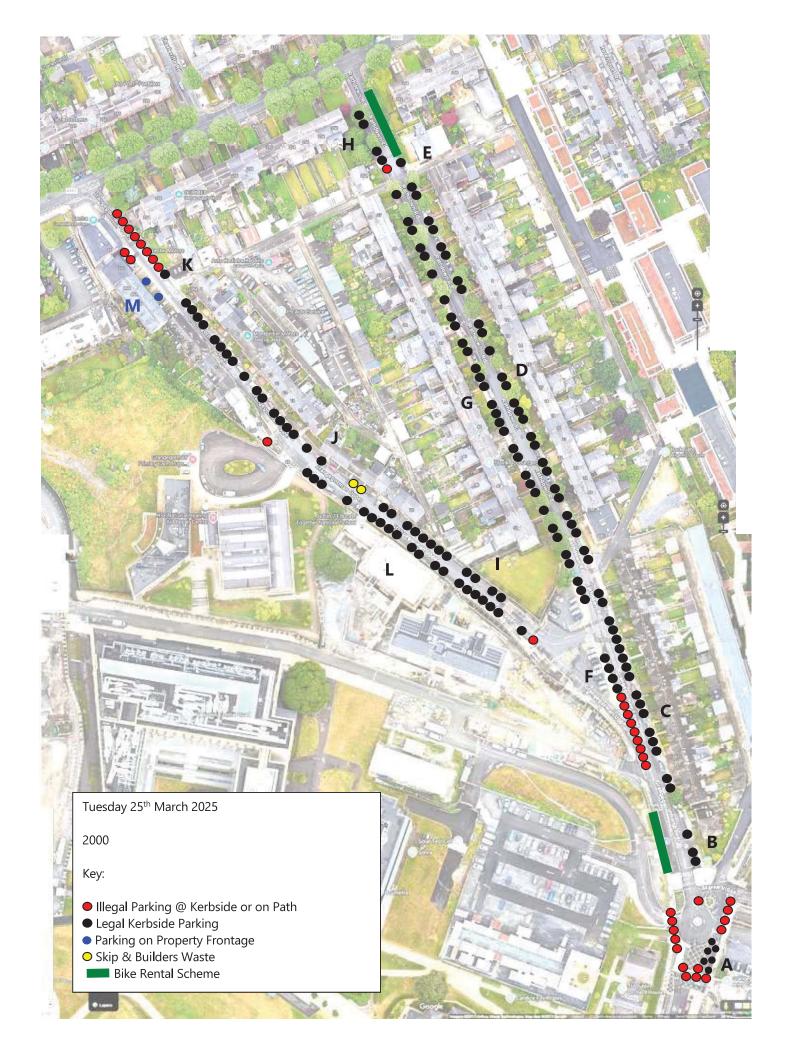


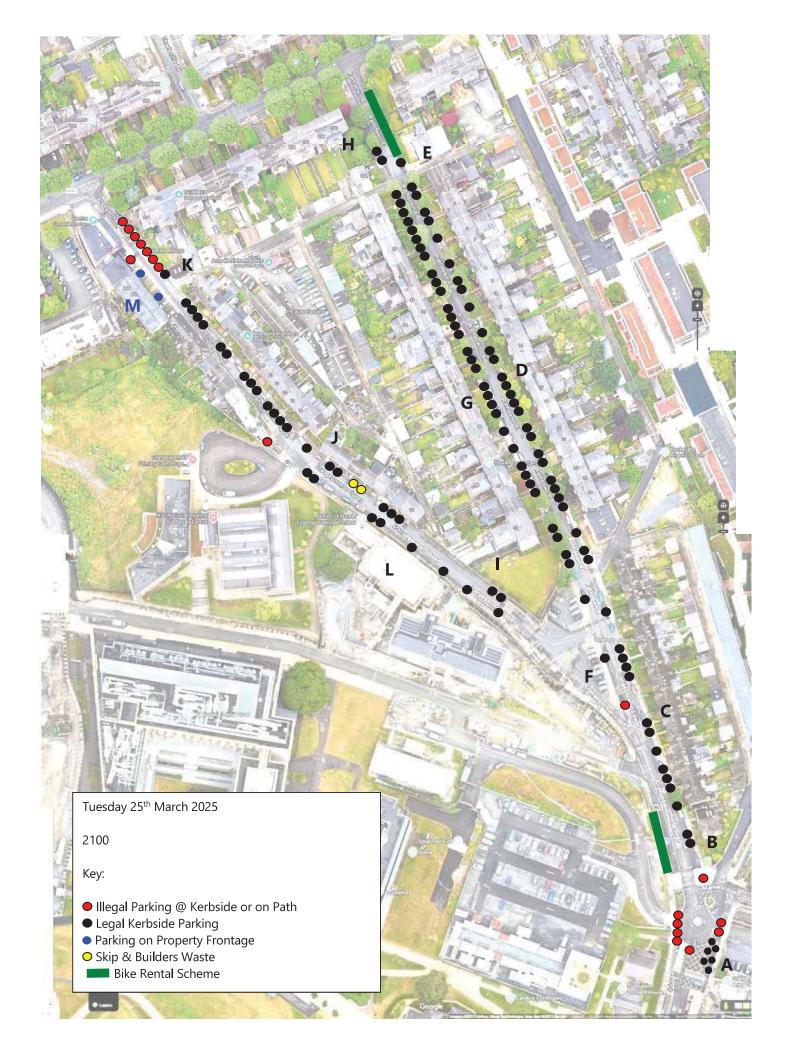


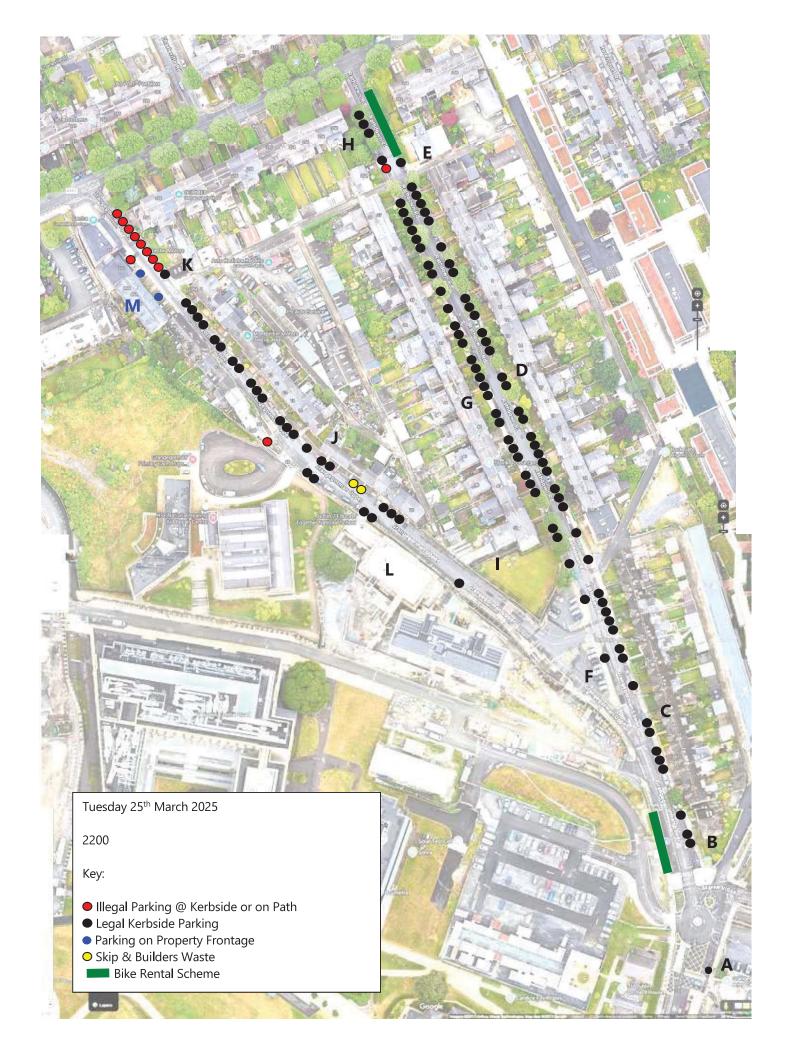


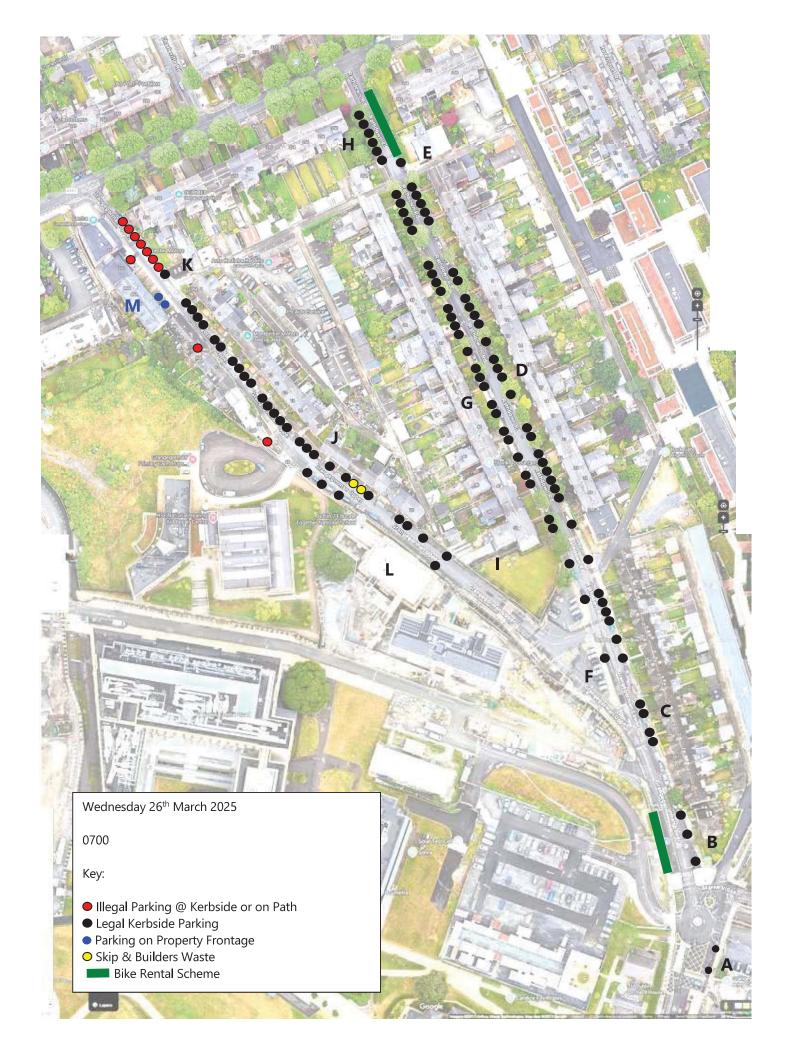


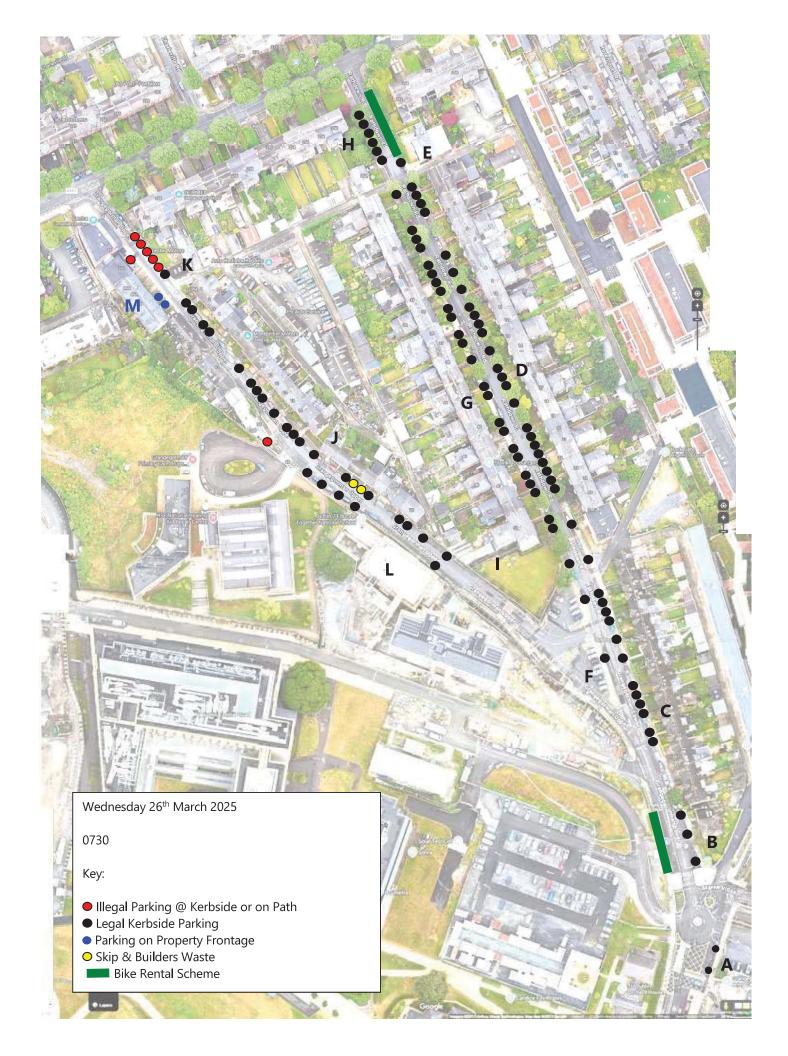


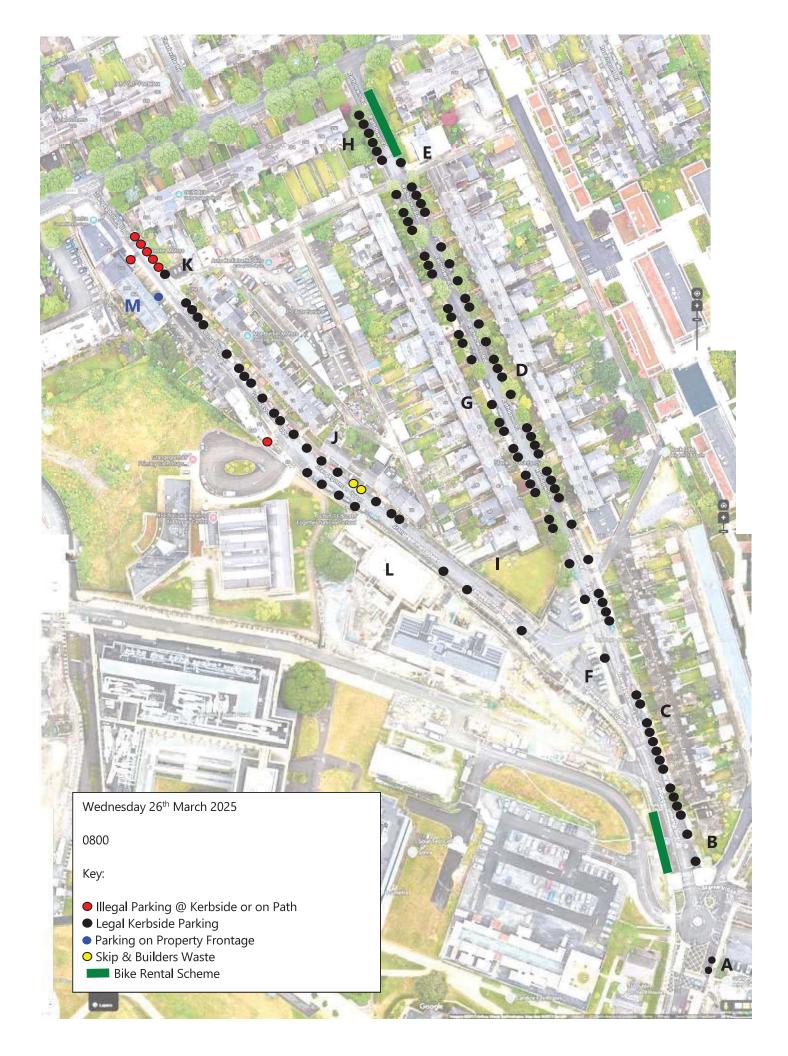


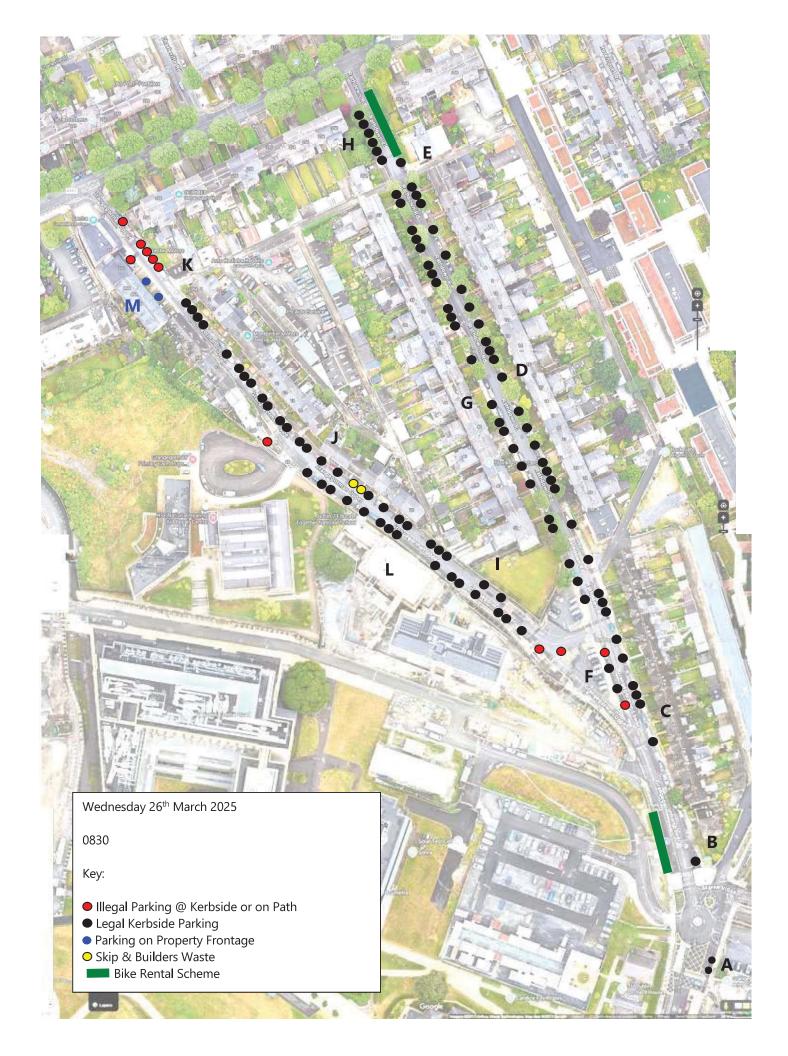


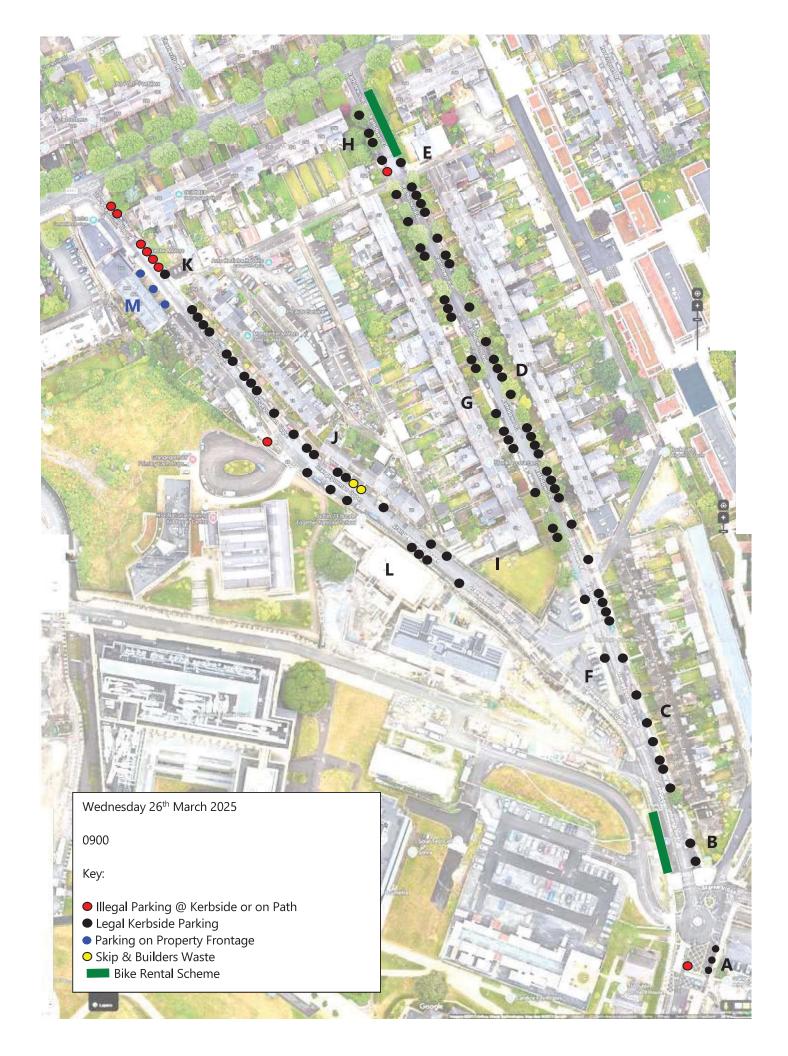


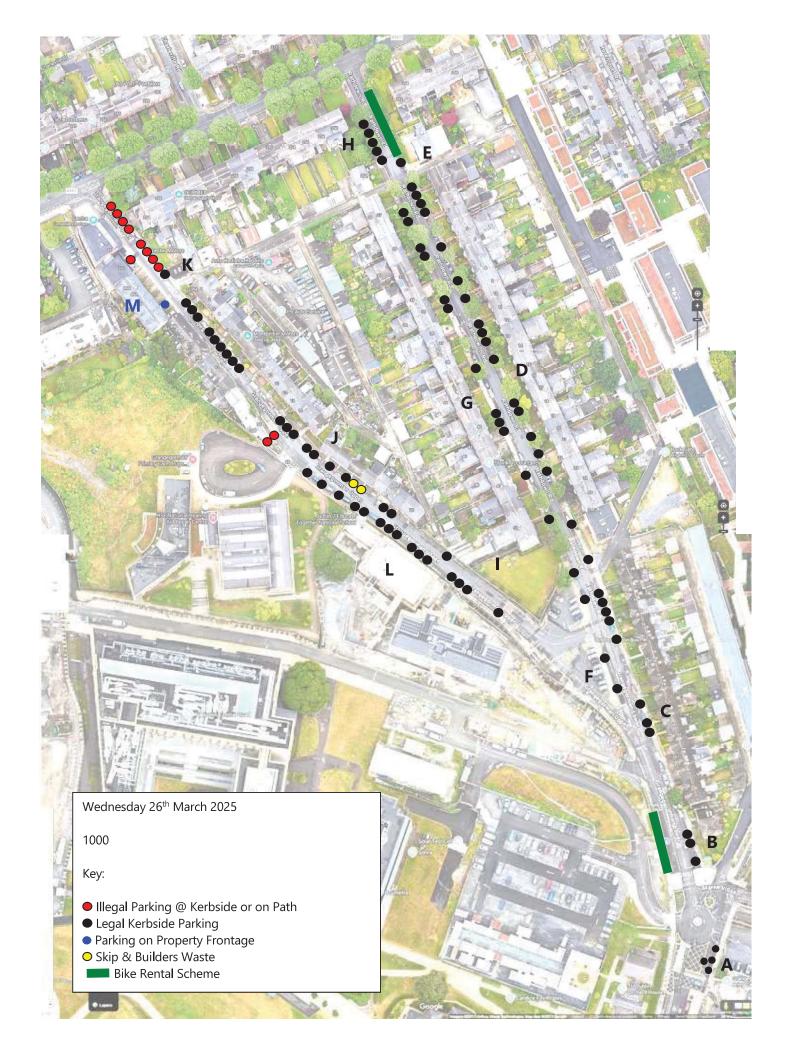


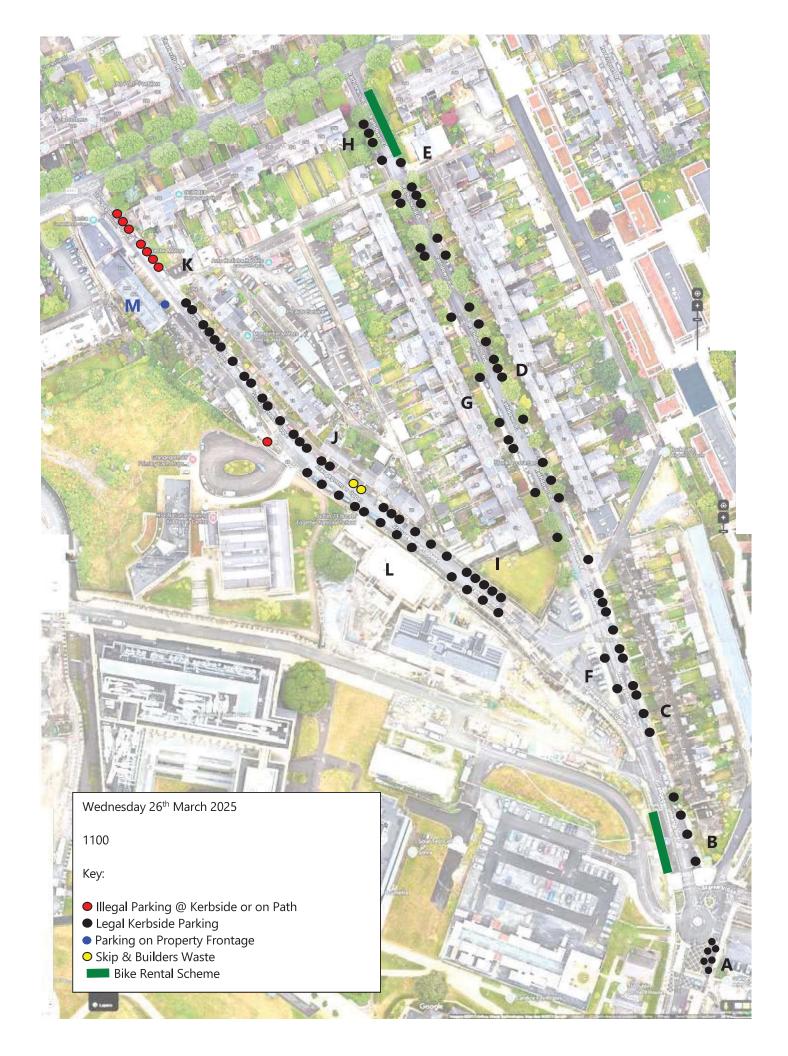


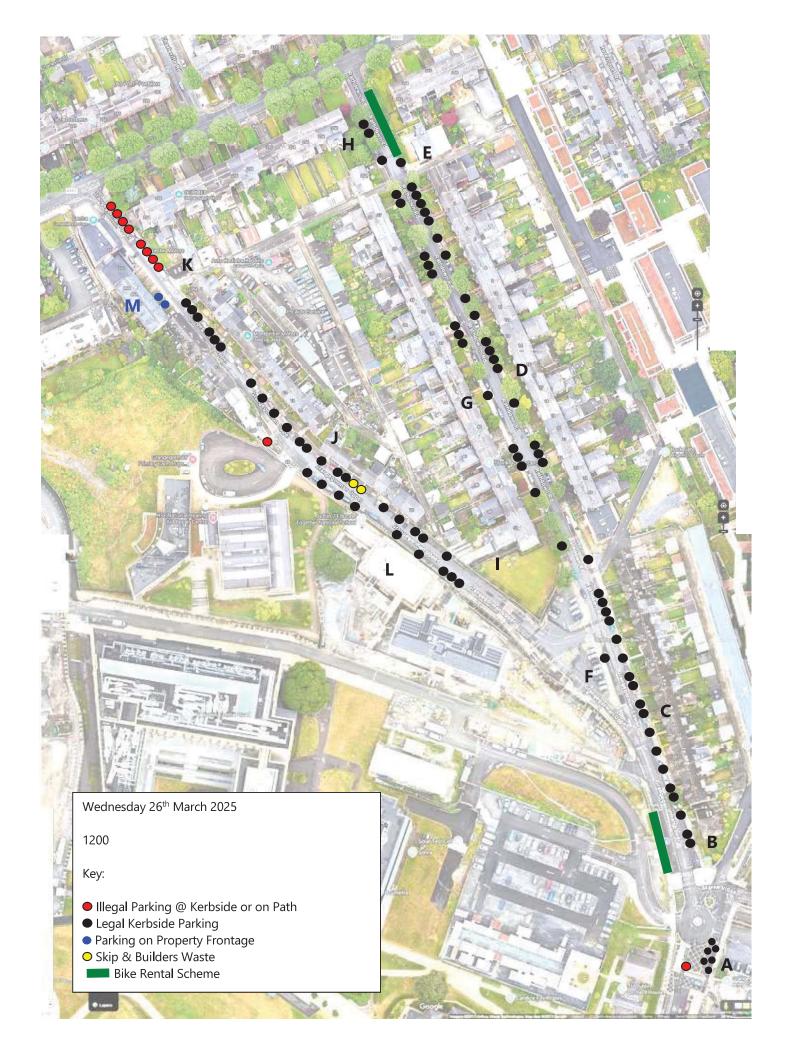


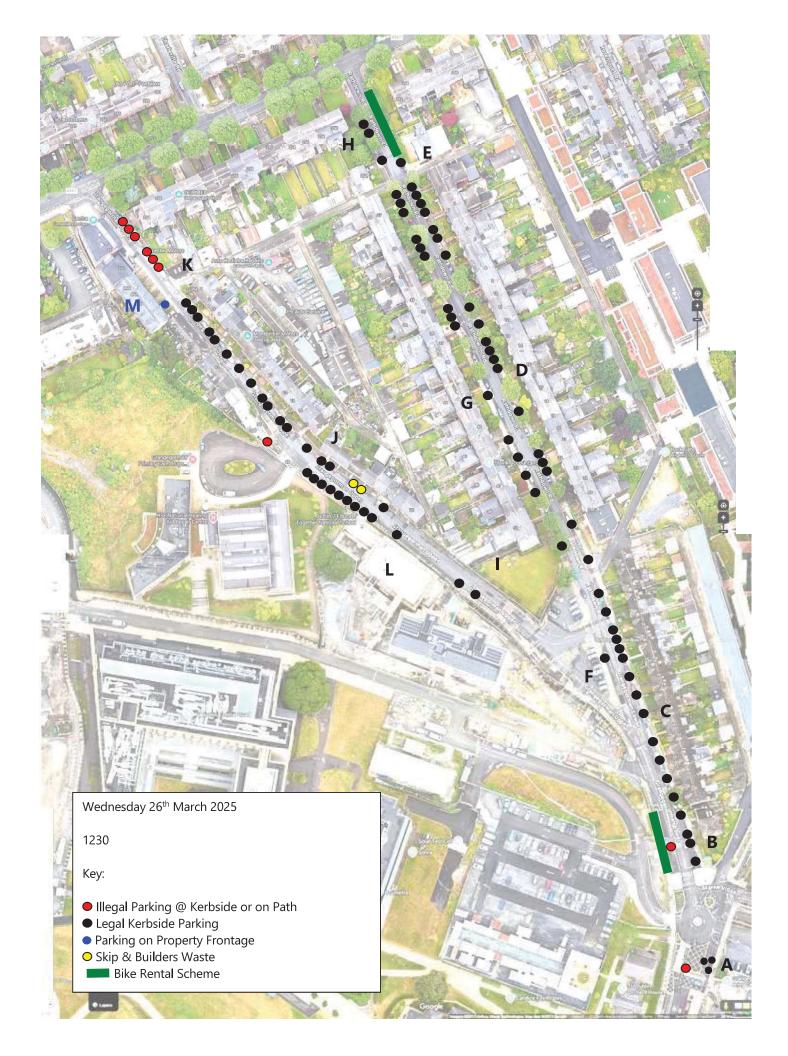


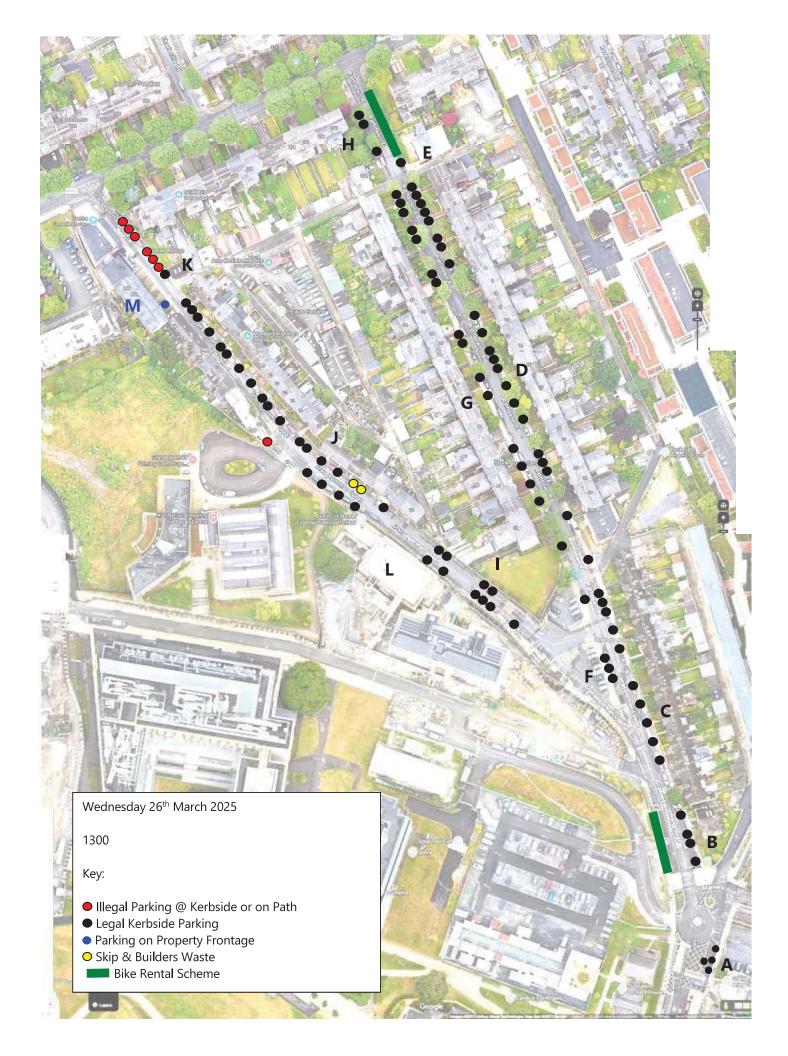


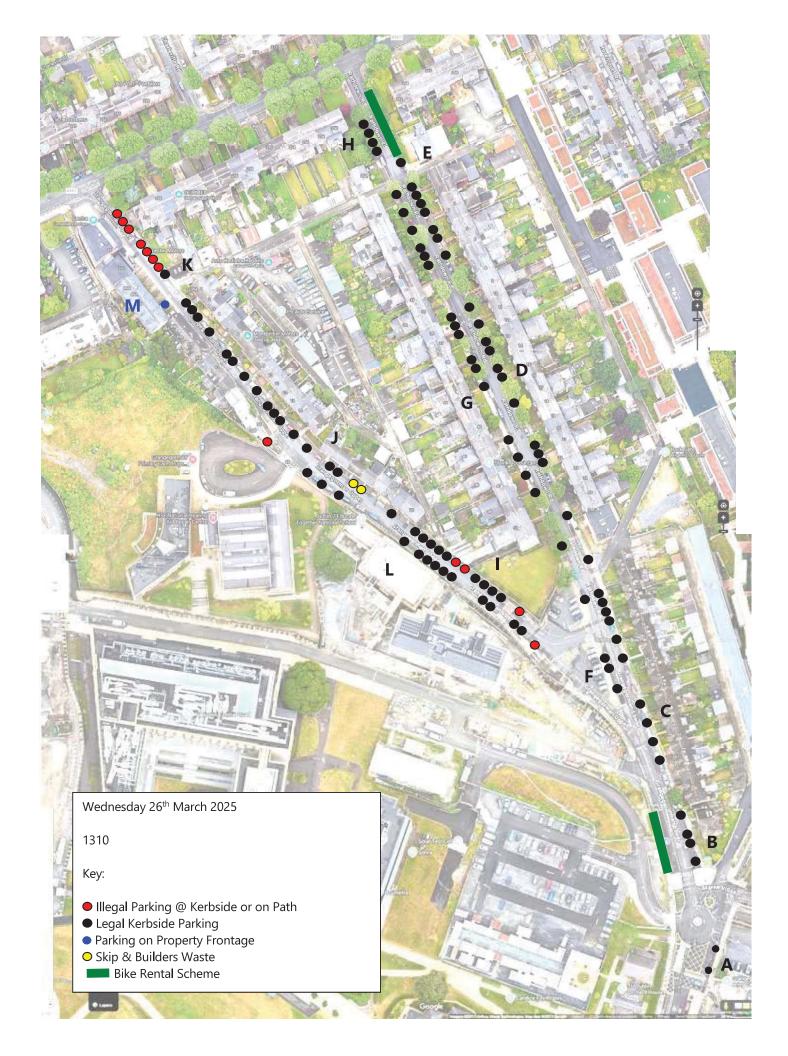


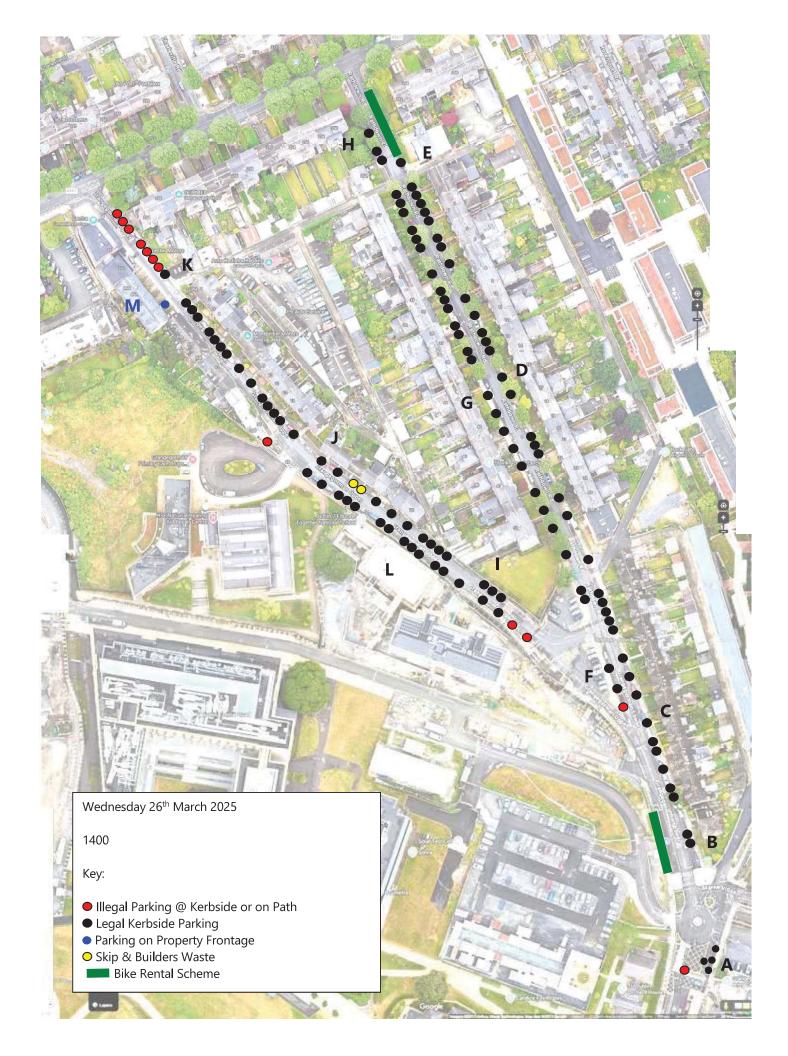


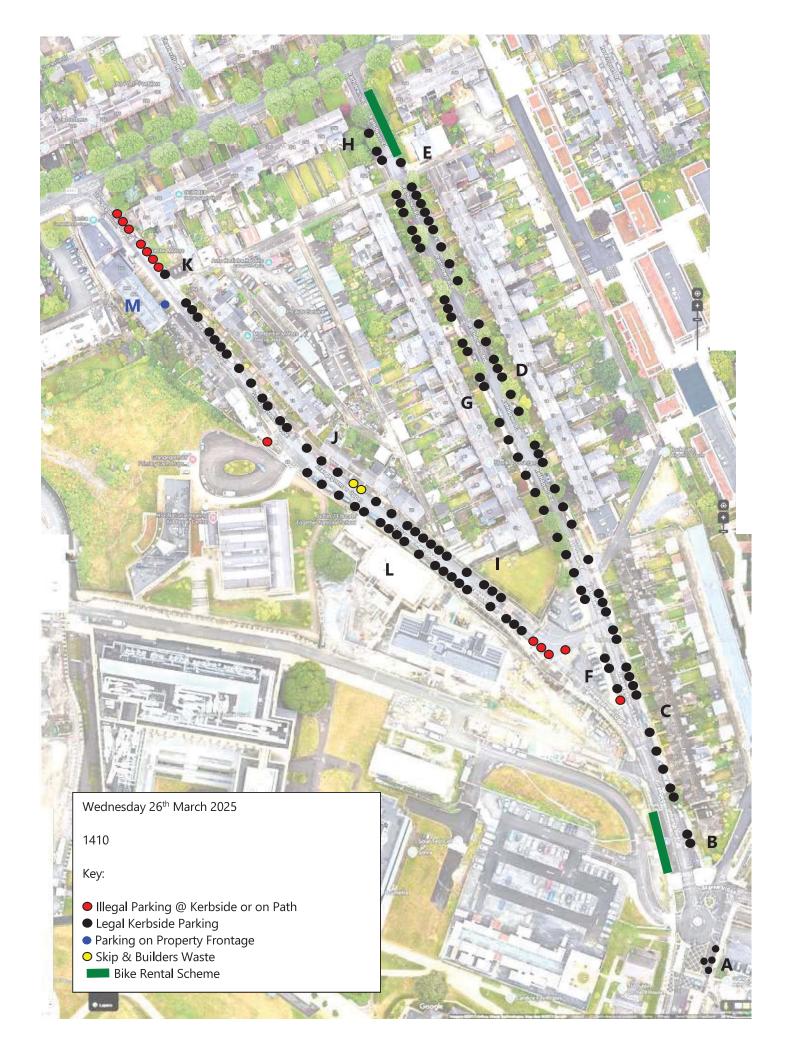


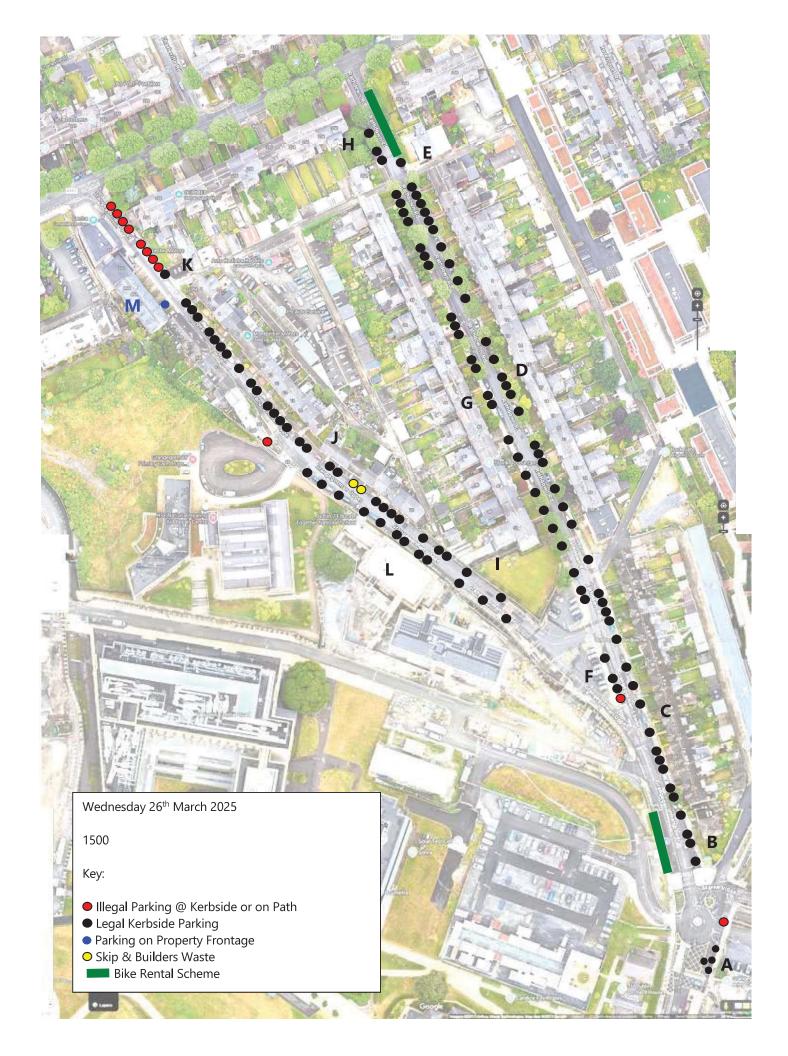


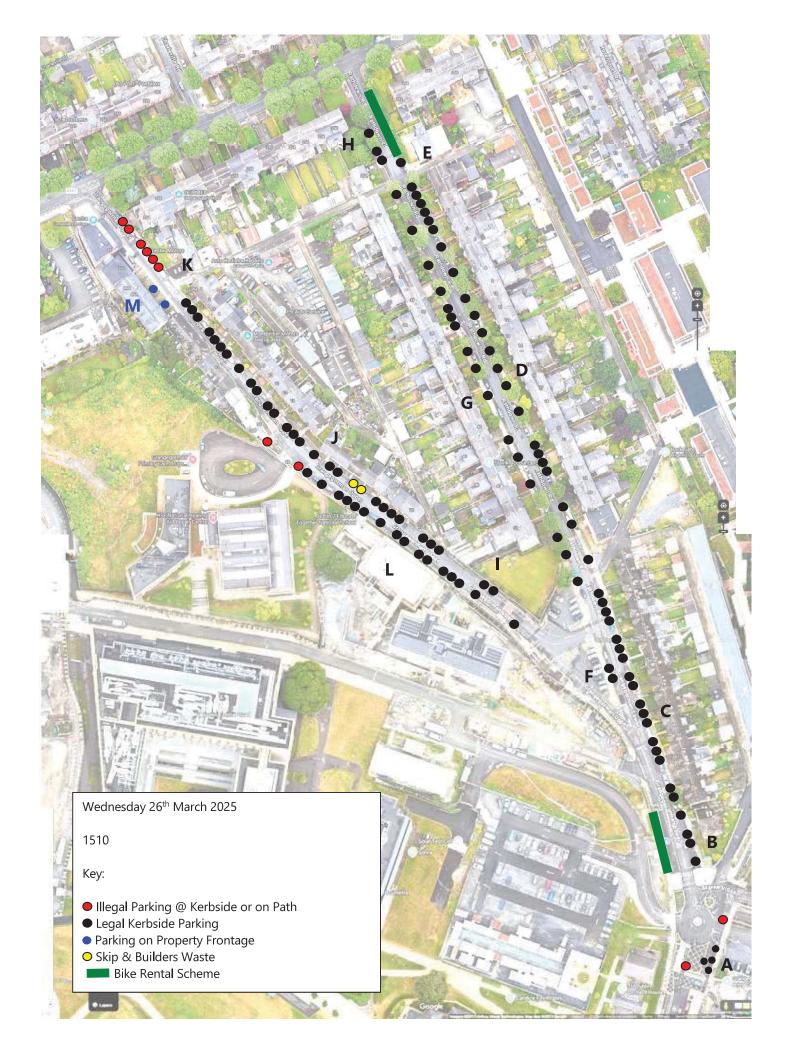


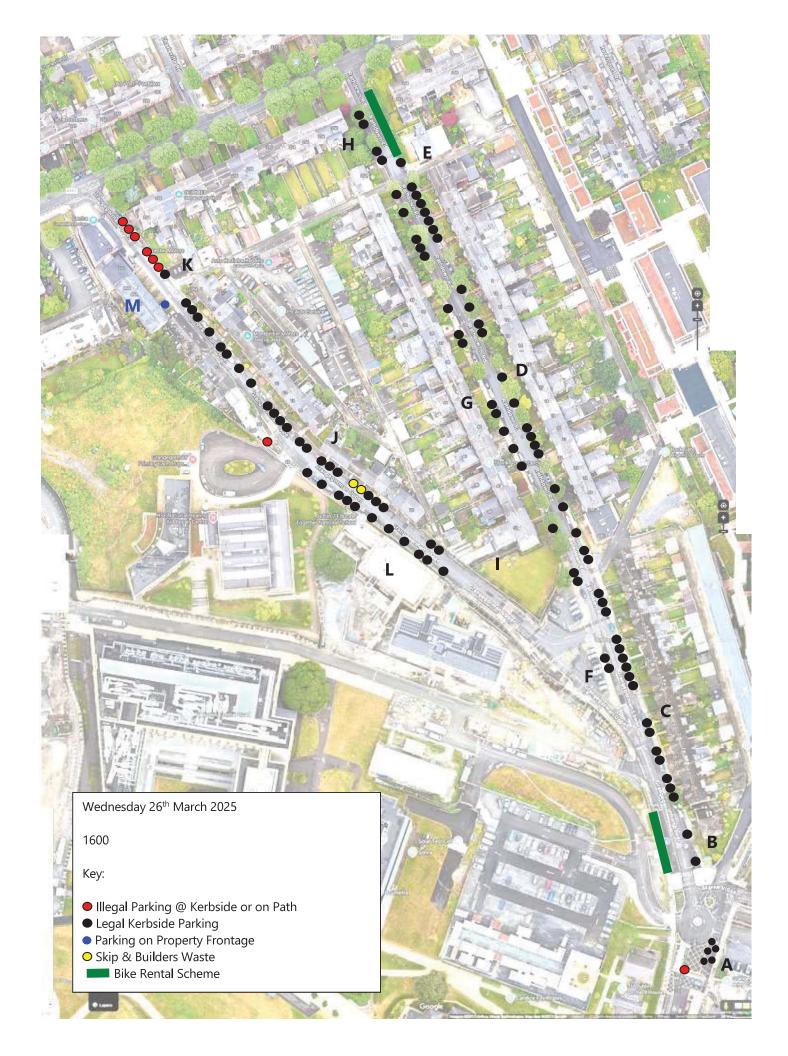


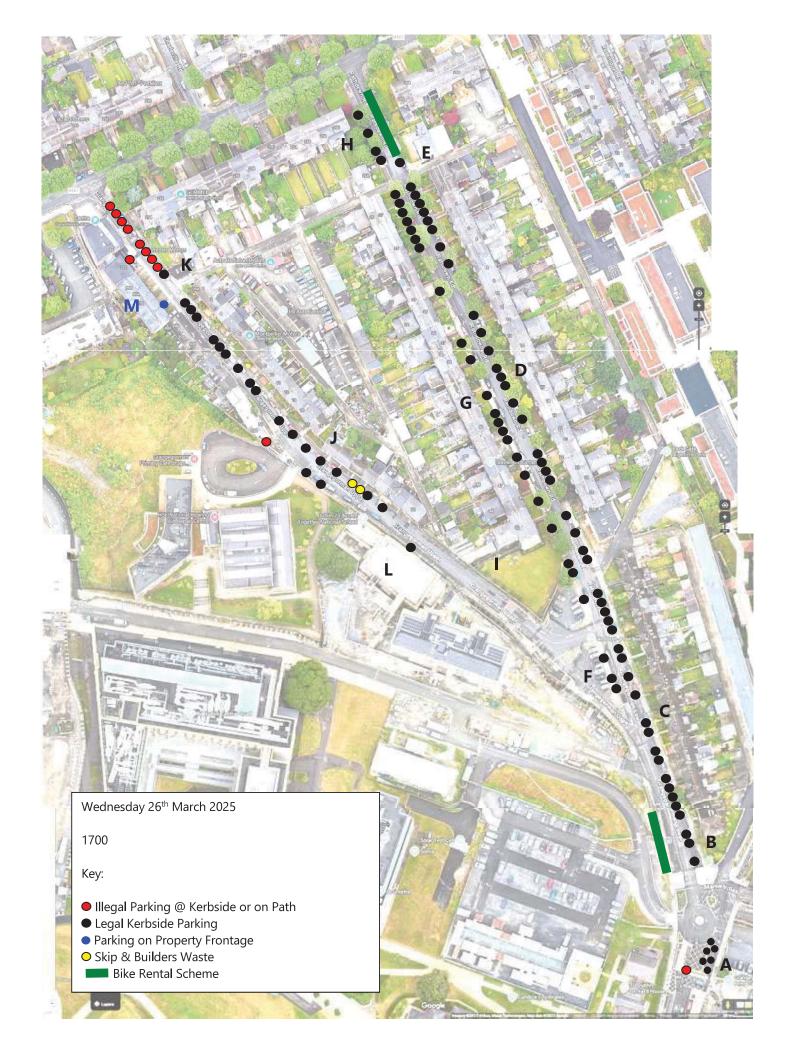


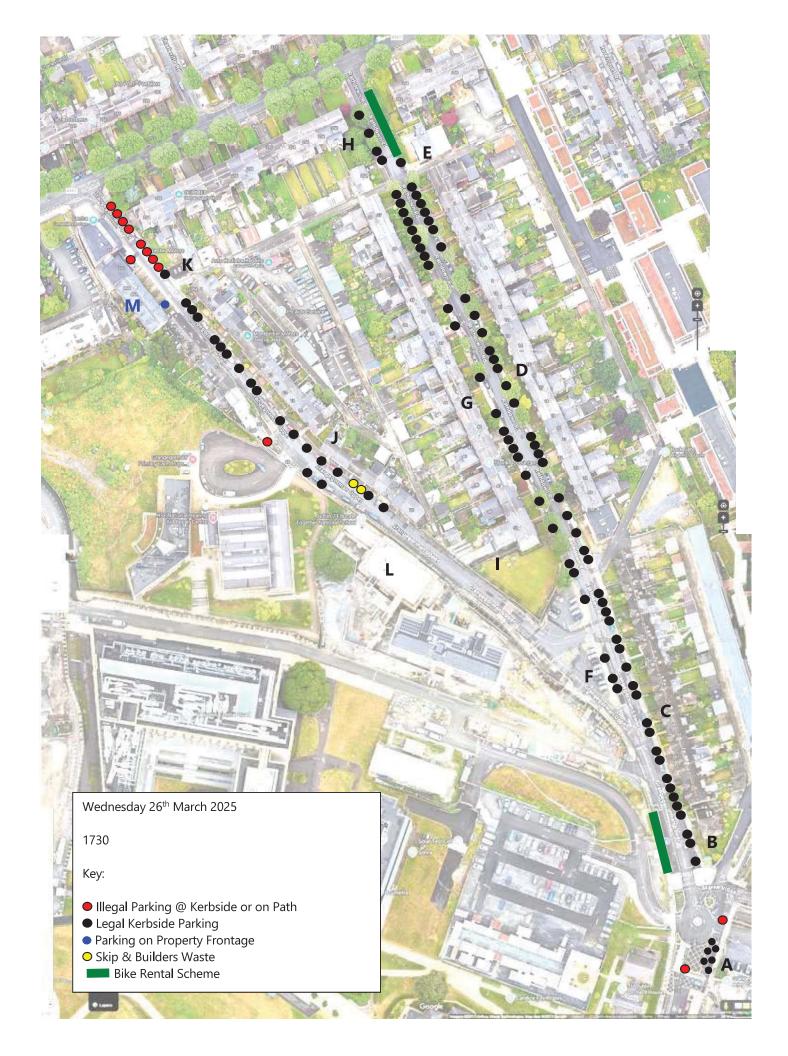


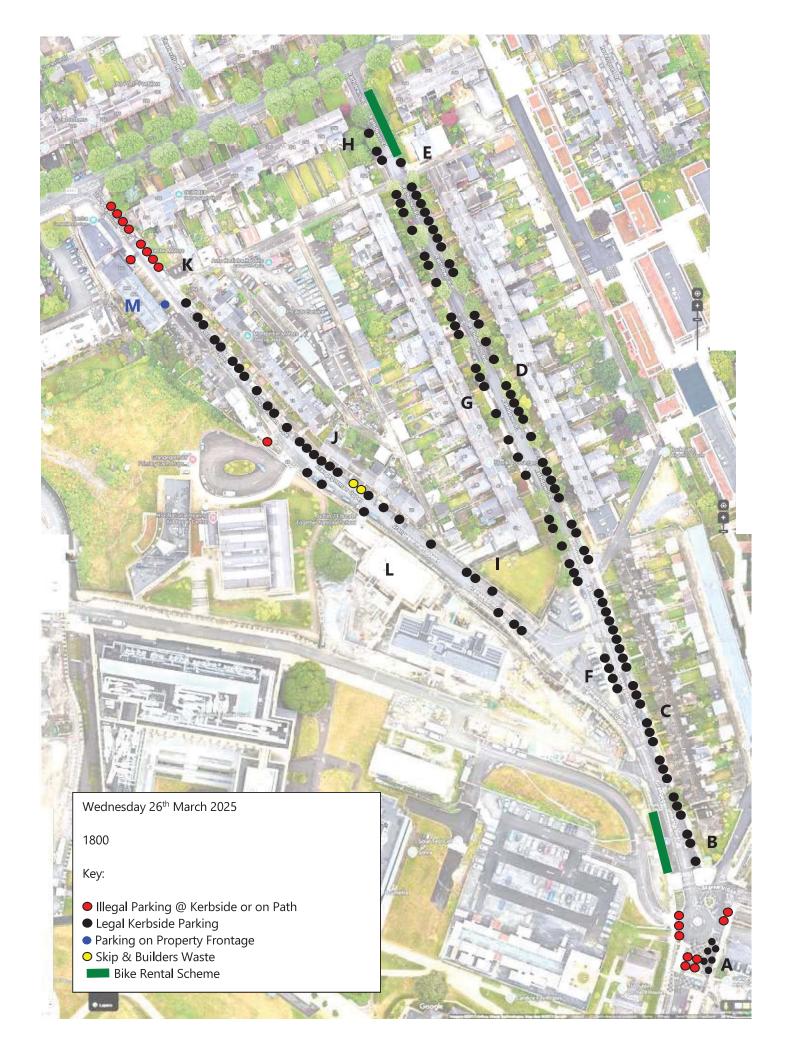


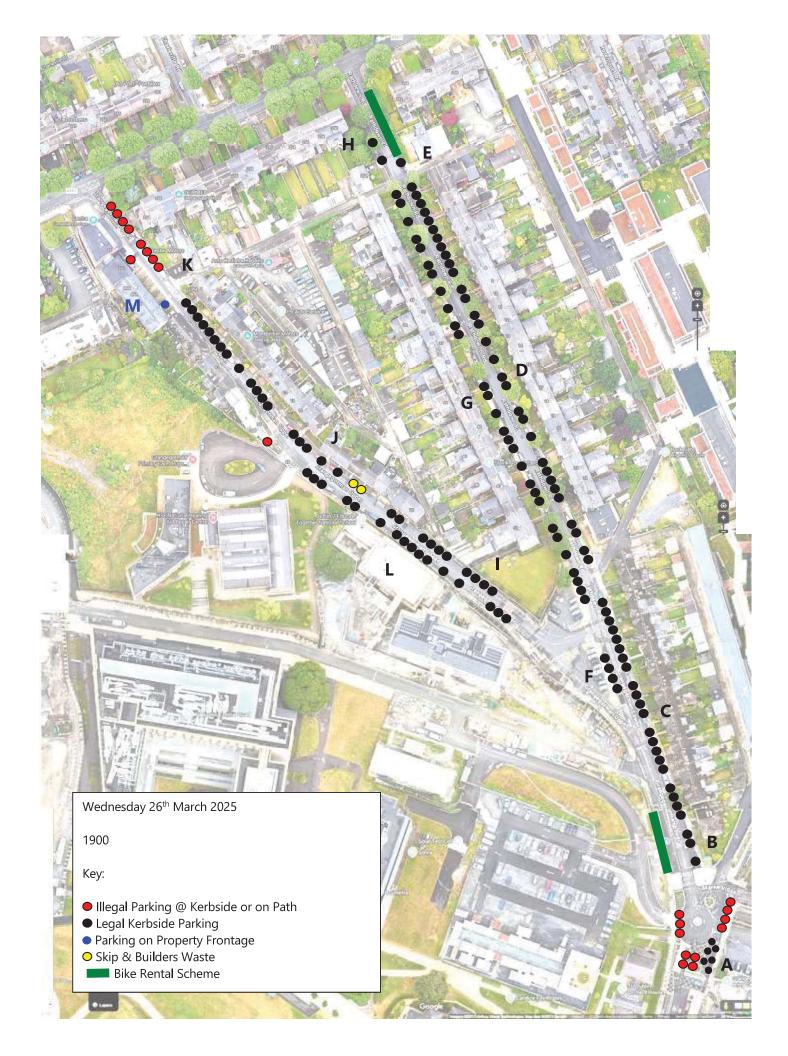


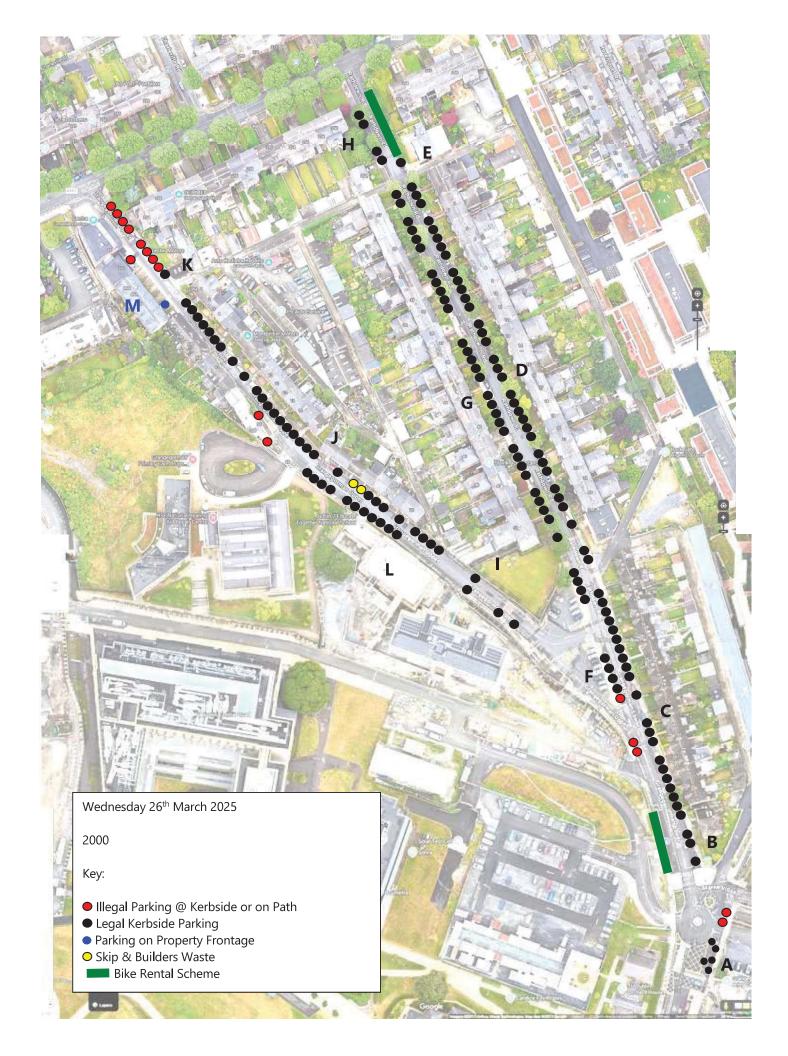


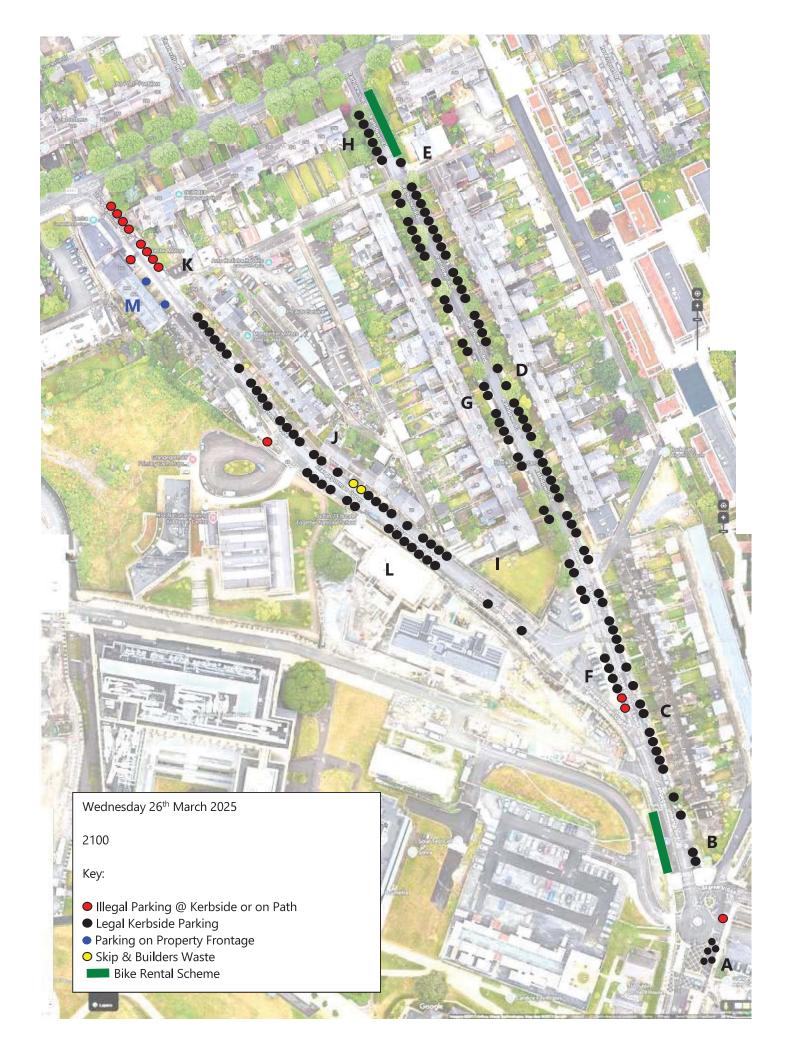


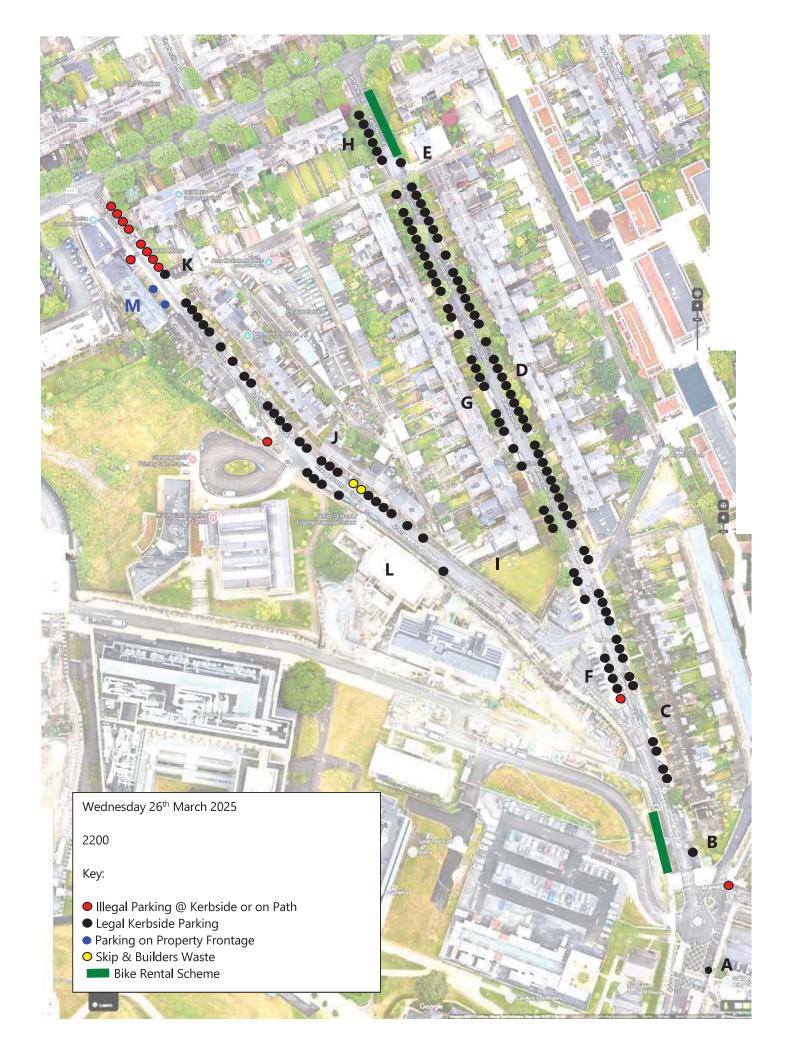


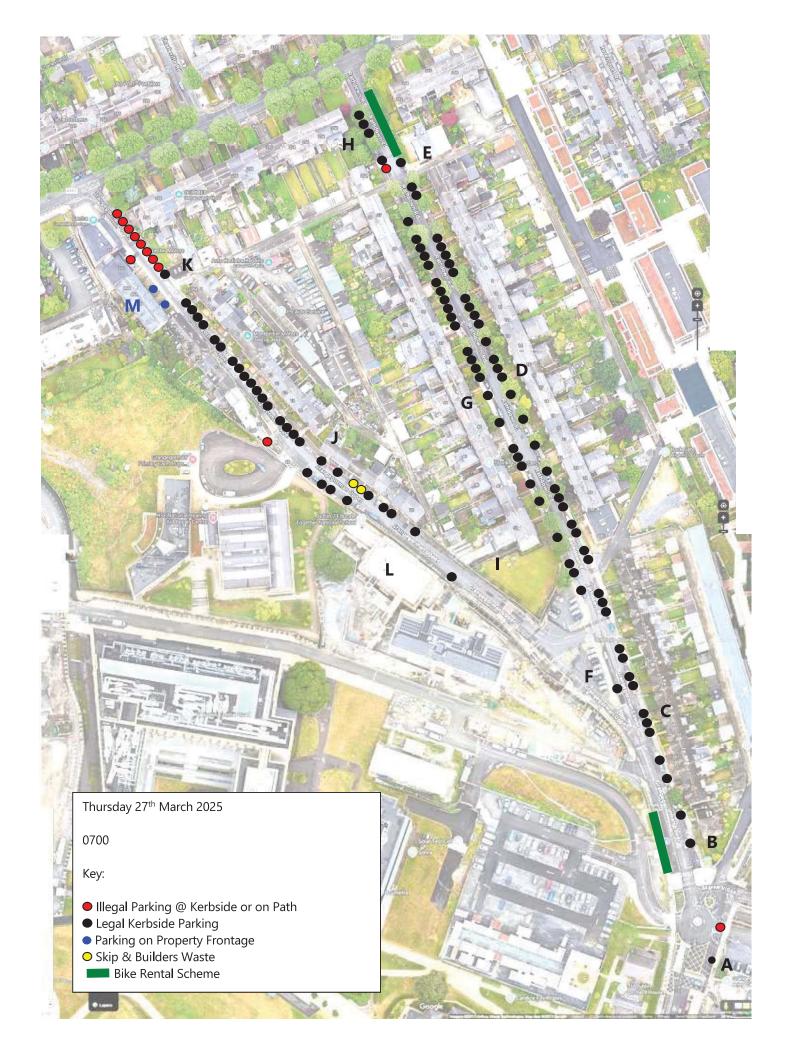


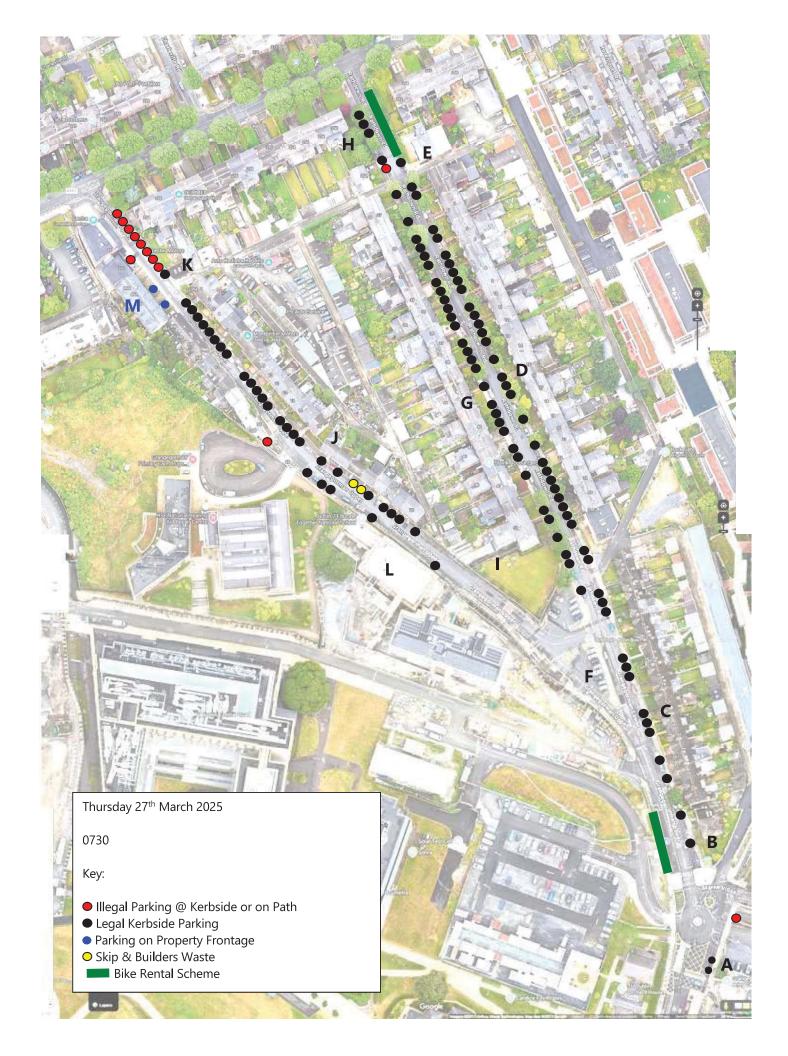


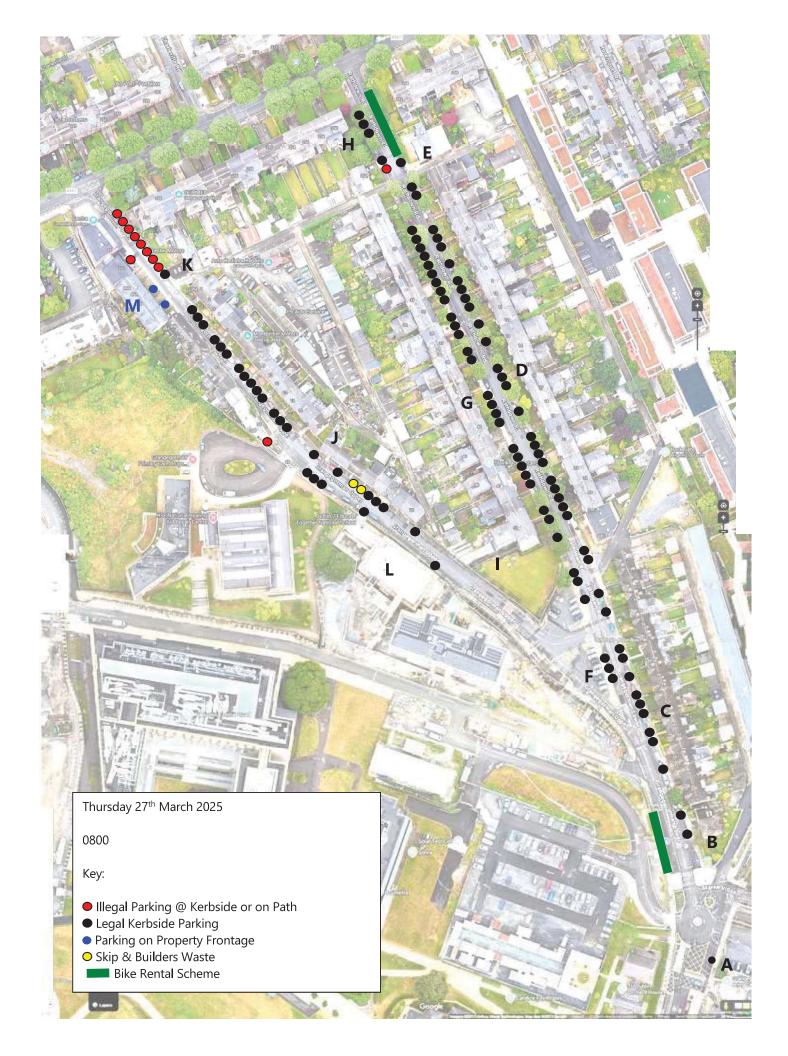


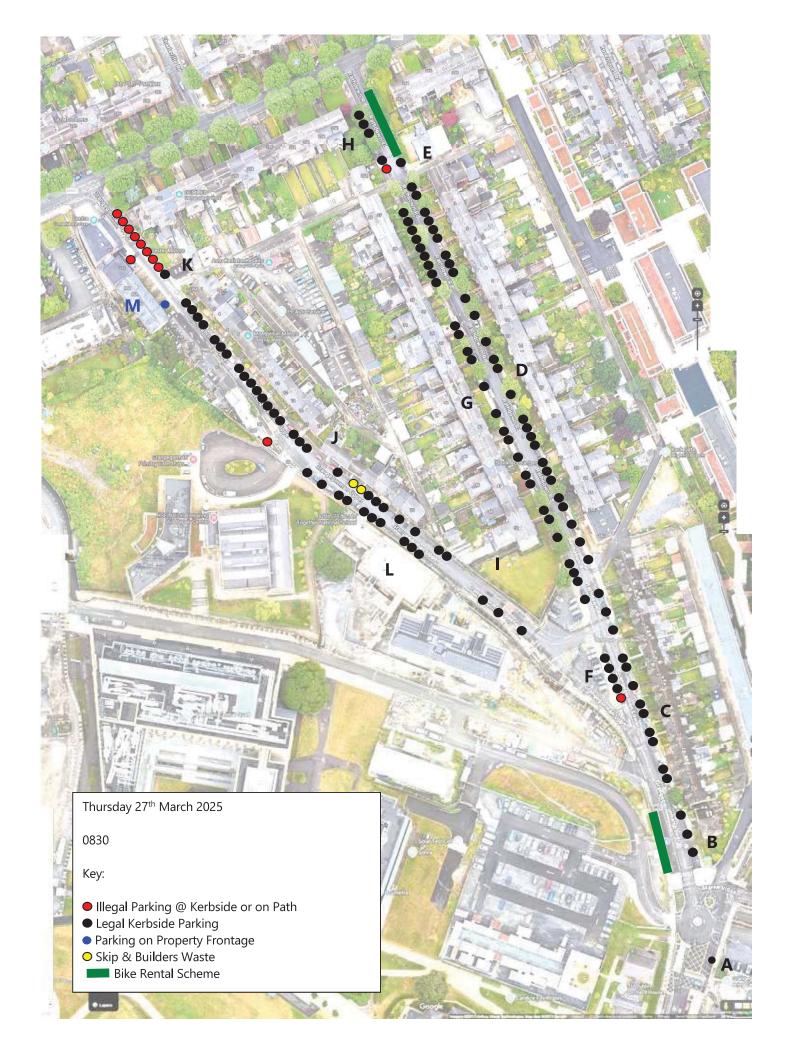


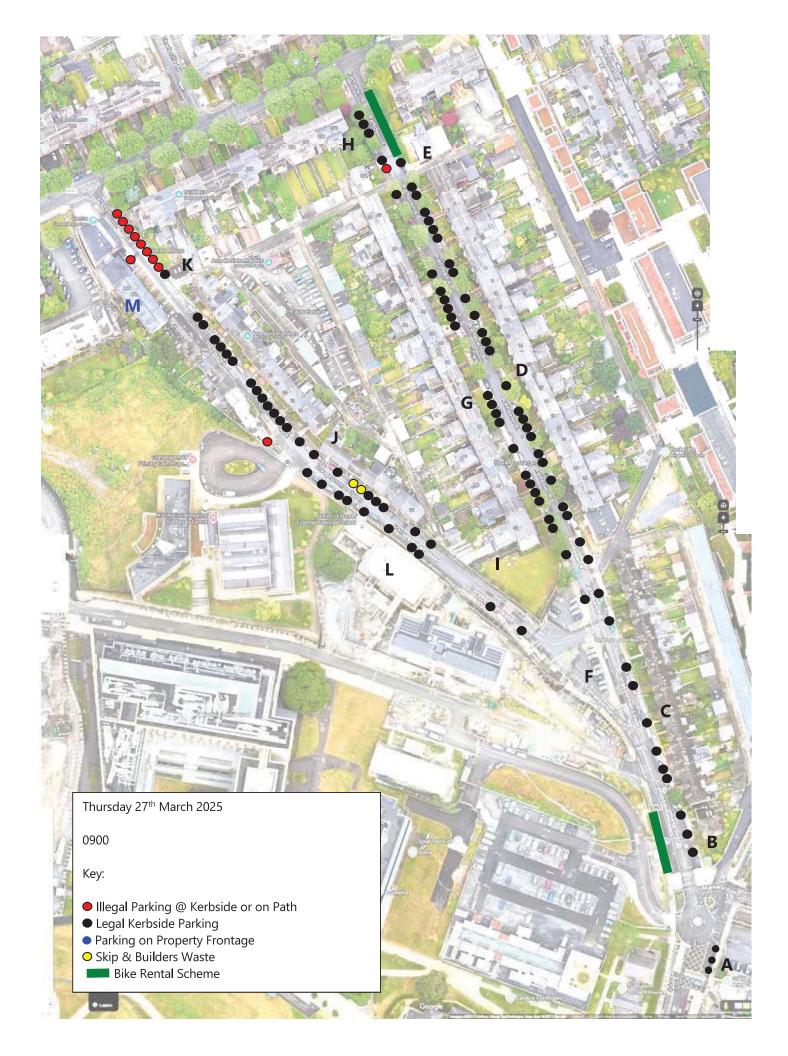


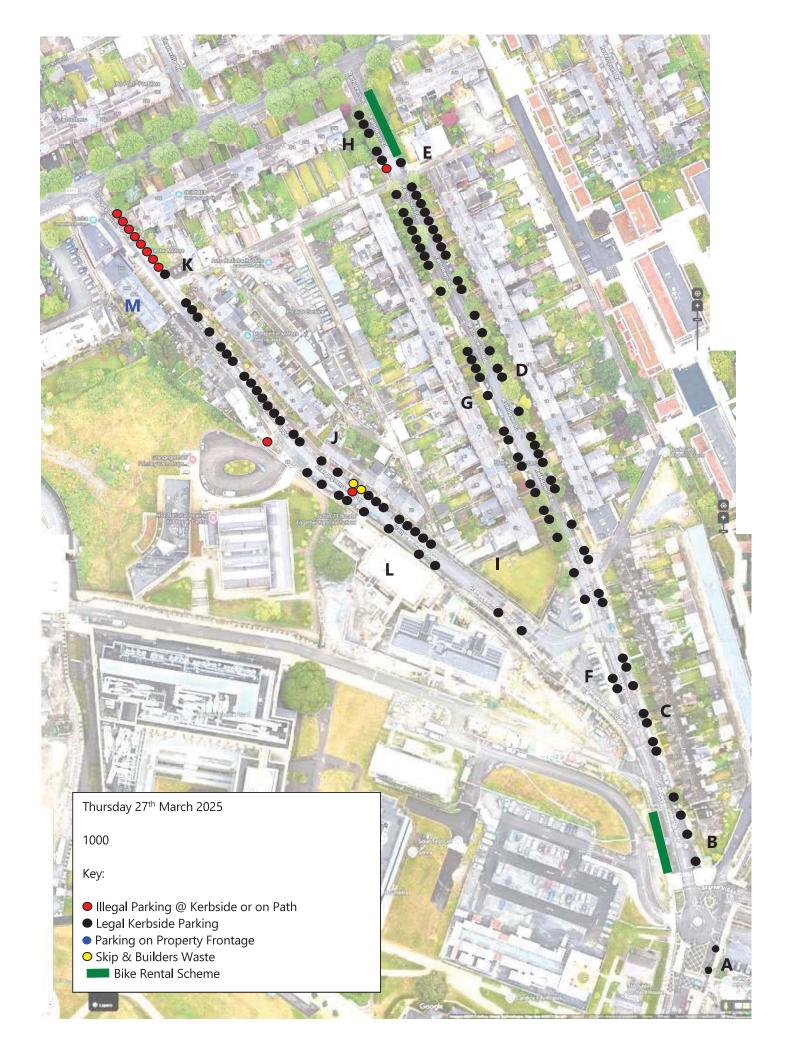


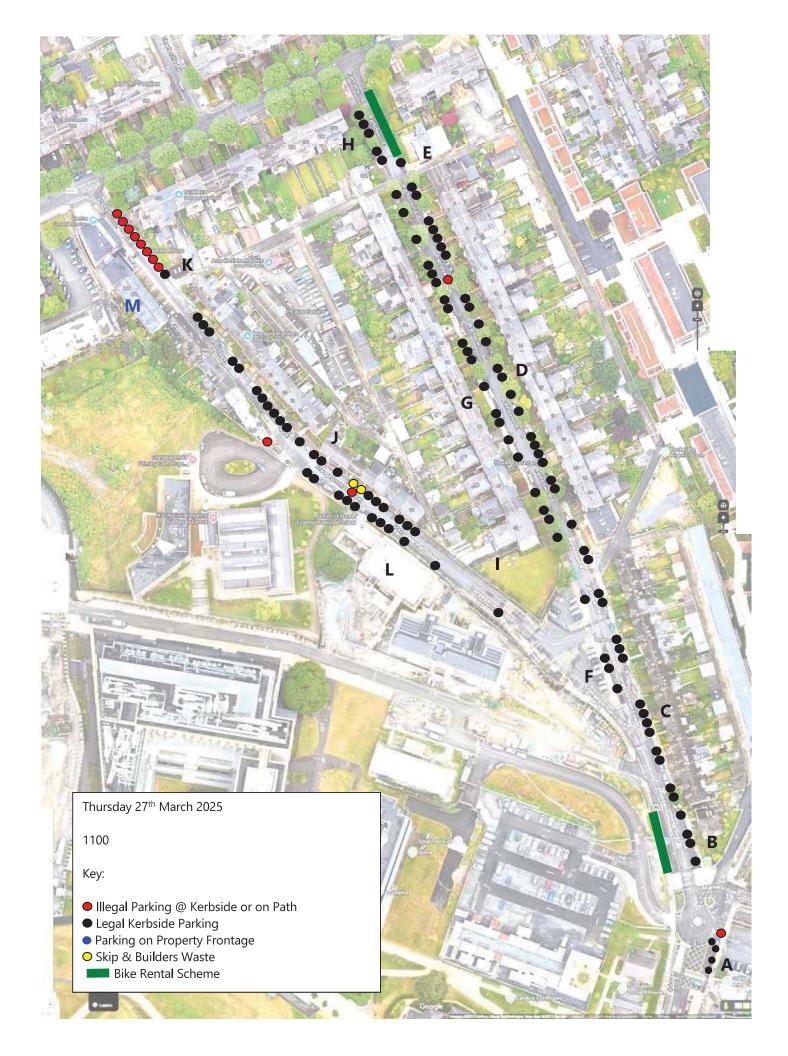


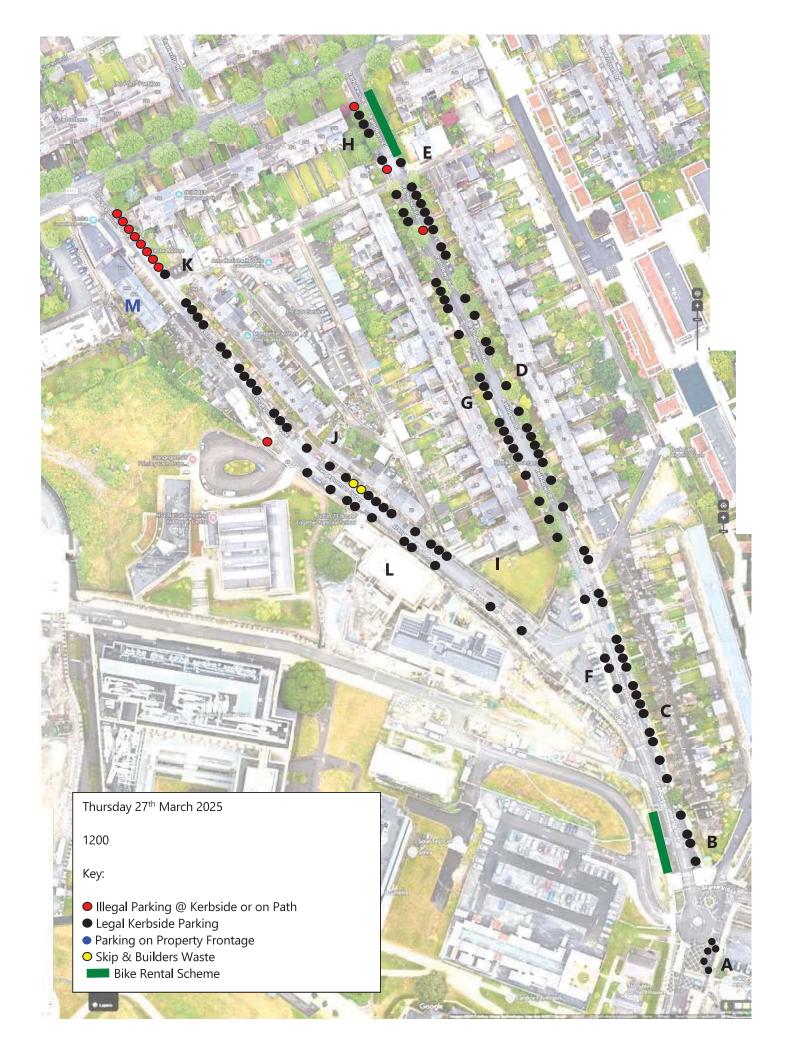


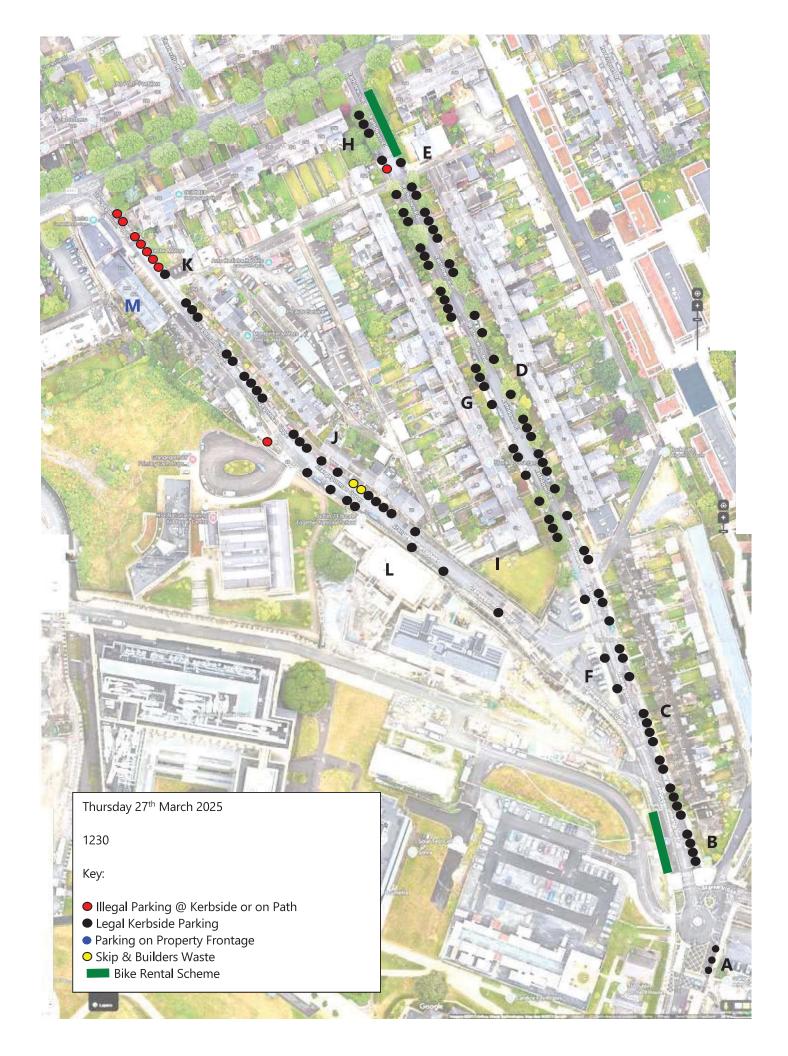


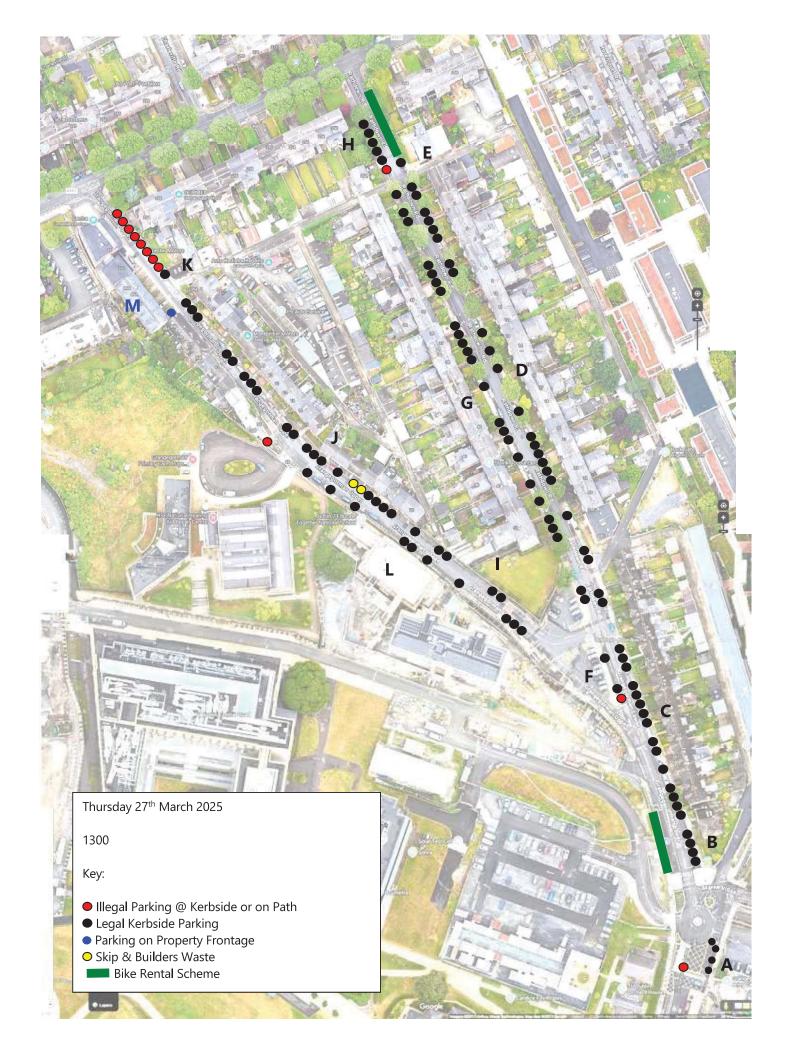


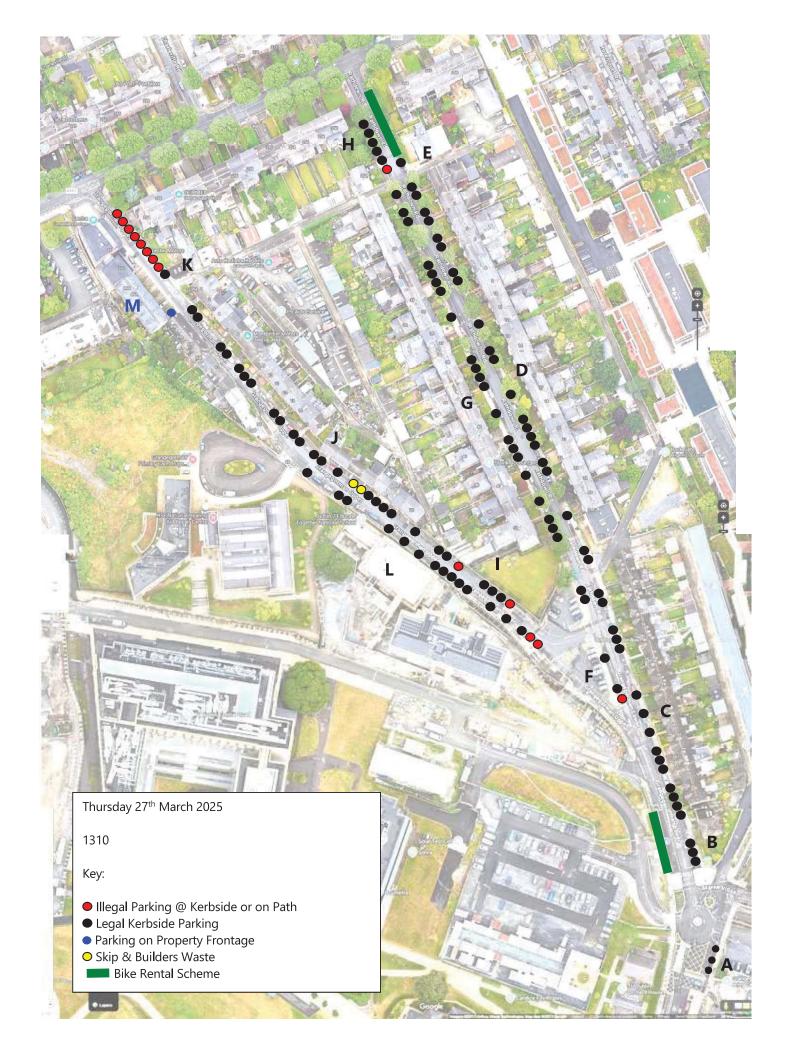


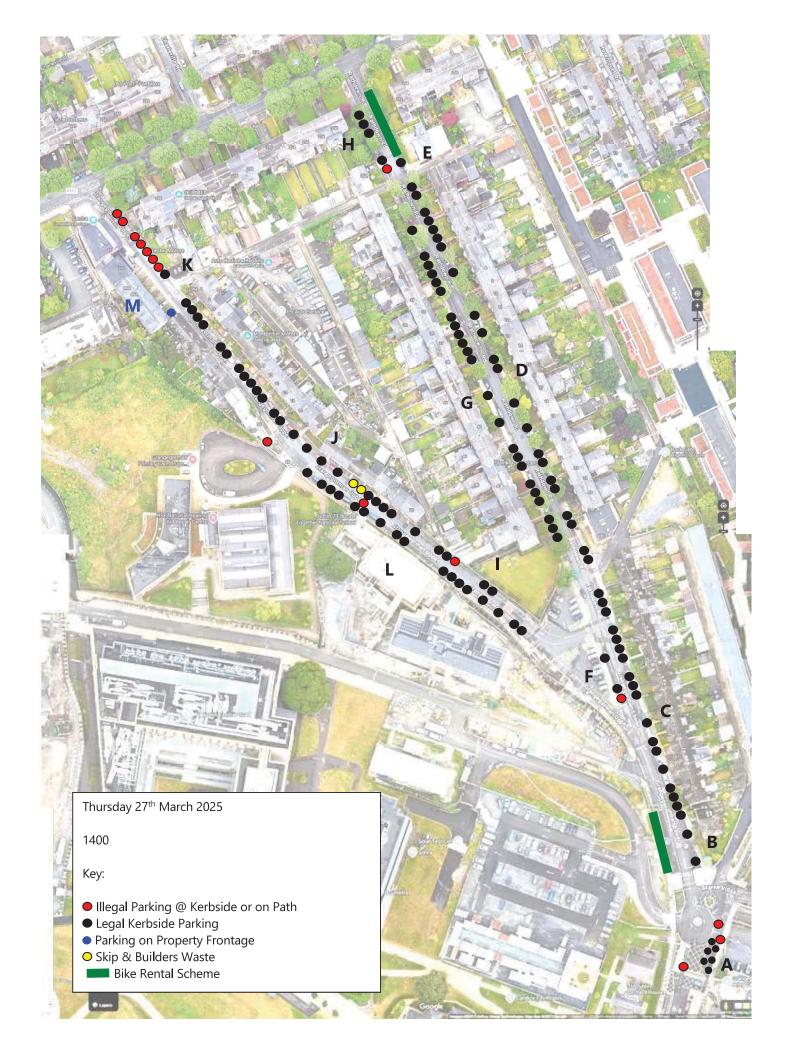


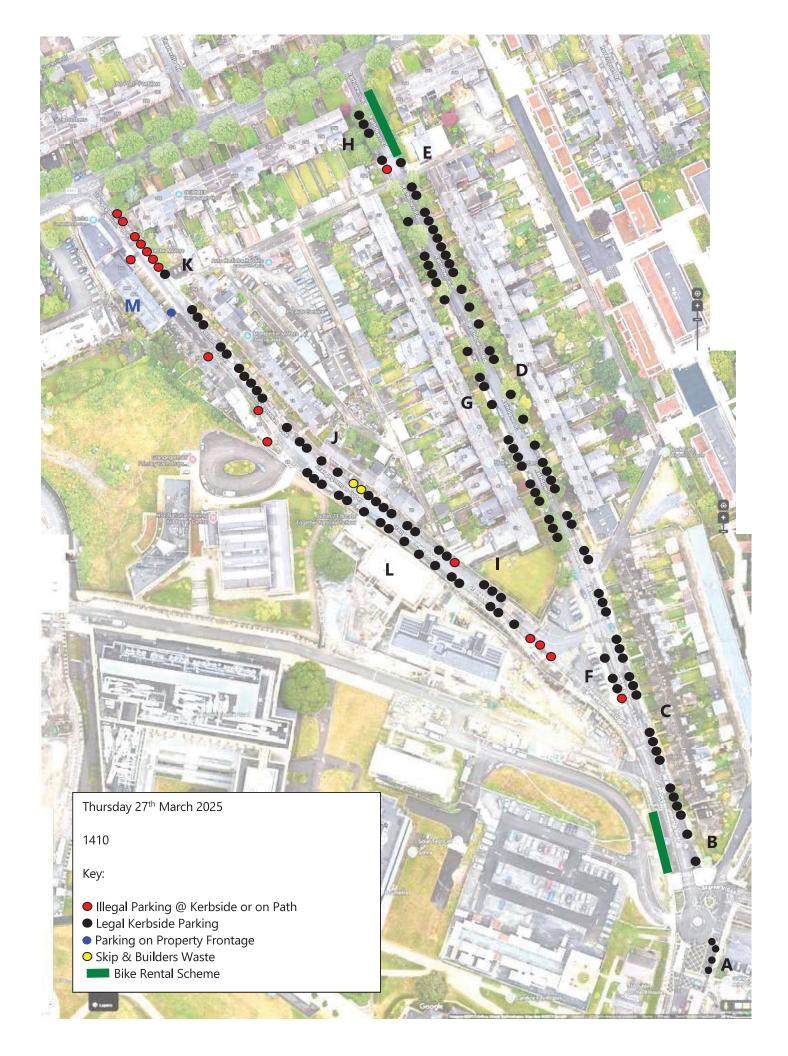


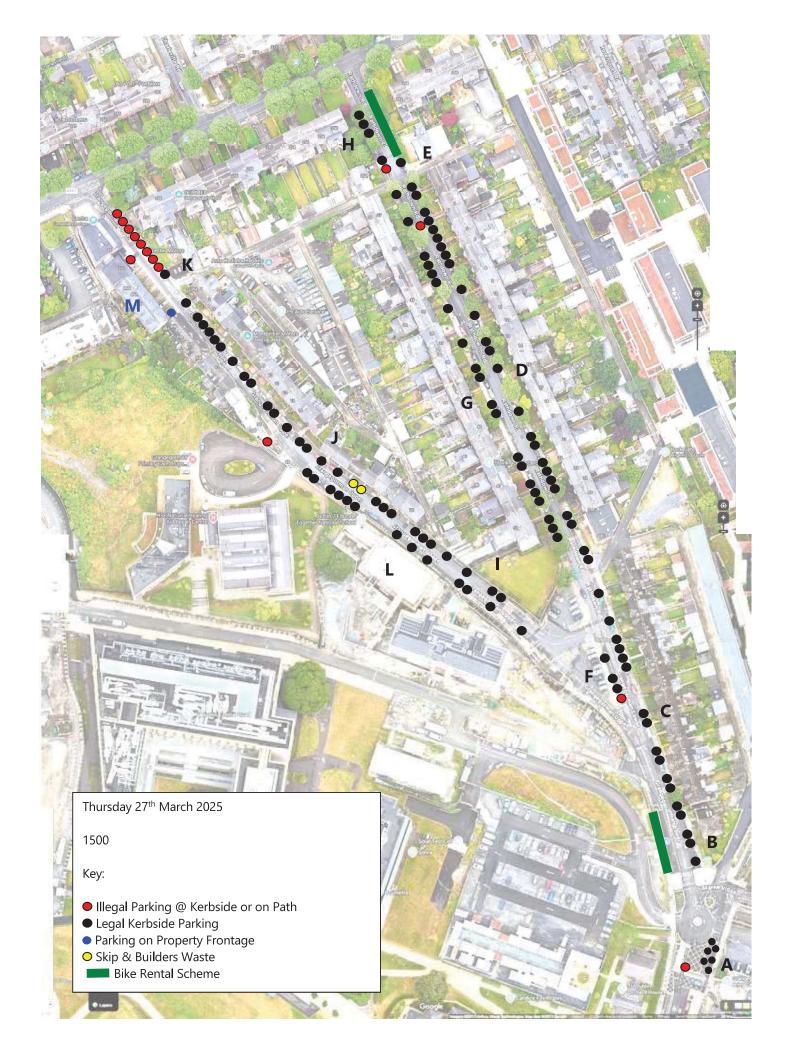


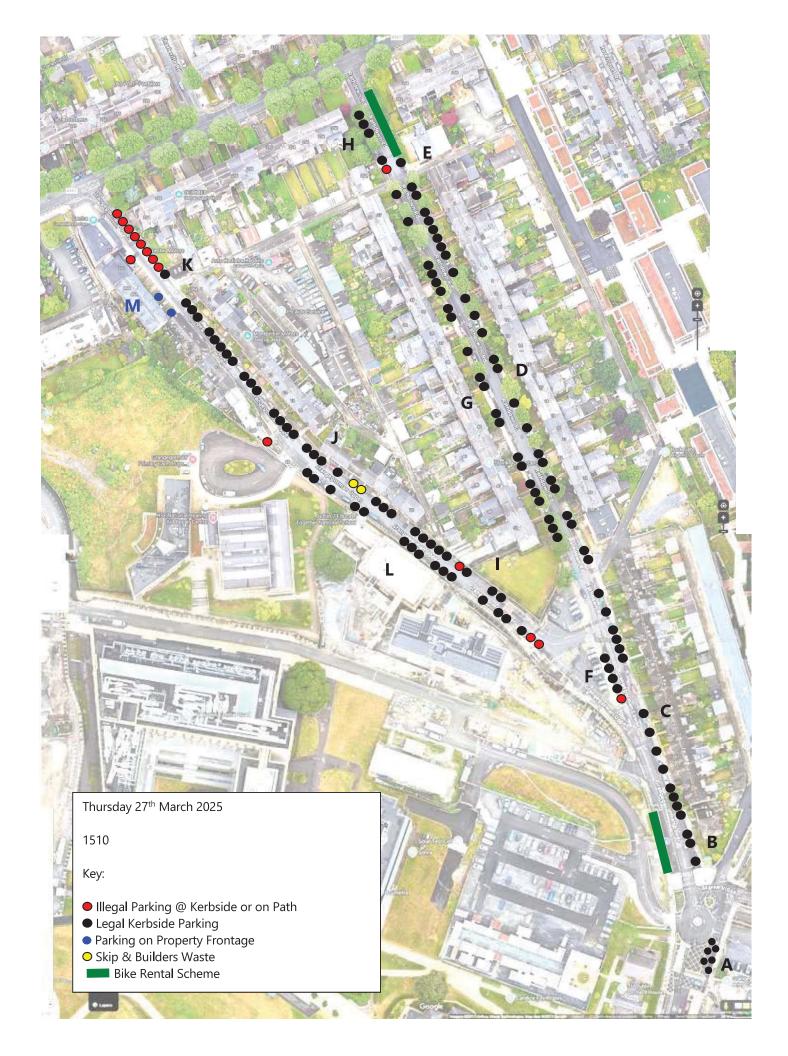


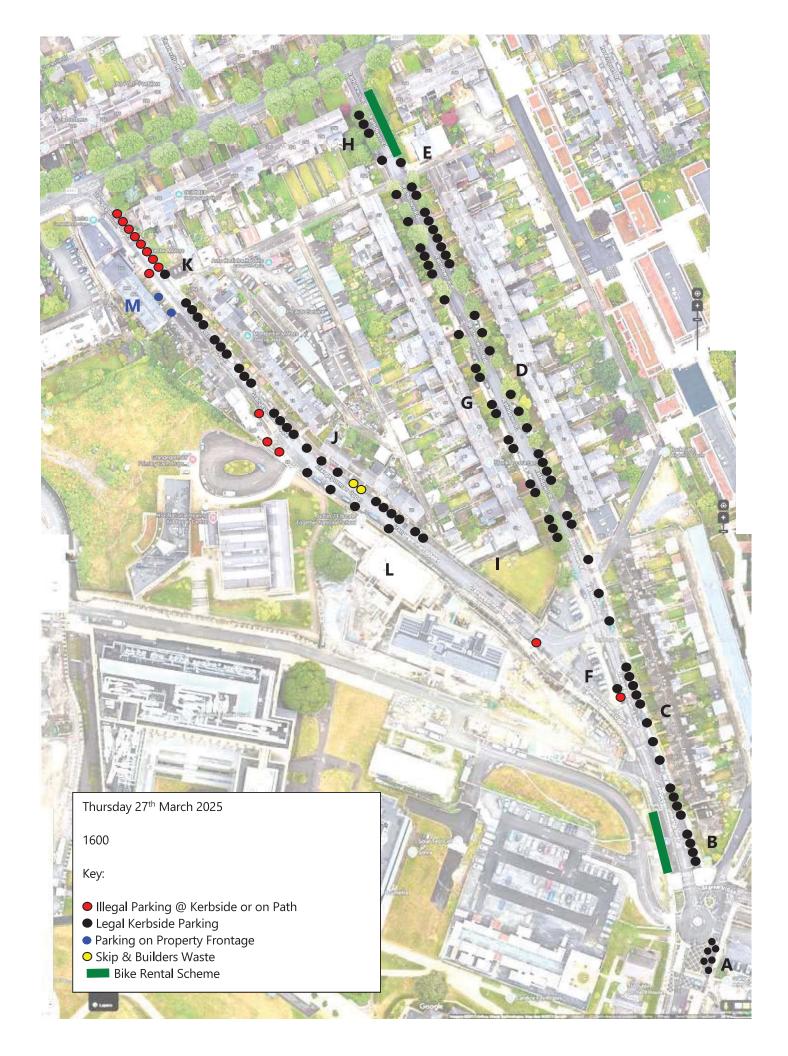


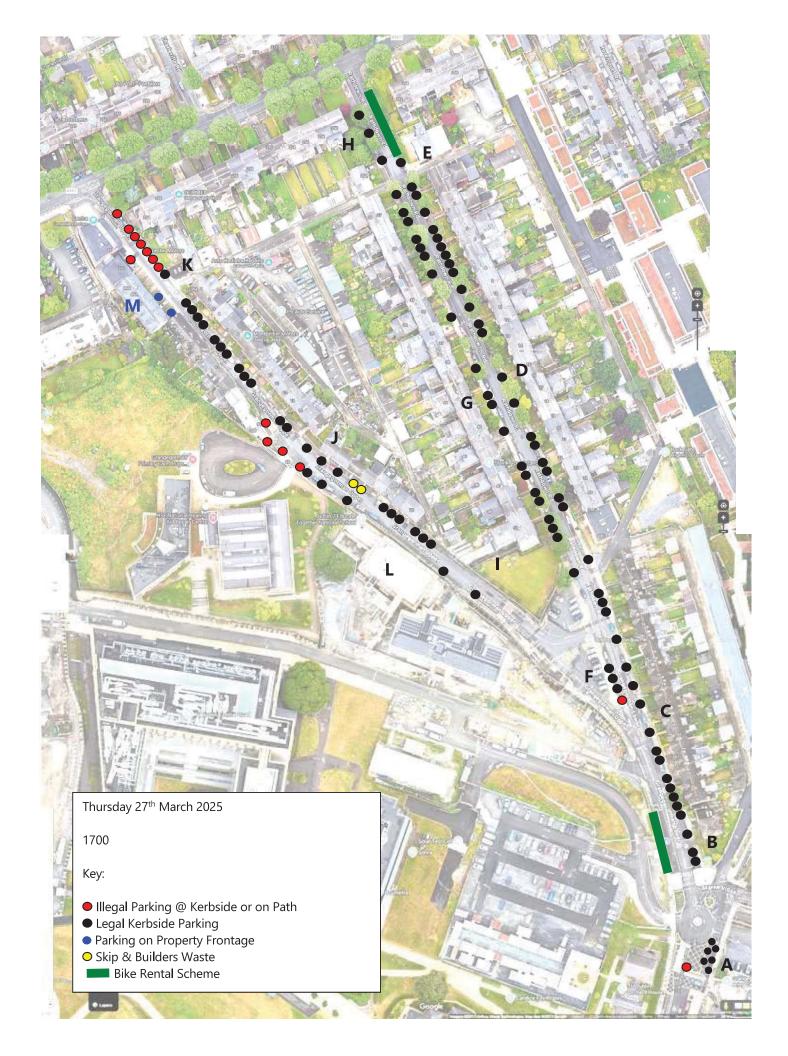


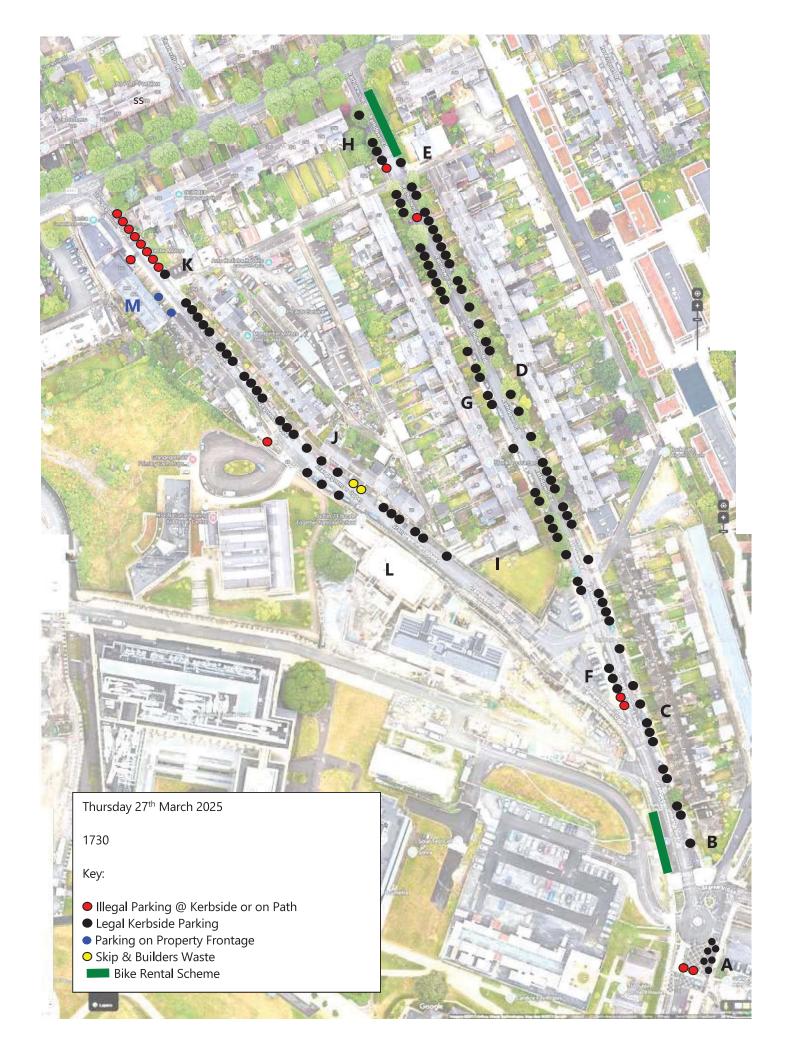


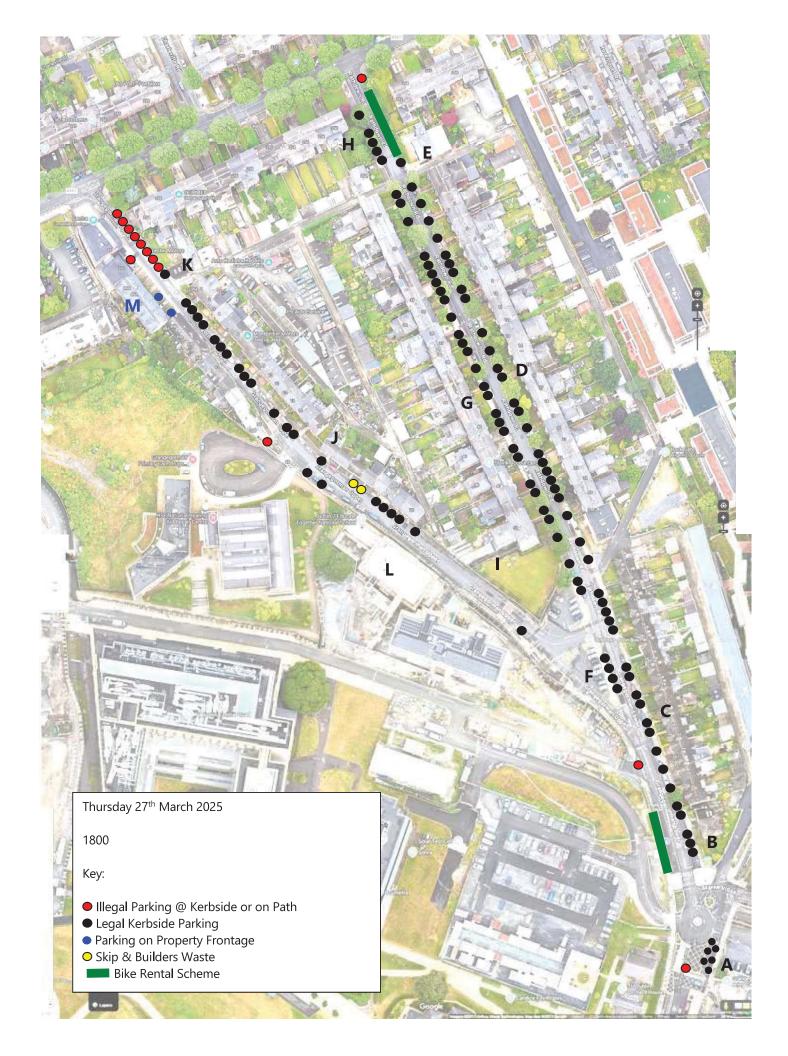


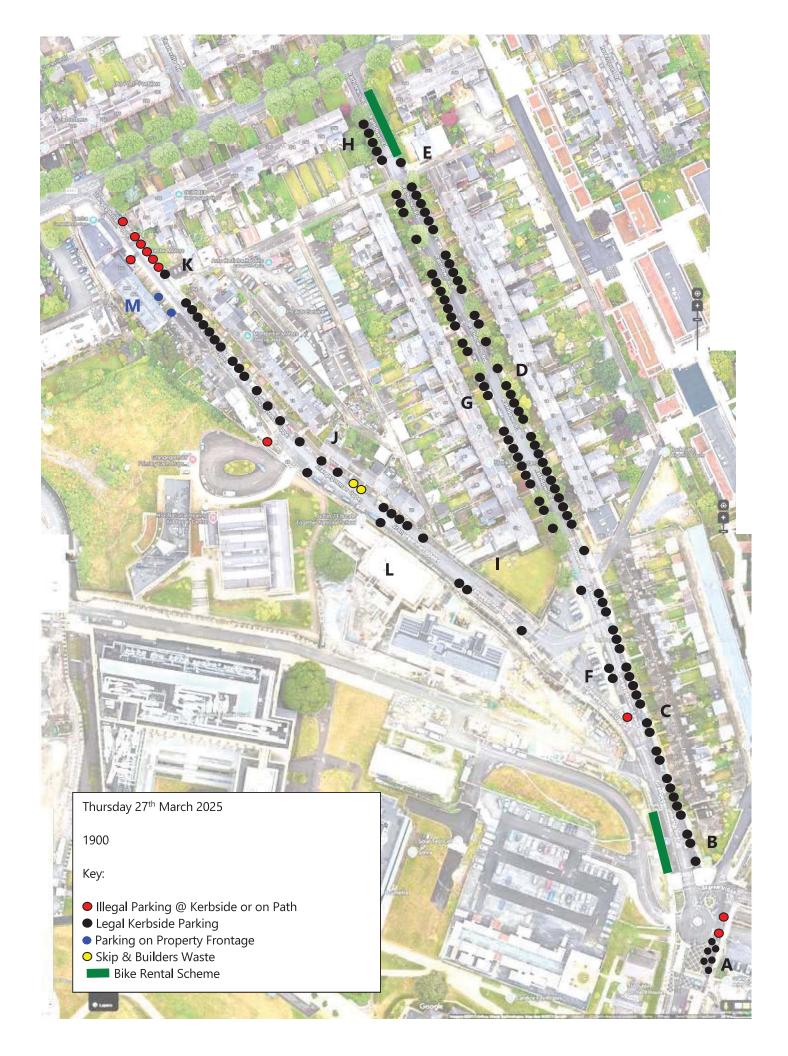


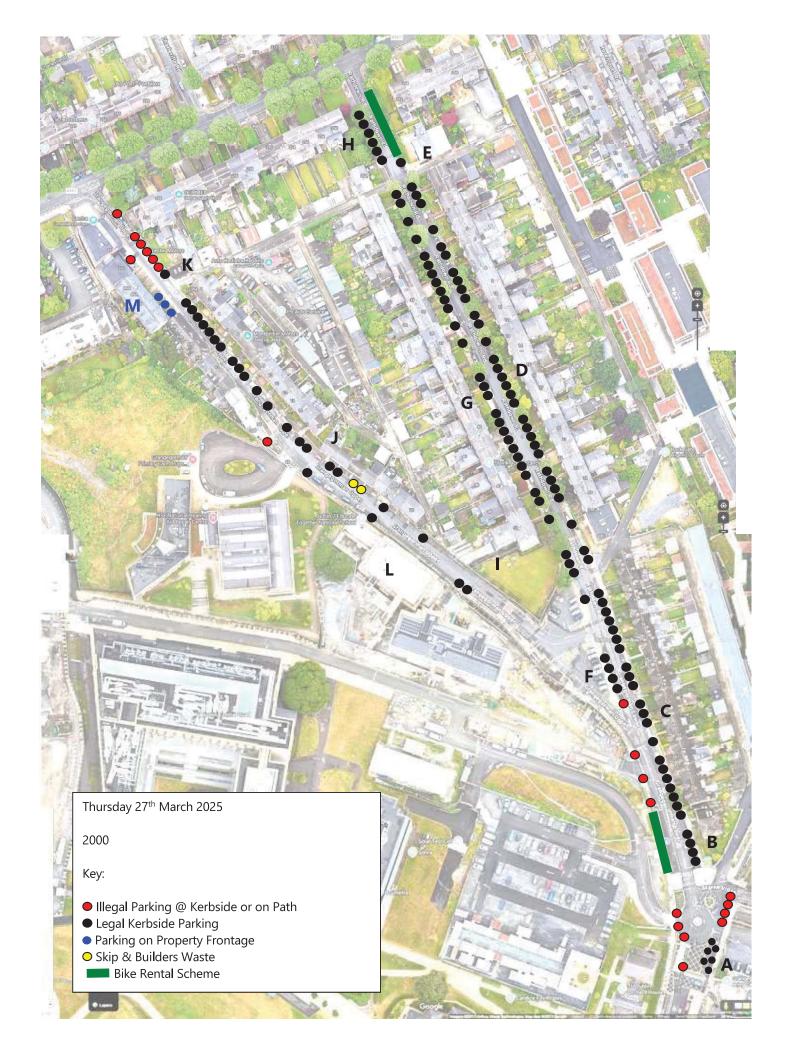


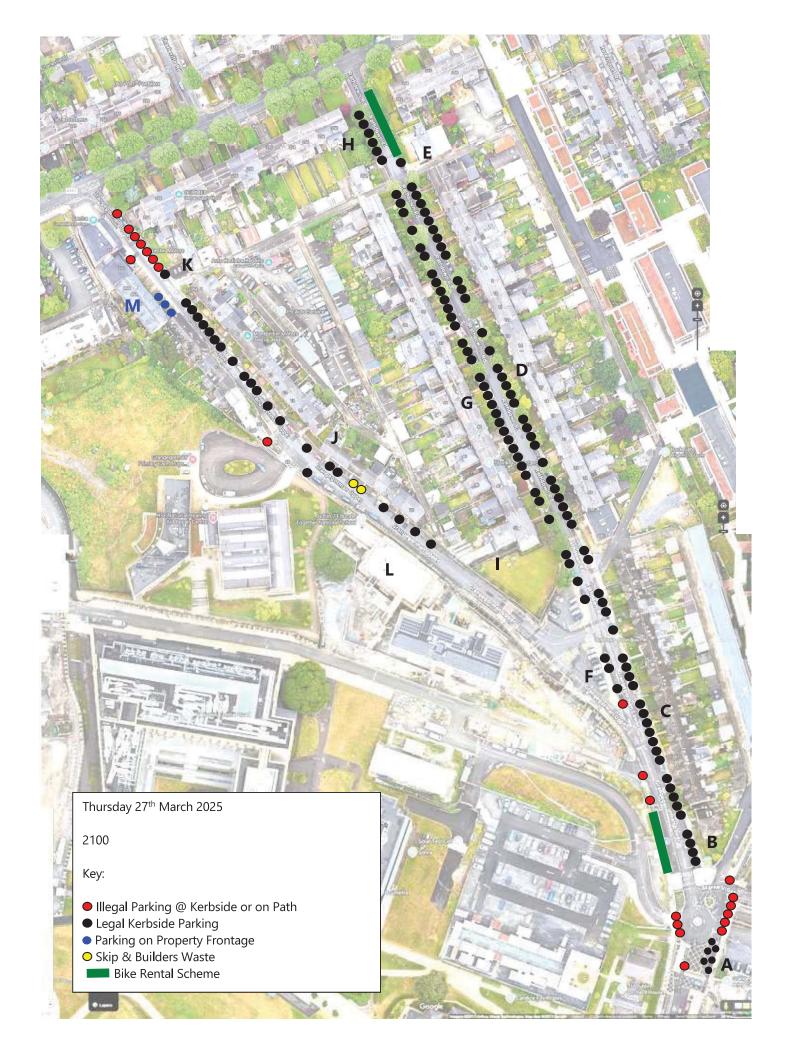


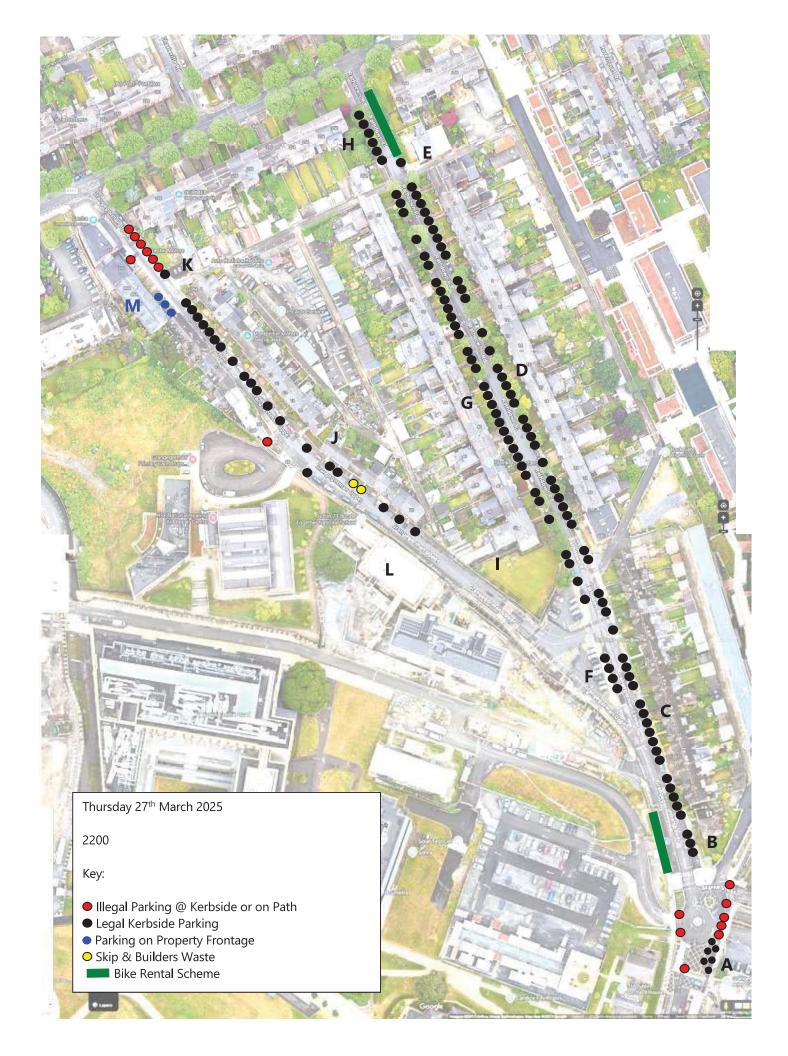


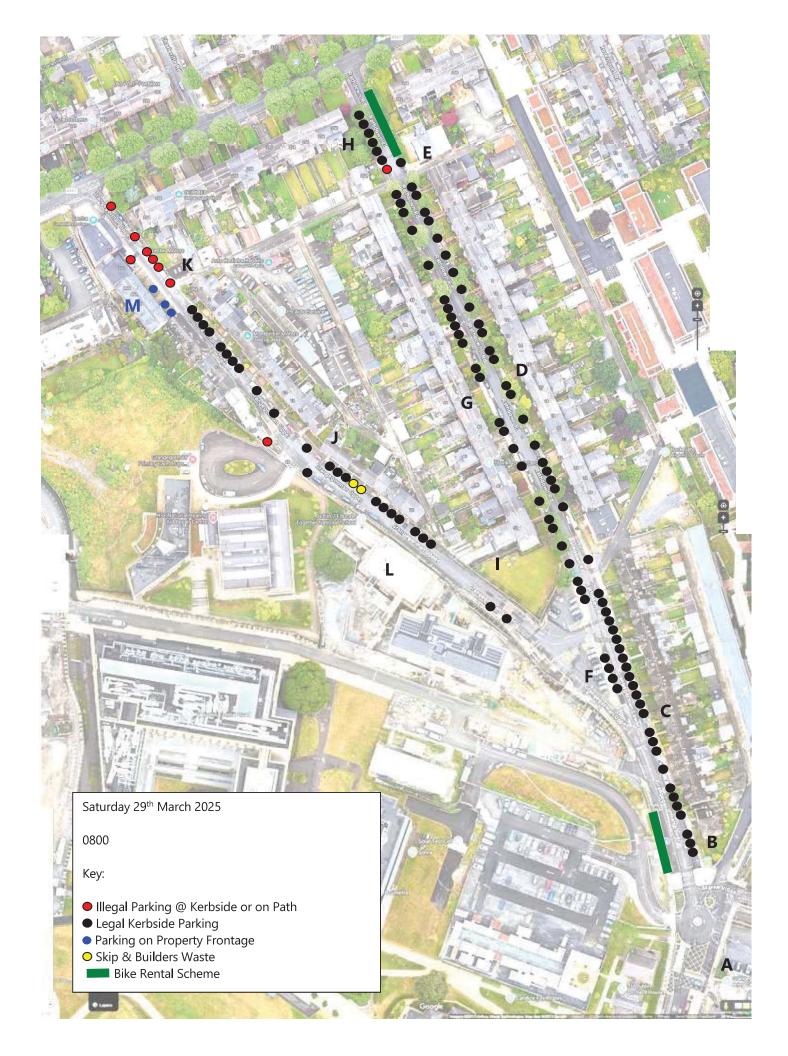


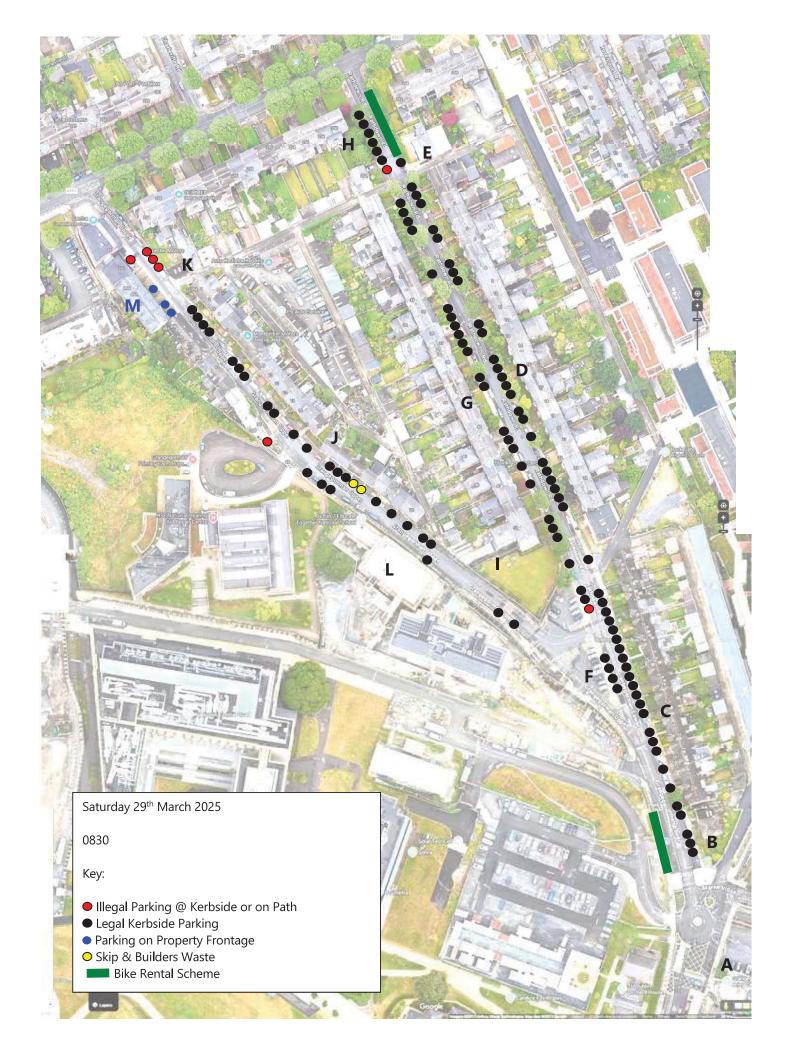


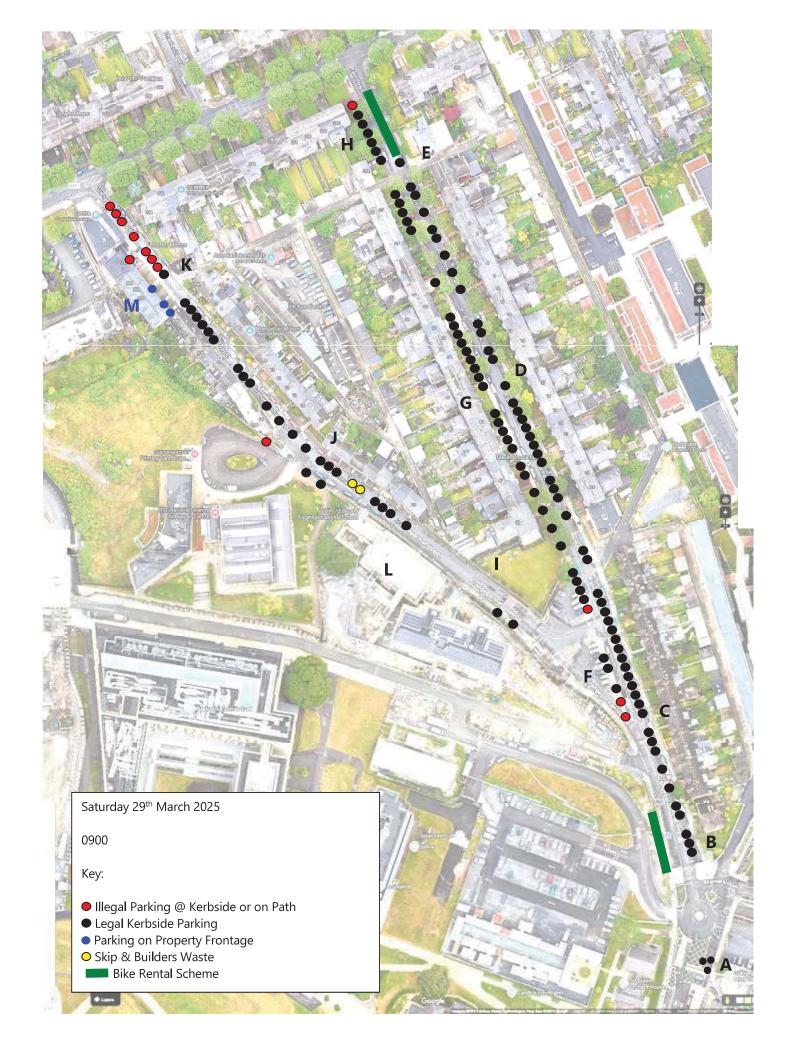


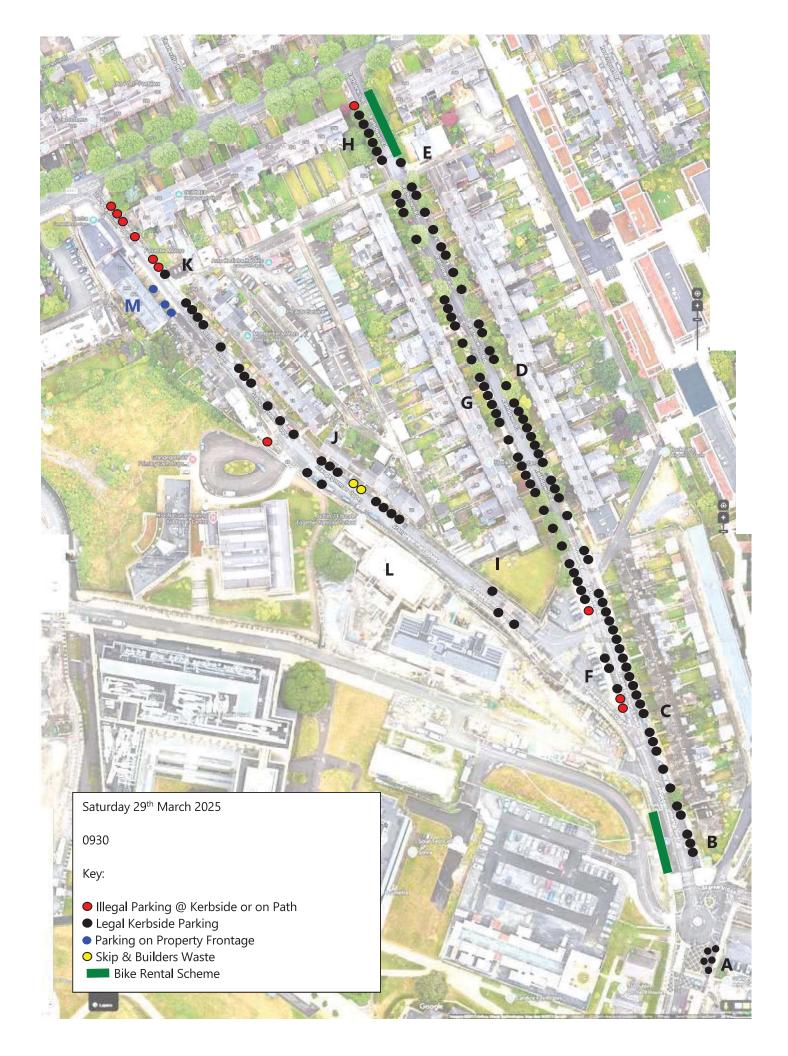


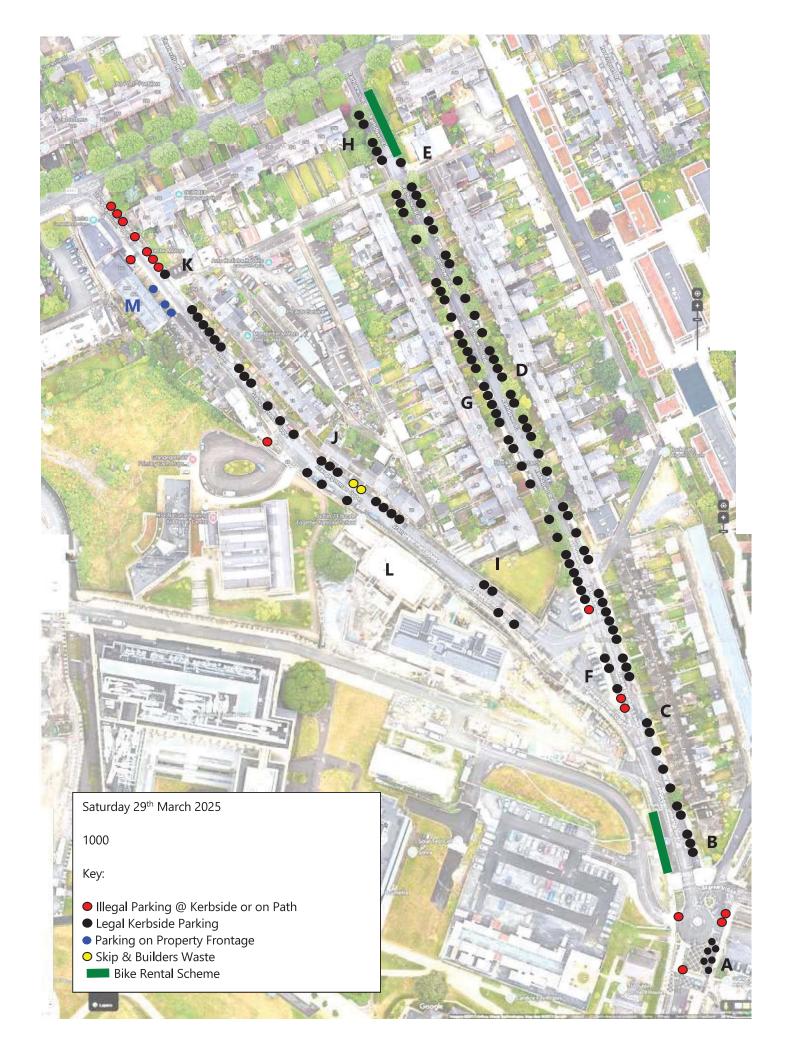


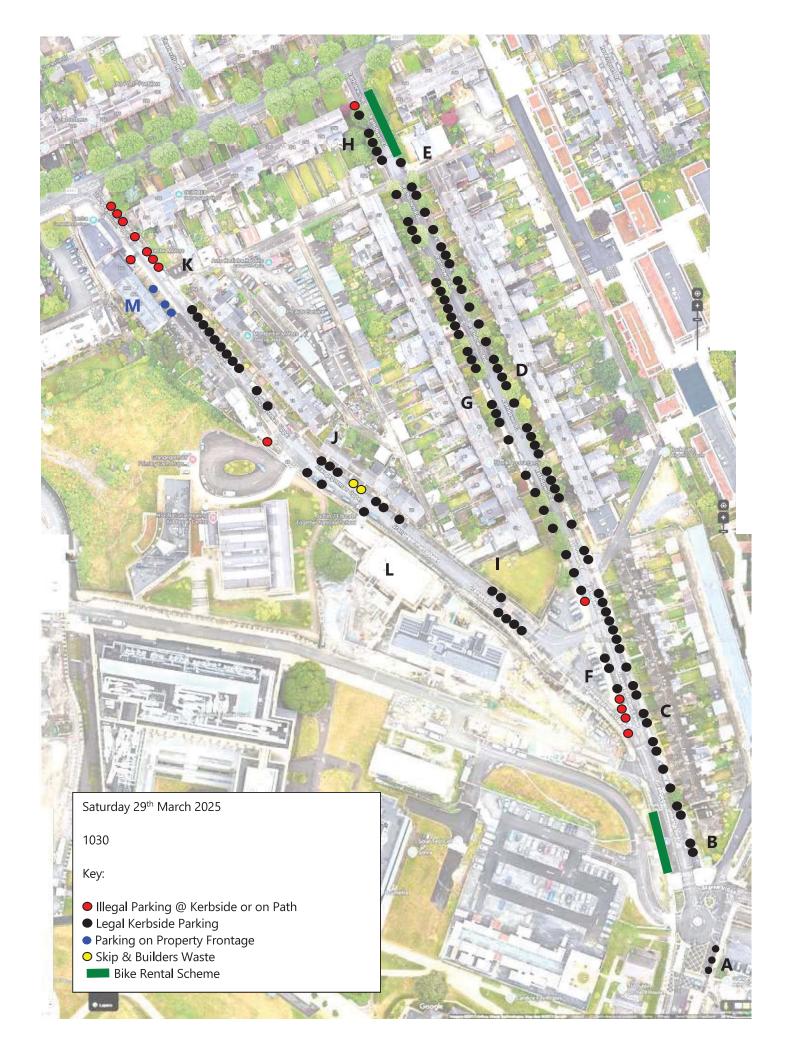


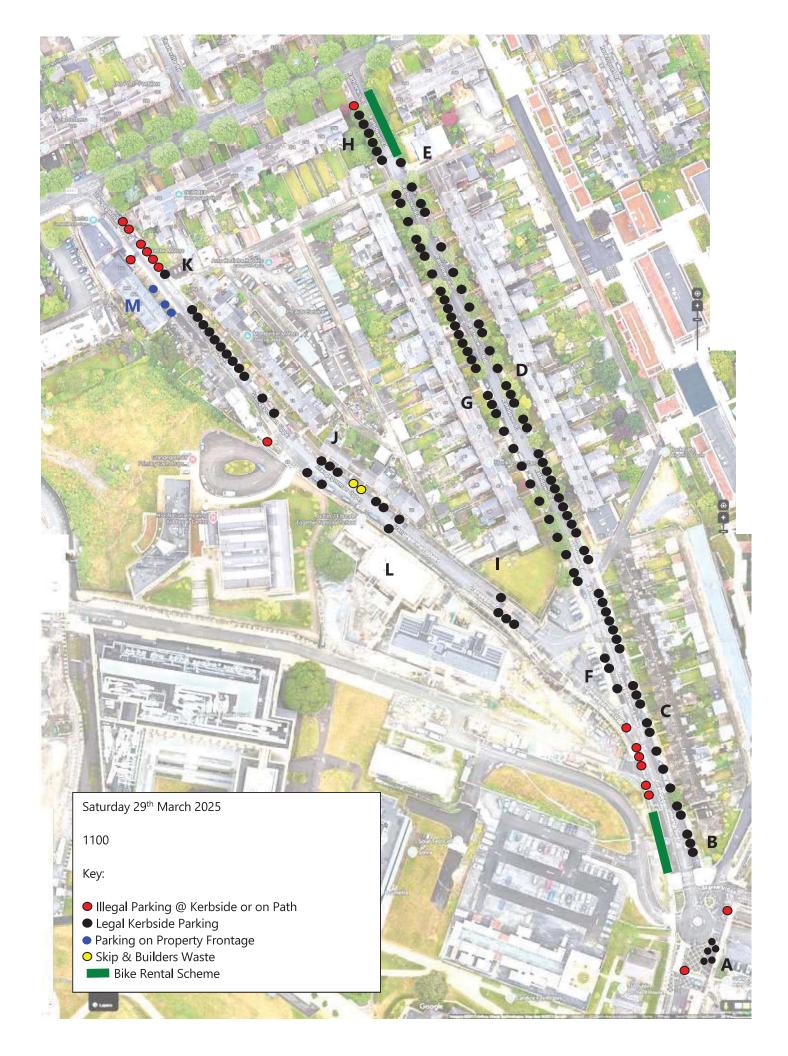


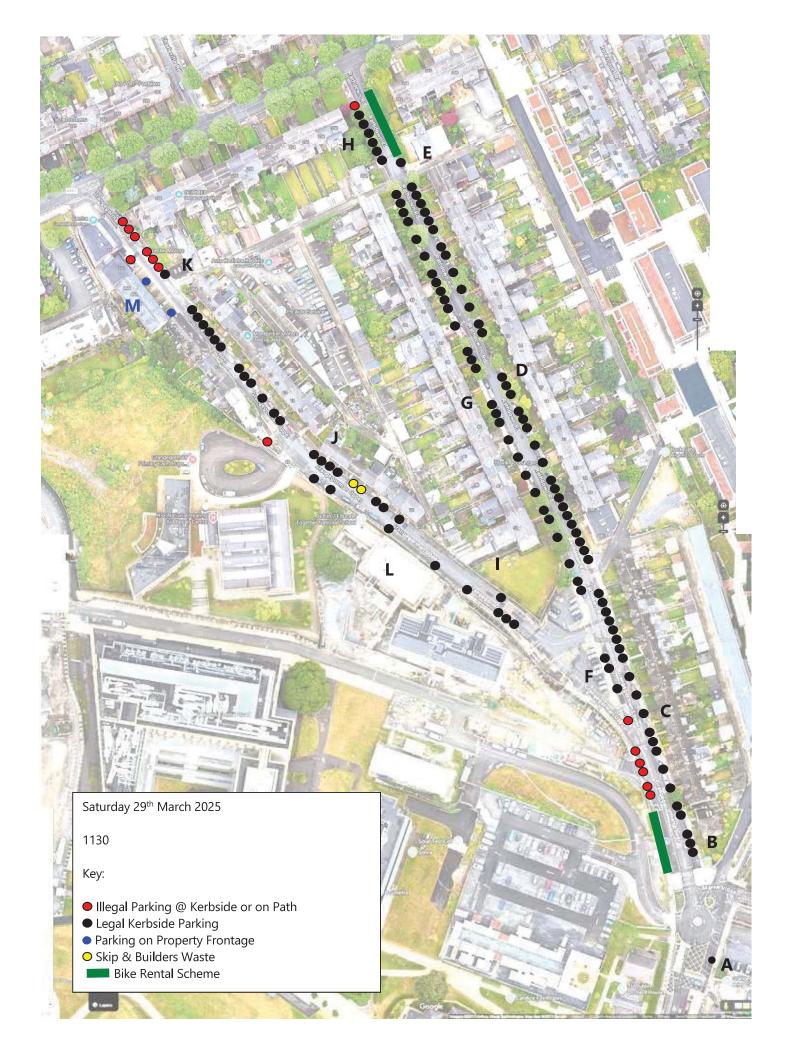


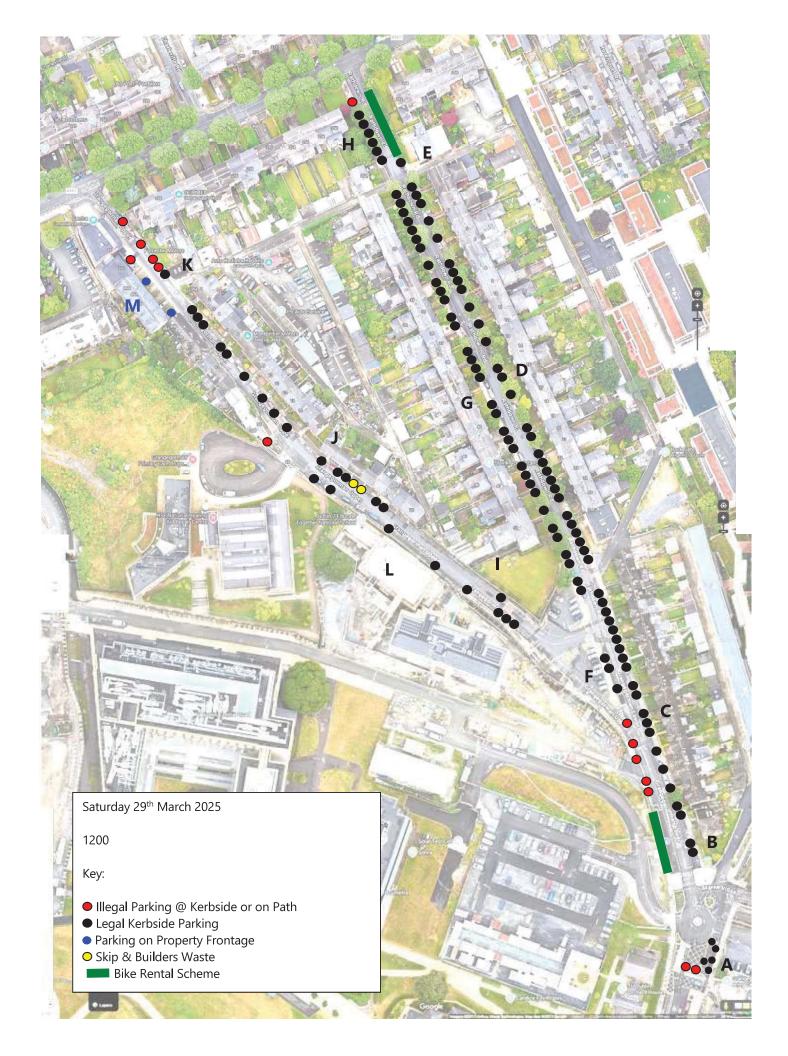


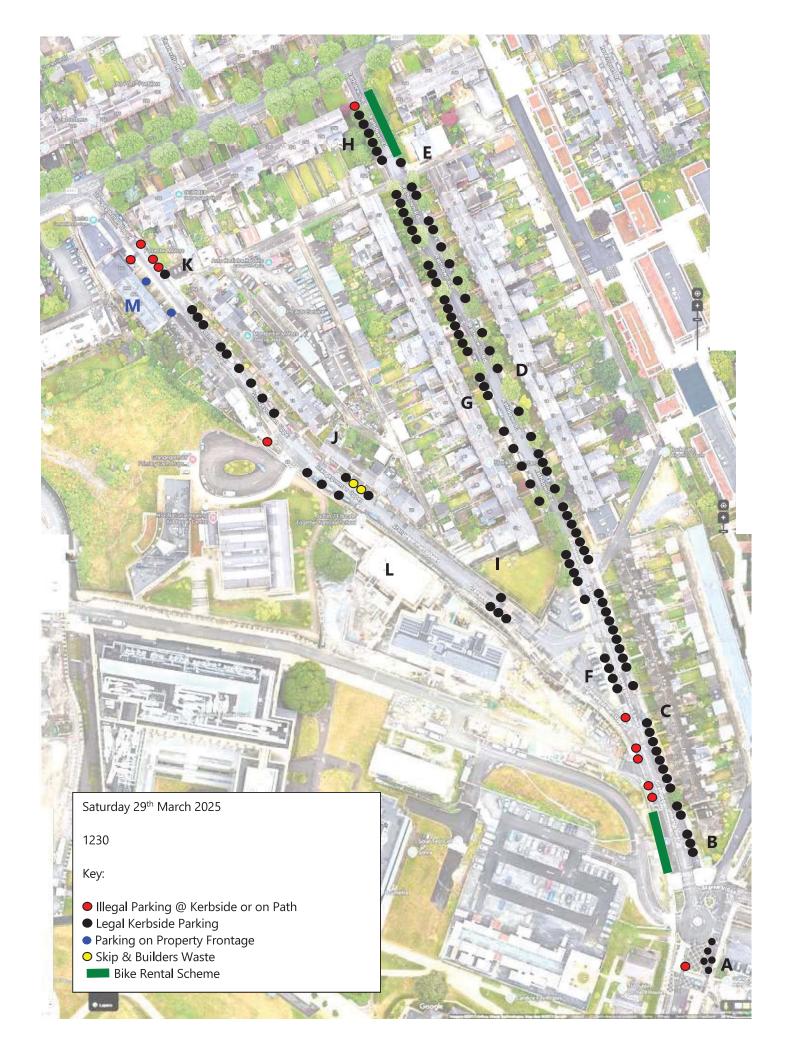


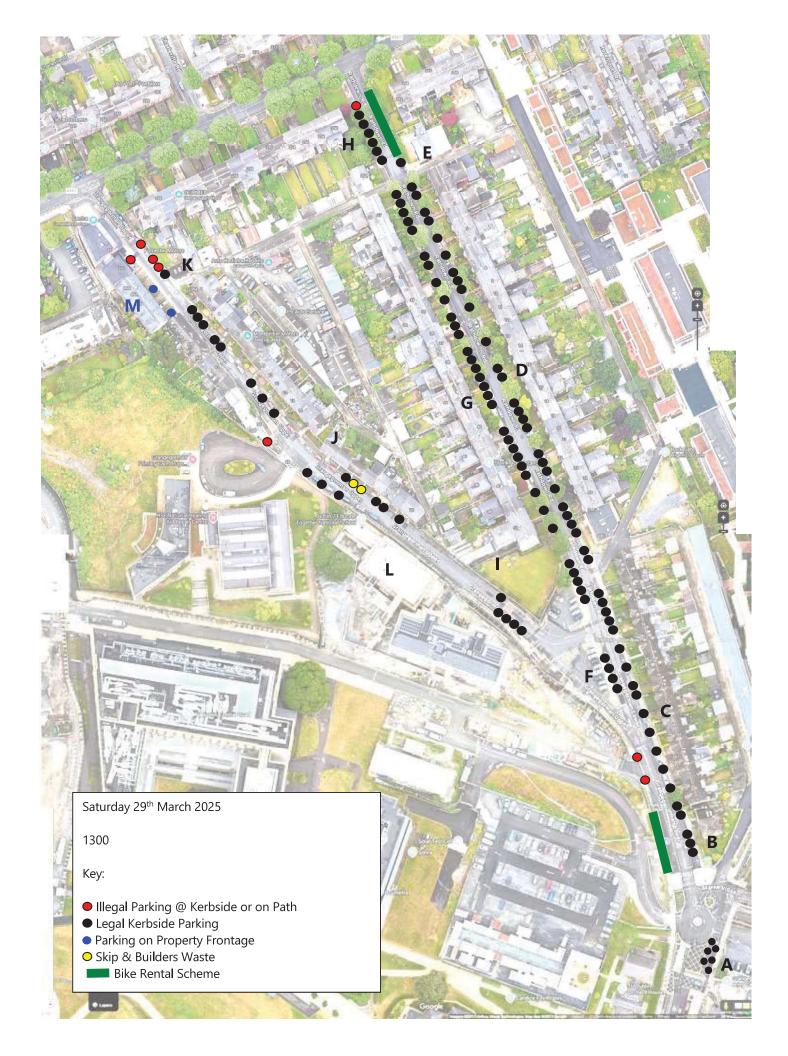


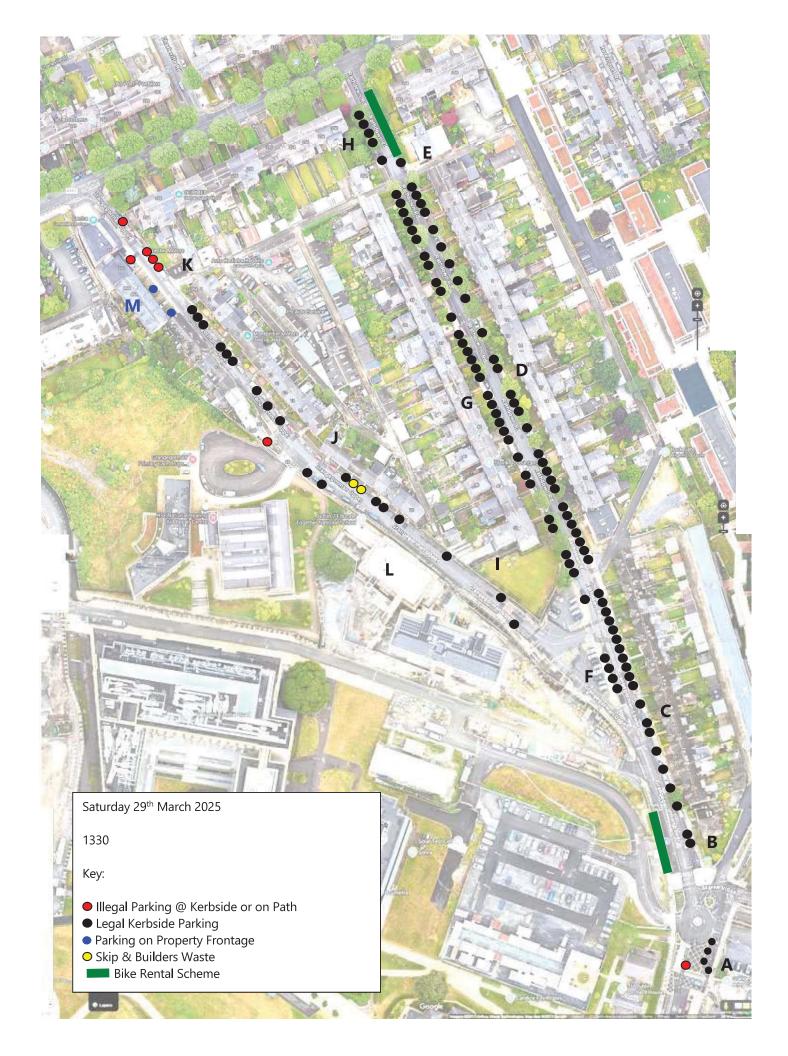


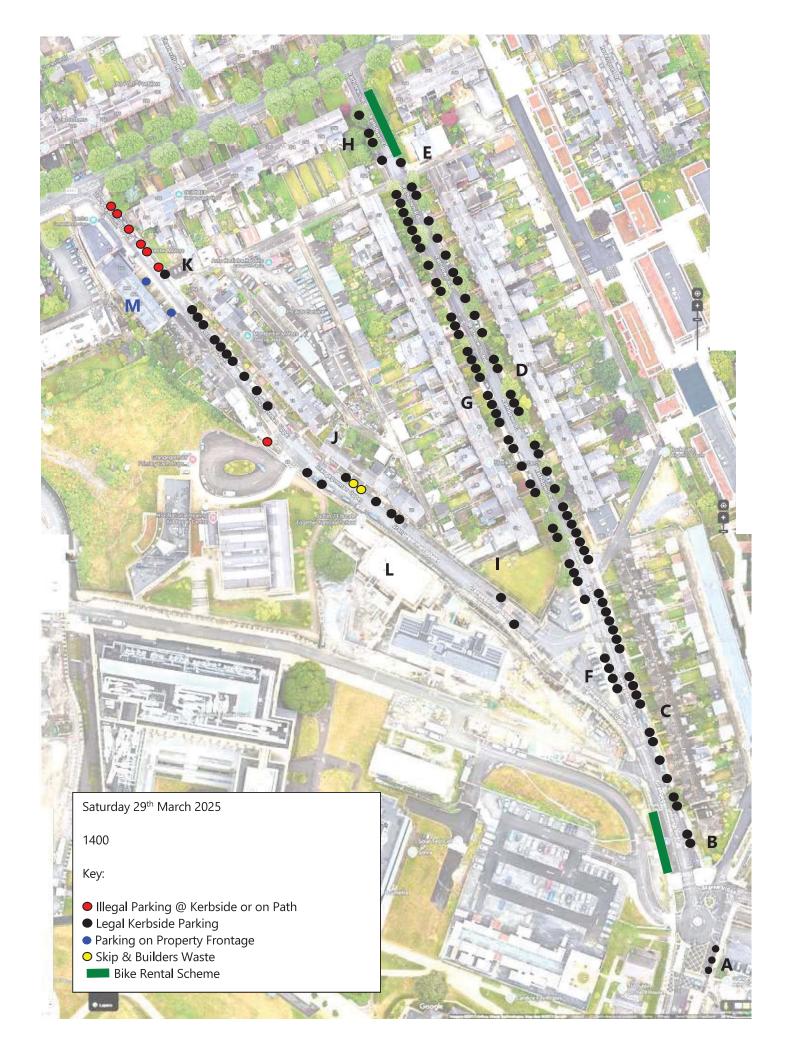








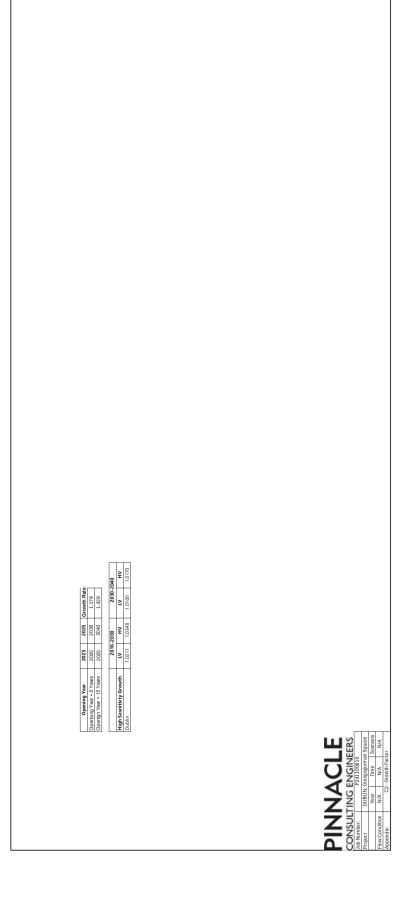


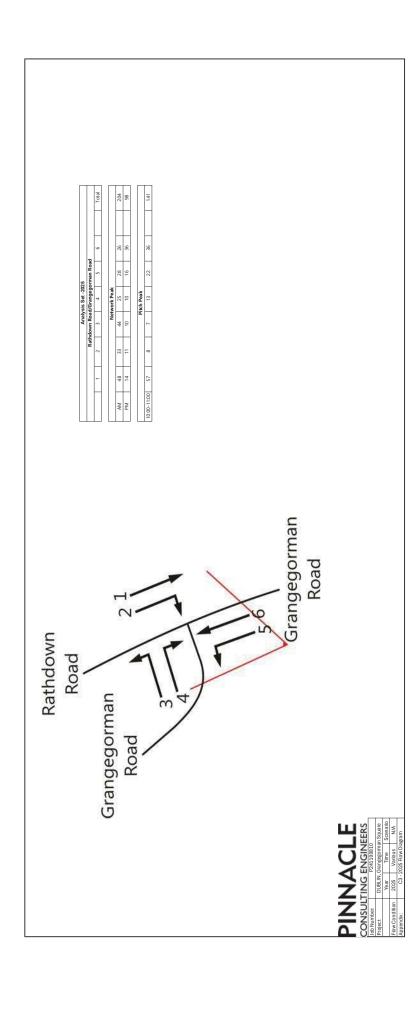


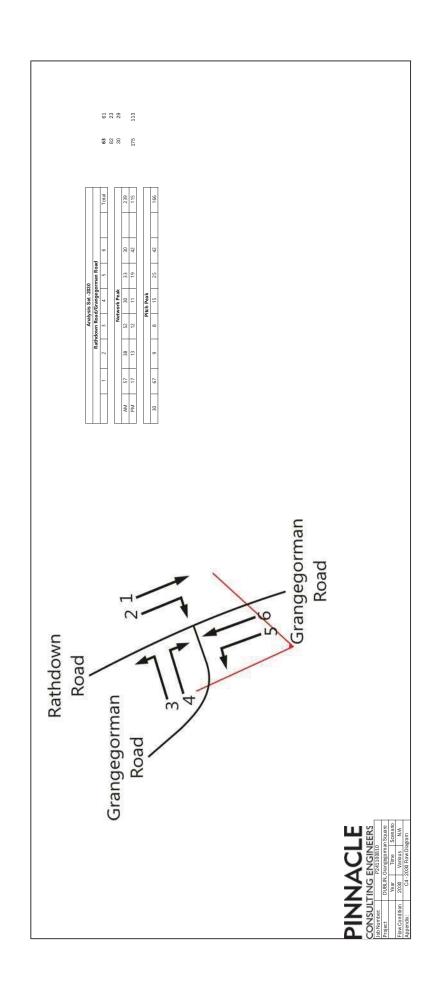


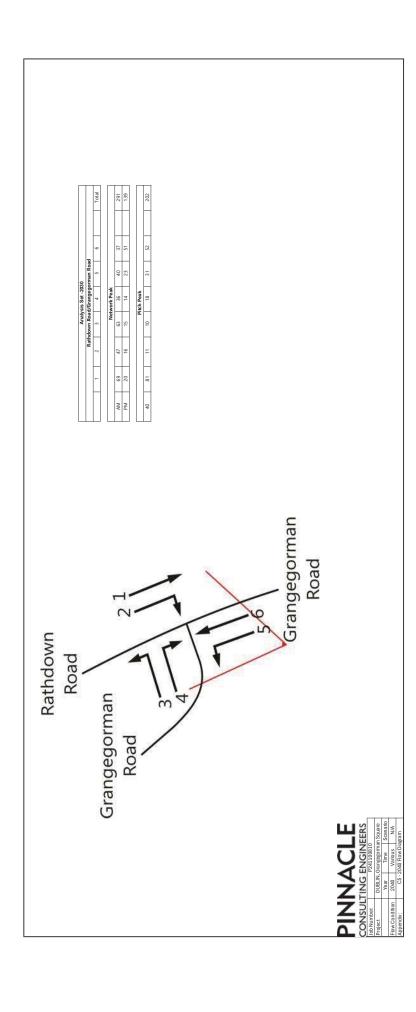
Appendix C – Flow Diagrams

								Ц																		
,		9		56	36			36																		
	rman Koa	2		28	16			22																		
