Review of Delivery Costs and Viability for Affordable Residential Developments

April 2018
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1. EXECUTIVE SUMMARY:

An active, effective and sustainable construction sector is critical in terms of the delivery of housing, both public and private. Rebuilding Ireland commits to the examination of housing delivery input costs, with a view to considering the scope for achieving further economies and efficiencies.

While delivery of homes to certain sections of the residential market is increasing, the scarcity of affordable homes, in particular, has become a significant concern and a matter of priority. This study, therefore explores the issues and challenges encountered with each of the input costs associated with affordable residential delivery. It reviews the actions that have been implemented to date with the objective of reducing input costs and recommends what further actions are required to achieve a return to more sustainable, viable and affordable housing delivery.

Housing as a percentage of GNP, while currently displaying an upturn, remains significantly lower than that experienced during the more stable years of 1997 – 2002, for example, when circa 40% of overall construction GNP activity was residential. A return to a consistently performing residential delivery sector of that scale is now imperative if much needed homes are to be delivered, in the right locations and at prices that people on average incomes can afford.

This report explores in detail the various constituents of residential delivery costs, which extend far beyond construction costs, and include land, fees, development levies/contributions, finance costs and VAT. The examination of input costs is outlined in Part 1 of this report. A brief summary of each of the input considerations and main findings is outlined below.

**Land**

Market reports and industry forecasts of significant growth in residential land values particularly in Dublin and Leinster reflect the increase in demand and potentially signals land
becoming more of an investment commodity, which is creating a significant issue for the delivery of residential development that is affordable to either buy or rent to households with average incomes.

Expected returns from residential sales is a primary driver of land values, with examples in Dublin city where residential sale values vary significantly, even along a single road or street, depending on the proximity to services and transport.

Expectations on yield, now or in the future, transfer to land price which immediately challenges affordability, with land being a front-end rather than a residual cost. Where high costs are paid for land, it is often on the basis of the purchaser’s expectation of high sales income; however, if such high sales income is not readily available in the market, delivery of new homes from this site is often voluntarily deferred until such time as it may deliver a valid return on the investment. Investors and financiers alike, when making decisions on land purchase, need to be cognisant of the significant market demand that exists for affordable housing.

Certain lands in State ownership have been identified as potentially suitable for residential development, as part of residential land mapping work carried out under Rebuilding Ireland. There is undoubtedly merit in using this knowledge and land portfolio strategically to help stimulate residential delivery at more affordable pricing levels, particularly in Dublin. A key recommendation in this review is to enhance and co-ordinate the strategic management of this State land portfolio, as part of a broader strategy to support the availability to the market of affordably priced lands, thus facilitating the opportunity for all housing providers to access such lands and ensure early and economic delivery of new homes at affordable prices.

**Construction Costs**

The traditionally cyclical nature of the construction industry in Ireland has an impact on delivery costs. Considering the sector’s recovery from the post-2008 crash, many construction firms are focusing on rebuilding their balance sheets and recovering from the loss of significant skilled labour from the marketplace. While the labour market is
recovering fast, there remains a skills shortage in key construction trades for the short to medium term, which impacts on delivery capacity and on wage inflation.

The Department of Education and Skills and SOLAS, the Further Education and Training Authority, are engaging with industry to assist in meeting current and future skills needs and capacity where possible. However, the industry itself must face the challenge to innovate in order to increase output while at the same time becoming less dependent on a large labour input, e.g. through increased utilisation of prefabrication methods.

In addition to the skills capacity issue, many additional elements are viewed as influencing construction costs including site specifics and client specification requirements, time delays, method of delivery, design and planning. Each of these headings is considered in detail in this report and a number of recommendations are made to facilitate and encourage a more standardised, cost-efficient and consistent practice across the sector.

The recent introduction of the fast-track Strategic Housing Development process with An Bord Pleanála for planning applications involving 100 homes or more (or 200+ student bed spaces) provides a new streamlined and time-bound planning approval process. This initiative will support more efficient, quality decision-making on significant housing projects within a specified timeframe, providing greater certainty for housing providers. In addition, further legislative provisions are to be made to speed up the process of finalising compliance matters where planning conditions require subsequent agreement on matters of detail; currently, that compliance process is not subject to any time limits.

Further consideration of planning elements concluded that the policies on building heights and car parking requirements are key elements meriting further consideration. With respect to height, it is acknowledged that permissible building heights are set in Development Plans and Local Areas Plans, which are a reserved function of the Local Authority, but which must be consistent with national planning policy set down in legislation and statutory guidance. However, there is a strong view that current statutory guidelines on apartment design should be updated to provide for two elements - (a) promoting increased heights in key
urban areas and (b) revisions to the planning policies on the levels of car parking and capital intensive services like lifts needed and which can have a significant bearing on the costs of apartment development. With regard to item (a), the planning policy default should provide, where context is appropriate, for developments of at least 6 storeys and appropriate areas should be targeted for 7 to 10 storeys and above as part of larger strategic landmark development sites, while allowing for a graded approach in density of delivery across sites. With regard to item (b) pragmatic and reasonable approaches to matters including the scale of parking provision and lift core ratios, depending on the availability of alternative mobility and effective design solutions respectively, could make significant differences to apartment delivery costs and viability.

Professional Fees
The practice of delaying the appointment of competent professional and technical expertise to projects has been identified in the report as having an impact on the viability of some developments. This can potentially be a lost opportunity of ensuring that a viable, efficient and cost effective product is progressed to planning. It is noted that economies can be achieved in the area of fees applied per unit with increased delivery output and volume.

Development Levies/Contributions
The impact of development levies/contributions are considered within the report and acknowledged as an essential source of infrastructure funding, which enables up-front infrastructure delivery and which the Local Infrastructure Housing Activation Fund (LIHAF) has further supported.

The development contribution rebate scheme, which terminated at the end of 2017, is acknowledged as a positive initiative towards achieving more affordable housing delivery. However, the drawdown under this scheme has been lower than anticipated, perhaps due to the eligibility thresholds on residential delivery sales prices. A review of local authority development contribution schemes is recommended with a view to achieving affordable apartment delivery, with particular consideration given to brownfield/infill type urban development sites (reflecting the fact that infrastructure and services are already provided) and a capped contribution charge at a certain height or above a certain site density.
Introduction of a common practice across local authorities in respect of phased payment of contributions is recommended to bring more certainty and reduce the finance risk profiling of this element of cash-flow requirements for developments.

**Finance**

The availability of finance is improving, with both banks and alternate lenders funding more residential development. However, while this may suggest a competitive and healthy market for development finance, access to and the cost of finance for residential schemes remains a significant challenge, and is a substantial factor in development costs.

At present, lending tends to follow a “site-by-site” pattern, with funders focusing on loan to cost rather than loan to value. This effectively ties up equity, limits significantly scaled development and is fundamentally more favourably disposed towards the lower working capital of “own door” building formats such as conventional housing rather than more compact and higher density forms such as apartment schemes.

Market lenders are generally supportive of a limited number of strong “bankable” developers and builders, which has the effect of limiting the number of housing providers with delivery capability at scale. There is a need for an expanded and more competitive finance market geared towards residential scheme support and particularly for affordable and multi-unit, particularly apartment-type, housing projects.

There has already been some State and ISIF investment (e.g. Activate Capital) in a number of companies who are focused on private housing delivery. Such supports are encouraged along with the potential use of Housing Finance Agency (HFA) funding, firstly, in respect of up-front payment of social housing components of housing schemes under Part V and, secondly, for local authorities to service lands, thereby allowing sale of “ready-to-go” sites for private residential development. Arrangements such as this are common in other European countries.
**VAT**

While the industry strongly favours the argument of a VAT reduction, the report concludes that, given EU VAT Directive requirements, this is not achievable and would likely only result in further increases in land prices.

**Viability**

The second part of the report is based on analysis from viability modelling undertaken on the delivery of sample residential projects at affordable sales prices. The two generic examples selected were:

- an apartment building in an urban location; and
- a housing scheme in a suburban location.

Given the report’s focus on affordable delivery, the input costs chosen for the modelling were specifically considered in the context of this objective, i.e. costs pitched at what might be considered best achievable within the current market place. While it is accepted that such input costs may not be available to all types of housing providers, depending on, for example, their size and the economies of scale accruing, it is considered that they provide a valid input to the analysis involved.

Development margin is the surplus above all input costs (including land), that a developer is targeting as a return for undertaking a project. Development margin is a prudent risk and does not always reflect the actual developers end profit. The margin can vary, depending on the perceived level of risk. The level of risk is a factor of the various elements in the delivery of the project and the key risks tend to be planning delays, finance costs, programme (timing of sales income), construction cost inflation and variations in market conditions for sale or letting of the completed units. Funding may not be forthcoming without the inclusion of an appropriate development margin level and so 10% to 12.5% have been assumed in the viability exercises in this report.

Sales prices within the exercises were geared towards affordable pricing, with a high percentage of units geared towards an outline affordability range of between €240,000 and

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1 Percentages are based on low risk housing (10%) and apartment developments (12.5%) respectively.
€320,000, based on CSO earnings data and Central Bank rules. For clarity, the larger units in each example did not fall within this range.

Findings from the viability exercise, in summary, were as follows:-

**Urban Apartment Development**

- Viability of urban residential apartment schemes which are aimed at more affordable price levels is extremely challenging.
- Basement car parking is extremely costly to provide and impacts significantly on the delivery of viable projects at affordable sales prices. A review of mandatory parking provision under local authority planning policies, especially in areas well served by public transport, is recommended as a priority.
- Contrary to common understanding, higher rise development (particularly 6 storeys+) can be a more expensive form of development. This is generally due to the increased requirements from a structural and fire safety perspective. In this regard, high rise does not necessarily improve matters where affordable delivery is the focus, nor does it always translate into increased density. Notwithstanding this, there is evidence that 6-storeys is an optimum height from a viability perspective at present, for the delivery of apartment schemes at sales prices within the affordable range specified above.
- A higher ratio of 1- and 2-bed units in apartment schemes may help address the viability challenge and at the same time respond to the trend towards smaller household sizes.
- Build-to-rent schemes are challenging at affordable rental levels.
- The impact of the finance cost on overall project viability is significant.

**Suburban Housing Development**

- Suburban affordable housing developments are marginally viable.
- Requirements for public open space much above 10% will impact on viability, particularly where adjacent land is in short supply or high cost land exists.
- Introduction of duplex units within a scheme can help to achieve more viable unit and volume delivery.
Despite the identification and use of input costs specifically geared towards achieving affordability, the findings outlined above clearly demonstrate that more targeted interventions are required to achieve housing delivery that is affordable from a purchase or rental perspective to the average household. This is apparent particularly with apartment viability with around 8.5% of a viability shortfall demonstrated on the optimum worked model.
2. INTRODUCTION

2.1 Purpose of Review

A shortage of new housing delivery arising from the recession combined with increased demand has led to a very significant shortfall in housing relative to demand, with a projected need for delivery in excess of 25,000 units per annum, as referenced in Rebuilding Ireland. With such a significant market need, one would expect a resultant increase in housing activity at scale; however, while construction volume has increased significantly, with a return of cranes to the skyline of the main cities, the residential market while growing, is doing so at a much slower pace than other parts of the development sector, and not at the scale needed to meet pent-up demand from years of undersupply as well as future forecast demand.

On closer examination, much new construction activity relates to the commercial office sector, which is viewed by finance houses as having a significantly less risk profile than residential development. With single tenants in the market for large office space prepared to take long lease terms and providing parent company guarantees in support of such leases, low cost finance is much more readily available. Residential is not as attractive an investment opportunity.

In essence, residential delivery would appear to be more challenged by a range of issues, including risk and return, than office development, with funders and development specialists favouring commercial office development more than residential delivery. This market preference needs to be balanced to ensure that residential delivery is further enhanced, particularly in city and town centres closest to areas with fast increasing job creation. Failure to provide this balance of development could result in more employment capacity being provided in areas where workers cannot access housing or afford to live, thereby underscoring increasing commuter trends and potentially impacting on living standards and wage inflation, which will in turn damage competitiveness.

Arising out of this concern over the slower than required delivery response, Pillar 3 of Rebuilding Ireland set a specific action to look at the issue of construction delivery costs, with a view to identifying economies. This report responds to this objective, while a
separate study, undertaken by the Housing Agency, provides an assessment of benchmarking Irish construction costs against other selected European countries.

This particular review aims to examine the issues impacting residential delivery costs and make focused recommendations in the interest of unlocking issues inhibiting residential development where possible. It is of key interest in doing so to consider recommendations in context of achieving a more sustainable residential development market and avoiding a recurrence of excessive peak activity and crashes, which will negatively impact the market in the long term.

2.2 Approach to study

In order to deliver on the task, a group chaired by the Department of Housing, Planning and Local Government was established with representation from the following organisations:

- Royal Institute of the Architects of Ireland;
- Society of Chartered Surveyors Ireland;
- Construction Industry Federation;
- Engineers Ireland;
- Association of Consulting Engineers of Ireland;
- Housing Agency;
- National Asset Management Agency; and
- Property Industry Ireland.

