Impacts of traffic reduction measures in the Colchester City Council Masterplan

A Cebr report for Our Colchester BID

July 2023

Authorship and acknowledgements

This report has been produced by Cebr, an independent economics and business research consultancy established in 1992. The views expressed herein are those of the authors only and are based upon independent research by them.

The report does not necessarily reflect the views of Our Colchester BID.

London, July 2023.

Summary report

Introduction

This short report for Our Colchester BID, produced by Cebr, reviews the potential economic impact of traffic reduction measures in the Colchester City Council Masterplan.

The Masterplan sets out a range of transport measures aimed at reducing use of the private car in and around Colchester City Centre in favour of public and active transport. There is significant international evidence to show that initiatives such as this can be successful in achieving environmental and economic goals, provided that interventions are carefully sequenced.

There is a risk, however, that if public and active transport improvements lag measures to discourage car use there will be a detrimental effect on footfall and turnover in the city centre, which faces growing competition from out-of-town centres with free parking.

This analysis therefore focuses on the potential impacts of traffic reduction measures being introduced in isolation of public and active transport improvements. It does, however, consider how the opening of the Colchester Rapid Transit System may offset these impacts.

The following section summarises our results. A detailed appendix follows, covering our review of the Masterplan, wider literature, and analytical methodology, and commentary on results.

Results

Footfall and turnover impacts

Our analysis of impacts on city centre footfall and turnover is based on changes to the generalised costs (GCs) of travelling into Colchester City Centre by car. GCs combine the monetary and non-monetary (principally time) costs of a journey.

We first model the impact of a 10% increase in parking costs (Scenario 1). On an annual basis, this results in a decline of just under 5%, or 70,000, in footfall, and a corresponding £1.4 million drop in turnover. Assuming that the RTS is also in operation (Scenario 2) roughly halves these annual impacts (see Table 1).

Table 1: Scenario 1 and 2 annual impacts

Scenario 1: 10% increase in parking costs		Scenario 2: 10% increase in parking costs, RTS in operation	
Car GCs vs Baseline	2.9%	**Car GCs vs Baseline**	2.9%
RTS in operation?	No	**RTS in operation?**	Yes
Demand impact %	-4.8%	**Demand impact %**	-2.6%
Footfall impact	-69,615	**Footfall impact**	-37,835
Turnover impact	-£2,067,528	**Turnover impact**	-£1,123,656
New footfall	1,368,551	**New footfall**	1,400,331
New turnover	£40,644,924	**New turnover**	£41,588,796

Source: Cebr analysis

Over 5 years, with the RTS opening in year 3 (i.e. 2026), the cumulative footfall and turnover impacts would be over 250,000 and £7.7 million respectively (Table 2).

Table 2: Five-year impacts of Scenario 1 in years 1 and 2, Scenario 2 in years 3, 4, and 5

	2024	2025	2026	2027	2028	Total
Baseline footfall	1,450,756	1,462,849	1,474,656	1,486,117	1,496,865	7,371,243
Baseline turnover	£43,086,368	£43,445,513	£43,796,178	£44,136,554	£44,455,782	£218,920,396
Demand impact	-4.8%	-4.8%	-2.6%	-2.6%	-2.6%	-3.5%
Footfall impact	-70,225	-70,810	-38,794	-39,096	-39,379	-258,304
Turnover impact	-£2,085,628	-£2,103,012	-£1,152,167	-£1,161,121	-£1,169,519	-£7,671,446

Source: Cebr analysis

A further pair of scenarios (Scenario 3 and 4) incorporate a 5% increase in travel distances and 5% reduction in average speeds, representing more stringent traffic reduction measures. This could result in a footfall and turnover declines of 11% without the RTS in operation, and 6% with it (Table 3). The five-year impact on footfall is nearly 600,000, and that on turnover is £17.3 million (Table 4).

