



Tionscadal Éireann  
Project Ireland  
**2040**

# Investment Impact Case Studies

# Table of Contents

<b>Introduction</b>	<b>1</b>
<b>Case Study 1: Cork University Hospital Radiation Oncology Department (Glandore Centre)</b>	<b>2</b>
<b>Case Study 2: Hooke Bio Ltd with Munster Technological University (MTU) and NUI Galway</b>	<b>5</b>
<b>Case Study 3: Letterkenny and Creeslough Water Supply</b>	<b>9</b>
<b>Case Study 4: Luas Cross City</b>	<b>12</b>
<b>Case Study 5: Waterford Greenway</b>	<b>16</b>
<b>Case Study 6: Grangegorman Development</b>	<b>20</b>
<b>Case Study 7: Digital and Innovation Hub gteic@An Spidéal, Co. Galway</b>	<b>24</b>
<b>Case Study 8: Lord Edward Street Social Housing, Limerick City</b>	<b>28</b>
<b>Case Study 9: Coláiste Chiaráin, Athlone, Co. Roscommon</b>	<b>31</b>

## Introduction

Well targeted public capital investment can have a transformative impact on employment opportunities, economic development and regional growth. This report examines nine case studies of capital investment. The report studies the positive impacts of capital investment made in recent years in various regions, across sectors including innovation, transport, health, housing and education.

The case studies are:

1. Cork University Hospital Radiation Oncology Department (Glandore Centre)
2. Hooke Bio Ltd., Shannon, Co. Clare
3. Letterkenny and Creeslough Water Supply
4. Luas Cross City, Dublin City
5. Waterford Greenway
6. Grangegorman Development
7. gteic@An Spidéal, Co. Galway
8. Lord Edward Street Social Housing, Limerick City
9. Coláiste Chiaráin, Athlone, Co. Roscommon

## Case Study 1:

### Cork University Hospital Radiation Oncology Department (Glandore Centre)

**Location:**

Southern Region – Cork City

**Main Contractor Procurement:**

2016

**Project Completion:**

2019

**Cost:**

€51.2 million

**Approving Authority:**

Department of Health

**Sponsoring Agency:**

HSE

**Projected Impacts:**

- 7 radiotherapy treatment rooms, diagnostic imaging, brachytherapy, superficial treatment, consultation/examination facilities and clinical trials accommodation
- Supporting 2,000 cancer patients per annum

## 1.1 Overview

The approach to the development of new healthcare facilities is reflected in the National Planning Framework which notes consideration be given to the number, location, profile and needs of the population to ensure access to the most appropriate care, while also ensuring quality of care, particularly in relation to more complex acute hospital services such as radiation oncology. On a national basis investment is required across the sector and across the regions and this is outlined in the current National Development Plan. The National Programme for Radiation Oncology is essential to delivering on required radiation oncology capacity. This project is one of the key deliverables in the National Development Plan (National Strategic Outcome 10 – 'Access to Quality Childcare, Education and Health Services').

The recommended expansion of radiation oncology services endorses the first National Cancer Strategy in providing 3 supra-regional centres in Dublin, Cork and Galway.

This project is part of recommendations for the Southern supra-regional centre based in Cork University Hospital (CUH) and the development of a new unit containing 5 linear accelerators (4 replacements and 1 additional), as part of the

National Programme for Radiation Oncology with provision of shell and core for expansion to a 7 linear accelerator site over time. As a supra-regional service Cork University Hospital oncology services are part of the national training scheme for radiation therapists, medical physicists and radiation oncologists, and are affiliated to University College Cork and Trinity College, Dublin.

## 1.2 Rationale and Objectives of Investment

It is agreed internationally that patients should have timely access to safe, high quality care that incorporates evidence-based best practice and sustainable models of care. Patients should have equitable access to the most advanced treatments available in their jurisdiction, based on individual clinical need.

The overall objective of this project is to support two principal health objectives outlined in the National Cancer Strategy 2017-2026:

- **To take all measures possible to reduce rates of illness and death from cancer, in line with Strategy targets, and,**

- **To ensure that those who develop cancer receive the most effective care and treatment, and that their quality of life is enhanced to the greatest extent possible.**

Implementation of the National Cancer Control Programme, including development of capital infrastructure for the delivery of cancer services, and in particular radiation oncology and equipment replacement remain a Government priority.



### 1.3 Status, Timing and Costs

This project was tendered in July 2016 to a short list of five pre-qualified contractors with tenders received in September 2016. The tender of BAM Building Ltd was accepted and was below the pre-tender estimate. Enabling works commenced in 2017, and the construction programme in 2018.

The HSE procured the radiation treatment equipment separately and, in order to benefit from advances in equipment design, the equipment tender process was carried out as late as possible. Consequently, the equipment supplier and their specific construction requirements were not known at the time of the construction project tender and could not be fully detailed in the tender documents. These works were undertaken within the parameters of the original project budget. The final project costs were:

- Construction works: €30.5m (€36.89m including enabling works package and Design Team fees)
- Standard equipping: €1.4m
- Major equipping: €12.9m

This project came within the allocated project budget, with an overall project cost of €51.2m.

The construction of the project was completed in June 2019, followed by commissioning and then handed over to Cork University Hospital in Quarter 1, 2020.



### 1.4 Employment

During construction the project saw approximately 150 people employed. The Glandore Centre will operate with the support of approximately 120 staff.

As part of the training scheme offered to students in CUH, radiation therapists, medical physicists and radiation oncologists can gain placements in CUH. Seven registered doctors participate in a six month training rotation with medical students. In addition, approximately 35 students from Trinity College Dublin and six students from University College Cork are trained in the Radiation Therapy Department each year (pre-COVID-19). Moreover, the Medical Physics Department offered a placement to one trainee from the National Radiation Oncology Physics Residency Programme (NROPRP) in July 2021 which will run to April 2022.

### 1.5 Impacts

It is recognised internationally that considerable resources are required to fund a comprehensive cancer service. The provision of modern equipment, the latest technologies and treatments comes at an initial high cost. The Radiation Oncology Department at CUH serves Cork, Kerry, Waterford and South Tipperary. The Radiation Oncology Department works in close collaboration with other departments including surgery, medical oncology (chemotherapy), haematology, palliative care, histopathology and radiology in order to provide a regional service.

CUH provides cancer care to approximately 2,000 patients every year and is the centre of excellence for cancer treatment for the south west region. It was the first public hospital in the country to use Surface Guided Radiation Treatment which improves speed and accuracy, and reduces the need for immobilisation of patients during their treatment, improving the patient experience.

With the installation of new linear accelerators, treatment times for patients will reduce from some 12 to 15 minutes to just 2.5 minutes, which will improve patient experience of treatments.

## 1.6 Challenges

There were 3 main challenges experienced during the delivery of this project:

- Extensive engagement occurred with the Planning Department in Cork City Council, mainly focussing on the CUH mobility management plan and the potential impacts that the planned development may have on this and the landscaping scheme being proposed for this development. This engagement, while resulting in statutory approvals, did require time to complete.
- During the construction, and to comply with radiation protection requirements, the linear accelerator “bunkers” were constructed by way of mass concrete. This required extensive concrete pours, sampling and acceptance testing. The high levels of quality control and acceptance testing employed on the project, while ensuring a compliant product, did impact on the programme and the time required for any repeat works could not have been foreseen.
- Agreeing a final account for the construction works required a third party mediation process.

## 1.7 Lessons Learned

Lessons learned would in the normal course of business come from the Ex-Post Evaluation. The project was commissioned and handed over in Q1 2020. This coincided with COVID-19 and as a result the Ex-Post Evaluation has not yet been completed.

However, early indications highlight the following actions that worked well:

- Splitting of the project into an enabling works package and a main contract package. This ensured that any unforeseen items within the ground or which arose during demolition works were managed within a smaller contract package, thus ensuring a cost effective method of contract delivery.
- The process of completing the room data sheet exercise in detail with both the end user group and the design team, while extending the time required to complete the design process, meant

the minimum of alterations during construction.

- The local HSE Estates team management of record keeping and site supervision proved to be vital in the mediation process for final account.

This project was a long time in development, with the original project brief written in 2004, revised in 2010 and the project delivered to CUH for commissioning in 2019. With the ever-changing processes of building design and healthcare delivery, a mechanism needs to be considered which would accelerate the process.

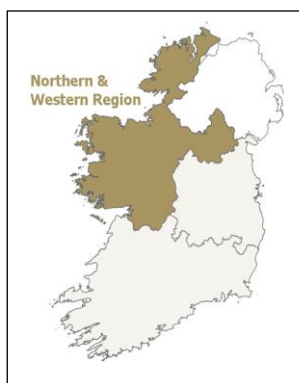
If undertaking a similar project in the future, it would be prudent to:

- Commence the major equipping of projects earlier to ensure all information required is available in a more timely fashion. One method might be to tender the equipping in advance and stipulate as part of the tender that the latest technology is to be supplied with the equipment once delivered.
- Consider a review of the delivery of publicly procured vital infrastructure projects to determine if improvements can be made in terms of the speed of delivery.



## Case Study 2:

Hooke Bio Ltd with Munster Technological University (MTU) and NUI Galway



The **Disruptive Technologies Innovation Fund** (DTIF) was established in 2018, as one of four funds launched under the NDP. A total of €500 million has been allocated through the fund up to 2027 for co-funded collaborative projects between enterprises and Ireland's world class research organisations, with the aim of developing innovative disruptive technologies.

The rationale for investment in 'disruptive technology' or 'disruptive innovation' is that such investment has the potential to significantly increase the global market share of companies operating in Ireland, creates job growth in highly-skilled jobs, and forges a way for Ireland to compete globally as an innovation leader. SME participation is a mandatory requirement for each collaborative project.

The table below provides an overview of the scale of DTIF awards under the three Calls from 2018 to 2021.

