

FOI Ref  
**13107**

Response sent  
**25 May 23**

(CCC) Car Park Weight Capacity

I am writing to you under the Freedom of Information Act to request information regarding the weight capacity of multi-story council car parks.

I kindly request the following information for each multi-story car park under your management:

1. The number of multi-story car parks managed by the council
2. The number of stories that each car park has
3. The weight capacity of each multi-story car park managed by the council
4. The approximate number of vehicles that each of these car parks is able to accommodate
5. Any recent instances of incidents, accidents, or structural failures related to the weight-bearing capacity of the car parks

**Response:**

Thank you for your request for information above, which we have dealt with under the terms of the Freedom of Information Act 2000.

I hope the following will answer your query:

I am writing to you under the Freedom of Information Act to request information regarding the weight capacity of multi-story council car parks. I kindly request the following information for each multi-story car park under your management:

1. The number of multi-story car parks managed by the council

4 multi storey car parks:

Grand Arcade

Grafton East

Grafton West

Queen Anne Terrace

2. The number of stories that each car park has

If you are referring to car park storeys then I have had to make an assumption regarding what is a car park storey. I have indicated below how many parking

FOI Ref  
**13107**

Response sent  
**25 May 23**

levels are in each car park but these are not always stacked on top of each other, where this is the case I have noted it below.

Grand Arcade – Main car park 5 storeys. Annex car park 4 storeys

Grafton East – 10 parking levels, all are half storeys

Grafton West – 4 parking levels, all are half storeys

Queen Anne Terrace – 12 parking levels, all are half storeys

### 3. The weight capacity of each multi-story car park managed by the council

The new IStructE Design Recommendations for Multistorey car park, published in February 2023 introduced an increased imposed load for car park slabs due to the ever-increasing presence of heavy electric vehicles.

The current recommended loading for car park floor slabs is 2.5kN/m<sup>2</sup>, as per BS EN 1991 1-1: it is intention to bring that to 3.0 kN/m<sup>2</sup> to cater for the heavier vehicles considering dynamic amplification.

Once these recommendations were known structural analysis of the Grand Arcade, Grafton East and Queen Anne Terrace car parks were undertaken including the various structural elements (slab, beams, columns).

The resulting reports do not provide a weight capacity for each car park but instead provided data for each structural element.

The conclusion within the reports for each car park advised - "given the reinforcement as surveyed, it is shown that the general structure is still capable of withstanding the increased load demand caused by the heavy electric vehicles and there is no necessity of structural strengthening."

No information is held regarding the Grafton West car park

### 4. The approximate number of vehicles that each of these car parks is able to accommodate

Grand Arcade – 954

Grafton East – 890

Grafton West – 282

FOI Ref  
**13107**

Response sent  
**25 May 23**

Queen Anne Terrace – 573

5. Any recent instances of incidents, accidents, or structural failures related to the weight-bearing capacity of the car parks

No incidences, accidents or structural failures relating to weight bearing capacities

We aim to provide a high quality service to you and hope that you are satisfied with this response. If you have any further questions please do not hesitate to contact us.

|                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------|
| Further queries on this matter should be directed to <a href="mailto:foi@cambridge.gov.uk">foi@cambridge.gov.uk</a> |
|---------------------------------------------------------------------------------------------------------------------|