Table 3: Scenario 3 and 4 annual impacts

Scenario 3: parking cost, distance, and speed impacts		Scenario 4: parking cost, distance, and speed impacts, RTS in operation	
Car GCs vs Baseline	6.6%	**Car GCs vs Baseline**	6.6%
RTS in operation?	No	**RTS in operation?**	Yes
Demand impact %	-10.9%	**Demand impact %**	-5.9%
Footfall impact	-156,842	**Footfall impact**	-85,240
Turnover impact	-£4,658,078	**Turnover impact**	-£2,531,564
New footfall	1,281,324	**New footfall**	1,352,926
New turnover	£38,054,374	**New turnover**	£40,180,888

Source: Cebr analysis

Table 4: Five-year impacts of Scenario 3 in years 1 and 2, Scenario 4 in years 3, 4, and 5

	2024	2025	2026	2027	2028	Total
Baseline footfall	1,450,756	1,462,849	1,474,656	1,486,117	1,496,865	7,371,243
Baseline turnover	£43,086,368	£43,445,513	£43,796,178	£44,136,554	£44,455,782	£218,920,396
Demand impact	-10.9%	-10.9%	-5.9%	-5.9%	-5.9%	-7.9%
Footfall impact	-158,215	-159,533	-87,403	-88,082	-88,719	-581,952
Turnover impact	-£4,698,856	-£4,738,023	-£2,595,796	-£2,615,970	-£2,634,891	-£17,283,536

Source: Cebr analysis

Potential impacts on workers

Based on survey and ONS evidence, we estimate that 2,726 workers per year (representing 478,925 return trips) drive into the Colchester BID zone. Though it is beyond the scope of this report to estimate how they would respond to traffic restrictions, this does demonstrate the number who stand to be affected. Possible effects include difficulties in recruitment and/or retention for city centre businesses, or time and money costs borne directly by employees. The survey evidence from Our Colchester BID shows that many currently find it difficult to use public or active transport.

Appendix

Masterplan review

The Colchester City Centre Masterplan sets out objectives for the future growth and development of the city centre and proposes interventions for their achievement. The plan spans land use, promotion of heritage, public realm, and of course transport. **Transport policies within the Masterplan aim to reduce the use of the private car and promote public and active transport.**

We have reviewed the Masterplan with a focus on transport, and relevant interventions recommended within it are summarised in Table 5[1]. This shows information from the report prepared by Steer, plus an extra two columns which indicate whether they could be expected to have a positive (green) or negative (red) impact on travel by car or public/active transport into Colchester City Centre. Short-, medium-, and long-term timescales are classified by Steer as anticipated for delivery within the next 3, 3-5, and 5 or more years respectively. Fuller details of interventions are available in the Masterplan.

Table 5: Selected recommended interventions from Masterplan

ID	Intervention	Effect	Timescales	Car	PT/AT
CP4	Integrate micromobility and car parking	Moderate	Short term		
UD5	Enhance car parking appearance, pedestrian areas	Light touch	Short term		
CP3	Reduction in long-stay parking	Light touch	Short/Medium term		
NM2	Expand/enhance micromobility	Light touch	Short/Medium term		
AT2	Upgrade Crouch Street cycleway	Light touch	Short/Medium term		
UD7	Replace St Botolph's Circus, upgrade public realm	Radical	Medium term		
ID3/4	Restrict car/van access to High Street	Moderate/Radical	Medium term		
CP5	Index-link parking with PT etc.	Moderate	Medium term		
AT9	Upgrade Lexden Road cycle lanes	Moderate	Medium term		
AT11	Segregated cycle lane: East Hill	Moderate	Medium term		
ID2	Segregated cycle lane: North Station Road/North Hill	Moderate	Medium term		
AT7	At grade crossings across Southway	Moderate	Medium term		
NM1	Create network of mobility hubs	Light touch	Medium term		
UD4	River Colne-Colchester Town Station AT route	Light touch	Medium term		
BU1	Longer bus hours in evenings/on Sunday	Light touch	Medium term		
RA1	Colchester Station frequent shuttle service	Light touch	Medium term		
AT13	Car-lite access restrictions	Radical	Long term		
AT14	Zonal Traffic Circulation Plan	Radical	Long term		
AT15	Zero Emission Zone	Radical	Long term		
NM6	Implement DDRT service	Moderate	Long term		

