



Air Quality Management in Linlithgow Town Centre

April 2018

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Executive Summary

Congestion and parking

Local businesses, residents and visitors were almost of one voice in identifying the town's main weaknesses as congestion and parking in a recent survey.

Linlithgow is feeling the strain of an increasingly busy road network across West Lothian and rising numbers of people wanting to commute from the local train station. The train station lacks the parking and facilities of towns like Bathgate and commuters' cars are spilling over into the town centre, often for most of the day.

More than one quarter of people walking to Linlithgow's town centre said they spent less time there due to congestion and parking and nearly 40% said they visited less often.

Vehicles in the town centre

One in four cars travelling into Linlithgow's town centre park for nine hours or more. This is similar to a previous survey which found that more than one in four people driving to Linlithgow's town centre are travelling onwards by public transport, most likely by train.

Most cars visit the town centre for a few hours. One in five vehicles stay in the town centre for around two hours or less.

Just one in ten cars (10%) visiting Linlithgow's town centre accounted for more parking-hours than 40% of cars making the shortest visits to the town centre.

Traffic volumes in the town centre peak at 08:26 while journey times peak nearly twenty minutes later at 08:42.

The volume of traffic rises before 09:00 but falls quickly afterwards. However, journey times remain higher throughout the day only falling after 18:00. This partly reflects commuters parking in and around the high street, narrowing the flow of traffic.

Measures

There are no easy or low-cost measures that can make a significant difference to Linlithgow's air quality. The time has come to put aside well-meaning but ineffective approaches.

Indeed, some of the options presented may be worse than doing nothing as they offer the appearance of action without impact.

Both free and pay-and-display parking is available in the town centre. But with commuters increasingly using the available spaces. Linlithgow has effectively become a subsidised park and ride for Edinburgh.

The measures most likely to result in an impact on air quality are the decriminalisation of parking and improvements to the surrounding local road network and links to the motorway.

West Lothian Council now stands alone in the Lothians as the only council that has not made a decision to implement decriminalised parking.

Throughout the working day journey times remain markedly higher but with much lower volumes of traffic. Part of this explanation lies with parking along Linlithgow's narrow high street and a lack of enforcement of parking regulations around the town centre.

The effect is that Linlithgow bears the impact of longer journeys, more pollution and increased congestion but without the benefit of additional visitors to the town centre.

Most businesses agreed that there should be restrictions on parking in the town. They also felt enforcement was poor and that traffic wardens should be considered.

The BID therefore recommends that the decriminalisation of parking should be prioritised.

1 Introduction

Background

1.1 The town centre of Linlithgow failed an air quality assessment set out in the last air quality [report](#) commissioned by West Lothian Council (January 2016). Air quality and traffic have been causes of concern for several years for both town centre businesses and those visiting the town centre.

1.2 West Lothian Council declared an Air Quality Management Area (AQMA) in April 2016. This started a formal process to develop a plan to tackle air pollution in Linlithgow's town centre. The plan was developed by West Lothian Council under the guidance of a steering group.

1.3 The steering group engaged with local businesses, community groups, the public and other interested parties. The plan offers an opportunity to tackle a long-standing issue focusing the efforts of policy makers, and potentially allow Linlithgow's town centre to access additional funding.

1.4 A draft [Air Quality Action Plan](#) (AQAP) was published by West Lothian Council in November 2017. The draft plan is open to scrutiny with a public consultation planned between 7 February and 4 April 2018. The Linlithgow Town Centre Business Improvement District (BID) commissioned 4-consulting to help shape its response to the public consultation. This report sets out the evidence underpinning the recommendations of the BID.

Linlithgow Town Centre and the Business Improvement District (BID)

1.5 A BID is a business-led initiative where businesses work together and invest collectively to improve their own business environment. It is a wholly independent, non-profit distributing company, run by a board of directors elected from businesses within the BID area. Non-domestic rate payers within the BID area pay for the BID through an annual levy.

1.6 Linlithgow Town Centre BID was established by the businesses in Linlithgow's town centre in July 2014. The BID area covers all of Linlithgow's town centre. The BID currently has 148 businesses within the levy paying area.

1.7 Previous research by Linlithgow Town Centre BID showed that local businesses, residents and visitors spoke highly of the town, citing a wide range of benefits including shopping, eating and drinking, scenery and cultural attractions. But they were almost of one voice in identifying the town's principal weaknesses as congestion and parking.

1.8 Linlithgow is feeling the strain of an increasingly busy road network across West Lothian and rising numbers of people wanting to commute from the local train station. The train station lacks the parking and facilities of towns like Bathgate and commuter's cars are spilling over into the town centre, often for most of the day. Additional support from Network Rail would be welcomed by the BID. For example, any increase in parking would help to alleviate the pressure on town centre traffic and potentially improve air quality

1.9 A survey commissioned by the BID in 2017 found that more than one in four people driving to Linlithgow's town centre are travelling onwards by public transport, most likely by train. More than three quarters of local businesses said parking was the most significant issue they faced.

1.10 Research commissioned by the BID showed that the financial impact of congestion and parking on Linlithgow's town centre businesses was around £340,000 each year (4-consulting, 2017). This measure does not consider additional financial burdens placed on residents or impacts on the environment and the health of residents.

1.11 The enforcement of parking regulations is currently the responsibility of Police Scotland unless the local authority operates a Decriminalised Parking Enforcement (DPE) regime. Under a DPE regime stationary traffic offences cease to be criminal offences enforced by Police Scotland, instead they become civil penalties imposed by local authorities. Enforcement of certain parking offences such as obstructive or dangerous parking remain the responsibility of Police Scotland. The BID would welcome an increased and sustained focus on the enforcement of parking regulations by Police Scotland.

