Evidence-Based Economist Report regarding the Part 8 Public Realm Proposals for Lucan Village

03 March 2022

1. Introduction and Background

This report is prepared by Dr. Pat McCloughan, Managing Director of PMCA Economic Consulting, on behalf of the Lucan Village Business and Services Group (LVBSG) and Health Alliance (HA) regarding public realm proposals by South Dublin County Council (SDCC) for Lucan Village, comprising works: (1) to the Village Green; (2) at the Liffey Weir Promenade; (3) to the Demesne Park entrance; and (4) to the Main Street. A statutory public consultation under Part 8 of the Planning and Development Regulations 2001 (as amended) is presently underway in respect of the proposed works, the closing date for which is 3 March 2022.

According to a document entitled 'Have Your Say: Lucan Public Realm Proposals' issued by SDCC (and also attributed to dhbarchitects, Clifton Scannell Emerson Associates and Douglas Carroll, both consulting engineering firms), the proposed works are part of a wider Lucan Masterplan by SDCC, following Lucan's designation as a Destination Town by Fáilte Ireland in 2019, and *"will help to improve placemaking in Lucan and will deliver a more engaging and rewarding public realm space"*. The SDCC document also mentions that the proposed works to the Main Street would see a reduction in pay-and-display (P&D) car parking spaces in Lucan Village from 37 to 26 (the latter figure comprising 16 spaces on Main Street and 10 new spaces within 100 metres of Main Street), implying a net reduction of 11. The Main Street area is the principal shopping district within the Village and the proposed works are being met with opposition from both local businesses and residents who believe that the Part 8 proposals will result in an even greater reduction in car parking spaces in the Main Street area (the 10 new spaces will be located away from the Main Street area and will be inconvenient for shoppers wishing to park close to that key part of the Village). A traffic and parking report prepared by Martin Rogers Consulting Ltd. (MRCL) on behalf of LVBSG and HA finds that the Part 8 proposals will reduce the number of P&D spaces in the Main Street area from 39 (not 37) to 13, with just 3 disabled access spaces before 11am (i.e. no other car parking in the Main Street area before that time), which MRCL concludes *"will decimate businesses in the area"*.[1]

In view of the potentially significant economic loss to Lucan Village as a result of the Part 8 proposals, LVBSG and HA have retained PMCA to provide an evidence-based economist report on the matter, with particular attention given to estimation of the loss in demand/turnover to businesses based in the Main Street area and the employment impacts associated with the reduction in turnover.

As well as the MRCL report, LVBSG and HA have also provided Dr. McCloughan with the results of a survey of businesses in Lucan Village conducted by LVBSG (November 2021) and the LVBSG estimate that at least 8,000 people use the Village for shopping on a daily basis, with 80% accessing the Village by car for shopping. Dr. McCloughan has also obtained relevant data from independent sources (including the Central Statistics Office, CSO), the specific sources of which are given below.[2]

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1 The MRCL report is entitled 'Lucan Village Public Realm Scheme: Submission to South Dublin County Council with Part 8 Consultation Process: Response to Traffic and Parking Issues within South Dublin County Council Submissions' (February 2022). The author of the report – Dr. Martin Rogers – is a Chartered Civil Engineer and Chartered Town Planner.

2 Prior to the publication of the proposed SDCC Masterplan in October 2021, the LVBSG did not exist but was established from that time to challenge the potential economic losses from the reduction in P&D spaces in the Main Street area. Similarly, Health Alliance was also formed at that time, to represent the needs of disabled and elderly people in respect of accessing the Main Street area.

2. Summary of Methodology

To estimate the reduction in turnover due to the reduction in P&D spaces in the Main Street area of Lucan Village, it is necessary to estimate the 'baseline' spend by customers on goods and services available for sale in that part of the Village (in tandem with the current number of P&D spaces, namely 39). We also need to establish the percentage reduction in P&D spaces in the Main Street area (bearing in mind that the Part 8 proposals will see the number of P&D spaces reduce to zero before 11am each day), which we can then apply to the baseline turnover estimate to infer the loss in demand/turnover due to the Part 8 proposals. With that loss, we can then proceed to estimate the corresponding potential employment impact. The details of the calculations, as well as the information sources, are set out in the report.

3. Results from the LVBSG Survey of Businesses (November 2021)

Very quickly after its establishment in late 2021, in response to the proposed Masterplan and its traffic and parking implications, the LVBSG carried out a survey of businesses in the Village (November 2021). The LVBSG estimated from directories, Google searches and a physical search of the Village that there are approximately 145 businesses based in the Village. However, this number is unlikely to tell the whole story, due to solely online businesses in the Village and businesses operating from people's residences in Lucan. The LVBSG issued its survey questionnaire to 93 businesses in the Village (those with contact addresses) and received 63 responses, implying a response rate of 68%. The key results are the following:

- Car is the predominant mode of transport used by people to get to and from work in Lucan Village (70% use car). LVBSG estimates that there are approximately 600 people at work in the Village, which represents about 21% of the total number of people at work in Lucan in the CSO Census 2016 (larger employers are located in the non-Village part of Lucan).
- In terms of local businesses' customers, car usage to and from the Village is even greater (80%). In 2016, Lucan had a population of almost 21,000 people, many of whom moved to the settlement in recent years and who mainly commute to work outside Lucan (see Box 1 below). However, Lucan Village maintains a traditional village feel and its local shops, retail units and businesses attract a large volume of customers each day, particularly in the Main Street area. Retailing in the Village includes convenience shops, bookmakers, banks, post office, pubs and professional services (including doctors, solicitors, accountants, pharmacists, architects and engineers). Larger retailing is provided outside the Village at Lucan Shopping Centre and Liffey Valley Shopping Centre.
- According to the LVBSG survey results (November 2011):
    - 90% of businesses in Lucan Village would like to see improvements to the Village Green, the Liffey Weir Promenade and the Demesne Park entrance.
    - 95% of businesses are aware of the current SDCC Development Plan for the Village, including the potential loss of P&D spaces and the one-way system in the Main Street.
    - 100% of businesses believe that there has been insufficient consultation by SDCC with local businesses regarding planning for the Village.
    - 100% of businesses would like to see more public parking made available in Lucan Village.
    - Almost 100% of businesses do not agree with the conclusion of an SDCC parking analysis that up to 54 parking spaces could be removed from Lucan Village without having a major impact on village businesses.
    - Over 80% of businesses would not like to see the introduction of a one-way traffic system around Lucan Village on a trial basis for 3 months.
    - Over 80% of businesses do not believe that a one-way traffic system around Lucan Village will improve access for locals.