Analysis Set	Kathdown Koad/Grangegorman Koad	4	Network Peak	52	10		Pitch Peak	13																		
Ans	lown Road	3	Net	44	10		E.	7																		
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1		_					Г	П	Г		_		Г			Г		_								
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				0	0			0			L			0	0		0	0								
	coad	9		12	21			24		Soad	9			14	0		36	47								
r March	Kathdown Road/Grangegorman Road	2	ak	54	6		Į	3	March	Rathdown Road/Grangegorman Road	20		ak		0	Į	22	13								
I nursday 2/th of March	ad/Grang	4	Network Peak	17	80		Pitch Peak	-	Saturday 29th of March	ad/Grang	4		Network Peak	9	0	Pitch Peak	13	11								
Inurs	indown Ko	m	z	51	4			4	Sature	thdown Ro			z	4	0		7	9								
-	Kal	2		39	7			æ		Rat	2			æ	0		8	11								
		-		24	13			22			-			23	0		22	¥								
				AM	PM			19:00-20:00						AM	PM		10:00-11:00	11:00-12:00								
						l	L	\$1	L				L			L	10	=	l							
		Total		204	88			62			Total			199	86		74				Total		169	98		7.5
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		9		56	30			24			9			20	36		50				9		21	27		30
-	an Koad	2		28	13			6	_	an Road	2			56	16		13		- h	an Road	2		27	16		6
Monday 24th of March	Kathdown Koad/ Grangegorman Koad	4	k Peak	25 2	9		Pitch Peak	3	25 th of March	Rathdown Road/Grangegorman Road	4		k Peak	27 2	10	Pitch Peak	3		Wednesday 26th of March	Rathdown Road/Grangegorman Road	4	k Peak	14 2	8	Pitch Peak	4
londay 24	rn Koad/Gi	3	Network Peak	_	6		Pitch	4	Tuesday 25	m Road/G	3		Network Peak	99		Pitch	12		dnesday 2	m Road/G	3	Network Peak	34		Pitch	8
4	Kathdow							1	ř	Rathdow				_					We	Rathdow			_			
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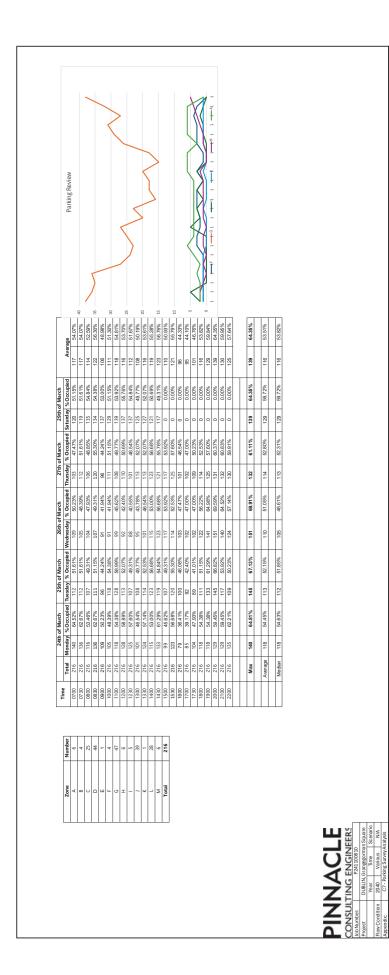


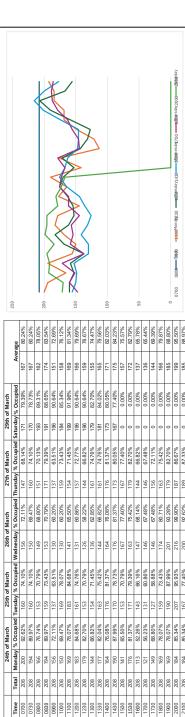




25th of March	Tuesday	112	112	107	111	96	118	128	113	107	108	114	123	119	107	120
24th of March	Monday	140	136	116	136	109	105	118	128	125	101	124	115	133	66	123
Limo		0200	0730	0800	0830	0060	1000	1100	1200	1230	1300	1330	1400	1430	1500	1530
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щ	EERS		rman Square	Scenario	N/A	ey Data
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Ž	TING		DUBLIN, Grange	Year	2040	C6-Par
MN	CONSUL.	Job Number:	Project		Flow Condition	Appendix:
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80.24%	78.05%	83.54%	72.69%	76.12%	81.34%	%69.62	%29'92	74.47%	79.56%	85.03%	84.23%	75.57%	82.79%	65.78%	65.44%	%68'69	79.87%	%08'88	%05'56	88.97%	85.53%		%96'16	76.47%		76.91%
167	162	174	151	158	169	166	159	155	165	171	175	157	172	137	136	144	166	185	199	185	178		199	165		166
79.39%	89.31%	88.65%	90.64%	85.34%	91.96%	90.64%	90.64%	82.70%	84.02%	80.05%	77.40%	%00:0	%00:0	%00:0	%00:0	%00'0	%00.0	%00:0	%00.0	%00:0	%00.0		91.96%	48.24%		78.73%
171	193	191	196	184	199	196	196	179	181	173	167	0	0	0	0	0	0	0	0	0	0		199	104		170
68.14%	70.13%	79.39%	63.51%	73.43%	71.45%	72.77%	66.82%	74.76%	74.76%	81.37%	80.05%	77.40%	82.70%	66.82%	67.48%	72.11%	75.42%	82.70%	86.67%	87.33%	86.00%		87.33%	75.45%		74.76%