2 Proposals to improve air quality

Air Quality Action Plan

2.1 The draft Air Quality Action Plan (AQAP) cannot be accepted until the public consultation has been carried out. The plan must also be accepted by the Scottish Government and the Scottish Environment Protection Agency (SEPA). The purpose of the draft action plan (West Lothian Council, 2017) is:

“to gather the appropriate evidence and set out actions points and direct measures that can be implemented to improve air quality.”

Proposed measures to improve air quality

2.2 The draft plan includes proposed measures to improve air quality. These measures were split into short-term, medium-term and long-term feasibility. In accordance with government guidance, the direct measures proposed are assessed against several different criteria. These criteria include:

- air quality impact
- implementation cost
- cost effectiveness
- environmental impacts
- risk factors
- social impacts
- economic impacts
- feasibility

2.3 The draft AQAP describes short-term feasibility as measures that can be completed within two years. All authority, funding and impacts involved should already be considered and in place for any short-term action to be feasible.

2.4 Medium-term feasibility includes measures that will take between three and six years to complete. All authority and funding should be in place, however with a level of uncertainty and further forward planning required. Further study should be undertaken to consider the positive and negative impacts of any medium-term direct measure.

2.5 Long-term feasibility covers measures that will take more than six years to implement. The funding and impacts involved will include a degree of uncertainty. Decisions on implementation are unlikely to be taken in the early stages of the AQAP.

Short-term measures

2.6 The majority of direct measures to improve air quality are short-term measures. This includes investigating high street vehicle movement restrictions; bus stop relocation and improvements to service; enforcement of idling with penalties; a review of delivery/refuse timings and markings; timings at junctions; school travel plans; electric vehicle charging installation; cycling infrastructure; creating smoke control areas; review of pedestrian crossings and network monitoring as well as the provision of air quality information and a review of the West Lothian Council travel plan.

Medium-term measures

2.7 Medium-term direct measures include investigating decriminalisation of parking; enforcing high street parking charges; implementing an ECO stars system for HGV's and bus operators; introducing a car club and investigating greening the area with trees.

Long-term measures

2.8 Long-term direct measures include the Edinburgh Road to Manse Road link, a park and ride facility, West access slip road at the M9 junction and the southern distributor link road.

2.9 West Lothian Council were unable to determine how long it would take to investigate the incorporation of the National Low Emission Framework and consideration of a Low Emission Zone as part of the High Street. This measure has been classified as potentially short, medium or long-term.

Which solutions are most likely to be favoured by West Lothian Council?

2.10 The most likely solutions seem to be those that demonstrate stronger cost effectiveness rather than simply the highest impact. Measures such as reviewing the council staff travel plan, provision of air quality information and introducing a car club are low cost.

2.11 Long-term direct measures such as an Edinburgh Road to Manse Road link; a park and ride facility, West access slip road at the M9 junction and the southern distributor link road are described as high cost with expected low-cost effectiveness. Investigating high street vehicle movement restriction has been deemed not to be feasible in the proposed time scale.

2.12 The draft plan states that the decriminalisation of parking would involve high start-up costs but running costs would be offset by a steady revenue stream. The draft plan suggests this would have a medium impact on air quality while improving travel time and delivering health benefits.

2.13 The draft plan classified measures costing up to £20,000 as low cost, medium cost up to £60,000, high cost up to £200,000 and very high cost over £200,000. Table 2.1 shows the costs and the impacts of implementing the direct measures proposed in the draft plan. This shows there is a correlation between cost and impact.

Table 2.1: Costs and impacts of proposed measures

Cost	Impact				Total
	Large	Medium	Small	Zero	
Very high	2	3	1	-	6
High	-	-	1	-	1
Medium	-	-	4	2	6
Low	-	-	6	1	7
Cost neutral	-	-	2	-	2
Total	2	3	14	3	22

Source: Draft Air Quality Action Plan (2017)

2.14 Figure 2.2 summarises the number of measures proposed (22 in total) into four groups based on high impact (high or medium impacts on air quality), low impact (small or zero impact on air quality), high cost (very high or high costs) and low cost (medium, low or cost neutral).

Figure 2.2: Costs and impacts of proposed measures



Source: Draft Air Quality Action Plan (2017)

2.15 The draft plan shows there are no easy or low-cost measures and that the time has come to put aside well-meaning but ineffective approaches. Some of the proposed measures may be worse than doing nothing as they offer the appearance of action without impact. The measures most likely to result in an impact on air quality are the decriminalisation of parking and improvements to the surrounding local road network and links to the motorway.

