MAKING ROADS SAFE FOR PEDESTRIANS OR KEEPING THEM OUT OF THE WAY? - AN HISTORICAL PERSPECTIVE ON PEDESTRIAN POLICIES IN BRITAIN

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INTRODUCTION

Transport policy in many countries has recently sought to find ways to decrease reliance on car use and increase the use of other modes of travel. The UK government has in recent years redirected transport policy to focus on non-car modes of travel and walking is a key feature of these policies. Although many successful projects have been implemented in recent years the actual implementation of policies to promote walking is often stymied by the existing infrastructure. This includes wide streets with large flows of motorized traffic, inadequate pedestrian crossings and sidewalk space, and an overall concern that any walking facilities will exacerbate congestion on existing road networks. These controversies are not new and have existed in the debates over pedestrians facilities for a long time. This review seeks to understand how pedestrian infrastructure in Britain developed over time and how increases in road traffic influenced the design and planning of pedestrian facilities.

ROAD SAFETY POLICY IN THE NINETEENTH CENTURY

Most major cities experienced tremendous growth in horse-drawn and pedestrian traffic in the nineteenth century. The lack of effective traffic control policies and poor or no pedestrian infrastructure resulted in high transport fatalities (fluctuating between 50 and 60 per million persons living per annum in England). Taking into account the rapid population rise, it means an ever greater number of people killed in traffic accidents.

Before 1846 the law of Deodands, that allowed forfeiture of any animal or cart involved in a fatal pedestrian accident, had acted as an insurer of traffic safety for many centuries in England. It was replaced by a more lenient Police Act. The abolition of forfeiture was to some extent a response of the more mobile classes to diminish the penalties potentially associated with engaging in mobility. An indirect result of the lenient penalties imposed for traffic violations was that drivers developed an attitude implying that pedestrians had no rights on road space. In the 1878 report of the Registrar General, some proposals were suggested to reduce road fatalities

- Creation of more pedestrian refuges
- Licensing of all drivers of heavy wagons and vans
- A police regulation to ensure the use of brakes and introduction of variable fines
- Educating the population on civic responsibilities and road safety
- Provision of more playgrounds for children

Not much action was taken on these recommendations. Various engineering measures, however, were implemented as is shown in the next sections

EARLY REGULATION OF ROAD AND FOOTPATH SPACE

At the dawn of the nineteenth century a number of authorities were in charge of managing urban streets under a conglomerate of regulations regarding paving, cleansing and lighting of the streets. The fist major consolidation of these regulations came in the form of the Metropolitan Paving Act of 1817. This Act was, however, limited to only certain urban roads. The clauses in this act were further elaborated and extended and clauses concerning traffic control were inserted for the first time in the Police Act of 1839.

The laws enacted through the acts of 1817 and 1839 were revised repeatedly to take care of the changing hazards on roads and at times imposed very harshly; but even then, walking on a footpath remained dangerous for long times to come and obstructions such as trap doors, coal cellar plates, telegraph and telephone wires, crane chains and even fruit peels thrown carelessly in the streets posed danger for pedestrians.

Establishment of the Metropolitan Board of Works in 1855 was an important step in centralisation of responsibilities for construction and maintenance of roads and pavements in London. The Board defined standards for the minimum size of streets but it was only in 1877 that the minimum size of footways was defined by the Local Government Board in its Model Bylaws.


POLICE NOTICE.

STREET CROSSING SIGNALS.

BRIDGE STREET, NEW PALACE YARD.

CAUTION. STOP.

The Semaphore Arms lowered, and by Night with a Green Light.

The Semaphore Arms extended, and by Night with a Red Light.

By the Signal "CAUTION," all persons in charge of Vehicles and Horses are warned to pass over the Crossing with care, and due regard to the safety of Foot Passengers.

The Signal "STOP," will only be displayed when it is necessary that Vehicles and Horses shall be actually stopped on each side of the Crossing, to allow the passage of Persons on Foot; notice being thus given to all persons in charge of Vehicles and Horses to stop clear of the Crossing.

RICHARD MAYNE,

The police notice issued in 1868 on opening of the first traffic signal

MAKING STREETS SAFE TO CROSS

With the large scale development of road infrastructure in the latter half of the nineteenth century, roads became increasingly wide to cater to the rise in horse and carriage traffic making it very difficult for pedestrians to cross busy streets. The problem resulted in the installation of the first traffic signal in London in 1868 to stop traffic to allow pedestrians to cross safely. This experiment, however, failed within few months due to lack of legal cover, operational problems and a lengthy signal cycle and no more traffic signals were installed for the next fifty years. Only a few footbridges and subways were provided and the reasons for their limited provision were (in view of the responsible authorities)

- A footbridge would be an unsightly structure
- A bridge would necessitate property acquisition
- Few pedestrians would use the bridge
- Subways would require Police supervision

MAKING STREETS SAFE TO CROSS (cont.)