147	151	171	137	159	154	157	144	161	191	176	173	167	179	144	146	156	163	179	187	189	186		189	163		161
72.11%	%08.89	70.79%	60.20%	60.20%	65.50%	%98'09	58.22%	62.85%	66.82%	76.08%	81.37%	77.40%	75.42%	68.14%	67.48%	67.48%	80.71%	93.28%	%06'66	92.62%	82.04%		%06.66	72.95%		69.47%
156	149	153	130	130	141	131	126	136	144	164	176	167	163	147	146	146	174	201	216	200	177		216	158		120
74.10%	%67.07	73.43%	63.51%	78.07%	84.68%	74.76%	%67.07	71.45%	75.42%	81.37%	78.73%	%67.07	79.39%	99.16%	%98'09	58.88%	73.43%	%66'.28	95.93%	77.40%	72.11%		95.93%	74.53%		74.10%
160	153	159	137	169	183	161	153	154	163	176	170	153	171	143	131	127	159	190	207	167	156		207	161		160
92.62%	76.74%	89.97%	72.11%	69.47%	78.07%	84.68%	82.70%	66.82%	82.04%	76.08%	87.99%	65.50%	81.37%	52.26%	56.23%	68.80%	78.07%	78.07%	85.34%	85.34%	89.31%		92.62%	77.81%		78.07%
194	166	194	156	150	169	183	179	144	177	164	190	141	176	113	121	149	169	169	184	184	193		200	168		169
208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208	208		Max	Average		Median
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Growth 1.429

CONSULTING ENGINEERS	TING	ENGIN	EERS	
Job Number:		P241100810		
Project	DUBLIN,	DUBLIN, Grangegorman Square	n Square	
	Year	Time	Scenario	
FlowCondition	2040	Various	N/A	
Annendix:	C8 - Ser	CB - Sensitivity Analysis - Par	sis - Par	



Appendix D – Modelling Output



Junctions 10

PICADY 10 - Priority Intersection Module

Version: 10.0.4.1693 © Copyright TRL Software Limited, 2021

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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: P241100810 - DUBLIN, Grangegorman Square - Junction 1.j10

Path: S:\02.Projects\2024 Projects\P241100810 - DUBLIN, Grangegorman Square\5.0 Calculations\5.3 Higways

Report generation date: 23/05/2025 13:15:54

»2040, AM

»2040, PM

»2040 Pitch Peak, AM

»2030, AM

»2030, PM

»2030 Pitch Peak, AM

»2025, AM

»2025, PM

»2025 Pitch Peak, AM

Summary of junction performance

			AN				PN	
	Queue (PCU)	Delay (s)		Network Residual Capacity	Oueue (BCII)	Delay (s)	RFC	
	Queue (FCO)	Delay (S)	KFC		2040		KFC	Network Residual Capacity
					40			
Stream B-AC	0.3	8.58	0.19	281 %	0.1	7.49	0.06	888 %
Stream C-AB	0.1	6.87	0.09	[Stream B-AC]	0.0	6.81	0.03	[Stream B-AC]
				2040 Pit	ch Peak			
Stream B-AC	0.1	7.91	0.06	746 %				
Stream C-AB	0.0	6.38	0.02	[Stream B-AC]				
				20	2030			
Stream B-AC	0.2	8.16	0.16	361 %	0.1	7.34	0.04	900 %
Stream C-AB	0.1	6.79	0.07	[Stream B-AC]	0.0	6.76	0.02	0
				2030 Pit	ch Peak			
Stream B-AC	0.1	7.76	0.05	900 %				
Stream C-AB	0.0	6.41	0.02	0				
				20	25			
Stream B-AC	0.2	7.87	0.13	446 %	0.0	7.31	0.04	900 %
Stream C-AB	0.1	6.77	0.06	[Stream B-AC]	0.0	6.73	0.02	0
				2025 Pit	itch Peak			
Stream B-AC	0.0	7.66	0.04	900 %				
Stream C-AB	0.0	6.44	0.02	0				

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.



File summary

File Description

Title	
Location	
Site number	
Date	22/04/2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	PINNACLE\ronan.kearns
