



Chapter 10

Population

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10 Population

10.1 Introduction

This Chapter of the Environmental Impact Assessment Report (EIAR) addresses the potential Population impacts associated with the Construction and Operational Phases of the Proposed Scheme.

This population assessment considers both social impacts on communities (community assessment) as well as economic impacts on commercial businesses (economic assessment).

The Proposed Scheme includes the reconfiguration of traffic movements to facilitate improved pedestrian, cyclist and bus accessibility and movement, infrastructural works at certain roads and junctions, and improvements to the public realm at a number of locations within the city centre, including Eyre Square North, Woodquay and in the vicinity of Galway Cathedral. It will enable and deliver efficient, safe, and integrated sustainable transport movement along the corridor. The objectives of the Proposed Scheme are described in Chapter 1 (Introduction). The Proposed Scheme which is described in Chapter 4 (Proposed Scheme Description) of this EIAR, has been designed to meet these objectives. Key objectives that are applicable to this assessment are to:

- Enhance the capacity and potential of the public transport system by improving bus speeds, reliability and punctuality through the provision of bus lanes and other measures to provide priority to bus movement over general traffic movements;
- Enhance the potential for cycling by providing safe infrastructure for cycling, segregated from general traffic wherever practicable; and
- Improve accessibility to jobs, education and other social and economic opportunities through the provision of improved sustainable connectivity and integration with other public transport services.

Other elements of the scheme that have potential to cause effects on other environmental factors which may also interact with Population are also relevant.

Assessments undertaken as part of the following EIAR chapters have been considered in this chapter:

- Air Quality (Chapter 7);
- Noise & Vibration (Chapter 9);
- Traffic & Transport (Chapter 6); and
- Landscape (Townscape) & Visual (Chapter 16).

This Chapter is also supported by Figure 10.1 in Volume 3 of this EIAR and Appendix 10.1 Schedule of Commercial Businesses in Volume 4 of this EIAR.

10.2 Methodology

This Section presents the study area and appraisal method for the assessment of impacts on Population.

10.2.1 Study Area

The population assessment requires potential impacts to be considered and assessed for a wide range of receptors, comprising community facilities, recreational resources, tourism assets, residential properties, and commercial businesses. To capture how these receptors are likely to be impacted by the Proposed Scheme, the population assessment has been split into two sub-assessments. The two sub-assessments are:

- Community Assessment: An assessment to capture impacts from the Proposed Scheme on the local population; residents and communities; and
- Economic Assessment: An assessment to capture impacts from the Proposed Scheme on commercial receptors, including commercial business viability.

The study areas for both assessments are described in Section 10.2.1.1 and Section 10.2.1.2.

10.2.1.1 Community Assessment

The community assessment considers potential impacts on individual population receptors, including community facilities and recreational resources, as well as individual residential properties and land parcels being acquired on a temporary and permanent basis to accommodate the Proposed Scheme. As such, the community assessment comprises of the following assessment topics:

- Community amenity; and
- Community land use and accessibility.

The study area for the assessment of impacts on community amenity consists of ‘community areas’, which are informed by the Central Statistics Office (CSO) 2016 Census electoral division boundaries (CSO2016a). Community areas that will either be intersected by or experience an increase in displaced traffic as a result of the Proposed Scheme are included in the study area, and consist of the following:

- Claddagh;
- Eyre Square;
- Lough Atalia;
- Nuns Island;
- Shantalla;
- St. Nicholas; and
- Wellpark.

These community areas are presented in Figure 10.1 in Volume 3 of this EIAR.

10.2.1.2 Economic Assessment

The economic assessment considers potential impacts on individual commercial businesses within the Proposed Scheme boundary, as well as any commercial receptors that would experience negative impacts from displaced traffic during the Construction or Operational Phase of the Proposed Scheme. To consider and assess these impacts, the economic assessment has been divided into the following two assessment topics:

- Commercial amenity; and
- Commercial land use and accessibility.

The study areas for these two assessment topics are the same as those outlined in Section 10.2.1.1.

10.2.2 Relevant Guidelines, Policy and Legislation

Guidelines, policy and legislation specifically relevant to the population assessment are outlined in Table 10.1.

Table 10.1: Relevant Guidelines, Policies and Legislation

Guidance	Description	Relevance to Assessment
Environmental Protection Agency (EPA) Guidelines on the information to be contained in Environmental Impact Assessment Reports (hereafter referred to as the EPA Guidelines) (EPA 2022)	This document outlines EPA guidance for conducting Environmental Impact Assessments (EIAs) / EIARs and provides the fundamental requirements of the EIAR.	This guidance has been used to inform the significance of effect for the all topics in the population assessment.
Design Manual for Roads and Bridges (DMRB) LA 112 Population and human health (hereafter referred to as the DMRB Guidance) (Highways England 2020)	The DMRB Guidance provides guidance on the assessment of land use and accessibility within an EIA.	This DMRB Guidance has been used to inform sensitivity and magnitude for the following assessment topics: Community land take; and Commercial land take.

10.2.3 Data Collection and Collation

Baseline data has been collected through carrying out a desk study, availing of the most up-to-date available data, at the time of writing. This comprises, the following sources:

- Census (Central Statistics Office (CSO) 2016) - Demographic, residential, and employment statistics;
- Population scoping reports and impacts assessments for other major linear infrastructure projects

- Google maps (Google 2022);
- Ordnance Survey Ireland (OSI) Prime 2 dataset (OSI 2020);
- Geodirectory data (Geodirectory 2019);
- National Public Transport Access Nodes (NaPTAN) (NTA 2020).
- Proposed Scheme Design Drawings; and
- Other reports and documents relating to the receiving environment, including other chapters of the EIAR.

The baseline assessment seeks to establish a full list of population receptors, including local educational, community, recreational and healthcare facilities, as well as commercial receptors (see Section 10.3.2). This is informed by the latest available census data (currently 2016) from the CSO and the OSI Prime 2 dataset.

10.2.4 Appraisal Method for the Assessment of Impacts

This Section sets out how each assessment topic has been undertaken and highlights where input from other environmental disciplines has been included within the Population assessment.

The Population assessment has been carried out in accordance with appropriate guidance, including the EPA Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (hereafter referred to as the EPA Guidelines) (EPA 2022). The EPA significance of impacts matrix has been used to determine the significance of impact (Table 10.2).

Table 10.2: EPA Significance Matrix

Significance		Sensitivity				
		Very Low	Low	Medium	High	Very High
Magnitude	Very Low	Imperceptible	Not significant	Slight	Slight	Slight
	Low	Not significant	Slight	Moderate	Moderate	Moderate
	Medium	Slight	Moderate	Moderate	Significant	Significant
	High	Slight	Moderate	Significant	Very significant	Profound
	Very High	Slight	Moderate	Significant	Profound	Profound

There is no prescribed method for determining the significance of effects on receptors as a result of a change in amenity.

The methodology for this assessment topic is therefore informed by existing best practice and experience on other infrastructure projects.

In addition to the EPA Guidelines, the assessment of land use and accessibility impacts has been informed by the Design Manual for Roads and Bridges (DMRB) LA 112 Population and human health (land use and accessibility) (hereafter referred to as the DMRB Guidance) (Highways England 2020). The DMRB Guidance has been used to determine the sensitivity and magnitude of impact for land use and accessibility receptors.

The assessment methodologies were applied to assess both the potential impacts during the Construction Phase and the potential impacts during the Operational Phase of the Proposed Scheme, unless otherwise stated.

10.2.4.1 Community Assessment

The methodology for the assessment of community impacts is outlined in this Section.

Community Amenity

Community amenity describes the perceived character or attractiveness of an area. This community amenity assessment has assessed the potential for people to change how they perceive their communities or how they use community facilities and recreational resources as a result of the Proposed Scheme.

The community amenity assessment considers the in-combination impact of the following environmental effects which are typically expected to contribute to a change in amenity:

- Air quality;
- Visual;
- Traffic and transport; and
- Noise and vibration.

