

Mill Road Bridge Traffic Review: DRAFT Technical Note

DATE:	10 June 2022	CONFIDENTIALITY:	Confidential
SUBJECT:	Mill Road Bridge Traffic Impact: DRAFT Technical Note		
PROJECT:	Mill Road	AUTHOR:	Russell Howles
CHECKED:	Mehmet Ahmet	APPROVED:	Neil Poulton

INTRODUCTION

Mill Road bridge was closed to private vehicles from June 2020 to early August 2021 as part of a package of measures rolled out by Cambridgeshire County Council (CCC) to help encourage people to walk and cycle, while maintaining social distancing during the pandemic.

The measures were put in place, as part of CCC's Active Travel Fund Tranche 1 and supported by the governments Emergency Active Travel Fund (EATF)¹, following the outbreak of Covid-19². Delivery of the scheme was made possible via an Experimental Traffic Regulation Order (ETRO), which used powers from the Road Traffic Regulation Act (1984) to restrict the use of the highway³.

This Technical Note seeks to explore the potential impact that closing the Mill Road Bridge had on local traffic volumes and draws on data before, during and after the pandemic so that an understanding in trends can be viewed and considered as part of any wider proposals on Mill Road. It is advised that any conclusion from this analysis should be considered in conjunction with GCP's Road Network Hierarchy review, Making Connections programme and the Cambridge Eastern Access study.

METHODOLOGY

As a result of the Mill Road bridge closure, concerns were raised by a number of residents and local stakeholders that a significant number of motor vehicles would be forced to reroute via local residential streets within Petersfield and Romsey, such as Tenison Road, Coleridge Road and Coldhams Lane⁴.

Campaign group – Mill Road 4 People (a group of over 700 local residents and traders working together to get the best Mill Road for everyone)⁵ – anecdotally suggest that the bridge closure created high traffic levels in the Petersfield area with a significant proportion of that additional traffic potentially using Tenison Road as a rat-run between East Road and Hills Road (due to similar reported journey times on Google Route Planner).

Similar concerns have been raised over increased levels of traffic in the Romsey area, with a proportion of traffic proposedly rerouting via Coldhams Lane, or alternatively, onto residential streets such as Coleridge Road to access Hills Road.

¹ <https://www.cambridgeshire.gov.uk/residents/travel-roads-and-parking/transport-projects/cycling-pedestrian-improvements/active-travel-fund-walking-and-cycling-schemes>

² <https://www.greatercambridge.org.uk/news/mill-road-consultation-launched-today#:~:text=Mill%20Road%20bridge%20was%20closed,the%20outbreak%20of%20Covid%2D19.>

³ https://cambridgeshire.cmis.uk.com/CCC_live/Document.ashx?czJKcaeAI5tUFL1DTL2UE4zNRBcoShgo=QfHwX3JpQWnPI%2bTaABfp6CEEN9qhTvXKwevmhbJXRiz4PGvjwWkZMQ%3d%3d&rUzWRP%2bZ3zd4E7lkn8Lvw%3d%3d=pwRE6AGJFLDNlh225F5QMaQWCIpHwdhUfCZ%2fLUQzgA2uL5jNRG4jdQ%3d%3d&mCTIbCubSFXsDGW9lXnlg%3d%3d=hFflUdN3100%3d&kCx1AnS9%2fpWZQ40DXFvdEw%3d%3d=hFflUdN3100%3d&uJovDxwdjMPoYv%2bAvYtyA%3d%3d=ctNJf55vVA%3d&FgPIIEJYlotIS%2bYGoBi5olA%3d%3d=NHdURQburHA%3d&d9Qjjoag1Pd993jsyOJqFvmyB7X0CSQK=ctNJf55vVA%3d&WGewmoAfeNR9xqBux0r1Q8Za60lavYmz=ctNJf55vVA%3d&WGewmoAfeNRQ16B2MHuCPMRKZMwaG1PaO=ctNJf55vVA%3d

⁴ <https://www.cambridgeindependent.co.uk/news/mill-road-can-t-be-viewed-in-isolation-9240465/>