Source: Colchester City Council, Steer, Cebr

The list here is not exhaustive, but is designed to focus on interventions likely to have the most significant impacts on how people access the city centre. Our assessment of impacts on car or AT/PT travel rests on their impact on that mode alone. For instance, *CP5 Index-link parking fees with public transport, Park & Ride and shared transport interventions* would increase the

1 'Corridor Recommendations', pages 72-94 of Appendix B, used to identify interventions, reference IDs, and scale (light touch-radical). Timescales for implementation are from Table 6, pages 67-70.

cost of driving into the city centre and parking, and generate some modal shift towards PT/AT, but it does not make these modes better in absolute terms. Introduction or upgrade of cycle lanes is assumed to result in narrower carriageways and therefore a negative impact on drivers – though probably a relatively small one.

At a glance, **there is a reasonable balance of measures discouraging car use and supporting public and active transport**, which is what one would expect is needed to achieve environmental objectives without adversely affecting city centre footfall. There are, however, some qualifications to this:

- The one 'pro-car' measure included here, *UD5 Enhance car parks with attractive access forecourts and internal pedestrian routes*, will no doubt be welcomed by users but seems unlikely to have a major impact on visitor numbers.
- Key 'anti-car' measures, especially those relating to parking, are relatively easy to implement, so there is no reason to think they could not be delivered on time. 'Pro-PT/AT' measures rely more heavily on physical interventions – e.g. construction of cycle lanes or road crossings, procurement of new buses or micromobility – and therefore may be more susceptible to delays.
- In the short and short/medium term, 'pro PT/AT' measures are heavily focused on active rather than public transport. Active transport has an important role to play, but some users will need public transport to switch away from using the car, namely:
    - Older or disabled shoppers;
    - Shoppers with young children in tow;
    - Those travelling from further afield, beyond active transport range[2];
    - Those intending to make a large volume of purchases.

Therefore, it is possible that if measures are not sequenced carefully, incentives to use alternative modes of transport will lag disincentives to use the private car. This could result in a loss of economic activity in the urban centre. Once shoppers have got into the habit of going elsewhere they may not return even after public and active transport have improved.

Not included in the Masterplan is the **Colchester Rapid Transit System (RTS)**, on which construction commenced this year. It is expected to be operational in 2025/26 so would be classified as 'Short/Medium term' in Table 5. Our later analysis does account for this.

Literature review

There is a wealth of evidence to demonstrate that measures of the sort proposed in the Colchester City Centre Masterplan can be highly successful in achieving environmental and economic objectives. The evidence strongly indicates, however, that **successful schemes require traffic reduction and promotion of alternative modes to go hand-in-hand**:

- A trial of congestion charging in Stockholm, Sweden (followed by full implementation, approved by referendum) was highly successful. It was introduced alongside improvements to metro and commuter trains.[3]

2 With the caveat that some may choose to park out-of-town and switch to micromobility services.

3 Eliasson, J. (2014). *The Stockholm congestion charges: an overview*. Centre for Transport Studies Stockholm. Link.

- Parking and car use restrictions in Krakow (Cracow), Poland combined with active travel and public realm improvements led to increased business turnover (proxied by VAT receipts) and won widespread public approval after implementation. [4]

Moreover, these cities are both much larger than Colchester, with populations of 975,000 and 767,000 respectively, and well-established public transport (metro/tram) systems of the sort one would expect in large cities. In this sense their starting position was quite different to that of Colchester, which relies on bus services. The RTS will of course be a major step forward, but the coverage it will provide when it opens in 2025/26 will be between the city centre and north and east/southeast of Colchester; not the sort of all-round or orbital connectivity that a big-city tram or metro provides.

For the purposes of this research, however, **we are interested in the impact of introducing traffic restrictions in isolation, in locations comparable to Colchester**, in order to estimate the impact of these measures from the CCC Masterplan being introduced before public and active transport improvements are delivered.