The resulting report arising out of the review is presented in the following format:

1. Part 1 – Consideration of the identified input costs to housing delivery with recommendations to achieve economies, and
2. Part 2 – The examination of two sample models - urban apartments and suburban housing in a Dublin city context - to assess viability at affordable sale prices.

Throughout the review, delivering on affordability to households on average incomes was viewed as a key objective. Selected cost models therefore reference site purchase locations
and base specifications geared towards the starter/affordable market. Sales price levels also attempt to address affordability, with a sample exercise undertaken, reported on later, aimed at establishing what purchase levels might be considered affordable within the current finance and household earnings market constraints.

3. BACKGROUND TO THE RESIDENTIAL DELIVERY MARKET

3.1 Key housing providers in the private market

Key housing providers include:

- **Real Estate Investment Trusts (REIT’s)** – these are structures who own or finance income producing real estate. A small number have set up within the Irish marketplace since the recession and have identified themselves as having an interest in housing delivery, particularly rental accommodation. REIT structures are well financed and would generally secure delivery through procured contractors.

- **Public Limited Companies (PLC’s)** - several such publically quoted companies focused on residential delivery are operative in the Irish market and are now beginning to produce at scale. These structures are operative in both the high and affordable end of the market. Again, these structures are well financed.

- **Pension Funds** - although currently not active in the residential space, they have been in the past. A long-term rental delivery model would seem to match a pension fund profile and while they may opt to enter the market by purchasing a completed asset becoming available through increased market activity generally, they may consider returning to development themselves in the residential space in the future.

- **Developers** – they generally act as an overarching manager of the process, employing building contractors to deliver product. This cohort was significantly impacted by the economic downturn and has returned primarily to commercial development, which delivers higher returns at less risk.

- **Builder/Developers** - these are traditional house-builders who have delivered substantial stock in the past. This cohort was possibly the most significantly impacted by the recession, having in many cases lost their entire property investments, with resultant difficulty in competing for sites in the current climate. Obtaining finance at reasonable cost continues to be a significant challenge for this cohort.

Each of the above has a part to play in achieving overall delivery and healthy competition in the delivery of housing across the range of delivery platforms and societal needs.
3.2 Housing as a sector

As background information, it is useful at the outset to consider the current status of housing as a proportion of the construction sector. Graph A below shows the share of residential activity (indicated in navy) as part of the overall construction activity for each year since 1997. As can be seen, and notwithstanding the fact that the peak residential share of overall construction reached in the middle part of the last decade may have been unsustainable, it is clear that while there has been a notable upward trend in residential activity since 2013, the sector’s share of overall construction activity is still considerable behind the comparable share in the late 1990s/early 2000s.

Graph A

Source: CSO (NQQ33)

3.3 Constituents of Residential Delivery Cost

Residential delivery costs are often incorrectly referred to as construction costs. It is important to be clear that construction costs are only one element of the overall delivery costs. This point was highlighted in particular in the Society of Chartered Surveyors of Ireland (SCSI) May 2016 publication, where the delivery cost of a 3-bedroom house was analysed, of which 45% of the overall delivery cost was attributable to
construction; aside from direct construction costs, land, development margin and VAT also contributed high percentages to the required input costs. While the percentage breakdown will vary between projects, the important point is that there are multiple elements contributing to cost.

The confusion is emphasised by media reports on low-cost residential delivery and questions as to why such figures are not replicated across the industry. More often than not, when analysed, such reports do not compare “like with like”, with elements excluded or not relevant due to exceptional circumstances, e.g. free or low-cost land, exemption from development levies, low-cost or excluded finance cost (e.g. for social housing provision) etc. While this is not always the case, it is important to recognise that circumstances like these do exist and that any quoted costs need to be fully analysed prior to reporting, in order to establish what the real impacts and challenges are in the market.

This report analyses each of the input costs in some detail in order to ultimately establish what scope there may be for possible economies. The main headings under consideration and addressed in the following chapters are as follows:-

- Land,
- Construction/build costs,
- Professional fees,
- Development levies/contributions,
- Finance cost and development margin, and
- VAT.
4. LAND

4.1 What impacts land price

Ireland has developed as a nation with a significant concentration of commercial activity located in Dublin, with the consequential impact of pressure on land supply, both for commercial and residential activities. In addition, in terms of planning, our city residential densities are significantly lower than other cities of similar commercial magnitude. The forthcoming 20-year National Planning Framework, “Ireland 2040,” will put a significant priority on securing more compact urban development and this will have clear implications for enhancing density of development commensurate with good location, design and infrastructure delivery, so the issue of density will be revisited later in this report.

Key factors which impact on land prices include:-

- Government policy,
- The profile of land as an investment,
- Zoning and planning status,
- Site infrastructure
- Recent sale price statistics and market expectations,
- Availability of finance, and
- Location.

Within the context of Government policy, which is supportive of the urgent need for housing delivery, and evidence of continued economic recovery as well as reports of record prices being obtained for residential land sales and reported growth in values, residential land could be regarded as an investment commodity, which creates a significant issue for affordable residential delivery.

Sales/pricing is a primary issue for land. Taking Dublin as an example, residential sales can vary significantly across the city and even to the extent of significant variation along a road or a street, depending on the proximity of services and transport or indeed the perceived profile of the location. During the course of the study, anticipated sales on a Cork Street and
South Circular Road development in Dublin were considered, with price variances arising ranging from 7% to 19%, depending on the unit sizes, with smaller units returning the largest variance. Such pricing expectations transfer to land value, i.e. the higher the sales expectation, the more people are prepared to pay for land, which immediately challenges affordability with land being a front-end cost.

Where high costs are paid for land, the purchaser invariably anticipates high house sales income and if this is not readily available in the market, development and ultimate housing delivery is often voluntarily deferred until such time as it becomes a valid investment. In these circumstances, land becomes a long-term investment and the delivery of much needed housing is unreasonably delayed. This makes the delivery of affordable housing even more challenging, particularly in cities with high demand.

The affordable residential delivery market is likely to be a significant segment of the housing market into the future. It is important that the scale of this house purchase and rental market be quantified and highlighted in order to encourage investors and financiers to provide the types of houses and apartments for this market.

4.2 Changing Land Market Interest

The notion of land as an investment is not a new one; however, clearly, this approach has gained momentum in recent years, commencing with opportunities arising on the sale of land portfolios aligned with distressed loans.

In a normal functioning residential market, land serves its function as a standard input cost to a process/business to deliver housing and those who wish to carry out that business compete amongst themselves for the price of that input.

Land for housing in Ireland was traditionally bought by house-builders, generally family businesses, whose interest was to pass a sustainable business on to future generations. Supply and demand from time to time created certain issues for pricing but generally business was conducted at sensible levels.
In today’s market, the gap between supply and demand for land, especially for serviced “ready to go” lands, is dramatic, leading to volatile sales markets, which is ultimately adding to the overall delivery costs.

In addition, purchasers are generally not the family business house-builders of the past and new buyers are very often investment type vehicles, e.g. REIT’s, PLC’s and various other investment type mechanisms, a number of which are overseas investors seeking the opportunity to participate in what is viewed as a potentially lucrative investment market. With broad portfolios and a wider source of funding, such organisations can afford to take risk at a different level. While such interests have an important part to play in the market, given the extent of the housing crisis, it is important to ensure that such land purchases translate into actual housing delivery without excessive delay.

Recent policy reforms to increase the vacant site levy and proposed legislative measures, as well as Budget 2018 Capital Gains Tax changes, have been introduced as targeted policies to address the issue of land hoarding in the interest of encouraging more economic delivery.

4.3 Use of land in State ownership

Separate to land in private ownership is the issue of land in the ownership of the State and other public bodies. Under Action 3.5 of Rebuilding Ireland, a commitment was made to map State and publicly owned lands which have the potential to deliver new housing. In early 2017, the Housing Land Map was publically launched and includes details of over 700 local authority and Housing Agency owned sites, totalling 1700 ha as well as 30 sites (200 ha) owned by State or semi-State Bodies, the latter primarily located in the Greater Dublin Area and in other major urban centres.

It is recommended that an experienced development management team, with the required broad market expertise, should be established to focus on and strategically manage this State lands portfolio in the interest of early delivery, and ensuring an appropriate mixed-tenure yield from these sites. Such a team could be tasked potentially with:-

1. Identification of the key State-owned lands capable of volume residential delivery in locations of demand.
2. Prioritisation of treatment and servicing of such lands by way of consideration of any impediment to delivery.

3. With those capable of immediate or short-term development, model and match the sites’ suitability to ensure that there is an opportunity for all of the market players to assist with volume delivery and achieve the most economic and speedy delivery.

4. Put those projects to the market with an appropriate procurement mechanism at the earliest opportunity, with clear delivery targets and timelines and penalties in the event of non-delivery to the agreed programme.

5. Development of a strategy to address those sites with impediments, and facilitate early delivery.

The above proposal is an extension of work already undertaken by the Housing Delivery Office and the wider Department and would very much follow and support the emerging policy approach under the NPF. To support delivery off such a land bank, measures such as the assembly of a development team, drawn from the public sector and with a broad spectrum of development expertise and in particular private market and public procurement knowledge could be transformative in driving forward the activation of these lands.

Successful delivery may also require transfer of certain powers to work above current site ownership structures and the licence to act as a centralised project board and assessment group for projects, to avoid duplication of processes and expedite delivery.

Any expanded land management structure might include consideration of factors such as the following:-

- Postponement of site transfer and payment to the conclusion of the development to assist with viability of schemes where appropriate, i.e. develop under licence until transfer.

- Potential sub-division of larger sites to increase market access, and enable concurrent construction on different plots.
• Potential up-front completion of site infrastructure, thereby utilising civil-engineering contractors for the infrastructure elements, i.e. utilising resources best placed to deliver on the various elements.

4.4 Summary Recommendations
The following summarises the overall findings in respect of land:

  o Awareness of the potential scale of the affordable market needs to be raised to stimulate current land owners to put land to use to deliver new houses and apartments and to reduce the extent to which land is viewed solely as an investment commodity to be traded but not built on.

  o Ongoing monitoring of the effectiveness of the vacant site levy, as a means to reduce land hoarding.

  o Strategic management of the State land portfolio, allowing the opportunity for all delivery sectors to gain access to a sufficient supply of land at reasonable price levels as appropriate and to ensure early and economic delivery.
5. CONSTRUCTION COSTS

5.1 Understanding Construction Costs and Market Factors

Construction costs in Ireland are very often suggested as being high. The two primary constituents of construction costs are materials (including products, components etc.,) and labour:-

1. **Materials**: There is no doubt that our geographic location, and limited transport options to the UK and mainland Europe, present a challenge for economic construction cost delivery within Ireland on an on-going basis. Many materials used in construction are not indigenous to Ireland, resulting in higher cost including in relation to transport costs from source to site.

2. **Labour**: Construction is significantly labour intensive. Calls to reduce construction costs often mean seeking a reduction in labour costs, which are not specific to construction, or even housing, e.g. commercial construction costs are not necessarily an issue in the market at this time. It is clear that there is a limited resource pool and construction workforce available in Ireland, which presents challenges particularly with significant numbers having left the industry during the last recession. Combined with low numbers entering construction skills and professional related courses from 2008 until recent times, this means that a significant shortfall in labour, at a number of levels, is now beginning to manifest itself. Table B indicates the cyclical profile of construction employment, which shows a recovering market that is however still short of optimal levels.
Table B

Source CSO (QNQ03)

Table C below overlays the SCSI construction tender index with the market construction output, demonstrating a clear relationship between activity and tender levels.

Table C

Source CSO (NQQ33) + SCSI
The SCSI graph (shown as a blue line) provides a clear indication that construction costs/tenders are on an upward trajectory, reflecting the increased activity, market recovery and resource limitations. Current tender costs levels are in line with 2004 levels, with costs having peaked in 2006/07.

Aligned with this, the value of our construction output (shown in orange) clearly indicates activity at a high in 2007, followed by a sharp dip to 2012, with a gradual increase in volume in more recent times. Volumes are now back at around 2009/2010 levels.

As an overall comment, the charts in Tables B and C clearly mark a cyclical pattern which will have an impact on costs, resulting from the need for cost recovery, periodic loss of skills from the market place and reticence in the first instance for labour, construction firms or even investment in same entering the market.

While a resolution to the cyclical nature of the industry is a significant challenge, it is clear that there is an immediate need to enhance the skills capacity to ensure that the residential construction industry can deliver on required demands over the medium term and avoid labour cost inflation and capacity issues with delivery.

A DKM report, commissioned by the Construction Industry Federation, entitled “Demand for Skills in Construction to 2020” (December 2016), made a number of recommendations in this area. A number of positive actions are being advanced through Department of Education and Skills and SOLAS initiatives, and it is recommended that current actions be reviewed and strengthened, as required, in light of the particular challenges which the construction sector is immediately facing.