DTIF Funding	Call 1	Call 2	Call 3
Minimum Award *	€1.0m	€1.5m	€1.5m
Maximum Award	€8.4m	€9.4m	€7.0m
Median Award	€2.0m	€3.6m	€2.9m
Mean Award	€2.9m	€5.9m	€3.3m

### Location:

- Southern Region - Clare, Cork
- Northern and Western Region – Galway

### Project Completion:

Research ongoing

### Cost:

€1.9 million

### Approving Authority:

Department of Enterprise, Trade and Employment

### Sponsoring Agency:

Enterprise Ireland

### Impacts:

- High throughput drug screening enhancing the ability to predict the safety and efficacy of new drugs and vaccines while minimising the need for animal testing
- Highly skilled employment in regional location
- Private sector investment leveraged
- Potential to replace animal models in drug screening
- Innovation leader

## 2.1 Overview

Hooke Bio Ltd in partnership with Munster Technological University (MTU) and NUI Galway (NUIG) is working on a project for High Throughput Microfluidic Drug Screening Platform Realisation. The Research Priority Area is Health and Wellbeing - Medical Devices. The development of a fully integrated end-to-end high throughput drug screening platform is Hooke Bio's sole key milestone and commercial goal. The project is expected to last three years.

Pharma companies operate in a very high cost and high-risk environment. The cost of bringing a new drug to market is estimated to be in excess of \$2.5 billion; a large part of this cost is due to the high failure rate of early-stage candidate medicines. Furthermore, the cost of drugs coming off patent is estimated to be in the region of \$8 billion per annum. Companies are looking to improve their revenue streams by combining existing drugs to improve therapies particularly for personalised drug screening or to tackle new diseases. Drug combinations have been shown to be more successful than monotherapies in a wide range of diseases including cancer, heart disease and HIV.

Hooke Bio has patented microfluidic technology that allows it to generate drug combinations four times faster and at as little as 10% of the cost of existing technologies. Its technology also utilises 3D cell culture technology which has been shown to give more physiologically relevant results than traditional 2D techniques, positioning it suitably for personalised medicine. Hooke Bio's platform (Enigma) allows for cost savings in consumables, reagents and capital expenditure, while giving the user access to the latest 3D culture techniques. To realise the power of this technology, an accurate and reproducible optics analysis system is required. Initial test systems will focus on liver cell toxicity, as toxicity is one of the first factors that must be tested for in any new drug or combination.

## 2.2 Employment and Growth Potential

The growth of Hooke Bio will directly support the realisation of the National Strategic Outcome 5 'A strong economy supported by Enterprise, Innovation and Skills'. From its headquarters in Shannon, Co. Clare the firm has six full-time equivalents (FTEs) and two part-time equivalents (PTEs) working on the DTIF project. There are three FTEs in NUIG (PhD students) involved in the project as well as two FTEs and two PTEs in Munster Technological University (MTU). Therefore, as of 2021 there are 11 FTEs and

four PTEs jobs associated with this project.

The firm's aim is to expand and to form partnerships with many of the multi-national pharmaceutical companies that operate out of Ireland. The DTIF will allow Hooke Bio to almost double its staff complement, and through the spin in from its Centre for Advanced Photonics & Process Analysis (CAPPA) and NUIG partners it will more importantly bring its technology to market launch readiness. At the conclusion of this project, it envisages a continuation and expansion of its relationships with CAPPA and NUIG, relying on them for updated optics solutions and new cell and organoid based assays.

These relationships should lead to further innovation related employment in both Cork and Galway utilising the existing pool of highly skilled graduates that the third level institutions in those counties produce. It is Hooke Bio's aim to continue to grow the company from its headquarters in Co. Clare to become an internationally respected leader in the fields of drug screening and personalised medicine.

## 2.3 Status, Timing and Costs

Hooke completed the purchase and installation of a 5 axis CNC valued at over €320,000 in April 2019. This system allowed Hooke Bio to prototype and manufacture high precision microfluidic components in-house – a key strength in its development strategy. Hooke also hired a further four personnel between 2019 and 2020 to accelerate the prototype development. The current set of milestones involving subassembly development and testing has resulted in a number of different microfluidic systems that will form the basis of the final device. This system will enable high throughput drug screening of spheroids and organoids, enhancing the ability to predict the safety and efficacy of new drugs and vaccines while minimising the need for animal testing.

To date all milestones have been delivered within the cost structure defined in the original project brief. Hooke Bio's university-based project partners have adapted to shutdowns caused by COVID-19 by accelerating their project progressing through practices such as hiring more members of staff for shorter periods of time. Its partners are broadly on track for milestone delivery. Throughout the course of this project Hooke has successfully met its technical, strategic and cost milestones while adapting to the changing market environment.



## 2.4 Investment Leveraged

Hooke Bio will invest €1m to match the DTIF contribution. The matching investment is derived from a mixture of sources including private donor and angel investment. Enterprise Ireland and the Western Development Commission are also currently supporting Hooke through key investments in its technology.

Hooke Bio's patented technology performs biological tests on samples using nano-litre volumes of liquid up to 100 times less than would be used in existing systems. Its prototype device has attracted €2.2m of seed funding and has won numerous awards including the 2017 EI 'Big Ideas One to Watch'.

The current project with its partners at MTU and NUIG will allow it to develop the platform for market launch. The platform will be compatible with existing liquid handling devices but the goal at Hooke Bio is that its platform would completely replace these devices for all combinatorial drug testing. This fund will be used to utilise the expertise in microfluidics, optics and cell culture in Ireland.

## 2.5 Impacts

The overall objective of the proposed project is to create a high throughput (e.g. 3D spheroids/organoids) screening system capable of generating biological data from novel compounds. This technology has the potential to replace animal models in drug screening. Development of this technology will build on Hooke Bio's existing knowhow and capital capabilities. The technologies developed during this project will be beyond the state of the art with high potential for further innovation. Hooke Bio will develop reproducible validated liver micro-tissues for toxicity screening with the end goal of replacing animal models. It will develop a system that will be capable of feeding, washing and staining micro-tissues simultaneously, as well as the ability to run high content screening with live cell imaging and integrated image analysis.

The outcome of the proposed project will enable the firm to develop a novel compound toxicology screening platform which should facilitate the goals of the three 'Rs' and enable Europe to compete globally in toxicology screening, in particular with the US. It would enable Hooke Bio to supply the pharmaceutical and compound screening industry with technologies with better performance characteristics than competitors.

In addition, the outcomes from the proposed project should:

- Reduce the need for animal testing for pharmaceutical safety screening;
- Provide more accurate pre-clinical testing models, increasing the success of drug candidates going for clinical testing;
- Provide a platform that can be scaled to include other tissue types; and
- Be usable for screening of environmental and other non-pharmaceutical compounds.

In terms of wider impacts, this project will create highly-skilled jobs in a regional location and it has the potential to scale up very quickly given the wide applicability of the technology. The project capitalises on investment in Ireland's higher education institutions, particularly in the "STEM" area and also capitalises on the relationships developed through the existing med-tech and health clusters in those regions. Given increased awareness of animal testing and ethical drug screening, this disruptive technology truly has the capacity to alter markets and how businesses operate on a global scale – a tremendous outcome for an Irish SME.

## 2.6 Challenges

The COVID-19 pandemic has been one of the largest challenges that the company has faced during the course of the DTIF project. It has meant adapting its work practices to ensure the safety of staff and to conform to government guidelines. There have also been significant delays from suppliers which have had knock-on effects in prototyping and design processes. Other impacts include limited ability to attend conferences. However, meeting and networking through services such as Zoom have helped alleviate this issue.

Staffing and finding people with appropriate technical qualifications is always challenging in the field that Hooke Bio operate in, however, the high quality of graduates and experienced engineers in Ireland has helped the firm get access to top quality engineers and biologists.

The uncertain economic environment has meant that Hooke Bio has postponed starting its next funding round by almost 12 months. They plan on beginning this round in Q4 2021. In the meantime, the Enterprise Ireland Sustaining Enterprise Fund has helped the firm bridge some of the funding gap that has arisen.

## 2.7 Lessons Learned

The success of the project to date has relied on good communication with the DTIF team and project partners. A willingness by all parties involved to adapt to market change has also been critical to timely delivery of milestones. Good communication and flexibility within the project brief are critical to project success.

The technical nature of the project has meant that continuous training for staff in many of the aspects of the work Hooke Bio carry out is key to having the whole team actively involved in the development of the Hooke technology.

As a start-up company, many of the challenges Hooke Bio face relate to business development, finance and HR related matters. Finding support to address some of the issues that arise in these areas can be challenging. In future, projects either hiring experienced administrative/finance personnel early on in the project or identifying services that can meet these needs would be a worthwhile activity.

## Case Study 3:

### Letterkenny and Creeslough Water Supply

**Location:**

Northern and Western Region – Letterkenny

**Main Contractor Procurement:**

2017

**Project Completion:**

2019

**Cost:**

€24.1 million

**Approving Authority:**

Department of Housing, Local Government and Heritage; Irish Water

**Sponsoring Agency:**

Irish Water

**Impacts:**

- Improvement in drinking water quality
- Removal of water supply schemes from the EPA Remedial Action List

### 3.1 Overview

The water supply schemes at Letterkenny and Creeslough were listed on the Environmental Protection Agency's (EPA) Remedial Action List for inadequate treatment for *Cryptosporidium* and exceedances of Trihalomethane (THM) parametric values.

The Water Services Policy Statement 2018-2025 sets out the Government's policy objective to ensure safe and reliable drinking water supplies through addressing and eliminating the risks to supplies listed on the EPA's Remedial Action List. Funding for the progression of projects to achieve this policy objective was included in the National Development Plan 2018–2027 and in the subsequent Irish Water Strategic Funding Plan 2019-2024.

### 3.2 Rationale and Objectives of Investment

The overall objective of the Letterkenny and Creeslough projects was to provide clean safe drinking water for the approximately 31,300 people supplied from the schemes and thus enabling the removal of the water supplies from the EPA's Remedial Action List.