Description	

Units

Distance	units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m		kph	PCU	PCU	perHour	S	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
	✓	RFC/DOS	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D9	2040	AM	ONE HOUR	08:00	09:30	15
D10	2040	PM	ONE HOUR	17:00	18:30	15
D11	2040 Pitch Peak	AM	ONE HOUR	08:00	09:30	15
D12	2030	AM	ONE HOUR	08:00	09:30	15
D13	2030	PM	ONE HOUR	17:00	18:30	15
D14	2030 Pitch Peak	AM	ONE HOUR	08:00	09:30	15
D15	2025	AM	ONE HOUR	08:00	09:30	15
D16	2025	PM	ONE HOUR	17:00	18:30	15
D17	2025 Pitch Peak	AM	ONE HOUR	08:00	09:30	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000



2040, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		4.14	Α

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	281	Stream B-AC	4.14	Α

Arms

Arms

Arm	Name	Description	Arm type
Α	Rathdown Road - South		Major
В	Grangegorman Upper		Minor
С	Rathdown Road - North		Major

Major Arm Geometry

	Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
ſ	С	8.00			49.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

	Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
Г	В	One lane	3.00	49	49

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	518	0.086	0.218	0.137	0.311
B-C	655	0.092	0.232	-	-
С-В	602	0.213	0.213	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D9	2040	AM	ONE HOUR	08:00	09:30	15



Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm Use O-D data		Average Demand (PCU/hr)	Scaling Factor (%)	
Α		✓	77	100.000	
В		✓	99	100.000	
С		✓	116	100.000	

Origin-Destination Data

Demand (PCU/hr)

		T	o	
		Α	В	С
F	Α	0	40	37
From	В	36	0	63
	С	69	47	0

Vehicle Mix

Heavy Vehicle Percentages

	То				
		Α	В	С	
_	Α	10	10	10	
From	В	10	10	10	
	С	10	10	10	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.19	8.58	0.3	А
C-AB	0.09	6.87	0.1	Α
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	75	579	0.129	74	0.2	7.827	А
C-AB	39	625	0.062	38	0.1	6.747	Α
C-A	49			49			
A-B	30			30			
A-C	28			28			



08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	89	576	0.155	89	0.2	8.132	Α
C-AB	47	629	0.075	47	0.1	6.797	А
C-A	57			57			
A-B	36			36			
A-C	33			33			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	109	571	0.191	109	0.3	8.569	А
C-AB	59	636	0.093	59	0.1	6.864	Α
C-A	69			69			
A-B	44			44			
A-C	41			41			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	109	571	0.191	109	0.3	8.577	Α
C-AB	59	636	0.093	59	0.1	6.866	Α
C-A	69			69			
A-B	44			44			
A-C	41			41			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	89	576	0.155	89	0.2	8.147	А
C-AB	47	629	0.075	47	0.1	6.803	A
C-A	57			57			
A-B	36			36			
A-C	33			33			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	75	579	0.129	75	0.2	7.853	Α
C-AB	39	625	0.062	39	0.1	6.758	A
C-A	49			49			
A-B	30	·	·	30		·	
A-C	28			28			



2040, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

	Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
ſ	1	untitled	T-Junction	Two-way	Two-way	Two-way		2.37	Α

