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Project:	<b>A34 Sprint - Walsall to Birmingham</b>	Job No:	<b>60599248</b>
Subject:	<b>A34 Lancaster Circus to Walsall Town Centre Stage 2 Road Safety Audit – July 2020 Designer’s Response</b>		
Prepared by:		Date:	<b>29/10/2020</b>
Checked by:		Date:	<b>29/10/2020</b>
Approved by:		Date:	<b>30/10/2020</b>

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## **Introduction**

The following technical note is produced to document the Designer’s Response to each issue raised within the Stage 2 Road Safety Audit (RSA) dated 30 July 2020 of the proposed A34 Sprint highway improvements works between Birmingham city centre and Walsall town centre.

The Stage 2 RSA was carried out by AECOM in July 2020 and reviewed the changes that had been made to the design since the original Stage 2 RSA in February 2020. The Designer’s Response should be read in conjunction with this report.

The technical note indicates each of the concerns identified by the safety auditors together with the recommendation made to address the problem. The Designer’s Response to the recommendations has been shown in *italics*.

## **1.0 MATTERS ARISING FROM PREVIOUS STAGE 1 ROAD SAFETY AUDITS**

The responses to the issues raised as outstanding matters from previous Stage 1 RSA have already been presented in the previous Designer’s Response dated 16 June 2020. They are repeated here for completeness.

### **1.1 Ablewell Street Stage 1 Road Safety Audit: Problem 2**

**Drawing:** 60561678-SHT-20-C-0015B

**Location:** Private vehicle access on Upper Rushall Street

**Summary:** Vehicle access may be blocked by proposed stop line which could result in poor manoeuvres which may lead to side swipe collisions.

The scheme proposes to change the operation of Upper Rushall Street from a one-way carriageway to two-way and to maintain the signalised junction with Town Hill. The proposed stop line for vehicles travelling southbound along Upper Rushall Street appears to be positioned in front of the existing access which will cause problems for vehicles entering and exiting. If the access is blocked, vehicles may undertake poor manoeuvres leading to side swipe collisions.

**Recommendation:**

Relocate the stop line away from the private access and include keep clear markings in front of the access.

**Original Designers Response:**

Part Accepted - This is an access to private land with very low levels of traffic, however consideration to moving the Stop line will be made during detailed design, subject to the swept path of large vehicles exiting Town Hill and the suitable operation of the traffic signal junction.

**Stage 2 Comments:**

The stop line is still positioned in front of the access and therefore this issue remains outstanding.

<b>Design Organisation Response</b>	<input type="checkbox"/> Accepted <input checked="" type="checkbox"/> Part Accepted <input type="checkbox"/> Rejected
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*As part of design refinement, the kerbing of the junction of Upper Rushall Street and Town Hill has been adjusted to allow the southbound stop line on Upper Rushall Street to be moved slightly south, away from the private car park entrance.*

<b>Client Organisation Comments</b>
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Clients agrees with proposed Design changes, mitigating risks related to this issue.

**1.2 Ablewell Street Stage 1 Road Safety Audit: Problem 3**

**Drawing:** 60561678-SHT-20-C-0015B

**Location:** Upper Rushall Street

**Summary:** High speeds along route may result in shunt type collisions due to sudden braking.

During the site inspection, the Audit Team observed vehicles travelling at higher than appropriate speeds as they exited Upper Rushall Street and turned onto Ablewell Street. As the proposals increase the number of potential turn manoeuvres at the junction, if the vehicular speeds continue to be higher than appropriate through the junction, sudden braking may be experienced, increasing the risk of shunt type collisions.

**Recommendation:**

Provide traffic calming measures on the approach to the signalised junction.

**Original Designers Response:**

Accepted - The operation of the junction will be reviewed with Walsall Council and should traffic calming measures be required on Upper Rushall Street, their provision will be considered.

**Stage 2 Comments:**

No traffic calming provisions have been provided within the detail design of the scheme and therefore this still needs to be considered to ensure vehicles do not exceed the legal speed limit through the junction resulting in sudden braking causing shunt type collisions.

