

Date: 8<sup>th</sup> May 2017  
Your Ref:  
Our Ref: HE/NPSM/JF/107112

# Bolton Council

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**Prof J Leeming**  
**Senior Coroner**  
**Manchester West**  
**HM Coroner's Court**  
**Paderborn House**  
**Bolton**  
**BL1 1QY**

REC-tVEC

15 MAY 20V

Dear Professor Leeming,

## **Regulation 28 Report\*- Mr Thomas Moore Unsworth Deceased**

I am in receipt of your Regulation 28 Report to Prevent Future Deaths Dated 1<sup>st</sup> March 2017. As the Principal Engineer for Traffic Management I am responding to your report on behalf of the Chief Executive of Bolton Council.

I understand that the matters of concern, as set out in your report, are:

"1. During the inquest evidence was heard that:-

*The driver of the bus that came into collision with Mr Unsworth gave evidence that the nature of the junction into which she was turning together with the position into which she was turning together with the position into which pedestrians are guided to cross the road meant that her view of such pedestrians was limited and in certain situations there was a blind spot in which she was unable to see pedestrians at all.*

*Police officers likewise gave evidence that as the vehicles were manoeuvring round this junction their drivers view of pedestrians were limited by the building line and then restricted by street furniture.*

*The area in question is presently under reconstruction giving opportunity for these issues to be reviewed and addressed".*

To consider and address your concerns, a meeting was convened on 24<sup>th</sup> March 2017 with relevant local authority officers and Greater Manchester Police Area Traffic Manager from the Serious Collision Investigation Unit, at which a review of the CCTV footage from the time of the collision was undertaken, all witness statements obtained for the purpose of the Inquest were considered and a site visit was undertaken.

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The information shared at the meeting highlighted that there are primarily two areas of concern (i) visibility when it is dark (ii) visibility whilst large vehicles are turning and the impact of 'blind spots'.

To address these concerns, the local authority has considered the following issues:

1. Street Lighting

Bolton Council's Principal Street Lighting Engineer has undertaken an assessment of the street lighting and his comments are as follows:

"Attached is an A4 Plan showing the Street Lighting positions at lighting levels in Lux.

I can confirm that the lighting Brackets Ref 1 and 2 on Great Moor Street were installed in 1979. The lighting units are at a height of 8m and house a 250 Watt High Pressure Sodium light source to which the colour rendering is around 2150 Kelvin. The same applies to the lighting Brackets Ref 20 and 21 on Bradshawgate where the lanterns were installed in 2008.

After speaking to both our street lighting maintenance team and Streetcare, I can confirm that at the time of the collision (January 28<sup>th</sup> 2016) that all the lighting at the junction of Great Moor Street and Bradshawgate was operational and in working order.

The lighting installation was designed in 1979 to the BS5489 to which the lighting level designs for City and Town Centre Part 9/1/1 Primary Vehicular as shown below.

Tabela 1. Lighting levels for different road categories						
Category and type	L <sub>0</sub> (cd/m <sup>2</sup> )	L <sub>0</sub>	4.	E <sub>h</sub> (frenr)	E <sub>h</sub> (Mritown)	
M C2ruar town antra fi//i Pnmarfly vehicular	u	(M	017	IA	■A	
B/IQ Hixrf vehicular and padeaaun creaa, InrtiaUn*	nte	nte	nte	30	16	
fat Wholly padanrtan	nte	ette	nte	is	10	
M Suburban tluppinp ttrttt						
WM Primary vaiiicular	U	04	0.7	wh	IA	
W/2 Mtxcd vehicular and pedeatHanarm, tncMtoj ■CtVIH araaa	n/i	nte	rvS	2S	10	
ta/3 Wholly padaaoUn	nte	nte	rVa	IS	6	
Bfl ratooc cnnttr						
SW1 Priraa/y vehicular	1,0	0,4	as	nte	■A	
Bft/i Mixed vehicular and padamrian ueu, Including hcrvica araaa	ate	ate	nte	M	6	
WM Wholly pedeman	ate	Ate	nte	10	0	
Co Z OIIniuMdDOIHntiiWBa&nbstsoaOIMW); U Mtd UOart, Me L <sub>0</sub> la(haBHKUIMIIXtaMrMq 4. la «>MaOCnedartM, toxmtal a Mam (laby A. laih* iHOntaMiMMwa MaMil AMMM« ataopdra (tolx); E <sub>h</sub> (MtoI Mial n/a IU afrlvwae. HOTt FarpIputr KMarrlmaMraartl tta >a>i«a«IottriaanM kBWOi Pw:» apply.						

