Unit 4: The FLOW Conceptual Framework

Module 4.2: Decision making in Dublin: College Green

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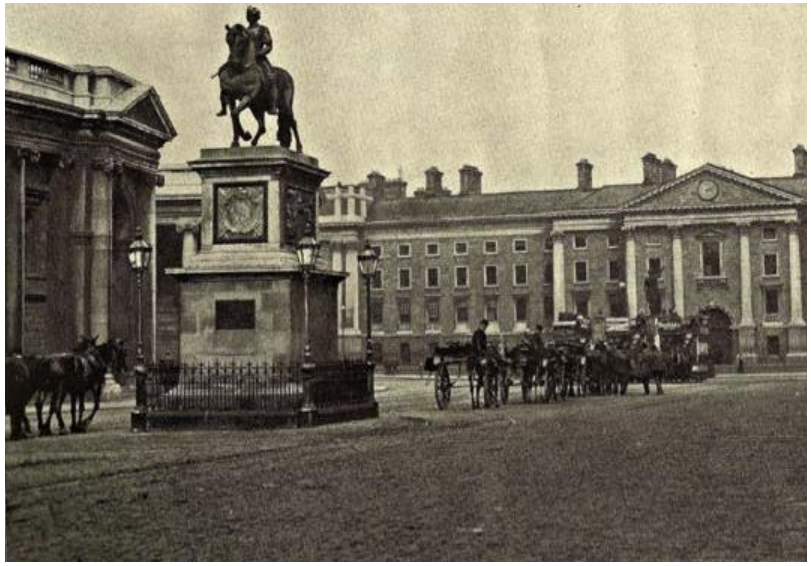
All images in this module: Dublin City Council

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 635998

Introduction

This module will introduce you to the College Green project being undertaken by Dublin City Council. The purpose of this example is to present a walking/cycling measure in the context of FLOW. In the decision-making process, the city had to deal with issues of transport network performance. The example will present different stages of project development and how modelling facilitated the impact assessment. The buildings remain unchanged since 1900 but the space around them has been filled.



College Green 1900

College Green 2015

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Introduction to Dublin and College Green

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- Dublin (population 553,000) is the Irish capital and a coastal city that is the country's cultural, financial and educational centre.

- The city centre is intersected by the River Liffey and two major canals, which forces most traffic over Dublin's bridges. The challenge is to manage traffic movement so as to create a safe environment for cycling and walking and to provide reliable public transport while maintaining private car access to strategic car parks and for commercial deliveries.

- One of Dublin's FLOW sites is College Green, a public transport hub for several bus routes and newly-opened light rail near the city's major shopping streets. It will also form the spine of the primary cycle network. Predicting mobility outcomes and impacts on businesses requires a multi-modal microscopic model of the area and an assessment of various scenarios.

