TRAFFORD COUNCIL

Report to: **Scrutiny Committee**
Date: **10 January 2018**
Report for: **Information**
Report of: **Executive Member for Highways, Parks, and Environmental Services**

Report Title

PEDESTRIAN CROSSINGS AND TRAFFIC MANAGEMENT

Summary

This report identifies the process undertaken to consider the introduction of Pedestrian Crossings within Trafford, identifying the key stages, funding and the involvement with TfGM in introducing Signal Controlled Crossings within the Borough.

Recommendation(s)

It is recommended that the report be noted.

Contact person for access to background papers and further information:

Name: Darren Findley
Extension: 2535

1. Introduction:

1.1 This report is in response to a request by Scrutiny Committee and describes the typical processes involved when considering requests for the introduction of new pedestrian crossings in Trafford.

1.2 The report covers the relationship that exists between Trafford as Highway Authority and TfGM as Highway Authority for Traffic Signals within Greater Manchester.

1.3 Additionally it identifies the complex process associated with assessing the requirement for a crossing, together with an indication of typical costs.

2. Process to Establish Pedestrian Crossings:

2.1 Safety is always the key issue when considering a crossing point. Crossings are provided as amenities to provide access and easier movement to pedestrians and assist them to cross the road. Generally the provision of crossings should be targeted at the needs of those people who experience most difficulty and danger.

2.2 The purpose of a crossing is to provide pedestrians with passage across a carriageway. Each type of crossing has advantages and disadvantages; the type chosen should be appropriate to the circumstances of the site and the demands and behavior of road users.

2.3 Guidance on the introduction of Pedestrian Crossings is provided in:

- The Department for Transport Local transport Note 1/95 (see item No1 in the Appendix for a link to this document)
- The Assessment of Pedestrian Crossings & 2/95 The Design of Pedestrian Crossings. (see item No2 in the Appendix for a link to this document)

3. How we assess the need for a pedestrian crossing

3.1 We will assess the level of need for a crossing by:-

3.2 Measuring the degree of conflict between pedestrians crossing the road and the two-way traffic flow and we will also take into account the following factors

- the age and ability of pedestrians;
- any suppressed demand; (the level of crossing that would occur it was easy to cross)
- the different types of vehicles in the flow of traffic;
- the length of time pedestrians have to wait to cross;
- the width of the road;
- the speed of traffic;
- the pedestrian injury collision record at the site.

3.3 This is a two stage process consisting initially of site observations, should they indicate further investigations a full survey is commissioned.

4. The survey

4.1 If the safety requirements for a crossing can be satisfied then we will measure the degree conflict between the traffic and pedestrians by carrying out a 12-hour survey which will count both vehicles and pedestrians this is referred to as a PV^2:-

- the number of pedestrians crossing in an hour (P)
- the flow of vehicles in both directions in an hour (V)

4.2 Our assessment will be based on the average of the four busiest hours in the day (between 7am and 7pm). When the survey is carried out, the pedestrians will be classified by their age and ability. Vehicles will be classified by vehicle type so that we can take into account the differences between cars, heavy goods vehicles, buses, motorcycles and pedal cycles.

4.3 We will consider the possibility that the present situation suppresses crossing demand because of the difficulty in crossing the road to access services. Where appropriate we will estimate suppressed pedestrian demand at the location and add these estimated figures to the actual measured pedestrian figures obtained by the survey.

4.4 We define “suppressed pedestrian demand” as the estimated additional number of pedestrian journeys likely to be generated as a consequence of a crossing being provided. We will estimate this through an appraisal of local circumstances and the potential increased access to services.

4.5 Where a new crossing would include cycling facilities (i.e. a Toucan crossing) we will consider estimating suppressed cycling demand on the same basis as suppressed pedestrian demand.

4.6 If the overall pedestrian and/or cycling count is increased to take the suppressed demand into account, the facts will be recorded and the assumptions noted.

5 Types of Pedestrian crossings

5.1 Utilising the information gathered in the survey and the various factors listed in 3.2 above it is determined whether a crossing should be provided and which type of crossing (if any) is appropriate at the site.

5.2 There are three main types of crossing - refuges, Zebra crossings and signal-controlled crossings (Puffin, Toucan and Pegasus). The type of crossing to be provided will also be subject to engineering considerations (e.g. there must be sufficient road width to fit in a refuge etc).

5.3 To justify a signal-controlled crossing it will be necessary to demonstrate a much higher level of need than a refuge.

6 Traffic Management including Refuges

6.1 It may be possible to create more crossing opportunities by utilising one of the following interventions:

- the provision of a refuge or
- installing traffic calming measures or
- build outs or narrowing the carriageway (to reduce the crossing time).

6.2 Refuges allow both pedestrians and cyclists to cross the road in two halves, reducing the length of the carriageway that needs crossing. Although such facilities aid the pedestrian or cyclist crossing the road, they can on occasion cause potential problems for cyclists travelling along the road due to the reduced width available for motorised traffic to pass.

6.3 Refuges are most appropriate where the road is around 10 metres wide. Build-outs or road narrowing assist the pedestrian by reducing the distance the pedestrian would have to travel when attempting to cross the carriageway.

7 Zebra crossings

7.1 Zebra crossings are generally used where pedestrian flows are relatively low and traffic flows are moderate. The likely effect of a Zebra crossing can be tested by checking the availability of gaps in the traffic. Gaps of around five seconds are needed for an able person to cross a 7 metre carriageway.

7.2 Vehicle delays are typically five seconds for a single able person crossing, but can be much more where irregular streams of people cross over extended periods.