⁵ <https://millroad4people.org/>

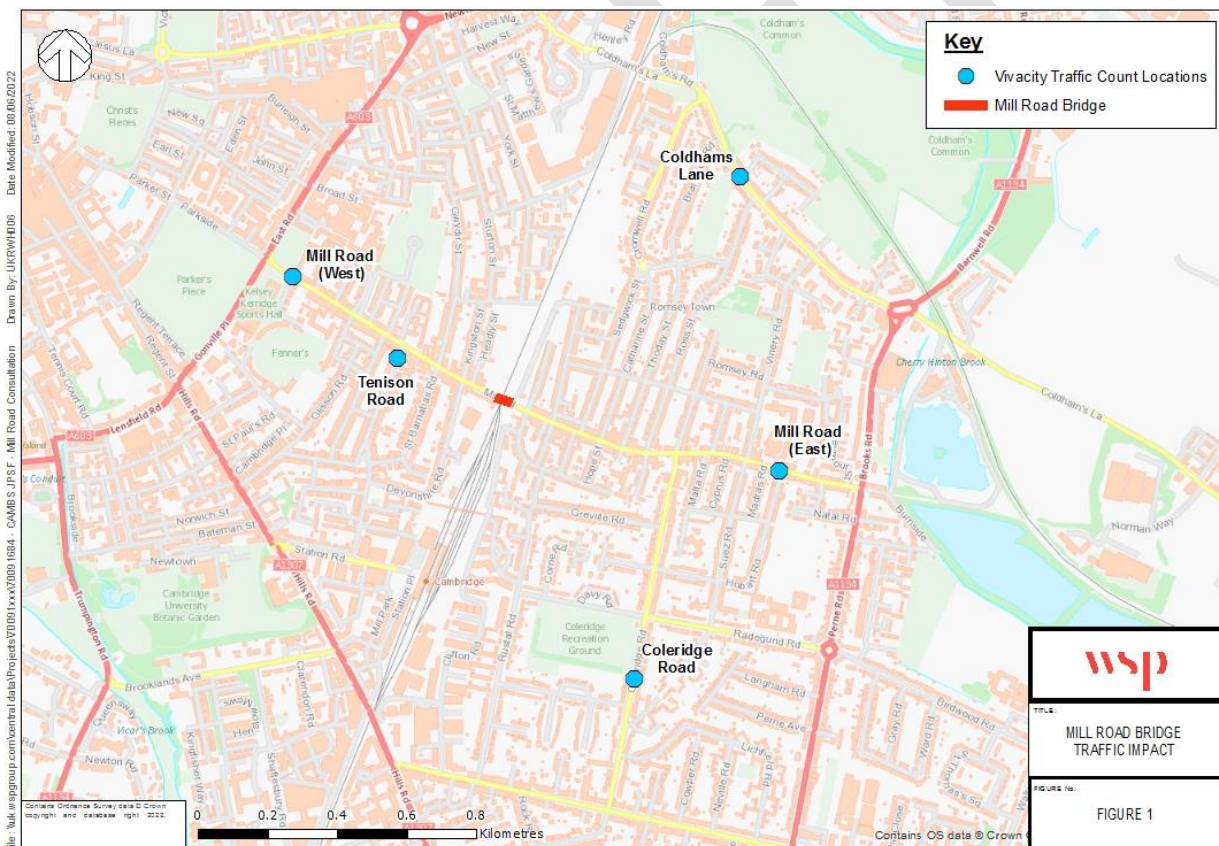
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To address these concerns and to corroborate the assertions made, analysis has been undertaken using available traffic sensor data along Tenison Road (Petersfield), Coleridge Road and Coldhams Lane (Romsey) between June 2019 and October 2021. This timescale of analysis compares traffic levels measured during the Mill Road bridge closure period vs normal traffic conditions before and after the lockdown restrictions. This has enabled us to present the ratio of traffic on each street where data is available and there was a concern of traffic displacement due to the closure of Mill Road bridge.

The analysis is based on the availability of Cambridgeshire Insight⁶ count data to the east and west of the Mill Road Bridge to see if the impact either side of the bridge closure differs. A map showing the distribution of publicly available traffic data, used for this analysis, has been provided below within **Figure 1** for reference. Traffic flows obtained along Tenison Road (Petersfield) have also been compared against flows along the western section of Mill Road. Whilst traffic flows obtained along Coleridge Road and Coldhams Lane (Romsey) have been compared against flows along the eastern section of Mill Road.

