

Appendix 3: Timed restriction assessment

Analysis of evidence for proposed changing of the timing of the existing restriction times in the new scheme.

Background

Feedback from the original Bank on Safety public consultation (2017) and engagement exercise on the Bus and Cycle restrictions included suggestions to amend the restrictions times. The largest percentage of support was for a 24/7 restriction (151 responses to the public consultation - 4%). The Bank on Safety project was focused on reducing the risk of collision during the busiest pedestrian and cycling times and it was considered at that time that a 24/7 restriction would not have provided the appropriate balance of the numerous needs of people that travel in the area.

With the All Change at Bank project proposing further restrictions to motor vehicles on certain arms, it is also sensible to look at the timings of the restrictions. This review will see whether there are alternative timings that would deliver improved benefits against the project objectives. A review of timings may further reduce the risk of collisions to improve safety of the large numbers of pedestrians and cyclists that use this route, and also contribute to the objective improving the area as a place to spend time in. Reduced through traffic provides a quieter environment, a sense of calm and reduces the level of pollution in the area and may support the aspirations for a 7 day City.

Whilst a 24/7 restriction was suggested as part of the 2017 consultation, it has not been considered as part of this timing review. There is not currently a large number of people walking or cycling through the junction late into the evenings or overnight. Implementing a full-time restriction would not be a balanced approach at this time. A 24/7 restriction can be reviewed at a later date if this situation changes.

There is an assumption that the proposed design changes (the closure of Threadneedle Street between the junction and Bartholomew Lane and further vehicle restrictions on Queen Victoria Street and Princes Street) will provide an improved safety benefit at all times regardless of alterations to the restricted times. These benefits would be from the proposed widening of footways, providing more room for pedestrians to move through the space comfortably; reducing the number of arms that allow motor vehicle movements and therefore reducing the number of turning movements taking place in the junction; and improving pedestrian crossings so that they provide more space for people waiting and a shorter distance to cross.

In addition to reviewing timings, we have also undertaken preliminary work on reviewing the traffic mix that can travel through the junction during the restricted times. If an option to vary the traffic mix was found to be appropriate, then the impact/benefits this change may have in relation to changing the operational hours of the restriction would also need to be considered.

The following assessment considers the various factors that may influence support for changing the operational hours of the current restriction (Monday to Friday 7am to

7pm, buses and cycles only across Bank junction and travelling westbound into Cornhill).

Changes to the junction were made in early 2020 to widen the footways as an interim step towards providing better pedestrian facilities. This included providing wider pedestrian crossings and shorter crossing distances. With the pandemic and delay in collision data, it is not possible to tell what the impact of these changes has been.

Casualty data

The casualty data used to assess any changes that should be taken into consideration is split between pre and post the Bank on Safety scheme becoming operational. In line with all previous reports we have used a five-year average for pre scheme data to assess the Bank on Safety scheme.

The pre scheme data consists of five whole years, and we have also included the first part of 2017 up to 21 May, the day before Bank on Safety scheme became operational.

The post scheme data starts on 22 May 2017 and we have utilised the casualty data that is available to the end of 2019. This equates to just over two and half years.

- Pre scheme time frame - 01/01/2012 to 21/05/2017 (5.39 years)
- Post scheme data – 22/05/2017 – 31/12/2019 (2.61 years)

The post data set is limited to draw comparison from, but it will help to indicate potential problems that need to be considered. There has been a delay in the validated casualty data for 2020 being processed which is why we only have data to the end of 2019 available.

To make the data comparable, we have looked at the average casualty rate per year, pre and post scheme. This helps to be able to compare the values and identify any significant changes in rates. It is also the only way to consider 2017 within the data, as part of this year was not subject to restrictions.

Extending the hours of operation to the weekends

Casualty considerations:

In the data available since the Bank on Safety scheme was implemented in May 2017, there has been a total of eight casualties reported during the weekend (all hours), in the area we have classified as Bank Junction (see Figure 1 Appendix 6 for the area covered).

