

## EVIDENCE BASE D: TRANSPORT AND HIGHWAYS

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**NPPF paragraphs 30 and 32:** *In preparing Local Plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport.....Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.*

**North Somerset Core Strategy policy CS10: Transportation and movement.** *Travel management policies and development proposals that encourage an improved and integrated transport network and allow for a wide choice of modes of transport as a means of access to jobs, homes, services and facilities will be encouraged and supported.*

This Evidence Base should be read in conjunction with:

- **EVIDENCE BASE E: Report by TPA [Transport Planning Associates]**
- **EVIDENCE BASE Q: Walking and cycling**

**D.1 INTRODUCTION.** The Parish Council has taken expert advice about the highway and transport situation and the likely impact of future development. It commissioned TPA [Transport Planning Associates of Bristol] to examine the situation up to 2026 and:

- Establish the 2011 baseline traffic flows; estimate 2026 traffic flows on the A370 West Town Road, Farleigh Road, Station Road and Dark Lane (at the village cross-roads) due to planned development in North Somerset;
- Model the current and 2026 estimated traffic flows at the cross-roads;
- Examine the impact of modest development in Backwell village e.g. 50 to 100 houses;
- Examine alternative routes (key rat runs) e.g. Rodney Road and Embercourt Drive to Station Road; and Church Lane;
- Examine potential mitigation measures;
- Prepare a report in the context that Backwell is a 'Service Village' serving the locality and the surrounding areas.



A370 West Town Road looking west

- D.2 HIGHWAY SAFETY ASSESSMENT.** The Council also commissioned a Highway Safety Assessment. This was carried out by the Highways and Transport Working Party, within the Steering Group, with the assistance of North Somerset Council's Road Safety Unit. The report is at D.48.
- D.3 THE REPORT BY TPA March 2012.** The full report is at [EVIDENCE BASE E: REPORT BY TPA \[Transport Planning Associates\]](#). This has provided evidence to assist in the development of objectives and policies in *BACKWELL FUTURE*.
- D.4** The report is not a sophisticated Land Use Transportation Study. It was not required to assess the traffic implications of major proposals outside the village e.g. the approved expansion of Bristol Airport, the potential development of Nailsea, the South Bristol Link and other major improvements in the West of England Partnership Joint Local Transport Plan JLTP3 which may affect traffic in the village. It does however assess the traffic

## EVIDENCE BASE D: TRANSPORT AND HIGHWAYS

growth, on the A370, Station Road and Dark Lane, due to general sub-region growth up to 2026 and also the effect of modest housing development within Backwell.

D.5 TPA's main findings, with their report references shown [ ], are:

- a) [3.11] Existing traffic volumes, at the A370 village cross-roads, are at or close to the capacity of the junction and connecting roads with significant queuing at peak periods;
- b) [6.2] Even without residential growth in Backwell, the growth in the general sub-region could result in the length of traffic queues, on the A370 at the village cross-roads, increasing in length by a factor of about three by 2026;



Dark Lane October 2011

- c) [6.3] There are no readily available improvements that can be implemented at the village cross-roads junction to improve throughput;

- d) [5.25] Transfer of more traffic to the alternative routes through residential areas ('rat-runs') is likely to occur due to the increased delays forecast at the light controlled village cross roads;

- e) [5.9] Further initiatives need to be taken to reduce the use of private cars.

D.6 The TPA Report describes the existing physical features, speed limits and the parking restrictions of the existing highway network and covers:

- [3.2] A370: Farleigh Road (East) and West Town Road (West)  
Note: the A370 is an alternative route when the M5 is closed.
- [3.4] Station Road and Dark Lane
- [3.12] Buses services and facilities
- [3.15] Rail services and facilities
- [3.18] Advisory cycling routes; [3.19] Footways

D.7 The TPA report identifies and summarises the major regional policies which are considered to influence the transport and highway situation affecting Backwell in the future. These are:

- a) The West of England Partnership Joint Local Transport Plan (JLTP3) [2.1];
- b) Greater Bristol Bus Network & Bus priority measures [2.7];
- c) South Bristol Link [2.9];
- d) Weston Package [2.12];
- e) Managed Motorway proposals for M5 [2.14];
- f) Policies enhancing the use of buses [2.7], Rail [2.16], safe cycling [2.15].