Figure 1 – Vivacity Traffic Sensor Count Locations



Source: <https://data.cambridgeshireinsight.org.uk/dataset>

⁶ Sourced: May 2022 - <https://data.cambridgeshireinsight.org.uk/dataset/cambridge-city-smart-sensor-traffic-counts>

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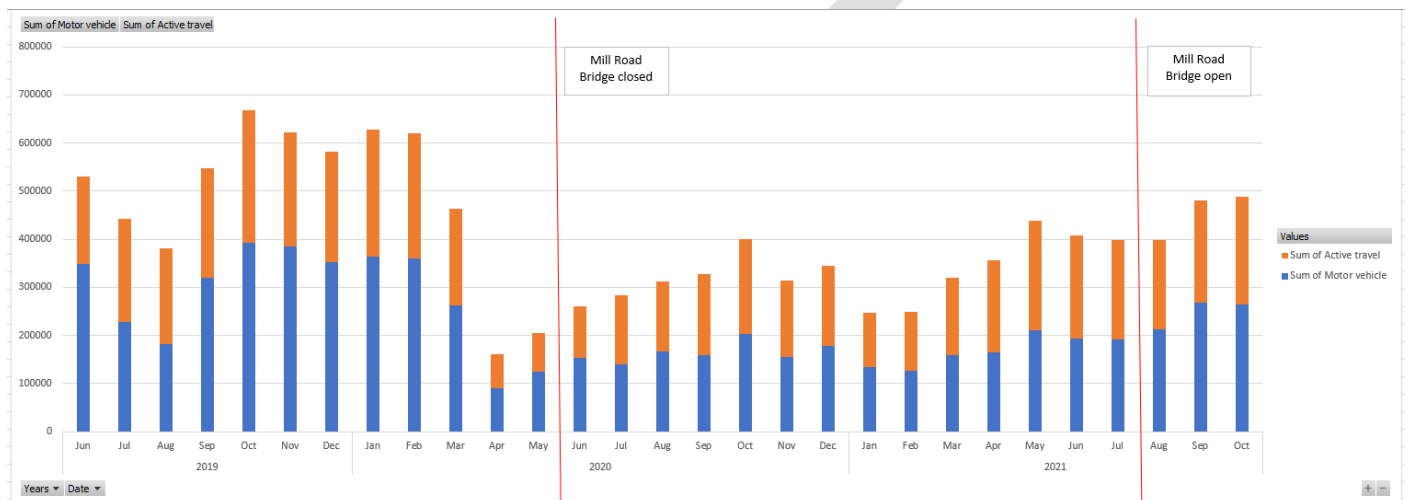
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MILL ROAD (WEST) & TENISON ROAD

MILL ROAD (WEST)

Traffic data obtained at Mill Road (West) indicates that prior to the Covid-19 pandemic and ensuing lockdowns, Mill Road (West) had daily vehicle volumes of circa 10,000-15,000 and monthly vehicle volumes of circa 300,000-400,000, as shown in **Figure 2** below,

Figure 2 – Mill Road (West) Traffic Count data



As a result of the Covid-19 pandemic and during the subsequent implementation of a modal filter on of the Mill Road bridge (June 2020 to early August 2021), the daily vehicular volumes dropped to circa 3,000-7,000 whilst the monthly vehicular volumes dropped to circa 100,000-200,000 (as shown above).

Since the bridge has reopened (data up to October 2021), vehicular volumes have increased slightly (circa 6,000-10,000 daily and 200,000-250,000 monthly) but had yet to return to pre-pandemic levels.