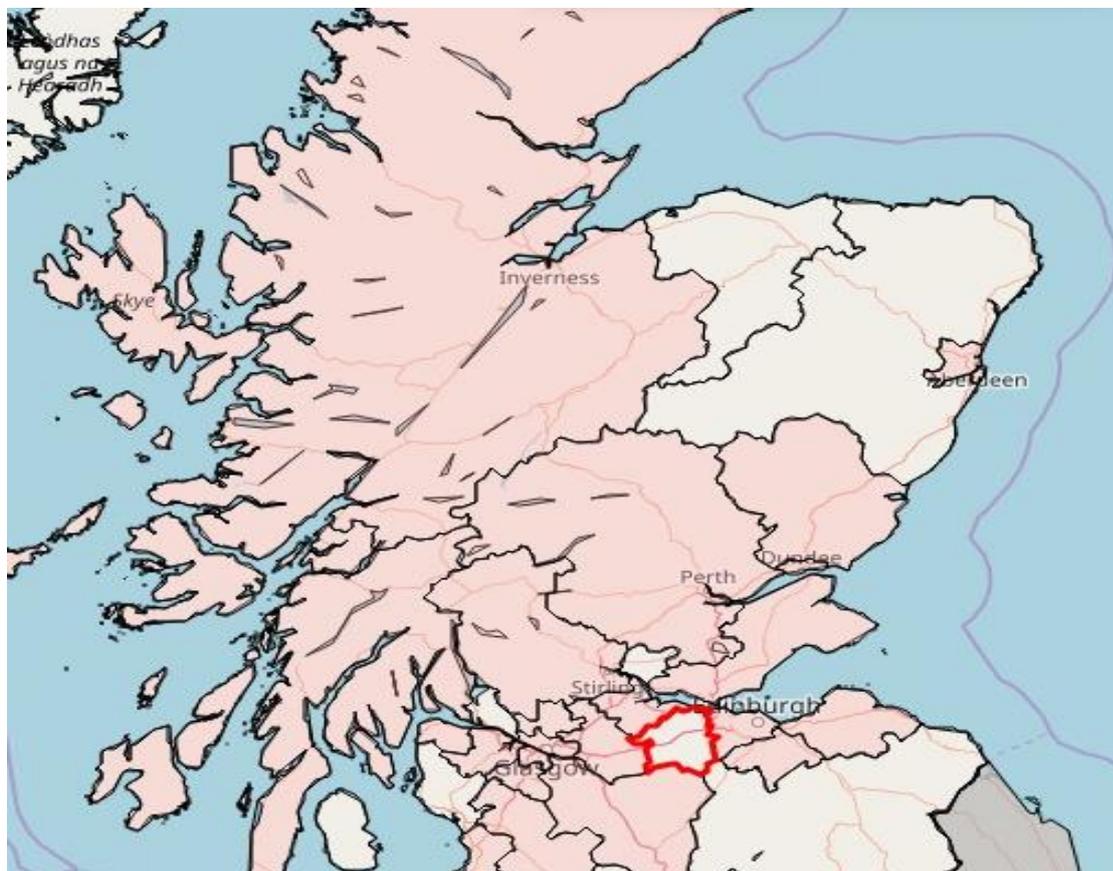
3 Impacts of decriminalising parking

Coverage of decriminalised parking

3.1 The shaded areas in Figure 3.1 show local authorities that have decriminalised parking. West Lothian Council now stands alone in the Lothians as the only council that has not made a decision to implement decriminalised parking.

3.2 Most of the local authorities that have not decriminalised parking are predominantly rural areas. This includes areas where parking and congestion are not considered to be significant issues. The full list of the local authorities that have decriminalised parking and those working towards decriminalisation is available in Appendix A1.

Figure 3.1: Local Authorities with decriminalised parking (or progress towards)



Source: Transport Scotland (2017)

Income and expenditure

3.3 Table 3.2 shows the balance between income and expenditure from the decriminalisation of parking by local authority (Transport Scotland, 2017). A full breakdown of income and expenditure is available in Appendix A2. The table shows that all but two (Perth and Kinross Council and Highland Council) of the sixteen local authorities, for which full figures were available, achieved a surplus or income and expenditure were broadly balanced.

Table 3.2: Balance of income and expenditure (£000s)

Local authority	Year of decriminalisation	Balance (£000s)
City of Edinburgh	1998	£20,801
Glasgow	1999	£32
Perth and Kinross	2002	-£795
Aberdeen City	2003	£3,936
Dundee	2004	£1,069
South Lanarkshire	2005	-£1
Renfrewshire	2010	£1,009
East Ayrshire	2012	£497
South Ayrshire	2012	£535
East Renfrewshire	2013	£25
Fife	2013	£720
Argyll and Bute	2014	£956
East Dunbartonshire	2014	-£4
Inverclyde	2014	£17
Highland	2016	-£105
East Lothian	2017	-£99

Source: Transport Scotland (2017)

Decriminalisation in East Lothian

3.4 East Lothian Council is the local authority to have decriminalised parking in Scotland most recently. Our research included a brief consultation with members of staff from East Lothian Council, the decriminalisation of parking in East Lothian is on target to meet the expectations initial business plan.

3.5 East Lothian Council estimated around 4,000 penalty notices would be issued in the first year of operation of the new scheme. Based on discussions with those involved in delivering the scheme, closer to 10,000 penalty notices were issued in the first year.

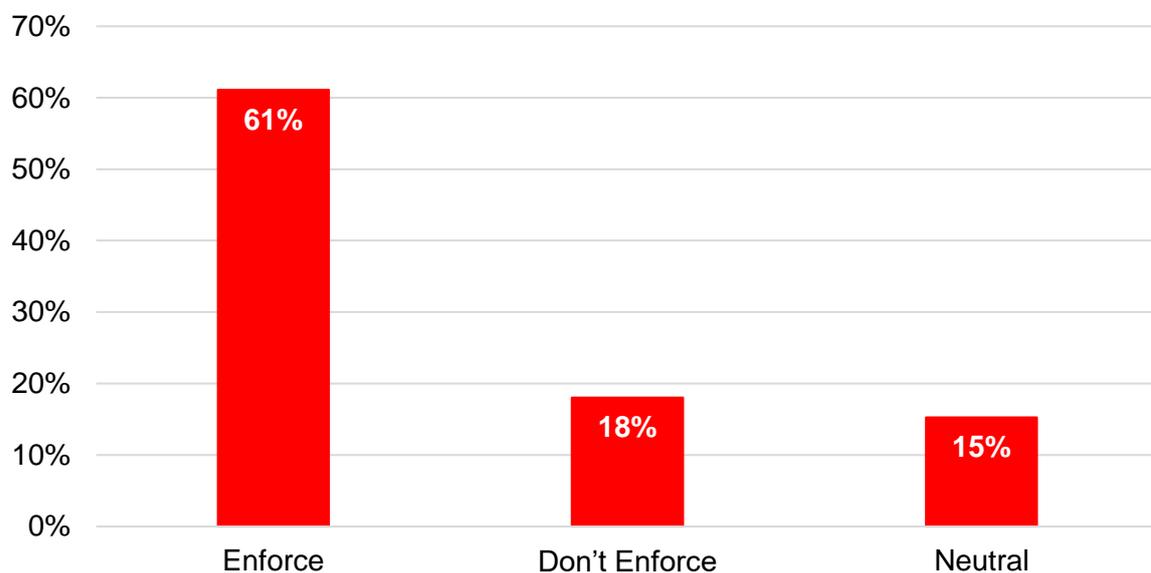
3.6 The scheme is currently running a small deficit. However, figures do not yet fully reflect funds for penalty notices issued. Delivery costs have increased slightly, partly because of the extra resources needed due to the increase of penalty notices issued.

