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7.1 VISION

A key purpose of Local Area Plans and forward planning in general is to ensure that adequate provision of infrastructure to cater for the predicted demands generated by human activity and land-use in that area.

It is a core objective of the Local Area Plan to support a viable and efficient transportation network and services infrastructure whilst sustaining a high quality living environment.

7.2 TRANSPORTATION

7.2.1 Context

Rail

Greystones is serviced by the suburban rail and the DART services and in addition the Dublin – Rosslare Europort train stops at Greystones. The DART service averages one train per hour, excepting the morning and evening peak periods when it is twice per hour. Limited track capacity is a constraint on increasing the frequency of services.

The following Dublin Bus routes operate via Greystones:

- Route 184 from Bray DART Station to Newtownmountkennedy
- Route 84 from Newcastle to Dublin City Centre
- Route 84x from Kilcoole to Dublin City Centre

There are currently no Bus Éireann services linking Greystones/Delgany. However the following routes pass on the N11, with stops at Kilmacanogue and Kilpedder;

- Route 133; service from Dublin to Wicklow, Rathnew, Ashford, Newcastle, Newtownmountkennedy, Kilpedder and Bray.
- Route 2; is an express link from Dublin to Rosslare Europort via Arklow, Gorey, Enniscorthy and Wexford town.
- Route 5; express link between Dublin, Tullow/Gorey, Enniscorthy, New Ross and Waterford.

Road

Greystones/Delgany is strategically located on the N11 national route which links Dublin to Rosslare Europort and the towns of Wicklow, Arklow, Gorey, Enniscorthy and Wexford. Recent completion of the M50 motorway now provides a continuous dual carriageway/motorway link for Greystones/Delgany to Dublin Airport and via the M1 to Dundalk and the N7 to Portlaoise.

The interchange of Southern Access Route (SAR) road from Charlesland to the N11, will provide a new regional link for Greystones/Delgany and in turn ease congestion in Delgany and other parts of the settlement.

The R761 county road connects Greystones/Delgany to Bray and to the settlements of Kilcoole and Newcastle to the south.



Greystones Park and Ride



Greystones



Killincarrig to Greystones Road

Cycleways

There are at present no off-road or on road cycle routes in the settlement of Greystones/Delgany except for the cyclepaths along the Southern Access Route through Charlesland and along Mill Road.

The Cliff Walk

The Cliff Walk is a walking route from Greystones town centre to Bray, along the coastal edge of Bray head.

Footpaths

There is an absence of footpaths on sections of Mill Road, along sections of the R761 between Blacklion and Killincarrig, and between Three Trouts Bridge and Prettybush. Similarly there is poor provision for pedestrians on the approaches to Delgany Village from Killincarrig and from the N11.

7.2.2 Transportation Strategy

A comprehensive and efficient transportation network is an essential component in the sustainable development of any area. This is particularly relevant in growing settlement areas such as Greystones/Delgany, where increased car travel has placed unprecedented pressure on the transport networks.

In pursuing a vision for a sustainable settlement, attention must be focussed on encouraging a greater balance between private car usage and public transport, and maximising the potential for walking and cycling locally. Opportunities to connect/integrate transport modes will be encouraged wherever possible such as positioning bus stops at the confluence of Greenroutes and providing cycle-parking at bus stops and the rail station.

TS01

It is Council policy to facilitate the improvement of the transportation system for pedestrians, cyclists and vehicles, with an emphasis on sustainable modes of transport.

TS02

It is Council policy to encourage and facilitate the provision of new and improved public transport services, in particular works to upgrade the frequency and capacity of the existing Dart services.

TS03

The Council will in principle support and encourage the provision of public transportation services by public and private bodies.

TS04

It is Council policy to support the continued implementation of park and ride facilities in keeping with the Dublin Transportation Office Strategy, A Platform for Change.

TS05

It is Council policy that Cycle routes shall be integrated into the design of new roads.

