Planning AfA Schemes To Ensure Compliance And Passenger Safety

Access for All (AfA) schemes are an increasingly specialised aspect of enhancing our rail infrastructure. This is a brief summary of some of the factors, standards and working practices our teams consider when designing and executing projects to ensure the safety of all concerned, during and after the project.

Safe and Convenient Routes

Making the rail network accessible to all, including people with restricted mobility, is all about creating safe, convenient and easy routes through station facilities.

The most noticeable aspects of the AfA upgrades carried out are ramps, lifts and step-free access routes to platforms - things that earlier generations of station design didn't consider. But the scope is broader, encompassing car parks, drop-off points, modal transfers, concourses and ticket halls.

There are multiple requirements, regulations and guidelines involved in delivering fully compliant AfA schemes. These have evolved significantly since the programme started in 2006. Each of the projects we've delivered since then has brought unique challenges in terms of the station fabric, passenger flows, heritage considerations, local community needs and cost-effective delivery.

While delivering over 30 AfA schemes Octavius has accumulated a vast amount of knowledge and experience. This covers both regulatory compliance and factors that are less obvious but essential in making the rail network safe and convenient for everyone - both when upgraded stations are in service and while improvements are carried out.

Regulations

The Code of Practice described in the *DfT Design Standards for Accessible Stations* sets out the requirements for improving access, not just for AfA schemes but also as a consideration when any significant station improvement works are carried out.

The guidance sections of the code aren't mandatory but they are still a vital resource when assessing project options and priorities.

BS 8300 also provides more general, but nonetheless vital guidance for how all buildings should be designed, constructed, and maintained to create an accessible and inclusive environment for people with disabilities.

Scope

Although the UK is no longer a member of the EU, many of the current standards are underpinned by the European Rail Agency technical specification for people with reduced mobility.

The PRM TSI (revised January 2015) defines a 'person with disabilities and person with reduced mobility' as:

'Any person who has a permanent or temporary physical, mental, intellectual or sensory impairment which, in interaction with various barriers, may hinder their full and effective use of transport on an equal basis with other passengers or whose mobility when using transport is reduced due to age.'

The scope is broad, which is why there are so many considerations and standards that apply to fully compliant AfA schemes. It's the 'equality of access' concept that guides our work and decisions.

Arriving at The Station

BS 8300 provides essential guidance on the layout, marking and materials (such as tactile paving) relevant to disabled parking bays. AfA schemes also have to consider the route from the bays to the station entrance, ensuring that it's as short as possible, well marked, step-free and segregated from traffic.

This can present significant practical challenges at older stations where car parking facilities can be remote from the main station buildings or lease area. Often the solution involves collaborative working with the local authority or car park operator.