D.8 The following section summarises the work carried out by TPA and their conclusions.

## EVIDENCE BASE D: TRANSPORT AND HIGHWAYS

D.9 **Current traffic flows.** These derive from traffic counts at the crossroads carried out by North Somerset Council. Modelling using a computer system, approved by the Department of Transport, shows that the signal controlled cross-roads are operating just below capacity during the morning peak period and at capacity in the afternoon peak period. TPA advise: *'It is our view, and the view of North Somerset Council, that there is no potential for improving the A370/Station Road signals. It already operates Microprocessor Optimised Vehicle Actuation which allows signals to respond to on-street conditions. There are no readily achievable improvements that can be implemented at the junction to improve throughput.'*

D.10 **2026 traffic flows.** Future flows at the cross-roads have been estimated using the computer model that provides a forecast of traffic flows taking account of planned development in the sub-region, the changing pattern of car ownership and other factors. Scenarios have also been modelled that use the 2026 predicted traffic flows and the additional traffic generated by between 50 and 100 new dwellings in Backwell (note that planned development plus minor infilling falls within this range). This scenario is designated **2026B** in Table A.

D.11 Table A shows that in 2026, even without any development in Backwell, the expected traffic growth resulting from development outside Backwell, will require the light controlled cross-roads to deal with traffic flows very substantially in excess of its theoretical and practical reserve capacity both in the AM and PM Peaks. Any development in Backwell will further increase the traffic.

D.12 Compared with the 2011 predicted queues, by 2026 queue lengths are predicted to increase on all roads approaching the traffic lights. Most notably the queue lengths increase from:

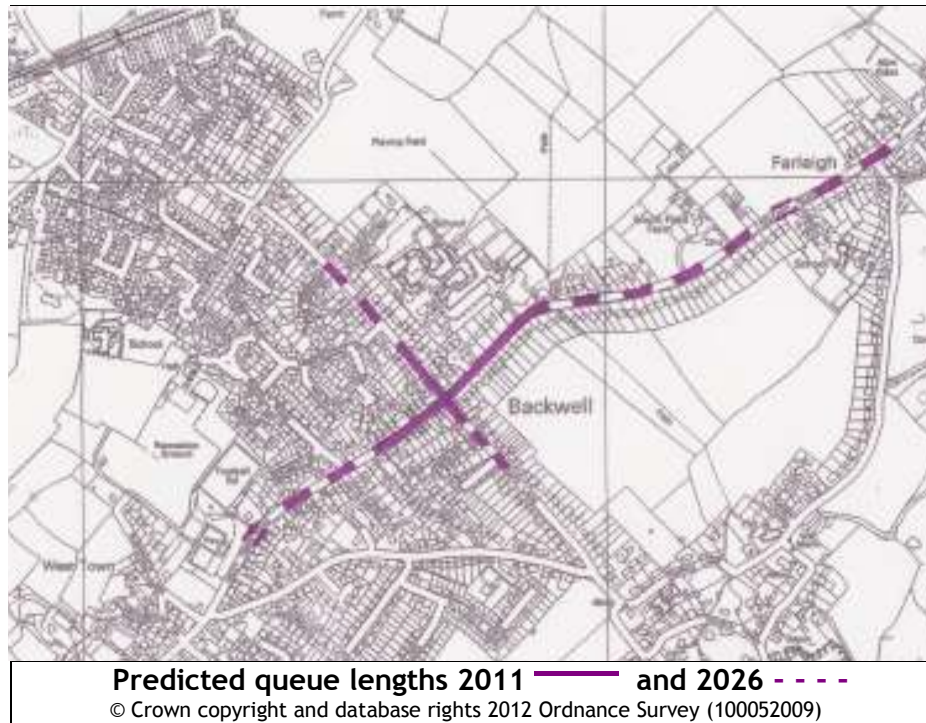
- 138 to 402 metres on West Town Road in the morning peak
- 252 to 936 metres on Farleigh Road in the evening peak

