

## **Additional papers: Cycling (item 5) and Congestion (item 6)**

# **Agenda**

## **Economy and Environment Overview and Scrutiny Panel Wednesday, 8 May 2019, 10.00 am County Hall, Worcester**

All County Councillors are invited to attend and participate

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## DISCLOSING INTERESTS

There are now 2 types of interests:  
**'Disclosable pecuniary interests'** and **'other disclosable interests'**

### WHAT IS A 'DISCLOSABLE PECUNIARY INTEREST' (DPI)?

- Any **employment**, office, trade or vocation carried on for profit or gain
- **Sponsorship** by a 3<sup>rd</sup> party of your member or election expenses
- Any **contract** for goods, services or works between the Council and you, a firm where you are a partner/director, or company in which you hold shares
- Interests in **land** in Worcestershire (including licence to occupy for a month or longer)
- **Shares** etc (with either a total nominal value above £25,000 or 1% of the total issued share capital) in companies with a place of business or land in Worcestershire.

**NB Your DPIs include the interests of your spouse/partner as well as you**

### WHAT MUST I DO WITH A DPI?

- **Register** it within 28 days and
- **Declare** it where you have a DPI in a matter at a particular meeting
  - you must **not participate** and you **must withdraw**.

**NB It is a criminal offence to participate in matters in which you have a DPI**

### WHAT ABOUT 'OTHER DISCLOSABLE INTERESTS'?

- No need to register them but
- You must **declare** them at a particular meeting where:
  - You/your family/person or body with whom you are associated have a **pecuniary interest** in or **close connection** with the matter under discussion.

### WHAT ABOUT MEMBERSHIP OF ANOTHER AUTHORITY OR PUBLIC BODY?

You will not normally even need to declare this as an interest. The only exception is where the conflict of interest is so significant it is seen as likely to prejudice your judgement of the public interest.

### DO I HAVE TO WITHDRAW IF I HAVE A DISCLOSABLE INTEREST WHICH ISN'T A DPI?

Not normally. You must withdraw only if it:

- affects your **pecuniary interests** **OR** relates to a **planning or regulatory** matter
- **AND** it is seen as likely to **prejudice your judgement** of the public interest.

### DON'T FORGET

- If you have a disclosable interest at a meeting you must **disclose both its existence and nature** – 'as noted/recorded' is insufficient
- **Declarations must relate to specific business** on the agenda
  - General scattergun declarations are not needed and achieve little
- Breaches of most of the **DPI provisions** are now **criminal offences** which may be referred to the police which can on conviction by a court lead to fines up to £5,000 and disqualification up to 5 years
- Formal **dispensation** in respect of interests can be sought in appropriate cases.

## **Economy and Environment Overview and Scrutiny Panel Wednesday, 8 May 2019, 10.00 am, County Hall, Worcester**

### **Membership**

#### **Councillors:**

Mr A A J Adams (Chairman), Mr P Denham (Vice Chairman), Mr G R Brookes, Mr B Clayton, Mr M E Jenkins, Mr A D Kent, Mr J A D O'Donnell, Ms C M Stalker and Ms R Vale

### **Agenda**

<b>Item No</b>	<b>Subject</b>	<b>Page No</b>
5	<b>Cycling</b>	1 - 10
6	<b>Progress with Reducing Congestion and How to Improve getting around Worcestershire</b>	11 - 22

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Agenda produced and published by the Head of Legal and Democratic Services, County Hall, Spetchley Road, Worcester WR5 2NP. To obtain further information or hard copies of this agenda, please contact Emma James or Jo Weston 01905 844965, email: [scrutiny@worcestershire.gov.uk](mailto:scrutiny@worcestershire.gov.uk)

All the above reports and supporting information can be accessed via the Council's website [websitehttp://www.worcestershire.gov.uk/info/20013/councillors\\_and\\_committees](http://www.worcestershire.gov.uk/info/20013/councillors_and_committees)

Date of Issue: Monday, 29 April 2019

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## **ECONOMY AND ENVIRONMENT OVERVIEW AND SCRUTINY PANEL 8 MAY 2019**

### **CYCLING**

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#### **Summary**

1. The Panel will receive an update on how the Council is delivering for cycling in Worcestershire, including progress with improvements to cycle ways and on cycle schemes.
2. Officers from the Economy and Infrastructure Directorate and from the Council's Public Health Team have been invited to attend, as well as representatives from cycle groups in Worcestershire and the Cabinet Member.

#### **Background**

3. The Panel has been keen to keep up to date with the Council's work to enable cycling in Worcestershire, and this update follows the Panel's previous discussion on 3 October 2017. A link to a minutes of the previous discussion can be found [here](#)
4. The Panel requested a further update to understand progress with cycle schemes and enabling cycling; what has been successful and what is planned.
5. Demand to cycle in the County is currently low, but gradually increasing. Census 2011 data identifies that approximately 2% of all journeys to work in Worcestershire were made by bicycle. The figure in Worcester (4%) is noticeably higher, and Bromsgrove (1%) noticeably lower. According to the Sport England Active Lives Survey in 2016/17, 12.9% of adults have participated in cycling for travel in the last year, and in Worcestershire this is 12%. Nationally, 39.9% of adults who have participated in cycling in the last year, whereas in Worcestershire this is comparable at 38%.
6. Worcestershire County Council has limited data on leisure and utility cycling trips, although this is likely to improve significantly in future, as anonymised journey data collection via mobile phone technology gathers pace.
7. On 21 April, 2017, the Government published its Cycling and Walking Investment Strategy. This document:
  - Outlines the government's ambition to make cycling and walking a natural choice for shorter journeys, or as part of longer journeys by 2040;
  - Sets out objectives, aims and short-term targets;
  - Details the financial resources available;
  - Includes a number of indicators to enable monitoring of national performance;
  - Sets out the governance arrangements that will be put in place and outlines actions that have already been taken, as well as actions planned for the future.

8. In Worcestershire, the funding sources cited as being available for investment in walking and cycling from Government are the Local Growth Fund, the Highways Maintenance Block and the Integrated Transport Block. Additional funding has been made available to larger cities as part of the Government's "Cycle City Ambition Fund", but this funding stream cannot be accessed by Worcestershire County Council. As such, available funding for investment in walking and cycling from Government in Worcestershire is modest.

9. Worcestershire County Council was successful in two bids to the Department for Transport's National Productivity Investment Fund for Worcester and Bromsgrove. Since 2018/19 the project has worked towards delivering a package of measures to improve efficiency for all road users on the main east-west route in the centre of Worcester (including measures for walking and cycling), and; "Bromsgrove Town Centre Network", which is delivering nine walking and cycling routes across Bromsgrove. The bids secured £3.2million and £3.4million respectively (matched in turn by £1.4million and £1.5million from the County's Network Efficiency Programme).

10. Subsequent to the publication of the Government's Cycling and Walking Investment Strategy, a Safety Review was undertaken, which specifically focussed on what could be done to improve safety for pedestrians and cyclists. The Government consulted upon this in Autumn 2018, and Government then committed to the following actions:

- Review the existing guidance in the Highway Code to improve safety for cyclists and pedestrians;
- Invest £100,000 to support police enforcement by developing a national back office function to handle dash-cam footage;
- Improve enforcement against parking in cycle lanes;
- Appoint a cycle and walking champion;
- Encourage local authorities to increase investment in cycling and walking infrastructure to 15% of total transport infrastructure spending;
- Engage with cycling and walking bodies to develop a behaviour change campaign.

11. In Worcestershire, spending on cycling and walking infrastructure, as a percentage of total transport infrastructure spending averages around 10%. It must be noted that does include grant funding and S106 contributions sought from developers.

12. In recent years, delivery of measures for cycling has been constrained by funding. Several feasibility studies have been undertaken, which have included prospective route planning. Also, developer contributions have been used to fund a modest package of improvements for pedestrians and cyclists at locations across the County.

13. Significant planned growth and supporting infrastructure have and will continue to provide opportunities to delivery potentially game-changing infrastructure, and the Worcestershire LTP4 sets out this ambition.

14. The Government's Transport Analysis Guidance "WebTAG", which sets out the mandatory criteria for development of business cases to support all major transport infrastructure investment schemes has changed to be far more positive towards investment in sustainable travel modes. It is now highly challenging to consider any highway improvement unless this also includes investment in walking, cycling and/or passenger transport measures. As a result, all new major infrastructure schemes in Worcestershire now include extensive measures to support these modes. For example:

- **Worcester Southern Link Road (Phase 4)** – This major scheme includes comprehensive upgrade of the Orbital Pedway between Powick Hams and Whittington, and the provision of 3 bridges and a subway at the Ketch to provide pedestrians and cyclists with a range of safe crossing points over the dualled Southern Link Road, when completed.
- **Hoobrook Link Road, Kidderminster** – This scheme included the provision of high-quality walking and cycling infrastructure along its full length.
- **Worcester Street, Kidderminster** – This major public realm enhancement scheme will include the longest continuous stretch of contraflow cycle lane in Worcestershire when complete, significantly improving access to and through Kidderminster Town Centre for cyclists.