Industry itself is responding to the labour shortages by utilising prefabrication methods of construction to a greater extent. Activity in relation to developing new prefabricated systems is increasing, with two additional “whole building” systems achieving NSAI Agrément certification in 2017, as well as individual elemental products. Other standardised
products, e.g. concrete products and timber frames (IS 440) are being fabricated off-site and assembled on site. Many of these companies are involved in exporting to the UK. Further details on prefabrication/off-site construction are set out in Chapter 6.

5.2 Summary Recommendations

- In the short to medium term, the skills shortage in the construction industry sectors is a concern and needs further consideration. It is recommended that the Department of Education and Science and SOLAS liaise further with the residential construction sector with a view to identifying the immediate capacity and skills needed for the sector.

- Industry should continue to pursue the most efficient and compliant methods of construction, given the current skills and capacity challenge, which is likely to remain in the short to medium term, especially as activity further increases.
6. ELEMENTS INFLUENCING CONSTRUCTION COSTS

While there are challenges to construction cost delivery particular to this country, this study undertook to identify and address areas where problems exist, the resolution of which may achieve economies, not just for housing but for the construction industry as a whole.

While not exhaustive, the primary elements identified that influence construction costs are as follows:-
- Site specifics and client specification requirements,
- Time delays,
- Method of delivery,
- Market statutory factors,
- Design, and
- Planning.

6.1 Site Specifics and Client Specification Requirements

In terms of market data on residential delivery, cost consultant’s report typical construction costs ranging between €1,500 - €2,650/m² (excl. VAT) for apartments and between €1,050 - €1,500/m² (excl. VAT) for suburban housing.

Significantly of note is the broad range which exists with this published data for construction costs and for good reason. Aside from the various elements discussed within this section, residential construction costs may be impacted significantly by factors such as:
- Site conditions – site clearance, contaminated ground, site service re-diversions, etc.
- Site location – site boundary treatment, site access difficulty, adjacency to services etc.
- Specification – target market, e.g. high-end properties will command higher finishes for building, services and public realm.

The later viability exercises within Part 2 of this report have utilised construction delivery costs aimed at the starter/affordable market with a reasonable but not high-end level of finishes in the interest of affordable delivery. It is also assumed that site conditions and
access are reasonable and the site is directly adjacent to a public roadway with service utilities in place.

6.2 Time Delays
The impact of finance costs are explored later in this review but, in essence, as with many industries, time is money and delays at any level will generally add to cost and risk. There is a challenge here for the construction industry to identify and chart potential delays on a construction project from concept through to completion and to address deficiencies, as required.

The main areas identified are delays arising from:-

- Planning approvals and compliance matters,
- Part V approvals,
- Agreement/approval of development bonds by Local Authorities,
- On-site delays, and
- Taking in charge.

Recommended actions with respect of the above areas are as follows:-

6.2.1 Planning approvals and compliance matters. The introduction of the Strategic Housing Development (SHD) process within An Bord Pleanála for planning applications involving 100 homes or more (or 200+ student bed spaces) introduces a new streamlined and time-bound planning approval process. This initiative has the potential to be of major benefit to advancing significant housing projects, providing greater certainty for housing providers.

Implementation of the SHD process is dependent on the following:-

- effective facilitation and utilisation of pre-planning engagements,
- submission of clear and robust applications, and
- provision of sufficient resources to deal with the anticipated level of activity.
In addition, further legislative provisions are expected to be made to speed up the process of finalising compliance matters, where planning conditions require subsequent agreement on matters of detail. Currently, such compliance processes are not subject to any time limits.

**6.2.2 Part V agreements:** More precise direction on the mechanism for Part V agreements is considered essential to help expedite agreements and achieve consistency across Local Authorities. Combined with this, there is an onus on applicants to ensure that Part V submissions are made in a timely and thorough manner to help expedite the processing of applications.

**6.2.3 Development Bonds:** Issues here include:
- Open-ended bonds being sought by some local authorities;
- Lack of consistency between local authorities with wording of bonds;
- Issues with the requested levels of bonds sought by local authorities;
- Absence of an approved bond provider list;
- Lack of allowance or clarity for treatment of phased development; and
- Consistency of relationship of the bond timeline with the planning permission timeframe.

A working group comprising representatives from the Department, the CCMA, CIF, financial and lending institutions, Insurance and Risk Companies, has been established to proactively deal with the issues raised above.

**6.2.4 On-site delays:** This requires industry to allocate sufficient resources up-front to projects to ensure cost effective and efficient design to reduce construction risk addressing;
- Adequate preparation and co-ordination e.g. site investigations;
- Specialist co-ordination;
- Project management;
- Compliance with regulatory requirements e.g. health and safety, Building Control Regulations etc; and
• Clear contractual documentation and assignment of responsibilities etc. to avoid as far as possible any time delays and disputes on site, which invariably add to delivery costs.

These points are discussed in more detail later in this review.

6.2.5 Taking in Charge: Potential issues with delays (for various reasons) with final handover of schemes to the local authority have been highlighted as having significant cost impact. It is recommended that the specification for such works be harmonised across the country in the interests of consistency and reducing costs. The 1998 Department publication, Recommendations for Site Development Works for Housing Areas, should be reviewed, in light of the Design Manual for Urban Roads (DMURS), the utilities’ individual specifications e.g. Irish Water, ESB (lighting), road specifications from Department of Transport, Tourism and Sport, as well as individual local authority specifications. Key stakeholders should be consulted in this updating process. New specifications e.g. in relation to water supply/drainage specifications by Irish Water which are under development, should take into account the impact of construction costs and viability.

An additional recommendation is to develop a standardised procedure for “taking in charge” with the endorsement of the local authority sector.

6.3 Method of Delivery
This is an area where significant economy can be achieved, with the appointment of an experienced design team member to plot the project course from inception and ensure that the right decisions are made regarding project delivery. Proper consideration of procurement, structure, selection of contractor and construction methodology can all achieve improved economic outcomes.

6.3.1 Procurement: Consideration should be given to the selection of the most suitable procurement route for delivery. For example:

• More complex sites or designs will not suit “design and build” as a procurement route, whereas a repetitive or simple design will.
- Certain sites will benefit from de-risking with an enabling works contract or site works completion in advance.

6.3.2 Structure: There are many different structures that can be put in place to deliver a scheme, some more streamlined than others. The structure selected should be agreed at the front end of the project to ensure that the delivery mechanism is best selected to achieve a viable end product.

6.3.3 Contractor: Selection of the contractor should take into consideration the project complexity and appropriate company size and experience most suited to the project. Smaller contractors tend to have lower overheads, which may suggest a more economic delivery cost for certain projects. Alternatively, for other projects, the buying power/economies of scale available to a larger firm may result in improved cost efficiencies. Regardless of company size, however, company experience, quality and programming capabilities along with safety records and overall company stability are all key factors towards ultimately achieving an economic and quality product.

6.3.4 Construction Methodology: Traditional construction methodologies can be labour intensive, slow and exposed to the variabilities of site and weather conditions. As a result, prefabrication and off-site construction methodologies are becoming more and more common. They offer high precision solutions created in factory conditions and often reduce the on-site time periods. References to off-site construction/prefabrication or modular are very often expressed as a ready solution to achieving economies. While this may be the case, many instances report on increased or similar construction costs by using such methods; however, a saving on time is achieved which can positively impact finance calculations and allows the contractor to move on to other projects at an earlier stage.

An assessment of the extent a project will follow the prefabrication route needs to take place well in advance of the project development, given that a successful prefabrication or modular project requires up-front design consideration to best utilise standard/factory modules. It is also more efficient when used for large numbers of identical units. Contractor participation in design can assist substantially to capitalise on time
efficiencies. In relation to quality control, the regime in place must extend beyond the construction site to the factory. The assigned certifier role also needs to extend to the factory.

There are a significant number of “off-site” construction manufacturing systems established in Ireland, particularly of the framed type, but also prefabricated elements and volumetric approaches. This is evident from the Office of Government Procurement, in January 2017, establishing a Framework Agreement with notable strong interest from Design and Build contractors for the provision of rapid delivery housing for use by local authorities and Approved Housing Bodies for social housing. Rapid delivery is characterised by the delivery of housing developments within a programme, which shows overall time savings, demonstrated by a combination of savings across contract stages, including appropriate and efficient construction, resulting in a significant reduction compared with traditional build programme.

Regardless of type, however, the design and construction of “off-site” or “on-site” buildings must conform to Irish Building Regulations, and for residential buildings, key elements of the construction should have a life-span or durability in the order of 60 years, with a normal level of maintenance. For systems products, materials, techniques or equipment, for which published national standards do not yet exist, third-party certification demonstrates compliance with Irish Building Regulations and durability requirements. Such certification may include, in part or in total, a European Technical Assessment or Agrément certification (e.g. NSAI Agrément) or equivalent.

In summary, provided that quality can be assured, prefabrication methods or elements thereof are a prime solution for achieving economies with residential delivery. Given the known labour challenges, combined with potential time-saving that can be achieved, an open minded approach to prefabrication methods needs to be taken by industry and clients alike.

6.4 Market Statutory Factors
Under this heading items considered include primarily:
• Issues with regard to soil and stone waste facilities/limitations, and
• Building Regulations.

6.4.1 Issues with regard to soil and stone waste facilities/limitations
Soil and stone waste management capacity challenges have been highlighted by the Construction Industry Federation (CIF) since 2016. Furthermore, the Regional Waste Management Planning Offices (RWMPOs) jointly published a report on construction and demolition waste (soil and stone) recovery and disposal capacity in December, 2016.

Meetings were held in 2017 between the Department of Communications, Climate Action and the Environment (DCCAE), the Environmental Protection Agency (EPA), the County & City Management Association (CCMA), the Regional Waste Management Planning Offices and the CIF to discuss construction and demolition (C&D) waste issues arising, primarily the capacity of the sector’s arrangements to manage its soil and stone. It has been acknowledged that the granting of a number of waste licences by the EPA in 2017 for soil and stone facilities has alleviated this problem.

Furthermore, updated guidance on the classification and notification of soil and stone as a by-product in the context of article 27 of the European Communities (Waste Directive) Regulations 2011 was issued by the EPA on 24 November 2017.

In addition, the DCCAE issued a short consultation paper to stakeholders in January 2018 on the thresholds applicable to classes 5 and 6 activities under Parts 1 and 2 of the Third Schedule to the Waste Management (Facility Permit and Registration) Regulations 2007 (S.I. No. 821 of 2007), as amended and is currently considering the submissions received.

It is also intended to convene a Construction Waste Resource Group comprising key C&D waste stakeholders, which will provide a useful platform to discuss and monitor C&D waste issues arising, including the capacity of the sector to manage C&D waste.
6.4.2 Building Regulations

Building regulations are often cited as a reason for increased construction costs, with issues such as additional fire and energy requirements in particular highlighted as impacting significantly on cost. Such commentary is often made in the absence of consideration of the positive benefits of such regulations, not only in the context of the impact on people’s standard of living, but also relating to improved safety, better quality product and reduced running costs (e.g. from better insulated homes).

6.4.2.1 Understanding of Building Regulations

The design and construction of buildings are regulated under the Building Control Acts 1990 to 2014. The Acts provide for, inter alia, the making of Building Regulations and Building Control Regulations. The Act sets out the primary purpose for which the Building Regulations may be made, i.e. the health, safety and welfare of people in and around buildings. The focus is on protection of people rather than property. The Second Schedule of the Building Regulations 1997-2017 sets out the statutory minimum performance requirements for the construction of new buildings (including houses, apartments etc.), and other works. The Department publishes Technical Guidance Documents (TGDs) to accompany each part, for the purpose of providing guidance with respect to compliance.

6.4.2.2 Cost of compliance

The Department of Housing, Planning and Local Government’s aim is to develop and promote a strong and evolving building code in support of quality construction and sustainable development. The Building Regulations are subject to on-going review in the interests of:

- safety and the well-being of persons in the built environment,
- ensuring that due regard is taken of changes in construction techniques, technological progress and innovation,
- addressing emerging national issues, and
- implementation of European legislation.
When any changes to Building Regulations are proposed, a regulatory impact analysis is carried out, including a cost benefit analysis on the proposed amendments. The draft revised regulations, technical guidance document and regulatory impact assessment are issued for public consultation and finalised, having considered all submissions received.

- The *Energy Performance of Buildings Directive* 2010/31/EU (EPBD) requires that from 31 December 2020, all new buildings must be Nearly Zero Energy Buildings (NZEB). Part L of the Building Regulations provides a key element of the transposition and implementation of the EPBD in Ireland. In the case of Dwellings, Part L performance requirements are already at an advanced level, representing an improvement of 60% over 2005 standards and requiring mandatory renewables on all new dwellings since 2008. The NZEB performance level for new dwellings required by EU legislation will represent an improvement in performance of 70% over 2005 standards.

- A review of TGD L is under way to provide guidance on how to comply with NZEB. Detailed calculations of the cost impact associated with NZEB and likely savings in other areas as a result of reduced heating requirements in respect of dwellings will be carried out, as part of the Regulatory Impact Assessment.

