

19th September 2017

Policy, Projects and Resources Committee

Parking Strategy Update

Report of: *Adrian J Tidbury - Estates and Valuation Surveyor Portfolio Development*

Wards Affected: *Brentwood South*

This report is: *Public*

1. Executive Summary

- 1.1 This report considers and reviews the completion of the concrete repairs to the Coptfold Road Multi Storey Car Park (MSCP) in March 2016 as part 1 of the two-phased planned refurbishment of the structure.
- 1.2 This report considers the results of the structural survey and the commencement of phase two works completing the refurbishment project.
- 1.3 This report also considers elements of the Strategic Parking Review with respect to the night time economy and recommends a number of minor adjustments to the parking order generally.

2. Recommendation(s)

- 2.1 That delegated authority is given to the Chief Executive and Section 151 officer acting in consultation with the Chair of Policy, Projects & Resources Committee to seek tenders for works to Coptfold Road Multi Storey Car Park, to include the surface coatings, installation of sacrificial anodes as detailed in the recommendation of the Structural Engineer's report together with the fixed wire test remedial measures, lighting improvements and changes to signing and lining.**
- 2.2 That delegated authority is given to the Chief Executive and Section 151 officer acting in consultation with the Chair of Policy, Projects & Resources Committee to select and award the contract to the successful bidder.**

- 2.3 That authority is given to the implementation of a Life Care Plan, for the future maintenance and inspection of the MSCP.**
- 2.4 That the 3 bay parking units on decks 12, 13 & 14 be converted to 2 bays to enhance the usability of the parking bays for larger vehicles on those decks.**
- 2.5 That the additional suggested changes to the Parking Order be agreed as identified in section 5 of this report.**

3. Introduction and Background

- 3.1 Members will be aware of the concrete patch repair works to the MSCP. Works commenced on 2nd November 2015 with an expected 10-week completion programme. Additional repair works were discovered during the project to the lower decks and soffits and all works were completed by 1st March 2016.
- 3.2 Works completed included repairs to the delaminated concrete cover to the reinforcement, provision of sacrificial anodes in small localised areas to reduce further corrosion, repairs to the drainage system and the painting of drainage pipes etc. and the provision of safety barriers for each deck throughout the structure.
- 3.3 Throughout the contract no incidents affecting safety of either the public or contractors staff were reported. Only one complaint was received by the contractor regarding noise and this was immediately resolved.
- 3.4 The Structure was designed in 1970 and completed about 1974. It was designed to provide car parking on seventeen levels. The building is divided into two sections with split levels and interconnecting ramps. It was last repaired in 2005 at the time of the previous structural survey. The recommendations made in 2005 were only essential works carried out at that time to the lower levels whilst levels 15, 16 & 17 were fully refurbished in preparation to the 150-year lease to Barratt Homes Ltd for the residents of Becket House.
- 3.5 This committee set a budget of £375,000 for this first stage of the works and with the additional unexpected repairs, the total cost for the works came to £197,000 including the Design Team fees, which were £23,900.
- 3.6 Members will be aware that the full refurbishment was to be carried out in two phases, the first being the completion of the concrete patch repairs,

safety improvements and drainage works, prior to the commencement of the phase two works being the water proofing to the decks and protective coatings to the concrete surfaces, lighting refurbishments and the signing and lining improvements.

- 3.7 Members will be aware that phase two of the project is the most expensive phase, not in terms of the type of work carried out but in terms of the volume of the works needed. The MSCP is a large structure with over 17 separate levels and it may need be necessary once the works have commenced for additional works to take place.
- 3.8 As part of the phase one works officers commissioned the structural engineers to undertake an intrusive survey into the structure to ascertain its current condition and its expected life span with or without the phase two works. This survey considers such aspects as in-situ measurements of the depth of concrete carbonation, laboratory testing of recovered samples for chloride ion concentration and half-cell potential to give an indication of the extent of the actual corrosion of the embedded reinforcement. A summary of this survey is shown in Appendix A.
- 3.9 Surveys of this type were carried out in 2005 and 2012 and read in conjunction with the results of this latest survey, provides a confident prediction to the life expectancy of the structure and the rate of deterioration of the concrete and reinforcement over that period.
- 3.10 To date refurbishment of the lifts, Fire Risk Assessments, fix wire tests and an Asbestos survey have all been completed.
- 3.11 Members will understand that the phase two repairs and protection measures will represent a significant commitment by the Council to the car park structure in financial terms. Members will be aware from the report to the 21st June 2016 Finance, Policy and Resources Committee that the Council commissioned JMP Consultants Ltd to undertake a formal in-depth review of all Off-Street parking facilities within the Borough which would be completed prior to any decision being made on the phase two refurbishment works to the MSCP by providing supporting evidence for the capital funding required.
- 3.12 This Strategic Parking Review covering the conurbations of the Brentwood Town Centre, Shenfield and Ingatestone was completed in January 2017 and reported to the Policy, Projects and Resources Committee in July 2017. The report identifies the concrete corrosion issue within the MSCP.