In late 1920s some London boroughs started experiments with pedestrian road crossing signs and surface markings resulting in amber globes and two lines of studs becoming authorized markings for pedestrian crossings in 1934. By the end of the 1940s there were over 30,000 crossings in all of Britain. Driver observance and pedestrian usage was low. In 1951 the number of pedestrian crossings was reduced by two-thirds and the road surface at the crossing was striped (Zebra crossing). Pedestrians were to have precedence over vehicles at these crossings. Zebra crossings resulted in a reduction in pedestrian casualties and remain an important feature of urban road infrastructure in Britain to this day.

In the 1960s various push button pedestrian crossings (Panda, Pin Man and X-Way) were tried and ultimately led to the introduction of Pelican crossings in 1968. Many Zebra crossings were converted to Pelican crossings and one important reason was to make drivers give way to pedestrians without the need for the presence of police. Pelicans incorporated a fixed crossing time for pedestrians. To improve on this feature Puffin pedestrian crossings were introduced in early 1990s with the ability to extend the pedestrian phase if pedestrians are on the crossing or to cancel the pedestrian phase if pedestrians have already crossed.

The introduction of various pedestrian crossings was guided by experimentation and research, led by the Road (now, Transport) Research Laboratory which at the time was a government organisation. This coincided with the recognition that highway engineering was a distinct disciplinary topic with the need for research to underpin policy decisions. The advent of the Zebra crossing also was a recognition that for the safety of the pedestrian, traffic must sometimes come to a complete stop, regardless of the desire to increase throughput.

CONTROLLING THE PEDESTRIAN: REFUGES AND GUARDRAILS

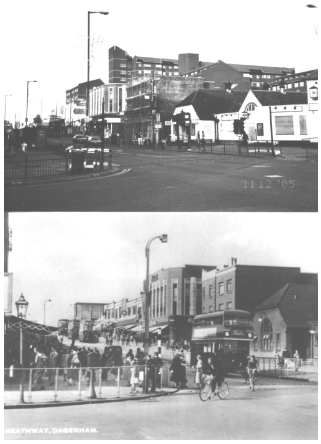
One of the unique elements of roads in Britain is the pervasiveness of small medians and mid-block crossing points as well as guardrails that control and channel pedestrian traffic. Pedestrian refuges were initially installed not to control pedestrian movements but to enable safer crossings. In some cases, particularly in busy roads, these later developed into controlled cattle-pen crossings, facilitated by the advent of pedestrian guardrails, ostensibly protecting them from traffic, but in reality allowing faster vehicle flows.

Refuge islands for pedestrians were present on some urban roads in the early nineteenth century. These consisted of an open space of about 0.74 m^2 within which pedestrians were protected on either side by semi-circular spaces formed by an open balustrade about 90 cm high. This typical design is still in use with slight variations on British urban roads.

Pedestrian refuges at Whitehall, London; in 2005 and in ca.1915

Pedestrian guardrails were first installed in the 1930s on long stretches of roads under the pretext of pedestrian safety but in reality this was a means to increase vehicle speeds. Since the 1960s guardrails have also been installed on pedestrian refuges on staggered pedestrian crossings in order

- To control the crossing point of pedestrians
- To channel pedestrians through the refuge
- To provide useful guidance for the blind



Pedestrian guardrails in Dagenhnam, London; in 2005 and in ca.1950

Pedestrian guardrails and staggered crossings have recently come under severe criticism and a Select Committee of the House of Commons recommended their scrapping in 2001. This view is in line with current policies to improve pedestrian conditions. At least one of the boroughs in London has already started an experimental removal of guardrails on a busy high street. It is yet to be seen how guardrail removal will affect pedestrian-vehicle interactions.

CONCLUSIONS

The historical record show that debates over the competing goals of pedestrian and vehicular mobility are not new. This is an issue that reverberates to this day and can easily be seen in fierce debates over speed limit policies, such as over speed limit cameras and traffic calming. To increase pedestrian activity, it is necessary to create safer walking conditions but it is also essential not to inhibit pedestrian activity with a single-minded focus on enabling traffic flow. Determining the proper balance, while maintaining safety, should clearly be a policy goal and transport history shows that this is an old debate that continues to this day.