Where there is a combination of at least two direct environmental effects on a receptor, or group of receptors, this is classified as an ‘in-combination’ impact on community amenity. For example, where there are both visual and air quality impacts on a receptor, or a group of receptors, the assessed receptor(s) would be impacted ‘in-combination’. All residual impacts are considered from Imperceptible / Not Significant to Significant / Profound.

The assessment has considered the residual effect reported for each of the environmental effects under consideration. Therefore, specific sensitivity and magnitude criteria are not required for community amenity. The level of significance from each environmental effect was determined by the individual environmental assessments presented in the following chapters:

- Chapter 6 (Traffic & Transport);
- Chapter 7 (Air Quality);
- Chapter 9 (Noise & Vibration); and
- Chapter 16 (Landscape (Townscape) & Visual).

Aligning Receptors

To determine the impact on community amenity, there needs to be an alignment of receptors across the different contributing environmental assessments. For the assessment of air quality, the residual impact on human receptors identified in Chapter 7 (Air Quality) of this EIAR, were used for all receptors along and within 200m of the Proposed Scheme for construction and operation. Construction dust has been excluded from the amenity assessment as it is considered to be sufficiently mitigated during construction, that it will not result in a significant residual air quality impact.

For the assessment of visual impacts, common receptors were identified for both construction and operation. In Chapter 16 (Landscape (Townscape) & Visual) of this EIAR, the assessment of townscape and streetscape has assigned an impact to specific viewpoints, as they relate to certain roads within the boundary of the Proposed Scheme. This has been used to align a visual residual impact to all receptors along those roads along the Proposed Scheme.

Chapter 9 (Noise and Vibration) of this EIAR assesses the impact on noise sensitive locations (NSL) which include: residential dwellings, schools and other educational establishments, hospitals and nursing homes, hotels and other short-term accommodation buildings, buildings of religious sensitivity, recreational and noise sensitive amenity areas and offices. During the Construction Phase, noise impacts at NSLs can occur from a variety of activities including road widening, utility diversion, urban realm landscaping and Construction Compounds. In an instance where a NSL is impacted by more than one noise source, the worst impact has been considered in the amenity assessment. During the Operational Phase, two assessment topics are considered in the noise and vibration assessment, namely, traffic noise along the Proposed Scheme and traffic noise on the surrounding road network. The residual impacts reported in respect to these two assessment topics are aligned to community and commercial receptors depending on whether they are situated along the Proposed Scheme or in the surrounding road network.

Chapter 6 (Traffic and Transport) of this EIAR assesses the impacts on 'general traffic' along the Proposed Scheme. Although other traffic impacts such as modal shift may affect amenity, the impact on general traffic has been considered as having the greatest potential to create a wider impact on community amenity, when combined with other environmental effects. For ease of assessment, the amenity assessment has only considered residual impacts on general traffic. During construction, the amenity assessment considers the restrictions to general traffic along the Proposed Scheme as well as the residual impact that is predicted to arise from additional construction traffic flows on the surrounding road network. During operation, the amenity assessment has considered the reduction in general traffic along the Proposed Scheme and the redistributed general traffic along the surrounding road network.

The residual impact on general traffic along the Proposed Scheme is assigned to all receptors located along the Proposed Scheme, while the impact from construction traffic flows (Construction Phase) or redistributed traffic (Operational Phase) is assigned to all receptors on the surrounding road network.

Beneficial impacts on community amenity during the Construction Phase are considered highly unlikely due to the nature of construction activities. Therefore, only negative impacts were assessed. However, beneficial and negative impacts are both assessed during the Operational Phase given the nature of activities of the Proposed Scheme during this period.

Determining Significance of Effect

Following alignment of the environmental effects, an in-combination assessment matrix has been used to determine the significance of localized impacts on individual receptors (see Table 10.3).

For the purposes of the amenity assessment, the term ‘Significant’ includes the EPA terms ‘Profound’, ‘Very Significant’ and ‘Significant’ while, the term ‘Not Significant’ includes the EPA terms ‘Not Significant’ and ‘Imperceptible’ as outlined in the EPA Guidelines (EPA 2022). This is used for either all negative or positive impacts, but not a combination of both. Where both negative and positive impacts occur, professional judgement has been used to assign the overall impact on amenity.

Whilst the community amenity assessment imposes no duration criteria of its own, where a ‘Significant’ impact on amenity is identified, the temporal aspects of the environmental effects were examined to determine whether the impacts are likely to occur simultaneously and result in a ‘Significant’ in-combination impact.

With this determination, the nature, significance and duration of effects for each community area has been reported in line with the EPA Guidelines (EPA 2022). Amenity impacts that arise on individual receptors have only been stated separately in the Potential Impacts (Section 10.4) for Moderate, Moderate/Significant and Significant amenity impacts. Amenity impacts on individual receptors that are assessed as less than Moderate (Slight, Not Significant and Imperceptible) are not discussed in the amenity assessment. Only individual receptors that are expected to experience a Moderate/Significant or Significant amenity impact are listed in the Residual Impact tables (Section 10.6).

Table 10.3: In-Combination Amenity Significance Matrix (Construction and Operational Phases)

Environmental Effect 1	Environmental Effect 2	Environmental Effect 3	Environmental Effect 4	Combined Impact
Significant	Significant	Significant	Significant	Significant
Significant	Significant	Significant	Moderate	Significant
Significant	Significant	Significant	Slight	Significant
Significant	Significant	Significant	Not Significant	Significant
Significant	Significant	Moderate	Moderate	Significant
Significant	Significant	Moderate	Slight	Moderate / Significant
Significant	Significant	Moderate	Not Significant	Moderate / Significant
Significant	Significant	Slight	Slight	Moderate

Environmental Effect 1	Environmental Effect 2	Environmental Effect 3	Environmental Effect 4	Combined Impact
Significant	Significant	Slight	Not Significant	Moderate
Significant	Significant	Not Significant	Not Significant	Moderate
Significant	Moderate	Moderate	Moderate	Moderate / Significant
Significant	Moderate	Moderate	Slight	Moderate
Significant	Moderate	Moderate	Not Significant	Moderate
Significant	Moderate	Slight	Slight	Moderate
Significant	Moderate	Slight	Not Significant	Moderate
Significant	Moderate	Not Significant	Not Significant	Moderate
Significant	Slight	Slight	Slight	Slight / Moderate
Significant	Slight	Slight	Not Significant	Slight / Moderate
Significant	Slight	Not Significant	Not Significant	Slight
Significant	Not Significant	Not Significant	Not Significant	Not Significant / Potential direct impact on amenity*
Moderate	Moderate	Moderate	Moderate	Moderate / Significant
Moderate	Moderate	Moderate	Slight	Moderate / Significant
Moderate	Moderate	Moderate	Not Significant	Moderate
Moderate	Moderate	Slight	Slight	Moderate
Moderate	Moderate	Slight	Not Significant	Moderate
Moderate	Moderate	Not Significant	Not Significant	Moderate
Moderate	Slight	Slight	Slight	Slight / Moderate
Moderate	Slight	Slight	Not Significant	Slight / Moderate
Moderate	Slight	Not Significant	Not Significant	Slight
Moderate	Not Significant	Not Significant	Not Significant	Not Significant
Slight	Slight	Slight	Slight	Slight / Moderate
Slight	Slight	Slight	Not Significant	Slight / Moderate
Slight	Slight	Not Significant	Not Significant	Slight
Slight	Not Significant	Not Significant	Not Significant	Not Significant
Not Significant	Not Significant	Not Significant	Not Significant	Not Significant

*Potential direct impacts on amenity for commercial businesses is discussed in Section 10.1.

Community Land Use & Accessibility – Land Take

This assessment considers both temporary and permanent direct land take impacts on community receptors (e.g. parks and residential land, including gardens, paths and driveways) within the Proposed Scheme boundary. Direct land take impacts can lead to a temporary or permanent restriction in the ability of a user to use a property or a community facility.