When considered on an average annual basis, this indicates an increase compared to the 'pre scheme' data as set out in table 1 below.

Of the eight casualties that occurred since 22 May 2017 (post scheme), when the Bank on Safety scheme was introduced, five of the casualties occurred between 7am and 7pm (63%). Of those five casualties two involved motor vehicles that would have been excluded from the junction if the restrictions had been operational at the weekend (as bus and cycle only). There was a bus passenger injured following a collision with a car

which also may have been avoided if the restrictions were operational at the weekend. The remaining casualties in this time period involved pedestrians and buses.

In the pre scheme period, three casualties were reported to have occurred between 7am and 7pm. There were two pedal cycle casualties following a collision with a car and a minibus, and a pedestrian casualty following a collision with a car. This means two of the three casualties may have been avoided if the timed restrictions had been in place previously.

When looking at the rate of casualties per year in the 7am – 7pm time period:

- the pre-scheme rate was 0.56 casualties per year.
- The post scheme average is currently 1.92 casualties per year

Table 1: Casualties at Bank Junction Pre and post scheme Implementation

Bank Junction	Pre scheme number of casualties	Pre scheme rate of casualties per year	Post scheme number of casualties	Post scheme rate of casualties per year.
Weekends (24 hr)	9	1.67	8	3.07
Weekends 7am-7pm	3	0.56	5	1.92

The rate increase in this time period appears to be due to a spike in the 2018 data when 4 casualties were recorded. This has not been replicated in the 2019 data. Therefore, it is not possible to answer whether the casualties have been influenced by any lack of understanding that the restrictions do not operate at the weekend, or if it is reflecting an increased footfall in the City at the weekend, or an anomaly that will smooth out over a longer time period. There has not been a single collision which has caused several casualties, which can sometimes distort the data.

Table 2 below identifies the mode of travel for each casualty:

- Pre scheme, cyclists accounted for two of the three casualties.
- There have been no cycle casualties post scheme in the 7am to 7pm time frame.
- Pre scheme, there were no casualties from powered two wheelers
- Post scheme, powered two wheelers account for two of the five casualties

The powered two wheelers collisions involved a car in one incident and a goods vehicle in the other. The locations of these two collisions suggests that they wouldn't necessarily have been prevented in the new layout. These two collisions occurred on Poultry and Queen Victoria Street by Bucklersbury where access requirements mean that there would still be a valid reason for those vehicles types to be in those locations if the restriction times were extended and assuming that they were not through traffic.

Table 2: Casualties by mode at Bank Junction pre and post implementation, and rate of change (weekends, 7am-7pm)

Mode of Travel	Total Pre-Scheme Casualties	Pre-Scheme casualties per year	Total Post-Scheme Casualties	Post-Scheme casualties per year

Bus Or Coach	0	0	1	0.38
Pedal Cycle	2	0.37	0	0
Pedestrian	1	0.19	2	0.77
Powered 2 Wheeler	0	0	2	0.77

Due to the relatively small numbers of casualties, and the short time period that the current restrictions have been in place, it is difficult to draw comparison, but there appears to be early indications that extending the restrictions to cover the weekend may be beneficial. There have been more casualties in between 7am and 7pm at the weekend in the 2.61 years post implementation, than had occurred in the 5.39 years prior to the implementation of Bank on Safety. This is not reflected across the rest of the City in the same time period where the average casualty rate per year has decreased.

It should be taken into consideration that the proposed new junction layout will change the movements again at the junction. There will be fewer routes open to motor vehicles and fewer turning movements. With wider footways and narrower carriageways, conflict of pedestrians informally crossing the road should also be reduced as pedestrians will spend less time in the carriageway. This change may be enough to further reduce casualties at the weekend without needing to extend the hours of operation.

While the casualty numbers themselves are small, there has been an average rate increase which is of a concern. Further consideration for extending the hours at the weekend on safety grounds should be explored.