The Letterkenny and Creeslough investment is one of several significant water supply projects undertaken in recent years to increase and secure the water supply to Letterkenny, Creeslough and the surrounding areas. In addition to the new water treatment plants (WTP), Irish Water has progressed trunk watermain upgrades and a new interconnector from Illies WTP to Letterkenny. These projects, as well as targeted leakage reduction activities, will help cater for the projected growth in the medium term. The current project brings the Letterkenny plant to approximately 27,000 population, which aligns with the target population for 2040 as set out in the Regional Spatial and Economic Strategy (RSES) for the Northern and Western Regional Assembly. Irish Water's National Water Resources Plan will identify other projects which will be required soon to ensure the long term needs of Letterkenny are met.

### 3.3 Status, Timing and Costs

The design and planning of the Letterkenny and Creeslough Water Treatment Plants commenced in 2014. Surveys and site investigations were initiated, and the necessary planning permissions and land requirements were secured in 2016. The project progressed to tender, and construction commenced in 2017. It was in progress at the commencement of the NDP 2018 to 2027 period. Construction was completed on the two new water treatment plants in Q3 2019 and both water supply schemes were subsequently removed from the EPA Remedial Action List in Q4 2019.

The outturn cost of the project is projected at €24.1m.

### 3.4 Employment

It is estimated that the construction of the project directly contributed to an estimated 34 jobs over the duration of the contract and provided a boost to the local economy through the wider benefits to local businesses and suppliers. Training and enhancement of skills locally in the operation and maintenance of enhanced water treatment facilities delivered to operational staff was also a benefit of the project.

### 3.5 Impacts

The new water treatment plant (WTP) at Goldrum has a capacity of 9 megalitres per day (MLD) and serves the Letterkenny Water Supply Scheme. This WTP directly provides the treatment capacity to supply a population of c.27,000 people in Letterkenny and environs. In addition, this project also included improvements to the network, providing 5km of raw water pipelines servicing the new WTP site.

The treatment capacity of the WTP at Creeslough is 2.5MLD and supplies water to a population of c. 4,300 in the Creeslough area.

Additional projects have facilitated the transfer of water from the Goldrum Water Treatment Plant to surrounding vulnerable water supply schemes of Milford and Churchill.

Completion of these works has removed the underlying risks to these drinking water supplies ensuring the provision of clean and safe drinking water to homes and businesses in Letterkenny and Creeslough and the removal of their water supply schemes from the EPA Remedial Action List.

The project has delivered environmental benefits by improving residual discharges to the environment and thereby improving water quality in local water courses. This in turn will assist tourism and water-based activities in the area. It is also providing enhanced sludge treatment facilities for other water treatment plants in the county at Cranford, Fanad East, Ardbeg, and Carrigart. This will ensure improved regional management of water services in the region and reduced risk to localised water courses.

In addition to the water quality benefits the Letterkenny project is supporting social and economic development in the region through the provision of additional water supply treatment capacity. It is one of a number of projects undertaken in recent years to cater for the targeted growth in Letterkenny Regional Growth Centre, in line with national and regional planning policy. These improvements will support medium term growth and additional interventions will be identified to cater for the 2040 growth targets for Letterkenny.

The growing tourism industry in Donegal has benefited from the success of the Wild Atlantic Way. The Letterkenny and Creeslough area supports many hotels and businesses which act as a tourism hub for visitor attractions in Donegal and the industry depends on the provision of safe and reliable drinking water. This strategic regional project has reduced the risk that these businesses will be impacted by negative economic impacts of water supply interruptions or water quality issues.

Letterkenny is home to many businesses in the county and as such is an economic and employment hub. The Letterkenny Water Supply scheme also supports a large regional hospital. The provision of safe and reliable drinking water is a key requirement to support health, business and economic activity.

### 3.6 Challenges

Several challenges were encountered during the project including maintaining a fully treated supply to customers in parallel with construction, testing and connecting the new plant with existing infrastructure. This was overcome by extensive collaborative engagement with stakeholders and implementation of a detailed commissioning plan to ensure continuity of supply to consumers.

In addition, the planned construction timeline was driven by the need to achieve a compliance deadline. This was challenging for the project team and the contractor given the ground conditions on each of the sites, and required significant commitment to manage programme and resources to meet the objectives.

### **3.7 Lessons Learned and Next Steps**

The approach of securing a planning permission in advance of the appointment of a design build contractor does not allow full flexibility on contractor design. The Early Contractor Engagement approach which is now integrated into other Irish Water projects would allow greater innovation to feed into the plant design and construction, which could have reduced time and resources applied on site and eased pressure on an ambitious programme.



## Case Study 4:

### Luas Cross City

**Location:**

Eastern and Midland Region – Dublin City

**Main Contractor Procurement:**

2015

**Project Completion:**

2017

**Cost:**

€382.5 million

**Approving Authority:**

Department of Transport  
National Transport Authority (NTA)

**Sponsoring Agency:**

Transport Infrastructure Ireland (TII)

**Impacts:**

- Integrated Light Rail network
- +25% passengers in 2018 compared to 2017





## 4.1 Overview

The 'Infrastructure and Capital Investment 2012 – 2016: Medium Term Exchequer Framework' launched by Government in 2011 provided for the commencement of the main construction work on a project then known as Luas BXD by 2015, with completion planned for late 2017.

Luas BXD (now referred to as Luas Cross City) was a significant extension of the existing Luas Green Line from its terminus at St. Stephen's Green through the commercial centre of Dublin city and out to the north-west of the inner suburbs to a new terminus at Broombridge train station. Luas Cross City has linked up the two existing Luas lines (Green Line and Red Line) and provided new interchanges with commuter rail and bus at different points along its 5.86km route. Luas Cross City (LCC) commenced operation on programme on 9th December 2017 at a cost that was within 4% of its budget, set in 2012.

The project team successfully overcame many challenges that arose during construction. Operations on the LCC extension to the Green Line commenced on schedule and other projects integrated with LCC, including the Green Line Capacity Enhancement project, consisting of the extensions of trams, additional trams and expansion of Sandyford Luas Depot. All this meant that LCC achieved success across all three of the critical dimensions for a project: cost, schedule and benefits.

## 4.2 Rationale and Objectives of Investment

The project's objectives were to:

- Connect the capital's two main shopping streets, Henry Street and Grafton Street.
- Create a Luas Network.
- Increase penetration of the Luas system into the city centre.
- Provide a high quality public transport service to the new Technological University campus at Grangegorman that will cater for 20,000 students.
- Interchange with the Maynooth / Sligo mainline rail at Broombridge.

These objectives have been achieved. In terms of the strategic objectives of Luas Cross City, the 'Early Review on Completion' report notes the successful integration of the new service into the public transport network.

## 4.3 Status, Timing and Costs

Following a competitive public procurement process and Government approval of the Business Case, construction work commenced in June 2013. At that time, many Dublin city centre businesses were reporting financial difficulties. Given the fragile nature of the retail environment in the city, retailers, Dublin City Councillors and Government were concerned that any significant disruption or impediments to the movement of people and goods could cause unsustainable damage to those businesses.

The contracting and procurement strategy used on the project was built on lessons learned from previous Luas projects. It contained control measures to address the main identified risks, for example:

- Utility services were diverted in advance of the main civil contract.
- A separate specialist contract was used to remove, safely store and reinstate items of heritage value such as statues, granite paving slabs and kerbs.
- 454 cellars of Georgian and Victorian houses that extended under footpaths and streets were exposed, recorded and filled.
- The systems contractor, who designs and installs the technology that makes the trams work safely, was engaged early and contributed to the design of the civil works.

Many other risks materialised. The mitigation measures deployed included a dispute avoidance process under the guidance of a very experienced arbitrator of international standing. This process allowed for the deployment of additional resources by the contractor to recover lost time. These additional resources added significant cost to the civil construction contract but succeeded in meeting the commitment made to the city in the Business Case of 2012, i.e. that the LCC extension of the Luas Green Line would be carrying passengers in December 2017.

## 4.4 Employment

In terms of employment, Luas Cross City supported up to 800 jobs during the construction period. In 2019 after the operational start-up and the first full year in service, over 100 jobs were created to support the operation and maintenance of the extended network.

## 4.5 Impacts

The successful delivery of LCC is having a transformative effect on city life in Dublin. A joined-up Luas network was created. The LCC scheme experienced some operational difficulties in the early months of 2018 but conflicts between the new Luas services and buses/taxis in College Green and technical difficulties with the new 55 metre trams were overcome by April 2018.

Some of the major impacts of the project include the following:

- With a budget of €368m (2012), the construction contract outturn cost was €382.5m (2019) (+3.94%).
- The Benefit to Cost Ratio was 2.28:1
- The project was delivered on schedule (on 9 December 2017). The project recovered more than eight months of delay events.
- The LCC provides enhanced tram passenger capacity to 6,400 passengers between Sandyford and St Stephen's Green.
- Passenger numbers (pre-COVID-19): Luas provided tram services to over 48 million passengers in 2019 (increase of 15.6% over 2018).
- Passenger numbers on the Luas Green Line for 2018 were up 25% on the passenger numbers for 2017.
- Enhanced public realm and additional benefits to city: traffic signal controllers, public lighting and untangling and renewal of services.

As noted above in section 1.2, the project's objectives were achieved. The additional benefits achieved included the following:

- Improved urban realm treatments through Dawson Street, Grafton Street, College Green, Westmoreland Street, O'Connell Street, Parnell Street, Marlborough Street, Hawkins Street, College Street and Dominick Street.
- Longevity of new street pavements has been improved by disentangling and replacing sewerage, water, gas and telecommunication services; some of these had been installed in the city's streets over a century ago.

In terms of operational performance during construction, the project successfully delivered its construction phases on time in what was a complex and challenging operational environment, with additional scope and design added after contract conclusion.