TS06

It is Council policy to encourage multi-use car parking to minimise the impacts of car parking areas within town and village centres.

TS07

The Council will encourage drivers to drive with caution by introducing traffic calming measures, particularly in the vicinity of schools.

TS08

It is the policy of the Council that the development of any road, with the exception of minor access roads, over the lower slopes of Bray Head within the LAP boundary, will not be permitted.

TS09

It is the policy of the Council to improve subject to further feasibility studies, detail design and traffic impact assessment the capacity of the R761 / new Blacklion junction.

7.2.3 Public Transport Objectives

The Local Area Plan supports increasing the frequency and capacity of DART services from Greystones to Dublin City Centre, by providing an additional passing loop between Bray and Greystones or 'double-tracking'.

The Local Area Plan advocates the introduction of local bus services within the settlement and linking the DART/Rail station \ Greystones town centre with employment and residential districts.

7.2.4 Greenroutes

The Local Area Plan proposes a network of Greenroutes be developed for pedestrians and Cyclists (see Fig 7.0) throughout the settlement. The network of Greenroutes proposed is a long-term aspiration, implementation of identified Greenroutes will be subject to the available funding and further design and feasibility studies. The Greenroutes proposed reflect those recommended in the Greystones/Delgany Integrated Framework Plan, October 2004.

Some sections of Greenroutes may be delivered as part of proposals for development on zoned land.

The indicative Greenroutes proposed are as follows;

- Along the Three Trout's Stream Valley from Delgany village to the coast. Spur paths will be provided from the Three Trout's route northwards to Delgany.
- From the GAA and Rugby clubs on Mill Road southwards across the Three Trout's, through the Charlesland residential and employment districts as far as the Charlesland Sports Centre.
- Along Mill Road from Greystones to Delgany village to include new and improved pedestrian crossings where required.
- From the junction of the Southern Access Route and the R761 northwards to Killincarrig and from Killincarrig northwards to Redford House.
- From the junction of the Southern Access Route and the R761 southwards to Kilcoole.
- Along Mill Lane, from the Three Trout's Bridge northwards to Mill Road.
- Along the coast from Bray Head to South Beach and from South Beach to Kilcoole.
- Redford Park to Ennis' Lane and from Ennis' Lane to the coast.
- Greystones harbour to Blacklion along Bellevue Road, Trafalgar Place, Trafalgar Road and Marine Terrace.
- Through the Action Plan site west of Killincarrig village.
- Along Applewood Drive from the R761 westwards to Chapel Road.

It is recommended that the greenroutes are identified throughout the settlement with a common scheme of signage and/or markings.



South Beach Walk



Mill Lane



Blacklion

7.2.5 Environmental Enhancement Schemes

The County Council will seek to preserve and enhance the amenity of town and village centres in Greystones/Delgany through the implementation of integrated traffic management and environmental improvement schemes. It is recommended that the following town and village centres be prioritised for the implementation of Environmental Enhancement Schemes;

- Delgany Village
- Killincarrig Village
- Greystones, Church Road

The implementation of Environmental Enhancement Schemes are long term objectives which will be subject to available funding and further design and feasibility studies. The implementation of traffic calming measures in town and village centres are a key recommendation of the Greystones/Delgany Integrated Framework Plan, October 2004.

Environmental Enhancement Schemes may incorporate traffic management measures focussed on reducing the hazard and nuisance factor of traffic for pedestrians and promoting a quality environment attractive and comfortable to visit and reside. Traffic management measures could consist of implementing traffic calming and reduction measures such as: pedestrian priority crossings, shared surfaces and cycle-parking facilities.

Environmental enhancement may typically consist of improvements to pavements and public spaces with improved paving, lighting, street furnishings, the placing underground of overhead wires and tree planting. Environmental enhancement will also address the issues with regard to on-street car parking.

The palette of paving material and lighting and furniture fittings for use in the above named locations should be chosen with regard to the town/village centres in totality. This will allow for environmental enhancement to be extended to adjoining streets in later phases retaining a visually coherent approach to the town/village centre as a whole.