Other factors: Network Resilience

There are other practicalities that should be considered such as the resilience of the highway network if the restrictions were to be extended to cover the weekend. Many crane operations, road closures for street works and filming activities take place at the weekends on the surrounding streets. These activities sometimes require diversion routes for vehicles through Bank, without having to amend the existing Bank Traffic Management Order (TMO). On the occasions when it was necessary to relax the restrictions at the weekend a temporary traffic order would need to be issued and a crew deployed to 'flip' the signage (enforcement and directional) to communicate to drivers that the route was open. This would be an additional cost to the customer.

There is a risk of reducing understanding and integrity of the restrictions if there are frequent suspensions to allow these other activities. However, over the last few years there have been less than 10 recorded incidents a year where bus routes have had to be diverted via Bank at the weekends indicating an activity taking place on a nearby route. These numbers may increase in the medium term and would need further consideration as developments permitted may require crane operations or utility works. This will be further considered, and the forward programme for this work reviewed.

Extending the operational hours to weekends may limit the number of street closures that can take place on any one weekend. In turn, this could have a knock-on impact on developments requiring crane operation times and utility connections. It would also

have an impact on the City promoted schemes that often take place at the same time as these other activities

Crane operations are usually undertaken at the weekend as the risk to pedestrians is less with fewer people in the City. If there are fewer weekend ‘slots’ available, then weekday evening operations may need to be considered over a longer period of time and this may have implications for noise near residential premises.

There will also need to be an assessment of the resilience impacts if other schemes that currently restrict traffic movements, such as the temporary Bishopsgate bus gate or the City’s temporary COVID schemes, were retained.

Other Factors: Changing offer of the City

Prior to the Covid 19 pandemic, there was an increase in volumes of pedestrians moving through Bank Junction on weekends. Looking at pedestrian survey data (Table 3) from Princes Street eastern and western footways at Bank Junction (one of the busiest pedestrian arms of Bank), a 150% increase in the volumes of pedestrians on these footways was observed when comparing counts from 10/01/2015 (Saturday) to 23/06/2018 (Saturday). Data was collected between 10:00am and 15:45pm. Some seasonality is likely to apply to this data given the 2015 counts were undertaken in January and 2018 counts undertaken in July.

Table 3: Number of pedestrians on Princes Street (Saturday)

Time	10/01/2015	23/06/2018	% change
10:00	28	212	657%
10:15	69	101	46%
10:30	31	135	335%
10:45	60	138	130%
11:00	48	121	152%
11:15	50	134	168%
11:30	71	130	83%
11:45	67	193	188%
12:00	92	196	113%
12:15	101	192	90%
12:30	53	167	215%
12:45	78	169	117%
13:00	92	179	95%
13:15	83	169	104%
13:30	77	167	117%
13:45	98	175	79%
14:00	71	173	144%
14:15	82	206	151%
14:30	102	167	64%
14:45	65	211	225%
15:00	76	157	107%
15:15	85	129	52%
15:30	98	187	91%
15:45	92	176	91%
			Average:150%

Other Factors: Equalities

Extending the hours of operation to weekends is likely to have some negative impacts on weekend visitors with protected characteristics to the City who rely on either being picked and dropped off nearby to Bank or who wish to drive and park in the City nearby to Bank. This will be because they would not be able to cross Bank junction in a motor vehicle to get to their chosen destination and may need to take a longer journey. Conversely the benefits would also be extended for longer for those with protected characteristics who walked, cycled or used a bus in the area.

The City is more of a visitor destination at the weekend with a different population profile. Visitors are more likely to want to take their time, looking at the historic architecture of the local area, which would be easier to do with fewer motor vehicles in the area. However, the physical changes to the junction proposed would give space for this to happen without necessarily needing to extend the hours of operation of the restricted traffic movement.

