

RUNCORN, UNITED KINGDOM

BRIEF: RUNCORN BUSWAY

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Runcorn Busway

CITY CONTEXT

Runcorn is a town with a population of about 70,000, located about 29 km [18 miles] southeast of the Merseyside (Liverpool) conurbation in northwest England. Runcorn was planned and developed in the mid-1960s around an existing small town nucleus as a “new town” and comprises a mix of public and private housing and retail and light industrial-commercial development. Runcorn was planned to integrate land use and transport; the major town planning innovation was the provision of an exclusive, segregated busway transit system serving all parts of the town. (See [Figure 1](#).) The busway was intended to provide a high-quality and accessible bus system, which made buses competitive with private automobiles and thereby encouraged bus use and reduced automobile-dependency. Mode shares of 50/50, bus/private transport were targeted. Busway operations began in the spring of 1973.

BASIC INFORMATION/ BUSWAY DESCRIPTION

The busway comprises an exclusive bus track, in the form of a “figure-eight,” which serves residential and industrial areas of the town and “crosses” at the town center for shopping (see [Figure 2](#)). Housing and employment locations were distributed such that 90% of the working population was within a 500-meter [a little over 0.25-mile] or 5-minute walk of the nearest bus stop.

The Runcorn busway attempts to satisfy the following criteria: (1) almost door-to-door service by clustering all activities along the busway, (2) limited need for transfers by establishing a system of nested loops, (3) short waiting time because of the concentration of 70,000 people into narrow corridors that can support frequent service, (4) uninterrupted flow and no delays en route as a result of the exclusive right-of-way, and (5) directness of movements because of linear concentration, which may result in a 50% time savings as compared to conventional patterns ⁽¹⁾.

The basic features of the busway are the following:

- The busway comprises about 22 kilometers [14 miles) of exclusive “buses-only” track with one lane each way and is fully segregated from other traffic. There is a short section of bus route (about 3 kilometers) in the west of the town where buses operate on multi-purpose roads.
- The design speed of the busway track is 64 kph [40 mph]; on the busway itself, buses operate at about 31 kph [20 mph] with headway of about 5 minutes on the most heavily used sections.
- The track is 6.7 meters [22 feet] wide with variable width unpaved merges. At typical bus stops, the platform length can accommodate two buses, and the track width is 14.3 meters [47 feet], including a central divider to permit bus overtaking

- in safety. The extra width extends 26 meters [about 85 feet] to allow for acceleration, deceleration, and passing. (See [Figure 3](#).) Lighting is provided only at stops.
- Stations are located at approximately 400-meter [0.25-mile] intervals. (See [Figure 4](#).)
 - There is only one elevated section of the busway, where it enters the town center shopping complex at a high level (see [Figure 5](#)). Other crossings with normal roads are at-grade; traffic management is effectively employed through signal-controlled junctions with bus actuation. Generally, buses do not have to stop at other road crossings.
 - Available data on bus fleet and patronage indicate that the busway bus fleet has about 22 vehicles (although out-of-town buses to the shopping/town center are permitted), and the system carries about 7 million journeys per year.
 - Total costs of developing the busway (including construction and land) were reported as \$15 million in 1973. Most of the costs were attributed to the elevated sections of the busway in the town center and grade separations at major intersections.

IMPORTANT LESSONS RELEVANT TO U.S. CONDITIONS

BUSWAY OPERATIONS

The Runcorn busway track is 6.75 meters [22 feet] wide, compared with an “O-Bahn” type guided busway of a minimum of 6.2 meters [20 feet]⁴. The Runcorn busway has operated successfully for over 30 years and clearly demonstrates that buses can operate perfectly well on a relatively narrow road width without the need for automatic bus guidance. Runcorn also demonstrates the benefits of good traffic management that can avoid the need for costly grade separations of the busway with other roads. In the case of Runcorn, although the traffic signal system (which controls busway crossing of normal roads) is about to be updated/replaced, the bus actuation of traffic signals works well, and buses are rarely delayed.