- 3.13 The Base Line report was the first stage of the Strategic Parking Review and reported on the findings associated with the background research undertaken, including the existing situation, car park audits, current demand, capacity and the stakeholder engagement process. This report provides a clear understanding of the current status of the Council's Off-Street Parking Provision.

4. Issue, Options and Analysis of Options

The Night Time Economy

- 4.1 It is clear from the information provided in the Base Line Report that the occupancy levels for each car park across the borough follows a similar demand profile with minimal use between the hours of 18:00 through to 08:00 the following day. This same profile is repeated for the Brentwood Council operated car parks and indicates significant available parking space in all car parks for use by the night time economy as they were at an approximate 50% occupancy.
- 4.2 In addition to the onsite research carried out by the consultants, both an online survey for residents and one for the commercial sector were commissioned. The results indicated that whilst residents had difficulty with parking provision adjacent to their property, utilising the public car parks was not an option. Only 2 out of the 43 respondents would consider the option the remaining 41 respondents considered the lack of security, the expense or for no reason would prevent them from making use of the car parks overnight.

The MSCP status

- 4.3 Members will be aware that the MSCP is currently an aging structure that requires essential maintenance to prolong its life. The essential maintenance considered in this report is common place in similar structures found throughout the country. The MSCP represents 42% of the Council's town centre capacity and its loss through closure or maintenance works would contribute to a significant loss to the economy in the borough and the Council. It therefore follows that without the availability of a suitable replacement on the horizon the essential maintenance works to prolong its useable life must take place to stem the rate of degradation of the structure to retain this facility.
- 4.4 It is recognised that the structure is ageing and substandard in comparison with current parking standards however, for long stay parking where individual vehicle movements are low, it offers a viable solution

until a suitable replacement facility can be built that will provide modern parking standards and additional capacity for well into the future.

- 4.5 The layout of the car park is essentially in the form of three bay units between the structural columns, there are 8 two bay units and 24 three bay units to each floor. Each three-bay unit is 7.3m in width equating to the 1970's parking standards of 2.4 x 5m parking bays whilst current standards are now 2.9 x 5.5m. Members are asked to consider a sub division of each three bays unit into two bays rather than the three providing two 3.65 x 5m parking bays which is in excess of the current standard in terms of width and will provide a significant improvement in terms of manoeuvrability and the obstruction caused due to the column locations. This would reduce the parking capacity from 88 to 64 per parking deck.

Table 1 – Current capacity of the car park and level of occupancy – 27.07.17

Level	2 Space Bays	3 Space Bays	Disabled Bays	Trolley Bays	Capacity	No of Parked Vehicles 27 th July 17
1	4	11	0	0	41	33
2	2	12	0	0	40	34
3	0	5	9	1	24	19
4	0	9	3	0	30	29
5	5	10	2	1	42	43
6	3	12	0	0	42	44
7	4	12	1	1	45	44
8	3	12	0	0	42	33
9	4	12	1	1	45	28
10	3	12	0	0	42	13
11	4	12	1	1	45	15
12	3	12	0	0	42	5
13	5	12	0	0	46	1
14	3	12	0	0	42	7
Totals	43	155	17		568	348

- 4.6 Table 1 shows the current capacity of the car park and the level of occupancy as at 27th July 2017. If all the three bay sections were to be reduced to two parking bays there would be a net capacity loss of 155 reducing the overall capacity to 413. If the two bay units were reduced to single parking bays then the capacity would further reduce to 370 which is still adequate to accommodate all the vehicles at the time of the survey without loss of income.