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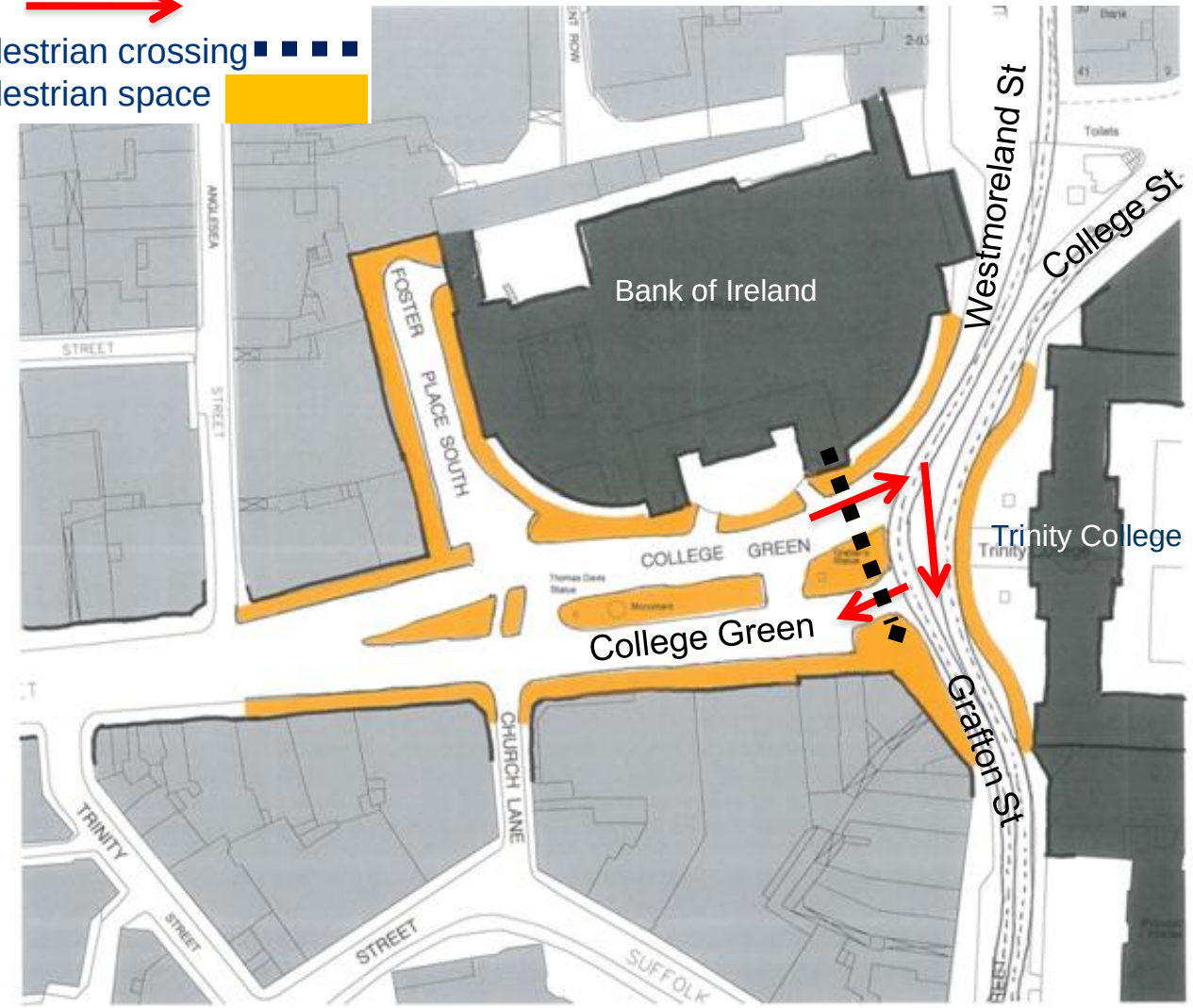
College Green now: high volumes

bus
pedestrian crossing
pedestrian space



As illustrated by the traffic camera image below, College Green is characterised by high traffic volumes. Pedestrian safety is an issue between the Bank of Ireland, Trinity College and Grafton Street.