Research in this area is more limited. Whilst we could not identify evidence for the impact of the package of traffic reduction measures specific to the CCC Masterplan in a location comparable to central Colchester, some relevant evidence does exist:

- A study of 80 shopping areas in the Netherlands[5] relates turnover per square metre of retail floorspace to variables including parking capacity and tariffs, controlling for population density, level of urbanisation, car density, and average incomes. The key results are as follows:
    - There is a significant positive relationship between parking tariffs and turnover/m^2. This is initially counterintuitive, but the authors surmise that this is a result of the most attractive shopping areas (in terms of non-parking factors) attracting more customers, driving up turnover and competition for parking.
    - Overall, parking capacity does not have a significant influence on turnover/m^2 of shopping areas. This overall result is again somewhat surprising but covers a broad range of areas.
    - Focusing on regional shopping areas only, there is a significant positive relationship between parking capacity and turnover/m^2. To be precise, the elasticity is 0.26; for a 1% increase in parking capacity there is a 0.26% increase in turnover/m^2. Regional centres (about half of the sample) are defined as those with between 100 and 400 shops. Our Colchester BID represents more than 400 businesses, but not all of these are shops[6] – so these results appear to be most relevant here.

4 Szarata et al., (2017). *The impact of the car restrictions implemented in the city centre on the public space quality*. Centre for Transportation Research Procedia. Link.

5 Mingardo, G. (2016). *Articles on Parking Policy*. TRAIL Research School. Link. Pages 39-51.

6 Our Colchester Business Improvement District. Link.

We do not have an exact count of shops in the BID zone but respondents in the Transport Strategy Research Survey include significant cohorts from pubs, coffee shops, professional services, Mercury Theatre, and gyms. Moreover, insofar as Colchester serves a hinterland of villages and smaller towns it fits the description of a 'regional centre'.

- Further relevant insights from an existing literature review[7] include:
    - City centre parking restrictions in Amsterdam did generate modal shift towards public transport, but also shifted congestion – and possibly employment – outside of the urban core (van der Schaaf, 2002).
    - A stated preference study of casual visitors to Sydney estimated an elasticity of parking demand with respect to parking rate of -0.54 in the Central Business District (Hensher and King, 2001).
    - Empirical and modelling work did not find substantial evidence overall for the impact of parking policy on land use; however, transport modelling work suggested that where strong restrictions are introduced in the city centre but not elsewhere, there can be negative impacts (Still and Simmonds, 2000).

Methodology and analysis

Footfall and turnover impact methodology

Savills data provided to Cebr by Our Colchester BID shows that for the period 23/05/2022-22/05/2023 **footfall in central Colchester stood at 1,438,166** (or 119,847 per month).

Further Savills data utilising Visa Loyalty Insights (VLI) estimated Q1 2022 retail spend in CO1 of £10,678,113, which we annualise to **turnover of £42,712,452**. A couple of caveats should be noted here: (1) CO1 includes significant (albeit mainly residential) areas outside the BID zone and excludes the southern edge of it (including Osborne Street and Crouch Street in CO2 and CO3 respectively); (2) VSI data excludes cash transactions.

Footfall figures for two of Colchester's main shopping centres are also available, so impacts can be estimated. They use quite different measurement methods, so cannot be compared with the Savills data directly:

- For Culver Square in the year ending June 2023, 3,515,771 (data provided to us by Colchester BID).
- For Lion Walk, a figure of 9,300,000 is provided for 2019[8].

These figures are substantially higher than the Savills estimates for Colchester as a whole, as they are based on people passing counters and therefore they can be counted multiple times. Savills use phone location data which means that each person is only counted once, and excludes those in the centre for over 7 hours (likely to be workers or residents) – therefore these figures are used for our headline impacts.

Our analysis of impacts is based on changes to the *generalised costs* (GCs) of car travel into central Colchester. This combines the monetary and non-monetary (principally time) costs of a journey. In estimating this we made the following assumptions:

- An average car journey distance of **7.8km**. This is based on evidence from Fig 2.1c of the Colchester Leisure Recovery Research Report.
- An average travel speed of **30mph** (48.3km/h).

7 Marsden, G.R. (2006) The evidence base for parking policies - a review. Transport Policy, 13 (6). pp. 447-457. ISSN 0967-070X. Link.

8 Lion Walk. Link.

- Average non-work vehicle occupancy, value of time, and operating cost parameters were taken from the DfT's **Transport Appraisal Guidance** (TAG) databook.
- Average parking cost of **£4.13**. This is a capacity-weighted average of the cost of parking a car for 2-3 hours in any of the council-operated car parks or the High Street NCP car park.
- An average parking search time of **10 minutes**. This is based on a study by INRIX[9]. Parking search times are double-weighted, based on TAG guidance[10].

