Safer Provisions for Pedestrians at Roadworks

A Risk Prioritisation Framework

Purpose

The objective of this document is to help improve TfL's safety scorecard metrics that exist to keep people safe where roadworks is being carried out on our road network. The aim is to specifically address a known problem area where a disproportionate number of high-risk failures have been recorded where pedestrian provisions have been found to be inadequate. This guidance is primarily aimed at those who are responsible for either designing or assessing works traffic management proposals.

Background:

In January 2019 TfL launched its Temporary Traffic Management Handbook (TTMH) to help enhance the safety of road users when navigating around roadworks, particularly those that are more vulnerable. The TTMH highlights that 78 per cent of people killed or seriously injured on the TLRN in the vicinity of roadworks were those that walk or cycle. Despite work promoters adopting this additional guidance, which supplements national standards (such as the Safety Code and Chapter 8), high-risk failures for inadequate pedestrian management is still trending upwards, with some utility companies prosecuted for being found in breach of these standards. To statistically qualify the matter further, over the 12 month period from January 2021, the high-risk safety inspection failure rate (category A) for non-compliant pedestrian provisions on the TLRN stood at 32%, which translates to a raw number of 261 high-risk failures within a single year. The government have also recognised the risks pedestrians are exposed to on the highway by recently updating the Highway Code to give pedestrians the highest road user priority and bear the least responsibility for other road users.

The Problem:

There is a misconception by some that picking any traffic management (TM) arrangement from the national standards is a satisfactory solution, without taking into consideration the risks associated with how a strategic road network operates or the surrounding characteristics of the highway where the works are proposed. That is not a defendable approach and unlikely to withstand legal scrutiny, unless it can be evidenced that all other options have been considered and justification provided as to why they were not viable.

Implementing lengthy pedestrian diversions is a common scenario where the incorrect choice of temporary traffic management is made, particularly at busy junctions, where 76 per cent of all collisions occur. In reality pedestrian diversions can often be ignored or misunderstood, with some people instinctively following their natural desire lines and unwittingly putting themselves in danger by walking unprotected in live traffic. They are also extremely difficult to understand by people that are either disabled (particularly those with visual impairments), older or are accompanied by children. Similarly, designing traffic management without undertaking a pre-works site inspection to understand how the street is used can be equally detrimental, particularly if there are high numbers of more vulnerable pedestrians because there are nearby hospitals, care homes or schools; or there are heavy footfall arears due to the vicinity of public transport services. While the works are in progress the works contractor should be checking throughout the day that the traffic management arrangements in place are compliant and appropriate for the way the street is being used.

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The Problem continued…

Every works and its locality are unique and must therefore always be subject to a site-specific risk assessment, which will help determine what the safest possible TM solution should be implemented. This is one of the key principles that features across all TM standards, and it is vital that TM designers observe this responsibly.

Where TfL's Roadworks Enforcement Inspectors do observe unsafe road user behaviour at sites and notice multiple instances where pedestrians appear confused that would not normally occur at the same location under non-works conditions, it is likely they will deem the traffic management to be ineffective and are duty bound to record a non-compliant inspection to identify the presence of inadequate provisions that are compromising the ability to safeguard pedestrian journeys.

The general principles stated within national TM standards make it explicit that:

- Works should cause minimum inconvenience to road users;
- Pay particular attention to the needs of disabled people and other vulnerable groups such as elderly people, children and those with push chairs.
- Potential conflict between road users should be minimised;
- The chosen method of working must not increase risk to road users;
- Exposure to unsafe, or otherwise unacceptable, conditions is minimised, if not eliminated. For road users this can be taken as the level of safety and road user comprehension expected for the same road in non-works conditions; and
- Work promoters have a responsibility to ensure the safety of those passing near or through works, including protecting pedestrians from traffic

It is therefore unacceptable to produce TM proposals, such as lengthy and unintuitive diversions, that ignore the prospect of not being followed and thus render the TM recommendation unfit for purpose. The mindset of believing that selecting the easiest solution (but not always the safest) from the national standards does not in any way absolve individuals or organisations of liability just because it exists as an arrangement in these documents.