**TABLE A**

Light controlled highway	Time	Year	Queue length in metres	Future queue as % of 2011 queue
Station Road	Week day AM peak 0730-0830	2011 2026 2026B	84 192 264	228 314
	Week day PM peak 1715-1815	2011 2026 2026B	114 318 372	279 326
Dark Lane	Week day AM peak 0730-0830	2011 2026 2026B	36 60 90	166 250
	Week day PM peak 1715-1815	2011 2026 2026B	48 114 114	237 237
West Town Road	Week day AM peak 0730-0830	2011 2026 2026B	138 360 402	261 291
	Week day PM peak 1715-1815	2011 2026 2026B	78 96 108	123 138
Farleigh Road	Week day AM peak 0730-0830	2011 2026 2026B	66 96 96	145 145
	Week day PM peak 1715-1815	2011 2026 2026B	252 882 936	350 371

D.13 The predictions have been obtained by modelling from a normal 2011 weekday. Residents observe however that current queue lengths, when traffic is heavy, are already as long as the 2026 predictions for normal conditions. It follows that, at times of heavy traffic in 2026, the queues will be much greater than the model predictions. The following map illustrates the forecast change in queue lengths for normal daily peaks.

## EVIDENCE BASE D: TRANSPORT AND HIGHWAYS



D.14 With regard to the cross-roads TPA conclude:

- a) *'The analysis demonstrates that even without any further major residential development in the village, or growth in traffic from e.g. Bristol Airport's expansion, forecast growth in the sub-region will cause very substantial increases in queues and delays at the junction, which in turn will lead to the length of the peak periods extending as drivers seek to minimise their journey times, and to the prospect of rat-running in order to avoid the delays that would be encountered at the junction.'*
- b) *The prospect for air quality deterioration in the vicinity of the junction, owing to stationary traffic volumes increasing, should be considered.*

- c) *There are no readily achievable improvements that can be implemented at the junction to improve throughput. Given concerns about traffic already on Station Road, and the issues related to its substandard nature, it is arguable that increased capacity at the A370 junction could have undesirable consequences in the neighbourhood.'*



- D.15 It has been assumed that 50% of future development related traffic would approach the junction from West Town Road (A370) and 50% from Station Road. If however 50 dwellings were located south of the A370 with all associated traffic routed via Dark Lane to the signal junction, then that junction would continue to operate significantly above theoretical capacity with additional queues on Dark Lane and Station Road of around 60 metres during a typical weekday peak hour, with additional queuing of up to an extra 120 metres likely on the Farleigh Road arm, and an extra 12 metres on West Town Road.
- D.16 Overall, TPL advise [4.18] that the signal junction would operate less efficiently with a significant residential development served via Dark Lane compared to the other development assumptions.



## EVIDENCE BASE D: TRANSPORT AND HIGHWAYS

D.17 'RAT-RUNNING'. When faced with queues at the village cross-roads many motorists use alternative routes:

- a) A370 east bound traffic wishing to turn left at the cross-roads into Station Road uses Rodney Road and Embercourt Drive (or Moor Lane). This route is through residential streets usually encumbered with parked vehicles and is unsuitable for through traffic.



Rodney Road at the junction with the A370

- b) A370 west bound through-traffic uses residential Church Lane to avoid the cross-roads. The eastern section is narrow, without pavements or street lighting, and runs through a conservation area near St Andrews Church and the Junior School. The additional traffic poses a safety risk to children and more severe traffic jams

D.18 TPA recommend that:

- ....the effectiveness of the traffic calming in Church Lane and Dark Lane be reviewed, to ascertain the acceptability of the measures to local people, and establish whether the additional travel times resulting from the traffic calming measures have been sufficient to off-set the

*perceived desirability of the route for rat- running;*



Church Lane traffic jam

- *If the outcome is affirmative, then similar measures should be considered for other routes of concern, such as Rodney Road, where a 20mph speed limit appears to be the favoured option to address speeding on the route;*
- *It should be borne in mind that physical traffic calming measures are, when properly designed, self-enforcing. 20 mph speed limits generally need to be enforced to materially reduce local measured speeds.*

D.19 The forecast increase in queue lengths, at the cross-roads, is likely to result in a significant increase in the use of these 'rat runs'. It appears likely that the need for, and acceptability of, additional traffic calming measures will need regular review. The highway safety benefits of introducing more traffic calming measures would be undoubtedly welcome by many residents. However, making these routes less attractive to vehicular traffic would increase pressure on the A370. Origin-destination surveys would be necessary to quantify the local and through traffic using these routes.

