



# **Safety in Lancaster: Street Lighting**

Leah BATTERY, LUSU Wellbeing Officer 2025/2026

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## About Lancaster University Students' Union

Lancaster University Students' Union (LUSU) is the recognised representative body for the 16,000 students of the University of Lancaster.

We are charity and a democratic organisation, directed and led by four elected Full-Time Officer and Union Assembly, made-up of 40 current student leaders.

We exist to represent and advocate for the interests of students. We are also responsible for all student social, cultural, sporting, and recreational activities for students at Lancaster. We have our own nightclub, run Europe's largest varsity, and support well over 200 student-led clubs and societies.

We are proud to be one the most active and vibrant Students' Unions in the UK.

You can find at more about who we are and what we do on: <https://lancastersu.co.uk/>



## About the author

Leah Buttery was elected by members of the Students' Union (students of Lancaster University) as the LUSU Wellbeing Officer for the 2025-2026 academic year.



As one of four full-time officers of the Students' Union and a member of Lancaster University Council, Leah is the leading voice for students' health & wellbeing in Lancaster.

Alongside students' safety, Leah is deeply passionate about the women's liberation movement, with a particular research interest in menstrual stigma and period poverty. Recently, she has been working on improving access to free, sustainable period products at Lancaster University.

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## Summary

This report addresses how students at Lancaster University navigate and experience safety in Lancaster after dark, focusing on improving streetlighting. Following engagement with our student body, we identified 18 locations across the city where improved lighting infrastructure might improve perceptions of safety. For each location, key recommendations have been outlined, alongside environmental considerations and examples of best practice where possible.

## Introduction

In August 2025, the Police and Crime Commissioner for Lancashire circulated a survey in an effort to understand the prevalence of violence against women and girls across the county. From this, it was found that 29% of respondents frequently felt unsafe in public spaces across Lancashire and around 90% said that they adapt their behaviour in order to feel safer.<sup>1</sup> More specifically, and pertinent to this report, 84% stick to well-lit routes during darker hours, and 46% choose not to go out at all in the dark to avoid feeling unsafe.<sup>2</sup> When asked what changes would help women and girls feel safer across Lancashire, 18% said improved street lighting, second only to increased police presence.

It is worth noting that the survey carried out by the Police and Crime Commissioner did not adequately reflect the experiences of students and young people – out of 4809 responses, only 7% were under 24. Whilst its findings have influenced our decision to take on street lighting as our primary focus, we undertook this project to gain more insight as to the prevalence of poor street lighting as a contributing factor to feelings of unsafety among our student body.

If tackling violence against women and girls is to succeed as a strategic priority, policymakers at both national and local level should look to broaden their focus out from simply reducing instances of violence and start to consider the barriers that are preventing women from accessing public spaces and therefore reinforcing the patriarchal hierarchy that normalises the ‘othering’ and victimisation of women.

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<sup>1</sup> [Survey Summary Report](#) – pg. 5

<sup>2</sup> [Survey Summary Report](#) – pg. 5

## Impact of improved streetlighting on public safety

Over the past half a decade, there have been numerous studies completed investigating the impact of street lighting on crime and fear of crime. Whilst improved street lighting may not in and of itself prevent crime, it can increase public perceptions of safety by increasing street usage and informal surveillance.<sup>3</sup> Street lighting is a visible signifier to residents of positive investment– community pride and cohesion is created, and greater trust is placed in the efforts of their local authority in increasing safety.<sup>4</sup> It is these changes in perceptions and behaviours that will lead to a reduction in crime. Research into perceptions of safety among students at northern UK universities revealed that lack of light, enclosed walkways, and lack of others or ‘witnesses’ are factors within the physical environment that lead to increased perceptions of unsafety.<sup>5</sup> As such, it is made clear that visibility is an important facet of the creation of a safe environment. Increasing visibility is a key strategy in overcoming the gendered nature of the night-time space.<sup>6</sup>

Despite most sexual violence taking place in the domestic sphere by someone known to the victim, the media is oversaturated with stories and reports of the ‘classic rape’ scenario, in which a vulnerable woman is attacked by a male stranger in a dark alley.<sup>7</sup> This perpetuation of the ‘stranger danger’ stereotype is what leads many women to avoid public spaces at night, particularly when they are alone. As a result, women are precluded from full and meaningful inclusion in public spaces.<sup>8</sup> Improved pedestrian usage of streets during the darker hours increases the perception of ‘capable guardians’ to whom women can turn for help if they think themselves to be in danger and subsequently lowers the perceived risk of existing in those spaces. This then leads to a reduction in the gendered nature of public spaces by meaningfully giving women and girls

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<sup>3</sup> Kate Painter, ‘The impact of street lighting on crime, fear, and pedestrian street use’, *Security Journal*, 5:3 (1994), pp. 116-124,

<sup>4</sup> David P. Farrington and Brandon C. Welsh, ‘Improved street lighting and crime prevention’, *Justice Quarterly*, 19:2 (2002), pp. 313-342, doi: [10.1080/07418820200095261](https://doi.org/10.1080/07418820200095261)

<sup>5</sup> Nicola Roberts, Catherine Donovan, and Matthew Durey, ‘Gendered landscapes of safety: How women construct and navigate the urban landscape to avoid sexual violence’, *Criminology and Criminal Justice*, 22:2 (2008), pp.287-303, doi: [10.1177/1748895820963208](https://doi.org/10.1177/1748895820963208)

<sup>6</sup> Roberts, Donovan, and Durey, ‘Gendered landscapes of safety’

<sup>7</sup> Roberts, Donovan, and Durey, ‘Gendered landscapes of safety’

<sup>8</sup> Pablo Navarrete-Hernandez, Arielle Vetro, and Paz Concha, ‘Building safer public spaces: Exploring gender difference in the perception of safety in public space through urban design interventions’, *Landscape and Urban Planning*, 214 (2021), doi: [10.1016/j.landurbplan.2021.104180](https://doi.org/10.1016/j.landurbplan.2021.104180)

the capacity to access more spaces and integrating their experiences into the design of an area.

Not only is fear of crime reduced from a potential victim's perspective, the proximity of other pedestrians acts as a psychological deterrent for potential offenders due to the risk of being recognised or interrupted.<sup>9</sup> In research conducted across the UK, financial costs of improved street lighting were vastly outweighed by the savings of reduced crime in 2 out of 5 of the case studies.<sup>10</sup>

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<sup>9</sup> Brandon C. Welsh, David P. Farrington, and Stephen Douglas, 'The impact and policy relevance of street lighting for crime prevention: A systematic review based on a half-century of evaluation research', *Criminology and Public Policy*, 21:3 (2022), pp. 739-765, doi: [10.1111/1745-9133.12585](https://doi.org/10.1111/1745-9133.12585)

<sup>10</sup> Farrington and Welsh, 'Improved street lighting and crime prevention'

## Methodology

The data we collected over the course of this project is not exhaustive, focussing largely on student residential areas. We were limited in both resources and time, and so the area we were able to cover had to be narrowed down further. However, the engagement that we saw in this project is indicative of the importance of this topic to students studying at Lancaster, as well as highlighting the key areas deemed problematic for young people.