Following the DMRB Guidance (Highways England 2020), residential land has been assigned a high sensitivity. The sensitivity of community facilities varies, and therefore, specific aspects were considered to assess the sensitivity of these receptors, such as:

- Availability of viable alternatives;
- Frequency of use; and
- Number of users on an average visit.

Some other examples of different sensitivities include:

- A hospital would be assigned a very high sensitivity;
- A nature reserve that attracts visitors from across Galway City with no alternatives would be assigned a high sensitivity;
- Playing grounds, frequented daily, with no immediate alternative would be assigned a medium sensitivity;
- A small local park, with no extra amenities or features would be assigned a low sensitivity; and
- Derelict land or unoccupied buildings would be assigned a very low sensitivity.

The magnitude of impact of land take has been determined by the degree of loss of the resource including acquisition of gardens and private landings / driveways, as set out in DMRB Guidance and supported by professional judgement. In general, direct acquisition has been categorised with a high or very high magnitude. A medium magnitude would be assigned where there will be changes to access or the acquisition of land, but the changes overall will not compromise the overall viability of a property. A low magnitude has been assigned where there will be a minor loss of land, or where severance will be introduced but adequate accessibility will be maintained throughout the Construction Phase or provided during the Operational Phase. The nature, significance, and duration of effect for each receptor has been assigned using the EPA Guidelines (EPA 2022).

Accessibility

Community accessibility relates to the ability of users to access community facilities, recreational resources and residential properties. Change in access to facilities can significantly affect users, particularly if these are important facilities (e.g. hospitals), or if there are a lack of alternative facilities available.

Changes in traffic flow, parking provision, public transport services and walking and cycling provision can also impact the ability of users to access certain community facilities.

During the Construction Phase, temporary diversions and temporary road closures will be required for short periods of time with diversions in place and local access accommodated, as required. Lane closures may be required during different Construction Phases which will reduce traffic capacity. Chapter 6 (Traffic & Transport) of this EIAR has qualitatively assessed the potential impacts on pedestrians, cyclists, bus users and parking and loading as a result of construction activity. The residual effects assigned to each user type within Chapter 6 (Traffic & Transport) of this EIAR informs the qualitative accessibility assessment in this Chapter. As such, the impact on access to community receptors during construction has been reported by each user type and for each community area, in line with EPA Guidelines (EPA 2022).

Changes in access to community receptors as a result of the operation of the Proposed Scheme were considered in respect to the outcomes of a changed walking environment for pedestrians, cycling provision for cyclists and bus infrastructure for bus users. A parking assessment has been undertaken in Chapter 6 (Traffic & Transport) of this EIAR and therefore is not considered further in this Population assessment unless a negative, significant impact is identified at any point along the Proposed Scheme. The impact on private landings, which can be used for a variety of reasons by businesses, has been considered in the land take assessment.

The community accessibility assessment has drawn on the outcomes of the qualitative assessment metrics identified in Chapter 6 (Traffic & Transport) of this EIAR. These qualitative assessments were considered collectively in order to assess the significance of impacts on access for each community area during the Operational Phase. The assessment has been reported by community area and by different user types (bus users, cyclists, pedestrians and private vehicles). However, where a significant change in access is expected on a road, this has been reported individually, alongside the community receptors that are likely to be impacted as a result. The nature, significance and duration of effect for each receptor has been assigned using the EPA Guidelines.

10.2.4.2 Economic Assessment

This Section outlines the methodology for the assessment of economic impacts.

Commercial Amenity

The commercial amenity assessment has included consideration of ‘direct’ and ‘in-combination’ impacts on commercial amenity. An in-combination impact on the commercial amenity of commercial receptors has been assessed using the same method as for community amenity (Table 10.3).

In some cases, a single (direct) environmental effect in isolation can result in an impact on commercial amenity where a business has a particular sensitivity. For example, certain activities can be sensitive to noise and vibration effects (i.e. performing arts, advanced manufacturing, and sound recording facilities). The assessment has therefore included an assessment of direct impacts on amenity for commercial receptors.

Appendix 10.1 Schedule of Commercial Businesses in Volume 4 of this EIAR provides a list of all commercial businesses along the Proposed Scheme and has been referred to in the assessment section, where appropriate.

The following approach has been taken for the assessment of direct amenity:

- The sensitivity of each commercial receptor has been considered from the perspective of the following environmental effects:
 - Air quality;
 - Visual;
 - Noise and vibration; and
 - Traffic.
- The following specific questions were posed to assess the sensitivity of commercial receptors:
 - Is this business providing support to vulnerable people or people with disabilities who may be sensitive to noise disturbance?
 - Does the operation of the business rely on the visual landscape to attract trade (e.g. a restaurant, hotel or tourism asset)?
 - Is this an outdoor asset and therefore more reliant on the quality of the environment, e.g. a sports stadium?
 - Are the customers or visitors to the commercial receptor particularly sensitive to environment effects, e.g. office workers sensitive to noise?

Professional judgement will be applied to determine if a single significant residual environmental effect is likely to create a direct amenity effect on the business such that the viability of the business could be comprised.

In general, a 'High' sensitivity would only be applied where the nature and function of the operation could mean that business viability would be put at risk. The magnitude of impact on each commercial receptor has been informed by the residual significance of effects identified within each environmental assessment.

Commercial Land Use & Accessibility – Land Take

This assessment considers direct land take on commercial properties / land and designated car parking. This assessment has only considered commercial properties within the Proposed Scheme boundary that would be expected to experience direct land take. This assessment has followed the same approach as set out for community land take (Section 10.1).

Large areas of commercial land, such as a business park or shopping centre, were assigned a high sensitivity. Derelict land or unoccupied buildings were assigned a low sensitivity. The magnitude of impact on commercial land has been determined by the degree of loss of the resource. Where there will be substantial permanent land take from a commercial land holding, a high magnitude has been assigned. A low magnitude would be assigned where there will be minimal disruption to non-operational land or a car park.

The nature, significance and duration of effect for each receptor has been assigned using the EPA Guidelines (EPA 2022).

Accessibility

Commercial accessibility relates to the ability of users and employees to access commercial businesses. Changes in access to commercial business (i.e. changes in traffic flow, public transport services and walking and cycling provision) can significantly affect the level of usage experienced by commercial receptors, which may affect business viability. The accessibility assessment has considered the commercial properties along the Proposed Scheme as well as those areas that are expected to experience positive and negative changes in traffic flows in the adjacent road network. Appendix 10.1 Schedule of Commercial Businesses in Volume 4 of this EIAR provides a list of all commercial businesses along the Proposed Scheme and has been referred to in the assessment section, where appropriate.

During the Construction Phase, temporary diversions may be required for short periods of time and local access accommodated as required. Lane closures will be required during different Construction Phases which will reduce traffic capacity. Chapter 6 (Traffic & Transport) of this EIAR has qualitatively assessed the potential impacts on pedestrians, cyclists and bus users as a result of construction activity. The residual effects assigned to each user type within Chapter 6 (Traffic & Transport) of this EIAR informs the accessibility assessment in this Chapter. As such, the impact on access to community receptors during construction has been reported by each user type and for each community area, in line with EPA Guidelines (EPA 2022).

Changes in access to commercial receptors as a result of the operation of the Proposed Scheme were considered in respect to the outcomes of a changed walking environment for pedestrians, cycling provision for cyclists and bus infrastructure for bus users. The community accessibility assessment has therefore drawn on the outcomes of the qualitative assessment metrics identified in the Chapter 6 (Traffic & Transport) of this EIAR. These qualitative assessments were considered collectively in order to assess the significance of impacts on access during the Operational Phase. The assessment has been reported by community area and by different user types (bus users, cyclists, pedestrians and private vehicles). However, where a significant change in access or change to business viability is expected on a specific commercial receptor, this has been reported individually. The nature, significance and duration of effect for each receptor (where appropriate) and community area has been assigned using EPA Guidelines.