Box 1: Overview of Lucan and Lucan Village in Planning and Economic Development Context

Economic development is a central part of the remit and work of local authorities and is closely linked with councils' other functions, including planning and transportation.

In the South Dublin County Council Development Plan 2016-2022 (Introduction and Core Strategy), Lucan (including Adamstown) along with Clondalkin (including Clonburris) and Tallaght are designated as Metropolitan Consolidation Towns, defined as *"Strong active urban places within the Metropolitan Area with strong transport links"* and with the long-term growth potential to *"see them expanding to a population of up to 100,000 people in a planned and phased manner"* (p. 8). In regard to retail hierarchy, the South Dublin County Council Development Plan 2016-2022 lists the following for Lucan:

- Liffey Valley Shopping Centre (Major Retail Centre) (Level 2 in the SDCC Retail Hierarchy).
- Adamstown SDZ (Strategic Development Zone) District Centre (District Centre) (Level 3).
- Lucan Shopping Centre (District Centre) (Level 3).
- Lucan Village Core (Village Centre) (Level 4).
- Local centres (various) (Local Centre).

The Core Strategy and Settlement Hierarchy of the Draft SDCC Development Plan 2022-2028 states that Lucan is *"characterised by an historic village core surrounded by generally low-density suburban neighbourhoods based on a polycentric network of local retail centres and a level 3 district centre [Lucan Shopping Centre] … Employment is provided for locally through mixed use retail and commercial areas adjacent to the village core"* (p. 68).

In 2016, Lucan had a population of 20,714, an old age dependency ratio of 17.9% (State 20.4%, Dublin Region 17.9%), a young age dependency ratio of 37.6% (State 32.3%, Dublin Region 28.2%) and a labour force participation rate of 64.4% (State 61.4%, Dublin Region 63.9%).[3]

A summary of Lucan's employment performance *vis-à-vis* Clondalkin and Tallaght, and selected other settlements in the EMRA Region with similar populations to that of Lucan, is provided in the table below. Regarding the jobs-to-resident workers ratio in the final column of the table, Lucan had the lowest ratio in 2016 (0.313), which reflects the fact that the settlement is one where residents tend to commute outside of the town for work, including elsewhere in the Dublin Region and in Co. Kildare (which has become an attractive host location for large foreign direct investment (FDI) firms).[4]

	Population and Employment Facts 2016			
Settlement	Population	Resident Workers	Jobs	Jobs: Resident Workers
Athlone	21,349	8,239	13,108	1.591
Tallaght	31,938	13,486	15,955	1.183
Naas	21,393	9,806	10,687	1.090
Mullingar	20,928	7,998	8,633	1.079
Portlaoise	22,050	8,438	8,209	0.973
Newbridge	22,742	9,634	6,279	0.652
Clondalkin	31,855	13,681	7,524	0.550
Lucan	20,714	9,115	2,855	0.313

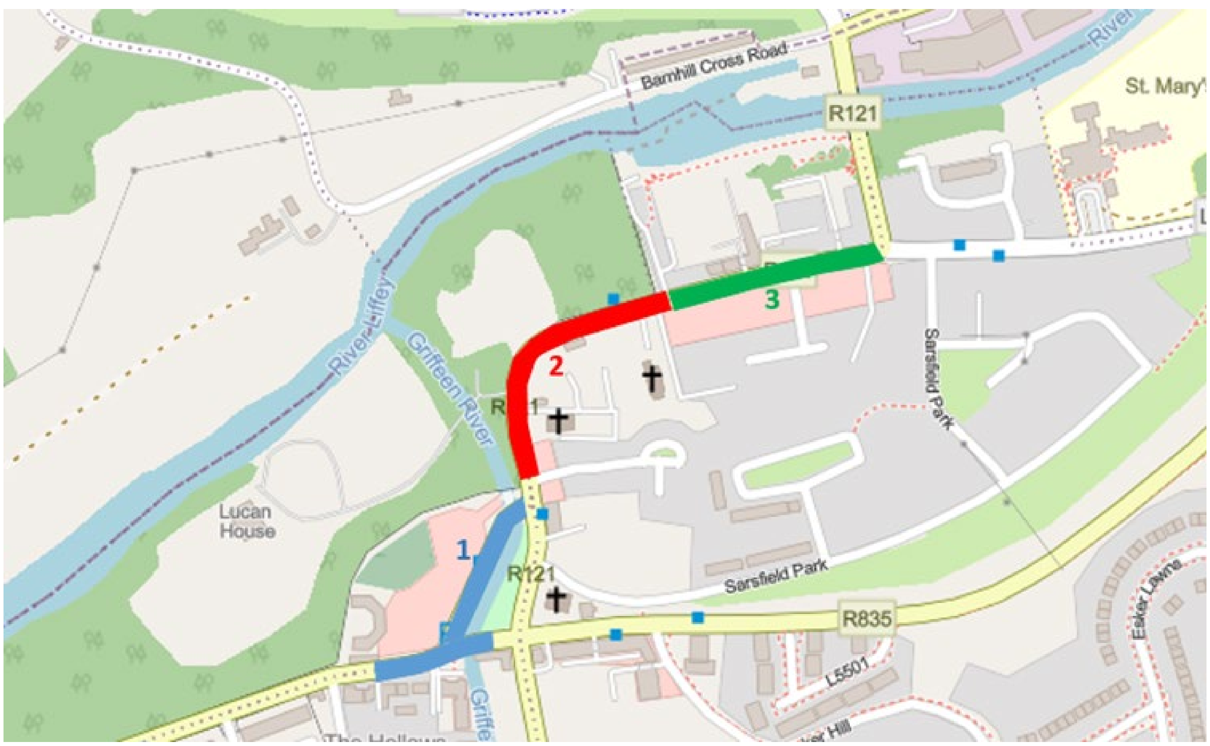
3 Eastern & Midland Regional Assembly (EMRA) 'Socio-Economic Evidence Baseline Report, November 2017', AIRO (All Ireland Research Observatory). The old age dependency ratio is calculated by taking the population aged 65 and more years and calculating it as a percentage of the population aged 15-64 years. The young age dependency ratio is calculated by taking the population aged 0-14 years and calculating it as a percentage of the population aged 15-64 years. The labour force participation rate is the percentage of the population of working age (16 years and older) at work or actively seeking work. The data are from CSO Census 2016. The Dublin Region comprises the local authority areas of Dublin City, Fingal, South Dublin and Dún Laoghaire-Rathdown.