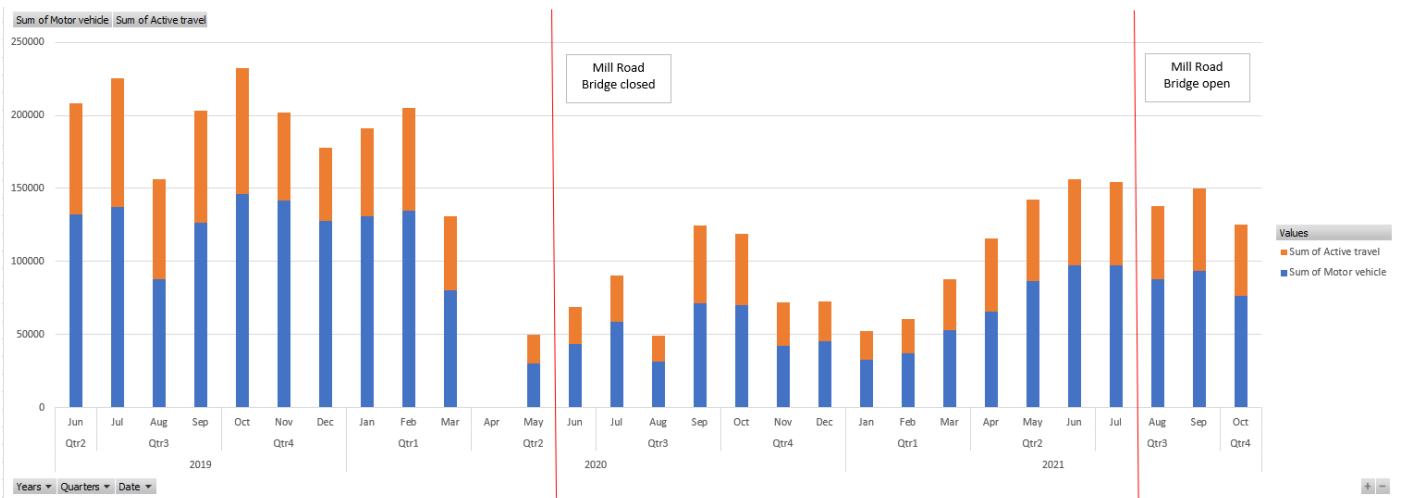
TENSION ROAD

Traffic data was also obtained along Tenison Road which indicates that prior to the Covid-19 pandemic and lockdowns, Tenison Road had daily vehicle volumes of circa 4,000-5,000 and monthly vehicle volumes of circa 100,000-150,000, as shown in **Figure 3** below.

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Figure 3 – Tenison Traffic Count data



As a result of the Covid-19 pandemic, ensuing lockdown and subsequent implementation of a modal filter on of the Mill Road bridge (June 2020 to early August 2021), the daily vehicular volumes dropped to circa 1,000-3,000 whilst the monthly vehicular volumes dropped to circa 40,000-80,000.

POTENTIAL IMPACT OF BRIDGE CLOSURE

To identify the potential impact of the bridge closure upon Tenison Road, traffic levels have been examined from both before, during and after the Mill Road bridge closure period.

In the context of COVID 19 and wider national lockdown restrictions, the traffic flows on Tenison Road have also been reviewed in comparison as a percentage of Mill Road (West) flows for both daily, AM and PM peaks.

Prior to the Covid-19 pandemic, traffic volumes on Tension Road were approximately one-third of flows observed on Mill Road (West), during all time periods assessed (average 41% all day, 45% AM Peak, 40% PM Peak).

During the Covid-19 pandemic, ensuing lockdown and subsequent implementation of a modal filter on of the Mill Road bridge (June 2020 to early August 2021), the traffic volumes on Tenison Road continued to be approximately one third of the traffic volumes of Mill Road (West) (average 36% all day, 44% AM Peak, 35% PM Peak).

INITIAL OBSERVATIONS

Mill Road 4 People suggest that there was additional traffic through Petersfield, as a result of the bridge closure, with analysis focused on traffic data recorded from the start of lockdown measures (March 2020) to just before the bridge reopened (July 2021).

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The analysis indicates that traffic on Tension Road did reduce as a result of initial lockdown restrictions, as it did across the network, setting a new low base, which gradually increased over the next year towards the levels experienced pre-lockdown. However, this increase was in proportion to the flow increases observed elsewhere on the local network in Cambridge.