The assessment considers localised effects on individual receptors, including community facilities and recreational resources, as well as considering effects on individual residential land parcels. The significance of effects on these receptors are then reported for each community affected by the Proposed Scheme. Similarly, the assessment will consider the significance of effects on accessibility to employment by looking at commuting patterns and transport accessibility within each community.

For economic effects, the assessment considers the significance of localised effects on individual commercial receptors and land parcels affected by the

Proposed Scheme (could include commercial receptors outside of the footprint of the Proposed Scheme that could experience effects).

10.3 Baseline Environment

This Section presents the baseline environment for the community and economic assessments. The baseline assessment includes a brief description of the community areas the Proposed Scheme will pass through, details about the different types of community and commercial receptors in the study area and any notable features along the Proposed Scheme.

10.3.1 Overview

The following gives an overview of the urban and built environment. Along the Proposed Scheme, there are a number of potentially sensitive receptors. A list of these is provided in Table 10.4.

Table 10.4: Examples of Different Types of Sensitive Receptors Along the Proposed Scheme

Type of Receptor	Examples Along the Proposed Scheme
Residential	Residences along route
Commercial	Eyre Square and Corbett Court Shopping Centre, Corrib Shopping Centre
Education	NUI Galway, Saint Patrick's Primary School, Saint Nicholas Parochial School, Yeat's College, Our Lady's College Galway
Community facilities	Galway Court House, Bus Éireann bus depot and Irish Rail stations (Galway Ceannt train station), Galway Coach Station (Fairgreen Road), Galway General Post Office, County Hall, City Hall.
Recreational resources	Millennium Children's Park, Town Hall Theatre, Eyre Square, Connaught Rugby Pitches and greyhound track, Lough Atalia Park
Religious	Galway Cathedral, Poor Clares Convent, St Francis the Abbey, United Methodist Presbyterian Church, St Patrick's Church
Tourism assets	Galway Cathedral, Salmon Weir Bridge, roads infrastructure and transportation hubs (as above), Williamsgate Street, Eyre Square, Hotels and other accommodation along route
Medical / Healthcare	University Hospital Galway (UHG)

The Proposed Scheme will intersect six community areas which have an approximate total population of 12,466 according to the 2016 census (Central Statistics Office (CSO) 2016).

The Proposed Scheme begins in the community areas of Shantalla and Nun's Island adjacent to Galway University Hospital. These areas consist of a mixture of residential, commercial, educational and health uses with the immediate proximity of the NUI Galway Campus and Galway University Hospital dominating large tracts of land within both community areas. Once past the Galway Cathedral, the Proposed Scheme begins to pass through the city centre core, entering the community area of Paróiste San Nicolás. It continues through the city centre core into Eyre Square, which acts as a main focal point in the city and includes a variety of existing uses. From there, it continues south-east onto College Road past Galway City Council offices and Yeats College, where it merges onto Lough Atalia Road. As the route continues onto Lough Atalia Road and the Dublin Road, the surrounding area becomes more open on one side and characterised by commercial uses on the other. The route also spurs off towards the harbour area, to accommodate construction traffic utilising the proposed temporary construction compound. This area is characterised by commercial and port uses.

The study area for the Proposed Scheme consists of seven community areas which have an approximate total population of 15,059 according to the 2016 Census (CSO 2016a).

For more details on the extent of the Proposed Scheme in the areas outlined above, please see Chapter 4 (Proposed Scheme Description).

10.3.2 Community Baseline

10.3.2.1 Community Facilities and Recreational Receptors

The Proposed Scheme passes a number of community and recreational receptors, the number and type of receptor are presented by community area in Table 10.5.

Table 10.5: Community Receptor Type by Community Area (OSI 2020)

Community and Recreation Receptors	Place of Worship	Hospital / Health Centre	Schools	Recreation
Claddagh	1	-	2	2
Eyre Square	3	-	1	4
Lough Atalia	-	-	-	-
Nuns Island	3	-	6	1
Shantalla	-	1	1	-
St. Nicholas	-	-	4	6
Wellpark	-	-	2	-
Study Area Total	7	1	16	13

Table 10.5 demonstrates that there is a high concentration of schools in Nuns Island and St. Nicholas compared with the other community areas, and a high concentration of recreational receptors in Eyre Square and Nuns Island compared with other community areas.

In terms of hospitals and health centres, there is only one receptor located in the study area, namely, Galway University Hospital. Places of worship are also sparsely dispersed across the study area, chiefly within the community areas of Claddagh, Eyre Square and Nuns Island. Examples of community receptors along the Proposed Scheme which may attract a large number of users are detailed in Table 10.4.

Within the study area there appear to be a large number of schools and recreational facilities along the Proposed Scheme which attract large number of residents from local communities during peak times of the day, with the National University of Ireland, Galway attracting students from a larger catchment.

10.3.2.2 Residential and Community Land

There are approximately 3,375 residential properties and 2,222 apartments within the community study area (OSI 2020).

10.3.2.3 Commute to Work

There are approximately 6,523 commuters across the Proposed Scheme community study area and 11% of these commuters travel by public transport (bus or train) (CSO 2016b). The method of travel to work by community area is presented in Table 10.6. On average, nearly half of commuters in the study area travel by foot or by bike to work (49%), while slightly less commuters choose to take a car or van to work (40%), with travel by bus, minibus or coach being the next most popular form of transport (10%). The urban character of the study area is reflected by the fact that nearly half of all commuters travel to work by foot or by bike.

Table 10.6: Method of Travel to Work for Bus, Train, Car and Foot / Bike (%) (CSO 2016b)

Community Area	Travel by Bus / Minibus or Coach	Travel by Car / Van	Travel by Train	Travel by Foot / Bike	Other
Claddagh	7%	43%	0%	49%	0%
Eyre Square	12%	32%	1%	55%	1%
Lough Atalia	8%	68%	1%	23%	0%
Nuns Island	7%	32%	0%	60%	0%
Shantalla	6%	46%	0%	47%	1%
St. Nicholas	11%	33%	1%	55%	0%
Wellpark	12%	55%	1%	32%	0%

Study Area Average	10%	40%	1%	49%	1%
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NaPTAN data published by the NTA (NTA 2020) identifies the access points for bus stops, rail stations, airports, and tram stops, providing an indication of the level of availability of public transport within community areas. There are a total of 193 public transport access points across the study area, as shown in Table 10.7. Eyre Square has the largest proportion of public transport stops, making up 32% of the stops in the study area. This is reflected by the fact that Eyre Square represents the centre of Galway City, and acts as a multi-modal destination and access point.

Table 10.7: Number of Public Transport Access Points Across the Study Area

Community Areas	Number of Public Transport Access Points	Percent of Stops Across the Study Area
Claddagh	11	6%
Eyre Square	62	32%
Lough Atalia	10	5%
Nuns Island	24	12%
Shantalla	26	13%
St. Nicholas	30	16%
Wellpark	30	16%
Study Area Total	193	

10.3.3 Economic Baseline

10.3.3.1 Commercial Receptors

The Proposed Scheme will pass Eyre Square, a central meeting place in Galway City, and a number of small shopping centres and leisure complexes. The number of commercial receptors in the study area are presented in Table 10.8 (Geodirectory 2019). Appendix 10.1 Schedule of Commercial Businesses in Volume 4 of this EIAR provides a list of all commercial businesses along the Proposed Scheme, and 319 businesses have been identified along the Proposed Scheme, which is 32.2% of businesses in the study area.

Table 10.8: Commercial Receptors within Each Community Area (Geodirectory 2019)

Community Area	Commercial Receptors*
Claddagh	99
Eyre Square	395
Lough Atalia	10
Nuns Island	295

Community Area	Commercial Receptors*
Shantalla	18
St. Nicholas	87
Wellpark	86
Study Area Total	990

*Geodirectory data can count commercial businesses that are in the same location e.g. a shopping centre, as one commercial business, which may skew the commercial receptor count.

