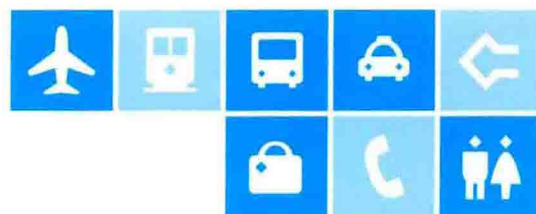# SIGNS IN TRANSPORT INFRASTRUCTURE

Transport infrastructure is the linkage between the starting point and the destination. It provides various services during one's travel. *Signs in Transport Infrastructure* shows many excellent cases by some international design agencies, including sign designs in airports, train stations, subway stations, bus stations, ports, parking facilities and streets. Through the book, readers will learn about how a successful transport signage system helps passengers to get their destinations quickly and accurately.

交通导视

（英）托尼·霍华德 编　常文心 译

SIGNS IN

TRANSPORT INFRASTRUCTURE

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辽宁科学技术出版社

PREFACE

前言

Every day we make countless decisions about which direction to take to get to where we want to go. Sometimes the journey is familiar, but not always. At railway stations, airports, large complex buildings and busy city environment we rely on signs to reach our destinations. As transport systems expand and become more complicated, and cities become even more congested, the need for clear concise signing is more important than ever.

Signing and wayfinding has become almost a science although it is designers who create and deliver the signing systems that we use on a day to day basis. The formalisation of sign graphics and comprehensive signing systems has developed in parallel with the growth and expansion of modern transport systems. Effective signing design requires consistency in sign appearance, layout and content; all the graphic elements have to be clear and simple.

Typeface design is a key component and the UK railway industry was the first to recognise this. In 1913 the designer Edward Johnston designed a modern clean sans serif typeface for London Underground. His student Eric Gill designed a similar typeface for the LNER railway in 1929. A more detailed approach to signing design was undertaken for British Rail in 1965 resulting in the typeface Rail Alphabet designed by Jock Kinnear and Margaret Calvert. This work for British Rail established the first set of modern rules for signing design that have been the basis for so many other signing systems used around the world.

Another key development in the field of transport signing was the work by Swiss typographer Adrian Frutiger who modified a typeface for the Paris Metro, specifically for light coloured type used on a dark background. This format is now generally considered the most effective for achieving maximum clarity and readability. Frutiger also designed a typeface for the new Charles de Gaulle airport in Paris in 1975 and this typeface (named for Frutiger) has become one of the most widely used signing typefaces in the world.

The work of these designers and others in the period between the 1960s and 1970s set standards for transport signing which are still used today. The basic graphic elements have been refined over subsequent years but the principles of good signing design remain the same.

Improvements have been made to signing graphics ensuring their effectiveness for users with disabilities, primarily making text, arrows and pictograms clearer and better defined. Sign illumination offers huge improvements in readability but also allows transport signing to stand out against the visual clutter of the retailing landscape that has become a standard feature of the modern transport environment.

Technical improvements in sign-making materials can help integrate signs with building architecture but also allow a wider variety of wayfinding graphics to be applied at different scales in a wider range of locations. Maps, diagrams, labels, notices and instructions all become part of an expanded signing and wayfinding system in a transport environment. Designers are no longer responsible for providing only directional information. They are now responsible for explaining how the transport system works, identifying the transport interchange and the entrances, identifying the different modes of transport, how to buy a ticket, how to locate the building facilities, how to use them, what is allowed and what is prohibited.

Although the principles for signing design have become standardised, increasingly complicated transport systems put greater demands on the designers responsible for the overall wayfinding. Multi-modal transport interchanges, larger transport hubs and architectural constraints require completely new ways of planning and implementing the wayfinding programme. Deciding what information is required at what location and avoiding information overload is critical. This involves being aware of how different environments affect decision making, keeping messages and message sequencing consistent, and using signs to help people create a mental map of a building and understand general circulation even during the busiest times of day.

Deciding what the sign content should be and how it should be presented can only be determined by having a thorough understanding of the user audience. A well educated, literate audience experienced in the use of transport systems has a different requirement to an audience of less well educated users who may not be familiar with a Latin text or international standard pictograms, and who may have never used a transport system before. And as more transport systems are developed for more countries the need for dual language and even triple language signs is becoming a standard requirement.

In transport systems it is fundamental that signing and wayfinding must work as effectively as it can. Signs cannot be compromised with the application of decorative graphics or the inappropriate use of colour. Yet there is a growing demand to design for the cultural context in which the transport system operates and this can go beyond the use of additional language text. Colour is a good example where in some countries or regions the use of certain colours would be unacceptable. The readability of text will vary from one region to another and even sight-lines, viewing angles and therefore sign locations are affected by the average heights of the local users. The correct interpretation of pictogram design can be affected by local culture as can the words and phrases used for the sign messages.