7.2.6 Cycling

A cycle friendly settlement is not simply about a network of cycleways but is also about addressing junction safety, general road maintenance, traffic speed, general improvements to the legibility and permeability of the urban environment.

The Council require that all employment centres provide changing and showering facilities for the convenience of employees cycling to work.

Cycle-parking standards;

- In general a minimum of one cycle-parking spaces will be provided for every four car-parking spaces provided.
- In apartment developments a minimum of one cycle parking space will be provided per residential unit.
- In post primary educational facilities a minimum of ten cycle parking spaces will be provided per classroom.

7.2.7 Pedestrian Routes

In places pedestrian rights of ways form critical pieces of longer pedestrian routes within the settlement and therefore their protection and enhancement is essential to ensuring a viable and attractive settlement wide pedestrian network. It is an objective of the Local Area Plan to protect and improve the following pedestrian routes;

- From Whitshed Road to Burnaby Heights across Greystones Golf Course
- From Hillside Road to Heathervue
- From Church Lane to Hillside



Fig. 7.0 Transport and Infrastructure Strategy

7.2.8 Road Objectives

During the life of the Local Area Plan the Council propose to implement the following road improvements and projects;

RO1

Improve vertical and horizontal realignment of the Three Trout's Bridge and incorporation of dedicated footpaths and cycleways along the route of the R761.

RO2

Realignment of Chapel Road in the vicinity of St. Laurence's School as necessary, to provide for a more direct and efficient route to Blacklion from Delgany.

RO3

Completion of new road from the R761 at Blacklion running in an arc southwest towards Chapel Road with an upgraded road continuing southwards to link up with the alignment of road objective R02.

RO4

Improve the pedestrian and traffic safety of the R761 junction and the entrance to Burnaby Heights.

RO5

Provision of a long term road objective to provide for an alternative road around Killincarrig Village or improving the R761 for pedestrians, cars and cyclists.

RO6

Provide for a local access road in conjunction with development of zoned lands, incorporating the possibility of a future bridge over the Three Trout's Stream to allow for linkage from Mill Road to the R761.

7.2.9 Car-parking

A sufficient level of pay and display car parking should be maintained in town and village centres to allow quick access to services while simultaneously providing multi-use communal off-street car parking that can serve different needs at different times. For example using a church car park during the week for shopping, or using school parking in the evening for sports and recreation uses. The design of off-street car parks should be considered as spaces in their own right and visually integrated into the urban landscape.

The standards set out in the table 7.2.9 will apply to new development, be it construction, additions, or material changes in use of existing buildings.

In implementing the standards the Council will reserve the right to alter the requirements having regard to each particular development and the following considerations:

- Reduced parking provision in town and village centres; taking into account the potential for multi-purpose journeys and to avoid an over-provision of parking spaces.
- Reduced provision of car parking for sites within short walking distance of high quality public transport links (Bus, Dart).

Where parking is permitted in streets, public spaces and the surrounding hinterland, adequate soft landscaping must be provided to soften the appearance of parking areas. All parking areas should be divided into groups of not more than twelve bays and delineated by soft landscaping including trees.

Car parking facilities for visitors and for disabled drivers should be provided in all new commercial and institutional developments.

In retail, business/employment, healthcare, community, cultural/entertainment, educational and sports/leisure facilities a minimum of one space for every twenty spaces provided will be sized and marked for the exclusive use of disabled drivers. Where less than twenty spaces are being provided a minimum of one disabled parking space will be provided for. Disabled parking spaces will be located as close to building entrances as is possible. Where visitor parking is provided in residential developments, one in four visitor parking spaces will be sized and marked for the exclusive use of disabled drivers. Such spaces will be located close to stair/lift cores and entrances. In developments of low density housing, disabled parking spaces will be distributed evenly throughout the development.

7.2.10 Walking Buses

The Council to encourage greater social sustainability will work with local schools, parents and community groups to implement a 'Walking Bus' scheme to and from schools.