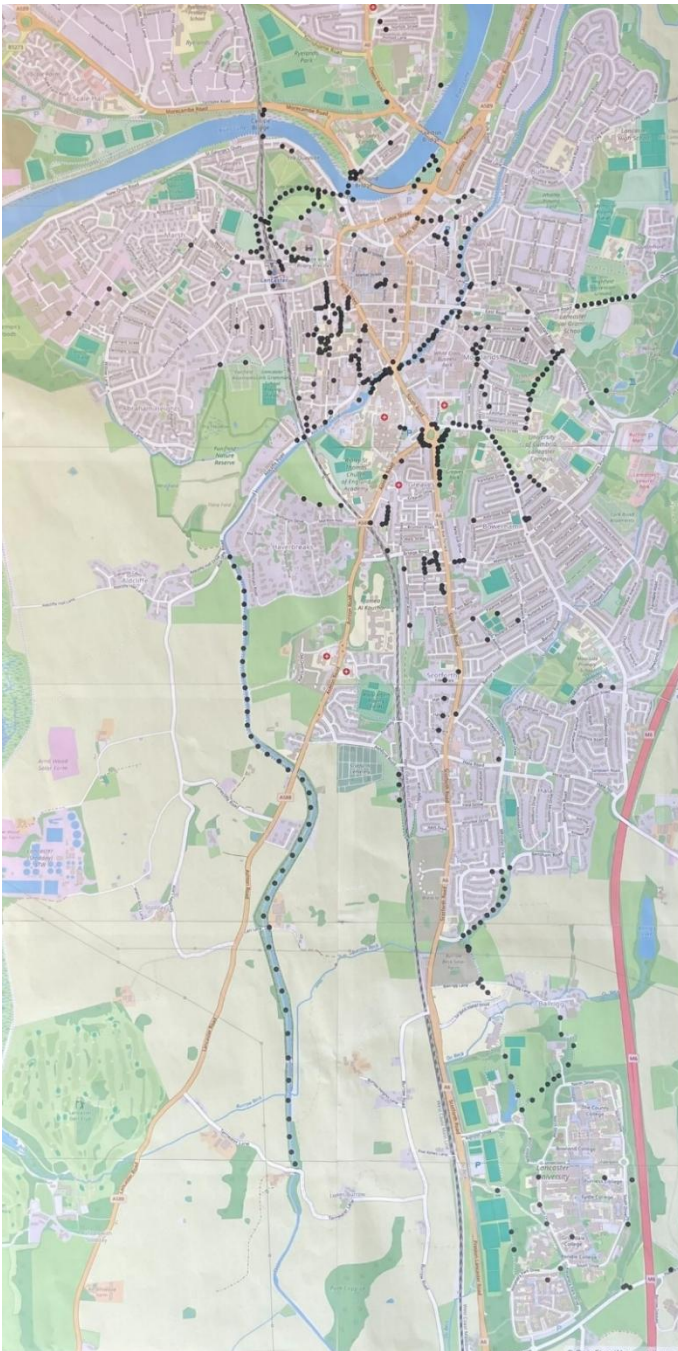


Figure 1

In order to understand whether street lighting in Lancaster was considered a problem by our student body and, by consequence, discern the locations deemed by students to be poorly lit or unsafe, we provided a physical map (Figure 1) of the city with the intent to create a picture as to which areas of Lancaster were considered unsafe as a result of poor lighting. Students were asked to place a small sticker on the map to mark a location as dark and/or unsafe. They were encouraged to place as many stickers as they felt were needed and to 'stack' stickers on any already placed down if they also felt that location was poorly lit (i.e., if an area felt particularly dangerous, they could represent that by placing multiple stickers around it.) Although the map extends to Lancaster University's Bailrigg campus, our focus is solely on the city of Lancaster.

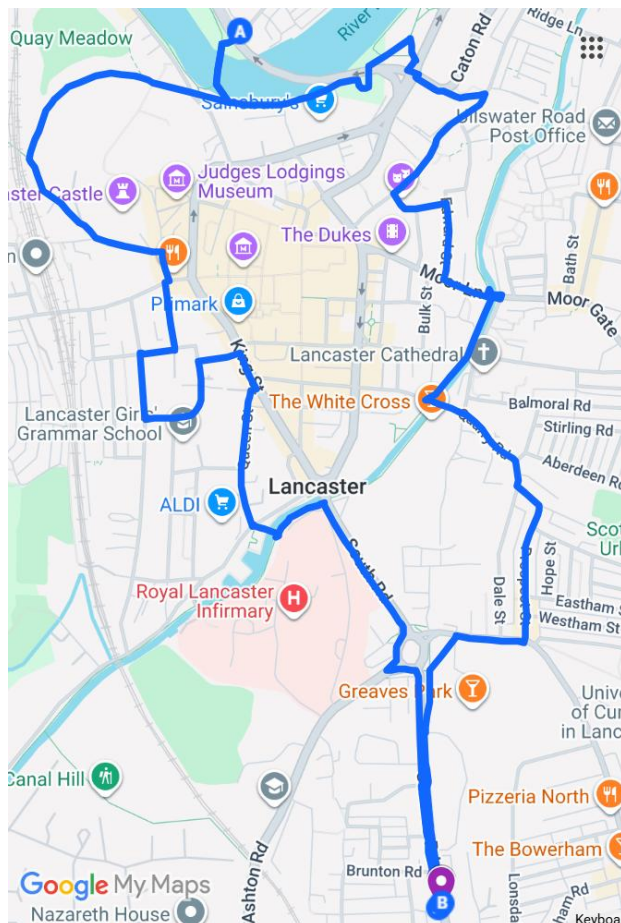


Figure 2

Alongside the map of Lancaster, students were encouraged to inform us of any experiences they may have had in more detail. We did this via a “suggestion box” – students were provided with a slip of paper asking for location, details of their experience, and their contact details so that we were able to reach out and offer support to a student in the event that a serious disclosure was made. Excerpts of the anecdotal evidence we collected are provided verbatim throughout this report, attached to the location which they are describing.

Once we were satisfied with the level of contribution to this initial stage of the project, we used the map to create a walking route of Lancaster that took us through the areas deemed most unsafe by our students. Starting at on Greaves Road SPAR, we walked along the route, stopping to take photographs of each location we had identified. We set off at 6pm in order to ensure our photos accurately represented the lighting levels of that location after sunset. This walk was undertaken on 17<sup>th</sup> February 2026, with the sun setting at 5:24pm.

## Victoria Avenue – Cheltenham Road

[Google Maps](#) | What3words: [cabbies.flasks.rent](#)