<b>Design Organisation Response</b>	<input type="checkbox"/> Accepted <input type="checkbox"/> Part Accepted <input checked="" type="checkbox"/> Rejected
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*The design of this junction has been reviewed with Walsall's Road Safety team and speeding has not been identified as an issue. Additionally, it is considered that while the present junction configuration allows unopposed right turn manoeuvres into Ablewell Street, the introduction of two-*

*way traffic on Upper Rushall Street will make northbound right-turning traffic more cautious on their approach to the junction.*

**Client Organisation Comments**

Client agrees with the Designer’s response and rejection of the RSA recommendations.

**1.3 Perry Barr to Scott Arms Stage 1 Road Safety Audit: Problem 6**

**Drawing:** 60599248-ACM-0000-P&C-DR-TR-000014 - 21

**Location:** Scheme extents

**Summary:** Uncontrolled crossing points at signalised junctions throughout the scheme put pedestrians at risk of being struck by a vehicle which could result in serious injury.

There are several large signalised junctions along the A34 with uncontrolled crossing points. The Audit Team found crossing the road difficult at some points with gaps being very limited between vehicles. This will continue to be difficult for pedestrians, especially those with wheelchairs or pushchairs and puts them at risk of being struck by an oncoming vehicle. One particular concern is that pedestrians cross behind the traffic signals so may be unaware of the traffic signal stage when they cross.

**Recommendation:**

Incorporate pedestrian phases to the traffic signal staging at all uncontrolled crossing locations at junctions along the A34.

**Original Designers Response:**

Rejected - Existing uncontrolled crossing facilities at junctions, or arms of junctions, where kerb line changes are not proposed, are not being upgraded as part of this scheme.

**Stage 2 Comments:**

The Audit Team have acknowledged the Designers Response; however, the Audit Team have concerns that there may be an increased number of pedestrian movements, particularly around Alexander Stadium, which may heighten the risk of pedestrians crossing when it is not safe resulting in them being struck by an oncoming vehicle. Therefore, this issue remains.

**Design Organisation Response**       Accepted    Part Accepted    Rejected

*Upgrade of these junctions to provide additional controlled pedestrian crossings is beyond the scope of the Sprint project. During events and the Commonwealth Games in particular, the increased numbers of pedestrians are likely to be guided by event marshals to safe crossing points as part of the overall traffic management plan. These concerns have been passed on to Birmingham City Council for consideration in any future upgrade schemes for these junctions.*

**Client Organisation Comments**

Client agrees with Designer’s response. No further comments.

**2.0 MATTERS ARISING FROM PREVIOUS STAGE 2 ROAD SAFETY AUDITS**

The responses to the issues raised as outstanding matters from previous Stage 2 RSA have already been presented in the previous Designer’s Response dated 16 June 2020. They are repeated here for completeness.

**2.1 Problem 1**

**Drawing:** 60599248-ACM-0110-0000-DR-TR-00001-31

**Location:** Scheme extents

**Summary:** Lack of high friction surfacing (HFS) may result in overrun at junctions causing head on collisions with other vehicles.

New surfacing has been proposed throughout the route but not High Friction Surfacing (HFS). If HFS is not located on approach to junctions and pedestrian crossings, vehicles may fail to brake in time resulting in overshoot at the junction. This may result in head on or rear end collisions with other vehicles or crossing pedestrians resulting in serious or fatal injury.

**Recommendation:**

It is recommended that HFS or higher PSV is laid through the scheme at approaches to junctions and pedestrian crossings.

<b>Design Organisation Response</b>	<input type="checkbox"/> Accepted	<input checked="" type="checkbox"/> Part Accepted	<input type="checkbox"/> Rejected
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*An assessment of the minimum PSV requirements has been undertaken by the pavement engineer for the areas where we are resurfacing the carriageway and HFS proposed as appropriate on the latest drawings.*

**Client Organisation Comments**

Client agrees with the Designer’s Response and proposed changes. PSV / HFS application was incorporated into the Construction Issue drawings as appropriate.