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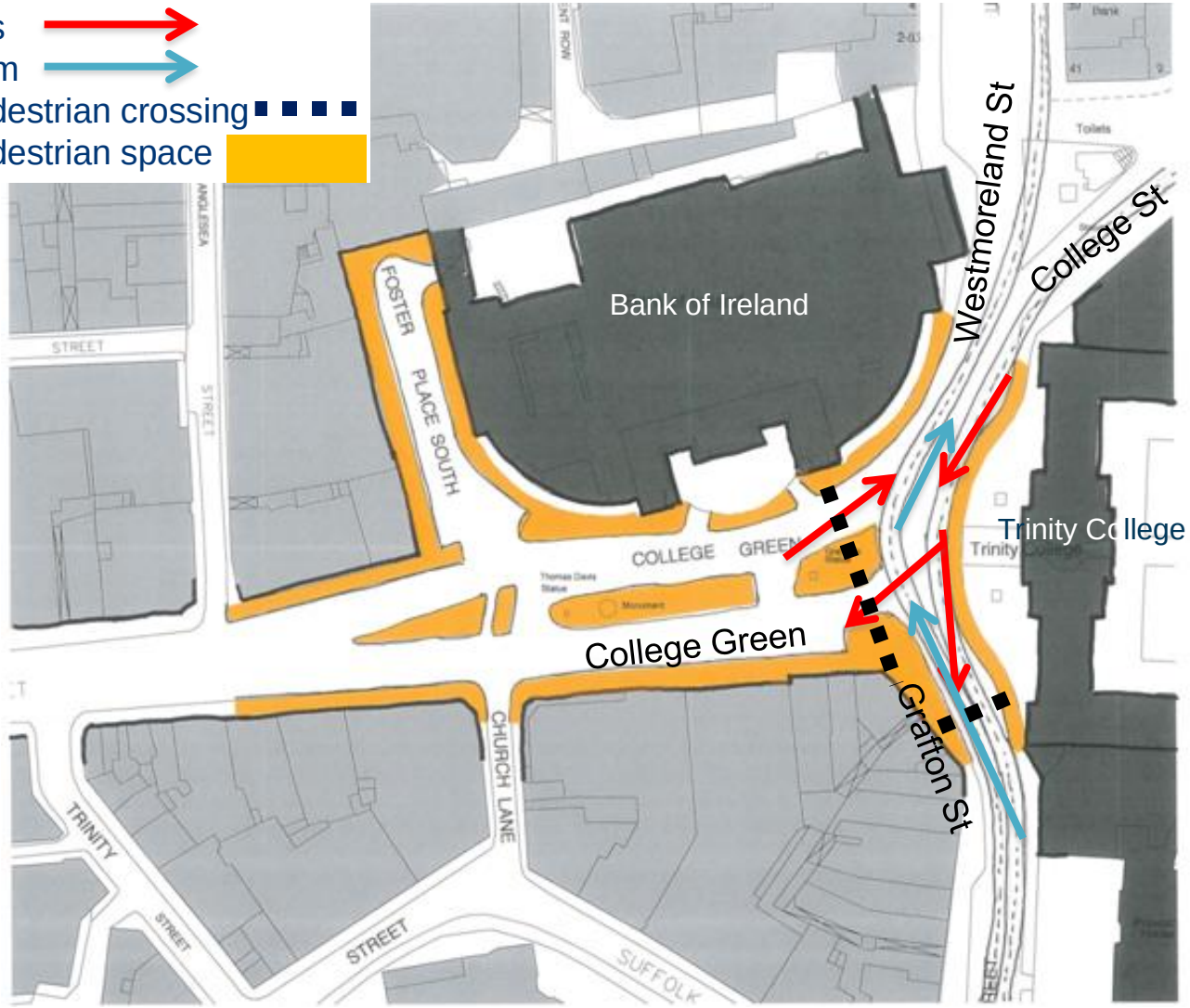
College Green now: competing movements

bus
tram
pedestrian crossing
pedestrian space



As of 2016, tram traffic has also been added to the mix at College Green (see image below) as buses could not cope with the capacity requirements.