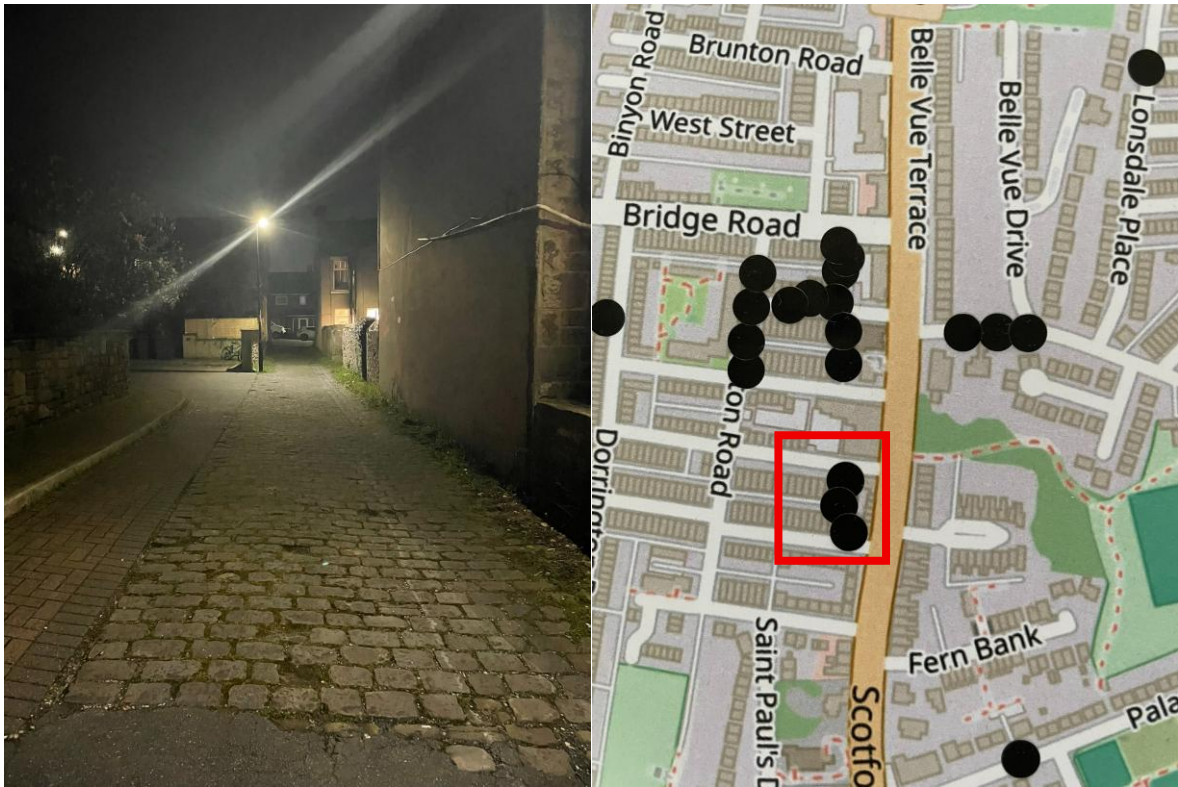


Figure 2

Adequate street lighting is present, no change suggested.

## Back Greaves Road West/Kensington Road/Heaton Road

[Google Maps](#) | What3words: [aura.spud.kindness](#)



Figure 3

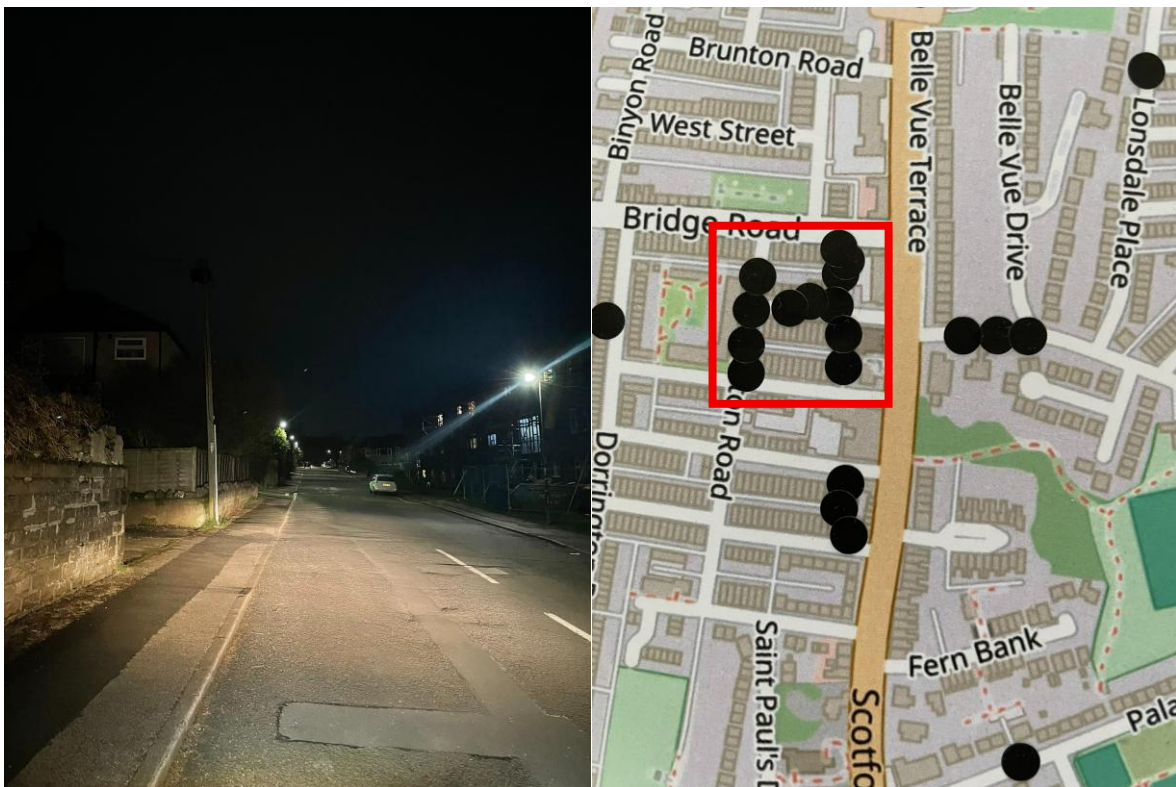


Figure 4

Despite this area being flagged as a problematic location for students, we found Kensington Road (Figure 4 Right) and Heaton Road (Figure 5 Left) to be sufficiently lit. No change suggested

However, Back Greaves Road West (Figure 4 Left, What3words: classmate.dives.decanter) is a very dim, enclosed space, and so risk perception is likely to be high. As such, some warm, shielded wall lights or low-level route lighting that directly illuminate the footpath is recommended.

In the context of this report, “warm lighting” refers to lighting with a colour temperature of between 2700K – 3000K, as this is less intrusive to human circadian rhythms and helps to preserve the natural behaviour of wildlife.

An example of a suitable solution for Back Greaves Road West (Figure 3 Left) would be something similar to the lighting fixtures found along the East side towpath of the canal, on the canal-facing walls of the White Cross Business Park (Figure 5).



Figure 5

The lighting fixtures shown in figure 5, however, are not dark sky friendly. There are examples of shielded, wall-mounted outdoor lighting already implemented in Lancaster. Fixtures can be seen on several buildings along Market Street, including above Timpson’s, Starbucks, Nationwide, and The Body Shop.



*Figure 6 - one of the lighting fixtures on Market Street. This fixture is directly above Timpson's.*

For other examples, see the following:

- [LED solar wall light](#)
- [External security floodlight](#)
- [Outdoor LED post light](#)

## Ashton Road (Pointer Roundabout)

[Google Maps](#) | What3words: [exile.critic.river](#)