Although there is a perceived element of rat-running occurring along Tenison Road, over the data period reviewed, the level of traffic flow as a proportion of traffic on Mill Road (West) has been consistent both pre and post lockdown – and was not noticeably affected by the closure of Mill Road bridge.

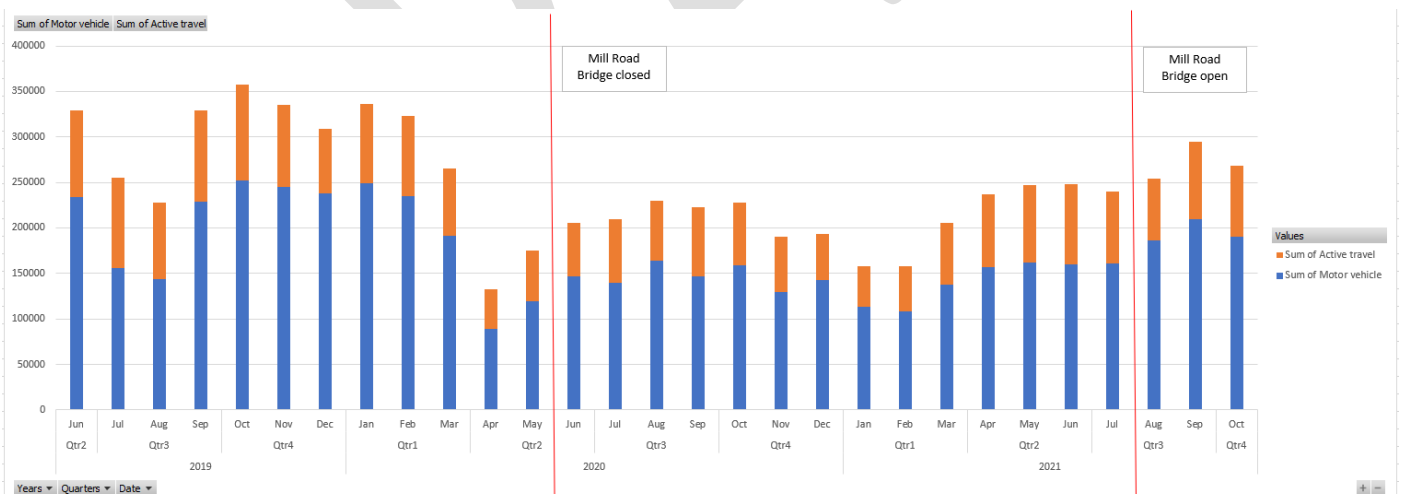
There is therefore no clear evidence that the Mill Road bridge closure created additional traffic volumes along Tension Road, and traffic levels on Tension Road have continued to rise after opening of the bridge, indicating a closer link to wider national lockdown and Covid-19 measures.

MILL ROAD (EAST) & COLERIDGE ROAD

MILL ROAD EAST

Traffic data obtained at Mill Road (East) indicates that prior to the Covid-19 pandemic and ensuing lockdowns, Mill Road (East) had daily vehicle volumes of circa 6,000-8,000 and monthly vehicle volumes of circa 200,000-250,000, as shown in **Figure 4** below,

Figure 4 – Mill Road (East) Traffic Count data



As a result of the Covid-19 pandemic and during subsequent implementation of a modal filter on of the Mill Road bridge (June 2020 to early August 2021), the daily vehicular volumes dropped to circa 3,000-5,000 whilst the monthly vehicular volumes dropped to circa 100,000-150,000 (as shown above).