- 4.7 It was clear at the time of the survey that many larger vehicles had straddled the parking bay markings preventing vehicles using the adjacent space thus reducing the capacity of the car park by vehicle size.
- 4.8 Currently the Council has provided 220 parking spaces under licence and a further 221 parking spaces to season ticket holders (permits).
- 4.9 In considering the change of the three bays areas to 2 bays, Members need to understand the commitment the Council has to its license holders and these spaces need to remain guaranteed in the overall capacity of the car park.
- 4.10 In reducing all existing 3 bays units to 2 bays, there would not be enough space remaining to accommodate both license and permit holders. By reducing the 3 bay units within the license holder areas then 44 spaces would be available for the public should all permit holders be present however, it is recognised that not all permit holders are present at the same time and so assuming a 50% attendance, 154 spaces would be available for the public.
- 4.11 Therefore, whilst the reduction from 3 bays to 2 on any level will enhance the usability of the car park, it will not generate a greater income for the Council. Clearly if no changes are made then based on 50% occupancy of the permit holders, 238 spaces for the public would be retained and available for further lease or permit holders. In order to enhance the car park it is proposed to only consider converting the three bay units on decks 12, 13 & 14 and to encourage all existing permit holders to these decks where parking space within the individual bays will be significantly improved. Should this measure prove successful in the usage of these upper floors then to consider the remaining floors at a later date. It should be noted that the impact of these proposed works would not increase usage.
- 4.12 In addition, the MSCP represents 44% (2016/17, £587k) of the total parking income to the Council suggesting that its loss would not only damage the town's economy but also severely impact the financial income to the Council.
- 4.13 Therefore, a decision to implement phase two of the refurbishment works, and prolong the structure's life expectancy will enable the Council to have a significant timescale in which to redevelop the site and provide for a long-term solution with modern facilities including additional capacity long into the future.

- 4.14 Multi Storey car parks are essentially open sided buildings which carry heavy loads with the wheels of the vehicles directly on the concrete. In the winter, vehicles bring in salt and snow from the roads. salt laden water is highly corrosive and penetrates the concrete. As this penetration deepens, the reinforcing bars begin to corrode and expand, blowing the concrete cover off the bars. The corrosion is not seen as it is taking place within the body of the concrete. This spoiling can take 20 years, but once it's taken hold it will accelerate quickly and within a few years the structure can significantly deteriorate. The Structural Engineers' report clearly indicates that corrosion is actively occurring across a significant area of the top reinforcement to the car park decks and therefore corrosion of the embedded steel has been initiated.
- 4.15 The life span of the building is determined by the rate of corrosion of the embedded steel and therefore to extend the life of the structure it is imperative to reduce this rate of corrosion.
- 4.16 The Structural Engineers propose a repair regime to include the application of sealant coatings to the decks. The introduction of sacrificial anodes to areas currently at risk, with the lower decks nearer to the entrance being the priority and the application of anti-carbonation coatings to the soffits, columns and parapets.
- 4.17 The installation of the sacrificial anodes to the structure, which are designed to corrode instead of the embedded steel reinforcement, will have a design life of 20 to 25 years before replacement is required. The sealant coatings preventing further chloride penetration.
- 4.18 Members will need to be aware that if no action is taken, the currently active corrosion will become more extensive and will accelerate with time. indeed, the main report suggests that a regime of monthly inspections to detect falling masonry and emergency repairs would be required. If no active corrosion preventative measures are undertaken, it is likely that the structure could only remain operational for a further 5 years.
- 4.19 Costs in terms of such structures are best understood with the analogy of a bath cross section, costs very high with the build of the structure at the beginning, dropping to very low maintenance costs for many years and then starting to rise when repairs are needed and rising at significant speed if those repairs are not carried out. The phase one repairs and phase two protective coatings will prolong the life of the structure as indicated in the structural engineer's report. Without these protective coatings, further corrosion of the reinforcement will take place with the integrity of the concrete compromised through the ingress of chloride ions

which will accelerate the corrosion and the demise of the structure. Members may well be aware of similar car parks in Chelmsford, Colchester and Ipswich where catastrophic failures have resulted in these car parks being closed for major repairs (Chelmsford) or even demolition.