Table 10.8 shows the largest number of commercial receptors are located in Eyre Square, Nuns Island and Claddagh and the smallest number of commercial receptors are in the Shantalla and Lough Atalia community areas.

10.3.3.2 Employment

Within the study area there are approximately 7,242 people in employment (48% of the total study area population). Of the working age population, over 838 people are unemployed. This equates to approximately 6% of the total study area population and this is much less than the unemployment rate for Galway as a whole (11.7%) (CSO 2016a).

Key centres of employment within the study area include:

- Galway City Council;
- Galway County Council;
- Galway University Hospital;
- National University of Ireland, Galway;
- Galway Harbour; and
- Eyre Square and surrounding shopping areas.

Diagram 10.1 presents a breakdown of employment across the study area. The largest sectors of employment across the study area are commerce and trade (28%), professional services (24%) and other (31%) (CSO 2016c).

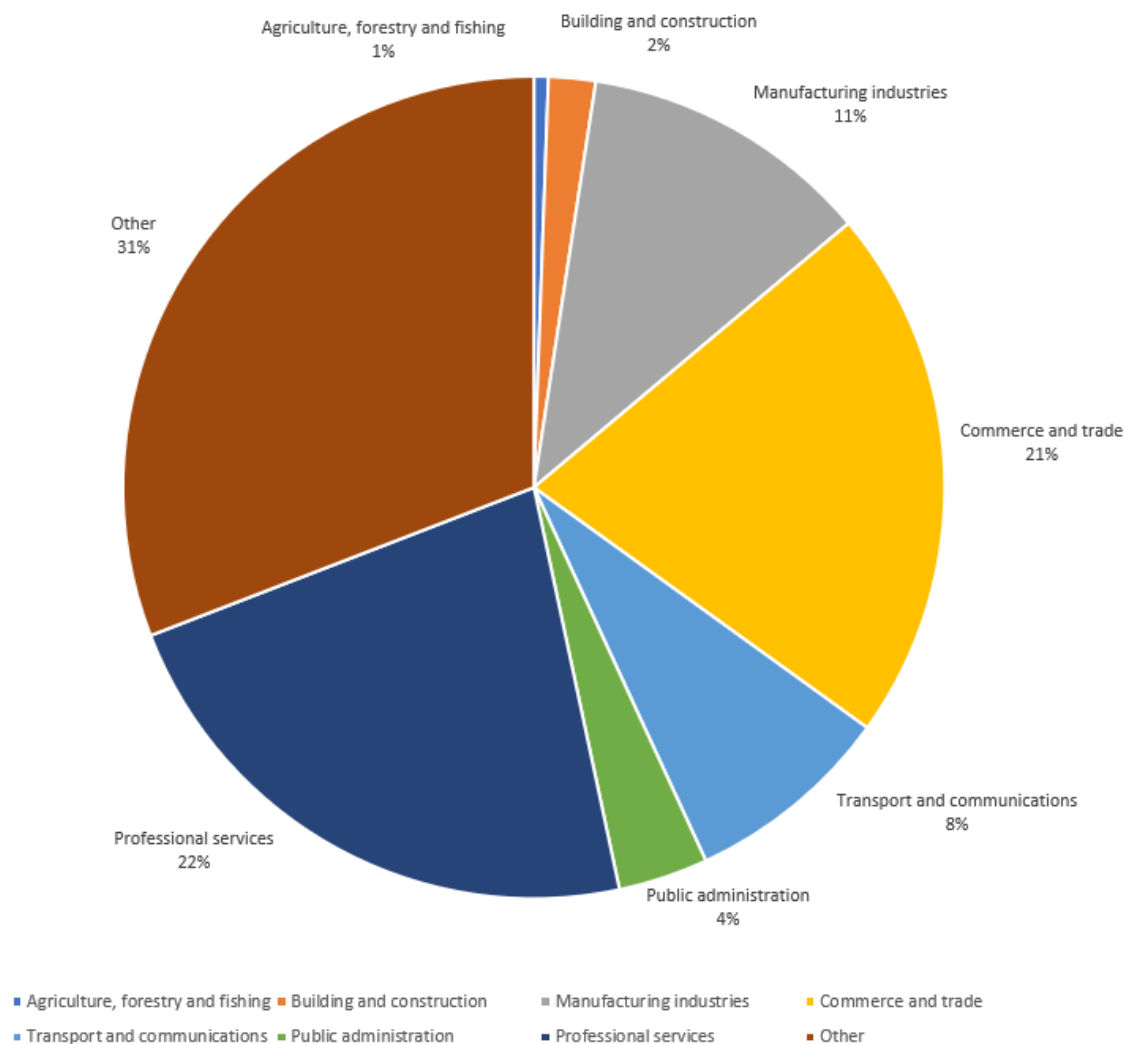


Diagram 10.1: Employment by Industry within the Study Area (%)

10.4 Potential Impacts

10.4.1 Characteristics of the Proposed Scheme

The Proposed Scheme will be approximately 6.7km (kilometres) long and will include approximately 1.2km of new cycling infrastructure and 2.5km of bus only lanes and gates. The Proposed Scheme will form a central route for public transport, cyclists and pedestrians along an east-west corridor through the city centre. Land take along the Proposed Scheme will be required from three residential properties, amenity land from two housing estates, three commercial facilities (Circle K, The Huntsman Inn and Bayview B&B), a charity services facility (Brothers of Charity Services Galway), Dyke Road car park and a local authority facility (Galway County Council offices). A small amount of parking will be relocated at a number of residential and commercial facilities impacted by land take. All permanent land acquisition will be required to facilitate the widening of the carriageway and allow for the provision of improved bus, pedestrian and cycle infrastructure.

As per Chapter 5 (Construction) of this EIAR, during the Construction Phase, the anticipated site staff numbers working on the Proposed Scheme will be 70 to 80, rising to 100 workers at peak construction. This level of employment will provide a positive economic impact to the economy in terms of associated spending from construction works, although a proportion will already reside locally.

There will be a projected increase in bus passenger numbers as a result of the Proposed Scheme through the realisation of faster journey times and better reliability, which will be coupled with the opportunity to increase capacity through more frequent services if required. In addition, the provision of enhanced cycling facilities should also increase the number of cyclists utilising the infrastructure. The increased passenger and cyclist numbers may result in a benefit to commercial businesses from an increase in passing trade.

The Proposed Scheme will utilise three construction compounds, two main compounds located at Galway Harbour Enterprise Park, within Galway Docks, and a satellite compound at Galway Cathedral car park

10.4.2 Do Nothing Scenario

In the Do Nothing scenario the Proposed Scheme would not be implemented and therefore there would be no changes to pedestrian, cycling or bus amenity and access, and no change to land use as a result of the Proposed Scheme. Therefore, there would be a Neutral impact on land use and potential Negative impacts on amenity and accessibility under the 'Do Nothing' scenario.

10.4.3 Construction Phase

10.4.3.1 Community Assessment

Community Amenity

Community amenity impacts arise from a combination of traffic, air quality, noise and visual impacts as discussed in Section 10.1.

Chapter 7 (Air Quality) of this EIAR identifies residual road traffic impacts on local human receptors to be slight, negative and short-term during construction.

Chapter 9 (Noise & Vibration) of this EIAR identifies noise impacts associated with the Construction Phase to be of negative, not significant to slight, temporary impact during general road works, urban realm and quiet street treatment works at distances greater than 15m from the works. During this period, noise impacts associated road widening and utility diversion works will be of negative, moderate to significant, temporary impact at distances between 15m to 20m from the works. At distances within 10m of road widening / utility diversion works, the noise impact is negative, significant to very significant and temporary. However, once the Construction Noise Locations (CNLs) and duration of works are aligned with the DMRB Noise and Vibration (UKHA 2020), all key Construction Phase residual noise levels are not significant, whilst meeting the scheme objectives.