**2.2 Problem 2**

**Drawing:** 60599248-ACM-0110-0000-DR-TR-00001-31

**Location:** Scheme extents

**Summary:** Lack of sign dimensions may result in obstructions for pedestrians and cyclists causing injury.

New signing has been proposed along the route, but no dimensions (mounting heights and offsets) or post sizes of these signs have been provided. Signs can become obstructions for both pedestrians and cyclists and can cause serious injury if they were to hit them. Similarly, signs may overhang the kerb line and become an obstruction for oncoming vehicles, particularly wider vehicles such as HGVs and buses, resulting in damage and possible injury to pedestrians or onboard passengers.

**Recommendation:**

It is recommended that signs are installed at sufficient offsets from the carriageway with appropriate posts and located away from the centre of non-motorised user routes on the footway so that they do not cause an obstruction.

<b>Design Organisation Response</b>	<input checked="" type="checkbox"/> <b>Accepted</b> <input type="checkbox"/> <b>Part Accepted</b> <input type="checkbox"/> <b>Rejected</b>
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*A Sign Schedule to accompany the signing drawings outlining dimensions for foundations, posts and mounting heights has been produced. Sign locations are subject to agreement with the Project Manager and installed in accordance with the Specification which outlines clearance from carriageway etc.*

<b>Client Organisation Comments</b>
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Client agrees with the Designer's Response and proposed changes.

**2.3 Problem 3**

**Drawing:** 60599248-ACM-0110-0000-DR-TR-00001-31

**Location:** Scheme extents

**Summary:** Lack of information regarding sign illumination may result in poor vehicle manoeuvres and confusion leading to collisions.

New signing has been proposed along the route, but no illumination has been detailed on the signing. Vehicles may fail to read the sign during the hours of darkness resulting in confusion, hesitation and sudden braking which may cause rear end shunt collisions.

**Recommendation:**

It is recommended that where described in the relevant standard, the appropriate signs are illuminated throughout the scheme.

<b>Design Organisation Response</b>	<input checked="" type="checkbox"/> <b>Accepted</b> <input type="checkbox"/> <b>Part Accepted</b> <input type="checkbox"/> <b>Rejected</b>
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*A Sign Schedule to accompany the signing drawings outlining illumination requirements has been produced. Standards for signs and their illumination are detailed in the Specification.*

<b>Client Organisation Comments</b>
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Client agrees with the Designer's Response and proposed changes.

## 2.4 Problem 5

**Drawing:** 60599248-ACM-0110-0000-DR-TR-00001-31

**Location:** Scheme Extents

**Summary:** Lack of enforcement camera offset information may result in obstructions for pedestrians and cyclists causing injury.

New enforcement cameras have been proposed along the route, but no offsets or post sizes of these cameras have been provided. Enforcement cameras can become obstructions for both pedestrians and cyclists and can cause injuries if they were to hit them. Similarly, the cameras may be positioned too close to the kerb line and be struck by an oncoming vehicle. This issue will be exacerbated for larger vehicles.

**Recommendation:**

It is recommended that the enforcement cameras are installed at sufficient offsets from the carriageway with appropriate posts and located away from the centre of non-motorised user routes on the footway so that they do not cause an obstruction.

<b>Design Organisation Response</b>	<input checked="" type="checkbox"/> <b>Accepted</b>	<input type="checkbox"/> <b>Part Accepted</b>	<input type="checkbox"/> <b>Rejected</b>
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*Exact BLE column locations are subject to agreement with the Project Manager and installed in accordance with the Specification which outlines clearance from carriageway etc.*

<b>Client Organisation Comments</b>
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Client agrees with the Designer's Response.

## 2.6 Problem 16

**Drawing:** 60599248-ACM-0110-0000-DR-TR-00008

**Location:** Birmingham Road (southbound) near Skip Lane

**Summary:** Poor cycle facility may result in side swipe collisions with oncoming buses.

A cycle guidance marking instructing cyclists to re-join the footway is proposed to be located between an existing bus stop and the start of a proposed bus lane near Skip Lane travelling southbound on the Birmingham Road. Signing drawing "60599248-ACM-1250-0000-DR-TR-00008 Rev P01.1" shows the proposed bus lane will allow motorbikes and cyclists to travel in the lane during operating hours and therefore cyclists do not need to leave the carriageway. If a cyclist was to leave the carriageway at this point, a bus pulling off from the bus stop may fail to see them and a side swipe collision may occur resulting in serious injury to the cyclist.