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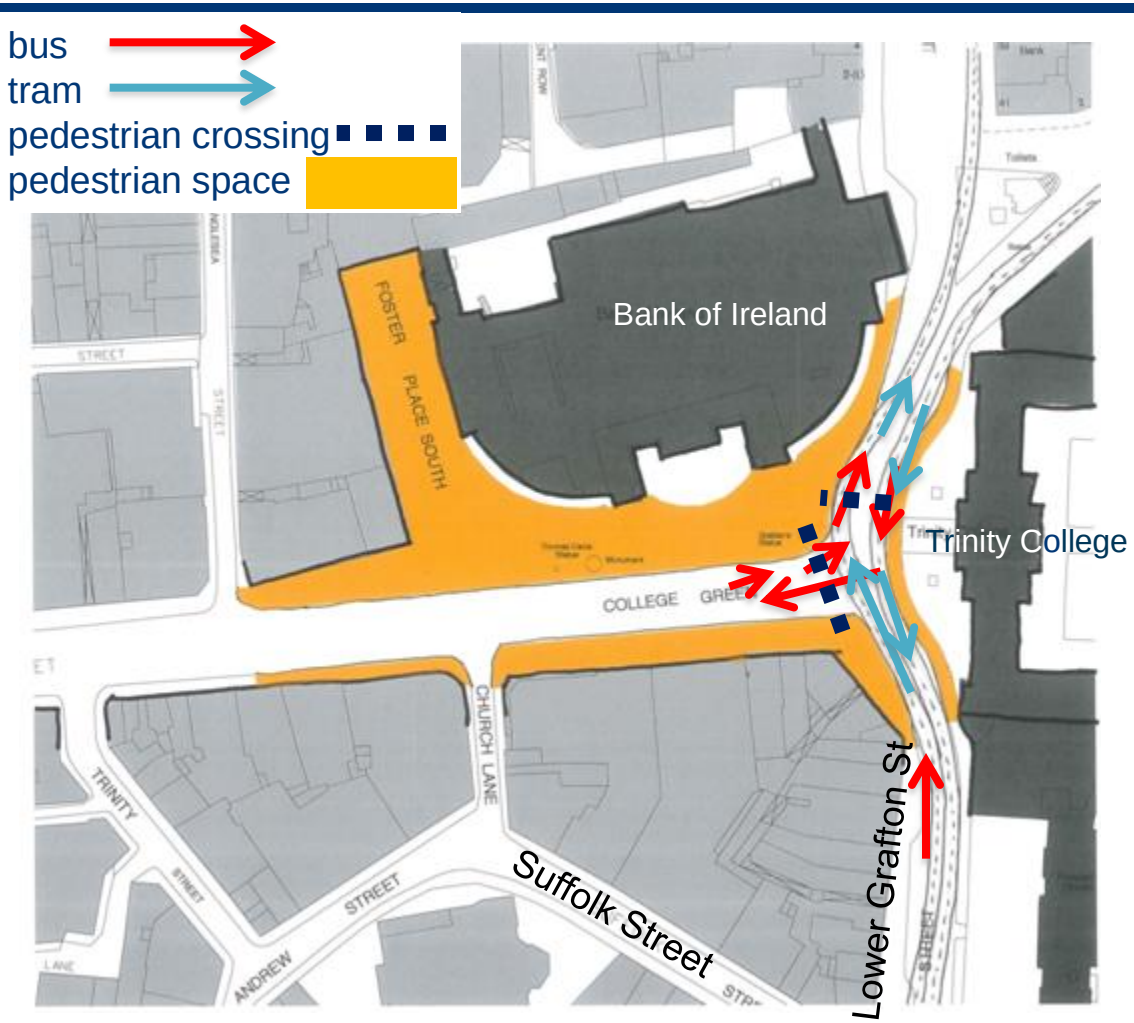
College Green scheme: 2015 proposal



A scheme proposed in December 2015 would have increased the pedestrian area next to the Bank of Ireland. But:

- it did not address all of the conflicts between modes
- it still defined space for pedestrians by motor vehicle traffic movements
- while northbound buses on Lower Grafton Street allowed an extension of the pedestrian area to Suffolk Street, they added to the transport problems
- there were still concerns about cycling provision
- statues representative of Dublin's history would have to be moved (unacceptable to historians)