The attached is an A4 Plan showing the Street Lighting levels in lux, the Luminance level for this type of road will be around 1.5 Cd/m equates to  $1.5 * 10.76 = 16.40$  lux to which the lighting levels today are far greater, this is due to the fact that the original SOX (Yellow) light source has been replaced by SON (White) light source.

In relation to your request of making the junction safer to prevent future deaths, I can confirm that that there was an improvement scheme under 278 works to improve Great Moor Street (Sept 2016), to which street lighting is associated to.

I can confirm that the existing lanterns within the vicinity of the accident will be replaced with LED lighting units (Holophane 114's) to which the lighting levels will be the same but the difference will be the colour rendering being 4000K and the light source being Natural White which provide an increase of 40% visibility of both pedestrian and vehicle movement.

## 2. Review of Accident Data

Bolton Council has reviewed the injury accident data for the junction and can confirm that there have been 6 injury accidents during the past 5 years which has resulted in 6 casualties. The causation factors attributed to the collisions are different across each incident, with no common theme being evident. None of the other 5 collisions occurred at the same location on the junction or under the same circumstances.

### 3. Vehicle Blind Spots and Re-construction works

I can confirm that there are reconstruction works currently on-going on Great Moor Street as part of the Interchange public realm works. However, these works do not include the crossing area at the junction of Great Moor Street and Bradshawgate. On this basis there is no scope to extend the works further to the site investigation.

There is little street furniture at the junction which could be re-located. In the Regulation 28 report the bus driver refers to a "blind spot" and the Police Officer statement refers to the driver's view of pedestrians being limited by the building line and then restricted by street furniture. It is evident from our site visit that the visibility from the driver's position towards pedestrians waiting to cross Great Moor Street from south to north is obstructed by the building line. The statement does not specify which item of street furniture restricts the view and it was not evident from the site visit. It is possible that the CCTV cabinet causes an element of limited visibility given the orientation of the driver's position in relation to the pedestrian waiting to cross. From our observations it would appear that the restricted visibility is for a short duration and is prior to the vehicle beginning the turn into the junction.

Consideration has been given as to whether any risks would be reduced by alterations or relocation of the pedestrian crossing. Following investigation, I can confirm that the position of the crossing in relation to the junction is determined by position of the stop line, which in turn is determined by the swept path of vehicles turning into the junction. The distance between the stop line and the crossing must be between 2.0 - 3.0m and in this case the crossing could be re-located by approximately 1.0m towards Bradshawgate. However, this would have no benefit in terms of visibility between motorists and pedestrians as the building line would still obstruct the line of sight. It would not be beneficial to relocate the crossing further away from the junction with Bradshawgate due to the close proximity of Back Bradshawgate and the likelihood that pedestrians would walk around the pedestrian guardrail as this would not be on the pedestrian desire line.

Following investigation, I can confirm that the pedestrian stage of the crossing cycle is indicated to pedestrians by a far side indicator. The local authority will request that Transport for Greater Manchester undertake a review, with a request to replace the far side indicator with a near side indicator. This has the advantage that pedestrians waiting to cross will look towards the oncoming traffic when seeking confirmation from the indicator to cross.

I can advise that the traffic using this junction will change once the public realm works are completed and the Transport Interchange opens later this year. General traffic will be able to enter the junction of Great Moor Street from Bradshawgate and travel in a westbound direction, with buses/taxis/cycles only

being able to travel in an eastbound direction. This forms part of the town centre transport strategy in which there will be a bus gyratory system in place where-by buses will generally travel in an anti-clockwise direction and general traffic will travel in a clockwise direction. As a result there will be fewer buses undertaking the left turn manoeuvre from Bradshawgate onto Great Moor Street.

In summary:

- (a) There is no scope to amend the highway layout at the junction of Bradshawgate and Great Moor Street.
- (b) The lighting levels will increase as part of the ongoing public realm works.
- (c) There will be fewer bus turning movements at this junction once the Interchange is operational later this year.
- (d) A request will be made to TfGM to review the pedestrian stage indicators with a view to changing from far side to nearside indicators.

If you require any further information please do not hesitate to contact me.