- 4.20 In the 2005 condition survey it was stated that the chloride levels varied from low to very high and were a major cause of the evident deterioration at that time. These chlorides are both found in de-icing salts following the vehicle trails through the car park and from Calcium Chloride which was used as an accelerator in concrete production but banned in 1977 and may have been used in the structure's construction.
- 4.21 Members will be aware that there is a lease on the 15th, 16th and 17th floors between the Council and Barratt Homes Ltd dated 13 September 2006 for a term of 150 years and it is therefore essential that repairs and preventative maintenance is carried out to prolong the life of the structure.
- 4.22 Members will also be aware that at the time of the drafting of the lease, concrete repairs, protective coatings and water proofing were completed to the 15th, 16th and 17th floors. No similar measures were carried out to the lower levels.
- 4.23 Income from the site during 2016/17 was £587,335 inclusive of parking charges and rentals and 2017/18 is expected to be higher as a result of the plans to actively market and sell more season tickets.
- 4.24 Members will see from the synopsis to the Structural Engineers' report appended to this report (Appendix A), that they have provided advice on the way forward to prolong the life of the car park.
- 4.25 'Do Nothing' is not an option to consider in this instance as to do nothing is to commence the start of the process to manage the closure of the car park. Other experience would suggest that the costs of remedial actions not taken now are likely to be fivefold if carried out at a later date. This option will require constant monitoring for falling masonry, making safe and urgent localised repairs with the loss of reputation arising from falling masonry, resulting in less use of the car park, falling income, and health and safety issues. The Health and Safety Executive could order the council to shut the facility, worst case scenario.
- 4.26 As with all buildings with electrical services, they are required to have an electrical condition report carried out every 5 years. For the MSCP this was completed on 9th March 2016 as unsatisfactory.

- 4.27 The report highlights corroded conduits, lighting units inoperable, sign lighting missing, emergency lighting not compliant and earth loop impedance exceeded. It is intended that a full refurbishment of the lighting and circuits etc. will be carried out as part of the phase 2 works. In addition to the electrical works, replacement of the existing CCTV cameras will be carried out as well as improvements to their coverage.
- 4.28 Whilst new surface treatments will be provided to each deck, these will include new bay markings with contrasting colours for the parking bays and the circulation routes along with directional signing for each deck.
- 4.29 The colour scheme will be blue for the parking bays, grey for the circulatory areas and stone white for the concrete surfaces for the soffits and parapets. The columns will be a different colour for each level providing easy identification of each level.
- 4.30 Whilst these coatings will provide significant protection to the concrete surfaces, redecoration will still be required from time to time as indicated in the Appendix.
- 4.31 In addition to these works which will significantly prolong the life of the car park, it is essential that a 'Life Care Plan' is put in place for the structure moving forward. The main purpose of a life care plan is to identify the structural condition, the current level of safety, and how to maintain the car park throughout its service life.
- 4.32 The components of a Life Care Plan are:
- Description of car park with age, photographs, as built information, etc.
 - Record of previous investigations, repairs, accidental damage, winter maintenance, etc.
 - records of daily surveillance and routine inspections
 - Condition survey and material testing
 - Structural appraisal (by Chartered Structural Engineer)
 - Priced repair/maintenance options
 - recommendations for future action
 - records of work undertaken and costs involved
- 4.33 It is intended that a life care plan will be set up for the remaining life of the car park following the completion of the phase two works.

- 4.34 Appendix B, a report provided by the Daniel Connal Partnership, indicates the cost estimates of the works to the whole structure and are estimated at £2.4m including the design team fees of £107,000. This is a considerable sum and Members may wish to consider the phase 2 refurbishment in terms of the remaining life expectancy of the structure and the possibilities of the sites future redevelopment. If Members see the site being redeveloped within a 15-year time period then only targeted introduction of the sacrificial anodes to those decks at greatest risk of corrosion would be appropriate, this would provide a reduction in the phase 2 costs from £2.4m to nearer £2m assuming 50% reduction in the installation area. The concern here would be the future condition of the structure at the end of the term as corrosion in the untreated areas would have accelerated leading to further significant costs for these untreated areas. However, by treating the most corroded areas as a priority, the Council will have essential time to consider the provision of a replacement parking facility.
- 4.35 The contract is expected to take 6 months to complete and the intention is for commencement in the spring of 2018.
- 4.36 Whilst the works are being carried out it is intended to keep the car park as operational as is physically possible. However, it is expected that where the works affect the ramps, some overnight closures will be necessary to allow sufficient time for the surface coatings to cure and be ready for live traffic.
- 4.37 The estimated costs of the project are set out in Appendix 2 and some costs savings could be considered by not including the safety improvements to the ramps, and stair wells. Some of the drainage works will be avoided with the provision of the sealant coatings to the decks to overcome any existing 'ponding' issues from the past.
- 4.38 Members will see that the main costs relate to corrosion prevention, surface coatings and lighting and electrical repairs.

5. Recommended Changes to the Parking Order

In addition to proposals taken to the Policy, Projects and Resources Committee in July, the following additions and updates are required:

- 5.1 Add the Depot car park to the Parking Order (see Appendix C).
- Car park to be called The Depot car park
 - Permit holders only 6am to 5pm Monday to Friday.