15. Cycling 'events' are an excellent way of showcasing the County and attracting visitors, at the same time encouraging up-take of the activity by local residents. Redditch is nationally recognised as a pre-eminent domestic road racing series by hosting this year's opening round. Worcestershire County Council staff have assisted in the delivery of all three events. Some figures from last year's event in Redditch, the 7<sup>th</sup> time the town has hosted the Tour Series:

- 16,000 attendees
- 82% came from outside Redditch
- 12% of visitors stayed overnight
- 61% said they were inspired to cycle more often
- Gross expenditure for the local economy was over £429,000

16. By increasing business sponsorship, Worcestershire County Council has been bringing down its own financial contribution to the event; from £70,500 in 2016 to £23,000 this year and with an intention to bring it down further in 2020. Sponsors include Stofords, West Midlands Railway and the Kingfisher Centre. It's the 8<sup>th</sup> time we have hosted the event and for the second year running we have been the opening round. This year we also have community Ride it event to help promote cycling to the residents – where anyone can come and ride the track for free and Inter – services races with mens and womens Army, Navy and RAF taking part in their inaugural competition.

## Scrutiny to Date

16. As part of the discussion, the Panel may want to refer to the following queries referred to during the previous discussion:

- What further consideration had been given to the Panel's recommendation that a specific budget amount to be put forward for cycling;
- Progress to improve safety of cyclists especially on main roads;

- Progress to enable more cycling, including, for example, maintenance of pathways.

### **Purpose of the Meeting**

17. The Panel is asked to:

- consider and comment on the latest information on cycling
- determine whether any further information or scrutiny is required at this stage
- agree any comments to highlight to the Cabinet Member.

### **Supporting Information**

Appendix – Additional Information on Cycling in Worcestershire.

### **Contact Points**

Emma James / Jo Weston, Overview and Scrutiny Officers, Tel: 01905 844964 / 844965  
Email: [scrutiny@worcestershire.gov.uk](mailto:scrutiny@worcestershire.gov.uk)

### **Background Papers**

In the opinion of the proper officer (in this case the Head of Legal and Democratic Services) the following are the background papers relating to the subject matter of this report:

- Agenda and Minutes of Economy and Environment Overview and Scrutiny Panel on 3 October 2017 - available on the Council's website at:  
<http://worcestershire.moderngov.co.uk/ieListMeetings.aspx?CommitteId=388>

## Cycling – Additional Information

As part of the discussion, the Panel may want to refer to the following queries referred to during the previous discussion:

- Update on relevant LTP4 schemes
  - Over the next 10 years we have an ambitious Active Travel Corridor programme delivering benefits for walking and cycling in all districts of the County. Nine of these thirty two projects are currently either in delivery or feasibility as follows:
    - Bromsgrove Improvements & Bromsgrove Rail Station Link (NPIF)
    - ETS - Evesham active travel network incl. Hampton Bridge
    - Worcester-Parkway-Pershore walking & cycling route
    - Malvern-Upton (phase 1)
    - Bewdley-Wyre Forest Active Travel Corridor (Dowles Link)
    - Worcester canal towpath (Diglis -Tibberton)
    - Worcester North East-North West including bridge at Ghulevelt Park
    - Kidderminster Rail Station Link
    - Worcester - Kempsey
- Progress with funding requests for cycling as part of new developments (Section 106)
  - Contributions requested as a matter of course for cycling to link to an existing network or to provide cycling opportunities where safe to do so
- Incorporating cycleways into schemes when roads are upgraded and as part of new employment and housing sites
  - SLR4 will be providing consideration cycling infrastructure through the provision of unsegrated route alongside the road and a walking & cycling bridge to facilitate the crossing of the A4440.
- Update on communication with cycle groups in Worcestershire to share experiences
  - Evesham Transport Strategy Group – There is a specific representative for cyclists’ needs/interests on this group
  - Wyre Forest Cycle Forum – Meetings held on a monthly basis to share project updates, listen to requests and share thoughts.
- The role of cycling for the local economy, tourism and links with the Local Enterprise Partnership – Limited local information, but comprehensive national synopsis available here: <https://www.cyclinguk.org/campaigning/views-and-briefings/cycling-and-economy>

## Legal, Financial, and HR Implications

- In order to deliver the Active Travel Corridors in Malvern and the Wyre Forest land will need to be purchased or dedicated.
- Funding of any cycle infrastructure going forward will utilise S106 contributions where possible and apply for external funding opportunities, however any WCC match funding needs to be explored.

## Cycle schemes progressed in 2018/19

- Delivery of Honeybourne to Evesham cycle route including surfacing improvements to a bridleway, signing and lining; S106 funded.
- Route feasibility from Abbey Road to Merstow Green and Evesham Centre; S106 funded with delivery planned in 2019/20.
- Route feasibility and works ordered for cycle signage linking Wychbury fields development to Hagley Station and village centre, to be delivered in 2019/20; S106 funded
- Cycle route improvements A449 Malvern Gate to Weir Lane in Worcester comprising of new signs and lining for route direction; S106 funded.
- Feasibility and design of National Cycle Network (NCN) route 41 from Cheltenham Road to Evesham centre for delivery in 2019/20; S106 funded.
- Improvements to Church Road in Malvern to lower traffic speeds and assisting cycle usage. S106 funded and part of a wider traffic management project.
- New toucan crossing linking Warndon villages with Worcester Royal Hospital, County Hall and Nunnery High School on Newtown Road, partially funded from S106 with Integrated Transport Block (ITB) also used.
- Feasibility of cycle parking on two areas of privately owned land on Brickfields Road in Worcester utilizing S106 monies.
- Feasibility of cycle route linking Badsey to Blackminster which is challenging to be delivered due to lack of available highway land and attractive / safe alternative routes; S106 funded.
- Feasibility of cycle contra-flow on Green Street in Kidderminster, ITB funded. Additional funding required to progress to the next stage.
- Continued detailed design of cycle route improvements from Diglis Bridge to riverside within Canals & Rivers Trust land. Lighting improvements delivered with overall delivery (awaiting land owners agreement with proposals) in 2019/20.
- Feasibility of riverside route linking Worcester (Diglis Bridge) to Kempsey. Phase 1 identified for progression and potential delivery in 2019/20. Jointly funded by Worcester City Council and S106 monies.
- Walking and cycling link from St Peters to Worcester Parkway Rail Station feasibility and detailed design. S106 funded for delivery in 2019/20.
- Hampton walking and cycling bridge feasibility in Evesham, S106 funded for delivery in future years.
- Riverside path improvements in Evesham funded from ITB and to be delivered by Wychavon in 2019/20. With wider feasibility of links to the Hampton Bridge ongoing in partnership with Wychavon District Council (WDC).
- Assistance to WDC on the cycle route from Common Road to The Valley including negotiations with Highways England in relation to crossing of the A46
- Feasibility and design of cycle route from The Valley to Norton, using ITB monies and to progress once the wider route above progresses.
- Active Travel Corridor from Peachfield Road in Malvern to the Three Counties Showground feasibility. ITB funded with delivery planned in 2019 – 20, subject to further funding opportunities and land negotiations.
- Wyre Forest Active Travel Corridor linking Bewdley to the Wyre Forest feasibility. ITB funded with potential delivery 2019-2, subject to further funding opportunities

- and land negotiations.
- Delivery of North Littleton Cycle Route linking North Littleton to Honeybourne; S106 funded.
- Delivery of cycle route linking Oakland Avenue to NCN45 in Droitwich; S106 funded.
- Feasibility and design of cycle route linking St. Andrews Development to NCN442 in Pershore, s106 funded and to be delivered in 2019/20
- Feasibility (ongoing) on Kepax Bridge in north Worcester funded from Worcester City Council and from WCC Capital. Feasibility and deliverability will be ongoing during 2019.