## 4.6 Challenges

The project faced particular challenges as the construction site was mainly located in Dublin city centre - an intensely active commercial, civic and transport hub. Project construction activity commenced in the immediate aftermath of a deep recession. It was important to minimise adverse impacts on business access and economic and social life in the city, but at a financial cost.

At the outset of the construction stage of LCC, the Minister for Transport, Tourism and Sport required that all stakeholders commit to keeping Dublin moving during construction.

A Project Forum Group, chaired by the Minister, was established to ensure that the needs of city centre businesses were adequately addressed. The control measures put in place worked well. Footfall, as measured by the main representative body for city centre retailers, Dublin Town, actually increased each year during construction. These control measures imposed extra constraints on the LCC contractors.

The arrangements put in place to ensure that Dublin kept moving were necessary but conflicted with TII's contractual obligations. The Public Works Contract – a 'Design and Build' form of contract - places two fundamental obligations on the employer: to pay for certified completed work and give the contractor possession of the site. As the site comprised some of the busiest streets in the country, it was only possible to provide the LCC contractors with limited access to discrete sections of the site for limited periods.

In addition, certain streets had to be cleared of all works for events of national importance. The centenary commemorations around Easter 2016, St. Patrick's Festivals and pre-Christmas shopping periods required LCC contractors to implement work arrangements that prioritised public safety and the success of these public events over construction productivity.

In these circumstances, the relocation of services and the construction of 5.86 kilometres of rail track to tolerances better than three millimetres took dedication, skill, resources and cooperation from all involved.

## 4.7 Lessons Learned and Next Steps

TII / NTA successfully overcame the challenges of delivering a new tramline across the heart of a busy capital city. City residents and businesses experienced inconvenience during the construction period but will be repaid through the significant benefits deriving from LCC. The project was completed on time and within 4% of budget, which by international benchmarks is a remarkable achievement for costs forecasted at a time of low inflation and low construction activity.

In line with best practice, and similar to revised Public Spending Code requirements (issued in December 2019), Transport Infrastructure Ireland prepared a report entitled 'Early Review on Completion'. The purpose of the report was to provide a comprehensive understanding of the project's objectives, to outline issues and constraints that arose during construction, and any related mitigation measures, and to summarise expected expenditure outturn as benchmarked against similar projects internationally. The report was shared with Government in January 2020.

The report noted that of the four comparator projects (Sydney, Manchester, Edinburgh and Newcastle (Australia) light rail projects) schedule overruns averaged 43%. Indeed, only the Newcastle light rail system opened on schedule as with Luas Cross City. In terms of cost performance, Luas Cross City's projected outturn was 3.94% above its forecast cost, as compared to an average overrun of 58% for the four comparator projects.

## Case Study 5:

### Waterford Greenway

**Location:**

Southern Region – Waterford

**Various Contractor Procurements:**

2014-2017

**Project Completion:**

2017

**Cost:**

€21 million

**Approving Authority:**

Department of Transport

**Sponsoring Agency:**

Waterford City and County Council

**Impacts:**

- Over 280,000 trips by the public each year
- Unlocking and supporting social and economic enterprises

## 5.1 Overview

The 'National Cycle Policy Framework' was developed in 2009. Objective 3 of this policy was to provide designated rural cycle networks especially for visitors and recreational cycling. This policy provided a funding base for rural and urban cycling infrastructure.

In 2014 €1.1m was allocated from the Department of Transport for the Kilmeaden to Bilberry section of the Waterford Greenway under Stimulus Funding, and €890,000 for the 7.9km Clonea to Durrow section under the National Cycling Network Fund. Further funding of €1.7m was allocated in 2017 from the National Cycle Network Fund for completion works and €1.4m for improvement works in 2018 as part of a re-allocation of National Cycle Network funding.

A number of issues that arose in the construction of the Waterford Greenway from Stimulus and National Cycle Network funding were addressed in the 'Strategy for the Future Development of National and Regional Greenways' which was published in 2018. This strategy incorporated tourism elements such as attractive scenery and things to see and do along Greenway routes.

The Government's Tourism Policy Statement 'People, Place and Policy: Growing Tourism to 2025' sets the Government's primary objectives for tourism i.e. to increase overseas visitors and revenue and the associated employment. This policy

statement recognises the importance of sustainable development of tourism and recognises the contribution of facilities for activity-based holidays to Ireland's positive image and its attractiveness as a tourist destination. It also notes the Government's support for the development and improvement of our physical visitor attractions, visitor infrastructure and facilities for visitor activities, including the development of Greenways.

The 'Strategy for the Future Development of Regional and National Greenways' also seeks to develop Greenways criteria such as being substantially segregated from road traffic, sustainable and strategic. This strategy highlights the need to engage in extensive stakeholder and landowner consultation when planning National and Regional Greenways that are a minimum of 20km in length and finished to TII standards.

The Waterford Greenway is a 46km off road cycling and walking trail along the old railway line between Dungarvan and Waterford City. This Greenway contributes to the National Planning Framework (NPF) and NDP National Strategic Outcomes (NSOs) of 'Strengthened Rural Communities and Economies' (NSO3) and 'Sustainable Mobility' (NSO4).

The success of the Waterford Greenway in March 2017 and the Great Western Greenway in Mayo, opened in 2010, clearly demonstrate the potential of Greenways as economic contributors to rural



communities through increased tourism. In 2017 46% of all overseas holidaymakers to Ireland engaged in walking and cycling as part of their holiday experience (Aecom, 2017).



## 5.2 Rationale and Objectives of Investment

A key objective of this Greenway is to attract more visitors to County Waterford. The 46km length is of sufficient length to encourage overnight visitor stays along the Greenway. Among the attractions are the Viking Triangle in Waterford City, Mount Congreve Gardens, the Suir Valley Railway, the nearby Copper Coast UNESCO Geopark, and Comeragh Mountains. The Greenway is a significant tourist attraction in the south east of the country and is contributing to the achievement of the NPF and NDP goals of 'Strengthened Rural Communities and Economies'. This Greenway also serves as a sustainable mobility route for commuters in Waterford City, as well as towns and villages along its route, and thus enhances sustainable regional mobility.

The Waterford Greenway and the network of strategically connected Greenways that will be rolled out around it will contribute to the National Planning Framework (NPF) goals of:

- 50% growth in Cork, Limerick, Galway, and Waterford by 2040, enabling all five to grow their population and jobs by 50-60%, and become cities of greater scale i.e., growing by twice as much as they did over the previous 25 years to 2016, and
- The remaining 50% of growth to occur in key regional centres, towns, villages, and rural areas, to be determined in the forthcoming regional plans – Regional Spatial and Economic Strategies (RSEs) e.g. Dungarvan, Kilmacthomas.

## 5.3 Status, Timing and Costs

The total cost of the Waterford Greenway was approximately €21m. Just over €5m was provided by the Department of Transport. Most of the funding (€16m) came from Waterford City and County Council.

The Greenway was constructed over the years 2014-2017. Waterford Greenway was officially opened on 25th March 2017.

The **Clonea to Durrow** section is 7.2km of the overall Dungarvan to Waterford City off-road Greenway developed along the disused rail line. 3km of this section follows a significant and valuable scenic route with panoramic views of the coastline from Ballyvoyle through Dungarvan Bay across to Helvick and beyond to Ardmore and Youghal. The remainder of the route heading inland has a multitude of attractive and historic features – from the overall structure and viewing heights of the railway line to Ballyvoyle Viaduct, Tunnel and remains of Durrow Station House and platform.

June 2016 was a historic month for the Waterford Greenway as the 138-year-old Durrow Tunnel received its electric lights.

In July 2016 Waterford Greenway history continued to be made as the final N25 underpass and the Kilmacthomas footbridge were put in place, restoring the original alignment of the Waterford to Dungarvan railway. In July 2016 the underpass, at Kildermody, required another road closure but a well put together plan saw the underpass go in safely and expertly.

The new bridge crossing the N25 near Kilmacthomas was an even bigger challenge and attracted a lot of attention when it appeared at the side of the N25 in mid-July. A week later, saw the new footbridge laid in place near Kilmacthomas. This allowed the Greenway to enter Kilmacthomas Station the same way the trains did many years ago.

September 2016 was yet another milestone in the conversion of the disused Waterford-Dungarvan railway into a world-class 46km Greenway. The Ballinroad to Kilmacthomas Workhouse section was officially completed bringing the total open sections to 23km. The remaining 22km (Kilmacthomas Workhouse to Waterford City) opened in March 2017.

The **Kilmeaden to Bilberry** section funded by the Department of Transport is a 9.6km section ending at the Suir Valley Railway. The Suir Valley Railway is seasonally used by a local community group as a tourist attraction. The railway tracks have been

modified to suit a narrow-gauge locomotive and the boundaries, crossing and structures remain substantially intact. The Suir Valley section predominantly follows along the scenic River Suir. The remainder of the route possesses features such as the ruin of Kilmeaden Castle, to the House and Gardens of Mount Congreve, the Archaeological treasure that is Woodstown and the modern skyline capturing cable-stayed bridge on the Waterford Bypass.

## 5.4 Employment

While it is difficult to provide exact figures in terms of the number of people involved in the construction of the Greenway, it is assumed that on average there may have been 30-40 working continuously on the project during the three years of its construction from 2014 to 2017. On occasions there would have been up to 100, e.g. during construction of the underpasses and bridge at Kilmacthomas.

The Greenway supports many businesses and has contributed to the creation of new jobs in Waterford, as outlined below in the 'Impacts' section.

## 5.5 Impacts

The old railway line from Waterford City to Dungarvan is a spectacular 46km off-road cycling and walking trail which traverses eleven bridges, three impressive viaducts and a long atmospheric tunnel from the River Suir to Dungarvan Bay. Key attractions along the Greenway include the 9th century Viking settlement; the world-renowned ornamental gardens at Mount Congreve; Waterford & Suir Valley narrow gauge heritage railway; former woollen mills and railway stations; and beautiful landscapes along the River Suir, Comeragh Mountains, the Copper Coast and Dungarvan Bay.