This results in an average generalised cost for a return journey of £14.15 (with time components valued in monetary terms) or 127.7 generalised minutes (with monetary components valued in temporal terms).

In order to estimate the impact of policy changes, we need an elasticity of demand (which relates directly to city centre footfall and turnover) with respect to generalised cost. We derive this based on the Dutch evidence into the relationship between parking capacity (proxied here by search time) and turnover and the proportion of total generalised costs in the baseline comprised of parking search time. **The resulting elasticity is -1.66**, i.e. a 1% increase in generalised cost would lead to a 1.66% decrease in footfall and turnover. This can be used to evaluate the impact of changes in any component of generalised cost.

We can also scale impacts to account for the impact of the RTS opening. The starting point for this is the Savills Colchester Consumer Survey provided to us by Our Colchester BID. Respondent origins by postcode area are included and shown in Table 6. We exclude CO1 (as its residents are already in or immediately around the city centre), and assume that impacts are offset according to the share of other consumers resident in CO4, CO6, CO7, and CO8 – i.e. those to the north and east of Colchester, well-placed to be served by the RTS either for their entire journey or by interchange. On this basis, we estimate that the opening of the RTS would reduce impacts by 45.7%[11].

Table 6: Origin of respondents by postcode, Colchester Consumer Survey June 2022

CO1	8%
CO2	12%
CO3	15%
CO4	15%
CO5	12%
CO6	8%
CO7	13%
CO8	6%
CO9	11%

Source: Savills

9 *The Impact of Parking Pain in the US, UK and Germany*, INRIX, 2017. Link. The 10-minute figure is a rough mid-point of off-street parking search times in the selected UK cities, shown in Table 4. Though the figure seems to be on the high side, erring on the side of a larger figure makes our elasticities smaller, making the analysis less sensitive to changes in GCs.

10 *TAG Unit A1.3 User and Provider Impacts*, Department for Transport, May 2022. Link. Paragraph 4.4.1 We assume search time is analogous to wait time and therefore should be weighted more highly.

11 15% (CO4) + 8% (CO6) + 13% (CO7) + 6% (CO8) = 42%. This is 45.7% of the 92% left after excluding the 8% from CO1.

Our assumption is that the RTS will offset the impacts of traffic restrictions for residents of these postcodes; it will either provide them with fast, affordable transport to the city centre or, for those who continue to drive, reduced congestion. There are some limitations to this:

- It does not consider the breakdown of impacts for those travelling from outside the CO2-CO9 postcodes. These are, however, a small part of the total and impacts for them may break down in a similar fashion (e.g. those travelling from Clacton and Ipswich in the east and north could benefit, those travelling from Chelmsford and Braintree in the south and west would not).
- It's possible that not everyone in the 'in-scope' postcodes will benefit, and vice-versa. For instance, large parts of CO6 lie far to the west of the RTS route, and decongestion impacts may not fully offset other measures – but some people in CO9 will be well-placed to use the RTS.

Footfall and turnover impact results

Scenario 1 considers a 10% increase in parking costs. As shown in Table 7, this increases the average generalised cost of driving into Colchester City Centre by 2.9% on our assumptions. Footfall and turnover are reduced by 4.8% - nearly 70,000 and £2.1 million.

Per the assumptions discussed earlier about those accessing the city centre from the north and east, the opening of the RTS would offset a significant proportion of these impacts. Scenario 2 modifies Scenario 1 by incorporating these assumptions. In these results, demand falls by 2.6%.