Bromsgrove National Productivity Infrastructure Funded (NPIF) project covering detail of works completed and in development between 2018/19 – 2019/20

- Link 1 Perryfields to Market Street
  - Completed: dropped kerbs and tactile pavers, some drainage gullies repaired, replacement LED lamp heads, patching and resurfacing of certain roads in poor condition.
  - Still to complete: resurfacing of Churchfields, signing and lining, more LED lamps, a central splitter islands crossing on Crabtree Lane back of Asda, 20mph and resurfacing of Broad St from Crabtree lane to Lincoln Road plus speed cushions. Segregated cycle path on side of Asda Market Street up to new widened toucan crossing at Market Street and new widened bridges and alignment to allow more to use crossing.
- Link 2 Elm Grove to School Drive
  - Completed: resurfacing and dropped kerbs and tactile pavers, some drainage gullies repaired and upgrade of LED lamps.
  - To complete: Upgrade of toucan crossing on Birmingham road, signing and lining plus looking at realignment of route through parts of college on old PROW alignments up to Blackwood Road and a new crossing point on Stratford Road. Joining up with NCN 5 Link 3.
- Link 3 High St to Finstall Road
  - Completed: Windsor Street Zebra crossing widened to 4.40m, road resurfaced and drainage issues sorted out plus upgrade of lighting, dropped kerbs and tactile pavers plus LED lamps.
  - To complete: Signage and lining plus paths up to Carnforth Bridge and improved removal of bollards on Drummond Road.
- Link 4 Fulton Close to Heydon Rd,
  - Completed: topographical and survey work, Network Rail approached spoken about the path improvements under the bridge and land owners being spoken to about the improvements to the PROW from the Bridge to Heydon Rd.
  - To complete: Resurfacing of path to 3.0m from Bridge to Heydon Rd. Lighting being looked at but ecology report speaks of area used by bats foraging. Existing path to be sided out to reveal full width, signing and lining to be added plus parts of path and dropped kerbs added where needed.
- Link 5 Mill Lane to Stoke Road & link 7
  - Completed survey work and work orders issued for LED lamp upgrades

- and drainage; dropped kerbs and tactiles started.
  - To complete: further dropped kerbs, signage and lining.
- Link 6 Garrington Rd to Finstall over the railway line.
  - Link 6 is on hold due to issues surrounding land adoption. An on-road option is under development.
- Link7 Rail Station to Charford Rd (joins to Link 8, 5, 6, & 3)
  - Completed: survey and drainage investigations
  - To complete: footway widening, dropped kerbs, barriers and bollards, signing and lining plus Led lamps upgrade and drainage gulleys upgrade.
- Link 8 Worcester Rd, Charford Rd and Pig alley (joins link 5, 7)
  - Completed: feasibility reports and drainage surveys plus lighting checks; tree cutting.
  - To complete: detailed designs for footway widening, dropped kerbs and tactile, plus build outs, new drainage culverts and swales, fencing and replacement bridge, new zebra crossing on Littleton avenue, new LED lamps, signing and lining.
- Link 9 new shared use path Sanders Park, Whitford Road to Kidderminster Rd and through to Watts Close,
  - Completed: Topographical survey and design work for pat. Kidderminster Road toucan crossing upgrade outside entrance being designed up with widening of path for shared use plus new pedestrian and cycle entrance. Road entrance to park widened. Link to Church Street via Church Lane being worked on with a stopped up one way plug at the Kidderminster Road end; cycle parking, signing and lining in the park.
- Additional cycle parking locations being identified and installed where we can put them additional on route maps in information boards being allocated at key locations along route. The park will have signage and bollards plus cycle parking, new maps are being produced and an interactive map being looked into that will work on mobile devices. All signage will have both destinations, times and distance on them.

### **What has been successful**

- Church Road in reducing speeds and number of cars using this popular side road in Malvern making local journeys to schools and businesses easier.
- Newtown Road toucan crossing is heavily used on a daily basis by both cyclists and pedestrians.
- Working with WDC on the development of a cycle network linking developments and business opportunities.
- Working with Worcester City Council on the development of the riverside route and Kepax bridge.
- Development of a number of Active Travel Corridors as identified in LTP4.

### **New schemes 2019/20**

Other than those projects listed for delivery in 2019/20 we are also developing the following projects.

- Localised improvements for cycling along Berkeley Way in Warndon villages; S106 funded
- NCN45 Cornmeadow Road and Northwick Lane link to local route 3 at Perdiswell;

S106 funded

- Provision and/or improvement of a cycle route in the Broadway area, to be determined; S106 funded.
- NCN 45 cycle provision in the Kempsey area; S106 funded.
- Honeybourne to Pebworth cycle route; S106 funded.
- Fernhill Heath NCN46 improvements and links to local developments; S106 funded.

**What more could we do if we have the right funding?**

- Progressive rollout of countywide Active Travel Corridors, providing genuine alternatives to car use whilst helping to tackle public health issues (sedentary lifestyles) and congestion at source.

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## **ECONOMY AND ENVIRONMENT OVERVIEW AND SCRUTINY PANEL 8 MAY 2019**

### **PROGRESS WITH REDUCING CONGESTION AND HOW TO IMPROVE GETTING AROUND WORCESTERSHIRE**

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#### **Summary**

1. The Panel will receive an update on progress with reducing congestion and how to improve getting around Worcestershire, including updates on main schemes and priority areas.
2. The Panel is also keen to hear examples of national good practice, therefore the Directorate has arranged for an external expert to attend the meeting, to provide an external perspective on tackling congestion and what is working and where.
3. The Cabinet Member and Officers from the Economy and Infrastructure Directorate have also been invited to attend.

#### **Background**

4. Reducing congestion across the County is one of the Council's key priorities.
5. Under the previous term of Council, the Panel looked at congestion as part of a broader overview of the Local Transport Plan 2017-2030 (LTP4).
6. Whilst broadly supportive of the refreshed LTP, Panel Members have been keen to maintain oversight of the Council's progress with reducing congestion and improving how to get around Worcestershire. Recent relevant Scrutiny meetings have included discussions on cycling, footways, the role of Highways England and streetworks.
7. The LTP is a high-level statutory document which sets the strategic vision and direction of highways and transportation services. LTP4 sets out the issues and the Council's priorities for investment in transport infrastructure technology and services to support travel by all relevant modes of transport, including walking, cycling, rail, highways (car, van, freight and motorcycles), bus and community transport. The approach recognises that transport networks have a finite capacity and that planned development growth not only brings challenges for this but also for air quality and road safety.
8. Worcestershire's Local Transport Plan is available on the Council's website at: [http://www.worcestershire.gov.uk/downloads/file/9024/worcestershire\\_s\\_local\\_transport\\_plan\\_ltp\\_2018\\_-\\_2030](http://www.worcestershire.gov.uk/downloads/file/9024/worcestershire_s_local_transport_plan_ltp_2018_-_2030)

## Equality and Diversity Implications

9. The latest Census data (2011) and subsequent Annual Travel Survey identifies that approximately **17%** of households in Worcestershire do not have access to a motorised form of transport. This figure has remained relatively static since around 2008, and is now starting to increase slightly, which suggests that Worcestershire has experienced 'peak' levels of car ownership. These households will continue to be reliant on alternative modes of transport to enable them to enjoy a good quality of life.

10. Unfortunately, growing levels of congestion, particularly in urban areas is contributing towards an increasingly challenging operational environment for commercial bus services in Worcestershire, resulting in sharp network decline. Similarly, heavily congested streets present an unattractive and unhealthy environment for pedestrians and cyclists, so continued failure to tackle over reliance on the private car as the main provider of access in Worcestershire will cause increasing disadvantage to these groups, marginalising access to society from those that do not have access to a car.

## Purpose of the Meeting

11. The Panel has the opportunity to find out about progress with reducing congestion, improving how to get around the County, and receive an update on main schemes and priority areas.

12. During the discussion the Panel may want to refer to the following queries referred to during the previous discussion:

- Better and more comprehensive parking management
- how to maximise Worcestershire's rail capacity
- how to reverse decline of Worcestershire's commercial bus networks
- Improvement of walking and cycling infrastructure, to provide viable alternatives to driving
- the importance of infrastructure capacity keeping pace with housing developments
- consideration of creative solutions in reducing congestion for example, streamlining strategic roads away from congested urban areas
- safety concerns about some routes, especially in view of new housing developments, for example the A46 Stratford to Evesham.

13. The Panel is asked to:

- determine whether any further information or scrutiny is required at this stage
- agree any comments to highlight to the Cabinet Member.

## Supporting Information

Appendix – Additional Information on Congestion

## Contact Points

Emma James / Jo Weston, Overview and Scrutiny Officers, Tel: 01905 844964 / 844965  
Email: [scrutiny@worcestershire.gov.uk](mailto:scrutiny@worcestershire.gov.uk)

## Background Papers

In the opinion of the proper officer (in this case the Head of Legal and Democratic Services) the following are the background papers relating to the subject matter of this report:

- Agenda and Minutes of Economy and Environment Overview and Scrutiny Panel on 9 May and 7 March 2018, 3 October and 20 January 2017, - available on the Council's website at:  
<http://worcestershire.moderngov.co.uk/ieListMeetings.aspx?Committeeld=388>

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## Additional Information on Congestion

### WORCESTERSHIRE NETWORK EFFICIENCY PROGRAMME

#### Summary

The Panel wish to receive an update on the Network Efficiency Programme as part of its previous, current and future work programmes.