- Free parking at other times.
- 5.2 It is recommended that the parking area between Mayflower House (Appendix D) and Gibraltar House (Appendix D) is added to the Parking Order. This will allow the Council to enforce against vehicles parked illegally in this area which has become a problem over the last year with the introduction of permit holder only parking at the sites.
- 5.3 Add Eagle Way car to the Parking Order (see Appendix E).
- Car park to be called Eagle Way car park
 - Permit holders only at all times
- 5.4 The lease with Ford Motor company expires on 31st October 2017, however, a new lease for part of the car park has been agreed with effect from 9th October 2017. The remainder of the car park will form a new car park. Council staff based at the depot and mainly The Regus office facility will use this car park and the remaining spaces will be available to sell to season ticket holders. An active marketing campaign will be developed to assist with the delivery of this.
- 5.5 Add the 7 parking spaces behind the Wildwood Café, to the east side of William Hunter Way, to the Parking order. These spaces can then be leased to local shop workers on a timed and controlled basis. Although this area has operated as a car park for many years it has never been added to the parking order. By adding this area to the parking order the Council will be able to enforce the parking and to reduce the inappropriate use of the facilities.
- The car park will be called William Hunter Way East
 - Permit holders only at all times
- 5.6 Amend the restrictions at Nightingale Centre from 4 hours no return for 4 hours to 3 hrs no return for 4 hrs. The purpose of this minor change is to improve the Councils ability to enforce the parking and to reduce the inappropriate use of the facilities. Local workers are regularly moving their cars from the car park to another location to avoid the restrictions
- 5.7 Re introduce charging at Hunter and Friars Avenue car parks. This will be introduced when Crossrail has finished using the car park sites.
- Retain both car parks into short stay car parks
 - 3 hours no return for 4 hours Monday to Saturday 6am to 7pm
 - Parking charges

- 30 mins Free
- 1 hr £1.00
- 2 hrs £2.00 – with res permit £ 1.40
- 3 hrs £3.00
- 7pm to 6am Monday to Saturday £2.00
- Sunday – 6am to 7pm £1.00

6 Reasons for Recommendation

- 6.1 To complete the final phase of the refurbishment programme in the light of the condition report predicting significant additional life to the MSCP structure following the completion of the works.
- 6.2 With the completion of the works the current internal ambience will be much improved and likely to attract additional users thus increasing revenue.
- 6.3 Consistent with the life care plan set out by the Institute of Structural Engineers.
- 6.4 The various parking order updates are pertinent to the current business and encompass recent changes and adjustments. The changes will also facilitate appropriate enforcement across the parking order schedule and expand the income generation potential.

7 Consultation

- 7.1 No formal consultation has been undertaken.

8 References to Corporate Plan

- 8.1 Value for Money, policies that invest in key services to create opportunity for all, provide better value for Brentwood taxpayers and enhance the Borough's infrastructure whilst modernising and transforming Brentwood Borough Council.
- 8.2 Economic Development - Consider how Council assets can be utilised to promote sustainable development in the Borough.
- 8.3 The Council is committed to make Brentwood a Borough where people feel safe, healthy and supported.

9 Implications

Financial Implications

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- 9.1 In order to safeguard the Council's parking income for the MSCP, which is approximately £600k net per annum, this building work is essential. With a cost estimate of around £2m there is a 3 year 4 month pay-back period, whereas the life of the MSCP is expected to be extended by around 10 years following the completion of the repairs.
- 9.2 There is adequate provision within the Capital Receipts Reserve to fund this project fully from existing resources. The effect this will have on the longer-term capital programme in considering new bids, will be reported to this committee in November.

Legal Implications

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- 9.3 When commissioning contracts referred to in this report, the Council will need to comply with its Contract Standing Orders as set out in the Council's Constitution, as well as relevant procurement legislation including EU regulatory requirements. Legal Services is on hand to advise and assist during this process.

Other Implications (where significant) – i.e. Health and Safety, Asset Management, Equality and Diversity, Risk Management, Section 17 – Crime & Disorder, Sustainability, ICT.

- 10 Background Papers** (include their location and identify whether any are exempt or protected by copyright)

No Background papers to this report. The various appendices provide the relevant background.

11 Appendices to this report

- Appendix A - Synopsis to the 2016 intrusive survey report undertaken by MLM Structural Engineers. the full report can be made available to Members on request.
- Appendix B - Cost estimate prepared by Daniel Connal Partnership
- Appendix C – The Depot Car Park map
- Appendix D – Mayflower House, Gibraltar House maps

- Appendix E – Eagle Way Car Park map

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