3.7 In implementing decriminalised parking, net revenues raised from the scheme are not the focus of East Lothian Council, rather the policy is trying to improve the safety and behaviour of drivers. Before the scheme was introduced, many consultations took place, including those within the local community.

3.8 While some assumed that decriminalised parking would just be a money-making scheme by the council, many recognised that it would improve the safety and economic prospects of the town. Business were positive about the scheme being introduced.

3.9 In a recent report carried out for Linlithgow BID (4-consulting, 2017), Table 3.3 shows that almost two thirds (61%) of the businesses stated that parking restrictions should be enforced compared to almost one in five (18%) who did not feel enforcement would be beneficial. 15% of businesses were neutral about parking enforcement (some businesses did not provide a response).

Table 3.3: Do businesses in Linlithgow want parking regulations enforced?



Source: 4-consulting (2017)

4 Parking analysis

Information on vehicles travelling in and out of the town centre

4.1 West Lothian Council monitored full vehicle trips in and out of Linlithgow on 16 March 2017 between 7:00 AM and 7:00 PM. Data was collected using Automatic Number Plate Recognition (ANPR) cameras around the town. Data was recorded when a vehicle passed one of 44 cameras split over 11 separate zones.

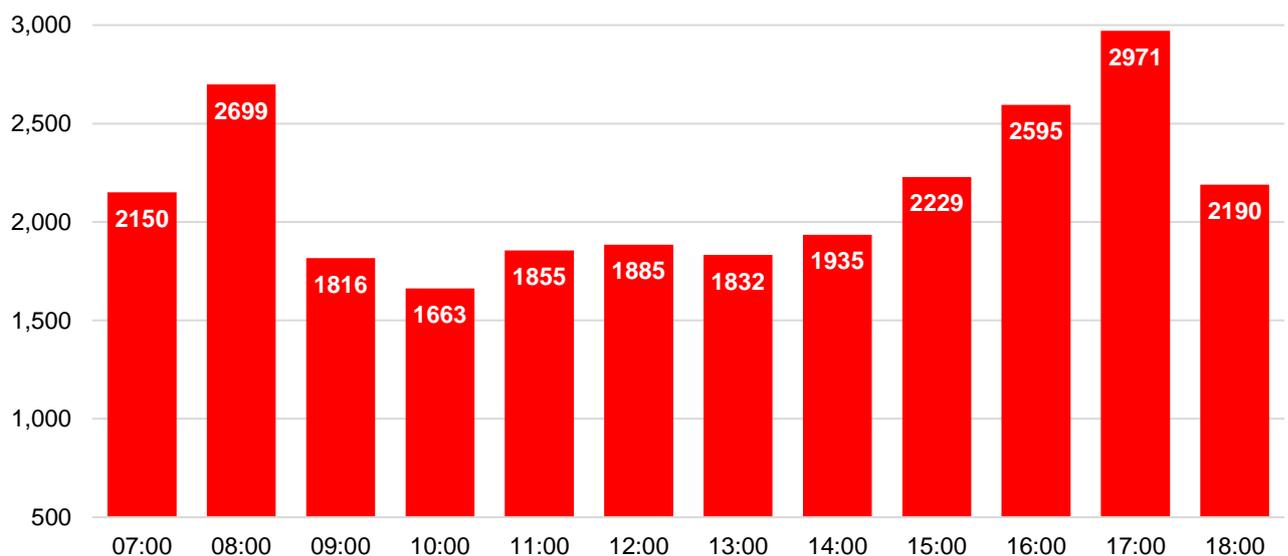
4.2 To monitor trips through the town, the full movements of vehicles across the different zones were assigned into 'logical trips'. Any movement that took place more than 30 minutes after the first movement was split into a separate trip.

Vehicle movements

4.3 The vehicle movements and average duration recorded in Charts 4.1 and 4.2 are based on the total number of vehicle-journeys through the town. Charts A3 and A4 (appended) show the same data based on vehicle-journey through a single zone only.

4.4 Chart 4.1 shows the total amount of vehicles travelling through the town in one-hour periods starting from 07:00 - 08:00 to 18:00 -19:00. The chart shows that movements peak at 08:00 - 09:00 (2,699) and 17:00 to 18:00 (2,971).