The Cabinet Members and Officers from the Economy and Infrastructure Directorate have been invited to attend.

#### Background

Since the original £5m Budget allocation back in February 2017, the role of Worcestershire Network Efficiency Programme (WNEP) Manager has been created to investigate the original list of sites across the County. These ranged from the complexity of full junction redesigns, corridor treatments, traffic signal upgrades, zebra crossing improvements, to the more simplistic solutions of removing pinch points or obstructed signal loop detection with traffic regulation orders (TRO) and other traffic management (TM) tools.

Alongside prioritisation of these locations, assessment of sites, option analysis and detailed designs, WCC also submitted two separate bids for the DfT National Productivity Investment Fund (NPIF) - £3.2m for the A44 east-west axis at Worcester and £3.4m for Walking and Cycling improvements across Bromsgrove. Both proposals were successful in being awarded monies later in the autumn, meaning that the congestion fund increased to £11.6m for the two-year period of April 2018 to March 2020.

#### Completed Sites

- A442 Worcester Road, Kidderminster – re-open dual carriageway offside lane, improvements to circulatory island, approach signing and enhanced signal phasing at A4420 Hoobrook link
- A4185 Warwick Highway/Icknield Street Drive, Redditch – widened the southern approach arm to the Warwick Highway roundabout, to introduce increased capacity
- A441 Astwood Bank – removal of parking on detection loops to improve signal efficiency, particularly during school times
- Worcester Road, Bromsgrove – removal of pinch points along AQMA corridor to allow freer traffic flow
- Hanbury Road/Queen Street, Droitwich – removal of parking on approach and additional loop work to streamline signal phasing and increase capacity
- Shrub Hill Road/Tallow Hill/Midland Road, Worcester – upgraded signal equipment and amended signal stages have improved junction flows.
- A44 London Road, Worcester – introduction of yellow box markings to remove hindrance of right turning vehicles for major flow

## **Current Sites**

- A44 London Road, Worcester – ongoing TRO process to remove obstructive parking that hinders free flow and capacity, as well as right turn facility/ offset centre line improvements along corridor
- A38 Droitwich Road, Worcester - ongoing TRO process to remove obstructive parking that hinders free flow and capacity
- A448 Kidderminster Road, Bromsgrove - ongoing TRO process to remove obstructive parking that hinders free flow and capacity
- A451 Stourport Road, Kidderminster – assessment of junctions is being considered through Modelling work across the Town to establish priority of works/solutions
- A441 Ran Tan island, Redditch – works are linked to ongoing Warwickshire CC modelling works and Redditch eastern gateway proposals
- Bilford Road/Astwood Road, Worcester – works ongoing along LTP4 W! corridor assessment (Rainbow Hill to Blackpole) through consultants
- A4440 Grange Way/Newtown Road/Pershore Lane roundabout – TM signing and lining solutions being drawn up for summer implementation
- A449/A450 Black Bridge, Torton – being considered as part of A450 Corridor Capacity Enhancements (A450CCE) work
- A448 Parkside jct, Bromsgrove – enhanced Traffic Signal scheme being considered in conjunction with Bromsgrove DC and developer requirements
- A38/A448 Slideslow Island – part of MSB Phase 2 works
- A450/A448 Mustow Green Island – part of A450CCE assessment and MRN submission
- ASDA/Pheasant Street, Worcester – two phase signalised crossing currently with Consultants for RSA and detailed design
- Abbey Bridge, Evesham – ongoing TRO to enhance approaches, as well as signal upgrades as part of Corridor works

## **Future Sites**

- A448 Market Street, Bromsgrove – Modelling works commence Spring 2019 to assess this key Town corridor
- A38 Bath Road, Worcester - TRO process to remove obstructive parking that hinders free flow and capacity
- A449 Malvern Link to Great Malvern - TRO process to remove existing and potential obstructive parking that hinders free flow and capacity

## **NPIF Bromsgrove Progress**

**(Further details available at [www.worcestershire.gov.uk/NPIF](http://www.worcestershire.gov.uk/NPIF))**

In the first quarter of 2018, before the initial NPIF monies were released, a route audit of the main nine cycle and walking links was carried out. This allowed us to determine a priority for works to be carried out, a change of thinking for those proposals that required land acquisition, or a change of route etc, so that we could hit the ground running. Subsequently, in the first 12 months of this 2 year spend, as well as detailed design of the more intricate crossing improvements that are referenced later, we have also already completed

- 74% of the required dropped crossings for routes
- 67% of the upgraded street lighting of the corridors
- 14% of the carriageway patching
- 12% of the necessary footway widening
- 14% of the route signing

We will also be carrying out works to improve rideability over existing gulley covers, as well as lining the designated routes to enhance the experience of all users, both on cycle and foot.

Moving on to the larger improvement elements of this initiative, we have already completed the first major crossing improvement at Windsor Street, widening and upgrading this zebra crossing to the east of the Town centre.

Other sites have reached detailed design, such as;

- Worcester Road/Hanover Street – the plan being to remove the zebra crossings and introduce a controlled signalised toucan which can manage the high flows of pedestrian traffic which hinder the free flow of the route to the south, being an AQMA
- Market Street/Bus Depot signals – widening of the existing pedestrian bridge by the depot, as well as improved crossing facility by the supermarket, which ties into the widened cycle links approaching from the south
- Kidderminster Road/Sanders Park – widening of pavements for cycle/pedestrian activity, improved toucan crossing, drainage solutions and link into Sanders Park links
- Birmingham Road ( near Travis Perkins) – widening of pavements and enhanced toucan crossing facility
- Broad Street –

### **NPIF Worcester Progress**

**(Further details available at: [www.worcestershire.gov.uk/NPIF](http://www.worcestershire.gov.uk/NPIF))**

Before talking about the **Big Three** schemes of Croft Road, City Walls/Sidbury and St Johns, it is worth reflecting on the major " behind the curtain" signal works that have been happening in the last year along this key A44 corridor:

- Comer Rd – validation of the existing signals to improve green timings
- New Road island – MOVA upgrade to enhance flexible working of varying traffic flows ( to be linked with St Johns scheme)
- New Road (bridge) crossing – works carried out during flood alleviate scheme to improve technology
- North Parade crossing – upgraded to Puffin facility
- Dolday/Croft Road – new MOVA installation to improve detection intelligence
- Deansway crossing – MOVA upgrade to incorporate facility into signal system
- Copenhagen Street signals – MOVA upgrade to synchronise signals into system
- Seabright/Wylds Lane – cabling improvements and validation to increase capacity
- Waitrose junction – technology and pedestrian improvements to increase green time for A44

We also intend to introduce at Dolday/The Butts signals near to the Crowngate depot exit. This will allow us to introduce new MOVA equipment and additional camera detectors facing the depot, to improve bus journey times/reduce delays as well as the flow through the junction itself. These works are scheduled for June time, following the completion of the first of the Big Three schemes, as below.

Croft Road zebra crossing has for a long time been referenced as the most hated crossing in the County. However, as you may be aware, we started work on this improvement in early April, with a programme to complete by the end of May 2019. The intention of the scheme is to replace the zebra with a signal controlled Toucan crossing, which is capable of dealing with the 2000+ pedestrians and nearly 200 cyclists that currently use this facility to cross the busy A449. By incorporating a signal controlled crossing, we are able to reduce the frequency of the traffic being halted, whilst still allowing the heavy pedestrian cycle flows to continue in a more concentrated manner. The location can also be absorbed into the current SCOOT system across the City, meaning that traffic flows can be managed far more efficiently. We are also removing the mini-roundabout and returning the car park access to a minor road T-junction, so that the A449 flow does not have to give way to emerging car park traffic another hindrance to free flow.

Moving into the summer, we will be concentrating on the City Walls Road/Sidbury junction, where the A44 and A38 meet, just to the south of the City. These aging signals have given 40+ years of good service (where normal signal life cycles are 15 years) so a simple upgrade of the technology at these junctions will make substantial change and improvement. The signals currently work as two standalone junctions so as the City Walls flow runs south into Sidbury, you regularly then sit in a queue to join Commandery Road (Bath Road). Modern technology allows these two junctions to be linked, thereby improving the communication and intelligence of these signals, so that the varying flows of two busy A-class routes can be flexibly managed, depending on local conditions. The scheme will also introduce a new two phase controlled crossing across Commandery Road to improve walking connectivity from the east, as well as improving between the car parks, Commandery and Porcelain museum tourism attractions that generate pedestrian activity in the area. The DfT funding of this scheme also allows us to improve street lighting, pavements and carriageways throughout the area – similar to an extension of the Cathedral Plaza scheme of recent years.