Chapter 16 (Landscape (Townscape) & Visual) of this EIAR identifies the loss of 59 early mature and mature trees during construction works as a negative, significant, and short-term townscape and visual effect. However, the planting of 186 new street trees will give rise to positive and long-term effects.

Chapter 6 (Traffic & Transport) of this EIAR identified a residual Negligible and Short-term impact on general traffic along the Proposed Scheme and a Negative, Slight and Temporary impact from additional construction traffic flows in the surrounding road network.

Community Land Use & Accessibility – Land Take

The assessment of community land take during the Construction Phase assesses the temporary land take acquired to accommodate construction works and the potential impacts this will have on community facilities and residential properties.

A total of five community receptors (residential properties) are impacted by temporary land take as a result of the construction works for the Proposed Scheme. Table 10.9 summarises the findings of the community land take assessment for residential properties along the Proposed Scheme during the Construction Phase.

Table 10.9: Land Take Impacts on Residential Properties during the Construction Phase

Community Area	Nature of Effect / Number of Residential Properties Affected			
	Imperceptible / Not Significant	Slight	Moderate	Significant
St Nicholas	0	0	0	2
Eyre Square	0	0	1	2
Total	0	0	1	4

- Table 10.9 shows that residential properties that will be impacted by temporary land take are located in the St. Nicholas and Eyre Square community areas. Within each community area the following residential land take impacts are expected:
- St. Nicholas: Negative, Significant and Short-Term land take impacts at 5/6 Headford Road and 20 Brendan's Avenue are predicted, based on the proposed permanent acquisition and demolition of these properties to allow for a widened street width and changes to areas of landscape and hard surfacing. Both properties are two storey, end of terrace, properties with boundary walls and gardens.
- Eyre Square: Moneenageisha Court, 139 College Road, Gleann Noinin will all be impacted by temporary land take as a result of construction works for the Proposed Scheme. Moneenageisha Court and 139 College Road are both predicted to experience Negative, Significant and Short-Term temporary land take impacts that will result in loss of amenity area and increased visual exposure from the carriageway. Gleann Noinin will experience Negative, Moderate and Short-Term land take impacts due to the loss of a small portion of land at the entrance to the estate.

During the Construction Phase, access to residential properties and community facilities will be maintained, as far as reasonably practicable (see Chapter 5 (Construction) of this EIAR).

Local arrangements will be made on a case-by-case basis to maintain continued access to homes and businesses affected by the works, at all times, where practicable. Details regarding temporary access provisions will be discussed with homes and businesses prior to construction starting in the area. The duration of the works will vary from property to property, but access and egress will be maintained at all times.

In terms of land take impacts on community facilities during the construction phase, there is an identified impact on Galway Cathedral in the Nuns Island community area. This community facility is expected to experience Negative, Significant and Short-Term land take impacts due to the location of a construction compound within the parking area to the south of the Cathedral.

Overall, the impact of landtake across the impacted community areas (St. Nicholas, Nuns Island and Eyre Square) as a whole is considered Negative, Slight and Short-Term during the Construction Phase.

Accessibility

Community accessibility relates to the ability of users to access community facilities, recreational resources and residential properties. The nature of the Proposed Scheme means accessibility impacts will differ based on the mode of travel used. The assessment has therefore separately assessed accessibility impacts on pedestrians and cyclists, bus users and private vehicles.

Pedestrians, Cyclists and Bus Users

Pedestrian and cyclist safety measures are discussed in Chapter 5 (Construction) of this EIAR. These safety measures are intended to allow the safe continuation of access along the route of the Proposed Scheme during the Construction Phase. It is expected that, as roads, cycle lanes and footpaths are being upgraded, that there will be some level of disruption to users and the subsequent ability to access community facilities. It is important to note that as the Construction Phase will be undertaken in sections, construction impacts would be limited to where the work is being undertaken and for a limited duration. As outlined in Section 5.5 of Chapter 5 (Construction) of this EIAR, measures will be undertaken by the appointed contractor to ensure that access and parking are maintained during construction, wherever possible, to reduce the impact on accessibility along the Proposed Scheme.

Chapter 6 (Traffic & Transport) of this EIAR has identified a residual Negative, Slight and Temporary impact on walking and a Negative, Moderate and Temporary impact on cycling along the Proposed Scheme during construction. Taking into consideration the measures presented in Chapter 5 (Construction) of this EIAR, it is expected that access to community receptors along the Proposed Scheme will be maintained throughout the construction period.

As discussed in Chapter 5 (Construction) of this EIAR, existing bus routes will be maintained during the Construction Phase. Bus stop locations may need to be temporarily relocated to accommodate the works. It is expected that use of buses to access community facilities will continue throughout construction, albeit there may be a change in the distance required to walk between the temporary bus stops and the facilities.

Chapter 6 (Traffic & Transport) of this EIAR has identified a residual Negative, Slight and Temporary impact on bus users along the Proposed Scheme. Taking into consideration the measures in Chapter 5 (Construction) of this EIAR, it is expected that the impact on access to community receptors along the Proposed Scheme will be Negative, Slight and Short-Term for bus users during construction.

Private Vehicles

Chapter 5 (Construction) of this EIAR outlines temporary traffic management measures which may impact accessibility along certain parts of the Proposed Scheme to parking provision and community facilities, particularly where road closures or diversions will be required. Road diversions will be temporary and may result in an increase in the time taken to get to a community facility via private vehicle, but that overall access to that facility will not be prohibited. The impact on specific parking and loading provision is discussed in Chapter 6 (Traffic & Transport) of this EIAR.

Chapter 6 (Traffic & Transport) of this EIAR has identified a residual Negative, Moderate and Temporary impact for general traffic travelling along the Proposed Scheme. Taking into consideration the measures in Chapter 5 (Construction) of this EIAR, it is expected that the impact on access to community receptors from private vehicles along the Proposed Scheme will be Negative, Moderate and Short-Term during construction. Additional construction traffic flows upon the surrounding road network are expected to result in a Negative, Slight and Temporary impact on general traffic. This will not include the impact of construction access vehicles which are considered in Chapter 6 (Traffic and Transport). Private vehicles may therefore be negatively affected on the surrounding road network although this is only expected to be Negative, Slight and Short-Term during construction.

The impacts identified above are expected to be experienced by community areas located predominately along the length of the Proposed Scheme where construction activity, road diversions and closures are expected. It is acknowledged that users will travel between community areas to access community facilities within other community areas. However, the impact of construction activity will be experienced where the facility is located. The community areas that are expected to experience a Negative, Slight and Short-Term impact (pedestrians and bus users) and a Negative, Moderate and Short-Term impact (cyclists and private vehicles) as a result in changes to access are Lough Atalia, Eyre Square, St Nicholas and Nuns Island. Pedestrians, cyclists and bus users in all other community areas (i.e. Shantalla, Wellpark and Claddagh) are expected to experience a Negative, Not Significant and Short-Term impact as a result of changes to access, while private vehicles will experience a Negative,

Slight and Short-Term impact as a result of changes to access during the construction of the Proposed Scheme.

10.4.3.2 Economic Assessment

Commercial Amenity

As outlined above in Section 10.1, commercial amenity impacts can arise from a combination of traffic, air quality, noise and visual impacts, or directly where a single environmental impact is significant enough to affect the viability of a commercial business.

Chapter 7 (Air Quality) of this EIAR identified residual road traffic impacts on local human receptors to be Slight, Negative and Short-Term during construction.

Chapter 9 (Noise & Vibration) of this EIAR identified noise impacts associated with the Construction Phase to be of negative, not significant to slight, temporary impact during general road works, urban realm and quiet street treatment works at distances greater than 15m from the works. During this period, noise impacts associated road widening and utility diversion works will be of negative, moderate to significant, temporary impact at distances between 15m to 20m from the works. At distances within 10m of road widening / utility diversion works, the noise impact is negative, significant to very significant and temporary. However, once the Construction Noise Locations (CNLs) and duration of works are aligned with the DMRB Noise and Vibration (UKHA 2020), all key Construction Phase residual noise levels are not significant, whilst meeting the scheme objectives.