4 Dr. McCloughan calculations in respect of the jobs-to-resident workers ratio in the final column of the table in Box 1.

4. Results of the Car Parking Study Carried Out in December 2021

The LVBSG commissioned traffic survey specialists Idaso to carry out a car parking study in Lucan Village on 17 December 2021, which was a time when the Covid-19 restrictions were significantly eased by the Government in the run-up to last Christmas, meaning that the parking numbers recorded by Idaso are reasonably representative of the 'post-Covid-19' environment in which we find ourselves presently. Idaso surveyed three areas in the Village, as indicated in the map in Figure 1 below, the key one being Area 1 in the Main Street area (the busiest part of the Village in terms of customer shopping). The Idaso study consisted of recording the numbers of vehicles entering and exiting the parking bays in each area at 15-minute intervals from 9am to 6.45pm (vehicles comprising cars, light goods vehicles (LGVs), other goods vehicles 1 and 2 (OGV1s and OGV2s) and public service vehicles (PSVs)).[5] Idaso observed 1,994 vehicles entering the three areas on the day, the vast majority of which were cars (1,795 or 90%). The number of vehicles (all types) entering Area 1 was 917 (or 46% of all vehicles entering Areas 1-3), within which 806 were cars (or 45% of all cars which entered Areas 1-3 on the survey day).[6] Taking a conservative approach, we will employ the latter (lower) proportion (in respect of cars) (i.e. 45%) in the analysis of the economic loss due to the reduction in car parking spaces in that part of the Village below (at the end of the study, we will also show, for completeness, the corresponding economic loss in respect of the 46% share of all vehicles attributed to Area 1). But first, it is necessary to establish the extent of the reduction in car parking spaces due to the Part 8 public realm proposals.

Figure 1: Locations of the Areas of Lucan Village Surveyed by Idaso on 17 December 2021



Source: Reproduced from Figure 3-1 in the MRCL report (supra footnote 1).

5 OGV1s and OGVs are medium and heavy goods vehicles respectively. PSVs are public service vehicles (taxis).

6 The average stay per vehicle was 30 minutes. Percentages subject to rounding.

5. Reduction in P&D Spaces in the Main Street Area of Lucan Village due to the Part 8 Public Realm Proposals

Dr. McCloughan's analysis of the percentage reduction in P&D car parking spaces in the Main Street area of Lucan Village (Area 1 as indicated in Figure 1 above) is set out in Table 1 below. Currently, in that part of the Village, there are 39 P&D spaces, 3 disabled access spaces and 4 constantly-used illegal spaces (i.e. 43 car parking spaces and 3 disabled access spaces) (information from LVBSG).

Under the Part 8 proposals, before 11am, only the 3 disabled access spaces will be able to be used, not the general access P&D car parking spaces. Before 11am, therefore, there will be no P&D car parking spaces in the Main Street area of the Village. This will represent a 100% reduction of the current 43 P&D spaces in that particular part of Lucan Village (i.e. the 39 P&D spaces and the 4 illegal spaces always used).

From 11am, there will be 13 P&D car parking spaces for all users/shoppers and 3 disabled access spaces. The 10 new car parking spaces under the Part 8 proposals (referred to in the SDCC document at the beginning of this report) will be distributed in 3 other locations in the Village. A significant issue with the 10 new spaces is that they will be much harder to access and therefore will have a lower turns rate than the 39 (legally-used) current spaces in the Main Street area (i.e. the 10 new spaces proposed for around the Village do not represent a like-for-like comparison with the 39 existing spaces for customer use). From 11am, therefore, the reduction in the current number of P&D spaces in the Main Street area from 43 (which includes the 4 constantly-used illegal spaces as well as the 39 spaces currently in place) to 13 will represent a 70% reduction in car parking spaces in the Main Street area of the Village.

Weighting the 100% reduction in P&D spaces (from 43 to zero) before 11am and the 70% reduction in P&D spaces (from 43 to 13) from 11am by their respective shares during the shopping/business day (9am-7pm) (i.e. by 20% and 80% respectively) implies the weighted average reduction in P&D car parking spaces in the Main Street area of Lucan of 76% (the calculation is (20% times -100%) + (80% times -70%) (figures subject to rounding).

Table 1: Analysis of the Percentage Reduction in P&D Car Parking Spaces in the Main Street Area of Lucan Village due to the Part 8 Public Realm Proposals

Time	Hours	Shopping Hours (9am-7pm)	%	Current Car Parking Spaces	Proposed	% Change
9-11am	2	10	20%	43	0	-100%
11am-7pm	8	10	80%	43	13	-70%
Total	**10**		**100%**			**-76%**

Source: LVBSG, Dr. McCloughan calculations.
Note: Figures subject to rounding. The figure of 43 P&D car parking spaces comprises 39 such spaces and 4 constantly-used illegal car parking spaces in that part of Lucan Village.

The 76% reduction in P&D car parking spaces in the Main Street area derived in Table 1 is a unit free measure of the impact of the Part 8 proposals on car parking in this part of the Village and can be applied to the estimated baseline demand/spend by shoppers (accessing the Main Street area by car) to establish an estimate of the economic loss to Lucan Village as a result of the Part 8 proposals, to which we now turn.