- The detailed comments (e.g. building services costs, air tightness testing costs, thermal bridging design compliance costs etc.) that were made during the course of this review will be considered in the development of such guidance for Part L Dwellings.

- The design of buildings to the NZEB standard will require significant co-ordination between general and specialist designers, e.g. building services designers to achieve the most cost effective compliant design, realising the benefits of passive measures and less costly interventions e.g. air tightness, thermal bridging.
6.5 Design

Design will invariably have an impact on cost, but a good quality of design does not necessarily mean additional cost.

A key consideration in respect of appearance is quality in the public realm - the public spaces between buildings from which any scheme will principally be evaluated. This can be delivered with no cost premium by presenting almost a continuous building fabric, to the street, animated with frequent doors and windows. This approach, with appropriate building height, can achieve a good sense of enclosure, which contributes to a sense of safety and well-being in the public areas, and is fully consistent with such design guidance documents as the *Design Manual for Urban Roads and Streets* and the *Urban Design Compendium*.

In the interest of affordable delivery, the following is a non-exhaustive set of key principles for rational and economic housing design that should be considered:

- **Density**: Deliver as many dwellings as possible on the site as is permitted under the development plan. This firstly reduces the site cost per dwelling and reduces the cost of external works, roads, footpaths and service runs per dwelling.

- **Building shape/form**: External walls and roofs are expensive, so the maximum space enclosed by the minimum surface produces the most cost effective and indeed energy efficient solution. For example, a terraced form is more economic than detached houses. Similarly, to reduce expensive roofs, a duplex with a walk up-stairs may be more economic than single houses (in particular when delivering additional savings such as increased units and a resulting decrease in site costs etc.). A simple form is generally more economic i.e. projections or set-backs add to cost. While variety and expression are important, these elements invariably add cost and require careful design consideration. Similarly simplicity of detailing will be more robust and less expensive.

- **Building core elements**: The sharing of expensive elements between as many dwellings as possible lowers cost. Thus within published guidelines, the maximum
PART 1

ELEMENTS INFLUENCING CONSTRUCTION COSTS

number of dwellings per lift core and stairs in an apartment will reduce the cost per dwelling.

- **Car parking**: As demonstrated within Part 2 of this review, basement car parking is costly not only from an initial installation viewpoint but also in respect of on-going maintenance and management. However, parking at grade and podium levels needs to be sensitively considered in design terms to avoid negative impact on the surrounding landscape/environment.

- **Maximising usable space**: Delivering the largest amount of usable floor space will improve the quality of the dwelling, so within published requirements, for instance on fire safety and wheelchair access, every effort should be made to minimise both internal circulation within dwellings area and shared public circulation areas.

- **Building services solutions**: Ensuring that the appropriate systems/products for the project are used and consideration is given to the target end users will achieve economies, e.g. avoid use of district heating where it is not economic.

- **Construction techniques** - Consideration of the construction process when designing to limit customisation on site is key e.g. standard floor spans, vertical dimensions to suit brick/block coursing, etc. Adequate scale and repetition of design will allow consideration of modular/prefabricated types of construction and potential timesaving on site.

- **Design skills** - The designer’s clear understanding of planning and building regulation requirements will, for instance, ensure building elements are specified and spaces sized to meet requirements, and not gratuitously and wastefully overdesigned or oversized, or worse undersized, with costly amendments becoming necessary on site. Early consideration of prefabrication as discussed earlier can lead to economies.

Obviously, balancing such options and ensuring each of the above and other opportunities for economic design are adequately considered necessitates early and close collaboration of the various construction professionals with a collective goal of quality, economic and affordable design and delivery. Taking into account the potential for financial savings, late involvement of professionals can lead to missed opportunities to integrate and progress more cost-efficient designs and delivery. BIM (Building Information Modelling) is a digital-
based process that provides a platform for design and construction teams to work collaboratively to more efficiently plan, design, construct, and manage buildings and infrastructure.

6.6 Planning Policy Requirements and Residential Development

As part of this overall study, the financial implications of certain planning policy requirements were considered with a view to determining whether they may be having adverse or unintended consequences as regards viability and delivery.

In the context of this exercise, it is important to note that a number of recent initiatives have already been undertaken. These include:

- Issuing of National Apartment Guidelines backed by legislative underpinning (Dec 2015);
- and
- New procedures for fast-tracking planning applications under Strategic Housing Development legislation which came into operation in July 2017.

Further proposals are in train as part of the Planning and Development (Amendment) Bill 2016, which is currently progressing through the Oireachtas, including the proposed introduction of statutory timelines for dealing with compliance submissions for permitted developments.

Additional areas for consideration that this review focused on included:

- Public open space provision;
- Private open space standards;
- Policies on building heights;
- Density;
- Housing Typology; and
- Car Parking.

In considering the above, it is important to recognise that national policies typically tend to be generic in nature, requiring further interpretation by local authorities and application to
various local conditions. For example, a single national building height policy could not be reasonably and equally applied to the centre of Dublin City and a small town or village.

There are two sets of existing Guidelines that are particularly relevant: *Sustainable Residential Development in Urban Areas, Guidelines for Planning Authorities* published in 2009, and the more recent *Sustainable Urban Housing: Design Standards for New Apartments*, published in 2015. These Guidelines have a statutory basis and local authorities must have regard to them in the performance of their functions.

These Guidelines are robust and the use of planning judgement is deliberately enshrined in their content. The practical application of this guidance may not, however, always reflect the allowable flexibility. In order to resolve this issue, it is recommended that the *Sustainable Urban Housing: Design Standards for New Apartments* be reviewed to clarify and reaffirm some of the key issues.

The following sets out the more detailed consideration of the five main areas analysed.

### 6.6.1 Public Open Space

Following long-standing planning policies and international practice, the public open space ratio within statutory development plans tends to be around 10%, with some development plans seeking 15% of the total site area. This range was tested in financial models and, while it may be economically sustainable in more sub-urban locations with low land cost, in more costly urban locations, a higher percentage of public open space will undoubtedly negatively impact on delivery costs. This is not to suggest that there should be a dilution of the principle of quality, usable and integrated open space within residential proposals; rather that in the context of viability considerations, there needs to be a focus on qualitative open space provision rather than a sole focus on the quantitative provision.

There is a value in further analysis of best practice examples of well integrated open space across a range of scheme layouts and scenarios and using a range of open space proportions to inform architects, urban designers, planners, landscape architects, engineers, quantity surveyors and developers. Any such work would augment and complement the 2009 Urban
Design Manual - A Best Practice Guide – the companion document to the *Statutory Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas* and would be appropriately taken forward by the Department potentially as a joint study with industry and other stakeholders.

### 6.6.2 Private Open Space

The terms ‘*innovative*’ and ‘*flexible*’ are used in the aforementioned Urban Design Manual - A Best Practice Guide when discussing private open space, specifically rear separation distances between residences. Examples exist where the permitted flexibility in interpretation has been successfully applied, providing adequate and good quality private open spaces smaller in area than would traditionally have been used. In such cases, the local authority sensibly placed a higher value on the layout and orientation of the private space and proximity to local parks than on reaching abstract numerical targets. This is another example of the real impact of good design.

Equally, there are examples of inflexibility in the application of Development Plan objectives that can have consequences for the sensible and sustainable development of a site. This can arise, for example, by requiring different garden sizes for different house types within a terrace, leading to a potential reduction in density and design problems in terms of streetscape; and an unnecessary amendment to the housing typologies proposed.

The point is that the use of judgement in statutory guidelines is available to decision makers as to the appropriate size of a rear garden which provides high quality and effective private open space. This should not be required to increase in size purely to a pro-rata bed-space increase without a judgement as to the quality, aspect and orientation of the space proposed. This is reflected in the language used in the Guidelines as follows:

> While a 22 metre separation distance between opposing above ground floor windows is normally recommended for privacy reasons, this may be impractical and incompatible with infill development.

In short, decision makers need to be mindful of the flexibility available to them where good design is displayed as a compensatory measure.
As with the prior recommendation, analysis and highlighting good examples is recommended to reaffirm the allowance for flexibility where high standards of design are being put forward.

6.6.3 Building Height

In some cases, statutory development plans set out an allowable height limit in certain locations. Building height restrictions outside of a clear planning and urban design justification can have a significant adverse impact on the viability of delivery, as well as the achievement of wider public policy aims in terms of compact urban development and countering urban sprawl.

The matter of height in the context of density was previously considered within a 2004 NESC report, from which the below Diagram A was taken. While the prevention of urban sprawl is a positive objective, the NESC study and diagram below illustrates that for a set plot ratio and site size, the high rise building does not provide any more dwellings than a perimeter block arrangement of three to four storeys. That is not to say that individual tall towers would not have their place in cities as iconic and landmark buildings but because of their impact on the skyline and on their surroundings, their location and whether isolated or grouped has to be carefully considered.
The cost modelling undertaken in connection with this current study identifies heights of up to 6 storeys as being the optimal height from a viability perspective for affordable apartment buildings.

Consequently, to avoid the tendency towards urban sprawl, while achieving a relatively economic delivery cost objective, there is a strong case that base heights in Dublin and regional cities of at least 6 storeys should be set in locations, which can accommodate this volume. Furthermore, appropriate areas should be targeted for 7 to 10 storeys (30m height level) and above as part of larger strategic landmark development sites, while allowing for a graded approach in density of delivery across the site.

Acknowledging that permissible heights are set in Development Plans and Local Areas Plans, which are a reserved function of the local authority, the relevant statutory guidelines should be updated to provide for setting a base height allowance. This should provide, where context is appropriate, for at least 6 storeys.
6.6.4 Density
The issue of net density provision within suburban type schemes was considered, highlighting differences in interpretation of density guidelines on what constitutes the gross and net site area and consequently on what the actual density of a site is. This can lead to a design typology (say “own–door” housing to a net density of 35 dwelling per hectare) being judged by a planning authority as not achieving a sufficient density, notwithstanding compliance with national policy in this area. This is sometimes caused by a dispute over the attributable role of public open space and major access roads within a scheme design and the consequent calculation of the net site area that is higher than what it should be for the purposes of calculating density.

For example, Guidance distinguishes between ‘incidental open space’ and what is judged to be ‘open space serving the wider area’ which often causes confusion when making decisions based on net: gross figures. It is recommended that this be clarified by the Department.

6.6.5 Housing Typology
The ratio of unit type within apartment schemes is a function of planning authorities. The judgement will generally relate to the scale of the proposed development and the specific demographic profile of the area in question.

It is well acknowledged that Ireland’s population is not only growing but experiencing much change in terms of reducing household sizes, due to a variety of factors including an ageing population and diversity of nationality origin, all of which impact on the need for a different mix and unit typology into the future. This changing landscape needs to be taken into account now in planning and designing of residential developments.

A clear outcome of our changing society is the need for increased housing numbers with a higher percentage requirement for smaller unit sizes. In this context, it is recommended that guidance on the ratio of 1- and 2–beds and studio apartment sizes should be reviewed.
6.6.6 Car Parking

Parking requirements for urban apartment schemes can present a cost challenge as demonstrated by cost model studies. There is a balance required between the cost of delivery and matters such as proximity to public transport, the ability to design undercroft solutions, and an argument for reducing car parking requirements.

Flexibility in this regard currently exists within guidance and the Department should reaffirm the flexible and holistic approach to ensure that flexibility is sensibly applied by planning authorities to avoid the over-provision of expensive parking solutions in areas where such car parking is not required.

6.7 Summary Recommendations

Time

- Time savings will arise out of the introduction of the new 100+ home strategic housing application route coupled with further legislative changes anticipated under the 2016 Planning Bill to deal with the introduction of time limits for finalising planning condition compliance matters.
- Clarification in relation to the Part V agreement process should be issued by the Department of Housing, Planning and Local Government.
- A co-ordinated approach to Development Bonds across industry and LA’s should be agreed and implemented.
- Review of the recommendations for site development works for housing areas (1998) is required.
- New specifications e.g. Irish Water, water supply/drainage specifications, under development should take into account the impact on construction costs.
- Standardised approaches to taking in charge should be agreed and implemented.
- Industry should more adequately prepare and manage sites to reduce site delays and the associated cost impact.
Method of Delivery & Design

- Industry should ensure proper up-front management of projects to ensure the appropriate procurement, structure, contractor and methodologies are utilised to facilitate economies.
- Industry should invest in achieving quality designs and cost effective residential delivery. This requires early involvement of collaborative design teams.

Market Statutory Factors

- The cost impact of the EU requirements of Nearly Zero Energy Buildings, through the development of Part L of the Buildings Regulation, should be fully considered with a view to containment, where possible.
- The design of buildings to the NZEB standard will require significant co-ordination between general and specialist designers, e.g. building services designers to achieve the most cost effective compliant design, realising the benefits of passive measures and less costly interventions e.g. air tightness, thermal bridging.
- Progress on soil and stone waste issues is underway, convening a Construction Waste Resource Group comprising key C&D waste stakeholders, will provide a useful platform to discuss and monitor C&D waste issues arising, including the capacity of the sector to manage C&D waste.