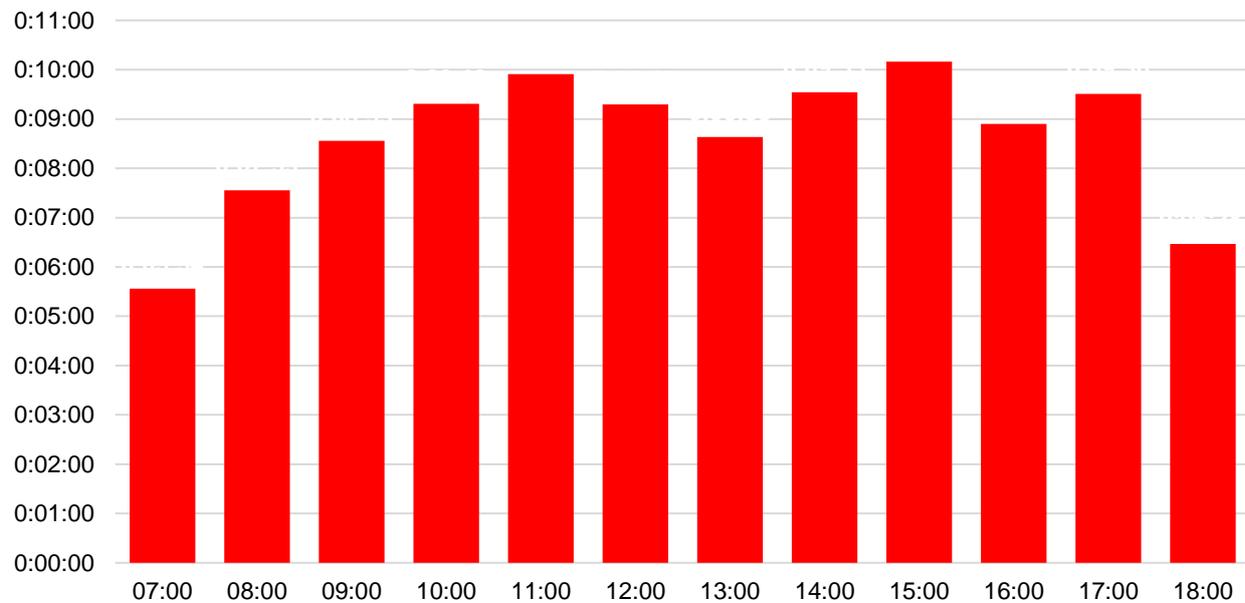
Chart 4.1: Total number of vehicle movements during each hour



Source: ANPR data (2017)

4.5 Chart 4.2 shows the average duration of journeys through the town in each one-hour period starting from 07:00 - 08:00 to 18:00 -19:00. Like vehicle movements the length of journeys increases during the second hour shown (08:00 - 09:00). However, journey times continue to increase throughout the day. Journey times fall significantly during the final hour (18:00 - 19:00).

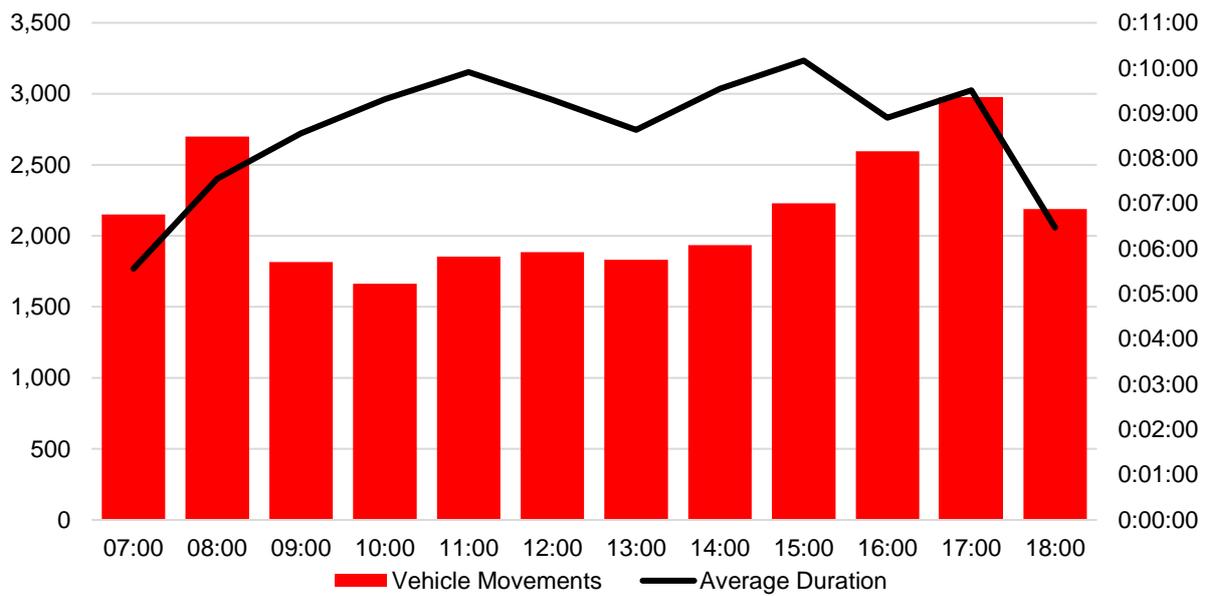
Chart 4.2: Average duration of movements (minutes)



Source: ANPR data (2017)

4.6 Chart 4.3 combines the data shown in Charts 4.1 and 4.2. Throughout the working day journey times remain markedly higher but with much lower volumes of traffic. Part of this explanation lies with parking along Linlithgow’s narrow high street and a lack of enforcement of parking regulations around the town centre during the day. The effect is that Linlithgow bears the impact of longer journeys, more pollution and increased congestion but without the benefit of additional visitors to the town centre.