Conclusion:

Extending the restricted hours to cover the weekends between 7am and 7pm would:

- simplify the road signage message
- create consistency for people using the junction
- support the City's desire to move the Square Mile towards a 24/7 economy
- create a better place for the growing weekend daytime population.

This assumes that we are able to maintain the integrity of the restriction by not having to frequently suspend the weekend restrictions.

It may also deliver safety benefits in addition to those arising from the physical and traffic management changes.

It is recommended that this option is explored in the public consultation exercise. This would allow the consultation results to be considered alongside analysis of benefits and impacts at Gateway 5.

Extend the hours of operation later into the evening:

We have also considered the potential benefits and impacts of extending the existing weekday restrictions later into the weekday evening when the City is still busy with people walking and cycling.

The traffic count data undertaken in November 2019 showed that cyclists (on average):

- Were 22% of the total traffic flow across the junction between 7pm and 9pm. (total traffic flow approx. 2900 vehicle)
- Were 33% of the traffic flow across the junction between 7pm and 8pm (total traffic flow approx. 1700 vehicles)
- Volumes drop by 53% from the last hour of the restrictions (6pm and 7pm) to the following hour of 7pm to 8pm, (Total cyclists approximately 1190 between 6pm and 7pm)

Casualty considerations

The collision pattern shows that since the Bank on Safety restrictions were introduced, there were 15 casualties reported that occurred outside the hours of operation between 7pm and midnight between 22 May 2017 and the end of 2019. Seven of these occurred between 7pm and 9pm.

This is a significant increase on the pre scheme data, which also recorded 15 casualties in the 5.39 years prior to the introduction of the Bank on Safety scheme.

Table 4 - Casualties and average rates per year at Bank Junction pre and post scheme implementation between 7pm and midnight weekdays.

Hour of the day (start)	Total Pre-Scheme Casualties	Pre-Scheme casualties per year	Avg of multiple hours – casualties per year	Total Post-Scheme Casualties	Post-Scheme casualties per year	Avg of multiple hours – casualties per year
19:00:00	4	0.74	1.86	4	1.53	2.68
20:00:00	6	1.11		3	1.15	
21:00:00	3	0.56	0.93	3	1.15	3.07
22:00:00	0	0.00		3	1.15	
23:00:00	2	0.37		2	0.77	
total	15	2.78		15	5.75	

Looking at the straightforward comparison of the pre scheme casualty rate per year, it is an approximate doubling of casualties between 7pm and midnight on a weekday with a rate of 5.75 casualties per year post scheme vs 2.78 pre scheme.

Chart 1 shows the timing and mode of travel used by the person injured for this evening period pre-scheme and Chart 2 shows the post-scheme.