IMPORTANCE OF IMAGE/MANAGEMENT

In the recent past, the Runcorn busway has not had a “quality image.” There is evidence of past neglect of the infrastructure, and the scheme has been subject to severe vandalism—particularly at bus stops and passenger shelters. The problems are reported to be more associated with past local government housing policy than with the busway itself. However, there are signs that this is changing, and the creation of the “unitary local authority” in the last few years with direct responsibility (and electoral accountability) for all public services, including the busway infrastructure, should improve conditions. Indeed, a new approach is already evident as the “unitary authority” has made public commitments to improve the quality of the busway and has allocated £400,000⁵ (\$600,000 in U.S. dollars) to its rehabilitation. The investment will be used to improve off-bus passenger facilities quality (e.g., improved footpath access); bus operations (e.g.

new traffic signal system); safety (e.g. sight lines, verge maintenance); passenger safety (CCTV); and annual maintenance.

The lack of a committed management structure in the past for the busway is an evident “lesson.” In contrast, light rail transit (LRT) usually possesses a single promoter/management organization system. Ideally, busways should also have such an organization.

APPLICABILITY

The Runcorn busway is one of the very few examples of a purpose-built busway and one of even fewer examples of integrated busway and land use development. However, the experience is not directly applicable to *existing* towns. The busway scheme was the core element of a planned *new* town and was not introduced into an existing urban area.

There are clearly cases—new towns or development areas or redeveloping districts—where the Runcorn busway approach has much to commend it. The scheme clearly works well, and its costs were a fraction of an LRT/tram. The scheme is entirely appropriate for the provision of an efficient public transport system in a medium-sized town under redevelopment.

Additionally, from an operational standpoint, Runcorn shows that a busway on a non-guided track can work efficiently on a day-to-day basis. If the busway can be introduced into an area where the land use–transport link may be strong, the operational experience can be very positive.

BIBLIOGRAPHY

1. A more comprehensive discussion of the Runcorn busway is set forth in *NCHRP Report 143: Bus Use of Highways: State of the Art*. Highway Research Board, National Research Council, Washington, DC, 1973.
2. From data sheets prepared by Warrington and Runcorn Development Corporation. The Corporation was wound up in Sept 1989, and following an interim period, Runcorn was administered as part of the Borough of Halton (a unitary authority with responsibility for all public services including the busway; bus services themselves are operated by the private sector).
3. Gava, S. "Busways in New Towns." *Traffic Quarterly*, Eno Foundation for Transportation, Westport, CT, October, 1972.
4. Press Release, Halton Borough Council, December, 1999.

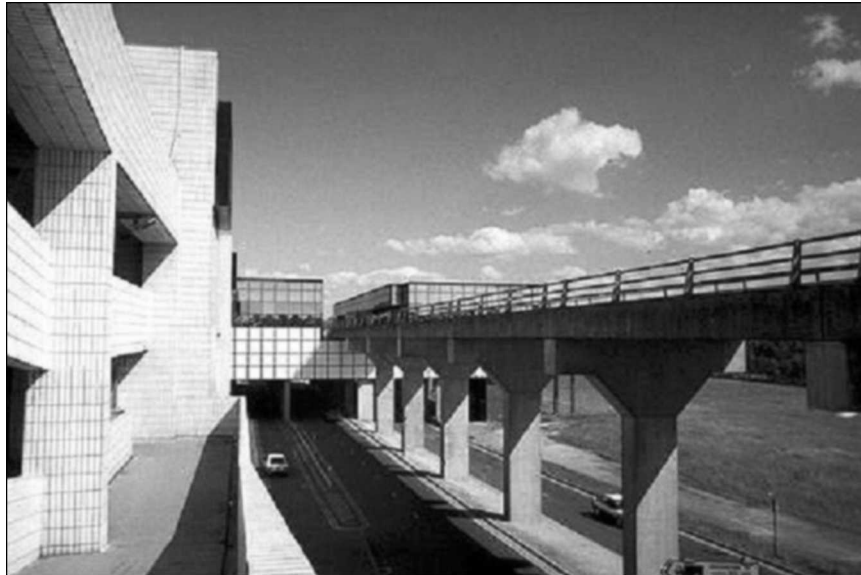


Figure 1: Elevated Section of Runcorn Busway (As it Enters the Shopping Complex)