Chapter 16 (Landscape (Townscape) & Visual) of this EIAR identified the loss of 59 early mature and mature trees during construction works as a significant, negative and short-term townscape and visual effect. However, the planting of 186 new street trees will give rise to positive and long-term effects.

Chapter 6 (Traffic & Transport) of this EIAR identified a residual Negligible and Short-term impact on general traffic along the Proposed Scheme and a Negative, Slight and Temporary impact from additional construction traffic flows in the surrounding road network.

Commercial Land Use & Accessibility – Land Take

The assessment of commercial land take during the Construction Phase assesses the temporary land take acquired and the potential impacts this has on commercial businesses.

Table 10.10 summarises the findings of the commercial land take assessment for commercial facilities along the Proposed Scheme during the Construction Phase.

Table 10.10: Land Take Impacts on Commercial Facilities during the Construction Phase

Community Area	Nature of Effect / Number of Community Facilities Affected			
	Imperceptible / Not Significant	Slight	Moderate	Significant
St. Nicholas	0	2	0	0
Eyre Square	0	0	1	1
Lough Atalia	0	2	0	0
Total	0	4	1	1

A total of six commercial receptors located within the St. Nicholas, Eyre Square and Lough Atalia community areas are expected to be impacted by land take during the construction phase of the Proposed Scheme. Four commercial receptors, namely The Huntsman Inn, Brothers of Charity, Galway County Council and Dyke Road Car Park are expected to experience Negative, Slight and Short-Term land take impacts during the construction phase. This is due to the acquisition of non-operational lands and minimal disruption to car parks within the aforementioned commercial receptors. Whereas the Bayview B&B situated in the Eyre Square community area is expected to experience Negative, Moderate and Short-Term land take impacts during the construction phase due to the greater impact this will have on its car parking area.

The temporary acquisition of the full Circle K site located within the Eyre Square community area is considered to be Negative, Significant and Short-Term as it will require the business to be shutdown for a period of time which will result in loss of investment and job losses.

The temporary acquisition of part of Eyre Square has the potential to impact on traders that temporarily use the area as a market place. These traders are considered mobile, the impact on their business will be temporal and relocation will be subject to the agreement of GCC.

Accessibility

Commercial accessibility relates to the ability of users to access commercial businesses as customers or employees. The nature of the Proposed Scheme means that accessibility impacts will differ based on the mode of travel used. The assessment, similar to the community accessibility assessment, has separately assessed accessibility impacts on pedestrians and cyclists, bus users and private vehicles. As the Construction Phase mitigation measures presented in Chapter 5 (Construction) and the residual effects presented in Chapter 6 (Traffic & Transport) of this EIAR are the same for each mode of travel, the impacts on commercial accessibility are the same as those reported for community accessibility.

A parking assessment has been undertaken in Chapter 6 (Traffic & Transport) of this EIAR. No significant impacts on parking along the Proposed Scheme route were identified.

10.4.4 Operational Phase

10.4.4.1 Community Assessment

Community amenity impacts arise from a combination of traffic, air quality, noise and visual impacts, as discussed in Section 10.1.

Chapter 7 (Air Quality) of this EIAR identified a Neutral and Long-Term residual impact on human receptors during the Operational Phase.

Chapter 9 (Noise & Vibration) of this EIAR identified Positive to Neutral Direct impact along the Proposed Scheme due to a reduction in traffic volumes during both the year of opening and the design year. There are some significant residual Operational Phase noise or vibration impacts associated with the Proposed Scheme during the initial short to medium term phase and the long-term phase.

Chapter 16 (Landscape (Townscape) & Visual) of this EIAR identified that the Proposed Scheme, once operational, will have a Permanent and Significant effect on this sensitive urban townscape setting in Galway City.

The improved connectivity and accessibility for pedestrians and cyclists linking the Galway City Centre to western and eastern city environs will improve people's experience of moving through this part of the city.

Chapter 6 (Traffic & Transport) of this EIAR identifies effects on general traffic and transport to be generally positive. These include positive effects on modal share, positive, very significant and long-term impact in terms of People Movement by sustainable mode with significantly reduced bus journey times. Long term effects of redistributed traffic on junctions are predicted to be imperceptible/negligible to insignificant at the majority of junctions and to range from slight to moderate at 13 out of 77 junctions assessed in the AM peak period and at 10 out of 58 junctions assessed in the PM peak period.

Community Land Use & Accessibility – Land Take

The assessment of community land take during the Operational Phase assesses the impact of permanent land take acquisition on community facilities and residential properties.

A total of five community receptors (five residential properties) will require permanent land take as a result of the Proposed Scheme. Table 10.11 summarises the findings of the community land take assessment for residential properties along the Proposed Scheme during the Operational Phase.

Table 10.11: Land Take Impacts on Residential Properties during the Operational Phase

Community Area	Nature of Effect / Number of Residential Properties Affected			
	Imperceptible/ Not Significant	Slight	Moderate	Significant
St Nicholas	0	0	0	2
Eyre Square	0	1	2	0
Total	0	1	2	2

Table 10.11 shows that the five residential properties that will be impacted by permanent land take are located in St. Nicholas and Eyre Square community areas. Within each community area the following land take impacts are expected:

- St. Nicholas: Negative, Significant and Long-Term land take impacts at 5/6 Headford Road and 20 Brendan's Avenue are predicted, based on the proposed permanent acquisition and demolition of these properties to allow for a widened street width and changes to areas of landscape and hard surfacing. Both properties are two storey, end of terrace, properties with boundary walls and gardens.
- Eyre Square: Moneenageisha Court, 139 College Road, Gleann Noinin will all be impacted by permanent land take as a result of the operation of the Proposed Scheme. Moneenageisha Court and 139 College Road are both predicted to experience Negative, Moderate and Long-Term permanent land take impacts that will result in loss of amenity area and increased visual exposure from the carriageway. However, this is mitigated by the landscaped area included as part of the Proposed Scheme. Gleann Noinin will experience Negative, Slight and Short-Term land take impacts due to the loss of a small portion of non-operational land at the entrance to the estate.

No community facilities will be affected by permanent land take during the operational phase of the Proposed Scheme.

Overall, the impact of landtake across the impacted community areas (St. Nicholas and Eyre Square) is considered Negative, Moderate and Long-Term during the Operation Phase. No other community areas are impacted by land take during the Operational Phase.

Accessibility

Community accessibility relates to the ability of users to access community facilities, recreational resources and residential properties. The nature of the Proposed Scheme means that accessibility impacts will differ based on the mode of travel used. The assessment has therefore separately assessed accessibility impacts on pedestrians, cyclists, bus users and private vehicles.

The significant improvement to the walking, cycling and bus facilities included within the Proposed Scheme are anticipated to encourage sustainable modes of transport, therefore reducing the demand for private vehicles / parking along the Proposed Scheme.

Pedestrians, Cyclists and Bus Users

The Proposed Scheme will include approximately 5.8km of new cycle tracks, a Quiet Street treatment, the provision of additional lengths of bus lane and pedestrian facilities will be upgraded and additional signalised crossings will be provided.

Chapter 6 (Traffic & Transport) of this EIAR identified a significant residual Positive, Very Significant and Long-Term impact on sustainable transport modes along the Proposed Scheme. The beneficial impacts on walking, cycling and bus infrastructure is expected to lead to improvements in access to community facilities along the Proposed Scheme for those choosing to walk, cycle or get the bus as there will be increased provision for these modes of travel. Full bus priority is proposed along the entire length of the Proposed Scheme.

The impacts to pedestrians, cyclists and bus users is anticipated to be experienced by community areas located predominately along the length of the Proposed Scheme and where there will be Quiet Street Treatment, as these will be the locations of the improved footpaths and cycle paths. The community areas that are expected to experience Positive, Very Significant and Long-Term impacts as a result of changes to access, are Lough Atalia, Eyre Square, St Nicholas and Nuns Island. The community areas of Wellpark, Shantalla and Claddagh are expected to experience a Positive, Not Significant and Long-Term impact on pedestrians, cyclists and bus users because of changes in access during the Operational Phase of the Proposed Scheme.