Figure 7

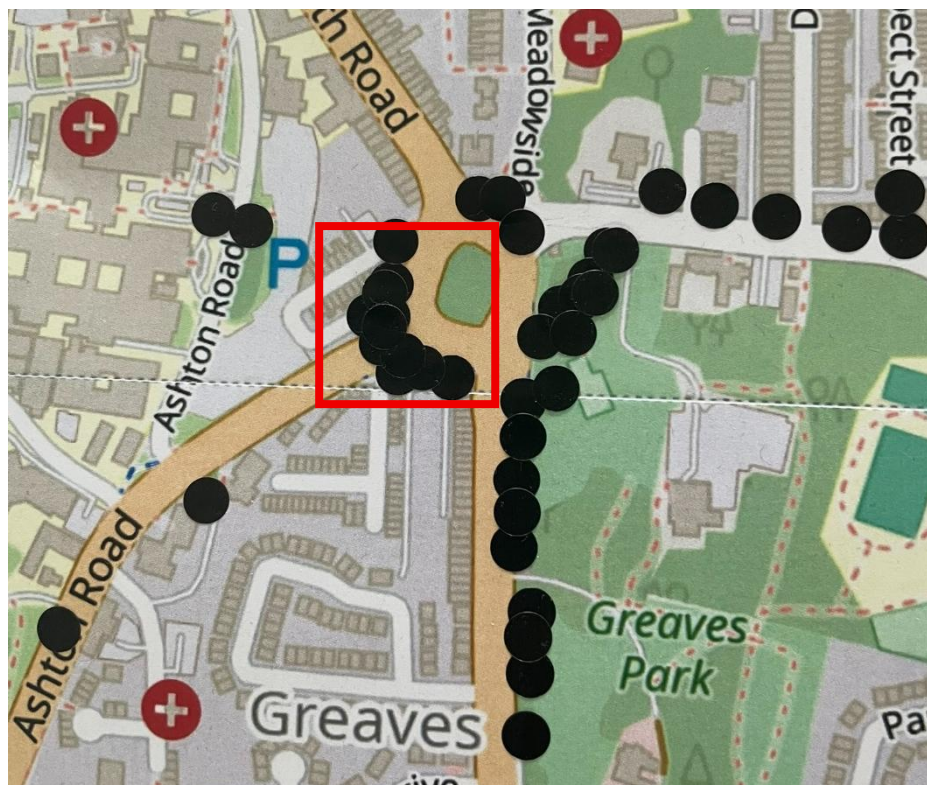


Figure 8

Ashton Road – in particular the dropped footpath which serves as the only paved route when crossing from Ashton Road onto South Road – was highlighted on the map as a significantly problematic area for students (Figure 8.)

The photographs were taken at dusk so there is still some natural light, but Figure 7 [right] highlights a number of environmental stimuli that might heighten risk perception:

- The footpath is an enclosed space with limited visibility
- Upkeep of the area appears to have been neglected
- The path is hidden from view of the main road, adding to the sense of isolation

As such, the dropped footpath would benefit from additional, low-level lighting to combat the limited visibility.

A good example of the type of lighting that would make the short section of footpath safer can be found at Aalborg place on the West side of the canal opposite the White Cross (Figure 8).



*Figure 9*

No additional lighting recommended behind houses (Figure 7 Left) as the street is close to main road, and street lighting risks being problematic for sleep patterns of residents.

## Lancaster Canal, South Road Bridge

[Google Maps](#) | What3words: [desks.aims.regard](#)

*"has incredibly poor lighting and even during the day if it's rainy - I want to walk/run along these paths but I don't feel safe by myself"*



Figure 10

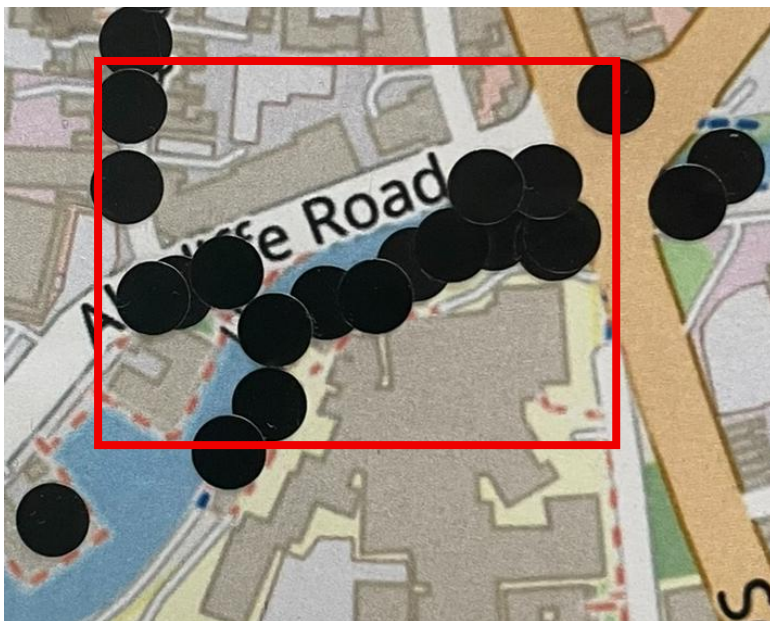


Figure 11

The first section of the Canal included in this report – running from the South Road bridge to Chancellor’s Wharf - was another location highlighted as problematic by students (Figure 9).

The footpath (Figure 8 Left) is relatively well lit already, and no additional recommendations will be made on the basis of the potential disruption it would cause to wildlife. Additionally, the footpath along the canal is not a necessary route for students, with the option to walk along road after dark, so it is not a priority for increased lighting.

However, the visibility of sections of the footpath running below the bridge (Figure 8 Right) is extremely low, leading to a heightened risk perception. As such, we would recommend some warm lighting beneath the bridges in order to improve the visibility of the footpath.

Discussions surrounding the need for lighting below canal bridges in Lancaster have taken place within Lancaster City Council prior to this report, with a very similar methodology used, in 2008.<sup>11</sup>

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<sup>11</sup> [Meeting report](#)

## Middle Street

[Google Maps](#) | What3words: [points.lined.palm](#)



Figure 12

Middle Street itself was not identified by many students as badly lit but is situated in an area that had been given significant attention (Figure 12 right), and so was worth investigating.

As anticipated, street lighting is present, and proximity to King Street means that visibility is high as a result of light trespass from shopfronts and other forms of artificial light. No additional street lighting is recommended.

## High Street

[Google Maps](#) | What3words: [friday.many.rift](#)



Figure 13

High Street was a key location identified by students as needing interventions to improve safety. Whilst there is some street lighting present, visibility is still limited, and so the area would benefit from warm toned down-lighting to illuminate the footpath without disrupting residents. There are examples of successful down-lighting that can be found in Lancaster already, including around Lancaster Castle (Figure 14 left) and at the LICA building on Lancaster University Campus (Figure 14 right). Down-lighting limits light pollution by focusing light only where it is needed rather than spilling upwards and reducing impacts on wildlife.<sup>12</sup>

As violence against women and girls is one of the priority areas for the Police & Crime Commissioner, we were surprised to find that the areas surrounding Lancaster Girls Grammar School were so poorly lit. Beyond the needs of our members (students of Lancaster University), we do have some concerns about the safety of the 11-18 year olds accessing the school during the winter months. We feel it is vital that the views of pupils of Lancaster Girls Grammar School are also central to further conversations about nighttime safety in this location.

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<sup>12</sup> Kate Bracewell, Mia True, and Millie Turner, *Dark City: Ecologically considerate, sustainable and vibrant*, Lancaster University, 2026, pg.11

We would welcome the opportunity to walk this area with members of the Council and residents of High Street to jointly identify the best possible locations for additional street lighting.