Table 7: Scenario 1 and 2 annual impacts

Scenario 1: 10% increase in parking costs		Scenario 2: 10% increase in parking costs, RTS in operation	
Car GCs vs Baseline	2.9%	**Car GCs vs Baseline**	2.9%
RTS in operation?	No	**RTS in operation?**	Yes
Demand impact %	-4.8%	**Demand impact %**	-2.6%
Footfall impact	-69,615	**Footfall impact**	-37,835
Turnover impact	-£2,067,528	**Turnover impact**	-£1,123,656
New footfall	1,368,551	**New footfall**	1,400,331
New turnover	£40,644,924	**New turnover**	£41,588,796

Source: Cebr analysis

Over a five-year period in which traffic restriction measures are imposed in Year 1 (i.e. 2024) and the RTS is opened in Year 3 (i.e. 2026, in line with the 2025/26 aspiration), cumulative impacts would be as shown in Table 8. Baseline footfall and turnover figures are very slightly higher than those used in the annual impacts – they are assumed to grow in future years in

line with ONS local authority population forecasts[12]. **Over the 5-year period, footfall would be reduced by more than 250,000 and turnover by £7.7 million.**

Table 8: Five-year impacts of Scenario 1 in years 1 and 2, Scenario 2 in years 3, 4, and 5

	2024	2025	2026	2027	2028	Total
Baseline footfall	1,450,756	1,462,849	1,474,656	1,486,117	1,496,865	7,371,243
Baseline turnover	£43,086,368	£43,445,513	£43,796,178	£44,136,554	£44,455,782	£218,920,396
Demand impact	-4.8%	-4.8%	-2.6%	-2.6%	-2.6%	-3.5%
Footfall impact	-70,225	-70,810	-38,794	-39,096	-39,379	-258,304
Turnover impact	-£2,085,628	-£2,103,012	-£1,152,167	-£1,161,121	-£1,169,519	-£7,671,446

Source: Cebr analysis

Scenarios 3 and 4 modify Scenarios 1 and 2 by also including a **5% reduction in average speeds and a 5% increase in average distances**. This could represent the impact of wider traffic restriction measures. As shown in Table 9, impacts are significantly increased as a result, with footfall reduced by over 150,000 and turnover by £4.7 million in the absence of the RTS. This is reflected under the impacts in Table 10, with the **total five-year footfall loss nearly 600,000 and turnover impact of £17.3 million** (just under 8% of the baseline).

Table 9: Scenario 3 and 4 annual impacts

Scenario 3: parking cost, distance, and speed impacts		Scenario 4: parking cost, distance, and speed impacts, RTS in operation	
Car GCs vs Baseline	6.6%	**Car GCs vs Baseline**	6.6%
RTS in operation?	No	**RTS in operation?**	Yes
Demand impact %	-10.9%	**Demand impact %**	-5.9%
Footfall impact	-156,842	**Footfall impact**	-85,240
Turnover impact	-£4,658,078	**Turnover impact**	-£2,531,564
New footfall	1,281,324	**New footfall**	1,352,926
New turnover	£38,054,374	**New turnover**	£40,180,888

Source: Cebr analysis

12 *Population projections for local authorities: Table 2*, ONS, March 2020. Link.

Table 10: Five-year impacts of Scenario 3 in years 1 and 2, Scenario 4 in years 3, 4, and 5

	2024	2025	2026	2027	2028	Total
Baseline footfall	1,450,756	1,462,849	1,474,656	1,486,117	1,496,865	7,371,243
Baseline turnover	£43,086,368	£43,445,513	£43,796,178	£44,136,554	£44,455,782	£218,920,396
Demand impact	-10.9%	-10.9%	-5.9%	-5.9%	-5.9%	-7.9%
Footfall impact	-158,215	-159,533	-87,403	-88,082	-88,719	-581,952
Turnover impact	-£4,698,856	-£4,738,023	-£2,595,796	-£2,615,970	-£2,634,891	-£17,283,536

Source: Cebr analysis

Annual footfall impacts for Culver Square and Lion Walk for each of the four scenarios are shown in Table 11. As previously mentioned, differences in measurement techniques mean these should not be directly compared with headline impacts based on Savills figures.

Table 11: Annual footfall impacts for Culver Square and Lion Walk, Scenarios 1-4

Scenario		1	2	3	4
Culver Square	**Impact**	-170,183	-92,491	-383,418	-208,379
	New footfall	3,345,588	3,423,280	3,132,353	3,307,392
Lion Walk	**Impact**	-450,173	-244,659	-1,014,227	-551,210
	New footfall	8,849,827	9,055,341	8,285,773	8,748,790

Source: Cebr analysis

Potential impacts on workers

A survey of Colchester workers' travel habits, produced by Storecheckers on behalf of Our Colchester BID, provides some useful insights on how employees in the BID zone get to work and why they choose the modes they do[13].