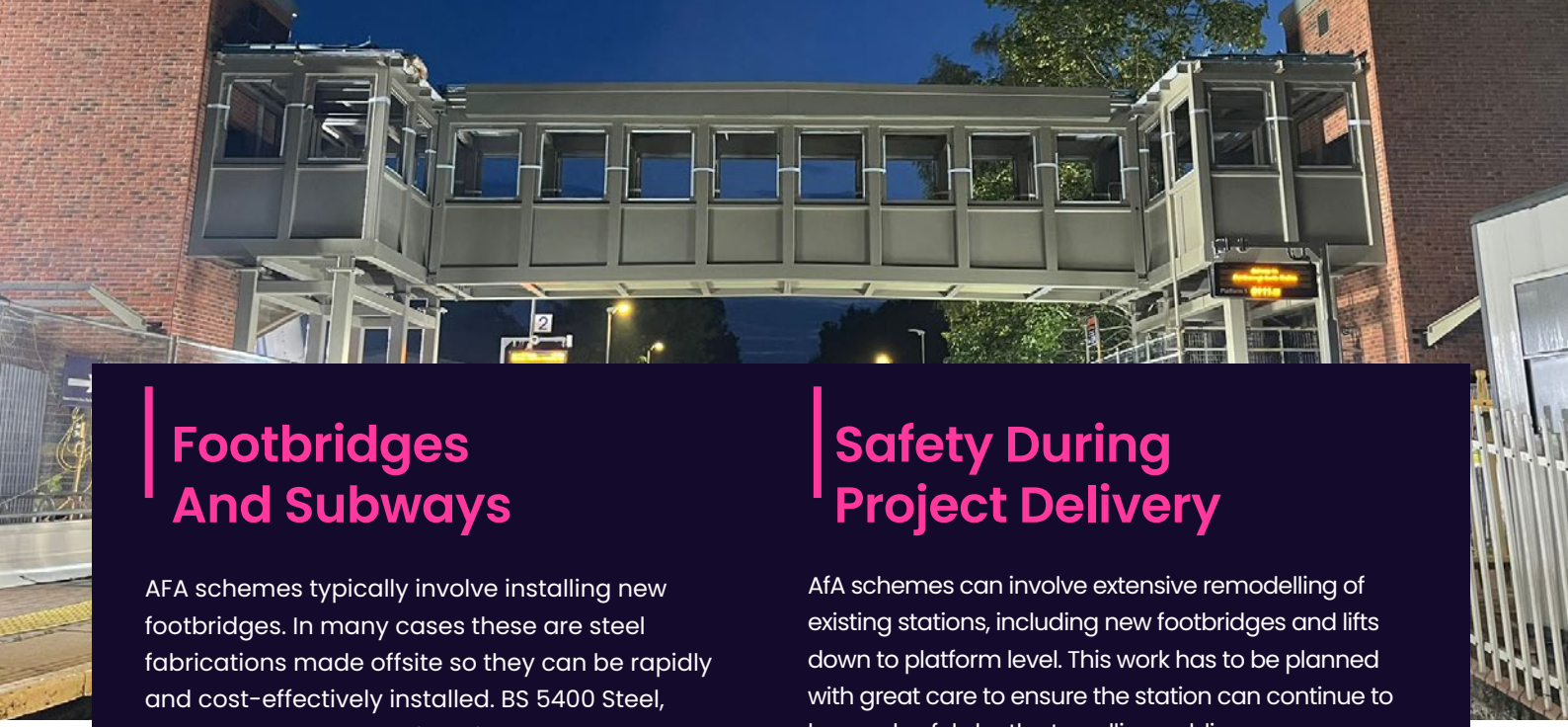
Similar considerations apply to set down and drop-off points, bus stops and taxi ranks. The design has to ensure there's a convenient, safe and obstacle free modal shift. Where practical, bus stops should incorporate raised 'Kassel type' kerbs to allow level access. Ideally there should be a designated and clearly marked drop off point for people with restricted mobility.

Inside The Station

While it's common to refer to step-free access to platforms, safe design principles take into account clearly marked, obstacle-free routes between all station facilities including ticket offices, toilets and waiting areas. Ideally, routes should be at least two metres wide and 1.6m as an absolute minimum.

The positioning of every column and bollard has to be considered carefully to ensure they aren't within the width of an access route. With some existing stations it might not be practical to relocate a column completely away from an access route. The guidance indicates that columns must have a clear tonal contrast with surrounding walls and floor surfaces and be marked with coloured bands to improve visibility.

Barriers and balustrades are important considerations in safe station design, which makes *BS 6180 Barriers in and about buildings – Code of Practice (1999)* an essential source of guidance alongside the more specific requirements of BS 8300.



Footbridges And Subways

AFA schemes typically involve installing new footbridges. In many cases these are steel fabrications made offsite so they can be rapidly and cost-effectively installed. BS 5400 Steel, Concrete and Composite Bridges (1983-2000) offers essential guidance for design engineers.

Safety During Project Delivery

AfA schemes can involve extensive remodelling of existing stations, including new footbridges and lifts down to platform level. This work has to be planned with great care to ensure the station can continue to be used safely by the travelling public.

The Construction (Design and Management) Regulations 2015 (CDM 2015) need to be applied, with the added consideration of ensuring that there is sufficient space around work areas for safe wheelchair transit.

Planned Possessions

A common issue arises with temporary site hoardings that reduce the platform width and potentially increase the passenger-train interface (PTI) risk. We balance the construction activities and temporary works designs to complete any works that may create an increased PTI risk under abnormal possessions, maintaining an acceptable platform width when the station is operational.

Octavius will also work with the future station maintainer to adapt the design to minimise maintenance needs and eliminate the need for working at height wherever possible. Where possible, for example, we have eliminated the need for any roof guttering over the walkway main span by having it free drain in two directions. This eliminates much of the need for working at height or track access requirements to maintain these gutters in the future.

AfA funding of over £1bn has already made over 200 stations fully accessible for people with reduced mobility as well as for passengers with other health conditions or impairments, people with children, heavy luggage or shopping and some older people. This has resulted in greater use of upgraded stations by people with disabilities and a modal shift from road to rail. The lessons learned ensure that the firms engaged in those projects are well placed to deliver future schemes in a cost-effective and compliant way with minimal disruption and zero risk to travellers.

Standards play a vital role in ensuring consistency and the upgraded stations meet the needs of all travellers. Our extensive experience of AfA delivery allows us to interpret and expand on these standards to deliver value for money and meet the diverse needs of multiple stakeholders.

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