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	888	Stream B-AC	2.37	Α

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D10	2040	PM	ONE HOUR	17:00	18:30	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)	
✓	HV Percentages	2.00	

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
Α		✓	74	100.000
В		✓	29	100.000
С		✓	36	100.000

Origin-Destination Data

Demand (PCU/hr)

		То				
		Α	В	O		
-	Α	0	23	51		
From	В	14	0	15		
	С	20	16	0		

Vehicle Mix

	То					
		Α	В	C		
-	Α	10	10	10		
From	В	10	10	10		
	С	10	10	10		



Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.06	7.49	0.1	А
C-AB	0.03	6.81	0.0	Α
C-A				
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	567	0.039	22	0.0	7.263	А
C-AB	12	601	0.021	12	0.0	6.731	A
C-A	15			15			
A-B	17			17			
A-C	38			38			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	26	564	0.046	26	0.1	7.359	А
C-AB	15	600	0.025	15	0.0	6.763	А
C-A	18			18			
A-B	21			21			
A-C	46			46			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	32	560	0.057	32	0.1	7.493	A
C-AB	18	600	0.030	18	0.0	6.808	A
C-A	21			21			
A-B	25			25			
A-C	56			56			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	32	560	0.057	32	0.1	7.493	Α
C-AB	18	600	0.031	18	0.0	6.811	A
C-A	21			21			
A-B	25			25			
A-C	56			56			



18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	26	564	0.046	26	0.1	7.364	A
C-AB	15	600	0.025	15	0.0	6.766	Α
C-A	18			18			
A-B	21			21			
A-C	46	·		46		·	

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	567	0.039	22	0.0	7.270	A
C-AB	12	601	0.021	12	0.0	6.734	A
C-A	15			15			
A-B	17			17			
A-C	38			38			



2040 Pitch Peak, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

	Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
ſ	1	untitled	T-Junction	Two-way	Two-way	Two-way		1.48	Α

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	746	Stream B-AC	1.48	Α

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D11	2040 Pitch Peak	AM	ONE HOUR	08:00	09:30	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
Α		✓	83	100.000
В		✓	28	100.000
С		✓	92	100.000

Origin-Destination Data

Demand (PCU/hr)

		То				
		Α	В	O		
F	Α	0	31	52		
From	В	18	0	10		
	С	81	11	0		

Vehicle Mix

	То					
		Α	В	C		
F	Α	10	10	10		
From	В	10	10	10		
	С	10	10	10		



Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.06	7.91	0.1	Α
C-AB	0.02	6.38	0.0	А
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	21	540	0.039	21	0.0	7.621	A
C-AB	9	630	0.015	9	0.0	6.377	A
C-A	60			60			
A-B	23			23			
A-C	39			39			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	537	0.047	25	0.1	7.741	А
C-AB	11	636	0.018	11	0.0	6.341	А
C-A	72			72			
A-B	28			28			
A-C	47			47			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31	532	0.058	31	0.1	7.907	A
C-AB	14	643	0.022	14	0.0	6.293	Α
C-A	87			87			
A-B	34			34			
A-C	57			57			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31	532	0.058	31	0.1	7.908	Α
C-AB	14	643	0.022	14	0.0	6.296	A
C-A	87			87			
A-B	34			34			
A-C	57			57			