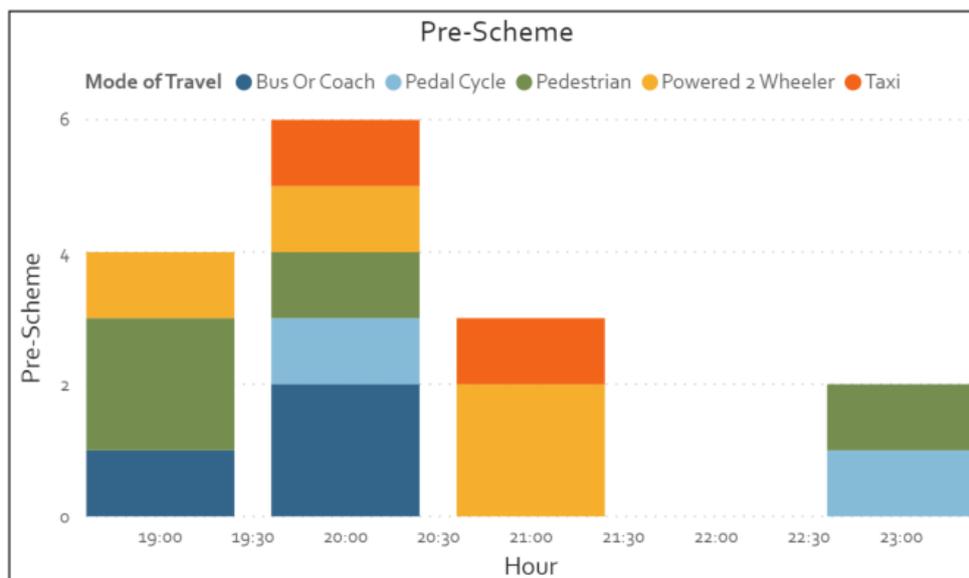


Chart 1 – Pre-scheme timing and mode of casualty

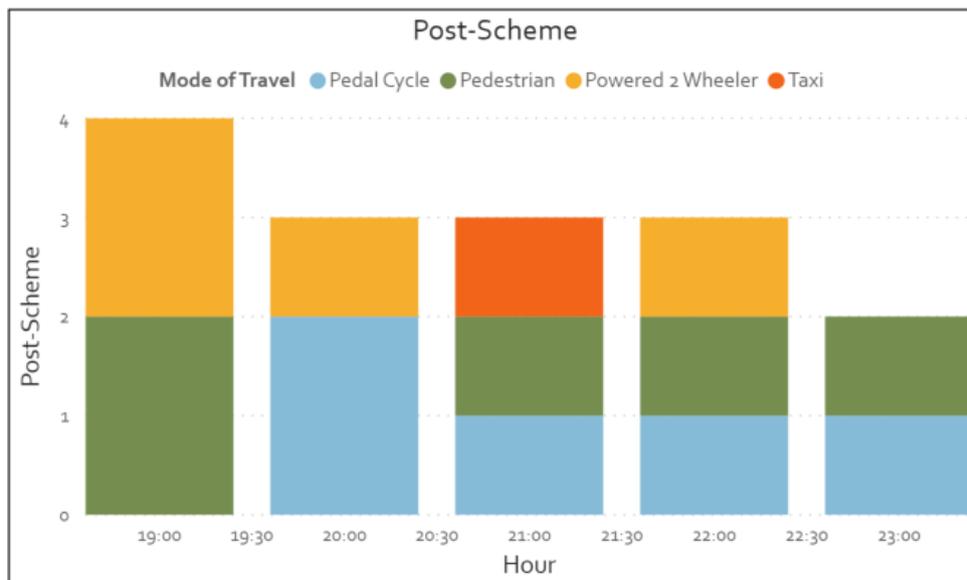


Chart 2 – Post-scheme timing and mode of casualty.

Looking at just the two hours after the scheme restrictions end (to 9pm):

- there were 10 casualties that occurred pre scheme between 7pm and 9pm, with a rate of 1.86 casualties per year.
- Post scheme there were 7 casualties recorded with a rate of 2.68 casualties per year.

Whilst the post scheme data indicates an increase in casualty numbers in the two hours following the restrictions ending, there is a bigger average rate increase between 9pm and midnight. However, it should be remembered that this is a reasonably small dataset for casualty comparisons.

What is more important to understand is the locations of the collisions in this time frame and whether the proposals for physical change will help to improve these rates in the evening. There are 3 collisions that look to have occurred on Threadneedle Street in the section proposed to be closed to motor vehicles, and one on the approach to the junction from Princes Street that may have been avoided with the proposed layout changes. More details regarding likely causation of collision would be required to assess how other proposed changes may help reduce the number of evening casualties without extending the times.

Other factors:

In addition to the potential safety considerations, there is a need to also consider the balance of access for properties in the local area. Some of these properties require larger vehicles to service them regularly and because of the daytime restrictions they operate outside of these hours. These larger vehicles ability to use some of the alternative routes are limited due to narrower streets, and their ability to turn around to avoid the junction maybe severely limited and not really desired given the safety implications of this manoeuvre.