## EVIDENCE BASE D: TRANSPORT AND HIGHWAYS

D.20 **BACKWELL TRAFFIC MITIGATION STRATEGY.** The TPA report assesses measures which could be investigated including:

- Transport Assessment [5.7]
- Travel Plan [5.8]
- Personalised Travel Planning including car sharing [5.9]
- Travel Information Point [5.11]
- Improved cycling facilities [5.13; 5.14]
- Safer walking routes [5.15]
- Clearing existing footways from vegetation [5.18].

D.21 Key issues were also identified in the 2010 Community Plan:

- Bus fares and services
- Rail reliability and access to the east bound platform
- New and improved walking and cycling routes

D.22 The Parish Council will set up a Working Party to evaluate mitigation measures that are justifiable, practical and realizable, and will consider suggestions from:

- a) the 2010 Community Plan;
- b) the report by TPA;
- c) consultation responses to the *BACKWELL FUTURE* Plan.

D.23 The Working Party will:

- a) **Action Plan:** Develop a plan to encourage residents to reduce reliance on private motorised vehicles by supporting initiatives to increase the use of public transport, cycling, walking, car sharing and other sustainable transport modes;
- b) **Traffic Calming/ Alternative Routes (Rat-Runs).** Carry out a review with local residents of traffic calming, and other measures to reduce traffic, along Rodney Road/ Embercourt Drive and Church Lane, and discuss any proposals with North Somerset Council. Consult residents before any decisions to proceed are made;
- c) **Public Transport.** Seek to raise the awareness of residents to travel promotions run by transport operators e.g. discounted travel rates to local attractions and for group travel. Liaise with local

organisations and bus and rail companies to try to secure improvements in the services and fare structures;

- d) **Cycling and Walking.** Work with schools, local organisations, Sustrans and the North Somerset Council's Sustainable Travel Team with the aim of developing schemes and securing the finance to improve safe cycling and walking facilities. Liaise with developers to ensure that walking and cycling routes feature in new developments where this is feasible.

D.24 The Parish Council will look for support from local organisations to participate in the Working Party, for example:

- a) Backwell Environment Trust
- b) Backwell Residents Association
- c) Backwell Sustainable Travel Action Group (BSTAG)
- d) North Somerset Council
- e) Sustainable Backwell

D.25 An example of the support available is the submission made by BSTAG that makes proposals for a network of safe cycling and walking routes. A part of their submission is at **EVIDENCE BASE Q: Cycling and walking**. It is included to demonstrate local interest in walking and cycle-ways.

D.26 *BACKWELL FUTURE* supports the concept of creating a network of cycling and walking routes but does not make detailed proposals that need further consultation. Support is confirmed by policy HIGHWAY 4 below.

D.27 Backwell Parish Council considers that the Mitigation Strategy may offset some of the additional transport and movement effects arising from the modest scale of development proposed in *BACKWELL FUTURE*.

D.28 Most traffic passing through the village on the A370, or rat-runs, is of distant origin over which the Parish Council has no influence. Mitigation measures may not therefore reduce traffic

## EVIDENCE BASE D: TRANSPORT AND HIGHWAYS

levels. Regarding mitigation measures TPA advise [6.4] '*JLTP3 has been developed ..... to support improved transport conditions, but the outcomes cannot be guaranteed, because of external influences (e.g. economic outlook, travel costs etc) and personal choice (e.g. of mode of travel, home/work proximity)*' and [6.7]: '*Some of the measures suggested rely heavily on community attitudes to travel, and successful outcomes cannot be relied upon.*'

D.29 The Core Strategy contains no improvements to the A370 and Station Road during the Plan period up to 2026. Furthermore, North Somerset Council has confirmed that the delivery of infrastructure improvements at Backwell crossroads is extremely challenging and that increasing the capacity of this junction could have adverse traffic generation impacts and other adverse consequences.