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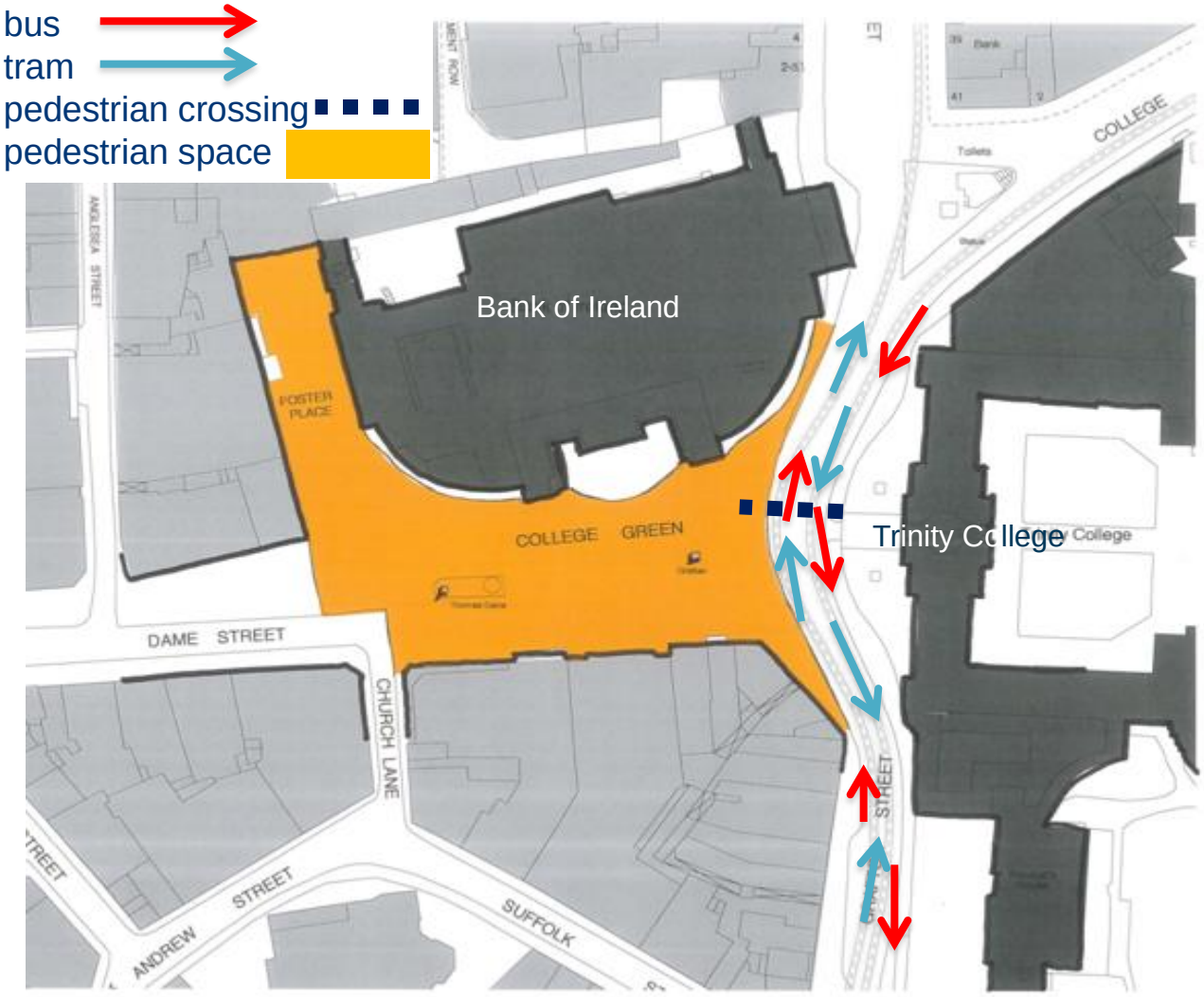
College Green scheme: 2016 proposal



A 2016 revision:

- removes tram-bus, bus-bus, cyclist-bus-tram, pedestrian-all modes conflicts
- provides unhindered pedestrian movement from St Stephen's Green (south of the illustrated area) to the South Quays of the River Liffey (to the north)
- provides a wide pedestrian crossing between Trinity College and the pedestrian area
- initially allows taxis to operate along with buses and trams
- maintains the current monument positions (important to historians)

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College Green current state

Car traffic (between 19:00 and 7:00) currently adds to public transport and taxi traffic despite the fact that 85,000 pedestrians use College Green daily and only 5,900 cars (pedestrian flows had not been counted until Dublin joined the FLOW project).