**Recommendation:**

It is recommended that the cycle guidance lining is removed to allow cyclists to continue in the bus lane.

<b>Design Organisation Response</b>	<input checked="" type="checkbox"/> <b>Accepted</b>	<input type="checkbox"/> <b>Part Accepted</b>	<input type="checkbox"/> <b>Rejected</b>
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*The cycle guidance lining has been removed.*

<b>Client Organisation Comments</b>
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Client agrees with the Designer’s response and proposed changes.

**2.7 Problem 20**

**Drawing:** 60599248-ACM-0110-0000-DR-TR-00015

**Location:** A34 Walsall Road (southbound) near Booths Farm Road

**Summary:** Proposed edging may result in kerb strikes or overrun causing injury to passengers or pedestrians.

The proposals build out existing kerb lines along the A34 Walsall Road to improve alignment. However, at the start of bus lane (opposite Stanford Avenue) the proposed build out may result in kerb strikes or overrun on to the footway due to its alignment. This may result in injury to passengers onboard and/ or collisions with pedestrians on the footway.

**Recommendation:**

It is recommended hatching is used to guide buses in to the bus lane and replace the kerb extensions.

<b>Design Organisation Response</b>	<input type="checkbox"/> <b>Accepted</b>	<input type="checkbox"/> <b>Part Accepted</b>	<input checked="" type="checkbox"/> <b>Rejected</b>
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*While hatching could be used, in this residential area hatched areas such as these are likely to be abused by parked vehicles, potentially making bus manoeuvres more difficult. Additionally, this stop is for non-Sprint bus services and the operator is content that the kerb alignment is sufficient for their operational needs.*

<b>Client Organisation Comments</b>
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The design has changed since the designer’s response was written and kerbing is no longer proposed for the build out prior to the bus stop and the bus lane.

**2.8 Problem 22**

**Drawing:** 60599248-ACM-0110-0000-DR-TR-00024

**Location:** Pedestrian Crossing (North) – Heathfield Road / Trinity Road Junction

**Summary:** Location of pedestrian guard railing may result in pedestrians crossing in unsafe locations increasing their risk of being struck by a vehicle.

The proposals alter the kerb lines and upgrade the signal poles and heads around the junction of Birchfield Road and Trinity Road/ Heathfield Road. However, no pedestrian guard railing has been proposed alongside the kerb line changes. This may result in pedestrians crossing in

unsafe locations around the junction, increasing their risk of being struck by an oncoming vehicle.

**Recommendation:**

It is recommended that pedestrian guard railing is erected around the kerb line of the crossing points.

<b>Design Organisation Response</b>	<input type="checkbox"/> Accepted <input checked="" type="checkbox"/> Part Accepted <input type="checkbox"/> Rejected
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*Pedestrian guardrail is no longer appropriate on the splitter island because the crossing is no longer a stagger. However, we have amended the design to include some guardrail to protect the partially sighted as they walk beneath the flyover towards this crossing, to prevent them stepping off the kerb into traffic and to guide them to the correct crossing point.*

<b>Client Organisation Comments</b>
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Client agrees with the Designer's response and proposed changes.



**3.0 MATTERS ARISING FROM THIS STAGE 2 ROAD SAFETY AUDIT**

**3.1 Problem 1**

**Drawing:** 60599248-ACM-0110-0000-DR-TR-00001

**Location:** Hatherton Road

**Summary:** Existing trees may cause an obstruction resulting in pedestrians entering the carriageway to access and alight from the sprint bus, increasing their risk of being struck by an oncoming vehicle.

The proposed sprint stop is located in close proximity to existing trees. These trees may become an obstruction for pedestrians accessing and alighting the sprint bus, resulting in them entering the carriageway and increasing their risk of being struck by an oncoming vehicle or potential trips and falls should they have to traverse a full height kerb leading to injuries.