D.30 The Parish Council considers that, without highway improvements, mitigation measures even if successful with Backwell residents, will not achieve sustainable operation of the principal village highways that carry through traffic. It considers that mitigation measures alone are an inadequate response to the predicted deteriorating situation arising with traffic traversing the village, and that planning policy for Backwell should address this.

D.31 **CONCLUSIONS ABOUT HIGHWAY ISSUES THAT INFLUENCE PLANNING POLICY.** *BACKWELL FUTURE* concludes:

- a) residents' traffic concerns (reported in the 2010 Community Plan) about the A370, Station Road and 'rat-runs' are borne out by the findings of TPA;
- b) growth in through traffic together with modest development in Backwell is predicted to triple queue lengths at the village cross-roads and is a major concern;
- c) the consequential increased use of residential streets (Rodney Road, Embercourt Drive, Church Lane and adjoining roads) as 'rat-runs' will prejudice safety and the quality of village life;

d) the deteriorating situation may become unsustainable.

D.32 The North Somerset Core Strategy provides for 14000 additional (possibly 17130) dwellings by 2026. Much of this development will have access to the A370, for example that arising between Weston-super-Mare and Bristol, Nailsea and in Backwell itself.

D.33 While it is unlikely that any particular phase of development within North Somerset will be shown to be critical, to the operation of Backwell cross-roads, TPA's modelling shows that the **cumulative effect** is critical and the cause of a predicted tripling of queue lengths and greater use of Backwell's residential streets and lanes as 'rat-runs'.

D.34 The NPPF at paragraph 32 specifies:

All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:.. ....improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. **Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.** [Editors use of bold print]

D.35 *BACKWELL FUTURE* supports the North Somerset Core Strategy that Service Villages, e.g. Backwell, '*are places where a small amount of development....may be appropriate.*' *BACKWELL FUTURE* develops this Strategy into a policy for Backwell as follows:

- a) Because of the traffic predictions, and TPA's advice that '*There are no readily achievable improvements that can be implemented at the junction [the village cross-roads] to improve throughput*', *BACKWELL FUTURE* proposes constraint on new development in the village;
- b) The reason for constraint is straightforward. If, due to development elsewhere in North Somerset, more traffic will try to pass through Backwell along the A370 and Station Road, it makes no sense to plan for major development in

## EVIDENCE BASE D: TRANSPORT AND HIGHWAYS

- Backwell itself that will cause local traffic to interrupt this stream by seeking to join it;
- e) *BACKWELL FUTURE* policy is that future development should therefore be limited to meeting Backwell's needs, as a Service Village, with a presumption against development to meet demands from elsewhere.
  - d) The quantum of new development proposed in *BACKWELL FUTURE* to 2026 is based on Backwell's needs. It is in excess of the minimum indicated in the Core Strategy (EVIDENCE BASE G refers at G.9) and is therefore consistent with that Strategy;
  - e) *BACKWELL FUTURE* is also consistent with Core Strategy policy CS 10 (development management policies), because it supports, through the Backwell Traffic Mitigation Strategy (see D.20), measures to encourage more sustainable transport;
  - f) *BACKWELL FUTURE* accords with the NPPF at paragraph 32 due to the predicted 'cumulative effects' on Backwell of developments across North Somerset.

D.36 *BACKWELL FUTURE* policy is therefore that housing development in Backwell is to be at a level commensurate with that of a 'Service Village' and focussed on Backwell's priority needs. Infilling, defined as one or two additional dwellings, will also be accepted. Business development, appropriate in scale and character in relation to the village, providing local employment, will be supported.

**Explanatory note:** While beyond the scope of this 2014 to 2026 Neighbourhood Plan, *BACKWELL FUTURE* envisages that this planning policy will remain in force until major traffic management (including mitigation measures) or highway improvements, sufficient to significantly reduce through traffic in the village, have been carried out and shown to be effective in reducing traffic queues and the use of rat-runs by through traffic.

This is the basis of policy DEVELOPMENT 1 that appears in the NEW DEVELOPMENT section of *BACKWELL FUTURE*.

### D.37 *BACKWELL FUTURE*: HIGHWAY POLICIES.

**PLANNING POLICY: HIGHWAY 1.** A transport assessment will be required to support any planning application for development in Backwell that is forecast to generate 30 or more two-way trips in the network peak hour.