The St Johns Scheme will see improvement to carriageway widths for traffic travelling in both directions. We intend to remove unnecessary traffic refuges to achieve this by introducing new signal controlled crossing facilities down the bank at New Road island – these can be incorporated into the current stages of the signals so this will minimise additional delays to journey times, and be enhanced by the confidence drivers are given with the more standard width lanes along the A44. Further simplification of the junction with Henwick Road will be achieved by closing off Bush Walk from St Johns and constructing an access point from St Clements Estate. Relocating the bus stop towards Lloyds Bank at the widened section of carriageway will further aid this. Further upgrades to signal equipment throughout the site will allow the junction to function more efficiently. Again DfT funding will allow us to create a more aesthetic street scene, with enhanced block paved footways, which will encourage pedestrian activity, along with the new plaza-style paved area at the closed off Bush Walk. This site being the final piece of the A44 signalised jigsaw, allowing us to validate the entire route and delivering improved journey times, reduced congestion and better options for the public.

## Second WNEP £5m Budget allocation

When the Budget was ratified in February 2019, there were four specific locations detailed for assessment and recommendation. Progress has already commenced on some as detailed below.

- **A38 Upton** – This junction improvement has been considered for some time now, with scheme designs drawn up several years ago. The location has now been given a Project Manager who is revisiting the options, re-costing them for today's construction prices and this work will be available for dissemination in the coming months.
- **A449 Hoobrook Roundabout, Kidderminster** – following the success of the works last May, this junction has been functioning far better, with noticeably reduced congestion and delays on the A449 south and A442 north approaches. However, at the time of the A4420 Hoobrook link being constructed, other options were being discussed for consideration. As detailed above, we are currently modelling many junctions across the Town's network, so that we can evidence which junctions are working well and not so well in Kidderminster. Improvements will be made to this roundabout to provide increased capacity or improvement on one or more of its arms.
- **Evesham** has been referenced for investment and as well as the limited solutions available to assist the town in the short term, aided by the modelling work over the last two or so years, we will be assessing what solution can meet the needs of this historical riverside. In the imminent future, we are going to improve the current signalised corridor from Davies Road to Greenhill inclusive. This will add to the works already carried out at the crossing just south of the Avon Street junction where the frequency of the call for the crossing has been lessened, allowing traffic travelling north to south, and vice versa, to flow more freely. We will also be assessing options around reduced movements at signalised junctions etc based on the outcomes of the modelling and we should be in a position to discuss this later in the year.
- **Bromsgrove** is the fourth area highlighted for consideration and as mentioned, we are looking to model the town later this year to see where improvements can make real change. We already have a possible solution for the Parkside signals, but we need to establish how the junctions south of this at Recreation Road, Church Street, St Johns Street and Waitrose mini island can work more cohesively to improve fluidity along the A448 and old A38 routes to its north and south.

## TRANSPORT TELEMATICS (Including Smart Traffic Signals)

'Transport telematics' refers to the use of technology, such as intelligent traffic signals, traffic flow detectors, cameras, communications and sensors to better manage traffic demand and improve efficient use of available capacity.

'Smart' Traffic Signals are signal sets that are connected to a central control system via the Internet. In the most simple and widespread form, they provide live fault monitoring with a controller being connected via GPRS.

In Worcester, most traffic signals in the City Centre are controlled using SCOOT. The signals connect to a live central system for both fault monitoring, traffic flow detection and control strategy setting. SCOOT has been around for a long time, but has been subject to regular upgrades to the central system over its 30 years of operation and the system is now connected to broadband Internet via a 'wireless mesh' network, which also connects other ITS equipment within the city.

MOVA is an intelligent traffic signal controller. In the majority of locations this is employed as a standalone system that is not connected to the Internet, and so not strictly 'smart'. The latest MOVA controllers have a Web User interface option and have more reporting and logging functionality for traffic managers. The latest MOVA controllers can also be set up as a linked where two or more junctions/crossings are in very close proximity. This is most commonly used on signalised roundabouts. MOVA does not have strategy setting options like SCOOT, but has the significant advantage of being a rapidly adaptive controller and can make changes every cycle to meet traffic flow conditions. This gives MOVA control an advantage during unplanned incidents (such as flooding or a major sporting event, for example).

SCOOT is not a rapidly adaptive controller, as it is controlling a network of signals. Rapid changes are not supported to prevent network destabilisation. SCOOT provides synchronised platooning of traffic from one set of signals to another using both live detection and its vast historic database to maximise flow. SCOOT strategies allow the traffic manager to set priority approaches to give further benefit to certain directions. This can be very beneficial for major planned or predicted incidents and events.

Recent upgrades to the signals across Worcester have upgraded the SCOOT detection and added MOVA detection to allow both control options. They have also been upgraded with pedestrian detection.

The Worcester Intelligent Transport Systems (ITS) network has recently included live camera coverage of all traffic signal junction arms and additional live traffic flow loop detection on strategic links to provide a city-wide picture of traffic flow conditions both at signal junctions and along key links. This was a DfT grant-funded project. The traffic engineer will be able to:

- view the traffic conditions across the network in real time;
- receive system alerts if conditions change significantly from expected - the new system recording key link flows calculates minute by minute traffic flow averages;
- implement strategies or change control method and view the impact of these strategies and changes both live and from the recorded the minute by minute flow data for detailed analysis and review.

Full testing of this system will begin this Autumn once the Sidbury junction has been upgraded. As Sidbury carries the highest flows of the City's SCOOT traffic signals network, it must be fully upgraded before any meaningful strategy and control impact testing can begin.

## **Future Developments in Traffic Signal Control**

- Artificial Intelligence-Based Signal Control – Worcestershire County Council are involved in a development group for Artificial Intelligence traffic signal control, led by Vivacity, who have significant government funding for research and development in this area. This has potential to change signal control dramatically.
- GLOSA - Green Light Optimal Speed Advisory – A Government funded research and development project costing over £20million, led by Transport for the West Midlands. This involves trialling vehicle to signals infrastructure connectivity along A45 Coventry Rd. Drivers optimise their speed to approach traffic signals on green using smartphone app or in car tech. Jaguar Land Rover is developing vehicle to infrastructure technology in conjunction with this project, also with significant government funding. This initiative is likely to be particularly good for delivering journey time savings and emissions along a defined route corridor.
- Transport for London/Siemens Research and Development 'Future SCOOT' – This is based on a new Real Time Optimiser (RTO) system to revolutionise the 30-year-old Urban Traffic Control (UTC) system in London and will be made commercially available once testing in London is complete. Transport for London will be making money from future sales, as well as Siemens being the sole manufacturer. For Worcestershire County Council to take advantage of this, it would require purchase of the Siemens SCOOT system, as Worcestershire currently has the Dyniqq SCOOT system.

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# Understanding & Managing Traffic Congestion in Worcestershire

Jim Bradley

Integrated Transport Planning Ltd

# Presentation overview

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- Traffic congestion trends on local authority managed roads
- The impact of increasing traffic congestion for policy makers
- 3 key congestion management principles to consider
- The impact of current transport policies in Worcestershire
- Good practice demand management policies in other areas of UK