The 'Walking Bus' is a scheme aimed at reducing the amount of school going children being brought to school by car. The 'Walking Bus' passes through residential areas collecting and dropping off students at stops along the way. Congestion due to school bound traffic is greatly reduced and student fitness can be improved. The 'Walking Bus' scheme is supported by An Taisce as part of the Greenschools programme.

7.2.11 Accessibility Principles:

The following five principles will be used as a benchmark when analysing whether layouts are pedestrian/cycle friendly:

- 1) Connection: do-good pedestrian routes connect the places where people want to go?
- 2) Convenience: are routes direct, and are crossings easy to use? Do pedestrians have to wait more than 10 seconds to cross roads?
- 3) Convivial: are routes attractive, well lit and safe and is there variety along the street?
- 4) Comfortable: what is the quality and width of the footway and what obstructions are there?
- 5) Legibility: how easy is it to find and follow a route? Are there surface treatments and signs to guide pedestrians?

Table 7.2.9

Use class	Parking spaces to be provided
Housing (including apartments)	Minimum of 1 per dwelling for 2 Bedroom or less* Minimum of 2 per dwelling for 3 bedroom or larger
Auditorium, Theatre, Cinema, Stadium	0.33 per seat
Church	0.33 per seat
Nursing Homes	0.5 per bed
Third Level Colleges	0.5 per student
Hotel (excluding function room)	1 per bedroom
School (primary)	1.2 per classroom
School (secondary)	2.0 per classroom
Hospital	1.5 per bed
Clinics& Medical Practices	2 per consultant
Warehousing	1 per 100 sqm gross floor area
Retail Warehousing	6 per 100 sqm gross floor area
Library	3 per 100 sqm gross floor area
Manufacturing	3 per 100 sqm gross floor area
Offices (ground floor)	5 per 100 sqm gross floor area
Offices (above ground floor)	4 per 100 sqm gross floor area
Take-aways	6 per 100 sqm gross floor area
Retailing	6 per 100 sqm gross floor area
Bank or Financial Institution	7 per 100 sqm gross floor area
Restaurant Dining Room	10 per 100 sqm gross floor area
Ballroom, Private Dance Clubs	15 per 100 sqm gross floor area
Bar Lounges, Function Rooms	20 per 100 sqm gross floor area
<i>* 1 additional visitor parking space is to provided for every 5 resident parking spaces.</i>	

7.3 SERVICES

7.3.1 Context

Water supply

Greystones/Delgany is served by the Vartry Waterworks at Roundwood (owned and managed by Dublin City Council). Greystones is served by the Drummin Service Reservoir, which has a capacity of 2 million gallons, which approximates to a two-day reserve capacity supply.

The Charlesland area is served from a combination of the Drummin Service Reservoir and the Priestnewtown Reservoir, which also serves Kilcoole and has a capacity of 500,000 gallons.

The Kindlestown Hill area of Delgany cannot be gravity fed from the Drummin Reservoir due to height constraints.

There are no public groundwater supplies in the area, however, there are many single dwellings with private wells in the following areas:

- Kindlestown Hill
- Kindlestown Rise
- Ballydonagh Lane area
- Templecarrig
- Drummin.

There are no private group water schemes in the area.

Surface Water Infrastructure

There are two surface water drainage outfalls, one at Greystones harbour and another at Redford/Rathdown. All other surface water is drained to the Greystones Waste Water Treatment Plant and treated prior to discharge into the sea.

Waste Water

The Greystones Waste Water Treatment Plant is designed for secondary treatment for a capacity of 28,000 p.e. Current loading has reached 23,500 p.e. (population equivalent). The outfall pipe, which discharges approx. 700m off the coast, has a capacity of 40,000 p.e. In order for the plant to operate at 40,000 p.e. capacity level, two additional primary settlement tanks would be required.

No plans exist at present with regard to additional tank installation.