**PLANNING POLICY: HIGHWAY 2.** The Parish Council will, with regard to proposals for new development in Backwell, encourage early engagement by the promoters with the Council and with North Somerset Council to ensure that transport infrastructure is provided (within and where appropriate outside of development sites) in a timely manner to meet the needs of traffic generated by the development.

**PLANNING POLICY: HIGHWAY 3.** The Parish Council will set up a Working Party to develop a *BACKWELL TRAFFIC MITIGATION STRATEGY*. It will work with North Somerset Council to establish and support, where appropriate, regular monitoring to determine the effectiveness of that strategy.

**PLANNING POLICY: HIGHWAY 4.** The Parish Council will support the creation of an appropriate network of cycling and walking routes. New developments will be required to include safe walking and cycling routes where this is feasible. The objective is to work towards creating a network of cycleways/footpaths and public transport routes that ensure safe, convenient and direct access to local services and linkage with neighbouring settlements.



## EVIDENCE BASE D: TRANSPORT AND HIGHWAYS

### TRANSPORT AND HIGHWAYS - COMMUNITY ISSUES.

- D.38 **Downside hamlet.** Local issues are covered in Section 14.
- D.39 **Facilities for people with restricted mobility.** There is a need to examine the facilities (e.g. car parking and dropped kerbs) in the village available to people who are either disabled or who have a mobility difficulties.
- D.40 **Speed limits.** There was little support, in the Draft Plan consultation, for the introduction of additional 20 mph zones in the village. 20mph speed limits are already in operation, at appropriate times, for key roads near schools.
- D.41 The Parish Council will work with North Somerset Council to ascertain whether there is a need for any further areas of the village to have revised speed limits. The views of the local community will be taken into account.
- D.42 **Station Road.** TPA report *'The absence of footways and narrow width of existing footways....presents a safety risk to pedestrians which is increased when a large number of school children are walking to or from the nearby Backwell School.*



- D.43 The 2010 Community Plan revealed that the width of some footways in Station Road was reduced by encroaching banks/vegetation. TPA recommend: *the Parish Council engage with the highway authority, which has a duty to ensure that highways are maintained (Highways Act 1980 s41) and powers to have obstructions removed.*
- D.44 The Parish Council and North Somerset Council have recently addressed this issue.



## EVIDENCE BASE D: TRANSPORT AND HIGHWAYS

D.45 **Rail services.** Long desired improvements to Nailsea and Backwell Rail Station appear to be imminent. These are:

- a) Provision of a ramp, on the south platform, so that disabled passengers and cyclists can gain access;
- b) Extension of the station car park [Section 8 refers].

D.46 **Highway drainage.** There have been problems with flooding of the A370. The recent adverse weather and the reductions in the funding for highway maintenance have created problems for the highway authority.

D.47 The Parish Council will keep North Somerset Council informed of the priorities for additional maintenance and improvements as indicated by flooding problems. (For more information on flooding see EVIDENCE BASE C).



A370 Farleigh Road closed to traffic November 2012

D.48 **Highway Safety Assessment:**

*The accident records for the past 3 years, provided by North Somerset Council, have been examined. There have been two locations where there have been a cluster of accidents;*

- *A370 West Town Road on the bend and at or near the junction with Chelvey Road and*
- *A38 at or near the junction with Downside Road.*

*North Somerset Council carried out work on the A370 at West Town to reduce the risk of accidents. Surface Dressing works were completed in September 2011 and the Local Safety Scheme works (signs and road markings) were completed in October 2011. Since the completion of these works there have been no further recorded injury accidents. (Details of damage only accidents are not provided to NSC's Road Safety Team.)*

*It is North Somerset Council's intention to provide traffic signal control at the junction of the A38 and Downside Road. The installation of signals at this junction will be funded from the planning agreement for the proposed expansion of Bristol airport, with the timing determined by when the expansion takes place.*

*The signalisation of this junction may result in some transfer of traffic from alternative routes, and the airport expansion will in any case generate some additional traffic.*

*North Somerset Council regularly monitors and reviews the accident records throughout the District.*