- 60.5% travel in by car only, with 11.5% using a mixture of car and other modes.
- 77.8% of all respondents and 74.1% of 'car only' respondents reported that the influence of transport availability on their choice of work location was 'Very important' or 'Quite important'.
- On average, 'car only' respondents travel into the city centre for work 3.9 days per week, similar to the 4.1 days observed for all respondents.

This helps us to estimate the number of workers and journeys who stand to be affected by traffic restriction measures. In doing so we assume:

13 Results quoted here are from the 243 online questionnaires completed by BID member businesses' employees. This is because we have the comprehensive raw data for them and they are all employees of BID businesses (which some face-to-face respondents are not).

- There are 400 businesses in the BID zone, each employing 11.3 people. This figure is based on analysis of ONS data on businesses by employment sizebands[14]. This results in a **total employment figure of 4,506 in the BID zone**.
- That only the 'car only' workers are affected, i.e. 2,726 (60.5%) overall. Those using a mix of modes (e.g. car, train, and walk) may be affected, but they may represent people who only use car to get to the edge of the city centre, or from home to a more distant public transport stop. Therefore, we err on the side of caution.
- There are 45 working weeks in a year. Combined with the results on days of travel per worker, this results in each worker making 176 return trips per year, for a total across all 'car only' workers of **478,925 annual return trips which may be affected**.

It is difficult to say what the impact of making it harder to drive in the Colchester City Centre would be on these employees and the businesses they work for. An extreme – though highly unlikely – response would be to immediately change job. Others include seeking increased home working or different hours. The key choices will relate to transport though – e.g. whether to continue driving, or to switch to public or active transport.

Common themes from open-ended survey responses to *'Why do you use these modes of transport?'* for car users include:

- Living a long way from Colchester, and public transport therefore not being an option (at least for the bulk of their journey).
- Working irregular or anti-social hours.
- Buses not being fast, frequent, or reliable enough, or buses/trains being too expensive.
- Needing to use their vehicle during the working day for meetings or deliveries.
- Combining their commute with the school run.

In the examples above, shifting to public or active transport is clearly difficult – at least prior to proposed improvements being made. Perhaps the most-cited reason was 'convenience' – it is not clear to what extent workers driving for this reason would be amenable to switching.

Though formal estimation is beyond the scope of this report, to the extent that traffic restrictions impose higher costs on car users, and these are not compensated through public and active transport improvements, **these costs will affect businesses in the BID zone – for example through more difficult recruitment or retentions – and employees through time and money costs**. As with impacts on shoppers, the opening of the RTS in 2025/26 should significantly mitigate these costs.

14 *UK business: activity, size and locations*, ONS, September 2022. Link. Data is taken from Table 20 for Colchester Parliamentary Constituency, with employment by sizeband estimated according to midpoints (e.g. businesses in the 5-9 band are assumed to each employ 7 people).

Concluding thoughts

In response to the introduction of measures which make driving into Colchester City Centre more difficult, users can:

1. **Continue to drive** in, paying the increased time and/or monetary cost of travel.
2. **Switch** to public or active transport, paying the corresponding time/monetary costs.
3. **Not travel** into Colchester City Centre, i.e. instead
    a. Visit an **out-of-town centre** (like Stane Park or Tollgate).
    b. Visit a **competing town/city** centre like Chelmsford or Ipswich.
    c. Shop **online**.
    d. **Not make** their shopping trip at all.

In our estimates, the continued footfall and turnover represents those choosing option **1** or **2**, and is agnostic about which they choose. More shoppers choosing option **3** would cause Colchester City Centre to lose footfall and turnover – though with the exception of **3d** do not represent a loss to UK retail overall, simply a diversion of activity elsewhere.