As with the weekend use of Bank, alternative routes across the City to allow night-time working, especially for emergency working, is currently available without requiring

temporary changes to the TMO. Depending upon the time extension proposed, this may be an issue for the alternative routes to facilitate these works and to maintain the integratory of the scheme restrictions. The longer the extension the bigger the implication would be if works could not start until after the restrictions at Bank finished. There could also be a noise impact for local residents if works a required to continue later in the evening.

With regard to equality considerations, extending the hours of operation to the existing scheme without also making physical changes as proposed by the All Change at Bank proposals, would mean that the benefits outlined in the Equality Analysis for the Bank on Safety scheme would apply for longer, but likewise the negative impacts that were identified such as potential longer door to door journey times by not being able to necessarily take a direct route, would also apply for longer. It was felt that this impact was not disproportionate to the positive impacts experienced by people with protected characteristics for the Bank on Safety scheme.

Considering this in context of the physical changes proposed under the All Change at Bank project, there are other benefits and potential impacts that are required to be considered. It needs to be considered whether changing the ability for motor vehicles to access certain sections of streets as well as extending the hours of operation would have a cumulative impact.

Lastly in considering the possible impact on compliance messaging, the 7am to 7pm time frame matches the City's Controlled parking zone times and many of the waiting and loading restrictions. To consider extending the hours of operation to later in the evening to a time period that is not used elsewhere, may make the messaging of the restrictions more difficult. However, it would be possible to sign.

Conclusion

Overall, there is a possible safety argument for continuing to look at extending the hours of operation during the weekdays. However, this would mean that the balance that is currently struck with local businesses for servicing would be compromised for those that retimed their servicing following the Bank on Safety restrictions. Seeking views through the public consultation exercise is recommended.

Reducing the hours of operation to weekday peak times only:

Some stakeholders have suggested that the hours of the restriction should be reduced to only cover the peak hours when the pedestrian and cycle numbers are at their very highest. This would allow other traffic such as taxis, private hire vehicles and servicing vehicles the opportunity to cross the junction during interpeak hours with more direct routes to their destinations. Access to the properties that surround the junction continues to be possible during restricted times, but alternative routes that avoid crossing the junction may be required.

The casualty data pre-scheme for the 5.39 years prior to the Bank on Safety scheme:

- 62 of the 81 recorded casualties occurred during the busiest 6 hours (7am to 10am and 4pm to 7pm)
- 19 of the 81 occurred between 10am and 4pm

The casualty data for post Bank on Safety scheme to the end of 2019 shows that:

- 19 of the 26 recorded casualties have occurred during the busiest 6 hours for pedestrians and cyclists (7am to 10am and 4pm to 7pm).
- 7 of the 26 occurred between 10am and 4pm

Table 5: Casualty information split between peak and interpeak hours for weekdays.

	Peak periods (7am to 10am and 4pm to 7pm)	Rate of casualty per year	Interpeak (10am to 4pm)	Rate of casualty per year	Total casualties weekdays 7am to 7pm
Number of casualties that occurred weekdays between 7am and 7pm					
Pre-scheme	62	11.5	19	3.52	81
Post-scheme	19	7.28	7	2.68	26
As a percentage of the total casualties that occurred weekdays between 7am to 7pm					
Pre-scheme	77%		23%		
Post-Scheme	73%		27%		

The data shows that the objective of reducing casualty numbers at Bank junction has been achieved by having the restrictions in place during the 12 hour weekday time period. Chart 3 compares the average yearly casualty rate pre-scheme and post scheme for each hour. This shows that most of the hours between 7am and 7pm perform better than the pre-scheme data. From a safety aspect, it would not be recommended to reduce the number of hours that the restrictions were in place for.