Clearly the designer's task is to achieve a balance in the signing and wayfinding

design; meeting the requirements of international standards in signing graphics, designing for individual transport environments, designing for different audience demographics and meeting the cultural expectations of local users as well as international visitors.

We notice when signs are confusing or wrong, and the experience can be very stressful especially in a busy transport interchange. When signs work well we probably do not notice them at all and this is how it should be. Wherever a transport system operates the local users must be able to access the information they need quickly and intuitively. Good signing design can instill confidence and trust, and in a transport environment making passengers feel welcome and safe has to be a primary objective.

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每天我们都会做出数不清的决定，决定从哪里走，到哪里去。有时行程是熟知的，有时不是。在火车站、机场、大型综合建筑和繁忙的城市环境，我们依赖引导标识来到达目的地。交通系统不断扩张，越来越复杂，而城市也变得越来越拥挤，更加需要简明的导视信息。

尽管导视系统是由设计师根据我们日常需求创造的，导视已经可以成为一门科学。随着现代交通系统的发展和扩张，标识图形和综合导视系统正逐步趋于规范化。高效的导视设计要求标识外观、布局和内容的一致性，所有图形元素必须清晰简洁。

文字设计是标识设计的重点，英国铁路产业是第一个认识到这一点的。1913 年，设计师爱德华·约翰斯顿为伦敦地铁设计了一套现代简洁的无衬线字体。他的学生埃里克·吉尔在 1929 年为伦敦及西北铁路线设计了一套类似的字体。1965 年，在更精细的伦敦铁路标识设计中，乔克·金尼尔和玛格丽特·卡尔弗特所设计的 Rail Alphabet（铁路字母表）字体应运而生。这位英国铁路建立了第一套现代标识设计准则，也是全球各地其他导视系统设计的基础。

交通导视设计领域的另一个重大进步来自于瑞士文字设计师亚德里恩·弗路蒂尔为达利地铁改良的字体。这种设计以深色背景对应浅色文字，被公认为是最高效、最清晰易读的方式。1975 年，弗路蒂尔还为巴黎的戴高乐机场设计了一套字体。这套字体被命名为 Frutiger（弗路蒂尔）字体，目前已经成为全世界最常用的导视字体之一。

20 世纪 60、70 年代的设计师的作品为交通导视设定了标准，这些标准一直沿用至今。

此后的数年中，基础图形元素经历了各种改良，而作为良好标识设计的标准始终保持不变。

标识图形的不断改良保证了它们更适合残障人士，主要是让文本、箭头、象形图标更加清晰简明。标识照明既保证了标识的清晰度，又让交通标识再杂乱的视觉环境中脱颖而出，已经成为了现代交通环境的标准特征。

标识制作材料的技术创新有助于让标识与建筑融合起来，让导视图形多种多样，以不同的形式应用于不同的位置。地图、图表、标签、通知和说明都是交通环境中扩大化的标识系统的一部分。设计师不再仅限于负责提供方向信息，他们所负责的是解释交通系统的运作方式、标识交通交汇处和入口、标识不同的交通模式、解释如何购票、定位建筑设施、介绍使用方式、说明允许和禁止的事宜。

尽管导视设计的原则已经实现标准化，越来越复杂的交通系统对设计师在整体导视方面的要求越来越高。多种交通模式的交汇、更大的交通枢纽和建筑限制条件要求设计师为导视项目开发全新的规划和执行方案。决定哪个位置需要何种信息以及避免信息超载是设计的关键。这涉及到了解不同的环境对决策的影响、保持信息和信息排序的一致性以及利用标识帮助人们建立某个设施的心理地图和了解基本交通路线（即使是在一天之中最繁忙的时段）。

只有充分地了解受众，才能正确决定标识内容及其呈现方式。受到良好教育的受众与缺乏教育的受众对交通系统的要求时不同的，后者可能并不精通拉丁文本或国际标准象形图标，也可能从来没有使用过公共交通系统。随着越来越多的国家正在开发越来越多的交通系统，双语乃至三语标识已经成为一项标准要求。

在交通系统中，导视设计必须高效简明。标识不能与装饰图形或不恰当的色彩一起使用。但是越来越多的地区要求在交通系统的设计中考虑文化因素，这些要求已经超出了附加语言文字的范畴。色彩就是一个最好的例子。在一些国家和地区，某些色彩是不能被接受的。文本的清晰度会因地区、视线、视角而异，标识的位置也会受到当地居民平均身高的影响。象形图标、标识的信息文字措辞都会受到当地文化的影响。

毫无疑问，设计师的任务是在导视设计中实现平衡：既要根据国际标识图形设计标准设计出独立的交通环境、满足不同受众，又要符合本地用户和国际游客的文化期待。

我们注意到，混乱或错误的标识会让人们在繁忙的交通交汇处感到异常紧张。成功的标识不会引人注目，却能十分高效。无论交通系统的运转如何，本地用户都必须能够快速、直观地获取所需信息。良好的导视设计能注入信心和信任。在交通环境中，让乘客感到友好而安全是作为设计师的首要任务。