09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	537	0.047	25	0.1	7.743	A
C-AB	11	636	0.018	11	0.0	6.344	Α
C-A	72			72			
A-B	28			28			
A-C	47		·	47			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	21	540	0.039	21	0.0	7.625	A
C-AB	9	630	0.015	9	0.0	6.377	A
C-A	60			60			
A-B	23			23			
A-C	39			39			



2030, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		3.97	Α

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	361	Stream B-AC	3.97	Α

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D12	2030	AM	ONE HOUR	08:00	09:30	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
Α		✓	63	100.000
В		✓	82	100.000
С		✓	95	100.000

Origin-Destination Data

Demand (PCU/hr)

	То			
		Α	В	O
F	Α	0	33	30
From	В	30	0	52
	С	57	38	0

Vehicle Mix

	То			
		Α	В	C
_	Α	10	10	10
From	В	10	10	10
	С	10	10	10



Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.16	8.16	0.2	Α
C-AB	0.07	6.79	0.1	А
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	62	582	0.106	61	0.1	7.592	Α
C-AB	31	621	0.049	30	0.1	6.706	A
C-A	41			41			
A-B	25			25			
A-C	23			23			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	74	579	0.127	74	0.2	7.829	A
C-AB	37	625	0.060	37	0.1	6.739	A
C-A	48			48			
A-B	30			30			
A-C	27			27			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	90	575	0.157	90	0.2	8.159	A
C-AB	47	630	0.074	46	0.1	6.787	A
C-A	58			58			
A-B	36			36			
A-C	33			33			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	90	575	0.157	90	0.2	8.164	Α
C-AB	47	630	0.074	47	0.1	6.791	Α
C-A	58			58			
A-B	36			36			
A-C	33			33			



09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	74	579	0.127	74	0.2	7.839	A
C-AB	37	625	0.060	37	0.1	6.742	Α
C-A	48			48			
A-B	30			30			
A-C	27			27			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	62	582	0.106	62	0.1	7.611	A
C-AB	31	621	0.050	31	0.1	6.709	A
C-A	41			41			
A-B	25			25			
A-C	23			23			



2030, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

	Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
ſ	1	untitled	T-Junction	Two-way	Two-way	Two-way		2.27	Α

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	900		2.27	Α

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D13	2030	PM	ONE HOUR	17:00	18:30	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)	
✓	HV Percentages	2.00	

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
Α		✓	61	100.000
В		✓	23	100.000
С		✓	30	100.000

Origin-Destination Data

Demand (PCU/hr)

	То				
		Α	В	C	
-	Α	0	19	42	
From	В	11	0	12	
	С	17	13	0	

Vehicle Mix

	То				
From		Α	В	C	
	Α	10	10	10	
	В	10	10	10	
	С	10	10	10	



Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.04	7.34	0.1	А
C-AB	0.02	6.76	0.0	А
C-A				
A-B				
A-C	·			

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	570	0.030	17	0.0	7.163	Α
C-AB	10	601	0.017	10	0.0	6.698	A
C-A	13			13			
A-B	14			14			
A-C	32			32			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	21	568	0.036	21	0.0	7.239	Α
C-AB	12	601	0.020	12	0.0	6.723	Α
C-A	15			15			
A-B	17			17			
