

INTRODUCTION TO FIRE SAFETY ADVISORY SERVICES



A series of major fire events in tall residential and heritage listed buildings, with high numbers of casualties, extensive damage to people’s homes and continued threat to livelihoods highlights the need for fire safety to be considered carefully at local government and national level from the outset.

Due to its specific and technical nature, fire safety is not likely at the front of your mind as you develop your projects and feasibility for your TIP. This note sets out some key considerations to assist you in embedding fire safety in your TIP and business case.

The Towns Fund Delivery Partner (TFDP) has a breadth of experience, not only in high quality building design, but also advising on fire safety policies, master planning, impact of changing fire safety regulations, portfolio management, protection of critical infrastructure, protection of heritage assets, and risk mapping. We want to enable your town to prepare for and mitigate current and future fire risks. Improving safety and resilience, and reducing the costs associated with refurbishment and recovery.

TFDP specialists can work closely with your town to help you define fire safety goals and objectives relevant to your Town Investment Plan. Our solutions go beyond building compliance to include social, economic or environmental goals, as well as protection of people, assets, reputation and operation.

Fire safety goals and objectives are not limited to new developments, and TFPD experts have vast experience with refurbishment and redevelopment projects as well as policy reform. We are skilled at identifying the constraints of existing processes and infrastructure such as water supply, emergency services access, wayfinding and egress in ageing buildings, and working together with emergency services to develop innovative and fit for purpose solutions.

Our experts have a long track record of providing the golden thread of fire safety from planning and design stages through to tender, construction, commissioning and handover. Our practical experience throughout a project lifetime can be leveraged by towns to inform planning, policies and procedures.

Our investment in research and development, strong links with academia, and active engagement with industry bodies ensures we stay at the cutting edge of fire safety design and legislation.

Drawing on our global presence, we share knowledge, information and best practice across sectors and geographies, ensuring we deliver efficient cost-effective results for your town.

Services

- Fire safety policies and procedures
- Master planning fire safety guidelines
- Fire risk mapping
- Fire risk profiling for building portfolios
- Subject Matter Expert on review panels
- Expert witness
- Writing and developing codes and standards
- Fire and life safety design
- Construction fire safety
- Research and development
- Training, learning & development

Service leader

Judith Schulz

Towns Fund Expert: Fire Safety Advisory Services

Key questions to consider for fire safe towns

Fire safety should be considered in every project, to some degree, to ensure safer, stronger and more resilient towns. The following questions might help you reflect on how fire safety can be embedded into your TIP projects and business cases.

- How is your town getting ready for the upcoming legislative changes affecting how 'high risk' buildings (such as high rise residential) are regulated and managed? Is that being addressed in your TIP projects appropriately?
- Are the fire safety implications of repurposing existing building stock clear to you? Have you costed for increased provisions requested in the latest update to statutory fire safety guidance? How is this being managed in your TIP?
- Where you are proposing innovative new schemes in your town (e.g. urban solar farms, house share schemes) fire safety regulations may not have caught up yet. Does your TIP identify this risk and consider how you can work with Fire Safety experts to manage potential fire safety implications?
- Do your TIP projects look beyond minimum compliance with Fire Safety regulation, to champion inclusive fire safety solutions and resilient design?
- Are heritage sites in your town protected from Fire appropriately? Is there more that can be done to protect them as part of proposed works?
- Do proposed changes to the connectivity of your city support or hinder emergency response? Do proposed changes impact existing constraints in the system e.g. water supply, road access?
- Are TIP proposals introducing new fire risks into your town (e.g. high rise residential)? Do current emergency response teams have capacity to manage these risks?
- In the event that a fire impacts your TIP project, how can you improve resilience and help the community to bounce back? Does your town have a resilience strategy which provides guidance on this?

If you are unsure about the answers to the questions above, the TFDP fire services team can help you consider the most important issues facing your proposed projects.

Case studies

To help you see how fire engineering advisory services can help to make your town a fire safe town, some case studies have been included highlighting the positive impact of considering fire safety in master planning, risk mapping, portfolio management etc.