Planning

A review of the Sustainable Urban Housing: Design Standards for New Apartments and other relevant statutory guidelines should be carried out to:-

- clarify guidance in relation to height of buildings and density calculations;
- emphasise the importance and benefits of innovative and flexible consideration of high quality design in relation to scheme design and the provision of car parking; and
- provide more effective guidance on appropriate unit mix reflecting contemporary household size and formation characteristics – e.g. more studio and 1-2 bed units.

In parallel, it is recommended that the Department, in association with industry and other stakeholders collate best practices examples of good design to complement the suite of
planning guidelines. This approach, through further supplementary guidelines, should reference best practice in scheme layout, open space provision, density standards, typologies and car parking. It is also recommended that a series of workshops be arranged with local authorities, An Bord Pleanála and relevant stakeholders.
7. PROFESSIONAL FEES

7.1 General

It is imperative that our housing stock is designed and built to a quality standard and that it complies with statutory requirements to achieve a safe and healthy living environment. Involvement of a professional advisory team is a key resource to achieve this task.

However, in circumstances where financial institutions and lenders are not prepared to fund projects until such time as planning permission is obtained, design consultant engagements are often not introduced into the process until post-planning in the interest of reducing up-front costs. In such instances, there is a lost opportunity to ensure that a cost effective and viable product is progressed through planning.

It is recommended that the professional institutes collaborate and jointly highlight the services required to successfully deliver a quality, economic and sustainable residential scheme of scale, which is often misunderstood in the market, including the benefit of early team technical and expert involvement. A joint publication in this regard would help to highlight the strength and benefits of full design team involvement in housing projects at the earliest stage.

In respect of calls for reduction on VAT for professional services to aid affordable housing delivery, it must be appreciated that this cannot reasonably happen in isolation of reducing VAT on fees for other sectors, e.g. professional fees on commercial projects, where such difficulties are not reported. There is, however, a number of initiatives already in train that can assist with achieving economies in this area:-

1. Streamlining and reduction in delay with consideration of planning applications;
2. Clarification of planning guidance on apartments, for example, to ensure consistency across LAs and avoid unnecessary or redundant work and the need to revise schemes to match individual LA requirements; and
3. The scope with a recovering market to bring volume and ultimate economies of scale with respect to fees.
8. DEVELOPMENT LEVIES/CONTRIBUTIONS

8.1 General

While Development Levies/Contributions are an essential source of infrastructure funding and cannot be eliminated, it is acknowledged that they can be a significant cost element in the provision of housing and can add to the viability challenge.

Development charges generally fall into two categories:

- Those scheduled under Section 48 of the Planning and Development Act 2000, as amended, which represent a contribution towards roads, sewerage, parks and other facilities provided by the Local Authority; and
- Those payable directly to utility companies for supplies and connections, e.g. water, electricity, gas etc.

In certain locations, additional Local Authority levies can apply under Section 49 of the Planning and Development Act 2000 to help fund special infrastructure from which a development site may particularly benefit or may be specifically serviced e.g. Luas service.

The following table sets out Section 48 contributions applicable across the four Dublin Local Authorities.

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</tbody>
</table>

The above rates have been subject to adjustments following a review of contributions in recent years with the twin aim of seeking to improve the viability of residential development and to exclude water contributions, which are now gathered separately by Irish Water. With responsibility for water supply transferred across to Irish Water, levy calculations are currently being established and are likely to be managed similar to the
methods utilised by the ESB or Gas utility, for example, with each case/site considered in context of location and the status of the local network.

Two main points arose during the course of this review relating to Local Authority levies, i.e. the scale of the costs and the payment method (up-front payment or staged payments) and the following issues were considered:

- Scope for alternate funding of infrastructure;
- Introduce a costing model for development contributions to reflect actual cost of infrastructure delivery;
- Development levies to be paid only after the completion of developments to reduce finance costs; and
- Review of the Development Contribution Rebate Scheme, to support affordable housing and in particular apartment buildings and brownfield development in general.

### 8.1.1 Alternate funding of infrastructure

The Local Infrastructure Housing Activation Fund (LIHAF), introduced as an action under Rebuilding Ireland, has facilitated the early provision of strategic enabling infrastructure to the value of over €200m to open up strategically located housing lands for early development and deliver housing at more affordable price points than would otherwise be the case. The initiative was recently further supplemented under the Mid-Term Review of the Capital Plan by increased capital funding of €62.5m to assist in the delivery of further housing delivery, including more affordable homes, in key locations.

The Ireland Strategic Investment Fund is currently working with some local authorities and private developers on financing of housing enabling infrastructure which should facilitate alternative and more cost effective and timely delivery of elements of infrastructure. Increased use of this vehicle, when developed and operational, is encouraged.
8.1.2 Introduction of a cost model for development contributions to reflect the actual cost of infrastructure delivery

Contribution calculations are already in place and published by each local authority, with many development levy schemes being representative of only a portion of the cost of the infrastructure. Therefore, if development contribution schemes were required to be revised in a way that reflects actual full public infrastructure costs, then the likelihood would be that many rates of levy schemes would increase markedly, and this would not be recommended given its cost implications for residential delivery.

8.1.3 Development levies to be paid only after the completion of developments to reduce finance costs

While the possibility of staged payment of levies is referenced in planning legislation and is an accepted practice for many local authorities with several adopting a good degree of flexibility, a staged payment approach is not consistently applied across the country.

It should be noted that the suggestion of payment of levies on completion of the sale of a unit is not considered a realistic solution, due to the need to demonstrate payment of levies for conveyance purposes. This approach also ignores the financial impact on the local authorities who could very well progress infrastructural elements to which the levies relate in tandem with the scheme development.

It is recommended that protocols at local authority level be brought forward in relation to staged payments of levies to provide more certainty for project risk profiling and financing.

8.1.4 Review of the Development Contribution Rebate Scheme

The Development Contribution Rebate Scheme announced in December 2015 was designed to contribute to delivery of more affordable homes. This scheme applies to developers and builders who have paid contributions due under Section 48 of the Planning and Development Act 2000, as amended, for a project of at least 50 units that meet sales price thresholds of between €275,000 - €300,000. However, given the slow increase in supply, particularly in relation to new residential development aimed at the lower end of the market, the most likely reasons for its low level of take-up may include:-
- Insufficient residential construction activity at the time of its introduction to allow completion and sale to the market within the required 2-year timeline;
- Little product delivered in the market matching the target minimum number of units required; and
- It was also suggested that it may be more lucrative for a developer to sell the units at higher market obtainable rates as opposed to seeking a rebate on contributions.

It is recognised, however, that the intent of such a scheme is very positive and it is strongly recommended that the local authority development contribution schemes be reviewed, with particular attention to high-rise structures in urban and especially brownfield locations, given that they potentially require less new infrastructure. The application of a capped fee or lower cost/m2 at a certain level in select city locations was also seen as a positive approach towards achieving more high-rise development in key nodes.

### 8.2 Summary Recommendations

- Put in place an agreed common protocol across LAs in relation to staged payment of contributions.
- Review local authority development contribution schemes particularly in relation to high rise structures to encourage better site and infrastructure usage.
9. FINANCE

9.1 Funding Landscape Overview
In recent years, Ireland has seen an increase in both senior and alternative lenders’ appetite to fund residential development. Many non-bank or alternative lenders have entered the Irish residential development sector. This trend follows the UK and US models where many house builders would consider it the norm to deal with alternative lenders instead of, or in conjunction with, a traditional lender, such as a bank, akin to the more familiar approach to the Irish market in the past.

The range of capital now available for the residential development sector includes senior debt, uni-tranche, mezzanine debt and equity, with some funders having access to capital from the Irish Strategic Investment Fund.

The key focus of funders now is free cash flow generation, as opposed to the balance sheet value of the underlying asset that would typically have characterised lending to the sector during the mid- to late-2000’s. This shift in lending policy focuses on visibility of cash flow and the timeframe in which this cash can be realised.

As a result there is very limited appetite amongst lenders to fund sites without planning permission or to take on risk through the planning process. This is a very significant shift from the development market of the past. It clearly limits the attractiveness of sites without planning and further increases competition for the limited number of sites which are “shovel ready”, thereby pushing up the cost and feasibility of ready-to-go sites coming to the market.

9.2 Senior Debt Providers: Lending Criteria
Banks’ current preference is to lend to house-builders on a site-by-site basis, with limited evidence, if any, of banks providing corporate funding type facilities. While the banks are offering facilities for development on a site-by-site basis, the level of equity required under this structure often limits the ability of many market players to provide any significant scale
of development or increased housing output. Equity is typically tied up on a single development for 2 - 3 years until debt facilities have been repaid in full.

While banks therefore may be in a position to provide finance at a more affordable level i.e. below 10% levels, it remains only in circumstances where the promoter has the capability to bring equity to the table, with the acceptance that this equity is tied up until such time as the funder’s contribution is repaid in full. In the absence of equity release, the promoter’s development capability is therefore limited. A further complication with lack of funding availability for the planning stage is a tendency for selective engagement of design consultants to minimize up-front fee exposure, resulting very often with loss of up-front value engineering and the opportunity to ensure that the most cost effective scheme proceeds to planning.

In terms of location, there is an appetite amongst banks to fund conventional housing schemes, rather than apartment developments, in select locations across the main urban centres i.e. Dublin, Cork & Galway. However, outside of these regions, there is very limited appetite and generally only with pre-sales in place, which is very limited within the current market.

9.3 Alternative Lenders: Lending Criteria

Alternative lenders have entered the Irish market and are actively targeting Irish residential development, offering house builders the ability to scale their business with a smaller amount of equity input than that required by banks. Leverage levels up to 90% Loan to Cost (“LTC”) on both site acquisition and Work in Progress (WIP) facilities are available via this sector of the market. Typically, however, alternative lenders in this sector provide unitranche and mezzanine debt facilities which attract high margins, i.e. 10% - 15%.

This structure typically comprises:-
- Up-front arrangement fee;
- Coupon; and
- Exit fee or equity participation.
Alternative lenders are also more likely to have a stronger appetite for planning risk and therefore offer more flexibility than a traditional bank when funding sites without planning permission. While this methodology would appear extremely positive in the market, it is at high cost and tends to be somewhat limited by supporting a small number of the more solid promoters. The likely customers for this type of finance are the more established promoters with a strong pipeline of sites, which has created strong competition for capital among such players.

9.4 Blockages to Funding
Within the landscape outlined, in summary, current blockages to funding include:-

- Lending preference on a site-by-site basis which limits the scale of development;
- High cost of finance due to use of alternative lending facilities;
- Funders focus on loan to cost rather than loan to value – with equity tied up;
- Alternative lenders looking to support a limited number of strong supporters; and
- Lenders more supportive of funding pent up demand for new houses in attractive locations rather than supporting affordable stock delivery.

9.5 Factors that influence finance affordability
Affordability of finance is clearly an inhibitor to development. Our examination has shown that the main headings, which funders consider in deciding the risk profile of a scheme/development prior to setting a lending rate, are as follows:

1. Project Type e.g. residential (preferably conventional low to medium density) or commercial (the latter being viewed the more stable product in the current market);
2. Developer Financial Stability and Track Record;
3. Delivery Mechanism e.g. in-house builder/developer or external delivery (former generally viewed as the more cost effective mechanism);
4. Applicant Equity and extent of same;
5. Project Planning Risk/Status (e.g. are conditions onerous or easy to resolve);
6. Project Timeline i.e. anticipated debt recovery timeline (phasing for example positive);
7. Robustness of the budget detail and level of positive profiling;
8. Agents report on sales/letting potential and market trends;
9. Potential for funder equity (indicator of funder confidence); and
10. Market stability/Government Policy, e.g. “Help to Buy Scheme” viewed positively by the finance market.

**9.6 State & Partial State Investment**
Further sources of funding are available for housing development, in which the State has an interest, i.e., the Housing Finance Agency (HFA) and the Ireland Strategic Investment Fund (ISIF). These are detailed below:-

**9.6.1 Housing Finance Agency (HFA)**
The role of the HFA is to borrow and raise funds to advance loans to Local Authorities and the voluntary housing sector for purposes authorised by the Housing Acts 1966 – 2009. The function can extend to the provision of infrastructure for housing. The HFA is fully State owned and self-financing, charging only a minor up-lift on market finance which allows for competitive rates in the region of 3%-4%. The HFA function is geared towards the provision of social housing which is obviously not part of this study.

Two areas where use of such funds might assist with affordable housing delivery, however, are as follows:-

1. Bridging finance for the up-front purchase of Part V units as outlined in the Housing Action Plan (an action capable of releasing a proportion of the burden of finance to development). The loan would be extended to LA’s until such time as the units are delivered at which point the loan would be ended. Given the short term of the loan and competitive rates available any finance charge would be a minimal add-on cost to the social unit cost. The loan from LA to the developer would obviously require collateral in the event of non-delivery.

2. The provision of finance for infrastructure to open up LA lands within their ownership which are currently not being developed due to the need for up-front investment. Sale of the serviced land in turn could provide for repayment of the loan and allow for social housing development elsewhere.