A-C	38			38			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	565	0.045	25	0.1	7.343	A
C-AB	15	601	0.025	15	0.0	6.758	A
C-A	18			18			
A-B	21			21			
A-C	46			46			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	565	0.045	25	0.1	7.343	Α
C-AB	15	601	0.025	15	0.0	6.758	A
C-A	18			18			
A-B	21			21			
A-C	46			46			



18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	21	568	0.036	21	0.0	7.240	A
C-AB	12	601	0.020	12	0.0	6.726	Α
C-A	15			15			
A-B	17			17			
A-C	38			38			

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service		
B-AC	17	570	0.030	17	0.0	7.170	А		
C-AB	10	601	0.017	10	0.0	6.701	А		
C-A	13			13					
A-B	14			14					
A-C	32			32					



2030 Pitch Peak, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

١	Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
	1	untitled	T-Junction	Two-way	Two-way	Two-way		1.46	Α

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	900		1.46	Α

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D14	2030 Pitch Peak	AM	ONE HOUR	08:00	09:30	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
Α		✓	67	100.000
В		✓	23	100.000
С		✓	76	100.000

Origin-Destination Data

Demand (PCU/hr)

	То					
		Α	В	O		
F	Α	0	25	42		
From	В	15	0	8		
	С	67	9	0		

Vehicle Mix

	То						
		Α	В	C			
F	Α	10	10	10			
From	В	10	10	10			
	С	10	10	10			



Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.05	7.76	0.1	А
C-AB	0.02	6.41	0.0	A
C-A				
A-B				
A-C	·			·

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	543	0.032	17	0.0	7.533	А
C-AB	7	625	0.012	7	0.0	6.406	A
C-A	50			50			
A-B	19			19			
A-C	32			32			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	21	540	0.038	21	0.0	7.629	А
C-AB	9	630	0.014	9	0.0	6.375	A
C-A	59			59			
A-B	22			22			
A-C	38			38			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	535	0.047	25	0.1	7.762	A
C-AB	11	636	0.018	11	0.0	6.333	Α
C-A	72			72			
A-B	28			28			
A-C	46			46			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	535	0.047	25	0.1	7.762	Α
C-AB	11	636	0.018	11	0.0	6.336	A
C-A	72			72			
A-B	28			28			
A-C	46			46			



09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	21	540	0.038	21	0.0	7.633	А
C-AB	9	630	0.014	9	0.0	6.378	Α
C-A	59			59			
A-B	22			22			
A-C	38			38			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service			
B-AC	17	543	0.032	17	0.0	7.537	Α			
C-AB	7	625	0.012	7	0.0	6.409	Α			
C-A	50			50						
A-B	19			19						
A-C	32			32						



2025, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

	Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
ſ	1	untitled	T-Junction	Two-way	Two-way	Two-way		3.84	Α

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	446	Stream B-AC	3.84	Α

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D15	2025	AM	ONE HOUR	08:00	09:30	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)	
✓	HV Percentages	2.00	

Demand overview (Traffic)

Arm	Linked arm Use O-D data		Average Demand (PCU/hr)	Scaling Factor (%)	
Α		✓	54	100.000	
В		✓	69	100.000	
С		✓	81	100.000	