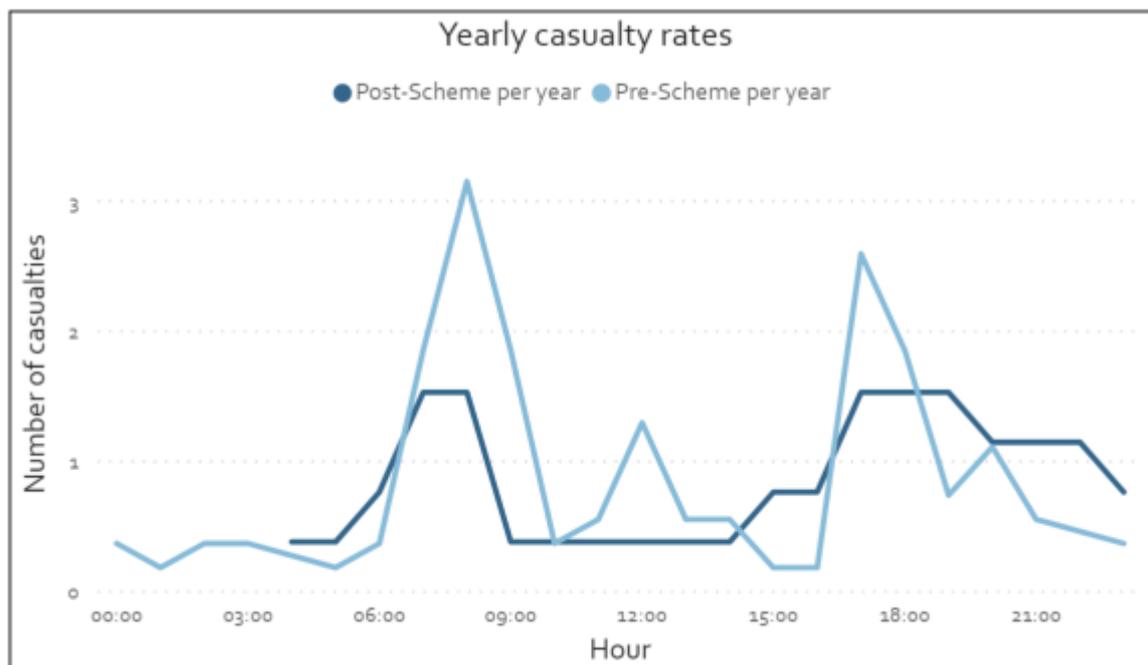


Chart 3: average yearly casualty rate pre-scheme and post scheme for each hour

Other factors

If the times were reduced to only cover the peak period, or the peaks and the lunchtime period, it will be more challenging to communicate and for people to understand the restrictions. The time plate section of the sign will get more complicated with multiple times needing to be shown. This may lead to an erosion of the compliance level to the traffic restriction if there is too much information to read. This would need to be assessed further if this option were to be taken forward.

The All Change at Bank project has an objective to enhance the public realm and create a sense of place to encourage people to spend time in. Reducing the period of time that restrictions apply to the area will mean more traffic will pass through the junction during the day, detracting from the place element and reducing the air quality. It would also go against the Transport Strategy proposal to “Prioritise the needs of people walking, make streets more accessible and deliver world-class public realm”.

Regarding the equalities considerations of reducing the hours of the restriction, some of the benefits gained for those within a protected characteristic group by implementing the proposals will be reduced. However, those within a protected characteristic group that are reliant on a vehicle to get to a destination may benefit from shorter journeys.

Reducing the hours of operation goes against the principles of the Bank on Safety scheme in protecting vulnerable road users which was strongly supported at public consultation. Reducing the hours of operation of the restriction would be going against the direction of travel that the City’s planning and transport polices have set out.

The numbers of pedestrians and cyclists have increased in the intervening time (outside of the pandemic) and while there may be some changes to working patterns, the City expects to continue to see growth. Changes in working patterns may also lead to more people walking and cycling between the traditional peak periods. Reintroducing higher volumes of traffic and turning movements into the revised junction layout will risk increasing collisions during the 7am to 7pm time period.

Conclusion

On the basis of the issues outlined above, it is not recommended that an option for reducing the hours of operation of a restriction at Bank be considered or views sought in the public consultation.