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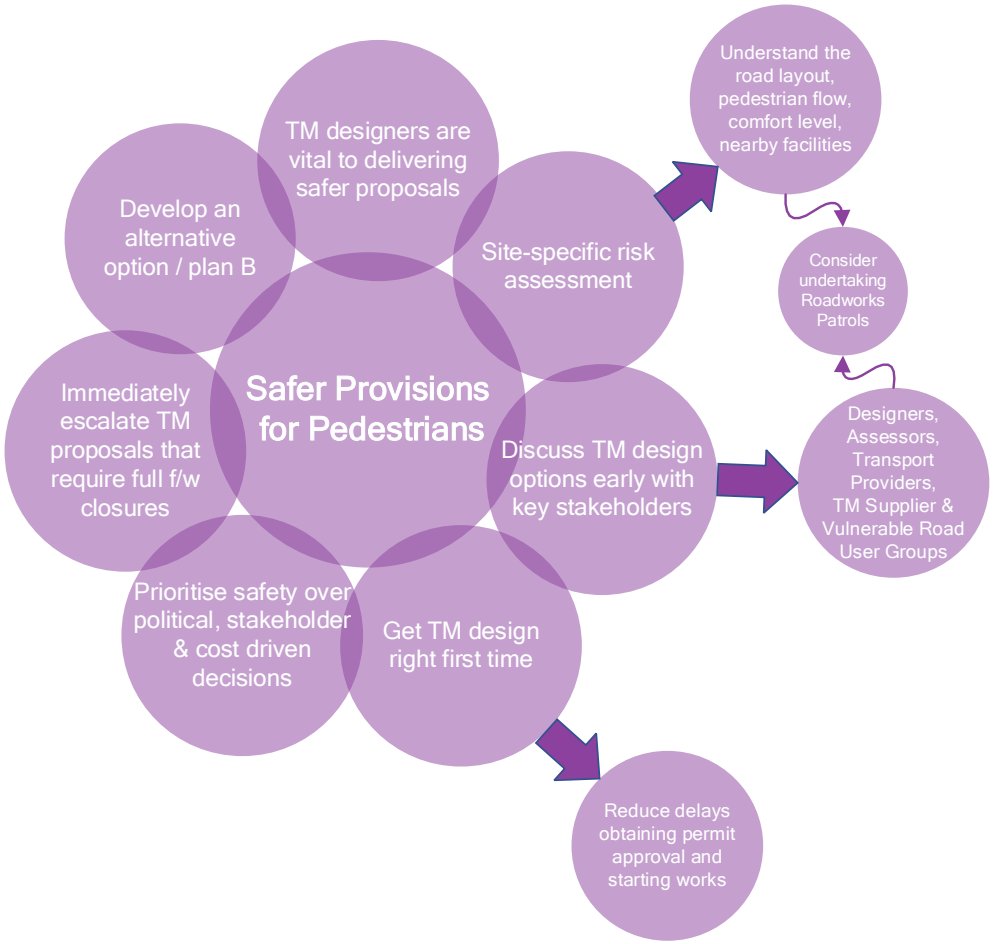
Proposed Improvements

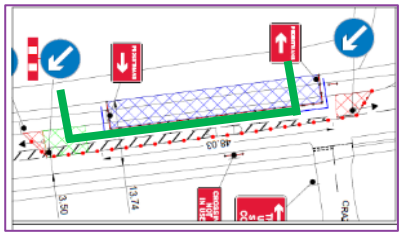


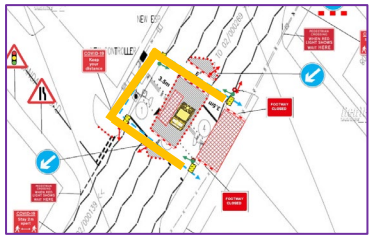
To achieve the optimum TM solution it is important to take a collaborative approach by engaging with the key stakeholders as early as possible in the design process to ensure safety is prioritised throughout – Roadworks Patrols (as described in section 10.12 of the TTMH) are a useful way of achieving this. The ven-diagram highlights some of the important element's TM designers should consider when delivering safer TM provisions for pedestrians.

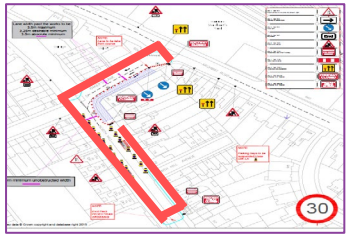
As stated above, there have been several cases where the TM selection for several sites has been found to be inappropriate for the safe passage of pedestrians. To help support TM designers and assessors agree the most appropriate traffic arrangement, the following priority framework has been developed.