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Impressions of the 2016 proposal

This simulation (looking west) shows what College Green – Dublin's cultural heart – could look like without vehicle traffic.

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Impressions of 2016 proposal

College Green looking east toward Trinity College. Trams and buses will run north-south at the far end of the plaza, which will be left free for pedestrians.

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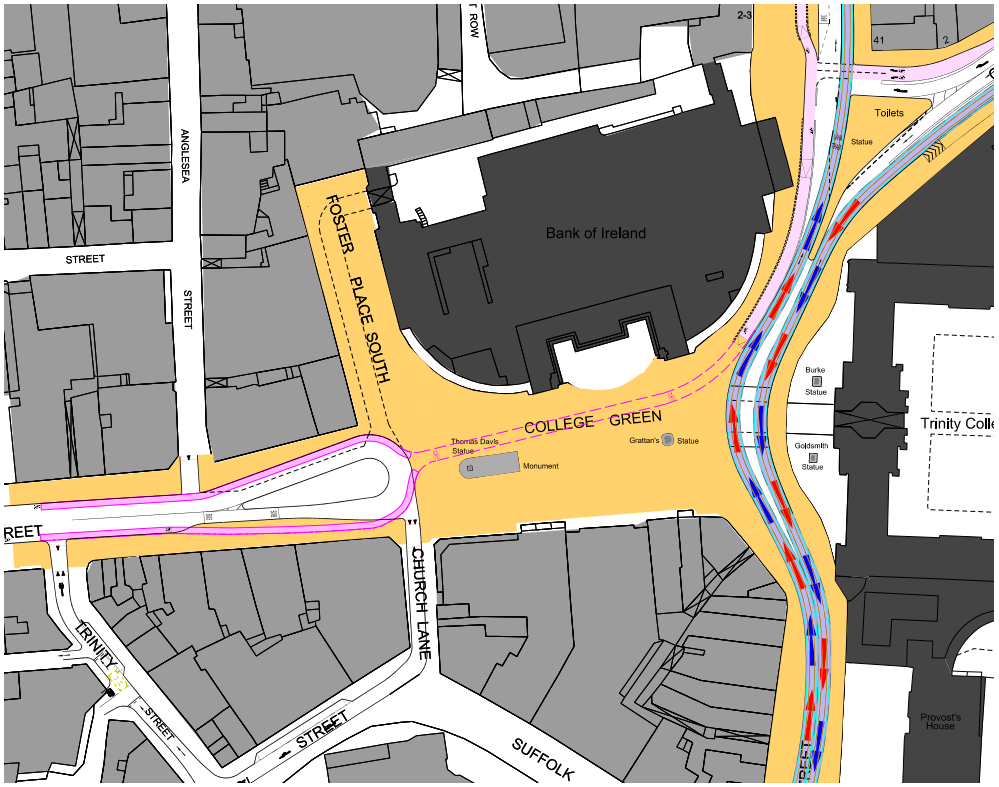
College Green scheme: walking and cycling

Walking

The 2016 scheme creates segregated space for cycling across College Green (see pink markings below)



Pedestrian space is significantly increased in the 2016 plan as compared to the current state.