**Recommendation:**

It is recommended that the trees are removed from the surrounding area.

<b>Design Organisation Response</b>	<input checked="" type="checkbox"/> <b>Accepted</b> <input type="checkbox"/> <b>Part Accepted</b> <input type="checkbox"/> <b>Rejected</b>
<i>The two kerbside trees in the vicinity of the proposed Sprint stop in Hatherton Street are shown for removal on the Site Clearance drawing. This will remove the potential obstruction to pedestrians.</i>	
<b>Client Organisation Comments</b>	
Client agrees with the Designer’s response and proposed changes.	

**3.2 Problem 2**

**Drawing:** 60599248-ACM-0110-0000-DR-TR-00002

**Location:** Lower Rushall Street pedestrian crossing

**Summary:** Lack of pedestrian guard rail may result in pedestrians crossing in unsafe locations, increasing their risk of being struck by an oncoming vehicle.

The proposals upgrade the existing uncontrolled pedestrian crossing on Lower Rushall Street to a controlled crossing; however, no pedestrian guard railing has been proposed. If pedestrian guard railing is not provided to guide pedestrians to the controlled crossing point, they may cross away from the designated crossing point, potentially in an unsafe location, leading to trips and falls as they traverse a full height kerb, resulting in injuries or being struck by an oncoming vehicle.

**Recommendation:**

It is recommended that pedestrian guard rail is installed to guide pedestrians to the controlled crossing point.

<b>Design Organisation Response</b>	<input type="checkbox"/> Accepted <input type="checkbox"/> Part Accepted <input checked="" type="checkbox"/> Rejected
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*The proposals have been discussed with the local authority's Road Safety team and it has been agreed that pedestrian guardrail should only be installed if it is already present in the current layout. There is currently no pedestrian guardrail and the junction of Ablewell Street and Lower Rushall Street and so no guardrail is proposed.*

<b>Client Organisation Comments</b>
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Client agrees with the Designer's response and proposed changes, as supported by the local authority safety team.

**3.3 Problem 3**

**Drawing:** 60599248-ACM-0110-0000-DR-TR-00003

**Location:** Springhill Road (adjacent to Birmingham Road)

**Summary:** Poor location of sprint bus stop may result in rear end shunt collisions.

The proposed location of a sprint bus stop is located on the immediate roundabout exit of Springhill Road. Vehicles exiting the roundabout in the near side lane on to Springhill Road may fail to see the slowing/ stationary bus, resulting in a rear end shunt collision or loss of control collisions should they undertake sudden or sharp turn manoeuvres to avoid the sprint bus.

**Recommendation:**

It is recommended that the sprint bus stop is relocated away from the junction exit.

<b>Design Organisation Response</b>	<input type="checkbox"/> Accepted <input type="checkbox"/> Part Accepted <input checked="" type="checkbox"/> Rejected
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*It is acknowledged that building out the existing layby results in the proposed Sprint stop being located close to the roundabout exit, however it is located on a two-lane dual carriageway so there is room to pass a stopped vehicle. Additionally, traffic on the roundabout circulates in single file, because the entries (other than for the left turn only from Springhill Road to Sutton Road) are also single lanes. Visibility is good and therefore vehicles should be able to pass the stationary bus safely in the adjacent traffic lane on Springhill Road.*

<b>Client Organisation Comments</b>
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Due to good visibility on the roundabout, the client agrees with the Designer's response and proposed changes.

**3.4 Problem 4**

**Drawing:** 60599248-ACM-0110-0000-DR-TR-000010

**Location:** Birmingham Road (northbound) near Chapel Lane

**Summary:** Sprint bus stop located at conflict point which may result in side swipe collisions

A proposed Sprint bus stop has been located before the junction of Birmingham Road (northbound) with a service road for residential houses. This is a conflict point and may result in side swipe or rear end shunt collisions as a vehicle wanting to turn left to access the service road does so in front of a Sprint bus. Also, a driver may pass a bus at the bus stop and turn left to enter the service road as a stationary bus is beginning to move away resulting in a side swipe collision. Another problem is that vehicles emerging from the service road may enter the mainline in front of approaching traffic due to restricted visibility caused by a stationary bus, resulting in a collision.