托尼·霍华德

托尼·霍华德是伦敦 Transport 设计咨询公司的总经理，曾担任英国铁路公司的设计总监。目前，他负责全球各地的交通设计项目，其作品遍布英国、欧洲、中国香港、新加坡、印度、澳大利亚和阿联酋等多个国家和地区。

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托尼·霍华德

*托尼·霍华德*是伦敦 Transport 设计咨询公司的总经理，曾担任英国铁路公司的设计总监。目前，他负责全球各地的交通设计项目，其作品遍布英国、欧洲、中国香港、新加坡、印度、澳大利亚和阿联酋等多个国家和地区。

Berlin Brandenburg Airport

柏林勃兰登堡机场

A key design feature is the colour red, unusual for airports. This gives clear signals for orientation, and also harmonises with the architecture, with its warm tones of wood, sandstone flooring and glass. At the same time, it is modelled on the appearance of its home states of Berlin and Brandenburg. In places, the signs are directly embedded into the architectural panels – some flow around the corner, and this concept is woven into the product design of the signs outside the building. A further element dovetailing the orientation system and the architecture is the lines of individual graphical elements of the orientation system. Moniteurs adopted the linear structures of the architecture, themselves based upon the coniferous forests of Brandeburg, which also inspire some of the modern buildings of Berlin, such as the New National Gallery by Mies van der Rohe. The lines that make up the letters and pictograms produce graded tones, which create a hierarchy among the signs without having to be colourful. In this way, the information is well structured and easily readable. The content structure has been just as clearly configured: the pictogram of the departing aircraft accompanies passengers to security, after which signs for gates A–D become visible. As the architectural language varies from one part of the building to another, so too does the graphical language of the orientation system. In the North Pier, for example, where the wall fixtures are not made of wood, passenger information is applied directly to the walls. This variety of applications illustrates once more the strength of the clear, integrated design concept.

设计的重点在于红色，这在机场中十分罕见。红色提供了清晰的标识和导向，同时也与建筑通过木材、砂岩地板和玻璃所形成的温暖色调融为一体。同时，红色也是机场所在的柏林和勃兰登堡的标志性颜色。引导标识被直接嵌入了建筑墙板上，其中一些还贴在转角处。这一概念被融入了建筑外部标识产品的设计之中。另一个使导视系统与建筑融合在一起的元素是导视系统中的独立图形元素。Moniteurs 设计公司采用了建筑线形结构（柏林的一些现代建筑也采用了这一设计，例如密斯·凡德罗的国家美术馆）。条纹让字母和象形图标产生了渐变的效果，既在标识间形成了等级，又不失色彩。这让信息结构良好而便于阅读。信息的内容十分明确：离港飞机的图标伴随着乘客前往安检，直至 A-D 登机口标识的出现。由于建筑的各个部分采用了不同的建筑语言，导视系统的图形语言也相应地区分开来。例如，在北航站楼，墙面装置并不是采用木板制作，乘客信息被直接应用在了墙面上。这种不同的应用再一次体现了简洁、综合的设计主题。
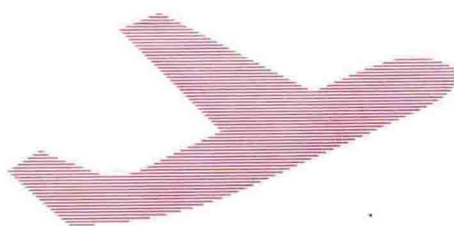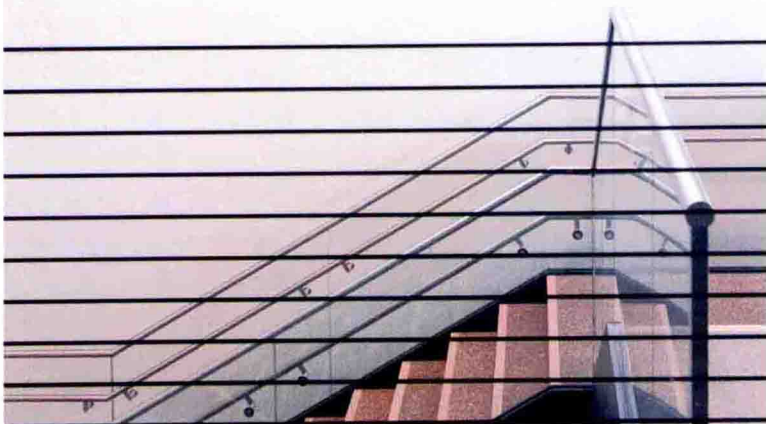
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