Cycling

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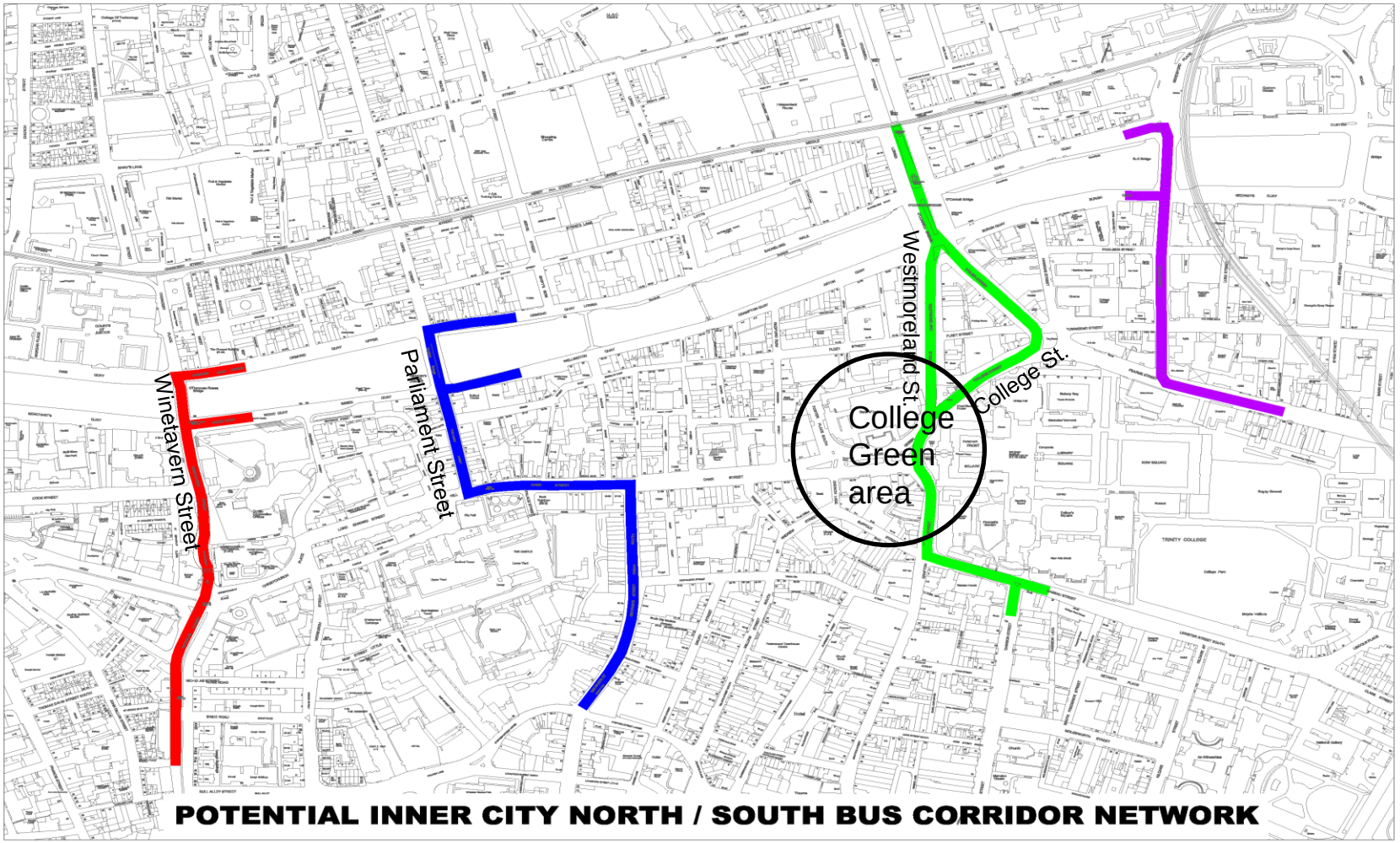
College Green scheme: potential revised bus network



Some buses which currently use Westmoreland Street and College Street will use Parliament Street in future

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College Green micro simulation

This microscopic simulation video, done in the context of FLOW, models the larger area around College Green in order to determine the effect of the proposed changes.