6. Estimation of the Economic Loss to Lucan Village

6.1. Estimation of the Number of Customer Visits and Household Equivalent Visits to the Main Street Area of Lucan Village per Week (Visiting by Car)

The analysis presented in Table 2 below begins with the estimate (from LVBSG) that there are *more than* 8,000 customers who use the shops and services of Lucan Village on a daily basis. Taking a conservative approach, we employ the figure of 8,000. LVBSG also estimates that 80% of these customers access the Village by car. This implies the estimate for the number of customers using Lucan Village by car per day of 6,400. To derive the number of these customers accessing the Main Street area of the Village, we may employ the Idaso survey results of 17 December 2021, which found 806 cars parked in Area 1 on that day, which represented 45% of the total number of cars parked in Areas 1-3 of the Village on that day (1,795). Thus, the estimated number of customers accessing the Main Street area of Lucan Village by car per day is estimated at 2,874, derived as the aforementioned 6,400 multiplied by the aforementioned 45% (figures subject to rounding). To aggregate this estimate from 'per day' to 'per week', we multiply the estimate of 2,874 by 5 (working days per week, Monday-Friday, when all types of businesses will be open, including professional services businesses). This results in the estimated number of customer visits to the Main Street area of the Village by car per week of 14,369 (which is likely to be a conservative estimate because most businesses are open Mon-Sat and many open Mon-Sun). At this stage of the analysis, we next need to convert the latter figure into an estimate for the number of *household equivalent* visits to the Main Street area of Lucan Village by car per week, because we are going to use data from the latest CSO Household Budget Survey (HBS) (2015) (which has the *household* as the unit of observation) to estimate the spend due to the customer visits. According to the CSO Census 2016, the average number of persons per household in Ireland in that year was 2.75. Dividing the aforementioned 14,369 estimate by 2.75 results in the estimate of 5,225 for the estimated number of household equivalent visits to the Main Street area of Lucan Village by car per week.

Table 2: Estimation of the Numbers of Customer Visits and Household Equivalent Visits to the Main Street Area of Lucan Village by Car per Week

Variable	Value
[1] Estimated Number of Customers using Lucan Village per Day	8,000
[2] % Customers Using Car	80%
[3] Estimated Number of Customers using Lucan Village by Car per Day	6,400
[4] Number of Cars Parked in Area 1 of Lucan Village	806
[5] Number of Cars Parked in Areas 1-3 of Lucan Village	1,795
[6] % of Cars Parked in Areas 1-3 Parked in Area 1	45%
[7] Estimated Number of Customers to Main Street Area of Lucan Village by Car per Day	2,874
[8] Estimated Number of Customer Visits to Main Street Area of Lucan Village by Car per Week	14,369
[9] Average Number of Persons per Household in Ireland in Census 2016	2.75
[10] Estimated Number of Household Equivalent Visits to Main Street Area of Lucan by Car per Week	5,225

<u>Sources</u>: [1]&[2] LVBSG; [3] Dr. McCloughan calculation [1]x[2]; [4]&[5] Idaso traffic survey results (17 December 2021); [6] Dr. McCloughan calculation [4]÷[5]; [7] Dr. McCloughan calculation [3]x[6]; [8] Dr. McCloughan calculation [7]x5 (i.e. assuming 5 working days per week, Mon-Fri, when all businesses in the Main Street area are likely to be open); [9] CSO Census 2016; [10] Dr. McCloughan calculation [8]÷[9].
<u>Note</u>: Figures subject to rounding.

6.2. *Estimation of the Average Weekly Spend per Household on Convenience Goods and Services in the Main Street Area of Lucan Village*

From Table 2 we next need an estimate of the average weekly spend per household on convenience goods and various services (hairdressing and professional services etc.) found in the Main Street area of Lucan Village. Dr. McCloughan downloaded various items from the CSO HBS 2015 grouped under grocery items and other items and services available in the Main Street area of Lucan Village. For each item, the average weekly expenditure by households in the State and the Dublin Region is given (the Dublin Region comprising the four local authority areas of Dublin City, Fingal, South Dublin and Dún Laoghaire-Rathdown) (the NUTS 3 Region is the lowest level of geographical disaggregation in the CSO HBS 2015).[7]

The grocery items shown in Table 3 overleaf are representative of the types offered for sale in the convenience stores in the area of interest within the Village and total €106.84. However, this estimate from the HBS includes the grocery multiples (Tesco, Dunnes Stores etc.) as well as convenience stores, when none of the multiples are present in the Main Street area of Lucan. It is therefore necessary to remove the multiples from the estimate of average weekly expenditure by households on grocery items in Table 2. From other information (Statista), it is known that the multiples accounted for 90.8% of all spending on grocery items in the State (for the 12 weeks ending January 2022), which implies that other outlets (including convenience stores and smaller retailers, which operate in the Main Street area of Lucan Village) accounted for 9.2%. Multiplying the total grocery spend of €106.84 by the 9.2% share attributed to other outlets implies the average weekly spend on the grocery items in Table 3 of €9.83 in the Dublin Region (the corresponding estimate for the State as a whole is €9.81 but we will use the former figure as Lucan is located in the Dublin Region).

The sub-total for the other items and services shown in the bottom half of Table 3 comes to €32.03 for the Dublin Region and €30.78 for the State.

Thus the total average weekly spend per household on convenience goods and services in the Main Street area of Lucan Village is estimated at €41.86 (based on the CSO HBS 2015). In line with the conservative approach taken in the estimations in this report, we will use this estimate (based on 2015 prices) and will not incorporate inflation into the analysis (which otherwise would give rise to a higher estimated loss from the Part 8 proposals, *ceteris paribus*).

[7] NUTS stands for (in English) Nomenclature of Territorial Units for Statistics and is the system used in the EU for sub-dividing Member States' regions for the purpose of statistics.

Table 3: Average Weekly Expenditure by Households in the State and the Dublin Region on Selected Grocery Items, Other Items and Services from the Household Budget Survey (HBS) 2015