*Figure 14 - lighting strips can be found under the handrail on the footbridge at LICA*

## Dallas Road Gardens

[Google Maps](#) | What3words: [drive.found.neat](#)

*"got flashed by a man who was having a wee in the park"*



Figure 15

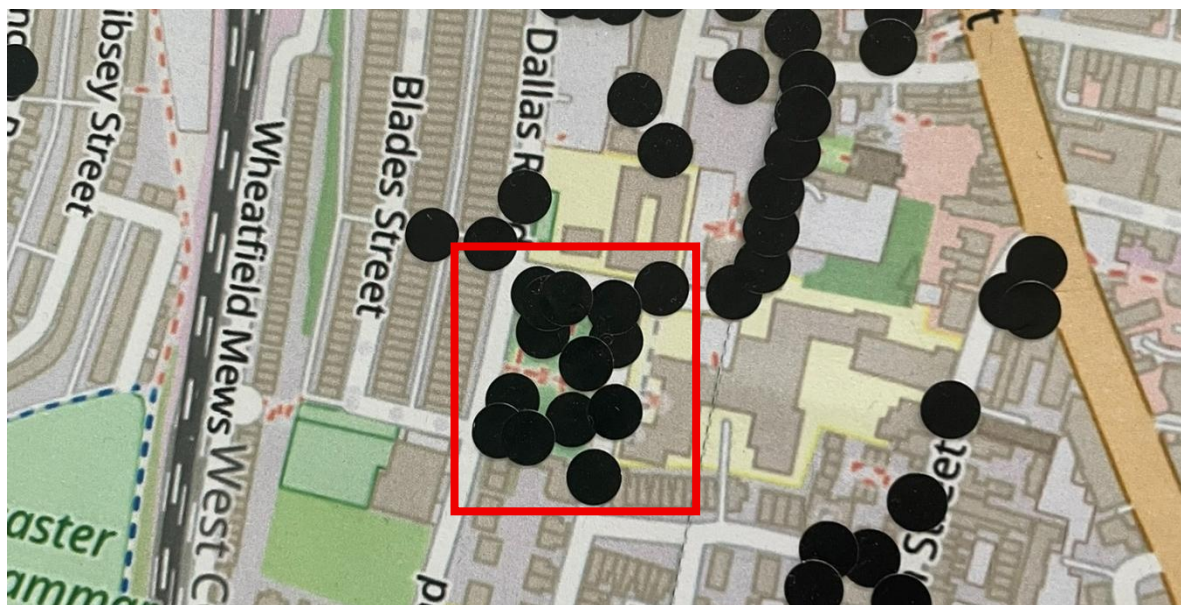


Figure 16

Dallas Road Gardens was highlighted as a hotspot for both heightened risk perception and experiences of threatening behaviour.

Whilst the area is a green space and there is some wariness about installing too much artificial light, these experiences of harassment increase our inclination to recommend some warm down-lighting to illuminate the pavement/footpaths.

As with consideration for the safety of women and girls on High Street (see pages 19-20), we would welcome the opportunity to discuss our ideas about how we can keep everyone safe.

## Fenton Street

Google Maps | What3words: penny.asleep.admire



Figure 17



Figure 18

Fenton Street, as well as being identified by students as an unsafe area, has extremely low visibility and a number of environmental factors that add to this high risk perception:

- There is limited lighting along the street.
- The footpath is narrow and enclosed by tall buildings either side.
- There is some dereliction and limited opportunity for informal surveillance.

Street lighting is recommended here. We would welcome the opportunity to walk this area with members of the Council and residents or business owners of Fenton Street to jointly identify the best possible locations for additional street lighting.

For the avoidance of doubt, the photo in Figure 17 (left) shows an alley leading west off Fenton Street.

## Lancaster Castle

[Google Maps](#) | What3words: [sheep.figure.hooks](#)

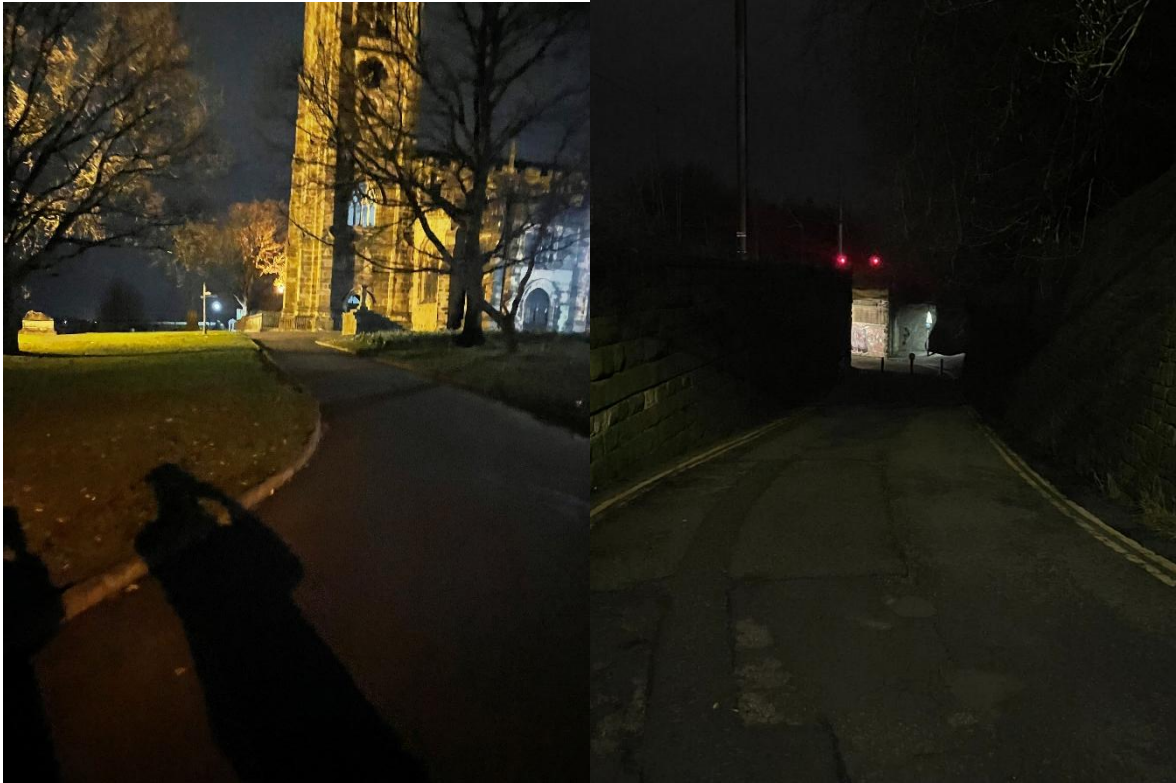


Figure 19



Figure 20



Figure 21

Despite being a key area highlighted as being problematic for students, as the castle itself (Figure 19 Left) was illuminated and the surrounding area is a green space with low footfall during darker hours, this area is not a priority for improved streetlighting.

## Greyhound Bridge Underpass (Northwest, into Skerton)

[Google Maps](#) | What3words: [civil.senior.boxer](#)

*"walking under the bridge after getting off certain buses just feels very uncomfortable"*



Figure 22

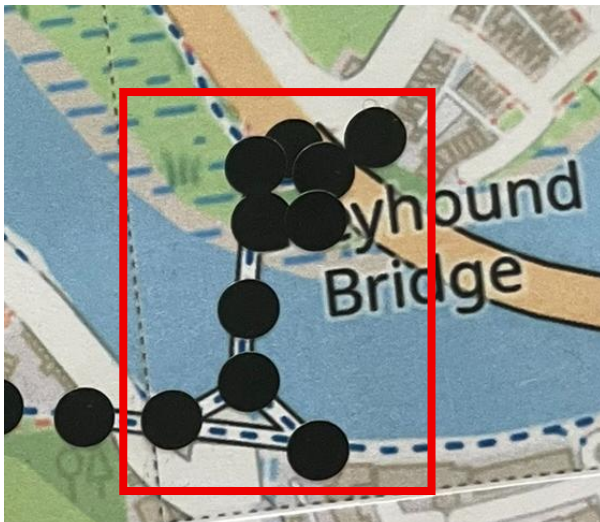


Figure 23

Streetlighting is present along the footpath, however, visibility is very limited under Greyhound Bridge (Figure 22).