**Recommendation:**

It is recommended that the sprint bus stop is relocated after the junction for the service road within the existing bus lane.

<b>Design Organisation Response</b>	<input type="checkbox"/> Accepted	<input checked="" type="checkbox"/> Part Accepted	<input type="checkbox"/> Rejected
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*[Note: This issue has already been highlighted as Problem 18 in the original Stage 2 RSA, although while the location of that problem was recorded as "southbound", the diagram in that report clearly labelled the same northbound stop referred to here.]*

*Since the original Stage 2 RSA referred to above, the Sprint stop has been moved as far south as possible, away from the service road access, to a position closer to the existing stop. This improves visibility to the right for vehicles emerging from the service road if a bus is momentarily using the stop, although visibility will always be compromised at junctions on the inside of a bend. It would not be desirable to locate the bus stop north of the service road, because although it would be closer to another controlled pedestrian crossing, it would still be on the inside of the bend close to the accesses to The Beacon pub, creating an even more restricted visibility issue.*

<b>Client Organisation Comments</b>
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Client agrees with the Designer's response and proposed changes.

**3.5 Problem 5**

**Drawing:** 60599248-ACM-0110-0000-DR-TR-000012

**Location:** Birmingham Road (southbound) adjacent to Scott Road

**Summary:** Sprint bus may overhang egress resulting in collisions.

A proposed Sprint bus stop has been located after the junction of Scott Road; this appears to be a conflict point. A sprint bus is larger in length than a regular bus and may overhang the egress from Scott Road. This may lead to vehicles undertaking unsafe manoeuvres to access Birmingham Road resulting in loss of control or collisions with oncoming vehicles.

**Recommendation:**

It is recommended that the sprint bus stop is relocated away from the junction.

<b>Design Organisation Response</b>	<input type="checkbox"/> Accepted	<input type="checkbox"/> Part Accepted	<input checked="" type="checkbox"/> Rejected
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*The Sprint bus is 1m shorter than the bus stop cage road marking shown on the drawing and will therefore not overhang the exit from Scott Road. The bus cage is located as far south as possible*

*without blocking the adjacent driveway access. There are no other suitable locations for a multi-door boarding stop south of this point towards Scott Arms junction due to existing parking bays and driveway accesses.*

**Client Organisation Comments**

Client agrees with the Designer’s response and proposed changes.

**3.6 Problem 6**

**Drawing:** 60599248-ACM-0110-0000-DR-TR-000015

**Location:** Sprint bus stop opposite Booths Farm Road

**Summary:** Location of sprint bus stop may overhang on to pedestrian crossing causing a hazard for partially sighted pedestrians resulting in injury.

The proposals include new bus stops for the Sprint bus which will be 18m long. A proposed bus stop is located opposite Booths Farm Road, travelling northbound. The proposed bus stop is in close vicinity to an existing pedestrian crossing and due to the length of the bus, may overhang the pedestrian crossing. This is a hazard for pedestrians, particularly partially sighted pedestrians who may not see the bus over hanging on to the crossing, causing injury should they inadvertently walk into it.

**Recommendation:**

It is recommended that the Sprint stop is relocated into the bus lane to ensure that a bus will clear the limit of the crossing.

<b>Design Organisation Response</b>	<input type="checkbox"/> Accepted	<input type="checkbox"/> Part Accepted	<input checked="" type="checkbox"/> Rejected
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*As noted in response to Problem 21 of the previous Stage 2 RSA, the Sprint bus has 3 door positions. At this stop, the bus will dock with its middle doors only, so that it is placed exactly as indicated by the bus cage road marking. The articulated bus will therefore not block the controlled pedestrian crossing, which will be clear of the back of the bus.*

**Client Organisation Comments**

Client agrees with the Designer’s response.