HBS Product/Service Code and Name	€ State	€ Dublin
Grocery Items		
01.01.01 Bread	5.21	4.95
01.01.03 Pastries and biscuits	6.22	6.01
01.01.04 Breakfast cereals	1.82	1.8
01.01.05 Milk, cream yoghurts and cheese	9.72	9.62
01.01.06 Butter, fats and cooking oil	2.21	1.99
01.01.07 Eggs	1.37	1.39
01.01.09 Meat	21.04	19.37
01.01.10 Total fish	3.28	3.64
01.01.11 Fruit and nuts	7.2	8.01
01.01.12 Vegetables	9.83	10.14
01.01.13 Sugars, confectionary and snacks	8.6	8.42
01.01.14 Other food items	5.27	4.92
01.01.15 Non-alcoholic beverages	6.87	6.9
02.01 Drink consumed at home	10.56	12.32
02.03 Tobacco	7.39	7.36
[1] Sub-Total	**106.59**	**106.84**
[2] Sub-Total Adjusted for Grocery Share of Convenience Stores	**9.81**	**9.83**
Other Items and Services		
09.01.01 Prescription medication	3.69	3.6
09.01.02 Over the counter (OTC) medicines	3.07	3.26
09.01.04 Doctor (not consultant)	2.08	2.14
09.01.05 Dentist	1.62	1.83
09.01.07 Physiotheraphy and other paramedical services/fees	1.21	1.3
09.01.10 Spectacles and lenses (including accessories and repairs)	0.78	0.81
09.05 Betting and lotteries	3.55	3.32
09.06.02 Newspapers	2.51	2.1
09.06.03 Magazines and periodicals	0.53	0.49
09.11.04 Veterinary and other pet services	1.56	1.48
09.12 Legal/Professional/Banking fees	4.93	4.94
09.14 Hairdressing and personal grooming	5.25	6.76
[3] Sub-Total	**30.78**	**32.03**
Total ([2]+[3])	**40.59**	**41.86**

Sources: [1] CSO Household Budget Survey downloaded by Dr. McCloughan; [2] Statista market shares of multiples and non-multiples in the Irish grocery sector in the 12 weeks ending January 2022.
Note: The HBS category 09.12 legal/professional/banking fees includes architecture and engineering services as well as legal, financial activities and services etc.

6.3. Estimation of the Loss in Demand/Turnover in Lucan Village due to the Part 8 Public Realm Proposals

Table 4 extends Table 3 above through the addition of 5 further rows ([11]-[15]) culminating in the estimated loss in turnover/total spend in the Main Street Area of Lucan Village due to the Part 8 proposals. The baseline turnover/spend due to customers accessing the Main Street area of Lucan Village by car per year [row 13] is estimated at €10,717,061, which is given as the 5,225 household equivalent visitors to that part of the Village [row 10] multiplied by the estimated average spend per household per week on convenience goods and services (€41.86 [row 11], from Table 3) multiplied by 49 weeks devoted to shopping per year, based on the Organisation of Working Time Act 1997, which provides for 20 paid leave/holiday days per year (or 3 weeks, which would be devoted to leave away from shopping either abroad or elsewhere in the State). Finally, multiplying the estimated baseline spend (€10,717,061) by the 76% reduction in turnover/total spend in the Main Street area of the Village due to the 76% reduction in car parking in that part of the Village established previously in Table 1 leads to the estimated loss in turnover/total spend in the Main Street area of Lucan Village due to the Part 8 proposals of €8,125,028 at the bottom of Table 4. In other words, and in short, the Part 8 proposals would see the annual total spend by customers accessing the Main Street area of Lucan Village by car drop from €10.7m currently to €2.6m *ex-post*, which would represent a substantial economic loss to the Village.

Table 4: Estimated Loss in Turnover/Total Spend in the Main Street Area of Lucan Village due to the Part 8 Public Realm Proposals (45% of All Cars Parked in Areas 1-3 due to Area 1 in the Main Street area of Lucan Village)

Variable	Value
[1] Estimated Number of Customers using Lucan Village per Day	8,000
[2] % Customers Using Car	80%
[3] Estimated Number of Customers using Lucan Village by Car per Day	6,400
[4] Number of Cars Parked in Area 1 of Lucan Village	806
[5] Number of Cars Parked in Areas 1-3 of Lucan Village	1,795
[6] % of Cars Parked in Areas 1-3 Parked in Area 1	45%
[7] Estimated Number of Customers to Main Street Area of Lucan Village by Car per Day	2,874
[8] Estimated Number of Customer Visits to Main Street Area of Lucan Village by Car per Week	14,369
[9] Average Number of Persons per Household in Ireland in Census 2016	2.75
[10] Estimated Number of Household Equivalent Visits to Main Street Area of Lucan by Car per Week	5,225
[11] Estimated Average Spend per Household per Week on Convenience Goods and Services in Lucan/Dublin Region (€)	41.86
[12] Shopping Weeks per Year	49
[13] Estimated Turnover/Total Spend of Customers accessing the Main Street area of Lucan Village by Car per Year (€)	10,717,061
[14] % Reduction in Turnover/Total Spend in the Main Street Area of Lucan Village due to the Part 8 Proposals	76%
[15] Estimated Loss in Turnover/Total Spend in the Main Street Area of Lucan Village due to the Part 8 Proposals (€)	8,125,028

Sources: [1]&[2] LVBSG; [3] Dr. McCloughan calculation [1]x[2]; [4]&[5] Idaso traffic survey results (17 December 2021); [6] Dr. McCloughan calculation [4]÷[5]; [7] Dr. McCloughan calculation [3]x[6]; [8] Dr. McCloughan calculation [7]x5 (i.e. assuming 5 working days per week, Mon-Fri, when all businesses in the Main Street area are likely to be open); [9] CSO Census 2016; [10] Dr. McCloughan calculation [8]÷[9]; [11] Table 3; [12] based on 20 paid holiday days per year under the Organisation of Working Time Act 1997; [13] Dr. McCloughan calculation [10]x[11]x[12]; [14] Table 1; [15] Dr. McCloughan calculation [13]x[14].
Note: Figures subject to rounding.

7. Estimation of the Employment Impact Associated with the Loss in Demand/Turnover due to the Part 8 Public Realm Proposals

7.1. Methodology

To estimate the employment impact associated with the loss in demand/turnover to businesses in the Main Street area of Lucan Village due to the Part 8 proposals, it is first necessary to consider the relationship between employment (which we will denote as N, as standard in economic analysis) and value of output (turnover) (denoted as VO). The relationship can be expressed as $N = \alpha VO$ ($0<\alpha<1$) (in the Irish data, which is shown below, N is measured in thousands of workers and VO in millions of euro). Differentiation of N with respect to VO implies $dN/dVO = \alpha$, so that the change in employment due to the Part 8 proposals (i.e. dN) is given as αdVO (in which we have already established dVO = €8,125,028 (loss in turnover due to the Part 8 proposals), Table 4).