A new wastewater treatment plant is currently proposed for a site at Leamore, near Newcastle. This plant will serve Newcastle, Kilcoole, Kilpedder and Newtownmountkennedy. The commissioning of this plant will free-up approx. 7,000 p.e. of capacity at the Greystones facility.

Homes located to the west and north of Delgany are currently served by individual sewage treatment systems or septic tanks.

Land at Redford/Rathdown, to the north of the LAP area, is not currently serviced. A pumping station would be required to serve this area for waste water treatment.

Waste Management

The Draft County Wicklow Waste Management Plan Review 2005-2010 proposes a recycling centre for the Greystones area. Bottle banks for recycling glass are provided at the Greystones Town Council office on Mill Road, at Tesco Blacklion and at Supervalu Church Road.

Electricity and Communications

Esat BT completed its fibre backbone network in 1999 allowing Greystones the potential to avail of high capacity services. At present the Greystones area is broadband enabled.

The ESB may require reinforcement of the transmission network in response to growing electricity demand from existing customers, as well as connection of new generation and large demand customers.

7.3.2 Services Policy

IS01

It will be Council policy to improve and extend sanitary services in line with the Local Area Plan Spatial Strategy.

IS02

It will be Council policy to seek the provision of bring centres for recycling in town and village centres and in association with community facilities such as sports centres.

IS03

It is the policy of the Council to support the infrastructural renewal and development of electricity networks in the area.

IS04

It is a policy of the Council to implement the provisions of the Greater Dublin Strategic Drainage Study as it relates to Greystones/Delgany.

IS05

It is a policy of the Council to implement the provisions of the Waste Management Plan for Wicklow as it relates to Greystones/Delgany.

7.3.4 Flood Risk and Sustainable Urban Drainage Strategy (SUDS)

7.3.4.1 Context

The underlying causes of flooding namely heavy rain and high sea levels are, essentially, uncontrollable. However, some of the factors that influence the extent and severity of the flooding attributable to these causes can be addressed. The most influential of these factors is development, in particular development in flood plains.

The risk of flooding should be considered in all cases where development is being considered, in the interest of individuals proposing the development and of the public in general.

Natural or agricultural land such as forests, woodland, pastures or crop fields are normally capable of absorbing a considerable proportion of any rainfall. Covering such land with buildings and hard surfaces can significantly reduce this ability to absorb rainfall, and can lead to increased land runoff. As a result, large developments, including those away from major rivers, can increase river flows and risk of flooding to land and property downstream. Similarly a number of smaller developments built up over a period of time can cumulatively have the same effect.

Current predictions of climate change in Ireland indicate that winters will become wetter and rainfall distribution 'stormier' and sea levels may rise. As a result areas not currently prone to flooding may be at risk from flooding in the future.

Consideration of flood risk and related impacts of, or on, development throughout a catchment rather than on a location-by-location basis, will facilitate sustainable development through the reduction of possible future flood damage.

A 'Flood Hazard Mapping Study' is currently underway under the direction of the Office of Public Works. The Council will have regard to the outcomes of this study when complete.

7.3.4.2 Flood Risk Policies and Guidelines

Development that is sensitive to the effects of flooding will generally not be permitted in flood prone or marginal areas.

Appropriately designed development, which is not sensitive to the effects of flooding, may be permissible in flood plains provided it does not reduce the flood plain area or otherwise restrict flow across floodplains such as open space areas, sports pitches and car-parking.

New developments will be required to adhere to the principles of Sustainable Urban Drainage. In the design of new developments consideration should be given to incorporating some of the following measures:

- Hard surface areas (car parks, etc.), should be constructed in permeable or semi-permeable materials
- On site water ponds to store and/or attenuate additional runoff from the development should be

IS06

It is Council policy to promote access to and help develop information and telecommunication technology, including broadband, in order to facilitate working from home, entertainment, education and business development. Cabling for broadband and television must be provided underground to serve all residential and commercial development.