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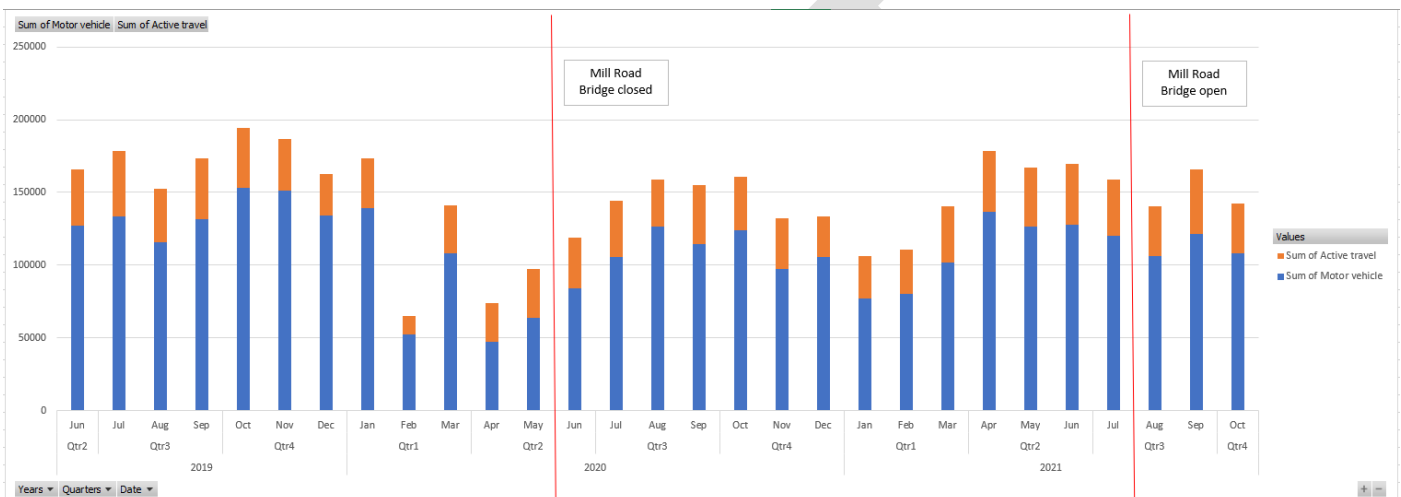
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Since the bridge has reopened (data up to October 2021), vehicular volumes have increased slightly (circa 5,000-8,000 daily and 150,000-200,000 monthly) but have yet to returned to pre-pandemic levels.

COLERIDGE ROAD

Traffic data obtained along Coleridge Road indicates that prior to the Covid-19 pandemic and ensuing lockdowns, Coleridge Road had daily vehicle volumes of circa 3,000-5,000 and monthly vehicle volumes of circa 100,000-150,000, shown in **Figure 5** below.

Figure 5 – Coleridge Road Traffic Count data



As a result of the Covid-19 pandemic and during subsequent implementation of a modal filter on of the Mill Road bridge (June 2020 to early August 2021), the daily vehicular volumes dropped to circa 2,500-5,000 whilst the monthly vehicular volumes dropped to circa 70,000-120,000.

POTENTIAL IMPACT OF BRIDGE CLOSURE

To identify the potential impact of the bridge closure upon Coleridge Road, traffic levels have been examined from both before, during and after the Mill Road bridge closure period.

In the context of COVID 19 and wider national lockdown restrictions, the traffic flows on Coleridge Road have also been reviewed in comparison as a percentage of Mill Road (East) flows for both daily, AM and PM peaks.

Prior to the Covid-19 pandemic, traffic volumes of Coleridge Road were approximately two-thirds of all day flows observed on Mill Road (East), raising to three quarters in the Peaks (average 64% all day, 75% AM Peak, 73% PM Peak).

As a result of the Covid-19 pandemic and subsequent implementation of a modal filter on of the Mill Road bridge (June 2020 to early August 2021), proportions of traffic volumes on Coleridge Road increased

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marginally to approximately three quarters of the traffic volumes observed on Mill Road (East), during all time periods assessed (average 74% all day, 80% AM Peak, 77% PM Peak).

INITIAL OBSERVATIONS

Traffic on Coleridge Road noticeably reduce as a result of initial lockdown restrictions, as it did across the network, setting a new low base, which gradually increased towards the levels experienced pre-lockdown. However, this increase was largely in proportion to the flow increases observed elsewhere in Cambridge.