To apply this methodology, Dr. McCloughan downloaded data from the CSO Value of Output database for sectors relevant to the activities provided in the Main Street area of Lucan Village (to inform *VO*) and CSO Labour Force data for the same sectors (to inform *N*). The latter data are quarterly and expressed in thousands of people at work (000s), while the former data are annual and given in €m. To avoid the exceptional effects due to Covid-19, the value of output data pertain to 2019 (the most recent full year prior to the Pandemic) and the employment data are given as the average of 2019 Q1-Q4 (i.e. 2019 too).

7.2. Results

The results are presented in Table 5. The first column gives the relevant sectors in the Main Street area of Lucan Village (the sector grouping are defined by the CSO). The second column gives the value of output data for 2019, the third column the corresponding employment for the sectors in that year and the fourth column gives the implied α values (i.e. N/VO). The impact on employment due to the estimated loss in turnover established earlier (€8,125,028) is that up to 27 jobs could be lost in the Main Street area as a result of the Part 8 proposals (i.e. $dN = \alpha$ (0.00033%) times dVO (8,125,028), which is 27).

Table 5: Estimated Employment Impact Associated with the Loss in Demand/Turnover due to the Part 8 Public Realm Proposals

Sector (NACE)	Value of Output (€m) (2019)	Employment (000s) (Average 2019 Q1-Q4)	Employment / Value of Output (%) (α)
Retail Trade (47)	14,779	214.13	0.00145%
Postal and Courier Activities (53)	1,719	17.43	0.00101%
Financial and Insurance Services Activities (64-66)	52,713	46.69	0.00009%
Real Estate Activities (68)	25,760	9.78	0.00004%
Legal and Accounting Activities; Head Offices and Management Consultancy Activities (69,70)	17,404	31.34	0.00018%
Architectural and Engineering Activities; Technical Testing and Analysis (71)	3,195	36.30	0.00114%
Human Health and Social Work Activities (86 to 88)	22,893	96.68	0.00042%
Total	**138,463**	**452.33**	**0.00033%**
Loss in Total Spend/Turnover due to the Part 8 Proposals	***8,125,028***		
Estimated Impact in Employment		$\boxed{27}$	

Sources: CSO Output and Value Added data (2019) and CSO Labour Force Survey 2019Q1-Q4 (pre-Covid-19); Dr. McCloughan calculations.
Note: NACE is short for Nomenclature of Economic Activities, the sectoral classification system used in the EU.

However, there is an issue with the CSO value of output data in the specific context of this report, which means that the estimated up to 27 jobs that could be lost as a result of the Part 8 proposals is very likely to be a significant underestimate of the extent of the adverse employment impact of the Part 8 proposals. The issue reflects the very large values of output (in the CSO data), which reflect the very strong presence of foreign-owned firms in Ireland and in turn mean that the values of α in the final column of Table 5 are very low ($\alpha = N/VO$, so that larger *VO* implies smaller α and *vice-versa*). Furthermore, foreign-owned firms are not present in the Main Street area of Lucan Village. To obtain a more accurate and plausible estimate of the employment impact, we need to remove the effects of foreign-owned firms from the CSO value of output data.

To achieve this, we need additional information enabling extraction of the foreign-owned component of the CSO value of output data. This is possible using another publicly available source of economic data, namely the Annual Business Survey of Economic Impact (ABSEI). The ABSEI is produced annually by the Department of Enterprise, Trade and Employment (DETE) and provides various economic performance data for both Irish-owned and foreign-owned firms (which are the client firms of the State Enterprise Agencies, namely Enterprise Ireland, Údarás na Gaeltachta and IDA Ireland). The particular information sought from the ABSEI results for 2019 are data on the variable *total sales* in services industries (non-manufacturing industries) for Irish-owned and foreign-owned firms in that year. The ABSEI data are shown at the bottom of Table 6 (in smaller font) and outlined overleaf.

Table 6: Estimated Employment Impact Associated with the Loss in Demand/Turnover due to the Part 8 Public Realm Proposals – *Adjusted to Include Irish-Owned Firms Only (Part 1)* (45% of All Cars Parked in Areas 1-3 due to Area 1 in the Main Street area of Lucan Village)

Sector (NACE)	Value of Output (€m) (2019)	Employment (000s) (Average 2019 Q1-Q4)	Employment / Value of Output (%) (α)
Retail Trade (47)	957	214.13	0.0224%
Postal and Courier Activities (53)	111	17.43	0.0157%
Financial and Insurance Services Activities (64-66)	3,413	46.69	0.0014%
Real Estate Activities (68)	1,668	9.78	0.0006%
Legal and Accounting Activities; Head Offices and Management Consultancy Activities (69,70)	1,127	31.34	0.0028%
Architectural and Engineering Activities; Technical Testing and Analysis (71)	207	36.30	0.0175%
Human Health and Social Work Activities (86 to 88)	1,482	96.68	0.0065%
Total	**8,964**	**452.33**	**0.0050%**
Total Sales in Foreign-Owned Firms in Services Industries 2019 (ABSEI) (€m)	164,716,829,000	94%	
Total Sales in Irish-Owned Firms in Services Industries 2019 (ABSEI) (€m)	11,402,391,000	6%	
Total	**176,119,220,000**	**100%**	

<u>Sources</u>: CSO Output and Value Added data (2019) and CSO Labour Force Survey 2019Q1-Q4 (pre-Covid-19); DETE (Department of Trade, Enterprise and Employment) data from the Annual Business Survey of Economic Impact (ABSEI) on total sales value (i.e. turnover) in agency-assisted Irish-owned and foreign-owned firms in 2019; Dr. McCloughan calculations.
<u>Note</u>: NACE is short for Nomenclature of Economic Activities, which is a sectoral classification system used in the EU.

The relevant information from the ABSEI 2019 given at the bottom of Table 6 shows (not surprisingly) that Irish-owned agency-assisted firms accounted for just 6% of the total sales value of both Irish-owned and foreign-owned firms in services industries in that year (percentage subject to rounding). Deflating the value of output figures (from the CSO) in the second column of Table 5 by this percentage leads to the second column figures in Table 6. With this adjustment to remove the effect of foreign-firms, the value of output figures in the second column of Table 6 are much lower compared with those in Table 5.