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Feedback from public consultations

Dublin City Council has held 17 rounds of public consultation on College Green. The feedback ranges from very positive to complete opposition to the scheme, including:

- Strong support for the proposals – particularly the cycling elements and the creation of a pedestrianised area – with many submissions being very enthusiastic about the proposed use of the space.
- Support for the scheme from cyclists – but with a strong desire to ensure that segregated cycle tracks are put in place in the proposed pedestrian area.
- Opposition to the entire scheme due to the potential traffic issues, public safety issues and the economic impact on the city centre.
- Opposition to the proposed bus route changes and in particular the numbers of buses proposed for Parliament Street (see previous page) with suggestions for complete bus re-routing in the city and the use of Winetavern Street to reduce impact on Parliament Street.
- Opposition from taxi drivers to the scheme in its current form – but with proposed mitigating measures to address a number of their concerns if the scheme goes ahead.
- Questions regarding the appropriate legal process needed to fully evaluate any potential environmental impacts and requests for an environmental impact assessment.

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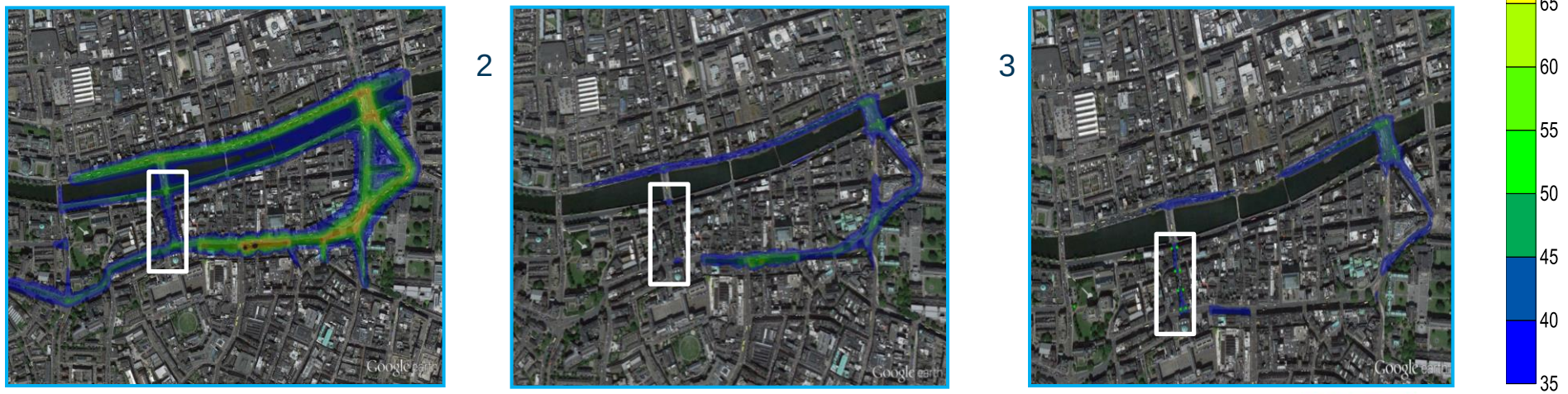
Traffic and environmental modelling

A Saturn model was calibrated to analyse the changes proposed in the city centre. The model's traffic volume outputs were used as input to an environmental model to assess likely air quality impacts (see NO_2 concentrations around Parliament Street below in white). The model looked at three different time periods:

1. Base model in 2012 (date of the original Saturn model)
2. 2018 with "do minimum" changes
3. later in 2018 with College Green and city centre changes added

This work will be used in the preparation of the Environmental Impact Assessment.



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Conclusions: College Green plan

Decision making for the College Green area included the following themes:

- Strong improvements for cycling and walking
- Fear of congestion could be resolved by revising the bus network and providing mitigation measures for taxis
- The issue of monument positions could be resolved
- Strategic modelling provided input for environmental indicators

Visit the Dublin City website to read more about College Green and the public participation process around it.

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Task 4.2

Please respond to the following questions in the Forum:

1. What do you think of the proposed plan for Dublin? Do you think it can effectively accommodate all transport modes? Would this work in your city?

2. Have you had similar public participation processes for major projects in your city? How have they worked out? What do you think of them?

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