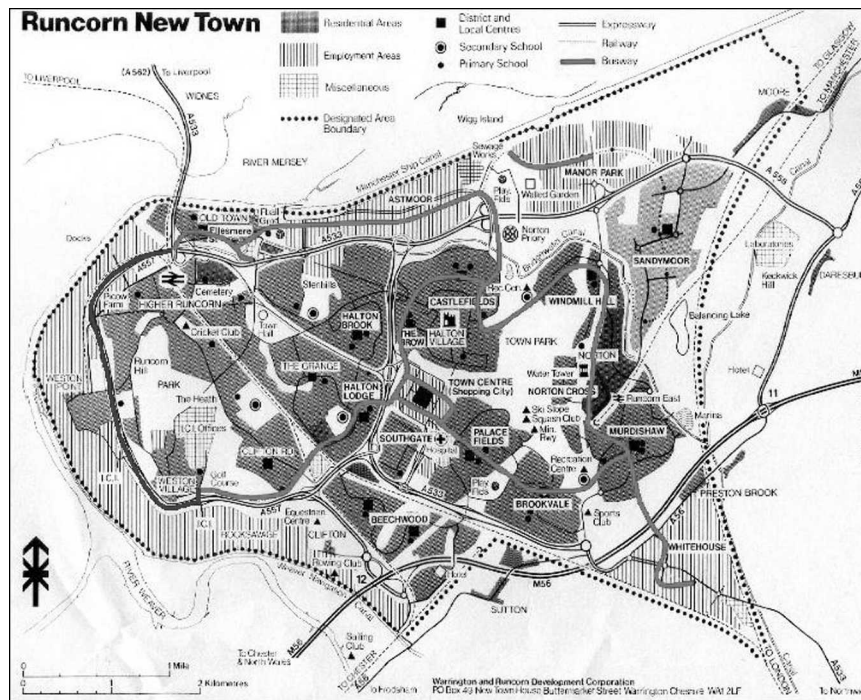


Figure 2: Runcorn Busway Location Plan (reproduced from Warrington and Runcorn Corporation [now disbanded] Plan)

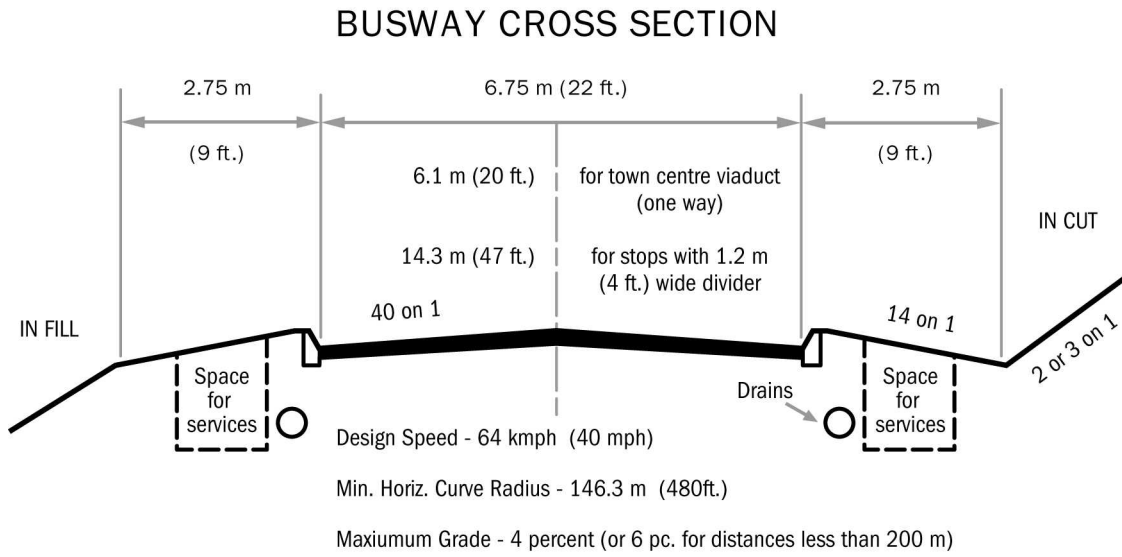


Figure 3: Cross-section of Runcorn Busway



Figure 4: Bus Stops at a Local Center



Figure 5: View of Elevated Business Town Center