It is recommended that both of these options be investigated further.
9.6.2 State Direct Assistance Towards Infrastructure

As previously referenced within chapter 8 of this report, a €200m+ LIHAF fund is being made available to facilitate strategic infrastructure to directly target early delivery of large-scale housing developments, with a particular focus on provision of housing at more affordable prices within these schemes.

The announcement of a second LIHAF infrastructure fund of €62.5m has the potential to unlock further residential lands with the objective of achieving more affordable pricing in the market. Through this second tranche, as well as targeting funding towards servicing, local authorities will have the facility to make available sites to AHB’s to deliver affordable housing. LIHAF is a clear example of the Government’s focus on bridging the affordability gap for those that do not qualify for social housing supports but who are under pressure to find homes to rent or buy at their current income levels.

9.6.3 Ireland Strategic Investment Fund (ISIF)

ISIF has an overall €7.3bn fund available for investment within the Irish market. The objective of ISIF is clearly stated as “Investing in projects with commercial returns and economic impact in Ireland”. With this objective, ISIF have invested in a number of company proposals who are focused on private housing and hold the objective of achieving more affordable delivery to the market.

A number of examples of such investments are:-

1. Capital investment houses who offer competitive senior debt finance to housing development, e.g. Activate Capital. Such houses have been known to offer up to 90% loan to value senior debt finance at reasonably competitive levels; however, like any finance, the offering is dependent on the risk profile of the project. Availability of new market players such as Activate and other non-ISIF financing platforms is contributing to market re-stimulation and undoubtedly the more competition there is in the market the more competitively finance will priced.

2. Other companies are in the business of raising funds for site purchase and the development of an affordable housing product, e.g. Ardstone Capital. Such initiatives
are now beginning to deliver product with increased volume anticipated in the period ahead.

In line with other market participants and commentators, ISIF has indicated for some time that the commerciality of new residential development has been marginal, due to a range of factors. While this is still the case for a large number of developments, ISIF, from its perspective as a cornerstone investor in a number of housing financing and development platforms, has observed some improvement in viability within the past year and some increase in developer appetite to progress developments, particularly in new housing in Dublin, commuter Dublin and Cork. In contrast, ISIF perceives that viability of apartment development generally, including in these major centres, remains challenging.

Continued active marketing of the above platforms which are gaining increasing market recognition should be encouraged. It is understood that, in line with its double bottom line mandate, ISIF will continue to explore viable investment opportunities and platforms that contribute to increased housing supply and it is understood to have an active pipeline in this respect.

9.7 Development Margin

Aligned to finance is development margin, which is the surplus above all input costs (including land), that a developer is targeting as a return for undertaking the project. It is expressed as a percentage of all input costs. Funding will not be forthcoming without the inclusion of an appropriate development margin level.

Development margin is a prudent risk and does not always reflect the actual developers end profit. The margin can vary, depending on the perceived level of risk. The level of risk is a factor of the various elements in the delivery of the project and the key risks tend to be; - planning delays, finance costs, programme (timing of sales income), construction cost inflation and variations in market conditions for sale or letting of the completed units. Property development is by function a risky undertaking and the durations of time involved vary on a project by project basis. For residential schemes, timeframes from start to completion can vary between 12 to 36 months (or more), based on the size of the project
and the status of the planning permission etc. Therefore, in many studies, a development margin of somewhere between 10% (for low-risk housing developments) and 15% (for apartments) is a realistic assumption when carrying out a viability or feasibility assessment on a project.

9.8 Summary Recommendations
While the finance market on the surface may appear strong, with alternate lenders entering the market, in overall terms these new players are, however, only replacing business previously conducted by pillar banks, which was quite a significant market in the past. The truth is that availability to the finance markets has contracted substantially. Residential lending is viewed as high risk, and many blockages exist, particularly in the context of achieving economic or volume delivery.

The part played by ISIF to date has been very positive and any possible extension of such activity is encouraged. More finance players are needed to help stimulate competitiveness, which could be helped with high-level marketing of the positive elements of the affordable market and initiatives to influence recovery of which there are many. This combined with Government policy endorsing that business is stable will ultimately lead to cheaper product provision in the marketplace for housing.

Development margin levels are a product of project risk profiling. Where residential risk levels are reduced, this will invariably have a positive effect on margin levels, resulting in a direct reduction in delivery cost levels. Potential initiatives such as a commitment to purchase additional units over and above the Part V commitment could potentially be considered, where this is appropriate having regard to local circumstances, and where there is a developer commitment to deliver units at affordable levels. In the current market, this is likely to be viewed positively by financial institutions and lenders, with the potential for a reduced development margin than might normally be commanded.
Recommendations in relation to the finance market are as follows:-

- De-risking of residential projects is key to delivering reasonable finance levels and to allowing lower development margins. This extends across many recommendations within this report.

- As indicated under the land section of this report, the documentation and publication of the extent of the affordable market is recommended.

- Continued marketing and presence of ISIF platforms in relation to the affordable residential market is encouraged.

- In overall terms, the shortage of affordable finance for the residential market has presented a significant blockage to development. Home Building Finance Ireland (HBFI) will provide a very welcome additional finance facility to developers with ready-to-go sites but who are experiencing difficulty in obtaining funding.
10. VALUE ADDED TAX (VAT)

The reduction or elimination of VAT on new house sales, which currently stands at 13.5%, is very often cited as a solution to the high cost of residential delivery.

While such a proposal may appear to be a ready solution to the problem, there are very significant EU VAT Directive impediments to such a measure and there is also a significant economic argument against such a strategy.

The economic argument stems from market behaviour, whereby two parties bidding for a property will invariably pay to the limit of their funds, which is not impacted by VAT inclusion or otherwise. The seller/developer on the other hand is likely to benefit from a VAT revision with increased market activity which seems positive. However, there is strong evidence in the past that any VAT reduction is likely to transfer on to higher prices being paid for land which in effect would negate any benefit whatsoever.

In summary, a VAT reduction would likely only serve to enhance what is already a problem with overpayment for residential land, as highlighted earlier within this review. Therefore there are no specific recommendations in relation to VAT in the report, instead the recommendations focus on longer term sustainable measures in relation to land, construction related costs, fees, contributions and financing costs.
PART 2

11. VIABILITY

11.1 Viability of Residential Delivery and Affordability

A key starting point in determining viability is to work from the baseline of what is affordable from the disposable spending power of the broad swathe of the target market. In terms of determining affordability, the 2016 CSO Earnings and Labour Costs Survey publication dated the 29th of June 2017 points to average earnings for full-time employees of €45,611.

In addition, the Central Bank has published rules around how much a couple can borrow as follows:-

- Loan to Value (LTV) – First Time Buyers up to 90% of the value of the residence
- Loan to Income (LTI) – a maximum of 3.5 time the gross income.

Utilising the above information, in the circumstance where both parties in a couple earn the average wage, the calculated affordability level would be €319,277 (€45,611 x 2 people x 3.5 times). Alternatively, where one party of the couple is on a lower than average wage, say 50% of the average, the result would be €239,458 (€45,611 x 1.5 x 3.5 times).

To account for a wider population base therefore, the report considers affordability to be in the range of €239,458 - €319,277, which is on the assumption that the parties have 10% savings/equity to hand to facilitate a mortgage application in the first instance.

Responding to this the financial viability models developed as part of this study have geared sales pricing primarily towards such levels of household affordability in terms of purchase or rental cost spending power.

11.2 Viability Financial Modelling

Given that residential under-supply is particularly marked in urban areas and Dublin, it was considered productive to run viability modelling exercises for the Dublin region and with
two particular typologies which were believed to best represent the required product(s) and achieve volume:

1. Urban Apartments
2. Suburban Housing

In this regard, it was considered that two particular elements i.e. parking requirements and site density had some scope for adjustment in aiding economic delivery.

The findings from the modelling exercises in this report are very dependent on the specific inputs and assumptions, which have been chosen to achieve an affordable product. Site cost and locations, general specifications, delivery mechanisms and finance costs etc., were based on what might be considered the best achievable in the current market place. While the outcomes may not be reflective of all circumstances, they are helpful in highlighting the key elements at issue with viability in the Irish market at present.

11.3 Urban Model Financial Modelling

A six storey residential block was selected as a reasonable base model given that it works to the limit of floors capable of being delivered within 20m height, above which more onerous and costly fire requirements become relevant.

An image of the building type utilised is contained within Appendix A which was selected on the basis of being a product which utilises an economic form and addresses density to a reasonable level.

Base inputs to the initial urban models developed are as follows:-

- **Land Cost**: 1Ha area (assumed Cork Street Dublin 8). The land cost utilised in each of the worked examples was based on residential zoned land without planning permission. Such a planning status, while potentially suggesting a lower site purchase cost, might also impact negatively on the finance risk perception. However, a site may be re-valued once planning is obtained allowing a more positive financial profiling of the
• proposal. Note that the site area and cost remained constant throughout the various urban models tested.

• **Sales:** The model was based around the viability of development for housing aimed at the disposable incomes of households on average wages suggesting a price range from €240,000 - €360,000 including VAT with 3 bed units (20% of overall unit numbers) being marginally outside of the target price range. Sales income timeline was set at 3 months prior to project completion with final sales anticipated 6 months post project completion.

• **Construction costs:** These costs are based on current competitive levels for a project with limited abnormal costs (refer to Appendix A).

• **Design base:** The model specification was assumed to be around a product that could be sold for the target sales prices.

• **Finance:** Developer equity was assumed as 30% i.e. Loan to value 70% with a 10% blended finance rate. A development margin 12.5% was assumed which is reflective of the risk factor involved in bringing in the project on cost and time.

• **Fees:** Based on competitive market levels.

• **Development Contributions:** These were based on the relevant local authority current stated Section 48 (i.e. standard – no special or supplementary contributions) capital contributions plus an allowance for gas, water & power connections. The site was assumed to be in close proximity to services.

• **VAT** was excluded from the viability exercise on both development costs and sales value on the assumption of the project owner being registered for VAT.
11.3.1 Urban Modelling - Parking Analysis

The Sustainable Urban Housing: Design Standard for New Apartments as issued in December 2015 provides guidance for car parking in an urban context, setting a benchmark of one car parking space per unit with the latitude to consider a reduction or avoidance in very accessible areas. With this as a backdrop three parking options were examined utilising the base six storey block to establish the most economic base model for further tests. The options selected were as follows:-

- **Option 1**  Single level basement car park : 1 space/apartment
- **Option 2**  Podium parking only: approximately 0.5 spaces/apartment
- **Option 3**  Parking to the perimeter of the scheme within the site boundary: approximately 0.5 spaces/apartment

Findings from the exercise are reported within Table 1 below, which indicate Option 3 as the most positive outcome. Despite this, however, it did not realise the target development margin required to obtain a reasonable finance offering.

Option 1 with basement parking proved the least positive proposal given the high construction cost and timeline for delivery. Option 2 suffered primarily due to the loss of units incurred due to the necessary ground floor set-back access requirement to deliver on the proposal.

**TABLE 1**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Parking Type</th>
<th>Units</th>
<th>*Appraisal Result</th>
<th>Monetary Profit/Loss €</th>
<th>Profit/Loss per unit €</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6 Storey Block</td>
<td>Basement</td>
<td>252</td>
<td>-17.61%</td>
<td>-14,600,000</td>
<td>-57,937</td>
</tr>
<tr>
<td>2</td>
<td>6 Storey Block</td>
<td>Podium</td>
<td>234</td>
<td>-12.08%</td>
<td>-8,700,000</td>
<td>-37,179</td>
</tr>
<tr>
<td>3</td>
<td>6 Storey Block</td>
<td>Perimeter</td>
<td>252</td>
<td>-8.44%</td>
<td>-6,300,000</td>
<td>-25,000</td>
</tr>
</tbody>
</table>

* Appraisal includes for 12.5% margin - result as reported is over and above the set margin

Preferable base option
Given that Option 3 displayed the best result, it was chosen as the preferred option to provide the basis for further modelling.

### 11.3.2 Urban Modelling – Height & Density Analysis

As the most preferable option (Option 3) from the base parking analysis, this model was further utilised to model different approaches to density in context of height (but it must be noted that high density does not necessarily mean high rise) on the same site with the following options considered:

- **Option 4** 8 storey solution;
- **Option 5** 10 storey solution (limit of 30m fire range beyond which further increased fire considerations over and above the 20m threshold, apply);
- **Option 6** 15 storey solution (modelled with re-introduction of a basement to accommodate parking requirements); and
- **Option 7** As for Option 3 with increased ratio of 1 & 2 bed units.

Each of the above options was tested without revision of the site area which is accepted as somewhat unrealistic, particularly with the 15 storey option, for instance, as the resultant density of this option is in excess of that achieved in comparator cities, although there is validity in demonstrating the impact of increased height in general terms.

With respect to cost inputs across the different height models, additional construction costs were a leading factor, with each of the higher rise options incurring additional construction cost requirements over and above the six storey proposal, indicated graphically as follows:-
Findings from this further analysis are reported in Table 2 below with some notable outcomes. Option 7 out-performed Option 3 where a higher ratio of 1 and 2 bed units were specified and geared towards first time buyers or rentals.