**3.7 Problem 7**

**Drawing:** 60599248-ACM-0110-0000-DR-TR-000022

**Location:** Sprint stop on approach to Livingstone Road

**Summary:** Poor location of gullies may result in them being dislodged from continuous overrun, causing a hazard for motorists.

The proposed sprint stop location on the approach to Livingstone Road is shown as having a number of gullies fronting the layby provision. Due to the bus accessing and egressing this layby, the likelihood of the gullies being dislodged is heightened. If the gullies become loose due to vehicle overrun the likelihood of loss of control collisions or injuries occurring will be increased.

**Recommendation:**

It is recommended that the proposed gullies located across the bus layby access are relocated behind the proposed bus layby adjacent to the nearside kerb line.

<b>Design Organisation Response</b>	<input type="checkbox"/> Accepted <input checked="" type="checkbox"/> Part Accepted <input type="checkbox"/> Rejected
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*The gullies need to be in this location due to the camber of the road and layby, however we will upgrade the gullies from D400 to E600 category to make them more resilient to trafficking.*

<b>Client Organisation Comments</b>
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Client agrees with the Designer’s response and proposed changes.

**3.8 Problem 8**

**Drawing:** 60599248-ACM-0110-0000-DR-TR-000026

**Location:** Sprint stop on High Street exit (southbound)

**Summary:** Poor location of sprint stop may result in vehicles lane changing on the zebra crossing, failing to see crossing pedestrians and colliding with them.

The proposed sprint stop is located in close proximity to a zebra crossing. Oncoming vehicles may overtake the sprint bus and change lanes on the zebra crossing. As a vehicle changes lane, they may fail to see crossing pedestrians resulting in a collision, causing injury.

**Recommendation:**

It is recommended that the sprint is relocated to the bus lane further to the south.

<b>Design Organisation Response</b>	<input type="checkbox"/> Accepted <input type="checkbox"/> Part Accepted <input checked="" type="checkbox"/> Rejected
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*This is an existing stop that is being upgraded to a Sprint stop by extending the stop southwards, away from the zebra crossing. Locating the stop within the bus lane would move the stop further from the zebra crossing, but in this location, it would be too far from Aston Six Ways to be attractive to passengers.*

<b>Client Organisation Comments</b>
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Accident data will be requested for this location to understand whether there is an existing safety issue. If no problem is apparent, then the design should remain as is. If there is an existing safety concern, options will be considered.

**3.9 Problem 9**

**Drawing:** 60599248-ACM-0110-0000-DR-TR-000027

**Location:** Existing bus stop located adjacent to Burlington Street

**Summary:** Lack of information regarding the removal of existing bus stop may result in pedestrian hesitation and confusion and pedestrians potentially crossing at unsafe locations to continue their journey, resulting in injuries.

A proposed sprint bus stop (adjacent to Burlington Street) appears to replace an existing bus stop. However, no provision has been provided for the relocation of the existing bus stop. If the bus stop is to be removed and not replaced, pedestrians may become hesitant or confused and must walk further to locate another bus stop. This may result in the pedestrian crossing in unsafe locations in order to continue their journey. If a pedestrian does cross in an unsafe location, the risk of trips and falls may be increase as they traverse a full height kerb resulting in injuries.

**Recommendation:**

It is recommended that the existing bus stop is relocated to an appropriate location. If this is not a viable option, it is recommended that the existing bus stop is retained, and the sprint stop is relocated within the bus lane.

<b>Design Organisation Response</b>	<input type="checkbox"/> Accepted	<input type="checkbox"/> Part Accepted	<input checked="" type="checkbox"/> Rejected
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*While the final Sprint and non-Sprint bus stop strategy is still to be finalised, the proposed stop shown on the drawing is intended to be a "combined stop", i.e. one serving both Sprint and non-Sprint services. Passengers will therefore not be confused about the location of their non-Sprint stop.*

**Client Organisation Comments**

Client agrees with the Designer's response.

**4.0 CLIENT ORGANISATION STATEMENT:**

I accept these proposals by the Design Organisation

**Name:**

**Position:** Scheme Delivery Manager

**Organisation:** Transport for West Midlands

**Signed:**

**Dated:** 30/10/2020