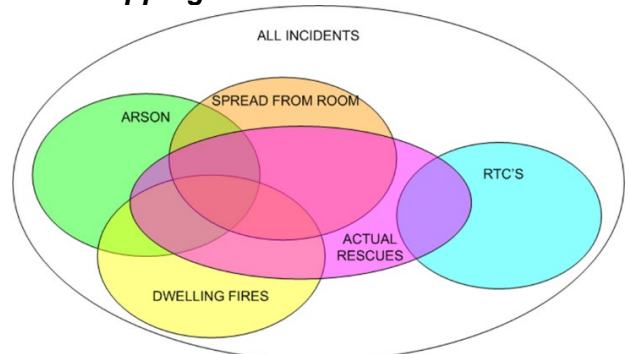
NFPA EFFECT™ tool



Globally there are serious concerns regarding combustible façades. A tool has been developed with NFPA, known as the EFFECT tool which can be used by building owners, facility managers, and approving authorities to review and proactively assess the risk in portfolios of high rise hotel, residential and office buildings.

The freely available online tool provides information that can be used to prioritise remediation efforts and highlight where it is necessary follow up with façade and fire safety specialists for further advice.

West Yorkshire Fire and Rescue Service- Risk mapping



Arup worked with WYFRS to undertake a review of available statistical data in order to develop a station area risk mapping tool.

The approach developed was based on a broad range of risk indicators (i.e. arson, actual rescues, dwelling fires, spread of fire, non-domestic fires, prevalence of false alarms etc) with the aim of creating an overall risk score for different station areas that ultimately allowed a risk map of West Yorkshire to be formed.

This work enabled WYFRS to develop operational plans that prioritised certain interventions based on the risk level of an area. The aim of this program was to improve community safety, reduce emergencies and providing value for money, while continually aligning the available resources to risk and demand.

Fire Safety Masterplan - UCL Bloomsbury Campus



UCL Bloomsbury Central Campus Project is focused on the refurbishment, redevelopment and development of new buildings which are proposed as part of UCL's Masterplan for the Central Campus.

In order to meet their duties as building owners and operators under fire safety regulations a Fire Safety Masterplan was developed. This document provides a simple summary of the complex fire safety precautions for a large number of buildings.

The masterplan also unlock opportunities for better day to day use of the Campus which were adopted in their Masterplan.

Arup produced the fire safety strategy for UCL's Masterplan. Based on their intimate knowledge of the site and operations, and by surveying over 40 buildings and interviewing more than 30 staff involved in fire safety management, Arup were able to build a comprehensive strategy and develop an innovative and highly visual method to convey complex fire safety precautions.

Confidential Master planning Guidelines

A Planning Authority in the Middle East engaged Arup to develop clear minimum guidelines on which every future development under their jurisdiction can be measured and will form the basis for master plan approvals.

The guideline covered minimum requirements and best practices that directly influence the planning and design of all elements of the built environment including land uses, community

facilities, open space and landscape, urban design and architectural elements, mobility and accessibility, utilities and natural environment and micro-climate.

This will guide developers/ consultants to develop master plans that are aligned with the city objectives and support in facilitating a streamlined and smooth approval process

City of Sydney - Open and Creative City

Complicated and expensive planning approvals processes were identified as a barrier to activating small scale cultural spaces in the City of Sydney. They engaged a team of planners, building surveyors and Fire Engineers to undertake generic risk assessments to assess the equivalent risk of a space being used for one of the defined 'cultural activities' against what the space was originally built for.

This work led to local regulatory reforms, and a set of [guidelines](#) that venues can use to simplify the planning approval process, and reduce the ambiguity and cost of getting planning approval.

XiongAn resilience project

Resilience and sustainability are top concerns as construction is about to begin in Xiong'an, a new city in Heibei Province, China (~100km south of Beijing). A resilience assessment was commissioned for the masterplan using Arup's Cities Resilience Index. Challenges such as the resettlement process, full involvement of stakeholders and a fragile ecological system were identified.

The resilience assessment included Fire and a district-level fire strategy approval process was proposed including government management, fire design document approval, coordination of fire separation, emergency evacuation, fire rescue between adjacent plots, and share of resources, etc. An innovative fire design approval scheme is proposed to address issues such as the development sequence and fire approval sequence.

This resilience assessment will enable an efficient and fit-for purpose fire safety approvals process in the city.

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