The visitor experience of the Waterford Greenway is not limited to the physical corridor of the route. It has opened the connection between Dungarvan and Waterford City with the Copper Coast UNESCO Geopark on one side and the dramatic backdrop of the Comeragh Mountains on the other.

The Waterford Greenway was an instant success with 248,000 users in the first ten months. Waterford Greenway footfall data in 2018 and 2019 (see table 1) was broadly similar overall with a slight decrease in cyclist footfall but an increase in pedestrian footfall.

Coach House Coffee at Kilmacthomas on the Waterford Dungarvan Greenway is a good example of how a rural business can be regenerated. It opened in 2017 with 10 full-time staff equivalents.

The capacity of the café has increased from 26 seats to 150 seats as a result of the Greenway traffic, with 280,000 trips on the Greenway in 2018.

Table 1 - Waterford Greenway Visitor Trips, 2018 and 2019

	2018	2019	Variance	% Variance
Est. total no. of pedestrian trips	128,689	138,447	9,758	7.6%
Est. total no. of cyclist trips	154,814	145,567	-9,247	-6.0%
Est. total no. of combined total trips	283,503	284,014	511	0.2%

Waterford Greenway data for 2017 (not included in table above as 2017 footfall was only recorded for 9-month period from March to December) saw 106,000 walking trips and 142,000 cycling trips. Therefore, over 250,000 trips are likely to have occurred in 2017. A similar estimated visitor analysis has not been conducted for 2020 to date. However, footfall data for the eco-counter location adjacent to the Waterford Institute of Technology (WIT) access point indicates an increase of 16% for 2020 when compared to 2019.

Joined-up networks of walking and cycling trails can provide benefits for people, communities and businesses through facilities at key points. The following data (from the 2017 Aecom Survey, Waterford City and County Council eco-counters and Fáilte Ireland) in respect of the Waterford Greenway provides some indication of those benefits.

Some of the main impacts include:

- **2017:** 248,000 users (March to December) 54% cyclists and 46% walkers (Aecom, 2017)
- **2018:** 283,503 users
- **2019:** 284,014 users
- **2020:** 290,000 estimated users
- According to a baseline intercept study of Greenway users conducted in 2017, some 41% spent money on food and drink (average €28) = €3.3m (Aecom, 2017)
- Some 30% of users were non-Waterford residents and at least 50% of these stays amounted to at least one night in Waterford (average non-food and drink spend per person = €80) = €2.98m (Aecom, 2017)
- 80% of Greenway visitors who stayed overnight were in paid accommodation (Aecom, 2017)
- 45% of visitors staying overnight in paid accommodation were staying in Dungarvan



(Aecom, 2017)

- Most visitors in paid accommodation stayed for one or two nights (Aecom, 2017)
- 91% of respondents were making a return trip on the Greenway (Aecom, 2017)
- 68% of respondents who live outside Waterford said that the Greenway was the primary or only reason for their visit, while a further 20% said it was somewhat important in deciding to visit (Aecom, 2017)
- There is an estimated secondary economic impact of €15m
- Net gain (20% margin): €3m

Some of the other economic impacts of the Greenway include the following:

- 1 New Hostel
- 8 New B&Bs
- 8 new restaurants (3 in Dungarvan; 3 in Kilmacthomas; 2 in Waterford City)
- 5 new bike hire firms
- At least 139 new jobs

## 5.6 Challenges

Each Greenway project presents unique planning and engineering challenges, and the lack of significant Greenway construction experience in some Local Authorities can add to these challenges.

Challenges with the Waterford Greenway included reaching agreements on accommodation works with landowners, and this resulted in the need for a higher amount of fencing and underpasses than originally envisaged. Although land access was not a major issue, access for agricultural animals meant that extra infrastructure had to be put in place to facilitate this.

There were challenges associated with the construction of a Greenway alongside a live heritage railway line, with safety of the Kilmeaden to Bilberry section along the former Suir Valley Railway Line and the construction of a boardwalk on this section being particularly challenging and costly.

Waterford City and County Council covered most of the extra costs in the project. The Council did not experience contractor or staff shortages during this project as this Greenway was one of the first to be constructed.

Land access was not an issue as the Greenway was built along an old rail line, and there was an agreement in place with CIÉ covering the use of this.



## 5.7 Lessons Learned and Next Steps

In terms of construction process, the biggest lesson learned was with regard to the development of the 'Charter for Greenway Accommodation Works' which deals with fencing, animal safety and crossing, and the importance of stakeholder engagement, particularly with land and property owners.

It is vital to have a member of the Greenway development team with a knowledge of agricultural practices from the outset. A compulsory purchase order (CPO) process should be considered at an early stage if there are lands where adverse possession is being claimed. As the Waterford Greenway was developed on an old rail line under a license agreement with CIÉ, a CPO was not required.

Another lesson was the need for factoring in tourism aspects from the beginning, such as branding, marketing, attractions and spectacular scenery. These lessons informed the 'Strategy for the Future Development of National and Regional Greenways'.

The report commissioned by WCCC and published by Aecom in December 2017 was informed by survey data collected from Greenway users through on-site interview surveys over four days in August and October 2017 at four locations along the Greenway: Dungarvan, Durrow, WIT and Bilberry. It is expected that other such surveys should be carried out at regular intervals in order to gather information from users of the Greenway to inform its future management and maintenance.

A stakeholder group which includes landowners as stakeholders is currently finalising a 'Code of Best Practice for National and Regional Greenways' regarding the use of private lands for National and Regional Greenways.

Further information on Waterford Greenway: [www.visitwaterfordgreenway.com](http://www.visitwaterfordgreenway.com)

## Case Study 6: Grangegorman Development

**Location:**

Eastern and Midlands Region – Dublin City

**Various Contractor Procurements:**

2010 – Ongoing

**Project Completion:**

Construction in progress

**Cost:**

Circa €500m (to date)

**Approving Authority:**

Department of Further and Higher Education, Research, Innovation and Science (DFHERIS) and other bodies, dependent on funding source and nature of project

**Sponsoring Agency:**

Grangegorman Development Agency

**Impacts:**

- Delivery of high quality infrastructure for TU Dublin City Campus;
- Development of previously under-utilised State lands to catalyse regeneration of the wider urban area

### 6.1 Overview

Grangegorman is a 30 ha (73 acres) site in Dublin's North Inner City, just over 1km from the city centre. Over some 250 years, Grangegorman was the site of a workhouse, a prison and a psychiatric hospital.

Today, the Grangegorman development is making use of previously under-utilised State lands to provide education, health and community facilities, while also spearheading redevelopment of the surrounding area in Dublin 7. Grangegorman has been designated a Strategic Development Zone (SDZ), and the development of the site on behalf of stakeholders is being managed by the Grangegorman Development Agency (GDA).

### 6.2 Rationale and Objectives of Investment

The Grangegorman development seeks to deliver direct benefits across multiple sectors, in particular education, healthcare and community amenities, while also stimulating the regeneration of the wider area. While the origins of the development pre-date the current NDP (the GDA was established in 2006), its underpinning rationale aligns closely with the objectives of the NDP and NPF.

Core objectives of the development include:

- Redevelopment of a brownfield site close to Dublin city centre
- Conservation and protection of the site's rich architectural heritage
- Construction of a purpose-built city campus for TU Dublin, bringing some 22,000 students and 2,000 staff together at a single location
- Provision of high quality mental health and community health care services
- Integration of research, innovation and commercial developments to drive employment creation
- Enhancing the physical environment and improving permeability between the site and the surrounding streets, thus encouraging community use
- Development of sport and recreational facilities, arts and cultural spaces
- Construction of a new primary school

The construction of a new city campus for TU Dublin is at the core of the development. This new infrastructure will replace multiple older buildings across the city centre (which are being sold to co-fund the development), improving operational efficiencies, enhancing the campus environment for students and staff, and directly facilitating a more holistic education experience. The purpose-built infrastructure, including extensive laboratories,

culinary arts spaces and multi-disciplinary teaching and learning spaces, will help ensure that students are equipped with leading edge, work-ready skills, which are critical to the advancement of our economy and our society.

### 6.3 Status, Timing and Costs

The past year has seen an important phase of the TU Dublin development on the Grangegorman campus brought to completion. Two significant buildings, the East and Central Quads, which together extend to over 52,000m<sup>2</sup>, were completed under a Public Private Partnership (PPP) contract in December 2020 and March 2021 respectively. Procurement was led by the National Development Finance Agency (NDFA).

These buildings are facilitating the move of 10,000 students and 1,000 staff to the campus from seven disparate locations across the city, accommodating courses in the areas of science, health, ICT, engineering, food science, culinary arts, tourism, media, arts and performance. The East Quad encompasses a 400 seater performance hall, which will be an important cultural resource for the city.

The PPP Quads were supported by two further renovation projects of approx. €40m. An important milestone reached in 2021 was the completion of the Lower House project, which has transformed the derelict former Richmond Asylum, dating from 1814, into a student services hub for TU Dublin. The renovation of the 1970s Park House has provided workspace and temporary library provision. Together these projects provide 10,000m<sup>2</sup> of essential supporting services. They reflect the emphasis on conservation, and adaptive re-use and respect for the unique history of Grangegorman, which is key to the ethos of the development. Proceeds from the sale of properties vacated by TU Dublin have funded these renovation projects and will support the next major phase of development.

Earlier projects completed at Grangegorman include, inter alia, the Phoenix Care Centre, providing high quality mental health facilities; a primary care centre, which combines new build with renovation of an historic protected building; site infrastructure and public realm; the conservation and development of five 19<sup>th</sup> Century buildings that form the core of the campus and are teaching studios for students; and the Greenway Hub research and innovation building.