For consistency and completeness, we also need to the remove the effect of foreign-owned firms from the employment figures in the third column of Table 5. This second adjustment is incorporated into the analysis in Table 7 below (along with the first adjustment). From the ABSEI data, there were 107,657 persons at work in foreign-owned firms in services sectors in 2019. Taking these persons away from the 452,331 persons at work in both Irish-owned and foreign-owned agency-assisted firms in the relevant sectors in Table 5 or Table 6 implies that there were 344,674 people at work in Irish-owned firms in services sectors in 2019. With both the adjusted value of output and the adjusted employment figures (Irish-owned firms only), the relevant α value is 0.0038% (at the bottom of the fourth column of Table 7) and the estimated change in employment is then derived as: $dN = \alpha dVO$ =0.0038% times 8,125,028 = 312.

Thus, in summary, the loss in demand/turnover due to the Part 8 proposals in the Main Street area of Lucan is estimated at €8,125,028, which in turn could result in the loss of up to 312 jobs in the Village or 52% of the 600 people at work in the Village (the latter figure being LVBSG's estimate).

Table 7: Estimated Employment Impact Associated with the Loss in Demand/Turnover due to the Part 8 Public Realm Proposals – *Adjusted to Include Irish-Owned Firms Only (Parts 1 and Part 2)* (45% of All Cars Parked in Areas 1-3 due to Area 1 in the Main Street area of Lucan Village)

Sector (NACE)	Value of Output (€m) (2019)	Employment (000s) (Average 2019 Q1-Q4)	Employment / Value of Output (%) (α)
Retail Trade (47)	957	163.16	0.0171%
Postal and Courier Activities (53)	111	13.28	0.0119%
Financial and Insurance Services Activities (64-66)	3,413	35.57	0.0010%
Real Estate Activities (68)	1,668	7.45	0.0004%
Legal and Accounting Activities; Head Offices and Management Consultancy Activities (69,70)	1,127	23.88	0.0021%
Architectural and Engineering Activities; Technical Testing and Analysis (71)	207	27.66	0.0134%
Human Health and Social Work Activities (86 to 88)	1,482	73.67	0.0050%
Total	**8,964**	**344.67**	**0.0038%**
Loss in Total Spend/Turnover due to the Part 8 Proposals	***8,125,028***		
Estimated Impact in Employment		***312***	
Total Sales in Foreign-Owned Firms in Services Industries 2019 (ABSEI) (€m)	164,716,829,000	94%	
Total Sales in Irish-Owned Firms in Services Industries 2019 (ABSEI) (€m)	11,402,391,000	6%	
Total	**176,119,220,000**	**100%**	
Total Employment in Foreign-Owned Firms in Services Industries 2019 (ABSEI)	107,657	24%	
Total Employment in Irish-Owned Firms in Services Industries 2019	344,674	76%	
Total	**452,331**	**100%**	

Sources: CSO Output and Value Added data (2019) and CSO Labour Force Survey 2019Q1-Q4 (pre-Covid-19); DETE (Department of Trade, Enterprise and Employment) data from the Annual Business Survey of Economic Impact (ABSEI) on total sales value (i.e. turnover) in agency-assisted Irish-owned and foreign-owned firms in 2019; Dr. McCloughan calculations.
Note: NACE is short for Nomenclature of Economic Activities, which is a sectoral classification system used in the EU.

8. Conclusions

The assessment of the MRCL report (*supra* footnote 1) that the SDCC Part 8 proposals will reduce the number of P&D spaces in the Main Street area from 39 (not 37) to 13, with just 3 disabled access spaces before 11am (i.e. no other car parking in the Main Street area before that time), *"will decimate businesses in the area"* (p. 15) is an accurate assessment, according to the economic impacts estimated in this report by PMCA Economic Consulting.

The two key estimates arising out of the analysis conducted in this report are summarised as follows:

- The loss in spend/turnover due to the Part 8 proposals is estimated at €8,125,028 (Table 4).
- The corresponding employment impact is estimated as the loss of up to 312 jobs in the Village, which corresponds to over half (52%) of all 600 jobs in the Village (Table 7).

Thus, the economic damage to businesses and the wider community from the Part 8 proposals would be very significant.

Note, however, that these estimates of economic loss are based on customers accessing the Main Street area of Lucan by car (the Idaso survey conducted on 17 December 2021 also established that 46% of all vehicles parked in Areas 1-3 of Lucan Village were due to Area 1, namely 917 out of the total 1,994 vehicles). Taking the 46% pertaining to all vehicles parked in Area 1 (as opposed to the 45% car share attributed to Area 1) implies that the economic loss will be even greater:

- The loss in spend/turnover due to the Part 8 proposals is estimated at €8,321,439 (the details are shown in Table A1 in the Annex below).
- The corresponding employment impact is estimated as the loss of up to 320 jobs in the Village, which corresponds to 53% of all 600 jobs in the Village (LVBSG) (Table A2 in the Annex below).

Annex: Additional Key Tables of Analysis

Table A1: Estimated Loss in Turnover/Total Spend in the Main Street Area of Lucan Village due to the Part 8 Public Realm Proposals (46% of All Vehicles Parked in Areas 1-3 due to Area 1 in the Main Street area of Lucan Village)

Variable	Value
[1] Estimated Number of Customers using Lucan Village per Day	8,000
[2] % Customers Using Car	80%
[3] Estimated Number of Customers using Lucan Village by Car per Day	6,400
[4] Number of Vehicles Parked in Area 1 of Lucan Village	917
[5] Number of Vehicles Parked in Areas 1-3 of Lucan Village	1,994
[6] % of Vehicles Parked in Areas 1-3 Parked in Area 1	46%
[7] Estimated Number of Customers to Main Street Area of Lucan Village by Car per Day	2,943
[8] Estimated Number of Customer Visits to Main Street Area of Lucan Village by Car per Week	14,716
[9] Average Number of Persons per Household in Ireland in Census 2016	2.75
[10] Estimated Number of Household Equivalent Visits to Main Street Area of Lucan by Car per Week	5,351
[11] Estimated Average Spend per Household per Week on Convenience Goods and Services in Lucan/Dublin Region (€)	41.86
[12] Shopping Weeks per Year	49
[13] Estimated Turnover/Total Spend of Customers accessing the Main Street area of Lucan Village by Car per Year (€)	10,976,131
[14] % Reduction in Turnover/Total Spend in the Main Street Area of Lucan Village due to the Part 8 Proposals	76%
[15] Estimated Loss in Turnover/Total Spend in the Main Street Area of Lucan Village due to the Part 8 Proposals (€)	8,321,439