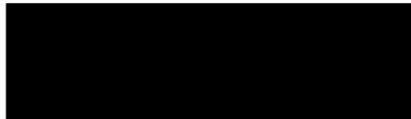
Yours sincerely

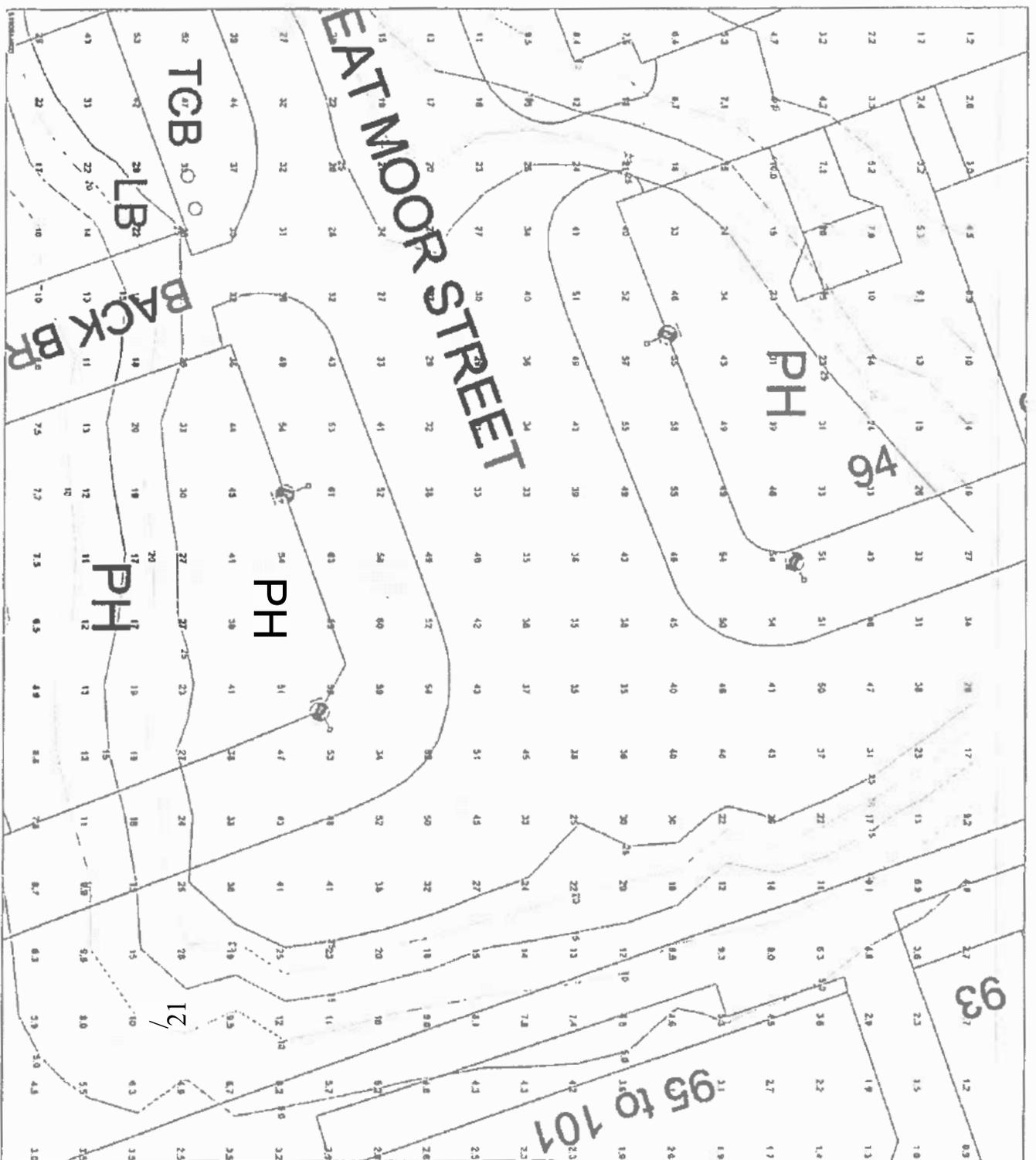


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# Bolton Council

PROJECT NAME:  
Great Moor Sheal Bolton

PROJECT No:  
MO1ZO1Z

SCALE: 1:500  
DATE: 28 March 2017

DESIGNER:  
[Redacted]

2.5 Columns 1, 2 and 3 Great Moor Street Ave Being Replaced With Highways 114 LED units associated to Sect78 scheme submitted on 16 Sep 2016.

PREPARED BY:  
[Redacted]

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