Investment in the site to date and projects currently in planning and procurement amount to almost €1 billion.



Photo: Michael Hanley

### 6.4 Employment

The Grangegorman development contributes to employment growth in a range of ways.

The pipeline of talent and skills developed on the TU Dublin campus is key to sustaining and growing enterprise, and acts as an anchor for both foreign direct investment and indigenous companies. The next phase of development, with the integration of the School of Business, will allow business and innovation skills to be more widely shared across students of all disciplines – promoting an integrated education experience.

The Greenway Hub houses research and innovation capacity, and further leading edge research facilities will relocate to the site in future. Research and innovation are fundamental to Ireland's economic and societal ambitions, and require investments in high quality infrastructure and equipment.

In addition to the employment on site in education and health services, the Grangegorman development presents significant ongoing employment opportunities in construction. Jobs supported as a result of the project average at approximately 700 (construction and back office) per month. The *Grangegorman Employment Charter* also provides new jobs on projects to be on offer to residents of the Grangegorman area first and then to surrounding areas. During 2020, the monthly average of local persons employed through the Charter was 35.

### 6.5 Impacts

While development is continuing, the positive impact of the Grangegorman project for TU Dublin students and staff, health service users, and the local community is already clear. From an under-utilised brownfield site less than a decade ago, the site will be directly used in 2021 by upwards of 15,000 people for education and health services, and as a place of employment. Many thousands more occasional visitors will use the parks and pitches, or



just pass through. This will, in turn, drive economic activity in the surrounding area.

While the COVID-19 pandemic delayed students accessing the new campus, it is clear that the new infrastructure completed during the past year will be transformational for the mission of TU Dublin in providing an innovative, responsive and caring learning environment.

Sustainability has always been at the heart of the vision for the Grangegorman development. The development of the site has been strongly complemented by the completion of LUAS cross-city, making the site very accessible by public transport. There is also good access to cycle networks and the rollout of BusConnects will further enhance accessibility. Active measures to improve biodiversity have included designation of areas of meadow grass, a target to plant over 1,000 trees over the lifetime of the project, and the installation of nest boxes. TU Dublin is also lead agency for two sustainable energy communities in Stoneybatter and Cabra, seeking to drive sustainable energy awareness and deliver sustainable solutions.

Infrastructure investments have also been complemented by a range of programmes and initiatives that firmly anchor the Grangegorman development in the local community. For example, TU Dublin's Access Service and Early Childhood education practitioners, with the GDA and over 25 other local service organisations, are delivering the Grangegorman Area Based Childhood (ABC) Programme. This is an interagency initiative targeting investment of €800k annually in effective services to improve the outcomes for children aged 0 – 6 years and their families living in the North West Inner City area of Dublin.

In addition, Grangegorman Public Art has supported more than 30 public art commissions, including four context-specific art commissions, among other initiatives involving over 60 artist/groups, 50 organisations and 17 community-based projects. The GDA is also leading the Grangegorman Histories programme with the Royal Irish Academy to uncover the extensive historical heritage of Grangegorman, including preservation and access to records.

## 6.6 Challenges

The Grangegorman development has also experienced its share of challenges. The previous economic recession impacted on project progress. Budgetary cycles relying on sale and leaseback arrangements can also add risks to the financing model. The procurement of the Central and East Quads was delayed due to a legal challenge, while the COVID-19 pandemic also resulted in project

delays and additional costs. Risks faced by all infrastructure delivery entities, such as building cost inflation, must continue to be closely monitored.

Notwithstanding the challenges, the underlying strength of the vision, and the strong stakeholder and community buy-in, has kept the development moving forward. At the project level, there is also a strong culture of lesson-learning in the GDA, with dynamic lessons learned processes ensuring that lessons from one project are quickly fed across into other projects.



Photo: Michael Hanley

## 6.7 Lessons Learned and Next Steps

The Grangegorman development offers a good example of the successful management and development of public land in an urban setting on behalf of a range of stakeholders. In its progress to date, the development has illustrated the benefit of a single agency to manage delivery across multiple sectors, as well as the importance of a strong masterplan and associated strategic plan developed with all key stakeholders and the local community. Clear ownership by the State of the full site has simplified delivery, especially of site-wide infrastructure and public realm. The SDZ designation and a robust planning scheme has also greatly aided delivery. A further key success factor has been the early delivery of high quality public realm, children's playground and amenity spaces for the local community, as well as the community employment charter. This approach ensured visible community gain from the outset of the development.

September 2021 is an important milestone for the Grangegorman development, as – public health restrictions permitting – the campus gets ready to welcome 10,000 students to the new campus.

The next phase of construction sees further ambitious infrastructure plans for TU Dublin, including the development of the Academic Hub, encompassing a library and learning resource centre

to service the full campus. This project, extending to 12,600m<sup>2</sup>, is being funded by the sale of properties vacated in 2021. It has been brought through procurement, with construction expected to commence in 2021 and is currently scheduled for completion in 2023.

The West Quad will also be developed as part of the next phase; this will accommodate the School of Business, currently in Aungier St.

Other core projects include a 24 classroom primary school, which is currently under construction, and a new residential care neighbourhood, providing supported accommodation to elderly and dependent persons, which is in pre-planning stage.

## Case Study 7:

### Digital and Innovation Hub gteic@An Spidéal, Co. Galway

**Location:**

Northern and Western Region – Galway

**Main Contractor Procurement:**

2019

**Project Completion:**

2019

**Cost:**

€847,508

**Approving Authority:**

Department of Rural and Community Development

**Sponsoring Agency:**

Údarás na Gaeltachta

**Impacts:**

- Job creation
- Addressing rural depopulation

## 7.1 Overview

The Rural Regeneration and Development Fund (RRDF) was established as part of Project Ireland 2040 and the associated National Development Plan. The investment from the Fund aims to deliver key impacts in rural Ireland supporting sustainable communities, economic development, job creation and regional growth; consistent with NSO3 'Strengthened Rural Economies and Communities'. More recently, the Fund has been aligned with the objectives of 'Our Rural Future', the whole-of-Government policy for rural Ireland for the period 2021-2025. The RRDF is administered by the Department of Rural and Community Development. Funding is awarded through a competitive assessment process. A public body must act as lead project promoter.

Calls for applications to the RRDF are sought under two categories – Category 1 and Category 2.

Category 1 relates to large-scale, ambitious capital projects with all necessary planning and other consents in place and which are ready to proceed. To date, 89 Category 1 projects worth €292m have been approved for funding totalling €215m. Grants awarded have been in the range of €500,000 to €10m, enabling large scale investment with long term benefits for rural economies and communities.

Category 2 provides smaller grant funding to enable the development of project proposals suitable for future calls for Category 1 applications. To date 75 Category 2 projects worth €46m have been approved for funding of €34m.

In total the RRDF has now provided €249m for 164 projects across Ireland, worth a total of €338m.

The gteic@AnSpidéal project was approved for funding of €548,887 from the first call for applications to the Rural Regeneration and Development Fund. The gteic digital hub was built by Údarás na Gaeltachta (An tÚdarás) and the total cost was just over €847,000. The remaining funding to complete the project was provided by An tÚdarás.

The gteic@AnSpidéal hub includes hot desk and shared space facilities for remote workers and e-workers, in addition to fully equipped office spaces and incubation units with high speed internet connectivity (up to 1000Mbps fixed line connectivity) to facilitate innovation and concept development. The maximum capacity of the hub is 64 spaces, consisting of 36 spaces available in nine offices and 20 remote working spaces.

gteic@AnSpidéal facility caters for existing and new enterprises within the creative digital sector. An tÚdarás assists the members of the creative hub at An Spidéal through its own suite of enterprise support programmes. This range of supports includes various training and enterprise development initiatives which cater for small to medium-range enterprises and includes export / international market development interventions.

The gteic@anSpidéal initiative forms an integral part of a wider network of hubs located in Letterfrack, to the west of the county, in Galway city and in



Ballaghaderreen, Co. Roscommon. The other partners are drawn from an existing regionally based group - Comholbriu CLG (trading as Creative Enterprise West/ CREW). This group was set up in response to the growing need to create clusters of creative hubs, share resources and support a common and coordinated approach to sectoral development through group learning and shared experiences in addressing common challenges for start-ups and expanding SMEs in the digital creative sector. CREW has identified a programme for development for the creative digital sector throughout the region.

The gteic Hubs will give the Gaeltacht community, both at home and abroad, an opportunity to return to or live in their home area by providing remote working opportunities at hot desks, co-working spaces or private offices at these hubs. This, in turn, will support, bolster and assist these unique language communities and help them to face the challenges of rural depopulation. This growing digital ecosystem is providing an excellent opportunity for new technology companies to establish or locate themselves in the rural areas which encompass the Gaeltacht and for their employees to enjoy the excellent work-life balance that these picturesque areas can offer.

## 7.2 Rationale and Objectives of Investment

The objective of gteic@An Spidéal was to help create employment opportunities and provide a vibrant, modern, high speed broadband facility for start-up and established enterprises. The Hub will support employment in the local area both directly and indirectly, and will have a particular emphasis on the creative and digital media sectors.

gteic@An Spidéal is part of a growing and vibrant network of high-speed broadband facilities. Údarás are developing in rural Gaeltacht areas which will stimulate job creation, assist remote working, encourage and enable the return of Diaspora na Gaeltachta, facilitate concept development and new business. It will also develop a community of hubs where the unique Gaeltacht culture drives creativity and innovation.

## 7.3 Status, Timing and Costs

Údarás na Gaeltachta submitted an application for the gteic@An Spidéal to the first call for Category 1 Projects under the Rural Regeneration and Development Fund in September 2018. The project was approved for funding of €548,887 in November

2018. The project commenced construction in February 2019 and was completed in September 2019. The facility was officially opened in October 2019.

The estimated cost of the project was €731,850. The final cost of completing the project was €847,508. The revised cost was as a result of the revision of the internal layout prior to construction to facilitate hot desks on the ground floor.