Testimony from students indicates that it is a particularly unfriendly environment, and so installing some lighting beneath the bridge is recommended.



To ensure the future safety and comfort of all residents, we would welcome low-height lighting throughout the underpass, encompassing the entrance at either side.

A series of small LED lights on the concrete wall (graffitied) or railings could provide adequate light for the full length of the underpass. Similar lights can be found in the opposing underpass at the south-east end of Greyhound bridge.

The existing electrical infrastructure to service the light fitting (non-functioning) could be utilised to service the proposed new lighting.

## Greyhound Bridge Underpass (Southeast, into Lancaster)

[Google Maps](#) | What3words: [manliness.faced.dangerously](#)

*"Dark, dirty, and people hang out/do drugs there"*



Figure 24



Figure 25

It is not within the scope of this report to comment on the anti-social behaviour activity reported by respondents in regards to this area. We also cannot comment on other, non-lighting related, measures the Police and Council may wish to take.

The underpass had some low lighting; however risk perception is likely to be increased as it is an enclosed space. As a result, it is likely to be intimidating for pedestrian use at night, as indicated by the quote taken from our qualitative data.

Increasing the brightness of the lighting in the underpass is unlikely to have many adverse effects on wildlife, and so we would suggest that the visibility of the underpass is improved with brighter light fixtures.

Beyond the underpass, there is green space around the footpath. For environmental reasons we are wary of installing artificial light here. If any were to be installed, we would recommend warm, ground level lighting to illuminate the footpath. Research has shown that this type of lighting can have a limited negative impact on wildlife<sup>13</sup>. A successful of environmentally responsible lighting in greenspaces can be found at Baronscourt Park, Edinburgh. Edinburgh City Council installed a new lighting system across several of its parks in an effort to make pathways safer for residents while supporting their climate goals. The lights use solar energy wherever possible, switching automatically to grid power in low-light conditions, and motion sensors dim the lights

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<sup>13</sup> [Artificial lighting and wildlife](#)

when paths are empty. The improved lighting has increased community wellbeing and use of green space, whilst still protecting wildlife by limiting light pollution.<sup>14</sup> Hampshire County Council's [Street Lighting Technical Guidance](#) also contains some valuable information about planning ecologically friendly lighting infrastructure.



*Figure 26 – Baronscourt Park, Edinburgh hybrid street lighting.*

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<sup>14</sup> [New solar-powered lighting improves safety and sustainability in Edinburgh's parks](#)

## Lodge Street/Edward Street junction (Kanteena)

[Google Maps](#) | What3words: [line.type.behind](#)



Figure 26

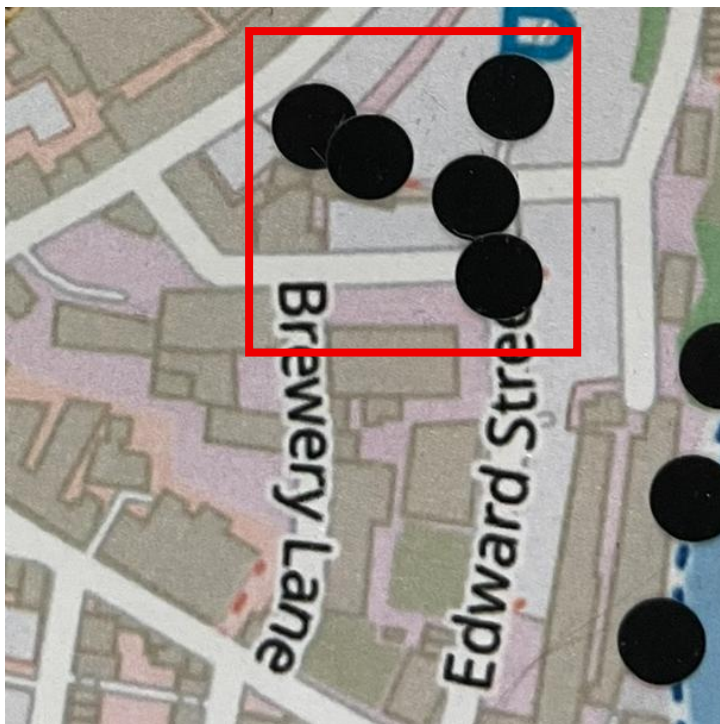


Figure 27

The corner of Lodge Street and Edward Street does have some lighting infrastructure in place already, however it is worth noting other environmental stimuli that might be feeding a heightened risk perception:

- The area is run down/derelict
  - Some investment in the area may offset feelings of neglect/dereliction and improve feelings of safety by bolstering community cohesion.
- It is a low footfall route but a student residential area
  - Necessary route for some students but limited informal surveillance from other pedestrians, therefore creating an increased risk perception.

We are hopefully that the implementation of the Canal Quarter development plan will mean many of the environmental and social issues reported to us are mitigated.<sup>15</sup> However, we would strongly encourage the Council to consider the needs of residents accessing or passing through the area in the dark. We would welcome to the opportunity to discuss this in more detail with local developers and business owners, as well as members of the Council.

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<sup>15</sup> Lancaster City Council, *Canal Quarter* (Accessed: 22/05/26, <https://www.lancaster.gov.uk/sites/canal-quarter>)

## Canal Footpath beneath Moor Lane

[Google Maps](#) | What3words: [lives.themes.owner](#)



Figure 28

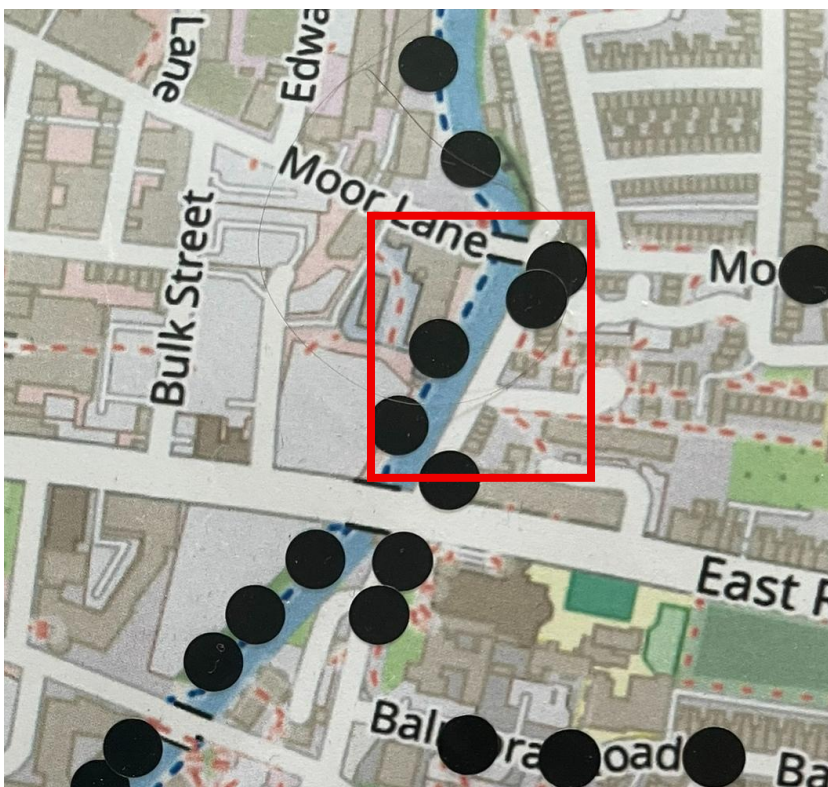


Figure 29

This section of the canal is not a necessary route for students, and so low footfall combined with the green space means that this is not a priority for improved streetlighting.