Sources: [1]&[2] LVBSG; [3] Dr. McCloughan calculation [1]x[2]; [4]&[5] Idaso traffic survey results (17 December 2021); [6] Dr. McCloughan calculation [4]÷[5]; [7] Dr. McCloughan calculation [3]x[6]; [8] Dr. McCloughan calculation [7]x5 (i.e. assuming 5 working days per week, Mon-Fri, when all businesses in the Main Street area are likely to be open); [9] CSO Census 2016; [10] Dr. McCloughan calculation [8]÷[9]; [11] Table 3; [12] based on 20 paid holiday days per year under the Organisation of Working Time Act 1997; [13] Dr. McCloughan calculation [10]x[11]x[12]; [14] Table 1; [15] Dr. McCloughan calculation [13]x[14].
Note: Figures subject to rounding.

Table A2: Estimated Employment Impact Associated with the Loss in Demand/Turnover due to the Part 8 Public Realm Proposals – *Adjusted to Include Irish-Owned Firms Only (Parts 1 and Part 2)* (46% of All Vehicles Parked in Areas 1-3 due to Area 1 in the Main Street area of Lucan Village)

Sector (NACE)	Value of Output (€m) (2019)	Employment (000s) (Average 2019 Q1-Q4)	Employment / Value of Output (%) (α)
Retail Trade (47)	957	163.16	0.0171%
Postal and Courier Activities (53)	111	13.28	0.0119%
Financial and Insurance Services Activities (64-66)	3,413	35.57	0.0010%
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Legal and Accounting Activities; Head Offices and Management Consultancy Activities (69,70)	1,127	23.88	0.0021%
Architectural and Engineering Activities; Technical Testing and Analysis (71)	207	27.66	0.0134%
Human Health and Social Work Activities (86 to 88)	1,482	73.67	0.0050%
Total	**8,964**	**344.67**	**0.0038%**
Loss in Total Spend/Turnover due to the Part 8 Proposals	***8,321,439***		
Estimated Impact in Employment		***320***	
Total Sales in Foreign-Owned Firms in Services Industries 2019 (ABSEI) (€m)	164,716,829,000	94%	
Total Sales in Irish-Owned Firms in Services Industries 2019 (ABSEI) (€m)	11,402,391,000	6%	
Total	**176,119,220,000**	**100%**	
Total Employment in Foreign-Owned Firms in Services Industries 2019 (ABSEI)	107,657	24%	
Total Employment in Irish-Owned Firms in Services Industries 2019	344,674	76%	
Total	**452,331**	**100%**	

Sources: CSO Output and Value Added data (2019) and CSO Labour Force Survey 2019Q1-Q4 (pre-Covid-19); DETE (Department of Trade, Enterprise and Employment) data from the Annual Business Survey of Economic Impact (ABSEI) on total sales value (i.e. turnover) in agency-assisted Irish-owned and foreign-owned firms in 2019; Dr. McCloughan calculations.
Note: NACE is short for Nomenclature of Economic Activities, which is a sectoral classification system used in the EU.

Annex: Biographical CV of Dr. Pat McCloughan

Dr. Pat McCloughan has over 30 years' professional experience as an economist. Before founding PMCA in 2010, he was a Director with Indecon International Economic Consultants, where he worked during 2001-2010. Between 1993 and 2001, he was employed at the University of Liverpool – as a Lecturer in Economics and during 1998-2001 he was also Director of Undergraduate Studies at the Management School at the University of Liverpool. During 1991-1993, he was a Lecturer in Economics at the University of East Anglia, Norwich in the UK, where he obtained his PhD in Economics.

Dr. McCloughan is one of Ireland's leading consultant economists, where he is known and respected for the integrity, independence and rigour of his work. Clients include central government departments, local authorities, State agencies, educational institutions and private sector organisations (including business representative organisations and property developers).

High profile examples of his consultancy work include his inputs to the Department of Finance, the Department of Public Expenditure and Reform, the Department of An Taoiseach and the Office of An Tánaiste on the preparation of Ireland's Medium-Term Economic Strategy (MTES) 2014-2020, which was completed in December 2013 in advance of the Troika exiting the country following the Banking Crisis and Great Recession of the time. In another but related project, Dr. McCloughan advised the Members of the Joint Oireachtas Committee into the Banking Crisis in Ireland (TDs and Senators) during the preparatory Context Phase of the Inquiry (November 2014-March 2015).

Dr. McCloughan has carried out an extensive amount of work for local authorities over the years, in economic development and economic impact. The local authorities include Meath County Council, Dublin City Council, Cork County Council, Louth County Council and Leitrim County Council. In 2020, Dr. McCloughan completed two economic development assignments for the County and City Management Association (CCMA). The first study, completed in April 2020, was for the Finance Committee of the CCMA and examined the impact of online trading on local authorities financing, including their commercial rates income and how best to facilitate city/town centre renewal in the context of the growth in online shopping by people living in Ireland. The second study, completed in June 2020, was for the Economic, Enterprise, Community and Culture (EECC) Committee of the CCMA and sets out key principles and actions regarding how local authorities may *proactively* facilitate economic development in their local areas.

Dr. McCloughan's academic qualifications are: BA (Hons) Economics and Mathematics (National University of Ireland Galway, NUIG); MA Economics (NUIG); and PhD Economics (University of East Anglia, UK).

He has published in esteemed peer-reviewed economics journals internationally, including *The Journal of Industrial Economics*, *Applied Economics*, *The International Journal of Industrial Organisation*, *Construction Management and Economics*, *Applied Economics Letters*, *Global Competition Review*, *The Journal of Cross Border Studies in Ireland*, *Telecommunications Policy*, *European Competition Law Review*, *The Economic and Social Review*, *The Journal of the Statistical and Social Inquiry Society of Ireland* and *Pleanáil – Journal of the Irish Planning Institute*.

Among his original contributions to economics are novel techniques for estimating economic inequalities given pre-grouped data (over which a researcher or analyst has no control). For example, the Abounoori and McCloughan method for estimating the Gini coefficient given grouped data has used applied by researchers around the world.