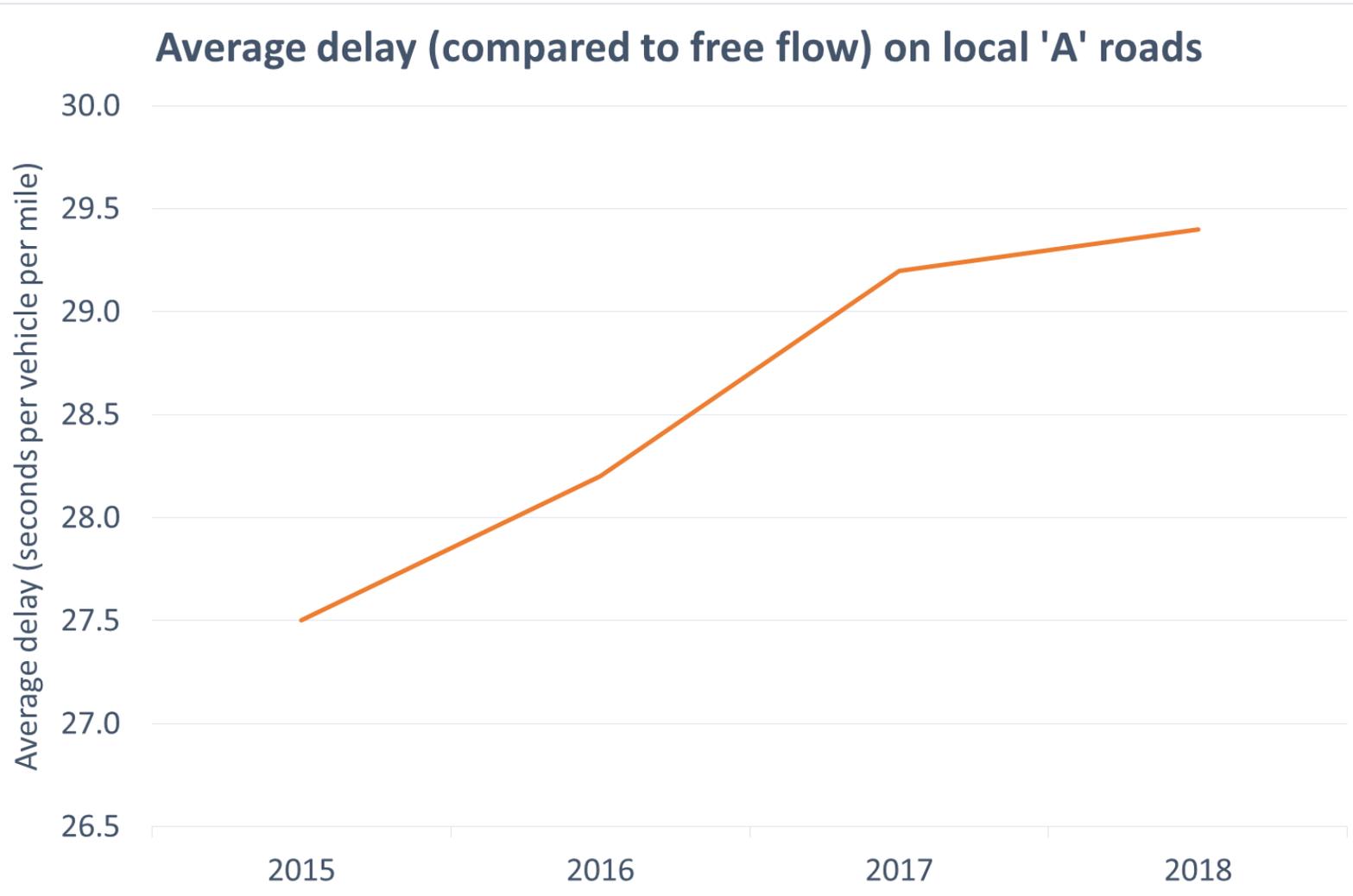
# What is traffic congestion?

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- Traffic congestion occurs as road network use increases and is characterised by slower speeds, longer travel times and increased vehicular queueing
- Common measures of congestion relate to the physical progress of vehicles through the network in comparison to 'free flow' time:
  - Average travel time delays
  - Falling traffic speeds
  - Worsening road network reliability

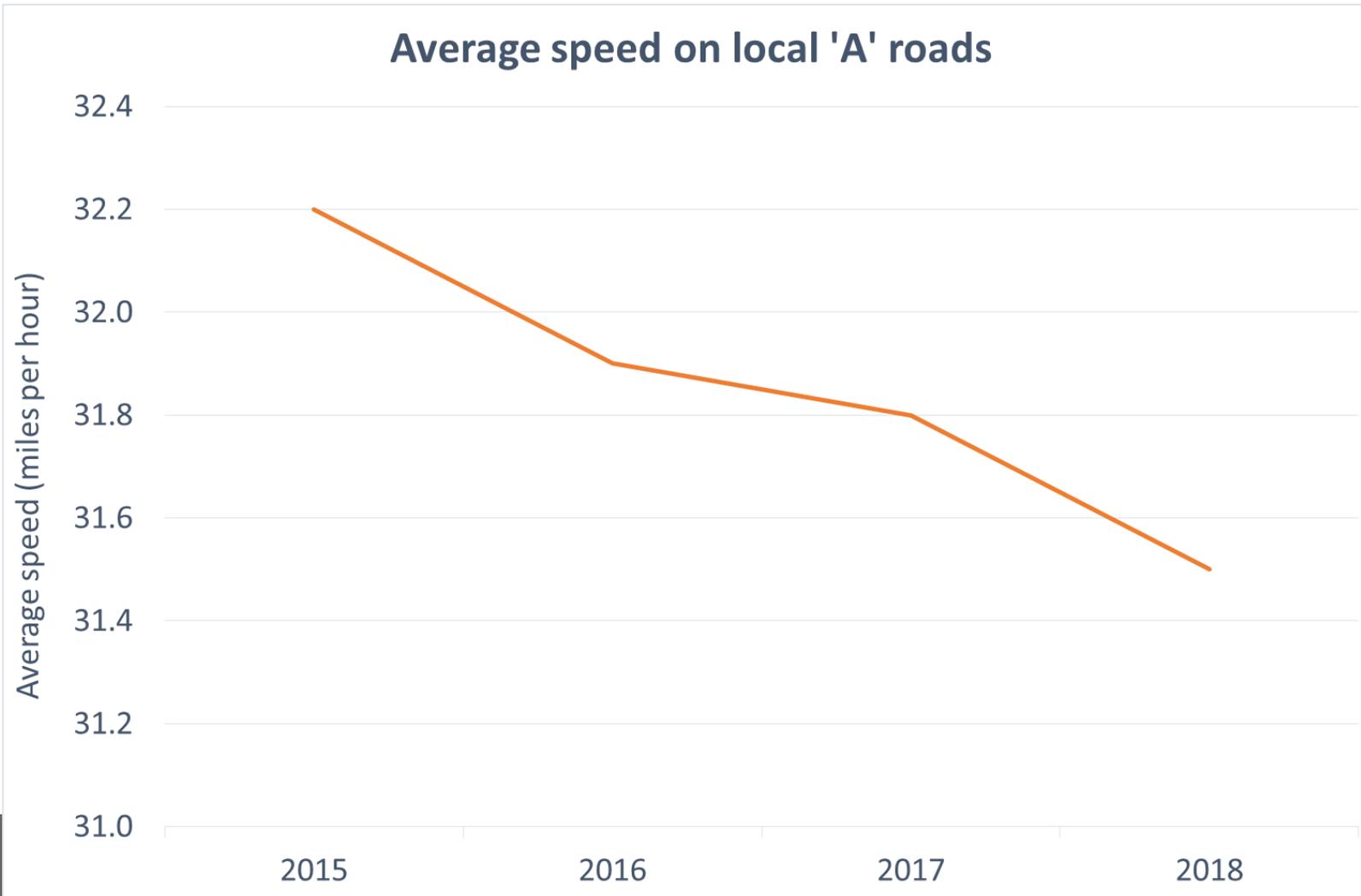
# Traffic Congestion Trends in Worcestershire

# Congestion on WCC managed roads: Delay



- In 2018 the average delay across the County (all rural and urban roads) was estimated to be 29.4 seconds per vehicle per mile compared to free flow representing a 7% increase on 2015 figures

# Congestion on WCC managed roads: Speeds



- In 2018 the average speed across the County (all rural and urban roads) was estimated to be 31.5 miles per hour representing a 2% decrease on 2015 figures