Hazard	Risk and Effect	Control Measures and Further Considerations

Reduced footway width	• Increased pedestrian congestion can lead to pedestrians using the carriageway and subsequently interfere with other modes of transports
	• Sight lines may become obscured
	• Exacerbation of existing obstructions such as street furniture
	 
	 
	Maintaining route on existing footpaths preserves road user comprehension and causes minimum inconvenience
		• Statutory minimum widths should be sufficient at most locations. Where pedestrian congestion is known to exist prior to works it may be necessary to:
		  ○ avoid works during peak hours
		  ○ reduce the length of footway sites
		  ○ introduce passing points or wheelchair waiting areas where a 2-metre wide clearance cannot be provided
		  ○ place continuous guarding along kerbside to prevent errant pedestrian movements
		• Pedestrian desire lines must be met as closely as possible, with existing pedestrian crossing facilities included within access plans where it is practical
		• Works may need to be phased to ensure that safety critical sight lines at pedestrian crossings are not compromised
		• Temporary routes should be delineated by continuous pedestrian barriers that can be closely followed by those with visual impairments and other vulnerabilities

Temporary pedestrian route in adjacent highway	• Transitioning from footway to carriageway • Maintaining access to properties/frontages 	• Statutory requirement for kerb ramps that adhere to DfT Inclusive Mobility guidance by ensuring that moving pedestrians from footway to carriageway is accessible for all users • Arrangements should be made to provide direct continuous access wherever possible, with statutory minimum widths unimpeded by projecting barrier feet. • Bespoke access arrangements should be agreed in exceptional circumstances  Re-providing route in adjacent highway maintains desire lines. Careful consideration should be given to situations where this option disproportionately impacts the flow of bus services (see below).

Hazard	Risk and Effect	Control Measures and Further Considerations
Parallel alternative pedestrian route on opposite footway	• Temporary routes that deviate significantly from existing ones are often misunderstood and cause pedestrians to enter the live carriageway to pass sites • Introducing waiting times increases crowding which can obscure pedestrian signs informing users of the temporary route, resulting in pedestrians entering the live carriageway • Access to properties within closed sections of footways can cause confusion resulting in unsafe pedestrian movements	• Ensuring that approaching pedestrians can see the extent of the footway closure and the alternative route increases the likelihood of the route being understood and followed. This can be achieved by keeping the routes short. Having dedicated site personnel at closure/crossing points to assist pedestrians, especially those requiring assistance or reassurance, can increase comprehension, but may not be practical in very busy areas where demand is high • Vulnerable pedestrians are at increased risk when crossing strategic roads with high traffic volumes, which can only be reduced by ensuring controlled temporary crossing facilities are provided – these must include tactile features to assist those with visual impairments • Use of existing controlled crossing points may be preferable when their position allows minimal departure from existing desire lines. However, their use should be avoided if it requires routes that introduce excessive and unintuitive pedestrian movements with complicated access arrangements – making “hard” footway closures impractical or prone to inference. In these instances, portable pedestrian crossing facilities should be considered.    Pedestrian routes with significant deviation are often misunderstood and cause pedestrians to enter the carriageway

Indirect alternative route	• Pedestrian re-routing in opposition to usual routes/desire lines are rarely understood and frequently result in unsafe pedestrian movements
	• Vulnerable pedestrians (especially those with visual impairments) are more likely to be disadvantaged by alternative and unintuitive routes with multiple crossing points
		• This type of pedestrian management should generally be avoided by adopting the above lower risk methods instead
		• Only consider for exceptional circumstances where the work activity area cannot practically be reduced, such as for mobile crane operations. The timing and duration of the activity should be chosen to ensure minimal impact to road users
		• Dedicated operatives should be placed throughout the alternative route to:
		  ○ mitigate the risk of pedestrians misunderstanding any forced change of direction; and
		  ○ ensure that vulnerable pedestrians can be fully escorted through the route
		   
		Lengthy pedestrian diversion routes are often ignored with road users electing instead to follow natural desire lines