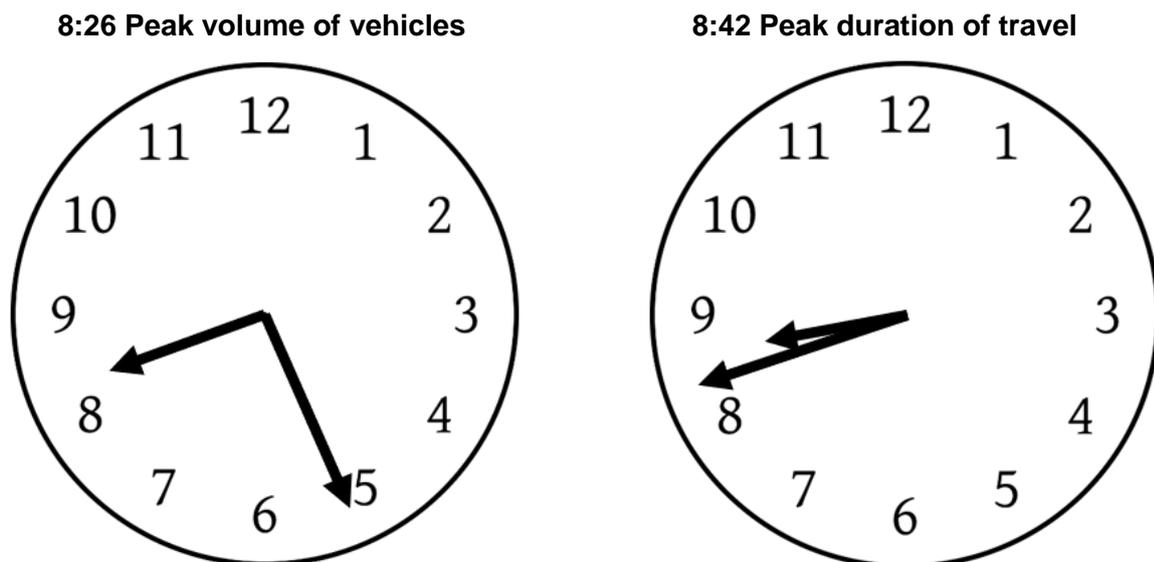
Chart 4.3: Vehicle movements (left axis) and average journey duration (right axis)



Source: ANPR data (2017)

4.7 Figure 4.4 shows for movements of vehicles through single zones, while the average duration peaks at 8:42 AM, the volume of journeys peaks at 8:26 AM. The duration of time it takes for vehicles to enter and exit the town peaks 16 minutes later than the volume of journeys. This, again, shows that while the number of journeys is decreasing, it takes cars longer to get through the town.

Figure 4.4: Peak duration of travel and volume of vehicles



Source: ANPR data (2017)

4.9 The ANPR data captures vehicles making more than one journey through the town during the day. This may include commuters through the town and commuters travelling into the town centre to park and take public transport to work. The ANPR data was filtered to remove those whose first recorded journey was to leave the town centre (likely to reflect those driving through Linlithgow). Only cars were considered and those making more than two journeys during the day were also excluded.

4.10 The vehicles were ordered by the length of time spent in the town centre between journeys (reflecting cars first entering and then leaving the town centre). Table 4.5 shows just over nine out of ten cars (90.9%) stayed in the town centre stayed up to ten hours. This means nearly one in ten cars (9.1%) stayed for ten hours or longer during the day. Just over half (50.7%) stayed in the town centre for more than six hours.

Table 4.5: Time spent in Linlithgow

%	Hours
90.9%	10:00
74.5%	09:00
61.7%	08:00
56.1%	07:00
49.3%	06:00

Source: ANPR data (2017)

4.11 Table 4.6 is an alternative way of presenting the data shown in Table 4.5. Table 4.6 shows the proportion of people and how long they park. For example, the bottom 10% of vehicles stay for less than one hour and seven minutes. Half the vehicles stay for less than six hours and three minutes.

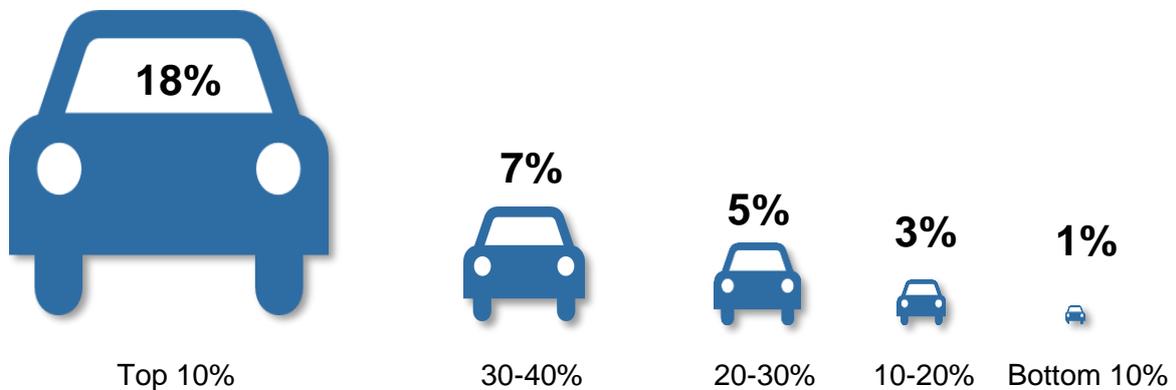
Table 4.6: Time spent in Linlithgow

%	Hours: Minutes
10%	01:07
20%	02:10
30%	03:21
40%	04:39
50%	06:03
60%	07:43
70%	08:40
80%	09:18
90%	09:56

Source: ANPR data (2017)

4.12 Figure 4.7 shows the proportion of the total time spent in the town centre (vehicle-minutes) by the top ten percent of the longest parkers compared to those parking the shortest time in the town centre (bottom ten percent).