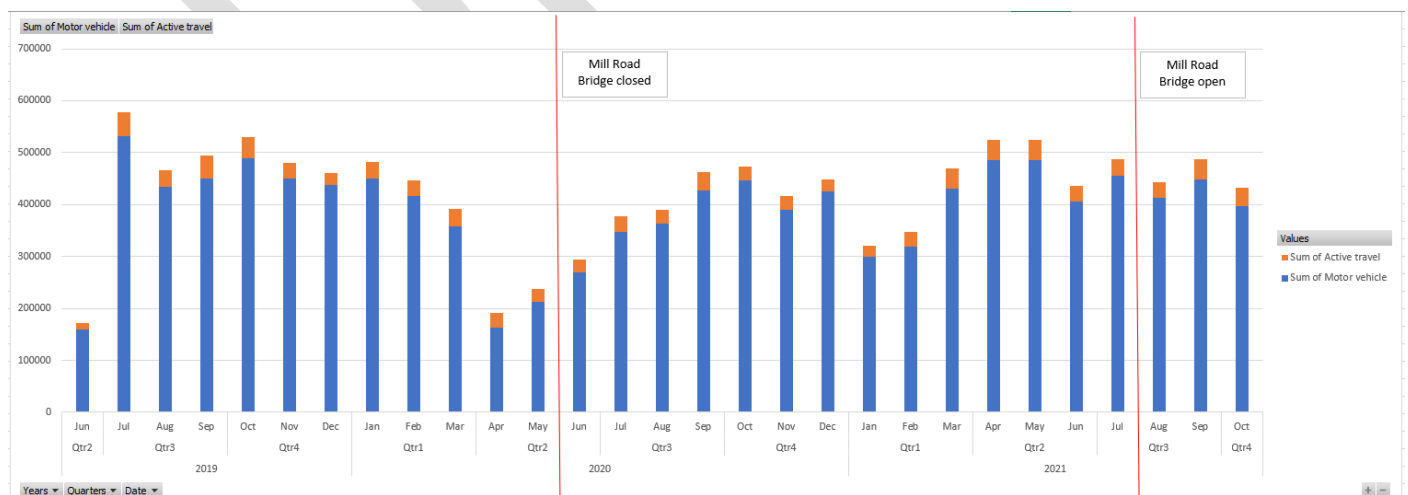
In regard to increased rat-running occurring along Coleridge Road, over the data period reviewed, the level of traffic flow as a proportion of traffic on Mill Road (East) did increase slightly (5% in the peaks, 10% all day). However, given that Coleridge Road already had traffic volumes which were approximately 75% of all day flows observed on Mill Road (East), pre Covid-19 pandemic, it is difficult to determine if the proportional change is directly attributable to increased rat-running caused by the bridge closure to private vehicles or, as the case may be, from other external factors caused by wider lockdown measures.

It is not clear from the data available if the Mill Road bridge closure created additional traffic volumes along Coleridge Road but may have been the cause of a slight increase. It is worth noting that within the data reviewed, traffic levels on Coleridge Road have not yet returned to those which were already present pre-pandemic, even after the bridge has been opened, indicating a closer link to wider national lockdown and Covid-19 measures.

COLDHAMS LANE

Traffic data obtained along Coldhams Lane indicates that prior to the Covid-19 pandemic and ensuing lockdowns, Coldhams Lane had daily vehicle volumes of circa 13,000-18,000 and monthly vehicle volumes of circa 400,000-500,000, as shown in **Figure 6** below.

Figure 6 – Coldhams Lane Traffic Count data



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As a result of the Covid-19 pandemic and during subsequent implementation of a modal filter on of the Mill Road bridge (June 2020 to early August 2021), the daily vehicular volumes dropped to circa 6,000-12,000 whilst the monthly vehicular volumes dropped to circa 200,000-400,000.]

POTENTIAL IMPACT OF BRIDGE CLOSURE

To identify the potential impact of the bridge closure upon Coldhams Lane, traffic levels have been examined from both before, during and after the Mill Road bridge closure period.

In the context of COVID 19 and wider national lockdown restrictions, the traffic flows on Coldhams Lane have also been reviewed in comparison as a percentage of Mill Road (East) flows for both daily, AM and PM peaks.

Prior to the Covid-19 pandemic, traffic volumes on Coldhams Lane were approximately double (x2.3) those on Mill Road (East).

However, during the Covid-19 pandemic and subsequent implementation of a modal filter on of the Mill Road bridge (June 2020 to early August 2021), the proportion of traffic volumes on Coldhams Lane did increase to approximately two and a half times (x2.7) the traffic volume observed on Mill Road (East).