## 7.4 Employment

During construction, the project saw approximately 14 people employed. Two Údarás na Gaeltachta staff are employed to maintain and operate the gteic on an ongoing basis.

The completed Hub has capacity to accommodate 64 users, however, this was reduced to 34 users with the onset of COVID-19. The Hub currently has available 14 co-working desks and 9 private offices that can accommodate 20 users. There are also two incubator rooms and two conference rooms available for users.

## 7.5 Impacts

The overall objective of the proposed project is to provide opportunities for local businesses and entrepreneurs while also encouraging people to consider setting up or returning to the region.

There are currently seven companies, employing a total of 18 workers utilising the facility. A further seven remote workers are working out of the Hub as of May 2021. As of late September 2021, it is expected that the number of users will increase as public health measures related to COVID-19 are eased.

gteic@anSpidéal has welcomed the following projects to the digital hub in An Spidéal since the opening in October 2019:

### HiTech-Health

HiTech Health was established in 2013 in Dublin bringing together an experienced and multi-disciplinary team from across the pharmaceutical, biotechnology and medical device industries. Operating internationally, HiTech Health supports healthcare companies from the development to the launch and supply of products. The company focuses on providing successful end-to-end solutions and knowledge to help manage clients' products and make compelling strategic decisions.

## **Fíbin Media**

Fíbin is the biggest and most active Irish-language theatre company in Ireland. Fíbin presents new writing as well as classic plays in a unique and creative way. Fíbin's visual approach overcomes any language boundaries that may exist. To achieve this, the company has made use of puppets, masks, shadows, music, sound and an array of highly visual techniques to develop a style not previously seen in children's theatre, and in Irish Language Theatre in particular.

## **ROSG**

ROSG is one of Ireland's premier independent television and film production companies. ROSG creates high quality screen-based stories of cultural value that are energized by local talent, yet relevant to the world. Since its establishment, ROSG has produced a wide range of films, drama series, documentaries, and animations, and has received nominations and awards for their work both at home and abroad.

## **Epitheal**

Set up in 2017, Epitheal (HPSU client) has developed a specific wound care formulation for the animal/human markets. Epitheal is involved in a number of first stage research projects, investigating the potential of herbal medicines, formatting recommended uses and developing safe conditions complying with the European Medicines Agency (EMA).

## **7.6 Challenges**

gteic@AnSpidéal focused on the offering of office spaces and remote desk working spaces.

In the development of the project, gteic@AnSpidéal put in place two nondescript rooms, allowing scope to retrofit the two rooms to meet the development needs of the projects that approached An tÚdarás. This helped attract strong medical device and media projects to the gteic@AnSpidéal.

The design of the build has allowed scope to have more of the existing office spaces interchangeable from an office space to a nondescript room, and this has been very positive to the gteic@AnSpidéal offering.

The COVID-19 pandemic has caused a significant interruption to business in the gteic. The Hub remained open only to those working in essential services during the initial lockdown and a number of service users relocated to working from home on a

permanent basis.

The gteic manager supported existing and new clients to ensure a safe return to the Hub including transitioning companies that were negatively impacted to smaller offices, and facilitating companies that experienced growth by utilising the non-descript rooms to provide increased space. Overall, gteic@An Spidéal is managing the effects of the pandemic, but there has been an impact on the expected initial growth of the Hub.



## **7.7 Lessons Learned and Next Steps**

When developing gteic buildings, the need to integrate further nondescript rooms in the design of the build was identified.

To monitor the delivery and impact of RRDF funded projects, Údarás na Gaeltachta has established an RRDF Monitoring Committee. The internal committee is chaired by the Director of Corporate Services and includes Senior Managers with responsibility for engineering and construction services, project management and implementation, compliance and risk assessment, financial control and oversight, and liaison with project Consortium members. The committee provides detailed quarterly implementation reports during the delivery of projects to the Department of Rural and Community Development.

One of the key strengths of the RRDF is that it has the flexibility to support projects in any sector which can effectively contribute to rural regeneration and social and economic development. In response to the impact of COVID-19, the focus of the recently completed third call for Category 1 applications was to support projects that could deliver economic recovery in rural Ireland and sustainable regeneration in rural towns and villages. As part of this call, support was also extended to providing assistance for the management and development of

a project once construction is completed (for a maximum of three years). For example, support for the development, management and promotion of enterprise centres, remote working hubs and tourism attractions.

## Case Study 8:

### Lord Edward Street Social Housing, Limerick City

**Location:**

Southern Region – Limerick City

**Main Contractor Procurement:**

2015

**Project Completion:**

2017

**Cost:**

€19.6 million

**Approving Authority:**

Department of Housing, Local Government and Heritage

**Sponsoring Agency:**

Limerick City & County Council

**Impacts:**

- Urban dereliction tackled
- Historic building protected
- 81 New social houses provided

## 8.1 Overview

The Department of Housing, Local Government and Heritage (DHLGH) supports large-scale regeneration projects in Limerick, Cork and Dublin, and smaller projects in Tralee, Sligo and Dundalk. These regeneration projects seek to address the causes of disadvantage in these communities through a holistic programme of physical, social and economic regeneration. Regeneration projects target the country's most disadvantaged communities, including those defined by the most extreme social exclusion, unemployment and anti-social behaviour.

The Lord Edward Street project in Limerick City was the site of the former Tait Clothing Factory, which was opened in the 1850s and at one time was the largest clothing manufacturer in the world, as well as being one of the largest employers in the area. It closed in 1975 and the site fell into dereliction. In 2010 the then Limerick City Council, and its successor Limerick City and County Council, sought to redevelop the site for a mixed use residential scheme. The main construction project started on site in 2016 and it was completed in 2017 at an overall cost of €19.6m.

## 8.2 Rationale and Objectives of Investment

The overall objective of the project was to deliver an aesthetically pleasing development that tackles urban dereliction, restores an historic area of the

city, provides social housing and delivers on the overarching aims of the National Regeneration Programme in Limerick to create sustainable communities.

The new scheme at Lord Edward Street is designed to foster a strong, tight-knit community, where everyone takes pride in their homes and looks out for their neighbours. The development includes a Community Centre, which acts as a focal point for the entire community, and there is also a Primary Care centre located close by.

## 8.3 Status, Timing and Costs

The project was initially approved for funding in 2010, and a full design team was appointed in 2011 to move the project forward. Demolitions and enabling works were carried out to de-risk the site and prepare it for development.

Part 8 Planning was granted in 2012. Pre-tender approval was granted in 2015 for €19.5m and tender approval issued later in 2015 for a main construction budget of €12.3m. The project commenced on site in 2016 and it was completed in late 2017. The overall cost of the development is €19.6m. The additional cost related to: land purchase (€4.2m); enabling works and demolition contract (€1m); change orders (€1.2m); and fees/utilities/arts (€900k). The project timeline is outlined in table 2 below.

The Lord Edward Street regeneration project was officially opened in January 2018 by the then Minister for Housing, Planning and Local Government, Mr Eoghan Murphy T.D. The site has been the centre of economic life in this city in the past and once again it has risen to provide a community structure and homes for many new families. At the official opening in January 2018, Minister Murphy was presented with the book 'A Stitch in Time - A History of Limerick Clothing Factory' by Maura Stapleton, who worked in the factory. The development includes a community common area where residents can meet and socialise.

Table 2 – Project Timeline

Milestone	Year
1. Site Procured/designated	2010
2. Appointment of design team	2010
3. Funding approved – funded by then Department of Housing	Stage 1 approved in July 2010  Stage 2 pre-planning funding approved January 2011
4. Appointment of full design & project team	2011
5. Planning permission/part 8 & any appeals process	Part 8 granted May 2012
6. Project to tender	Stage 3 pre-tender funding approved May 2015  Stage 4 tender approved October 2015
7. Commencement on site	February 2016
8. Practical Completion	December 2017
9. Occupancy	January 2018

## 8.4 Employment

The scheme generated significant local employment and it was one of the projects where the social clause was adopted, specifically targeting long term and youth unemployment. A varied range of skill sets were required also as it involved standard

construction, renovation and conservation, as well as decontamination works.

## 8.5 Impacts

The impact of the scheme has been immense in terms of tackling dereliction while delivering much needed social housing for 123 adults and 28 children, which introduced a vibrant community into this locality.

Tait Community Centre has been designed to be used by the wider community but controlled by the residents, integrating the entire development into the surrounding community. Community related uses operate out of this facility such as Limerick City Community Radio, Narcotics Anonymous and other community focussed uses. Residents can also use the space for celebrations and events.

A total of 81 units have been built (including a caretaker's apartment) on a brownfield site close to Limerick city centre comprising of 57 units for elderly residents (1 and 2 bed apartments and 2-bed houses) with the remainder (24) being family homes (3 bedroom). Limerick City and County Council, and the design team led by Newenham Mulligan & Associates, and construction contractors, JJ Rhatigan, have protected the history of the clothing factory whilst at the same time developing a city centre modern housing complex for residents. The development is a key milestone for the ambitious National Regeneration Programme in Limerick and is one of a number of developments which are at various stages of design or construction across Limerick City. Many more are planned to come on stream in the coming years.

Each dwelling has a privacy strip to allow for a landscaped buffer to the street and accommodation for refuse bins. All front doors and windows to habitable rooms (living/kitchen) face the public realm and encourage maximum passive surveillance for increased safety and security. The scheme is conveniently located a short distance (450m/5 minute walk) from the main city-centre thoroughfare.

The scheme is designed with home zone principles (shared surfaces and strong street enclosure) and overlooked public spaces, with an attractive landscaping strategy, outdoor gym area, street trees and seating. A link is also provided to the adjacent new Primary Health Care Centre. It is a good example of a successful city centre brownfield infill development.

