



Performance-Based Accessibility Standards

Photo Credit: SCF Arquitectos

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Too often performance-based Universal Designs have a generic standardized look, as it is commonly seen solely as a problem-solving function based design element, an addition to the space rather than a feature or enhancement of the space.⁵ Universal Design is inclusive to all, whether the user is feeling the effects of aging, has a temporary disabling issue, or has a long-term disability.⁴ The lack of visually desirable designs can typically lead to underperforming spaces, as the performance-based universal designs applications are often perceived as uninclusive to all, thus creating a new form of social segregation.⁵ Naturally, it is important for the performance-based features to function for the users, however, the main focus should be on the design strategies and improving the issues for the users, rather than the standardization of the performance-based applications. Currently, very few projects exist using the design concept, as the concept is only now starting to gain recognition within Universal Design. The following projects act as excellent examples for properly integrated accessibility and wayfinding Universal Design strategies.

Rehabilitation of Karpenisi Town Centre | Karpenisi, Greece



Photo Credit: UIA

Figure 1: Photo of a newly rehabilitated Karpenisi town centre street.

Project: Karpenisi Town Centre

Architect(s): Andreas
Lanpropoulos, Panagiotis
Vasilatos, Nikos Tsolkas

Year Built: 2015

Area: 237,000 ft²

Located in the remote Greek mountainous town of Karpenisi, the newly transformed main access roads of the town centre has helped rehabilitate the economically deprived area, as the design has attracted more visitors and users.⁶ The main goal of the project focused on diminishing the volume and dominance of the vehicular traffic in the area, to promote more universally inclusive pedestrian spaces, increasing the total pedestrian space by 65%.⁸ Access to the town centre has been greatly improved for those with mobility or way-finding impairments, as the project incorporated a variety of cost-effective Universal Design strategies, and using them as aesthetically enhancing features rather than standardized functional additions. To reduce the volume and speed of the traffic, the project reduced the vehicular traffic lanes to a single mixed-use 3.50 metre wide curbless lane for both vehicular and active transportation, using uniquely identifiable rough stone pavers for the lane.⁸ For pedestrian safety, bollards and street vegetation were included. Additionally, the designated 1m wide vegetated sidewalk lane incorporated attractive urban trees, street lighting, and furniture to enhance the universal desirability of the location, while also allowing a 0.9m wide buffer zone along the edges buildings to promote storefront decoration and



Figure 2: Photo of a man walking down newly rehabilitated Karpenisi town centre street.

character.⁸ The 1.8 metre wide obstacle free pedestrian sidewalks incorporate smooth anti-skid brick sidewalks with high contrast colours and design patterns for universal user comfort and spatial differentiation, and tactile ground indicators guide users with visual impairments.⁸ The heated sidewalk presents a possibly more expensive safety and maintenance feature, as it is designed for icy conditions, unfortunately, it is only wide enough for a single wheelchair user and is only installed on a single side. Overall, the project has incorporated many visually appealing Universal Design features and was awarded an honourable mention at the 2017 UIA Friendly and Inclusive Spaces Awards.⁶

The Bergen Light Rail | Bergen, Norway

The goal of the Bergen Light Rail project was to create an efficient city transit system which would allow accessibility for everyone while blending in the inclusive design features.³ Designed for easy access and way-finding, the light rail features wide entranceways, elevated entrance platforms for step-free access, selective material use for navigation, unique interior sound, and light signals to indicate stops, and easy to use electronics.³

Within a space surrounded by visually powerful character buildings, the designers focused on creating a clear identity for the light rail, in order to give users a clear recognition of the transit system, improving site navigation and way-finding.¹ Instead of adding more signage, the designers used a high contrast signature orange colour to indicate important transit features such as the light rail train, transit staff, electronic service booths, and tram stops.³ The electronic service booths have been equipped with brail and audio information systems for the visually impaired.³ As a result of the successful innovative design, ridership increased more than expected, becoming the preferred method of transport for a large number of people. The project received the Innovation Award for Universal Design 2014 in the category of Transport.¹



Figure 3: Aerial photo of the Bergen light rail transit system.

Project: Banks Light Rail
Architect(s): Arkitektgruppen Cubus
Year Built: 2010, 2013, 2015
Area: City of Bergen

Paseo Puerta de Tierra | San Juan, Puerto Rico

The 5.8 kilometre long multi-sensorial oceanfront promenade connects two important destinations together, Old San Juan, a designated World Heritage site, and the other, a densely-populated vibrant oceanfront district.⁷ Prior



Figure 4: A lower portion of the Paseo Puerta de Tierra promenade.

Project: Paseo Puerta de Tierra
 Architect(s): SCF Arquitectos
 Year Built: 2016
 Area: 5.8 km

to the project, the strip of land suffered from a high volume of vehicular traffic, known for its unfriendliness to pedestrians, and a spot for criminal activity.⁷ As intended, the newly constructed promenade built in 2016 has become a destination for tourism, with both active and public transportation, cleverly separating pedestrians, road traffic, public transportation, and active transportation with clearly defined routes, additionally using effective and easily comprehensible bilingual signage systems for wayfinding and site education.⁷ The design offers numerous comfortable social spaces, with additional attractive lighting incorporated throughout, to increase nighttime safety and visibility. As a result, the site continually receives a considerable number of visitors of all ages both day and night, receiving a lot of recognition for its inclusive design.⁷

Schandorff Walkway | Oslo, Norway



Figure 5: A design plan for the Schandorff walkway.

Project: Schandorff Walkway
 Architect(s): Østengen & Bergo AS
 Year Built: 2009
 Area: 27,000 ft²

Formerly known as Schandorff gate, a dead end street ending with a retaining wall featuring a basic staircase, unable to be used by those with mobility difficulties.² The steepness of the square caused many mobility issues.² Instead of adding a standard ramp to achieve the desired 5% gradient of slope at the retaining wall, the designers constructed a dynamic winding walkway which integrated the ramp within the space, making it the main attracting feature.⁹ The concept for the design evolved from the belief in which universally designed spaces should be a desirable for all, and not just for a particular user group.² Other features of the design include easily accessible public seating, and high contrast corten steel edges for way-finding, as well as additional stairs on the side with handrails, marked steps, and tactile paving at the top and bottom.²

Final Thoughts

As seen, successful age-friendly projects often use the core principles and ideas of the Universal Design features to inform the design so they can be incorporated as main aesthetic qualities. The projects which do so are typically more successful because they value the aesthetics of the design equally as much as its functionality.⁵ As seen in the projects above, there are a variety of ways a design can address accessibility and way-finding issues by simply adopting the core principles of the performance-based Universal Design features, such as visual and material differentiation, barrier-free physical forms, and effective spatial organization.⁵

Sources:

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