## Lancaster Canal/White Cross Bridge

[Google Maps](#) | What3words: [races.lied.libraries](#)



Figure 30



Figure 31

Whilst there is low visibility along the footpath on the East side of the Canal (Figure 31), this area is considerably affected by seasonal changes i.e., more informal surveillance in the warmer months as more people are inclined to use the canal as a walking route linger outside the White Cross and the Water Witch later into the evening.

Risk perception significantly increases in colder months, however, as with Lancaster Canal, South Road Bridge (page 16), this is not a necessary route for students, and so not considered a priority for increased street lighting.

## Quarry Road/Dumbarton Road/Prospect Street

[Google Maps](#) | What3words: [strict.rips.noses](#)

*"It's so dark and scary walking around that area as it's so dark and often is populated with drunk local men. Often they will shout and or whistle: I never want to walk home from that bus stop alone"*

*"at night it's so poorly lit alongside the drunk and creepy men coming out of those pubs and it's very dark and unsettling. Just feels unsafe"*

*"walking home late - a man exposed himself to my friend and followed her home"*



Figure 32



Figure 33

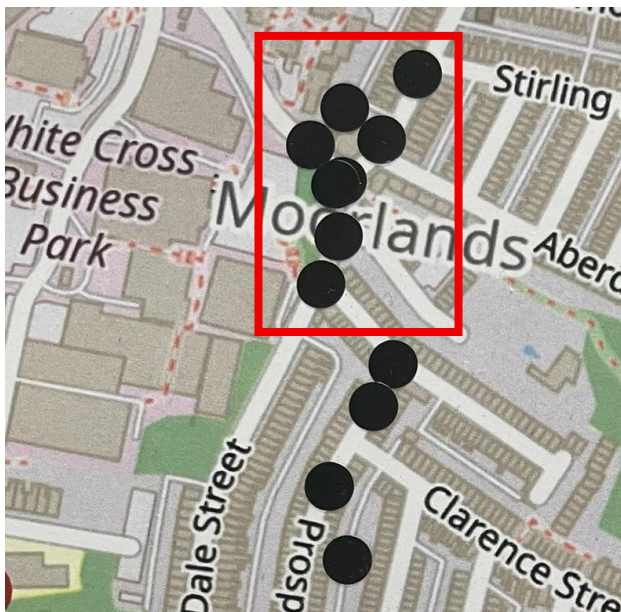


Figure 34

This area of Lancaster has been flagged by the students we have spoken to as a hot spot for threatening behaviour. Primrose has a high number of student houses, and so is a high traffic area during late hours of the night. The street lighting levels are adequate – any brighter and it would be disruptive to residents – but the testimonies from students are indicative of the fact that streetlighting here is not enough to deter harassment or mitigate feelings of unsafety.

We would welcome the opportunity to discuss safety in this area with Councillors, residents, and local businesses owners.

## Park Hotel/Bowerham Road

[Google Maps](#) | What3words: [spoil.spaces.trails](#)

*"men followed me home on multiple occasions along Bowerham Rd. Primrose I used to run in but had to stop because it is so badly lit around that whole area - particularly the Scotch Quarry through path"*

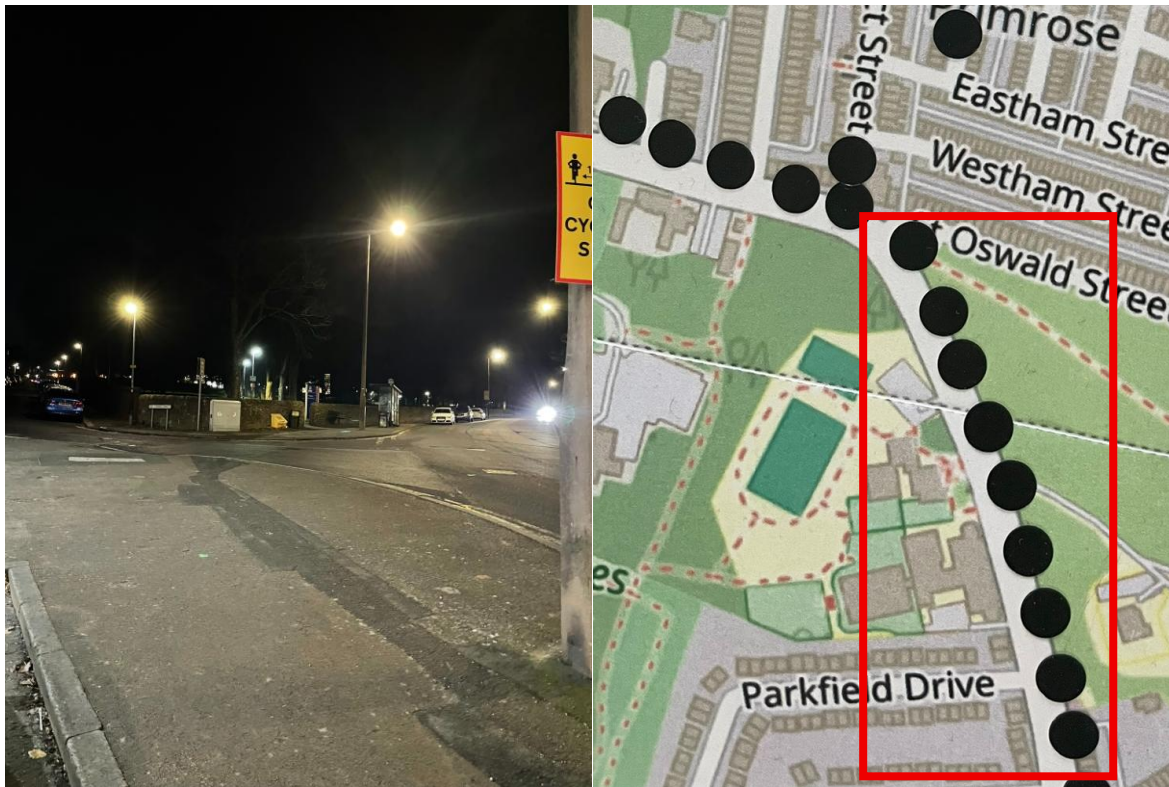


Figure 35

Bowerham Road, being a main thoroughfare for vehicles, is well-lit and no additional streetlighting is suggested. However, as with the Primrose area, testimony from students indicates that streetlighting is not enough of a mitigating factor here.

We would be interested in further conversations with members of the Council, residents, and business owners about how to best secure everyone's safety in this area.