7.3 Zebra crossings are also generally avoided on busy town centre streets or outside railway stations since this is likely to result in a constant stream of pedestrians claiming priority. Higher flows of pedestrians will cause substantial delay to vehicles and a Zebra crossing is less likely to be a satisfactory choice.

7.5 Where gaps in traffic flows are few, and waiting times long because people feel it may be hazardous to establish precedence, a Zebra crossing is likely to be unsuitable.

7.6 Where traffic speeds are higher than 30 m.p.h., people will require longer gaps in the traffic flow or be exposed to the risk of more serious injury if precedence is not conceded for any reason. Zebra crossings should not be installed on roads with an 85 percentile speed (the speed at or below which 85% of all vehicles are observed to travel under free flowing conditions past a nominated point) of 35 m.p.h. or above.

7.7 Zebra crossings should not be considered where there are significant numbers of vulnerable road users such as: unaccompanied children, elderly and people with disabilities.

8 Signal Controlled Crossings (Puffin / Toucan/ Pegasus)

8.1 Puffin (Pedestrian User Friendly Intelligent Crossing)

The overall crossing time is established each time by on-crossing pedestrian detectors. The demand for the crossing is still triggered by the push button unit but kerbside pedestrian detectors are fitted to cancel demands that are no longer required (when a person crosses before the green man lights). At the latest Puffin crossings the red man/green man signals are above the push button unit on the pedestrians' side of the road. This layout encourages pedestrians waiting at the crossing to look at the approaching traffic at the same time as looking at the red man/green man signal.

8.2 Toucan (two can cross)

These are designed for both pedestrians and cyclists and are typically used adjacent to a cycle-path (Cyclists are not allowed to cross the road using Zebra, Pelican or Puffin crossings). There is a green cycle symbol alongside the green man. At the latest Toucan crossings the crossing time is established each time by on-crossing detectors in the same way as Puffins. The cost of a Toucan is similar to that of a Puffin.

8.3 Pegasus (also known as Equestrian crossings)

These are similar to Toucan crossings but have a red/green horse symbol and higher mounted push buttons to allow horse riders to cross. This type of crossing is only used where many crossing movements are made across a busy main road.

8.4 Signal Controlled Crossings are more suitable where:

- vehicle speeds are high, and other options are thought unsuitable;
- there is normally a greater than average proportion of elderly or disabled pedestrians or unaccompanied children;

- vehicle flows are very high and pedestrians have difficulty in asserting precedence;
- there is a specific need for a crossing for cyclists or equestrians;
- pedestrians could be confused by traffic management measures such as a contra-flow bus lane;
- there is a need to link with adjacent controlled junctions or crossings;
- pedestrian flows are high and delays to vehicular traffic would otherwise be excessive.

9. Upgrading a Zebra crossing to a signal-controlled crossing

9.1 Generally the pedestrian collision rates at Zebra and signal-controlled crossings are low. However, a Zebra crossing may be considered for conversion to a signal-controlled crossing at certain locations where it can be justified that a poor pedestrian injury record is likely to be improved.

9.2 We may also consider upgrading a Zebra crossing to a signal-controlled crossing as part of a wider traffic management scheme linked to the TfGM's Urban Traffic Control System in appropriate circumstances.

10. Provision of pedestrian facility at traffic signal junction

10.1We will investigate the need for a pedestrian facility at an existing traffic signal junction in a similar way to a stand-alone pedestrian crossing. However, providing a pedestrian facility will have the effect of reducing the capacity of the traffic signal junction and at busy junctions this can result in long queues of vehicles. For this reason each junction will be considered individually in association with colleagues at TfGM. Existing signal equipment, when being considered to accommodate a pedestrian phase can often be unable to be modified due the age of the equipment which can in turn increase potential costs

11. The TfGM interface

11.1 If a crossing is justified One Trafford Partnership (OTP) engages with TfGM Urban Traffic Control (TfGM UTC) as highway authority for signals and request design/modelling (if required) and cost estimate. If the scheme and its funding is approved, an order is raised with TfGM UTC for signal equipment by OTP who act on behalf of the Council to commission all Civil Engineering design works. OTP is responsible for commissioning all Civil Engineering design works.

11.2 Once installed TfGM UTC takes on full ownership/maintenance liability. The relationship between all Greater Manchester Local Authorities and TfGM is set out in the Statutory Instrument 2011 Number 908 - The Greater Manchester Combined Authority Order 2011 identified as No3 in the Appendix

12 Potential costs

12.1The introduction of signal controlled crossings are expensive to design and implement with a single puffin costing in the region of £150,000-£200,000 but this budget estimate could be increased by site conditions i.e. the location of statutory undertakers equipment.

13 The priority list

13.1Once a scheme has been identified funding will require identification. Currently the requests for crossing is low

13.2 We will include a justified crossing in a list, ranked by the level of need for future funding. The list will be used annually to inform the selection of schemes to be included in the Council's Integrated Transport capital programme. Additionally due to the high cost of introducing Traffic Signal Control equipment, once assessed and placed on the priority list every effort to secure funding through

other funding streams i.e. Section 106/ CIL, 247 funding as part of other development initiatives within the location will be sort.

Appendix

1. The Department for Transport Local Transport Note 1/95 The Assessment of Pedestrian Crossings
   https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/330269/ltn-1-95_Assessment-Crossings.pdf

2. The Department for Transport Local Transport Note 2/95 The Design of Pedestrian Crossings.
   https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/330214/ltn-2-95_pedestrian-crossings.pdf

3. Statutory Instrument 2011 Number 908 - The Greater Manchester Combined Authority Order 2011

   http://www.legislation.gov.uk/uksi/2011/908/pdfs/uksi_20110908_en.pdf