All the homes are well insulated. Photovoltaic panels are provided as a sustainable source of renewable energy. All homes achieved a BER rating of A3. The

new homes include accessible features such as level thresholds, ramps, and appropriate door and corridor widths. Specialist disabled units have been fitted out with wheelchair accessible bathrooms including a wheelchair accessible toilet and basin, shower seat and all necessary grab rails, and are unique in that they are located in part of the original Clothing Factory, an impressive limestone cut structure.

## 8.6 Challenges

One of the main challenges facing the development was working in the confines of a protected structure, and developing a scheme with building design, scale and material appropriateness respectful of the site's historic context. This meant the refurbishment of key building remnants into accommodation, community and commercial facilities.

Significant Demolition, Enabling Works and Decontamination contracts were advanced ahead of the main contract tender process with a view to de-risking the site in so far as possible and to achieve greater cost certainty. This has been largely achieved, in that costs would have been likely to have been significantly higher without it.

At an overall cost of €19.6m (including shell and core works to a commercial building and construction of a community facility), the average cost per unit was €242k (incl. VAT). There are also other valuable benefits (urban, social, and enabling the Primary Care Centre development) outside of the housing provision which are of significant value to the City's local history and community servicing.

LCCC undertook an innovative procurement route in three phases to implement the scheme:

- **Phase 1** - Demolition and Strip Out Works
- **Phase 2** - An Enabling Works package to tackle certain elements i.e. boundaries, works to be protected, contamination
- **Phase 3** - Construction of the residential, mixed use scheme and associated site works

By undertaking phase 1 and 2, the project was significantly de-risked providing the successful contractor for phase 3 of the project with a relatively straight forward risk free site.

at the outset. The project calls for more extensive and comprehensive pre works surveys and opening up works. Generally, the works are typically more extensive and complex, and there are time and resource implications for both the design and construction stages. It is vital that the results of the surveys are fully incorporated into the scoping documents. This would help obviate the need for costly post contract change orders.

The enabling works and demolition works contract, carried out ahead of the main contract cleaned up the site and made it more accessible for surveys/investigations. The removal of the old underground tanks and decontamination works as part of this added significantly to de-risking the site for the main contract.

## 8.7 Lessons Learned and Next Steps

Working within the curtilage of a protected structure brings a greater level of complexity to a project of this nature and it is important that this is recognised



## Case Study 9:

Coláiste Chiaráin, Athlone, Co. Roscommon



Photo: Corin Bishop Photography



Photo: Corin Bishop Photography

### **Location:**

Northern and Western Region – Athlone

### **Main Contractor Procurement:**

2018

### **Project Completion:**

2020

### **Cost:**

€24 million

### **Approving Authority:**

Department of Education

### **Sponsoring Agency:**

Department of Education

### **Impacts:**

- Better and modern school facilities to support the education of students attending Coláiste Chiaráin - which include the full suite of school laboratories and other specialist rooms, and also a new large PE Hall facility
- Contributes to the Climate Action agenda through the provision of a modern energy efficient new school building
- Scope for facilities at the school to be made available for local community usage
- Improved future proofing of Athlone from a capacity and Special Education Needs perspective

## 9.1 Overview

Athlone is a Regional Growth Centre and significant population growth is targeted in the town area. Coláiste Chiaráin is a co-educational voluntary secondary school situated in Co. Roscommon on the outskirts of Athlone in an area of significant population growth. The school was established in 2017 as a result of the amalgamation of two single sex schools; St Joseph's College and St Aloysius College. As part of the amalgamation, a new school building was planned to accommodate existing student numbers and allow for a large projected increase in enrolment to cater for students in West Athlone/ South Roscommon.

The building of the new school was a key component of the amalgamation project, so it was hugely significant for the success of the school that the building project progressed swiftly. The opening of the new school building in 2020 was viewed as the culmination of the amalgamation process. The delivery of the project was a signal of confidence in the new school and offered the community tangible evidence of everyone's commitment to the project.

The project was delivered as part of the Department of Education's Design & Build Programme. The project commenced construction in April 2019 and the school building was completed and ready for occupation for September 2020. Some external landscaping works were completed in February 2021.

## 9.2 Rationale and Objectives of Investment

For the purposes of planning for school accommodation provision, the Department of Education divides the country into 314 school planning areas and analyses data from a range of sources, including Child Benefit data, enrolments, Census data, internal Department of Education statistics, information on housing developments and NPF population targets to anticipate school place requirements at primary and post primary level.

Athlone is a regional growth centre which is experiencing significant population growth. At the time of project initiation, demographic analysis supported the need for the delivery of a 1,000 student post primary school as a means of catering for the existing and planned growth in the Athlone school planning area. Subsequent demographic exercises have supported this projection and the most recent indications are that the school planning area is on track to meet, or slightly exceed that projected peak enrolment. Feedback from the school

indicates that an enrolment of 1,000 students will be reached within the next five years.

The delivery of additional post primary capacity as part of the project for Coláiste Chiaráin has facilitated the growth of the school's enrolment concurrently with population growth in the town, through the alignment of infrastructure and housing delivery.

In addition to the provision of a new school to cater for demographic growth on the west side of Athlone, a new replacement school building (1,000 students) was provided for Athlone Community College in 2014 under the Department's PPP programme. The new school building was provided on the existing site.

The delivery of these building projects will future proof the town through supporting the NPF objective of Athlone as a regional growth centre through the provision of modern school facilities and additional capacity to cater for increasing demographics, with student numbers set to peak at post primary level in 2025.

Since 2017, other completed school building projects providing new and modern school facilities in Athlone that align with the NPF objective includes:

- A new 16-classroom primary school building in Coosan NS which was completed in 2018, and
- A new 16-classroom primary school building in Cloonakilla which was completed in 2017.

## 9.3 Status, Timing and Costs

The school is now fully operational with full enrolment projected within the next five years.

In 2017, Coláiste Chiaráin was set up following the amalgamation of St. Aloysius College and Summerhill College. The procurement process commenced in 2018 for a new 1,000 Post Primary school for Coláiste Chiaráin for delivery under the Design and Build programme. The construction phase of this project commenced in April 2019 and the school building was completed and ready for occupation for the start of the 2020/2021 school year. The last of the external landscaping works were completed in Q1 of 2021.

This project consisted of 37 mainstream classrooms, 6 Science Labs, 15 specialist rooms, 2 classroom Special Education Needs suite and a PE Hall.

The overall cost of this project was €24m (incl. Vat), which was within 5% of the approved tender for the project.

## 9.4 Employment

This new 1,000 student post primary school is a flagship project for Athlone and an important part of the education infrastructure of the town and its environs, helping to support wider employment in Athlone as a regional growth town.

The school has 50 teaching posts catering for the existing student population and this will increase over time as the school grows to full enrolment.

There was significant direct and indirect employment opportunities in the construction of this project (over 120 people were employed directly in the construction of the school).

## 9.5 Impacts

The new school building has had a transformative impact on teaching and learning in the school, and the feedback from the School Principal and school community has been extremely positive.

Below is some feedback from the School Principal of Coláiste Chiaráin, Brendan Waldron.

*"The impact of the new school building was felt immediately when faced with the challenge of implementing our school's COVID-19 response plan. Well ventilated classrooms, wide corridors and generous outdoor spaces allowed the implementation of procedures with considerably less issues than would have been the case in the old buildings. We value our commitment to inclusivity in Coláiste Chiaráin. Our old school building was far from accessible and offered significant challenges to wheelchair users and other students with disabilities. The design and layout of our new building allows all our students to be fully included, with equity of access to all areas. In addition, our Autism classes have a state of the art Special Education Needs Suite that provides for all their needs. Our vision for inclusion of all students can now be fully realised through the universal accessibility of the school."*



**PE Hall Coláiste Chiaráin**

Photo: Corin Bishop Photography

*The impact of the physical environment on teaching and learning is often undervalued, however it is no exaggeration to say that the effect of our building on teaching and learning has been transformative. Our new educational campus brings a sense of calm, offering bright modern spaces to engage in a wide range of learning activities as well as social areas to allow students to eat, relax and play. From a management perspective, the design offers full visibility and supervision of students throughout, ensuring a safe and welcoming environment for all.*

*With a 35% increase in enrolment in the first two years, we will approach the capacity of the school within the next five years. Despite the disruption to education and everyday life in the last two years, the commitment of all partners has ensured a successful completion of this magnificent building and campus."*

## 9.6 Challenges

One of the main challenges to be managed near the completion phase was the impact of COVID-19 which delayed the project slightly but still managed to be completed by August 2020 in time for the start of the school academic year 2020/2021.

The central guidance developed by the Office of Government Procurement (OGP), in relation to COVID-19, was helpful to ensure smooth remobilisation of the Construction Sector.

## 9.7 Lessons Learned and Next Steps

Some of the key learnings through the delivery of this project:

- The value of good forward planning by the Department of Education in building a 1,000 student post primary school to cater for future population growth notwithstanding the enrolments of the amalgamated schools, St Joseph's College and St Aloysius College amounted to 483 students in 2017.
- The value of the Design and Build programme in successful delivery of a new 1,000 student post primary school in a timely manner.
- The importance of good communication with key stakeholders; such as school community and Local Authorities, to outline the steps

involved in the planning and delivery of the new school building.

- The leadership and co-operation of the school community, in particular Brendan Waldron (School Principal), was particularly useful.

The Post Project Review has been initiated and will be completed shortly. The Department of Education will continue to plan and deliver other school building projects as required to cater for demographic requirements and also to deliver on the Climate Action Agenda.



An Roinn Caiteachais  
Phoiblí agus Athchóirithe  
Department of Public  
Expenditure and Reform

**Tithe an Rialtais. Sráid Mhuirfean Uacht,**  
**Baile Átha Cliath 2, D02 R583, Éire**  
Government Buildings, Upper Merrion Street,  
Dublin 2, D02 R583, Ireland

T:+353 1 676 7571  
@IRLDeptPer  
[www.gov.ie](http://www.gov.ie)