## Greaves Park

[Google Maps](#) | What3words: [premature.observes.smarting](#)

*"drunk man in black tried to stab me with a knife"*



Figure 36

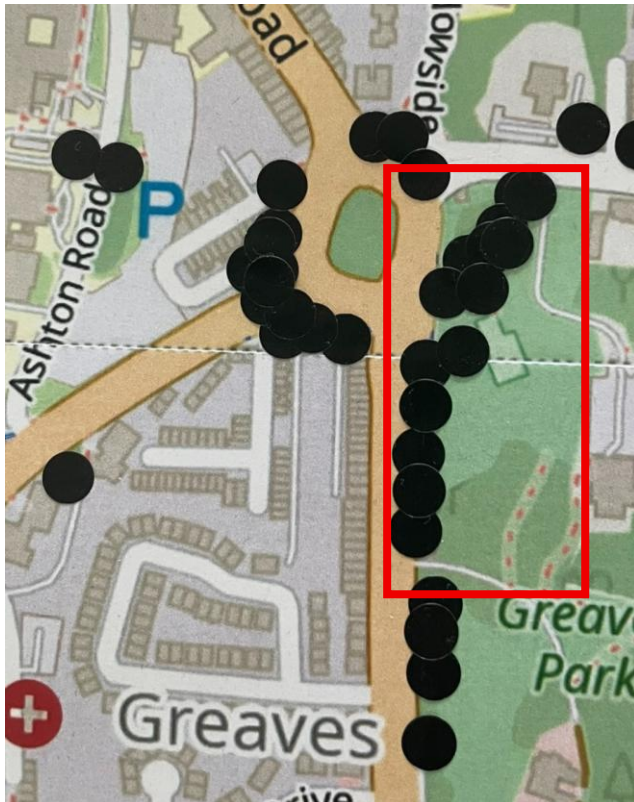


Figure 37

The footpath through Greaves Park (Figure 32 Left) has very low visibility and could benefit from some warm down-lighting [such as small bollard lights](#) to illuminate the footpath. However, the park is a green space, and there is an argument to be made against it being a necessary route, as there is the option to follow the better-lit A6 to Bowerham Road. As such, it is not currently a priority area for improved streetlighting.

## Environmental considerations

Whilst this report advocates for the use of street lighting as a means of improving perceptions of safety in Lancaster, the impacts that increasing street lighting might have on the natural environment have not gone ignored.

In order to properly assess the need for street lighting in parts of the city, it is important that all considerations are made as to what those impacts might be, and how to mitigate them.

### Impacts of artificial light at night on biodiversity

Research has shown that the night sky grows brighter by 96% each year, and with this consistent increase comes greater impacts on the natural world.<sup>16</sup> Light pollution has been documented to be significantly disruptive to phenological stages of insects, amphibians, fish, birds, bats, and other animals.<sup>17</sup> These stages, such as migration and reproduction, are key to protecting the health and diversity of our native flora and fauna.

Many nocturnal animals such as bats and deer are experiencing a decline in their population due to the increasing loss of the nocturnal environment.<sup>18</sup> Light pollution makes it harder for nocturnal animals to find food and increases their exposure to predators as daytime feeders extend their activity.<sup>19</sup>

The bat population is further affected by the gathering of insects around streetlights. Insects are attracted most significantly to short-wavelength light, i.e., lights with high blue light emission.<sup>20</sup> As a result, the bat population travel shorter distances to find food, and the artificial light causes them to move slower, reducing their hunting time.<sup>21</sup> Research has found that, when travelling through tree networks, bats could tolerate strong lighting in narrow gaps between trees, but even dim lighting was enough to deter their movement when gaps are larger.<sup>22</sup> Bats are also long-distance pollinators, and so seed distribution is also hindered when bats are covering less ground to find food, affecting flora diversity.<sup>23</sup>

In addition to affecting nocturnal species, artificial light can confuse migratory birds, reduce their migratory success and impact their reproduction intervals.<sup>24</sup> In more

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<sup>16</sup> S. Karan, Shweta Saraswat, and B.S. Anusha, 'Light pollution and the impacts on biodiversity: the dark side of light', *Biodiversity*, 24:4 (2023), pp. 194-199, doi: [10.1080/14888386.2023.2244920](https://doi.org/10.1080/14888386.2023.2244920)

<sup>17</sup> Franz Holker, Christian Wolter, Elizabeth K. Perkin, and Klement Tockner, 'Light pollution as a biodiversity threat', *Trends in Ecology & Evolution*, 25:12 (2010), pp. 681-682, doi: [10.1016/j.tree.2010.09.007](https://doi.org/10.1016/j.tree.2010.09.007)

<sup>18</sup> Karan, Saraswat, and Anusha, 'Light pollution and the impacts on biodiversity'

<sup>19</sup> Ibid

<sup>20</sup> Ibid

<sup>21</sup> Ibid

<sup>22</sup> [Minding the gap.... City bats won't fly through bright spaces](#)

<sup>23</sup> Ibid

<sup>24</sup> Holker, Wolter, Perkin, and Tockner, 'Light pollution as a biodiversity threat'

urbanised environments, birds are more likely to collide with buildings if light is reflected from their surfaces, resulting in a high death rate for urban birds.<sup>25</sup>

As well as animals, artificial light can also have negative consequences on the health of human beings.<sup>26</sup> The disturbances in our sleep-wake cycles caused by too much artificial light at night has been linked to cardiovascular diseases, greater risk of sleep disorders and depression and, according to the World Health Organisation, can potentially be carcinogenic.<sup>27</sup>

## Mitigating negative ecological impacts of street lighting

There are several well-tested means of reducing the impacts of street lighting listed above. Alongside protecting natural unlit areas, other methods of mitigating negative affects of streetlighting that could be applied to Lancaster include:

- Part-night lighting
  - Streetlights could be switched off during periods of low need – this is not ideal for student residential areas as footfall remains high well into the night, although lighting patterns could adapt to align with patterns of late-night student activity e.g. on the main student nights: Wednesday, Friday, and Saturday.
  - Streetlights could be user-responsive, turning on when they detect motion.<sup>28</sup>
- Applying shields to limit skyglow and prevent light trespass into areas it is not wanted.<sup>29</sup>
- Minimising number of streetlights in each area
  - Streetlights should be installed at minimum 35-40m distance from protected green areas.<sup>30</sup>
- Spectral manipulation
  - This includes customising colours and filters to limit blue light emission.<sup>31</sup>
  - The intensity of light sources should be adjusted to their purpose.<sup>32</sup>
  - Installing low frequency (warm colour) light sources.<sup>33</sup>

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<sup>25</sup> Karan, Saraswat, and Anusha, 'Light pollution and the impacts on biodiversity'

<sup>26</sup> Ibid

<sup>27</sup> Ibid

<sup>28</sup> Darren M. Evans, 'Mitigating the impacts of street lighting on biodiversity and ecosystem functioning', *Philosophical Transactions of the Royal Society B*, 378:1892 (2023), doi: [10.1098/rstb.2022.0355](https://doi.org/10.1098/rstb.2022.0355)

<sup>29</sup> Karan, Saraswat, and Anusha, 'Light pollution and the impacts on biodiversity'. For examples of dark sky friendly lighting fixtures, see <https://darksky.org/what-we-do/darksky-approved/>

<sup>30</sup> Ibid

<sup>31</sup> Evans, 'Mitigating the impacts of street lighting on biodiversity and ecosystem functioning'

<sup>32</sup> Karan, Saraswat, and Anusha, 'Light pollution and the impacts on biodiversity'

<sup>33</sup> Ibid

## Next Steps:

The intention of the Students' Union is to now engage directly with members of the City Council with responsibility for the areas outlined in this report. Our intent is not to dictate what the Council must do, nor do we wish to override the wishes of local residents (including students). Any lighting instalments linked within this report are not intended to serve as product recommendations, merely visual references to accompany description. Instead, we would like to carry on conversations with stakeholders to jointly create sustainable, community-driven proposals to make our streets safer for everyone.

If you would like to get involved, we would love to hear from you. You can email us on: [lusuwellbeing@lancaster.ac.uk](mailto:lusuwellbeing@lancaster.ac.uk).