# Considerations for Policy Makers

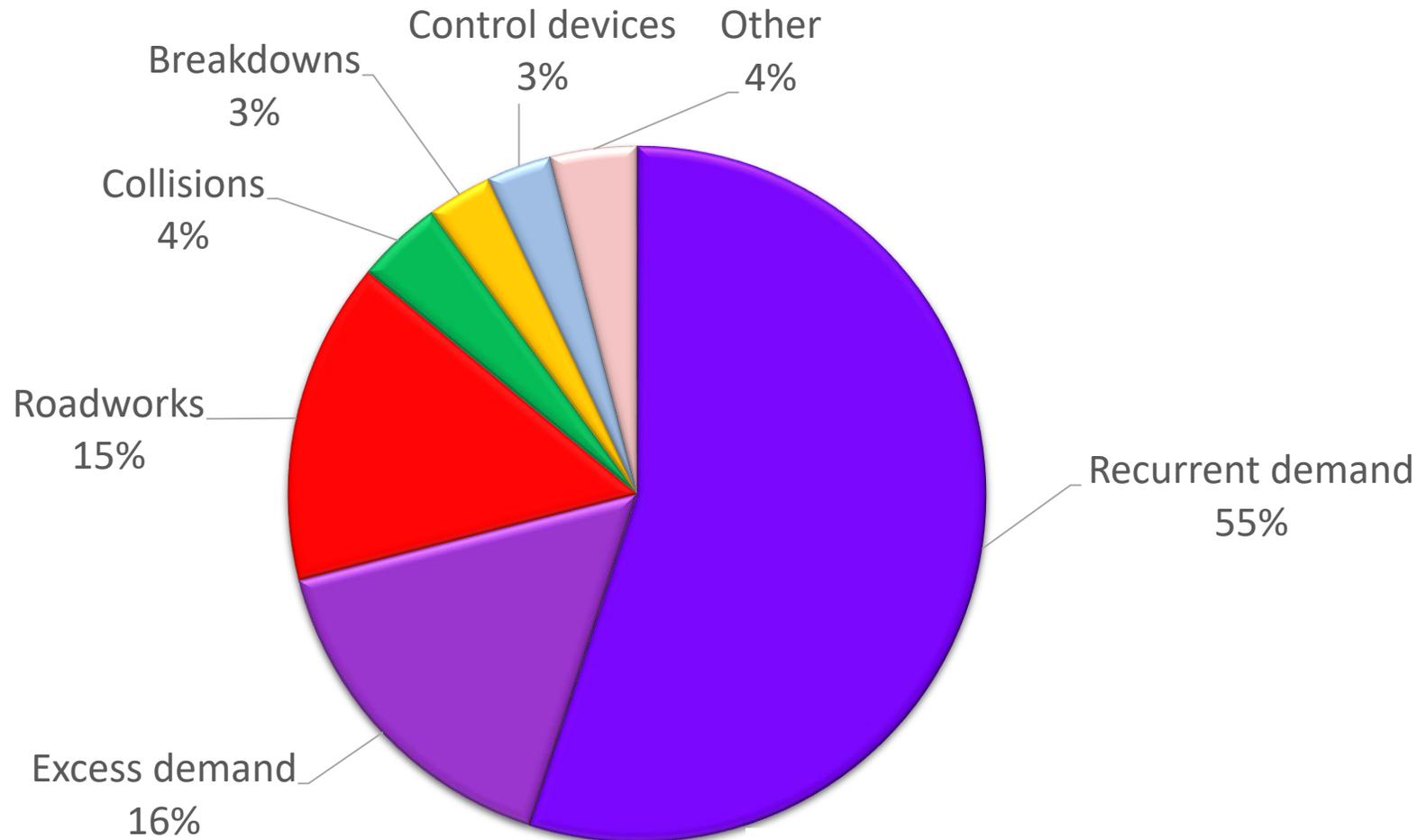
# Impact of increasing congestion on LTP4 objectives

LTP 4 Objectives (2018-30)	Increasing traffic congestion impacts
<ul style="list-style-type: none"> <li>Supporting economic competitiveness and growth</li> </ul>	<ul style="list-style-type: none"> <li>Costs businesses money (increases delivery costs &amp; time workers spend in traffic)</li> <li>Damages the reputation of towns and cities as 'places to do business'</li> <li>Constrains planned development growth (c. 50,000 dwellings to 2030)</li> </ul>
<ul style="list-style-type: none"> <li>Limiting the impacts of transport on the environment</li> </ul>	<ul style="list-style-type: none"> <li>Falling traffic speeds increase NOx emissions</li> <li>Makes streets unpleasant places for people to walk and cycle</li> </ul>
<ul style="list-style-type: none"> <li>Optimising equality of opportunity for all citizens</li> </ul>	<ul style="list-style-type: none"> <li>Delays vital bus services (17% of residents have no access to a car)</li> <li>Creates conflict with non-motorized road users (cyclists and pedestrians)</li> </ul>
<ul style="list-style-type: none"> <li>Improving safety, health, life expectancy</li> </ul>	<ul style="list-style-type: none"> <li>Increases road traffic accidents</li> <li>Increases incidences of pollution related health issues</li> <li>Challenges the promotion of healthy lifestyles through active travel</li> </ul>
<ul style="list-style-type: none"> <li>Enhancing the quality of life for residents</li> </ul>	<ul style="list-style-type: none"> <li>Increases time spent travelling thereby reducing available personal time</li> <li>Creates less pleasant environments for residents to live and work in</li> </ul>

# Key principle 1: The causes of congestion

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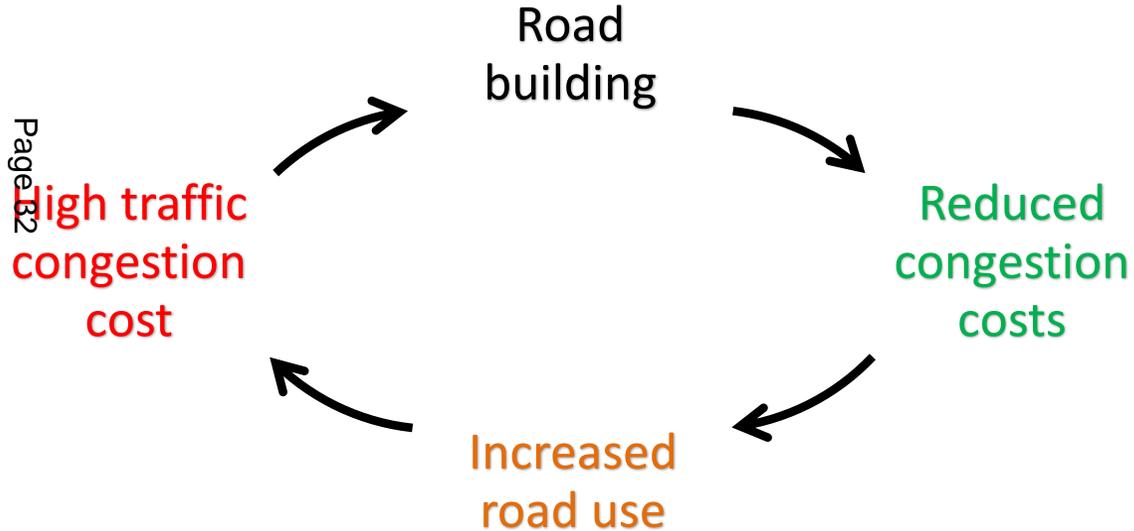
**TfL: Contribution of various factors to congestion (2015)**



Source: Transport for London, 2015

# Key principle 2: Concept of “induced demand”

- It's impossible to build your way out of congestion!



# Key principle 3: Most efficient road space utilisation

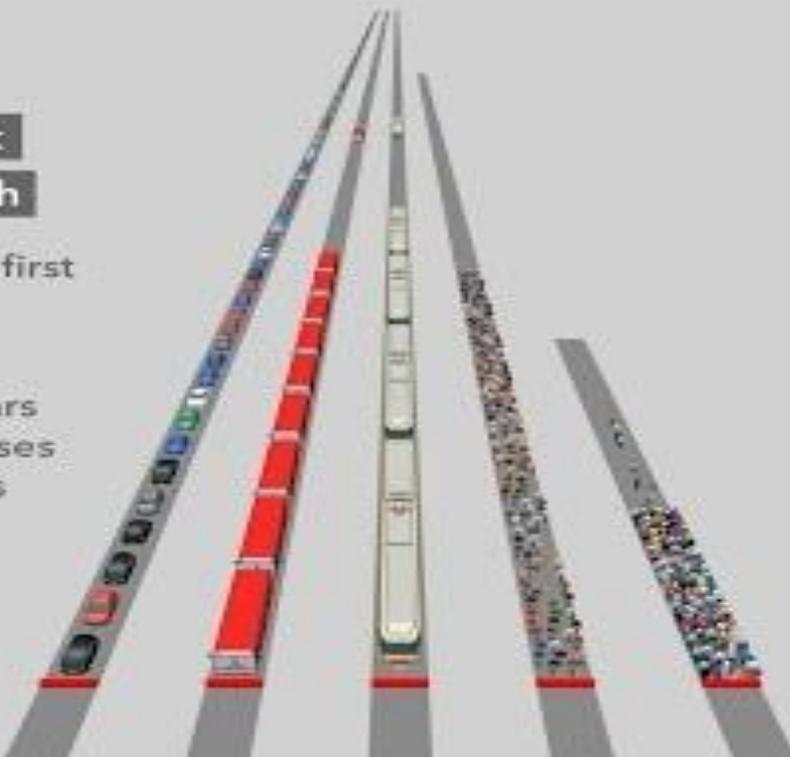
**PTV GROUP**  
the mind of movement

**5 modes of transport  
with 200 people each**

Which mode will be the first to cross the line?