Hazard	Risk and Effect	Control Measures and Further Considerations

Off public highway routes	• Pedestrian re-routing through adjoining private land or public rights of way can increase the likelihood of pedestrians encountering:
	  ○ certain types of crime, disorder or antisocial behaviour (particularly towards women) that would ordinarily be avoided if the public footway was available
	  ○ trip hazards and obstructions
	  ○ Unnegotiable routes that contain steps, high gradients or inadequate tactile features, which are problematic for some disabled pedestrians
		• Temporary pedestrian provisions should feel safe and avoid creating potential ambush points or concealed areas that isolate pedestrians from remaining highway users. Introducing temporary lighting or the permanent presence of site staff along temporary routes may address these issues in limited circumstances, but views from the local Police service should always be sought, as well as input from disabled, older and women road user groups.
		• It may be possible to survey the condition of alternative routes to ensure they are maintained to a satisfactory standard that is equal or superior to public highway routes. However, the position with liability on private land should be understood as it is unlikely that powers relating to public highways can be exercised in these circumstances and should therefore be avoided.
		• Routes accessible for those with disabilities must always be provided. Sometimes it may be possible to provide more than one temporary pedestrian route, but the primary route must be fully accessible and inclusive to prevent disadvantaging any groups of people using it in comparison to other temporary routes i.e. the primary route should not be excessive in length. It should also be ensured that the primary route is not easily confused with closed off routes.
		   
		Diverting pedestrians across private land or forecourts is not suggested unless liability for public safety has been established and the route has been satisfactorily maintained

Other Considerations

Works Sequencing:

Phase the construction work to maintain minimum footway widths by reducing the working area. For example: half width reconstruction

Works Timing:

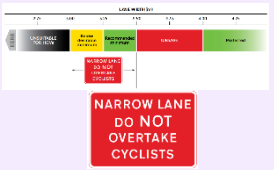
Undertake works activity when footfall is at an acceptably low level – pulling in TM during peak travelling periods. For example:

- At off-peak periods, overnight or at weekends; or
- Temporarily plating over excavations or temporarily reinstating

Maintain Existing Cycling Provisions

Existing provisions for cyclists should be re-provided, ideally by means of a dedicated temporary cycle lane, or where that is not possible consider narrowing lanes as advised in the TTMH.

Where motorised running lane widths are compromised and it is necessary to divert motorised vehicular traffic, consideration should be given to maintaining cyclists access.

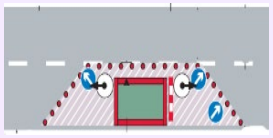


Maintain Bus Services

Maintaining existing bus services and associated infrastructure such as bus stops should be prioritised wherever possible in favour of lengthy diversions or relocating bus stops – particularly where ridership is high. Wherever running lane widths are compromised consideration should be given to diverting regular motorised vehicular traffic in favour of maintaining cycle and bus provisions.

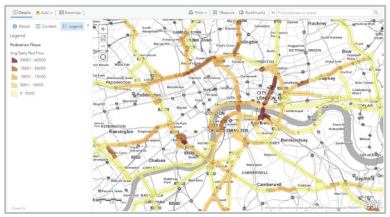
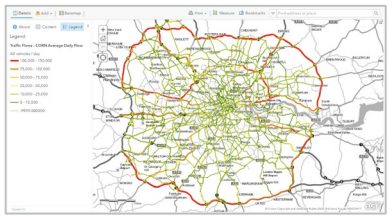
For example:

- Implementing extraordinary traffic control measures to facilitate continued bus provisions, such as:
  - Traffic control by portable activated traffic signals
  - Traffic control by stop/go boards
  - Traffic control by priority signs
- Implementing extraordinary traffic control measures to facilitate one-way traffic for the direction with the highest level of bus flow, while placing the opposing directional traffic on diversion



Justification for Selected Traffic Management Arrangement

Traffic management designers are encouraged to complete this template and submit it to TfL Traffic Management Assessors with their traffic management proposals to demonstrate they have carefully considered each option in risk priority order before determining the most suitable traffic management solution

Title of Scheme Works:	[INSERT HERE]	Site Location:	[INSERT HERE]
Pedestrians – Average Daily Flow:	[INSERT HERE]	Cyclists – Average Daily Flow:	[INSERT HERE]
Buses – Hourly Count:	[INSERT HERE]	All Vehicle – Average Daily Flow:	[INSERT HERE]
Pedestrian Data 	Cyclist Data – Coming soon	Bus Data 	All Vehicle Data 

Pedestrian, bus and all vehicle daily flows are currently available from TfL's Playbook, with cyclist data following soon. Please contact Playbook@tfl.gov.uk for access or requests for mapping data files.

Risk Description (select one or more)	**Achievable?** ☑ = STOP ☒ = Next Priority ↓	**Justification** (explain why preceding solutions are not suitable, together with a statement to validate the chosen solution)
Maintain minimum width for pedestrians on existing footway		
Re-provide minimum width for pedestrians in adjacent highway		
Provide alternative parallel route on opposite footway		
Provide an indirect alternative route		
Off public highway routes		