Essex Highways

Local Highway Panels Members' Guide

5 Crossing Facilities

RINGWAY JACOBS
integrated expertise

Essex County Council

1. Introduction

On the network, where there are sufficient crossing opportunities, most individuals are able to cross without the provision of a crossing. However, at sites with higher vehicle flows and high pedestrian numbers a formal crossing may be required to aid safer passage across the road.

The appropriate crossing type is dictated by the circumstances on site and the demands of the individuals using it. This includes people with disabilities using electric buggies or in wheelchairs and also cyclists and horse riders.

2. Typical Problems

'There is too much traffic. It is not safe to cross'

'The traffic comes too fast to cross safely'

'It's an accident waiting to happen'

These are common complaints to local Members which can lead to requests for both formal crossings (zebras and light controlled puffin/pelican/toucan crossings) and informal crossings (dropped kerbs, pedestrian refuges or build outs).

3. Things to Consider

Pedestrian and Vehicle Numbers

Crossings are only provided where there are sufficient numbers of pedestrians and vehicles to meet the County's guidance. This is measured through a formula called PV^2 (where P = Pedestrian numbers and V = Vehicle numbers).

A score of 0.2×10^8 for zebra crossing and central islands, with 0.7×10^8 for a signalised crossing (see Members Guide 6 for further information)

Needs of different road users

Younger children do not perceive speed and distance accurately and need help to cross the road safely. This may result in requests for crossings, especially in the vicinity of schools. Often these new facilities will only be used at the beginning and end of the school day. Requestors should therefore consider whether a school crossing patrol or a '20s Plenty' campaign would be a more effective solution.

Wheelchair or mobility scooter users may also request dropped crossing points along well-used routes. These routes are often those into the town centre or other local amenities.

Collision data

It is very important to get the collision data for the area in question.

When pedestrians perceive a site as 'dangerous' they may in fact take extra care, resulting in a low number of collisions.

In many cases, where there is not an existing accident problem the introduction of a crossing may increase the risk of collision.

The reasons for this are varied and can include the following:

- More pedestrians are crossing at the one location.
- Pedestrians make assumptions about when it is safe to cross.
- Drivers focusing on the crossing and losing sight of people crossing in other areas of the road.
- Pedestrians at a light controlled crossing taking risks and starting to cross after drivers have commenced moving.
- Pedestrians dashing out on a zebra crossing without allowing the driver time to stop.

With that in mind, we do not generally recommend the introduction of a new crossing unless there is a pre-existing history of collisions, or where a site meets the County's PV^2 guidance.

3. Things to Consider continued

Desire Line

The desire line is the point at which most people would choose to cross the road. In general it represents the shortest distance between where pedestrians are and where they want to be.

Unfortunately, the desire line is not always the safest place for a crossing – it may be on a bend, at a T junction, or amongst street furniture where visibility is limited. The desire line may also be situated on/between vehicle crossings (leading to residential driveways), which may prevent the installation of a crossing.

Siting a crossing close to a T junction can have inherent risks. Drivers may not be focusing on pedestrians crossing the road and the pedestrians may not recognise that a driver is turning.

Siting a crossing away from the desire line may result in pedestrians choosing not to use it. In some cases this danger can be averted with the installation of guard railing, however, this also carries a risk as those determined to cross on the desire line may become trapped between the railings and the road.

Crossings on very busy roads and dual carriageways

There may be some instances where it is not possible to install a pedestrian refuge or a zebra/puffin/toucan style formal crossing. This applies particularly where there is a request for a crossing over a fast dual carriageway or a road that carries very high volumes of traffic. Any such issues will be identified when the request is validated.

Crossings and Speed Limits

The speed of traffic will have an impact on the type of crossing that can be installed. Zebra crossings, for example are not permitted in areas where the speed limit is above 30mph or where 85th%ile speeds are above 35mph. In these circumstances a signal controlled crossing would be the preferred option if all other criteria can be met. (See Members Guide No 6)

School Crossing Patrol Sites

School crossing patrols may only be introduced at sites which meet the relevant Essex County Council criteria.