Figure 4.7: Proportion of total time by top 10% longest parkers and 10% shortest



Source: ANPR data (2017)

4.13 The longest parked cars (top 10%) accounted for 18% of the vehicle-minutes in Linlithgow's town centre. This means that the 10% longest parkers accounted for more parking-minutes than the bottom 40% of all cars. Additionally, each day every space taken by the longest parkers (top 10%) could accommodate 18 cars from the bottom 10%.

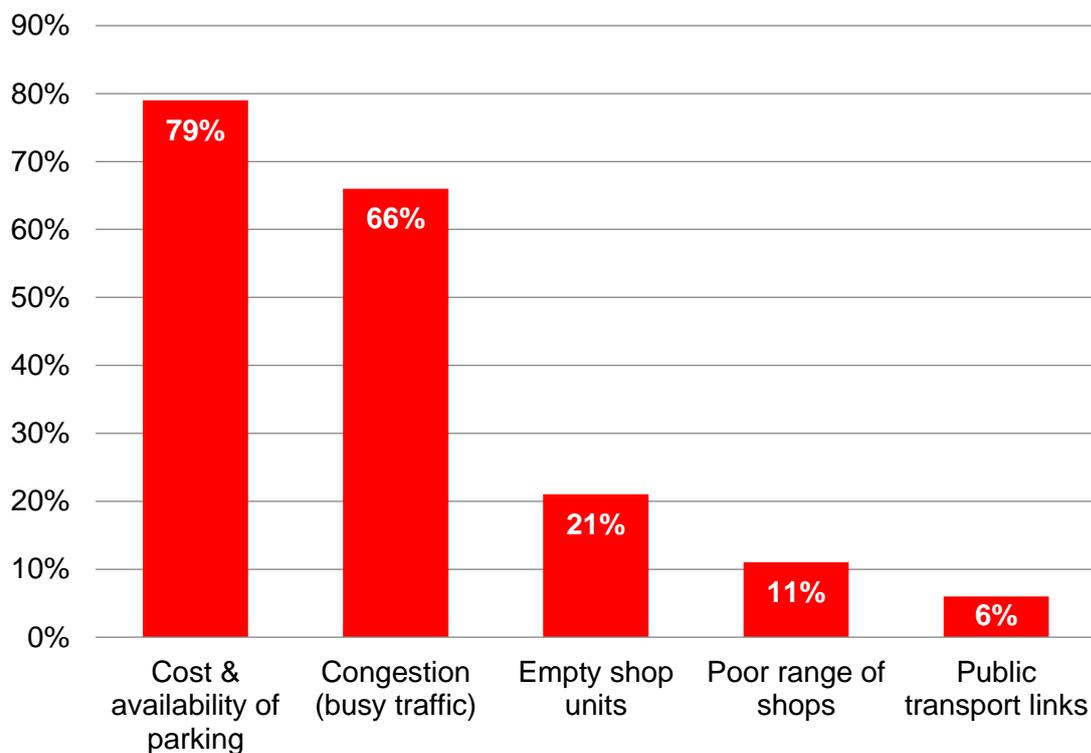
5 Business & community views on parking & congestion

5.1 Previous research by Linlithgow Town Centre BID (4-consulting, 2017) showed that local businesses, residents and visitors spoke highly of the town, citing a wide range of benefits. However, they were almost of one voice in identifying the town's weaknesses as congestion and parking.

Town centre weaknesses

5.2 Over three quarters (79%) of businesses felt that the cost and availability of parking was a weakness. Two thirds (66%) of the businesses thought that congestion was a weakness, shown in Figure 5.1.

Figure 5.1: What do businesses think are the town centre's weaknesses?



Source: 4-consulting (2017)

5.3 Congestion was cited as a town centre weakness by more than four in every five businesses (81%) in the West end of the high street. This was markedly higher than other parts of the town centre, shown in Table 5.2. The West end of the high street has narrower roads with few gaps between buildings on either side creating a canyon effect. Congestion often builds quickly from just one or two cars parked on the roadside.

5.4 The roads in the central area are wider and a number of businesses are set back from the high street. The central area also enjoys open space around the Linlithgow Burgh Halls and access to the Vennel car park.

Table 5.2: Businesses citing congestion as a weakness

Area	Proportion
West Town Centre	81%
East Town Centre	55%
Central Town Centre	33%

Source: 4-consulting (2017)

5.5 Parking was consistently cited as an issue across all the areas in the town. A similar proportion cited parking as a weakness in all three areas (74%-78%) shown in Table 5.3.

Table 5.3: Business citing parking as a weakness

Area	Proportion
West Town Centre	78%
East Town Centre	74%
Central Town Centre	78%

Source: 4-consulting (2017)

5.6 Figure 5.4 shows that the views from the differing business types on congestion and parking are broadly similar. Other businesses that are not retail or food & drink were mostly health and professional service businesses. It is possible that these 'other' businesses have more issues around parking and congestion due to customers having appointments to attend where delays caused by congestion and parking problems would be more apparent.