Private Vehicles

Chapter 6 (Traffic & Transport) of this EIAR identified a Positive and Long-Term impact from the reduction in general traffic along the Proposed Scheme and Long term, imperceptible/negligible to insignificant effects on redistributed traffic.

The predicted impact on access to community facilities along the Proposed Scheme for private vehicles is Positive, Moderate and Long-Term along the Proposed Scheme. The community areas that are expected to experience a Positive, Moderate and Long-Term impact as a result of changes to access, are Lough Atalia, Eyre Square, St Nicholas and Nuns Island. The other community areas (Wellpark, Shantalla and Claddagh) are expected to experience a Negative, Moderate and Long-Term impact as a result of changes to access to community facilities due to the negative impacts of the redistributed traffic which will make the surrounding road network more congested and increase journey times to community facilities at the AM/PM peak periods.

10.4.4.2 Economic Assessment

Commercial Amenity

Commercial amenity impacts arise from a combination of traffic, air quality, noise and visual impacts as discussed in Section 10.1.

Chapter 7 (Air Quality) of this EIAR identified residual road traffic impacts on local human receptors to be Neutral and Long-Term during operation.

Chapter 9 (Noise & Vibration) of this EIAR identified Positive to Neutral Direct impact along the Proposed Scheme due to a reduction in traffic volumes during both the year of opening and the design year. There are some significant residual Operational Phase noise or vibration impacts associated with the Proposed Scheme during the initial short to medium term phase and the long-term phase.

Chapter 16 (Landscape (Townscape) & Visual) of this EIAR identified that the Proposed Scheme, once operational, will have a Permanent and Significant effect on this sensitive urban townscape setting in Galway City. The improved connectivity and accessibility for pedestrians and cyclists linking the Galway City Centre to western and eastern city environs will improve people's experience of moving through this part of the city.

Chapter 6 (Traffic & Transport) of this EIAR identifies effects on general traffic and transport to be generally positive. These include positive effects on modal share, positive, very significant and long-term impact in terms of People Movement by sustainable mode with significantly reduced bus journey times. Long term effects of redistributed traffic on junctions are predicted to be imperceptible/negligible to insignificant at the majority of junctions and to range from slight to moderate at 13 out of 77 junctions assessed in the AM peak period and at 10 out of 58 junctions assessed in the PM peak period.

Commercial Land Use & Accessibility – Land Take

The assessment of commercial land take during the Operational Phase assesses the permanent land take acquired and the potential impacts this has on commercial businesses.

A total of 6 commercial receptors located within the St. Nicholas, Eyre Square and Lough Atalia community areas are expected to be impacted by land take during the operational phase of the Proposed Scheme.

Five commercial receptors, namely The Huntsman Inn, Brothers of Charity, Galway County Council and Dyke Road Car Park are expected to experience Negative, Slight and Long-Term land take impacts during the operational phase. This is due to the acquisition of non-operational lands and minimal disruption to car parks within the aforementioned commercial receptors. Bayview B&B situated in the Eyre Square community area is also expected to experience Negative, Slight and Long-Term land take impacts during the operational phase as the car parking area will be reconfigured as part of the operation of the Proposed Scheme.

The temporary acquisition of the Circle K site located within the Eyre Square community area is considered to be Negative, Moderate and Long-Term as it will require the business to be shutdown for a period of time, resulting in job and investment losses. In the long-term, the site area will be decreased and it will be less accessible to private vehicles due to the provisions of the Proposed Scheme. However, these losses will be mitigated, to an extent, by the fact that the operation of the Proposed Scheme will allow for increased accessibility to the city centre via

active travel modes, therefore creating greater footfall within the city centre due to the positive impact of the Proposed Scheme on pedestrian infrastructure (see Chapter 6 (Traffic & Transport) of this EIAR. Notwithstanding this, the implementation of the Proposed Scheme will reduce accessibility for private vehicles to the site, therefore effecting its future viability as a filling station.

Overall, the impact on the St. Nicholas, Eyre Square and Lough Atalia community areas is considered Negative, Slight and Long-Term as a result of the Proposed Scheme during the operational phase. No other community areas are impacted by land take during the Operational Phase.

Accessibility

Commercial accessibility relates to the ability of users and employees to access commercial businesses. The nature of the Proposed Scheme means that accessibility impacts will differ based on the mode of travel used. The assessment has therefore separately assessed accessibility impacts on pedestrians, cyclists, bus users and private vehicles.

The results of the commercial accessibility assessment are the same as the community accessibility assessment, with the only difference being the consideration of access to commercial businesses rather than community facilities. Chapter 6 (Traffic and Transport) of this EIAR assessed that pedestrian movement would significantly increase along the Proposed Scheme. It is therefore anticipated that all businesses along the Proposed Scheme will, to some extent, benefit from the increase in passing trade. Commercial businesses located along the Proposed Scheme are listed in Appendix A10.1 Schedule of Commercial Businesses in Volume 4 of this EIAR

The impacts to pedestrians, cyclists and bus users is anticipated to be experienced by community areas located predominately along the length of the Proposed Scheme and where there will be Quiet Street Treatment, as these will be the locations of the improved footpaths and cycle paths. The community areas that are expected to experience Positive, Very Significant and Long-Term impacts as a result of changes to access, are Lough Atalia, Eyre Square, St Nicholas and Nuns Island. The community areas of Wellpark, Shantalla and Claddagh are expected to experience a Positive, Not Significant and Long-Term impact on pedestrians, cyclists and bus users because of changes in access during the Operational Phase of the Proposed Scheme.

The predicted impact on access to community facilities along the Proposed Scheme for private vehicles is Positive, Moderate and Long-Term. The community areas that are expected to experience a Positive, Moderate and Long-Term impact as a result of changes to access, are Lough Atalia, Eyre Square, St Nicholas and Nuns Island. The other community areas (Wellpark, Shantalla and Claddagh) are expected to experience a Negative, Moderate and Long-Term impact as a result of changes to access to commercial facilities due to the negative impacts of the redistributed traffic which will make the surrounding road network more congested and increase journey times to community facilities at the AM/PM peak periods.

10.5 Mitigation and Monitoring Measures

This assessment takes account of the embedded mitigation measures that were identified during the design development iterative process resulting in the Proposed Scheme outlined in Chapter 4 (Proposed Scheme Description) of this EIAR. These measures include relevant statutory provisions for the acquisition of properties to facilitate the provision of public infrastructure projects.

The assessment has been informed by the residual impacts reported in Chapter 6 (Traffic & Transport), Chapter 7 (Air Quality), Chapter 9 (Noise & Vibration) and Chapter 16 (Landscape (Townscape) & Vibration) of this EIAR. The reported residual impacts take into account embedded mitigation and good practice measures, as well as any additional topic-specific additional mitigation identified within the respective chapters.

In most cases the impacts reported in this Chapter already have sufficient mitigation in place to reduce residual population effects to be Not Significant (in the case of adverse impacts). No significant residual adverse impacts have been identified on amenity, land take and accessibility, and therefore, no additional mitigation measures (and no monitoring measures) are proposed for this assessment.

10.6 Residual Impacts

No additional mitigation measures have been proposed for this population assessment; therefore, the residual impacts are the same as the predicted impacts detailed in Section 10.4 whilst meeting the scheme objectives set out in Chapter 1 (Introduction) of this EIAR.

10.7 References

Central Statistics Office (CSO) (2016) Census electoral division boundaries (CSO2016 a and b).

Design Manual for Roads and Bridges (DMRB) LA 112 Population and human health (Highways England 2020).

EPA (2022). Guidelines on the information to be contained in Environmental Impact Assessment Reports. May 2022.

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Ordnance Survey Ireland (OSI) (2020) Prime 2 dataset