LHP funded measures which may be beneficial or obligatory at school crossing patrol site include:

- Warning signs
- Adjustment of School Keep Clear markings
- Wig-wags (time controlled flashing warning lights)
- Footway Improvements

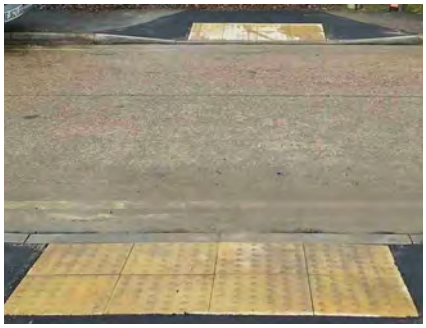
Zebra Crossings next to Residential Properties

The continuous flashing Belisha beacons on a zebra crossing can result in objections and complaints from local residents, especially when a new crossing is installed. There are options to mitigate against this but these crossings may still be unpopular with neighboring residents.

4. Typical Measures

Dropped Crossing

Usually installed where tactile paving can be introduced to help partially sighted people.



Pedestrian Island

Installed where the road is above 7.2m wide and where a high number of pedestrians are having difficulty in crossing.

Zebra Crossing

Installed where the PV^2 is over 0.2 X 10^8 or above and speeds are low.

Zebra crossing requests where the 85th%tile speed are above 35mph will need to be considered for a signalised crossing as an alternative.

Parallel Crossing

Also known as a Tiger crossing, these are usually installed on a recognised cycle route.

5. Scheme Investigation

All LHP requests for crossings must be submitted via the County Member on an application form. The application will generate the survey request and validation by a qualified engineer.

All LHP schemes will require a pedestrian and vehicle count to calculate the, PV^2 to ascertian whether the location meets the criteria for a signal controlled crossing. A PV^2 score of 0.7×10^8 is the minimum requirement for a signal controlled crossing

The average space between vehicles regarded as acceptable varies according to the age and ability of the pedestrian and all the conditions surrounding the site. In free flow conditions the spaces between successive arrivals are randomly distributed and therefore a relatively short time will occur when looking for an acceptable space. However, in these circumstances speeds are likely to be higher than normal and the length of space required will also be longer.

The Engineer will consider the following when developing a scheme:

- The collision history for the road.
- The degree of conflict between pedestrians and vehicles, as measured by the PV^2 survey (see above).
- The traffic speeds and the speed limit.
- The location of bus stops, accesses and junctions in vicinity of the proposed crossing.
- Is there a nearby power supply?
- Is the street lighting adequate?
- Does the footway need to be widened?
- Is the existing road surface sufficient?
- Is high friction surfacing required?
- Does the width of the road justify the need for a central island?

The outcome of the investigation is report to the County Member and the panel for consideration of funding.

6. Costs and Timescales

The Essex County Council contract with Ringway Jacobs is a target cost rather than a typically fixed price type contract. This contract was chosen as the best type to deliver savings and efficiencies whilst promoting partnership working between ECC and Ringway Jacobs.

An explanation of the process, including costs and timescales for typical schemes can be found in Appendix 1

7. Glossary of Terms

AVL	Automatic Vehicle Location (similar to RTPI)
CMA	Cabinet Member Action
CMB	Cabinet Member Briefing
EA	Environment Agency
ECC	Essex County Council
EH	Essex Highways
LHP	Local Highways Panel
NEPP	North Essex Parking Partnership
PP	Parking Partnership
RTPI	Real Time Passenger Information
S106	Section 106 (Money provided by a Developer to County Council to implement infrastructure as an obligation of the planning permission)
S278	Section 278 (Infrastructure required to be implemented by the Developer as an obligation of the planning permission)
SERP	Safer Essex Roads Partnership
SID	Speed Indicating Device
SEPP	South Essex Parking Partnership
SLO	Speed Limit Order
SSSI	Site of Special Scientific Interest
TRO	Traffic Regulation Order
TSRGD	Traffic Signs Regulations and General Directions
VAS	Vehicle Activated Sign
85th%tile	85th%tile (If speeds of all motorists is ranked slowest to fastest, the %tile speed separates the slowest 85% from the fastest 15%)