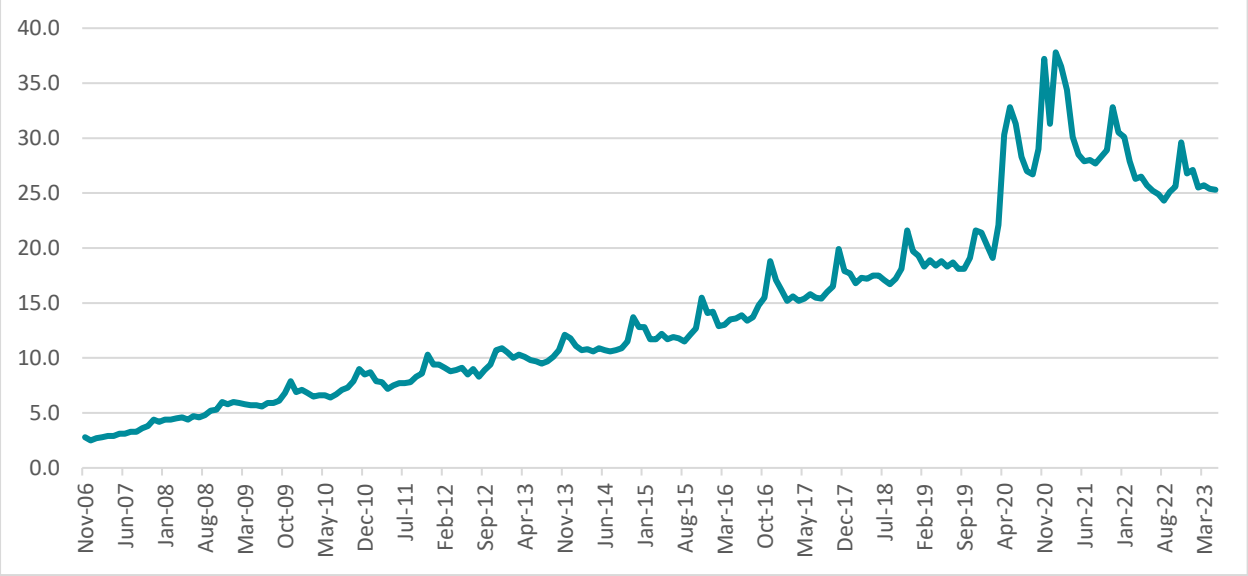
Our estimates, as stated, are for the **introduction of traffic restriction measures in isolation**, without compensating active/public transport measures (other than the RTS in 2025/26). Should these measures from the Masterplan be introduced alongside or ahead of traffic restrictions, they could offset some, all, or more than all of their impact. **Proper sequencing of interventions is therefore crucial to the success of the Masterplan.**

A further effect, not estimated in this analysis, is that behavioural changes in response to short- or medium-term phenomena may persist *after those phenomena have ceased* – in other words, **new habits may be formed**. A highly relevant example is the sustained rise in online shopping following the Covid-19 pandemic. Figure 1 presents ONS data for Internet sales as a percentage of total retail sales from November 2006 to May 2023[15].

Prior to the pandemic the online share stood at about 20%. It went sharply upwards in March 2020, and peaked at 37.8% in January 2021 (though this is partly a recurring Christmas/New Year season effect). It now stands at about 25%. Whilst some of this rise may be explained by longer-term trends, it does suggest that some habits formed by the pandemic have endured.

15 *Internet sales as a percentage of total retail sales (ratio) (%)*, ONS. Link.

Figure 1: Internet sales as a percentage of total retail sales, monthly



Source: ONS

One retailer, particularly a large or specialist one, may act as a major generator of shopping trips, during which shoppers will also visit other shops they would not have otherwise gone to. The loss an '**anchor**' such as this (whether to closure or relocation outside the city centre) as a result of lower footfall could thereby have a **knock-on effect** beyond the immediate impact predicted by our results.

A stated aim of reducing city centre traffic is abatement of air pollution – this is an important goal, and one well-supported by national government policy. If a lot of traffic is shifted to out-of-town centres, however, this **pollution is moved around rather than removed**. While the damage per unit of air pollution is lower in these suburban centres (due to the lower surrounding population density), the overall impact may not be net positive, especially if shoppers drive more to visit distant or multiple centres instead of making one trip to the city centre. Similarly, **greenhouse gas impacts would not necessarily be reduced**.


Cebr