Appendices

A1: Decriminalisation status (November 2017)

Decriminalised	Working towards decriminalisation	Not decriminalised
Aberdeen City (2003)	Falkirk	Aberdeenshire
Angus (2017)	Midlothian	Clackmannanshire
Argyll and Bute (2014)		Dumfries & Galloway
Dundee (2004)		Moray
East Ayrshire (2012)		North Ayrshire
East Dunbartonshire (2014)		Orkney Islands
East Lothian (2017)		Scottish Borders
East Renfrewshire (2013)		Shetland Islands
Edinburgh City (1998)		West Dunbartonshire
Fife (2013)		West Lothian
Glasgow (1999)		Western Isles
Highland (2016)		
Inverclyde (2014)		
North Lanarkshire (2017)		
Perth and Kinross (2002)		
Renfrewshire (2010)		
South Ayrshire (2012)		
South Lanarkshire (2005)		
Stirling (2017)		

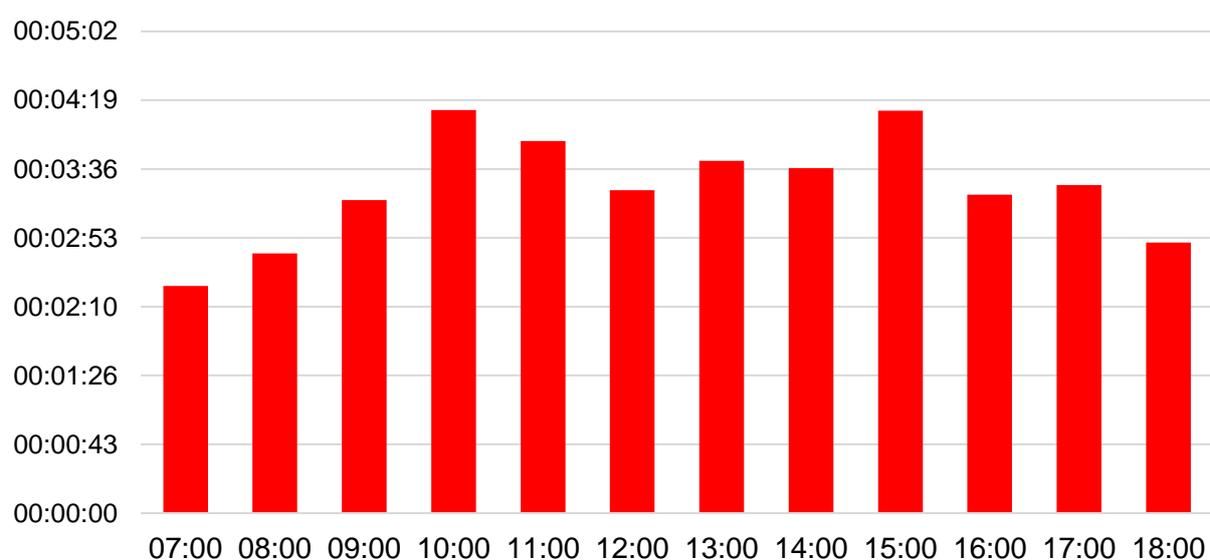
Source: Transport Scotland (2017)

A2: Decriminalisation income and expenditure (£000s)

Authority	PCN Income	Pay & Display Income	Total Income	Expenditure	Balance
Aberdeen City (2003)	£1,613	£6,427	£8,040	£4,104	£3,936
Argyll and Bute (2014)	£418	£811	£1,229	£272	£956
City of Edinburgh (1998)	£5,611	£23,468	£29,078	£8,277	£20,801
Dundee (2004)	£1,014	£3,699	£4,713	£3,645	£1,069
East Ayrshire (2012)	£246	£1,114	£1,360	£863	£497
East Dunbartonshire (2014)	£143	£40	£184	£188	£-4
East Lothian (2017)	£28	£6	£83	£182	£-99
East Renfrewshire (2013)	£212	-	£212	£187	£25
Fife (2013)	£613	£2,788	£3,401	£2,680	£720
Glasgow (1999)	£4,806	£291	£5,096	£5,064	£32
Highland (2016)	£71	£868	£939	£1,043	£-105
Inverclyde (2014)	£314	£38	£352	£335	£17
Perth and Kinross (2002)	£313	£2,592	£2,905	£3,701	£-795
Renfrewshire (2010)	£163	£889	£1,052	£43	£1,009
South Ayrshire (2012)	£198	£767	£964	£429	£535
South Lanarkshire (2005)	£756	£1,595	£2,352	£2,353	£-1

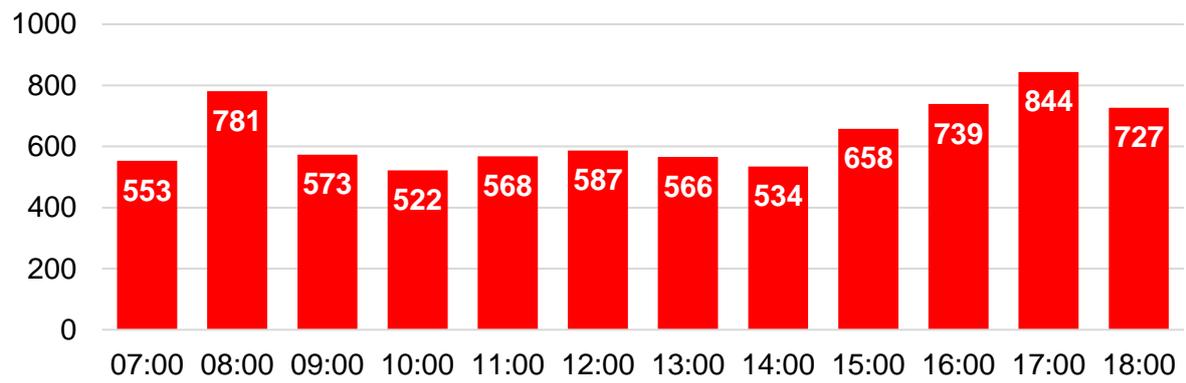
Source: Transport Scotland

A3: Average duration of single movements (minutes and seconds)



Source: ANPR data (2017)

A4: Total number of single vehicle movements



Source: ANPR data (2017)

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