IS07

It is Council policy to seek to protect the quality of groundwater, through planning policies and through development control.

It should not be presumed that because an area is zoned for development that applicants are assured of achieving planning permissions merely because they comply with the policies and objectives of the LAP. The introduction of improved access and drainage to new areas may be on a phased basis. Until such time as adequate access and services are available in a given area, permissions may be refused on grounds of prematurity.

The adoption of water saving measures throughout development will be encouraged. This will increase the extent of development capable of being serviced by the existing water treatment plant. Such measures would include:

- Water butts to collect rainwater
- Low flush and dual flush toilets
- Low water use appliances
- Rainwater harvesting
- Greywater recycling

All service runs are to be accommodated under road surfaces or pavements and must not pass under soft verges, public open spaces or tree pits. All pavements with services underneath or the portion of the pavement under which the service ducts run, must be surfaced in a modular paving system that can be dug up and re-laid should the need to access services runs arise.

7.3.3 Integrated Waste Management Plans

In assessing large scale residential and commercial developments Council may require the preparation of Integrated Waste Management Plans. The purpose of Integrated Waste Management Plans will be:

- Reducing the quantity of waste arising from development
- Minimising the energy expended in recycling waste and removing waste off site.
- Ensuring waste is being removed to appropriately licenced facilities.

provided

- Soak-aways or French drains should be provided to increase infiltration and minimise additional runoff
- Surface water run-off should be passed through a litter screen and petrol/oil interceptor before discharged off site to watercourses.

The principles of Sustainable Urban Drainage also seek to optimise the biodiversity benefits of drainage systems. Drainage systems in new development should seek to work with existing site conditions, where possible using existing agricultural ditches for attenuation and draining to the lower levels of the site. Surface water ponds and swales should be incorporated into open spaces and can incorporate ecological planting of native wetland species.

FR01

It is Council policy that any development that is sensitive to the effects of flooding will generally not be permitted in flood prone or marginal areas.

FR02

It is Council policy to discourage the culverting of existing streams and open drains. Where culverts are deemed necessary - the minimum permissible culvert diameter shall be 900mm and access should be provided for maintenance as appropriate.

FR03

It is Council policy that in developments adjacent to watercourses of a significant conveyance capacity, any structures will be required to be set back from the edge of the watercourse in order to allow access for channel clearing/ maintenance.

FR04

It is Council policy that development consisting of construction of embankments, wide bridge piers, or similar structure will not normally be permitted in or across flood plains or river channels. If it is considered necessary, in exceptional cases, to permit such structures, they should be designed to minimise and /or compensate for any potential negative effects.

FR05

It is Council policy that all new development must be designed and constructed to meet the following minimum flood design standards;

- For development in general - the 100 year flood
- Along the Coast - the 200-year tide level.

FR06

It is Council policy that a flood impact assessment and proposals for the storage or attenuation of run/off discharges (including foul drains) must accompany applications for planning permission for development of areas exceeding 1 hectare and development in areas of identified flood risk to ensure the development does not increase the flood risk in the relevant catchment.

FR07

It is Council policy that a certificate or report from a competent person(s) that the development will not contribute to flooding within the relevant catchment area must accompany applications for planning permission for development of areas of 1 hectare or less.

7.4 ENERGY

Wicklow County Council is proposing that all new developments should aim to achieve low energy performance i.e. a 60% reduction in energy use (to below 50kWh/m²/year).

Low energy performance can be described as a reduction of 60% in thermal energy demand and associated CO₂ emissions as per provisions of Technical Guidance Document L (TGD L) of the Building Regulations 2002.

EY01

All new developments will meet the minimum low energy performance as a pre-requisite to receiving planning approval (a calculation report is to be submitted with the planning application). Each building's energy performance calculation will be demonstrated on the basis of a simple approved method carried out by a qualified or accredited expert.

Further information and guidance on achieving energy efficiency in building design is provided in the Sustainable Energy Ireland (SEI) Guidance Notes (see appendix V).