Origin-Destination Data

Demand (PCU/hr)

		То					
		Α	В	O			
F	Α	0	28	26			
From	В	25	0	44			
	С	48	33	0			

Vehicle Mix

	То						
		Α	В	С			
-	Α	10	10	10			
From	В	10	10	10			
	С	10	10	10			



Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.13	7.87	0.2	А
C-AB	0.06	6.77	0.1	А
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	52	585	0.089	52	0.1	7.413	Α
C-AB	26	618	0.043	26	0.1	6.691	Α
C-A	35			35			
A-B	21			21			
A-C	20			20			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	62	582	0.107	62	0.1	7.609	Α
C-AB	32	621	0.051	32	0.1	6.721	A
C-A	41			41			
A-B	25			25			
A-C	23			23			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	76	579	0.131	76	0.2	7.869	A
C-AB	40	625	0.064	40	0.1	6.762	Α
C-A	49			49			
A-B	31			31			
A-C	29			29			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	76	579	0.131	76	0.2	7.873	Α
C-AB	40	625	0.064	40	0.1	6.765	Α
C-A	49			49			
A-B	31			31			
A-C	29			29			



09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	62	582	0.107	62	0.1	7.613	Α
C-AB	32	621	0.051	32	0.1	6.726	Α
C-A	41			41			
A-B	25			25			
A-C	23			23			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	52	585	0.089	52	0.1	7.433	A
C-AB	26	618	0.043	26	0.1	6.695	A
C-A	35			35			
A-B	21			21			
A-C	20			20			



2025, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

١	Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	1	untitled	T-Junction	Two-way	Two-way	Two-way		2.29	А

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	900		2.29	Α

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D16	2025	PM	ONE HOUR	17:00	18:30	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)	
✓	HV Percentages	2.00	

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
Α		✓	52	100.000
В		✓	20	100.000
С		✓	25	100.000

Origin-Destination Data

Demand (PCU/hr)

	То					
		Α	В	O		
-	Α	0	16	36		
From	В	10	0	10		
	С	14	11	0		

Vehicle Mix

	То					
		Α	В	C		
F	Α	10	10	10		
From	В	10	10	10		
	С	10	10	10		



Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.04	7.31	0.0	А
C-AB	0.02	6.73	0.0	Α
C-A				
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15	568	0.026	15	0.0	7.151	А
C-AB	8	601	0.014	8	0.0	6.681	A
C-A	10			10			
A-B	12			12			
A-C	27			27			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	18	567	0.032	18	0.0	7.217	Α
C-AB	10	601	0.017	10	0.0	6.702	A
C-A	12			12			
A-B	14			14			
A-C	32			32			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	564	0.039	22	0.0	7.306	A
C-AB	12	601	0.021	12	0.0	6.733	A
C-A	15			15			
A-B	18			18			
A-C	40			40			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	564	0.039	22	0.0	7.306	A
C-AB	12	601	0.021	12	0.0	6.733	A
C-A	15			15			
A-B	18			18			
A-C	40			40			



18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	18	567	0.032	18	0.0	7.221	A
C-AB	10	601	0.017	10	0.0	6.705	Α
C-A	12			12			
A-B	14			14			
A-C	32		·	32		·	

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15	568	0.026	15	0.0	7.155	А
C-AB	8	601	0.014	8	0.0	6.684	А
C-A	10			10			
A-B	12			12			
A-C	27			27			



2025 Pitch Peak, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

١	Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
	1	untitled	T-Junction	Two-way	Two-way	Two-way		1.47	Α

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	900		1.47	Α

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D17	2025 Pitch Peak	AM	ONE HOUR	08:00	09:30	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)	
✓	HV Percentages	2.00	

Demand overview (Traffic)

Arm	Linked arm Use O-D data		Average Demand (PCU/hr)	Scaling Factor (%)
Α		✓	58	100.000
В		✓	20	100.000
С		✓	65	100.000

Origin-Destination Data

Demand (PCU/hr)

		T	o	
		Α	В	O
F	Α	0	22	36
From	В	13	0	7
	С	57	8	0

Vehicle Mix

	То					
		Α	В	C		
-	Α	10	10	10		
From	В	10	10	10		
	С	10	10	10		



Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.04	7.66	0.0	А
C-AB	0.02	6.44	0.0	Α
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15	545	0.028	15	0.0	7.465	Α
C-AB	6	622	0.010	6	0.0	6.434	Α
C-A	42			42			
A-B	17			17			
A-C	27			27			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	18	543	0.033	18	0.0	7.547	A
C-AB	8	626	0.013	8	0.0	6.409	A
C-A	51			51			
A-B	20			20			
A-C	32			32			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	539	0.041	22	0.0	7.659	A
C-AB	10	631	0.016	10	0.0	6.374	A
C-A	62			62			
A-B	24			24			
A-C	40			40			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	539	0.041	22	0.0	7.659	A
C-AB	10	631	0.016	10	0.0	6.374	Α
C-A	62			62			
A-B	24			24			
A-C	40			40			



09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	18	543	0.033	18	0.0	7.548	Α
C-AB	8	626	0.013	8	0.0	6.411	Α
C-A	51			51			
A-B	20			20			
A-C	32			32			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15	545	0.028	15	0.0	7.472	А
C-AB	6	622	0.010	6	0.0	6.437	Α
C-A	42			42			
A-B	17			17			
A-C	27			27			



APPENDIX B - PUBLIC LIGHTING DESIGN

DATE: 24 June 2022

DESIGNER: L.Walker
PROJECT No: LS14295-4-1

PROJECT NAME: Grangegorman Upper

BS EN13201

10.0 - 15.0 lux Eav at least 2.0 lux Emin at least 0.20 Uo (Emin/Eav)

Lighting Class P2

Outdoor Lighting Report

PREPARED BY: CU Phosco Lighting

Charles House Lower Road Great Amwell Ware SG12 9TA

email: enquiries@cuphosco.co.uk website: www.cuphosco.co.uk

DATE: 24 June 2022

PROJECT No: LS14295-4-1

DESIGNER:

L.Walker PROJECT NAME: Grangegorman Upper



Layout Report

General Data

Dimensions in Metres Angles in Degrees

Calculation Grids

ID	Grid Name	Х	Υ	X' Length	Y' Length	X' Spacing	Y' Spacing
1	Grid 1	93.54	-28.55	57.52	140.00	1.47	1.49

Luminaires

Luminaire A Data

Supplier	C U Phosco Unpublished				
Туре	P863-128-R2E-740-W5-225-31W				
Lamp(s)	740SS				
Lamp Flux (klm)	4.64				
File Name	P863-128-R2E-740-W5-225-31W.ies				
Maintenance Factor	0.91				
Imax70,80,90(cd/klm)	463.7, 84.3, 0.0				
No. in Project	5				

Luminaire B Data

Supplier	C U Phosco Unpublished				
Туре	P863-128-F2B-740-W5-250-34W				
Lamp(s)	740SS				
Lamp Flux (klm)	5.01				
File Name	P863-128-F2B-740-W5-250-34W.ies				
Maintenance Factor	0.91				
Imax70,80,90(cd/klm)	461.8, 61.8, 0.8				
No. in Project	2				

Layout

ID	Туре	Х	Υ	Height	Angle	Tilt	Cant	Out-	Target	Target	Target
								reach	×	Y	Z
1	Α	109.39	48.99	8.00	201.00	0.00	0.00	1.00			
2	Α	98.86	74.61	8.00	199.00	0.00	0.00	1.00			
3	Α	91.73	97.29	8.00	201.00	0.00	0.00	1.00			
4	В	83.38	80.49	8.00	332.00	0.00	0.00	1.00			
5	Α	67.08	64.28	8.00	42.00	0.00	0.00	1.00			
6	В	92.04	40.12	8.00	72.00	0.00	0.00	1.00			
7	Α	121.45	18.67	8.00	201.00	0.00	0.00	1.00			

DESIGNER: L.Walker

PROJECT No: LS14295-4-1 PROJECT NAME: Grangegorman Upper



Horizontal Illuminance (lux)

Grid 1

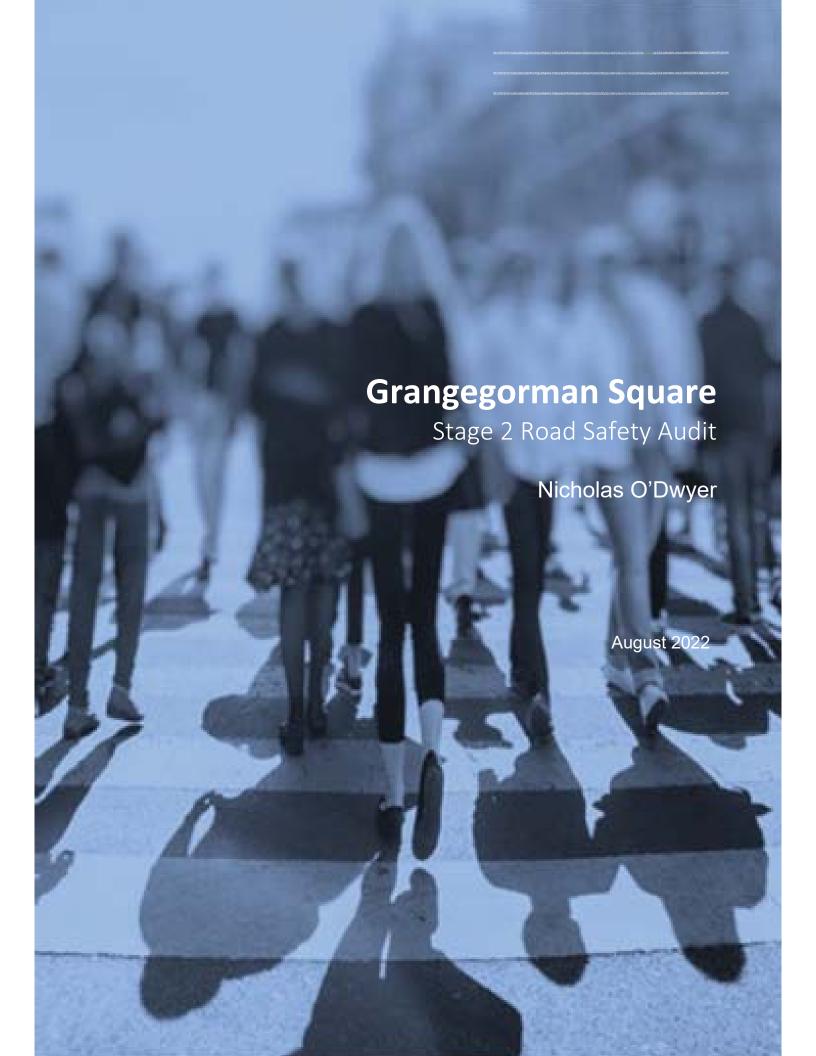


Results

Eav	10.25
Emin	2.95
Emax	24.29
Emin/Emax	0.12
Emin/Eav	0.29



APPENDIX C -ROAD SAFETY AUDIT



Grangegorman Square

Stage 2 Road Safety Audit

August 2022

Notice

This document and its contents have been prepared and are intended solely for Nicholas O'Dwyer's information and use in relation to Grangegorman Square.

Traffico assumes no responsibility to any other party in respect of or arising out of or in connection with this document and / or its contents.

Document History

JOB NUM	BER: 220057		DOCUMENT REF: 220057RPT001_RSA2_Rev_0		_0	
0	Draft Issue	MD	СР	MD	MD	5 Aug 2022
Revision	Purpose Description	Originated	Checked	Reviewed	Authorised	Date

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1. Introduction

1.1 Report Context

This report describes the findings of a Stage 2 Road Safety Audit associated with Grangegorman Square.

The Audit has been completed by Traffico Ltd. on behalf of Nicholas O'Dwyer.

1.2 Details of Site Inspection

Date	Daylight / Darkness	Weather & Road Conditions
Tuesday 26 th July 2022	Daylight	Overcast with dry pavements.

Table 1.1 - Site Inspection Details

1.3 The Road Safety Audit Team

The members of the Road Safety Audit Team have been listed following:

Status	Name / Qualifications	TII Auditor Reference No:
Audit Team Leader (ATL)	Martin Deegan BEng(Hons) MSc CEng MIEI	MD101312
Audit Team Member (ATM)	Colin Prendeville BEng(Hons) CEng MIEI CIHT	CP3369500
Audit Trainee (AT)	-	-

Table 1.2 - Audit Team Details

1.4 Design Drawings Examined as Part of the Audit Process

The following drawing(s) were examined as part of the Road Safety Audit (RSA) process:

Drawing No.	Drawing Title	Revision
00GQ-NOD-GSQ-ZZ-DR-C-0002	Site Layout	P05
00GQ-NOD-GSQ-ZZ-DR-C-0003	Signage & Road Marking Layout	P03
00GQ-NOD-GSQ-ZZ-DR-C-0004	Site Drainage & Ducting Layout	P04

Table 1.3 - Designers Drawing List

1.5 Road Safety Audit Compliance

Procedure and Scope

This Road Safety Audit has been carried out in accordance with the procedures and scope set out in TII publication number GE-STY-01024 - Road Safety Audit.

As part of the road safety audit process, the Audit Team have examined only those issues within the design which relate directly to road safety.

Compliance with Design Standards

The road safety audit process is not a design check, therefore verification or compliance with design standards has not formed part of the audit process.

Minimizing Risk of Collision Occurrence

All problems described in this report are considered by the Audit Team to require action in order to improve the safety of the scheme and minimise the risk of collision occurrence.

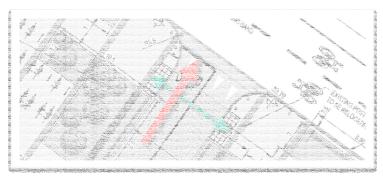
2. Road Safety Issues Identified

2.1 Problem: Pedestrian Priority at Courtesy Crossings

Location: Side Roads: Grangegorman Upper and Ivy Avenue

The location of the stop lines will direct drivers to roll through the pedestrian crossing desire line. This could lead to conflicts between vehicles and pedestrians.

Figure 2.1 - Vehicles Afforded Priority at Crossing Point



Recommendation

The stop lines should be moved upstream, to direct drivers to stop in advance of the pedestrian crossings.

2.2 Problem: Envelope of Visibility Obscured

Location: Side Road at Junction of Grangegorman Upper and Grangegorman Lower

The potential remains for street furniture (including trees, knee rails or public lighting columns) to partially obscure the side road's envelope of visibility. This could lead to side-impact type collisions within the junction conflict zone.

Figure 2.2 - Side Road Envelope of Visibility



Recommendation

Any significant obstructions associated with street furniture and landscaping should be relocated outside of the envelope of visibility.

2.3 Problem: Pedestrian Progression Through Pinch Point

Location: Disabled Parking Bays on Grangegorman Lower

The landscaping beds will create a pinch point at a location where heavy footfall is likely to be combined with access and egress movement associated with stationary vehicles in the adjacent disabled parking bays.

Figure 2.3 – Pinch Point Near Disabled Parking Bays



Recommendation

The landscaping beds should be adjusted to remove the pinch point.

3. Team Statement

3.1 Certification & Purpose

We certify that we have examined the drawing(s) listed in Chapter 1 of this Report.

Sole Purpose of the Road Safety Audit

The Road Safety Audit has been carried out with the sole purpose of identifying any features of the design which could be removed or modified to improve the road safety aspects of the scheme.

3.2 Implementation of RSA Recommendations

The problems identified herein have been noted in the Report together with their associated recommendations for road safety improvements.

We (the Audit Team) propose that these recommendations should be studied with a view to implementation.

Audit Team's Independence to the Design Process

No member of the Audit Team has been otherwise involved with the design of the measures audited.

3.3 Road Safety Audit Team Sign-Off

Martin Deegan

Audit Team Leader

Road Safety Engineering Team

traffico

Date:

Signed:

5th August 2022

Not Dage

Colin Prencleville

Colin Prendiville

Audit Team Member

Road Safety Engineering Team

traffico

Signed:

Date:

5th August 2022

4. Designers Response

4.1 How the Designer Should Respond to the Road Safety Audit

The Designer should prepare an Audit Response for each of the recommendations using the Road Safety Audit Feedback Form attached in Appendix A.

When completed, this form should be signed by the Designer and returned to the Audit Team for consideration. See flow-chart following for further description.



Figure 4.1 - Road Safety Audit Sign-Off and Completion Process

4.2 Returning the Completed Feedback Form

The Designer should return the completed Road Safety Audit Feedback Form attached in Appendix A of this report to the following email address:

Email address: martin@traffico.ie

The Audit Team will consider the Designer's response and reply indicating acceptance or otherwise of the Designers response to each recommendation.

Triggering the Need for an Exception Report

Where the Designer and the Audit Team cannot agree on an appropriate means of addressing an underlying safety issue identified as part of the audit process, an Exception Report must be prepared by the Designer on each disputed item listed in the audit report.

Appendix A

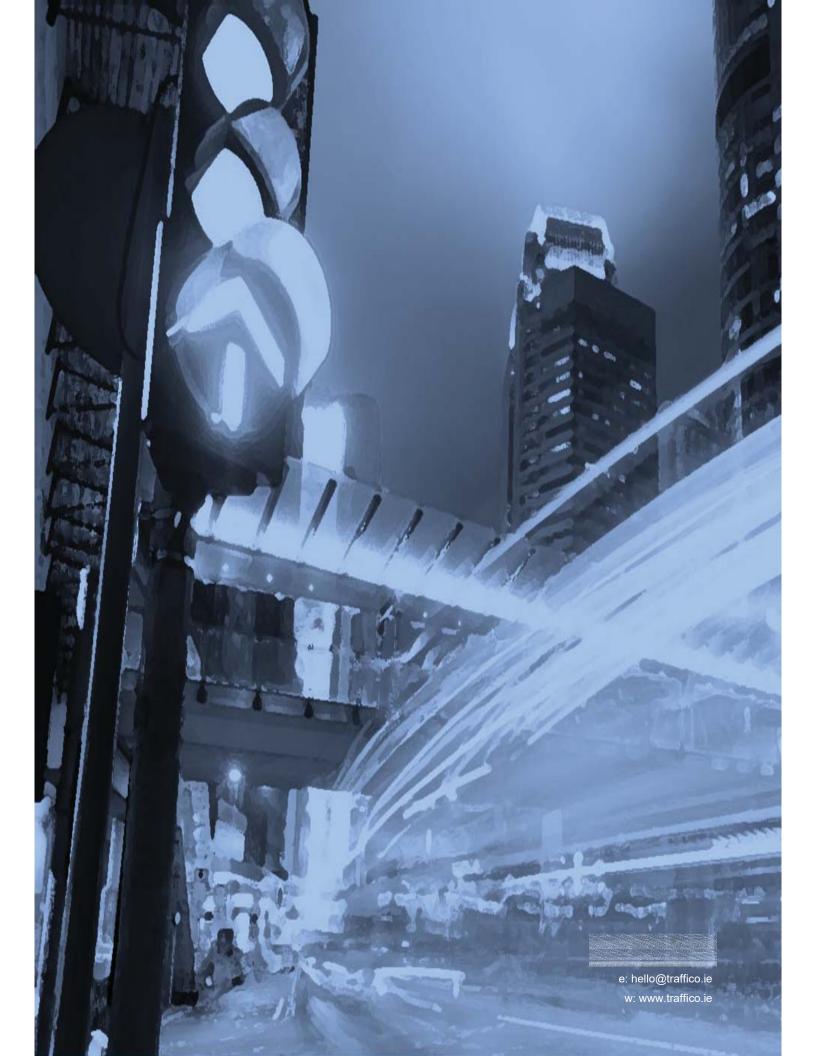
A.1 Road Safety Audit Feedback Form

Road Safety Audit Feedback Form				
Scheme: Grangegorman Square				
Audit Stage: Stage 2 Road Safety Audit Audit Date: 5th August 2022				

Problem Reference (Section 2)		Designer Response Section		Audit Team Response Section
	Problem Accepted (yes / no)	Recommended Measure Accepted (yes / no)	Alternative Measures or Comments	Alternative Measures Accepted (yes / no)
2.1	Yes	Yes	Line markings moved backs	
2.2	Yes	Yes	Layout of some planters updated to provide further space to pedestrians	
2.3	Yes	Yes	Layout of planters updated to provide further 3m wide footway	

^{*}The Designer should complete the Designer Response Section above, then fill out the designer details below and return the completed form to the Road Safety Audit Team for consideration and signing.

Designer's Name:	Neil Skelton	Designer's Signature:	Un State	Date:	22/12/2022
Employer's Name:		Employer's Signature:		Date:	
Audit Team's Name:		Audit Team's Signature:		Date:	





Grangegorman Square - Interim Traffic Measures

Stage 1 Road Safety Audit

April 2023

Notice

This document and its contents have been prepared and are intended solely for Nicholas O'Dwyer's information and use in relation to Grangegorman Square - Interim Traffic Measures.

Traffico assumes no responsibility to any other party in respect of or arising out of or in connection with this document and / or its contents.

Document History

JOB NUM	BER: 220057		DOCUMENT REF: 220057RPT003_RSA1_Rev_1		_1	
1	Final Issue	MD	СР	MD	MD	21 st Apr 2023
0	Draft Issue	MD	СР	MD	MD	18 th Apr 2023
Revision	Purpose Description	Originated	Checked	Reviewed	Authorised	Date

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1. Introduction

1.1 Report Context

This report describes the findings of a Stage 1 Road Safety Audit associated with Grangegorman Square - Interim Traffic Measures.

The Audit has been completed by Traffico Ltd. on behalf of Nicholas O'Dwyer.

1.2 Details of Site Inspection

Date	Daylight / Darkness	Weather & Road Conditions
Tuesday 11 th April 2023	Daylight	Overcast with dry pavements.

Table 1.1 - Site Inspection Details

1.3 The Road Safety Audit Team

The members of the Road Safety Audit Team have been listed following:

Status	Name / Qualifications	TII Auditor Reference No:
Audit Team Leader (ATL)	Martin Deegan BEng(Hons) MSc CEng MIEI	MD101312
Audit Team Member (ATM)	Colin Prendeville BEng(Hons) CEng MIEI CIHT	CP3369500
Audit Trainee (AT)	-	-

Table 1.2 - Audit Team Details

1.4 Design Drawings Examined as Part of the Audit Process

The following drawing(s) were examined as part of the Road Safety Audit (RSA) process:

Drawing No.	Drawing Title	Revision
00GQ-NOD-GSQ-ZZ-DR-C-5001	Grangegorman Uppr/Lwr Junction, Pedestrian and Cycle Improvements. Interim Traffic Measures.	P03

Table 1.3 - Designers Drawing List

1.5 Audit Undertaken on Interim Traffic Measures

This road safety audit has been undertaken on proposals for temporary traffic management interventions which constitute interim measures to be installed in advance of the permanent work proposals.

1.6 Road Safety Audit Compliance

Procedure and Scope

This Road Safety Audit has been carried out in accordance with the procedures and scope set out in TII publication number GE-STY-01024 - Road Safety Audit.

As part of the road safety audit process, the Audit Team have examined only those issues within the design which relate directly to road safety.

Compliance with Design Standards

The road safety audit process is not a design check, therefore verification or compliance with design standards has not formed part of the audit process.

Minimizing Risk of Collision Occurrence

All problems described in this report are considered by the Audit Team to require action in order to improve the safety of the scheme and minimise the risk of collision occurrence.

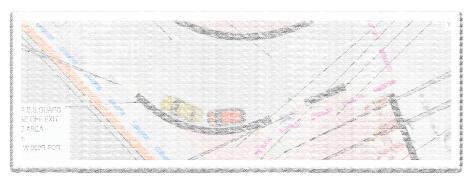
2. Road Safety Issues Identified

2.1 Problem: Parking Displacement at Junction

Location: Grangegorman Upper – Junction Approach

The reduction in parking availability at the junction could lead to inconsiderate parking behaviour in areas which have been widened to facilitate the passage of larger service vehicles. This could increase the risk of collisions or driver frustration within the junction.

Figure 2.1 - Attractive Location on Grangegorman Upper for Inconsiderate Parking Practice



Recommendation

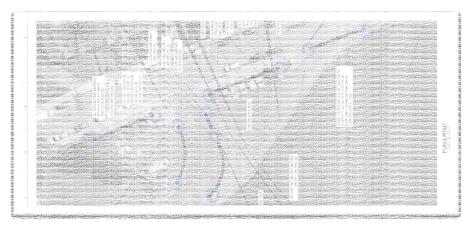
The Designer should investigate if the lanes can be narrowed within the area described to mitigate the risk of inconsiderate parking.

2.2 Problem: MASS Guard Steel Barriers – Terminal Risks

Location: Where Barriers Commence or Terminate

The sharp edges (or exposed connectors) on the barrier ends could cause injury to pedestrians if not terminated properly.

Figure 2.2 - Barrier Terminals Posing Risks to Pedestrians



Recommendation

The barriers should be terminated safely to minimise the risk of injury for pedestrians.

3. Team Statement

3.1 Certification & Purpose

We certify that we have examined the drawing(s) listed in Chapter 1 of this Report.

Sole Purpose of the Road Safety Audit

The Road Safety Audit has been carried out with the sole purpose of identifying any features of the design which could be removed or modified to improve the road safety aspects of the scheme.

3.2 Implementation of RSA Recommendations

The problems identified herein have been noted in the Report together with their associated recommendations for road safety improvements.

We (the Audit Team) propose that these recommendations should be studied with a view to implementation.

Audit Team's Independence to the Design Process

No member of the Audit Team has been otherwise involved with the design of the measures audited.

3.3 Road Safety Audit Team Sign-Off

Martin Deegan

Audit Team Leader

Road Safety Engineering Team

traffico

Date:

18th April 2023

Not Dage

Colin Prencleville

Colin Prendiville

Audit Team Member

Road Safety Engineering Team

traffico

Signed:

Date:

Signed:

18th April 2023

4. Designers Response

4.1 How the Designer Should Respond to the Road Safety Audit

The Designer should prepare an Audit Response for each of the recommendations using the Road Safety Audit Feedback Form attached in Appendix A.

When completed, this form should be signed by the Designer and returned to the Audit Team for consideration. See flow-chart following for further description.



Figure 4.1 - Road Safety Audit Sign-Off and Completion Process

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Email address: <u>martin@traffico.ie</u>

The Audit Team will consider the Designer's response and reply indicating acceptance or otherwise of the Designers response to each recommendation.

Triggering the Need for an Exception Report

Where the Designer and the Audit Team cannot agree on an appropriate means of addressing an underlying safety issue identified as part of the audit process, an Exception Report must be prepared by the Designer on each disputed item listed in the audit report.

Appendix A

A.1 Road Safety Audit Feedback Form

Road Safety Audit Feedback Form

Scheme: Grangegorman Square - Interim Traffic Measures

Audit Stage: Stage 1 Road Safety Audit Audit Date: 18th April 2023

Problem Reference (Section 2)	Designer Response Section			Audit Team Response Section
	Problem Accepted (yes / no)	Recommended Measure Accepted (yes / no)	Alternative Measures or Comments	Alternative Measures Accepted (yes / no)
2.1	Yes	Yes		
2.2	Yes	Yes		

^{*}The Designer should complete the Designer Response Section above, then fill out the designer details below and return the completed form to the Road Safety Audit Team for consideration and signing.

Designer's Name:	Neil Skelton	Designer's Signature:	Un State	Date:	19/04/2023
Employer's Name:	Neil Skelton (on behalf of the Employer)	Employer's Signature:	Ju Sah	Date:	19/04/2023
Audit Team's Name:	Martin Deegan	Audit Team's Signature:		Date:	21 April 2023