On the other hand, increasing building heights result in markedly more pronounced deficits in economic return because of increased construction costs.

It is important however to note that the findings are arrived at purely with the objective of realising affordable prices in the market and do not take cognisance of the broader benefits of achieving volume on the site with a more economic use of local infrastructure for example.
The latter point raises the question as to whether consideration should be given for much reduced contributions, where higher densities are being realised in urban locations, where brownfield land is being developed and where the target market for the housing concerned is for prices and/or rents that the average income households can afford.

It is recommended that where there is a practice of applying contributions as a cost per m$^2$, this should be reviewed with a view to substitution of a capped fee at a certain point or a reduction above a certain site density.

This one initiative could make a significant difference in aiding the viability of additional supply and urban regeneration, in high demand locations.

### TABLE 2

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Parking Type Type</th>
<th>Units</th>
<th>* Appraisal Result</th>
<th>Monetary Profit/Loss €</th>
<th>Profit/Loss per unit €</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>8 Storey Block</td>
<td>Perimeter</td>
<td>296</td>
<td>-11.43%</td>
<td>-10,650,000</td>
<td>-35,980</td>
</tr>
<tr>
<td>5</td>
<td>10 Storey Block</td>
<td>Perimeter</td>
<td>372</td>
<td>-12.00%</td>
<td>-14,130,000</td>
<td>-37,984</td>
</tr>
<tr>
<td>6</td>
<td>15 Storey Block</td>
<td>Basement + Perimeter</td>
<td>562</td>
<td>-21.58%</td>
<td>-43,030,000</td>
<td>-76,566</td>
</tr>
<tr>
<td>7</td>
<td>6 Storey Block</td>
<td>Perimeter</td>
<td>272</td>
<td>-8.00%</td>
<td>-6,070,000</td>
<td>-22,316</td>
</tr>
</tbody>
</table>

* Appraisal includes for 12.5% margin - result as reported is over and above the set margin

### 11.3.3 Build to Rent

A build-to-rent version of Option 3 was tested on the assumption that the apartment scheme design would remain as for the build-to-sell model and in respect of finance, the loan would be refinanced on completion into an investment type loan. The investment loan assumptions were:-

- Maximum LTV 70%
- Repayment 20 year amortisation (norm is 15%)
- 5% interest rate
• 5.5% yield i.e. €5.7m annual rent (Detail refer to Appendix B)

On the basis of this data the investment loan proved feasible, however notably only by utilising current market rents (>€1,500 per month), as opposed to rents tracking the disposable income thresholds of households on average incomes.

11.3.4 Revised Finance

As a separate analysis, Option 3 was re-modeled, at a 7% blended finance cost with all other factors remaining constant. This exercise resulted in a 3.6% improvement in economic performance but still leaving a margin shortfall of €13,800 per unit.
11.4 Suburban Modelling

Viability models for suburban development were tested in respect of the percentage of open space and density, two variables with scope for adjustment to improve viability.

A base 4.76ha site was selected for this part of the study anticipated to be in the west Dublin suburbs in close proximity to public transport and services. The base option was developed as a housing scheme to maximum site density with 10% public open space. An alternate option was developed at 15% public open space requiring more land and a third adjustment being a repeat of the 10% scenario but with the introduction of duplex units on a portion of the site.

The outputs of the exercise are contained in Appendix C, based on the following assumptions:

- **Land Cost**: 4.76Ha area (assumed West Dublin location). The land cost utilised in each of the worked examples was based on residential zoned land without planning permission. Such a planning status, while potentially suggesting a lower site purchase cost, might also impact negatively on the finance risk perception. However, the site may be re-valued once planning is obtained allowing a more positive financial profiling of the proposal;

- **Sales**: Income geared primarily to the disposable income levels of households on average wages. Prices would range from €185,000 - €340,000, including VAT, with the 4 bed units (10% of overall unit numbers) marginally above the target affordable level. The sales income timeline would be in tranches over 4 stages;

- **Construction costs**: based on current competitive levels for a project with limited abnormal costs (refer to Appendix C);

- **Design base**: The model specification was assumed to be around a product that could be sold for the target sales price;

- **Finance**: Developer equity was assumed as 30% i.e. Loan to value 70% with a 10% finance rate. Required development margin was assumed 10% reflective of the
anticipated risk. Notably this is lower than the apartment model due to the ability to phase the project;

- **Fees:** Based on competitive market levels;

- **Development Levies/Contributions:** These were based on the relevant local authority current stated Section 48 (i.e. standard – no special or supplementary contributions) capital contributions plus an allowance for gas, water & power connections. The site was assumed to be in close proximity to services.

- **VAT** was excluded from the viability exercise on both development costs and the sales value on the assumption of the project owner being VAT registered.

Outcomes from this exercise are outlined in Table 3 below, with each of the options reaching the required development margin and in some cases an additional minor profit over and above the target.

The economic return under Option 3 is positive while also returning the highest density/use of site (50/hectare) with the introduction of a proportion of duplex units.

**TABLE 3**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Type</th>
<th>Units</th>
<th>Result</th>
<th>Monetary Profit/Loss €</th>
<th>Profit/Loss per unit €</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3 &amp; 4 Bed Units</td>
<td>Housing</td>
<td>164</td>
<td>1.83%</td>
<td>713,800</td>
<td>4,352</td>
</tr>
<tr>
<td>2</td>
<td>3 &amp; 4 Bed Units</td>
<td>Housing</td>
<td>155</td>
<td>1.49%</td>
<td>555,490</td>
<td>3,584</td>
</tr>
<tr>
<td>3</td>
<td>2, 3 &amp; 4 Bed Units</td>
<td>H + Duplex</td>
<td>238</td>
<td>2.07%</td>
<td>1,029,000</td>
<td>4,324</td>
</tr>
</tbody>
</table>

* Appraisal includes for 10% margin - result as reported is over and above the this margin

**11.5 Summary Findings**

Findings from the various viability studies concluded the following:-

**Urban Model**

- To achieve delivery of affordable units i.e. those matching disposable income levels of households on average incomes, focusing on potentially extraneous costs such as
- parking is a key consideration and suggesting the need for a relaxation on standard, 1 space per unit, development plan standards, where they apply.
- Increased height is a cost challenge when considering higher density at affordable levels. On the basis of the exercises undertaken, a circa 6 storey building is most likely the most cost effective solution.
- A higher ratio of 1 and 2 bed units help viability.
- Build to let models are challenging to deliver at affordable rental levels.

**Suburban Model**

- Suburban housing schemes are more straightforward from a viability perspective.
- A public space imposition much above 10% will impact negatively on viability where land costs are high or limited land is available.
- The introduction of duplex units assists both viability and volume delivery.
APPENDIX A – URBAN MODEL – APARTMENT DEVELOPMENT, DUBLIN 8 (1ha site)

DESCRIPTION
A brief description of the units include site clearance works (assumed no abnormal site conditions), foundation works (assumed good bearing soil), external walls (brick clad to front with render finish to courtyard areas), concrete / blockwork internal walls to core areas, stud partitions to units internally, precast concrete floors, precast concrete roof with membrane finish (green roof to selected areas), double glazed punched windows, bolt-on balcony structures with mild steel framed glazed balustrades, hardwood doors and frames to circulation/core areas, veneered doors with softwood frames to units internally, internal walls and ceilings plastered and painted throughout, floor/wall tiling to wet areas only, painted softwood skirtings, mechanical (MHVR with CHP) and electrical installation (pendant light fittings), medium grade sanitary fittings, medium grade kitchen units (no appliances), wardrobes, site works and boundary treatments. Adaptation of the above as necessary for higher level options.

ACCOMMODATION SCHEDULE

<table>
<thead>
<tr>
<th>Option</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
<th>Option 5</th>
<th>Option 6</th>
<th>Option 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storeys</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>Number of Units</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 bed apartment</td>
<td>58</td>
<td>51</td>
<td>58</td>
<td>42</td>
<td>54</td>
<td>84</td>
<td>118</td>
</tr>
<tr>
<td>2 bed apartment</td>
<td>146</td>
<td>135</td>
<td>146</td>
<td>190</td>
<td>238</td>
<td>358</td>
<td>106</td>
</tr>
<tr>
<td>3 bed apartment</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>64</td>
<td>80</td>
<td>120</td>
<td>48</td>
</tr>
<tr>
<td>Overall Number of Units</td>
<td>252</td>
<td>234</td>
<td>252</td>
<td>296</td>
<td>372</td>
<td>562</td>
<td>272</td>
</tr>
<tr>
<td>GFA (sq.m)</td>
<td>23,045</td>
<td>20,143</td>
<td>23,045</td>
<td>30,890</td>
<td>38,736</td>
<td>58,965</td>
<td>23,045</td>
</tr>
<tr>
<td>Parking Spaces</td>
<td>252</td>
<td>112</td>
<td>104</td>
<td>104</td>
<td>104</td>
<td>253</td>
<td>104</td>
</tr>
<tr>
<td>Outline ratio parking/apt</td>
<td>1</td>
<td>0.48</td>
<td>0.41</td>
<td>0.35</td>
<td>0.28</td>
<td>0.45</td>
<td>0.38</td>
</tr>
</tbody>
</table>
APPENDIX A – URBAN MODEL – APARTMENT DEVELOPMENT, DUBLIN 8 (1ha site)

PROGRAMME

<table>
<thead>
<tr>
<th></th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
<th>Option 5</th>
<th>Option 6</th>
<th>Option 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Construction Period (months)</td>
<td>30</td>
<td>24</td>
<td>24</td>
<td>27</td>
<td>27</td>
<td>42</td>
<td>24</td>
</tr>
</tbody>
</table>

OPTIONS

Various options were examined, as follows:-

- Option 1: 252 Nr. apartments; 6 storeys with semi-basement parking (252 spaces).
- Option 2: 234 Nr. apartments; 6 storeys with courtyard/podium parking (112 spaces).
- Option 3: 252 Nr. apartments; 6 storeys with perimeter/street parking (104 spaces).
- Option 4: 296 Nr. apartments; 8 storeys with perimeter/street parking (104 spaces).
- Option 5: 372 Nr. apartments; 10 storeys with perimeter/street parking (104 spaces).
- Option 6: 562 Nr. apartments; 15 storeys with semi-basement and street parking (253 spaces).
- Option 7: 272 Nr. apartments; 6 storeys with perimeter/street parking (104 spaces).
## APPENDIX B – BUILD TO RENT MODEL – RENTAL INCOME SCHEDULE

### Standard Units

<table>
<thead>
<tr>
<th>Unit Type</th>
<th>Monthly Rent €</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bed</td>
<td>1,300</td>
</tr>
<tr>
<td>2 bed</td>
<td>2,000</td>
</tr>
<tr>
<td>3 bed</td>
<td>2,600</td>
</tr>
</tbody>
</table>

### Part V Units

<table>
<thead>
<tr>
<th>Unit Type</th>
<th>Monthly Rent €</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bed</td>
<td>900</td>
</tr>
<tr>
<td>2 bed</td>
<td>1,440</td>
</tr>
<tr>
<td>3 bed</td>
<td>1,890</td>
</tr>
</tbody>
</table>
APPENDIX C – SUBURBAN MODEL – HOUSING DEVELOPMENT IN WEST DUBLIN

DESCRIPTION

A brief description of the units include standard strip foundations (assuming good bearing soil), concrete ground floor slab on rigid insulation, external cavity walls (150mm cavity) with brick finish to front with render to rear, precast & steel lintels, internal walls with blockworks to ground floor and stud partitions to upper floors, softwood staircase, truss roof with concrete roof tiles, double glazed windows, PVC soffit and fascia, veneered internal doors with softwood frame, internal walls and ceilings plastered and painted throughout, floor/wall tiling to wet areas only, painted softwood skirting, mechanical with PV panels and electrical installation (pendant light fittings), medium grade sanitary fittings, medium grade kitchen units (no appliances), wardrobes, siteworks & boundary treatments

ACCOMMODATION SCHEDULE

<table>
<thead>
<tr>
<th>Number of Units</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Bed House (2 Storey)</td>
<td>131</td>
<td>124</td>
<td>94</td>
</tr>
<tr>
<td>4 Bed House (3 Storey)</td>
<td>33</td>
<td>31</td>
<td>24</td>
</tr>
<tr>
<td>Duplex Units</td>
<td>0</td>
<td>0</td>
<td>120</td>
</tr>
<tr>
<td>Overall Number of Units</td>
<td>164</td>
<td>155</td>
<td>238</td>
</tr>
<tr>
<td>Crèche (150 sq.m)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>GFA (sq.m) (excluding Crèche)</td>
<td>19,426</td>
<td>18,352</td>
<td>25,156</td>
</tr>
</tbody>
</table>

PROGRAMME

<table>
<thead>
<tr>
<th></th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Construction Period (months)</td>
<td>24</td>
<td>24</td>
<td>30</td>
</tr>
</tbody>
</table>
APPENDIX C – SUBURBAN MODEL – HOUSING DEVELOPMENT IN WEST DUBLIN

OPTIONS

Three sub-urban models were examined, they were as follows:-

- Option 1: 164 Nr. housing units with 10% Public Open Space on 4.76Ha site.
- Option 2: 155 Nr. housing units with 15% Public Open Space on 5.03Ha site.
- Option 3: 238 Nr. housing and duplex unit with 10% Public Open Space on 4.76Ha site.