INITIAL OBSERVATIONS

Traffic on Coldhams Lane reduced as a result of initial lockdown restrictions, as it did across the network, setting a new low base, which gradually increased towards the levels experienced pre-lockdown. However, it was noted this level of increase was significantly faster than other flow increases observed elsewhere in Cambridge. Analysis from a Highways and Transport committee meeting⁷ in July 2021 showed that Coldham's Lane saw the closest return to pre-lockdown levels of traffic compared to the other locations in the area.

Any perceived element of traffic displacement occurring along Coldhams Lane, may have been warranted, over the data period reviewed, as the proportion of traffic against Mill Road (East) did increase pre and post lockdown. However, it is difficult to determine if this was as a direct result of redistribution away from Mill Road or, as the case may be, from other external factors. The traffic flow data shown may be indicative of the displacement of traffic, but again it is not possible to disaggregate the impact of the closure of the bridge from the general variations in travel during the pandemic.

In order to fully understand the full redistribution impact of the Mill Road bridge closure, data which includes information on the origins and destinations of trips, is needed. Unfortunately, such data is not available over the past bridge closure period.

⁷ https://cambridgeshire.cmis.uk.com/CCC_live/Document.ashx?czJKcaeAi5tUFL1DTL2UE4zNRBcoShgo=QfHwX3JpQWnPI%2bTaABfp6CEEN9qhTvxKwevmhbJXRlZ4PGvjwWkZMQ%3d%3d&rUzwRPI%2bZ3zd4E7lkn8Lvw%3d%3d=pwRE6AGJFLDNIh225F5QMaQWCtPHwdhUfCZ%2fLUQzgA2uL5jNRG4jdQ%3d%3d&mCTIbCubSFXsDGW9lXnlg%3d%3d=hFfIUdN3100%3d&kCx1AnS9%2fpWZQ40DXFvEw%3d%3d=hFfIUdN3100%3d&uJovDxwdjMPoYv%2bAJvYtyA%3d%3d=ctNJF55vVA%3d&FgPIIEJYlotS%2bYGoBi5olA%3d%3d=NHdURQburHA%3d&d9Qjj0ag1Pd993jsyOjQFvmyB7X0CSQK=ctNJF55vVA%3d&WGewmoAfeNR9xqBux0r1Q8Za60lavYmz=ctNJF55vVA%3d&WGewmoAfeNQ16B2MHuCPMRKZMwaG1PaO=ctNJF55vVA%3d

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CONCLUSION AND RECOMMENDATION

The analysis above, based on available data, suggests that there is no clear cut evidence that the Mill Road bridge closure created significant additional traffic volumes on side-roads, such as Tension Road or Coleridge Road.

This is because it is not possible to disaggregate any impact of the bridge closure from the general variations in travel during the pandemic. It should also be noted that within the data reviewed (up to October 2021) traffic levels had not yet fully returned to pre Covid levels of 2019.

Traffic displacement does look to have occurred to some extent along Coldhams Lane, however it is not possible to determine if this was as a direct result of redistribution away from Mill Road or, as the case may be, from other external factors. It is not possible to disaggregate the impact of the closure of the bridge from the general variations in travel during the pandemic over this period.

The wider national Covid and lockdown conditions/measures look to have likely caused the largest impact on changing traffic levels on local roads during the bridge closure period, rather than specifically the bridge closure itself and it has not been possible to specifically identify the impact the bridge closure had on local traffic levels, given the levels of wider national policy measures that were also in place over the time of the closure.

More data, which includes information on the origins and destinations of trips is ideally needed to establish a relationship and such data is not available over the past bridge closure period. Therefore, in line with any future interventions, further traffic monitoring would need to be undertaken during the implementation, to fully understand the potential impact of traffic movements within Petersfield and Romsey area, in order to identify mitigation measures that might be required to offset any adverse impacts.

RECOMMENDATION

In consideration of the above, should CCC commit to improving the environment on Mill Road, following the outcomes of the consultation, it is recommended that ongoing monitoring is considered as part of the package of any future interventions put in place, in order to identify any potential mitigation measures required.