Each option includes a crèche facility (to shell and core standard) on site.
## APPENDIX D – Summary of Development Appraisal Worked Examples

### Proposed Apartment Development Base Option Cork Street Site

<table>
<thead>
<tr>
<th>Option 1 – 252 Units</th>
<th>Option 2 – 234 Units</th>
<th>Option 3 – 282 Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basement Carpark – 1 Space per Unit - 6 floors</td>
<td>Podium Parking - 1 space per 2 units - 6 floors</td>
<td>Parapet Parking - 1 space per 2 units - 6 floors</td>
</tr>
<tr>
<td>Assume development timeline 30 months with site holding period in advance of 1 year</td>
<td>Assume development timeline 24 months with site holding period in advance of 1 year</td>
<td>Assume development timeline 24 months with site holding period in advance of 1 year</td>
</tr>
<tr>
<td>Sales Value (incl. Part V sales) €</td>
<td>€ 68,474,089.67</td>
<td>€ 69,905,720.87</td>
</tr>
<tr>
<td>Net Total Development Costs €</td>
<td>€ 83,113,556.52</td>
<td>€ 72,696,665.95</td>
</tr>
<tr>
<td>Profit/Loss On Development €</td>
<td>€ -14,638,676.65</td>
<td>€ -8,780,939.08</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Option 4 – 256 Units</th>
<th>Option 5 – 372 Units</th>
<th>Option 6 – 362 Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 3 utilised as base - 8 floors</td>
<td>Option 3 utilised as base - 10 floors</td>
<td>Basement Carpark 6 + 15 floors</td>
</tr>
<tr>
<td>Assume development timeline 27 months with site holding period in advance of 1 year</td>
<td>Assume development timeline 27 months with site holding period in advance of 1 year</td>
<td>Assume development timeline 42 months with site holding period in advance of 1 year</td>
</tr>
<tr>
<td>Sales Value (incl. Part V sales) €</td>
<td>€ 62,546,255.51</td>
<td>€ 156,366,519.82</td>
</tr>
<tr>
<td>Net Total Development Costs €</td>
<td>€ 93,202,088.75</td>
<td>€ 117,770,708.15</td>
</tr>
<tr>
<td>Profit/Loss On Development €</td>
<td>€ -10,655,833.24</td>
<td>€ -14,135,625.88</td>
</tr>
</tbody>
</table>

### Option 7 – 272 Units

- Podium + Parapet Parking - 0.45 space per unit - Higher Ratio of Smaller Units - 6 floors
- Assume development timeline 30 months with site holding period in advance of 1 year

| Sales Value (incl. Part V sales) € | € 69,881,957.27 |
| Net Total Development Costs € | € 75,960,955.29 |
| Profit/Loss On Development € | € -6,078,998.02 |

### Notes
- The above development budget has been prepared on the basis of outline figures provided to us by the various parties and is intended for general guidance only. Whilst the exercise is indicative of the viability of the scheme it does not warrant the actual profitability or otherwise.
- Development appraisal based on a 1% site with no planning.
- Development appraisal includes for 12.5% development margin.
- Financing costs based on 70% LTV - over the indicated construction period - Interest Rate 10%

### Exclusions
- Archaeological fees
- Inflation on Construction
- Value Added Tax on outgoings
## APPENDIX D – Summary of Development Appraisal Worked Examples

### HOUSING DEVELOPMENT WEST DUBLIN SITE

<table>
<thead>
<tr>
<th>Option 1 - 184 Units</th>
<th>Option 2 - 155 Units</th>
<th>Option 3 - 238 Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Housing - 10% Public Space</strong></td>
<td><strong>Housing - 15% Public Space</strong></td>
<td><strong>Housing + Duplex Units - 10% Public Space</strong></td>
</tr>
<tr>
<td>Development Appraisal for 4.78Ha site area</td>
<td>Development Appraisal for 5.03Ha site area</td>
<td>Development Appraisal for 4.76Ha site area</td>
</tr>
<tr>
<td>Assume development site timeline overall 2 years with site holding period in advance of 1 year (5 phases)</td>
<td>Assume development site timeline overall 2 years with site holding period in advance of 1 year (5 phases)</td>
<td>Assume development site timeline overall 2.5 years with site holding period in advance of 1 year (4 phases)</td>
</tr>
<tr>
<td><strong>Sales Value (incl. Part V sales)</strong></td>
<td><strong>Sales Value (incl. Part V sales)</strong></td>
<td><strong>Sales Value (incl. Part V sales)</strong></td>
</tr>
<tr>
<td>€ 38,797,356.83</td>
<td>€ 37,960,000.90</td>
<td>€ 50,803,193.83</td>
</tr>
<tr>
<td><strong>Nett Total Development Costs</strong></td>
<td><strong>Nett Total Development Costs</strong></td>
<td><strong>Nett Total Development Costs</strong></td>
</tr>
<tr>
<td>€ 39,083,543.07</td>
<td>€ 37,491,361.22</td>
<td>€ 48,774,173.09</td>
</tr>
<tr>
<td><strong>Profit/Loss On Development</strong></td>
<td><strong>Profit/Loss On Development</strong></td>
<td><strong>Profit/Loss On Development</strong></td>
</tr>
<tr>
<td>€ 713,813.76</td>
<td>€ 468,648.76</td>
<td>€ 1,029,020.74</td>
</tr>
</tbody>
</table>

**Notes**
- The above development budget has been prepared on the basis of outline figures provided to us by the various parties and is intended for general guidance only. Whilst the exercise is indicative of the viability of the scheme it does not warrant the actual profitability or otherwise.
- Development appraisal based on a site (area as indicated) with no planning
- Development appraisal includes 12.5% development margin
- Financing Costs based on 70% LTV - over the indicated construction period (handover in phases) - Interest Rate 10%

**Exclusions**
- Archaeological fees
- Inflation on Construction
- Value Added Tax on outgoings
The recommendations arising out of the report findings are listed as follows:

<table>
<thead>
<tr>
<th>COST AREA</th>
<th>ACTION</th>
<th>PARTIES</th>
<th>IMPACT/TARGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>Raise awareness of the magnitude and likely longevity of the affordable market i.e. for housing matching average household incomes.</td>
<td>DHPLG/HA &amp; Industry</td>
<td>Invite more interest from financial houses. Discourage trading of land for investment purposes.</td>
</tr>
<tr>
<td></td>
<td>Ongoing review of the effectiveness of the vacant site levy.</td>
<td>DHPLG</td>
<td>Gauge effectiveness of regulations to discourage holding of development land.</td>
</tr>
<tr>
<td></td>
<td>More focused and strategic management of state lands. Implement structure with the appropriate powers to move the portfolio forward at pace.</td>
<td>DHPLG</td>
<td>Will match land with those best placed to deliver affordable units bringing increased affordable products in key locations. It will discourage high sales in the vicinity and ultimately will reduce land sale values enabling the provision of lower cost units to the market.</td>
</tr>
<tr>
<td>Construction</td>
<td>Review of current actions in light of the short to medium term skills shortage.</td>
<td>DE&amp;S Solas</td>
<td>Stabilise industry capacity, thereby avoiding increased costs</td>
</tr>
<tr>
<td></td>
<td>Industry to engage new compliant methodologies for delivery e.g. prefabricated methods.</td>
<td>Industry</td>
<td>Reduce pressure on labour force. Assist with quality of product and reduced delivery timelines</td>
</tr>
<tr>
<td>Construction Planning</td>
<td>Review of the Sustainable Urban Housing Design Standards for New Apartments.</td>
<td>DHPLG</td>
<td>Improve viability of apartments and reduce management costs</td>
</tr>
<tr>
<td></td>
<td>Clarify guidance in relation to height and density calculations.</td>
<td>DHPLG</td>
<td>Achieve more efficient land usage</td>
</tr>
<tr>
<td></td>
<td>Emphasise the importance and benefits of innovative and flexible consideration</td>
<td>DHPLG &amp; Industry</td>
<td>Achieve more efficient land usage. Improve viability of</td>
</tr>
</tbody>
</table>
## APPENDIX E – SCHEDULE OF RECOMMENDATIONS

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Responsible Party</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>of high quality design in relation to private, public spaces and car parking</td>
<td></td>
<td>apartments and reduce management costs</td>
</tr>
<tr>
<td>Provide guidance on appropriate unit type, mix and size.</td>
<td>DHPLG</td>
<td>Improve viability of apartments. Address housing need more directly</td>
</tr>
<tr>
<td>Collate best practice examples of good design to complement the suite of planning guidelines</td>
<td>DHPLG, Industry &amp; other stakeholders</td>
<td>Improve viability of apartments and more streamlined delivery</td>
</tr>
<tr>
<td>Construction Generally</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduction of response timelines for LA on planning permission compliance matters within planning legislation</td>
<td>DHPLG</td>
<td>Cost reduction with more streamlined process</td>
</tr>
<tr>
<td>Provision of more definitive guidance to LA’s on Part V application requirements to the department</td>
<td>DHPLG</td>
<td>Cost reduction with more streamlined process</td>
</tr>
<tr>
<td>Agreement and implementation of a coordinated approach across industry &amp; LA’s with regard to development bonds</td>
<td>Industry &amp; Local Authority Sector</td>
<td>Cost reduction with more streamlined process &amp; project de-risk facilitating a better project profile for financing</td>
</tr>
<tr>
<td>Review of the recommendation for site development works for housing areas 1998 publication and publication of updated document</td>
<td>DHPLG</td>
<td>Avoid differing practices between jurisdictions in the interest of achieving economies and expediting delivery</td>
</tr>
<tr>
<td>New specifications under development by public utility companies e.g. Irish water should take into account the impact on construction/delivery costs</td>
<td>Utility Companies</td>
<td>Avoid differing practices/specifications in the interest of achieving economies and expediting delivery</td>
</tr>
<tr>
<td>Agreement and implementation of a standardised approach to</td>
<td>Industry &amp; Local Authority Sector</td>
<td>Cost reduction with more streamlined process &amp; project de-risk facilitating a</td>
</tr>
</tbody>
</table>
# APPENDIX E – SCHEDULE OF RECOMMENDATIONS

<table>
<thead>
<tr>
<th>LA taking in charge of schemes</th>
<th>better project profile for financing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve industry awareness of the cost impact of on-site delays and avoid where possible</td>
<td>Industry</td>
</tr>
<tr>
<td>Improve industry awareness of proper up-front management of projects</td>
<td>Industry</td>
</tr>
<tr>
<td>Invest in achieving quality design and cost effective delivery e.g. BIM</td>
<td>Industry</td>
</tr>
<tr>
<td>Within the review of Part L, the cost impact of revisions will be considered with a view to containment. where possible</td>
<td>DHPLG &amp; Industry</td>
</tr>
<tr>
<td>Ensure co-ordination between general and specialist designers in design development of building to NZEB standard to achieve the most cost effective compliant design.</td>
<td>Industry</td>
</tr>
<tr>
<td>Set a timeline for progress on the agreed actions to achieve progress on soil and stone waste issues</td>
<td>DCCAE, EPA &amp; Industry</td>
</tr>
<tr>
<td>Professional institutes to jointly highlight the services required to successfully deliver a quality, economic and sustainable residential scheme of scale which is often misunderstood in the market including the benefit of early team consultant involvement.</td>
<td>Industry</td>
</tr>
<tr>
<td>Agree and implement a common protocol across LA’s in relation to staged</td>
<td>Industry &amp; Local Authority Sector</td>
</tr>
</tbody>
</table>
## APPENDIX E – SCHEDULE OF RECOMMENDATIONS

<table>
<thead>
<tr>
<th>Payment of Contributions</th>
<th>Review local authority development contribution schemes particularly in relation to high rise structures to encourage better site and infrastructure usage.</th>
<th>DHPLG/Local Authority Sector</th>
<th>Improve viability of apartments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial</td>
<td>De-risking of residential projects</td>
<td>Industry</td>
<td>Facilitates reasonable finance cost levels and development margins</td>
</tr>
<tr>
<td></td>
<td>Continued marketing and presence of ISIF platforms in relation to the affordable residential market</td>
<td>Government</td>
<td>Encourages more competition in the market for affordable unit delivery</td>
</tr>
<tr>
<td></td>
<td>The provision of a funding house for small to medium builders</td>
<td>Government</td>
<td>Allows a funding facility for those currently unable to re-enter the market but well capable of delivery</td>
</tr>
<tr>
<td></td>
<td>Consider the allowance of increased percentage of lower sized units and potential studio apartment floor area reduction</td>
<td>DHPLG</td>
<td>Helps achieve affordable delivery &amp; increased unit numbers</td>
</tr>
</tbody>
</table>