Occupancy per mode:

- ▶ 1.5 people in 133 cars
- ▶ 20 people in 10 busses
- ▶ 40 people in 5 trams
- ▶ 200 bikes
- ▶ 200 pedestrians



# Options for Managing Demand for Road Space in Worcestershire

# The Travel Demand Management (TDM) toolbox

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- Fiscal measures (e.g. road and fuel tax)
  - Road pricing / congestion charging
  - Rail capacity improvements
1. Parking management
  2. Supporting commercial bus services
  3. Cycling and walking investment
  4. Behaviour change programmes

# 1. Parking management

- All day parking charges in comparator towns / cities:

Town	Av. All Day Parking Charge (£)	Av. Daily Network Bus Ticket (£)	Difference (£)
All Worcestershire towns	£4.66	£3.80*	-£0.86
Winchester	£5.50	*Higher than the average all day parking charge in both Worcester and Malvern and the same as in Droitwich, Evesham and Pershore	
Chester	£6.00		
Lincoln	£7.00		
Taunton	£7.50		
Salisbury	£7.80		
Cheltenham	£8.00		
Nottingham	£15.00		

- Result:** Plentiful supply of low cost parking incentivises car use

# Parking management: Good practice



- Workplace Parking Levy (WPL) introduced in Nottingham in 2012:
  - Employers with 11 or more parking spaces charged £380 per space (2017/18)
  - Not applied to shoppers, occasional business users or Blue Badge holders
  - Grants available to businesses to encourage reduction in workplace parking through initiatives such as a cycling grants for showers and cycle facilities
- **Result:** WPL acts as a **disincentive to commuter car use** and has raised **£44m in revenue** ring fenced by law to spend on:
  - The NET tram network, electric link bus network and railway station redevelopment

## 2. Bus service support

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- Current situation in Worcestershire:
  - Patchy bus priority measures with buses having to queue in traffic resulting in reduced operating speeds and increased passenger dissatisfaction:
    - Every 10% reduction in average operating speed leads to about a 10% reduction in patronage and a higher cost to the commercial operator
    - National Bus Passenger Survey 2018 – lowest levels of passenger satisfaction in GB
- **Result:** Majority of Worcestershire's commercial interurban bus network is now operating at **marginal viability: Bus network attrition inevitable** unless bold decisions are made to reverse the trend

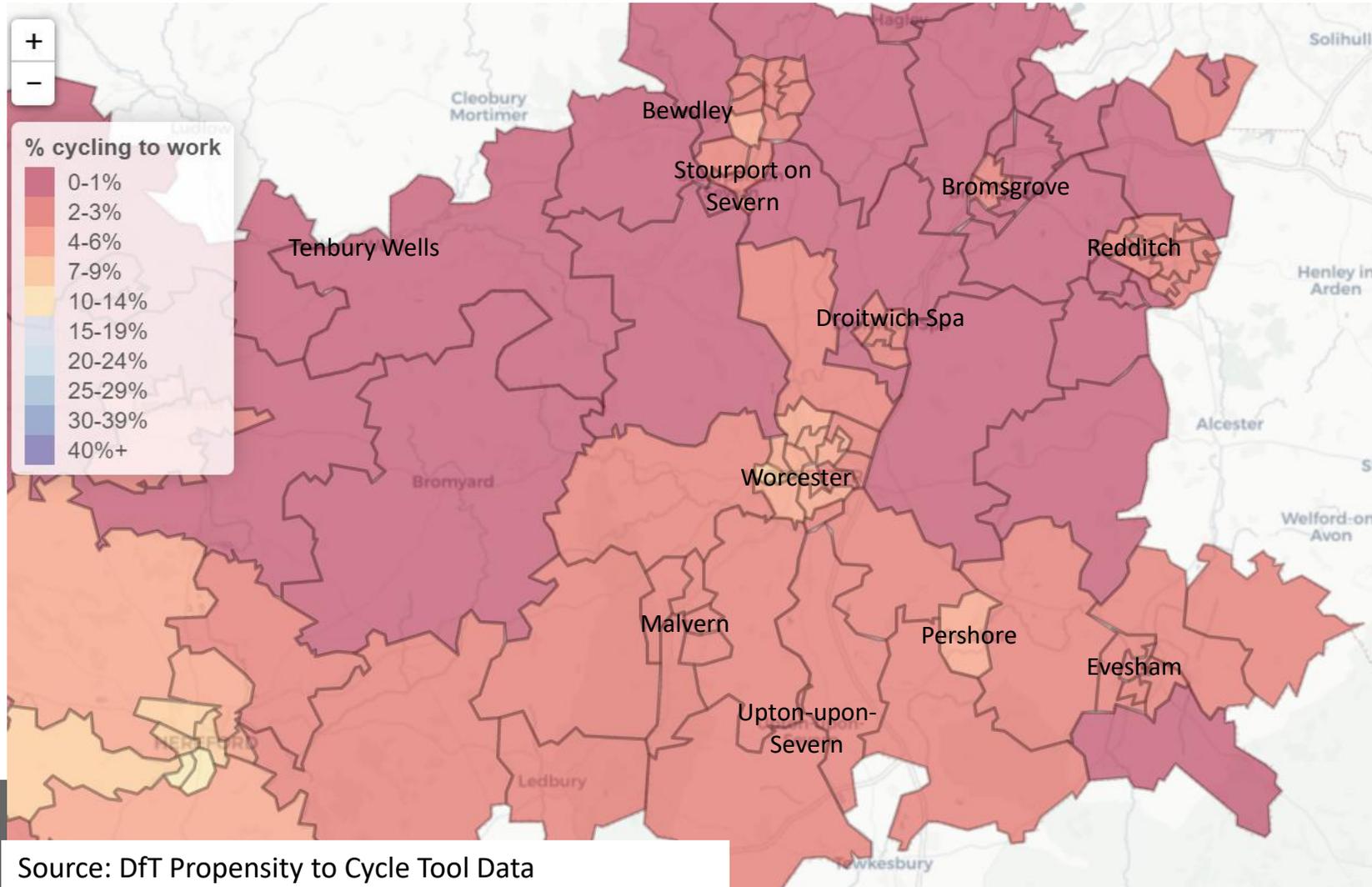
# Bus service support: Good practice

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- The Council implemented a pro-bus policy over the last 20 years:
  - A network of bus lanes to allow buses to bypass traffic
  - Bus priority at traffic signals to give buses a head start in congested traffic
  - Real Time Information at bus stops to let people know when buses are due
  - Accessible bus stops to allow level surface boarding from the pavement
  - The 'Key'; a multi-operator smartcard for train, bus, car club & cycle hire payment and extensive use of mobile phone based ticketing
- **Result:** The number of bus journeys in Brighton & Hove **doubled** from 22 million in 1992/93 to 44.8 million to 2012/13

# 3. Cycling and walking



- Demand for cycling in the County is currently low, particularly in rural areas
- An update on how the Council is delivering on cycling in Worcestershire will follow in the next presentation to the Panel

Source: DfT Propensity to Cycle Tool Data

# Cycling: Good practice

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- Significant investment by successive Mayors in initiatives to promote cycling:
  - Closing minor roads/central areas to through motor traffic & traffic speed initiatives
  - Highway & traffic management changes targeted at problematic locations for cycles
  - A network of dedicated Cycle Superhighways, lanes, tracks and advanced stop lines
  - TfL's launch of the (Santander Cycle) Hire system in 2010
  - Thousands of new bike parking facilities including at railway and tube stations
  - Training, education and enforcement measures
  - Pro-cycling policies importantly accompanied by charging for the use of the busiest roads at the busiest times and parking policies to restrain driving
- **Result:** Between 2000 & 2016, cycling in London **increased by over 130%**

# 4. Behaviour change

- 2005-2009: Worcester awarded £3.52 million as a Sustainable Travel Demonstration Town to showcase the role of 'soft measures' in reducing traffic by promoting walking, cycling and public transport
- Significant investment in the **Choose How You Move** behavioural change campaign influenced travel patterns and encouraged a switch to sustainable modes of travel with a 10% reduction in car use demonstrated
- Due to austerity measures the programme was not sustained in the longer term on the same scale alongside a failure to 'lock-in' the benefits of supporting investment in walking, cycling and passenger transport infrastructure and services
- **Result:** The increases in car use and traffic congestion previously reported

# Behaviour change: Good practice

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- 2014: “Thinktravel” **Personalised Travel Planning** project targeted at 30,000 households in Gloucester & Tewkesbury (DfT funded):
  - Adopted the London 2012 Games travel planning approach based on a set of motivators and messages to provoke ‘*re-moding*’, ‘*reducing*’, ‘*rethinking*’, ‘*retiming*’ and ‘*rerouting*’ of travel patterns
  - Individualised Marketing approach: travel information and motivation supplemented with incentives (e.g. discounted railcard and bus passes, bike service and safety equipment vouchers, pedometers, water bottles etc.)
- **Result:** 7% reduction in single occupancy car trips amongst the targeted population and a shift towards car sharing, walking and cycling trips, particularly for journeys to the local shops

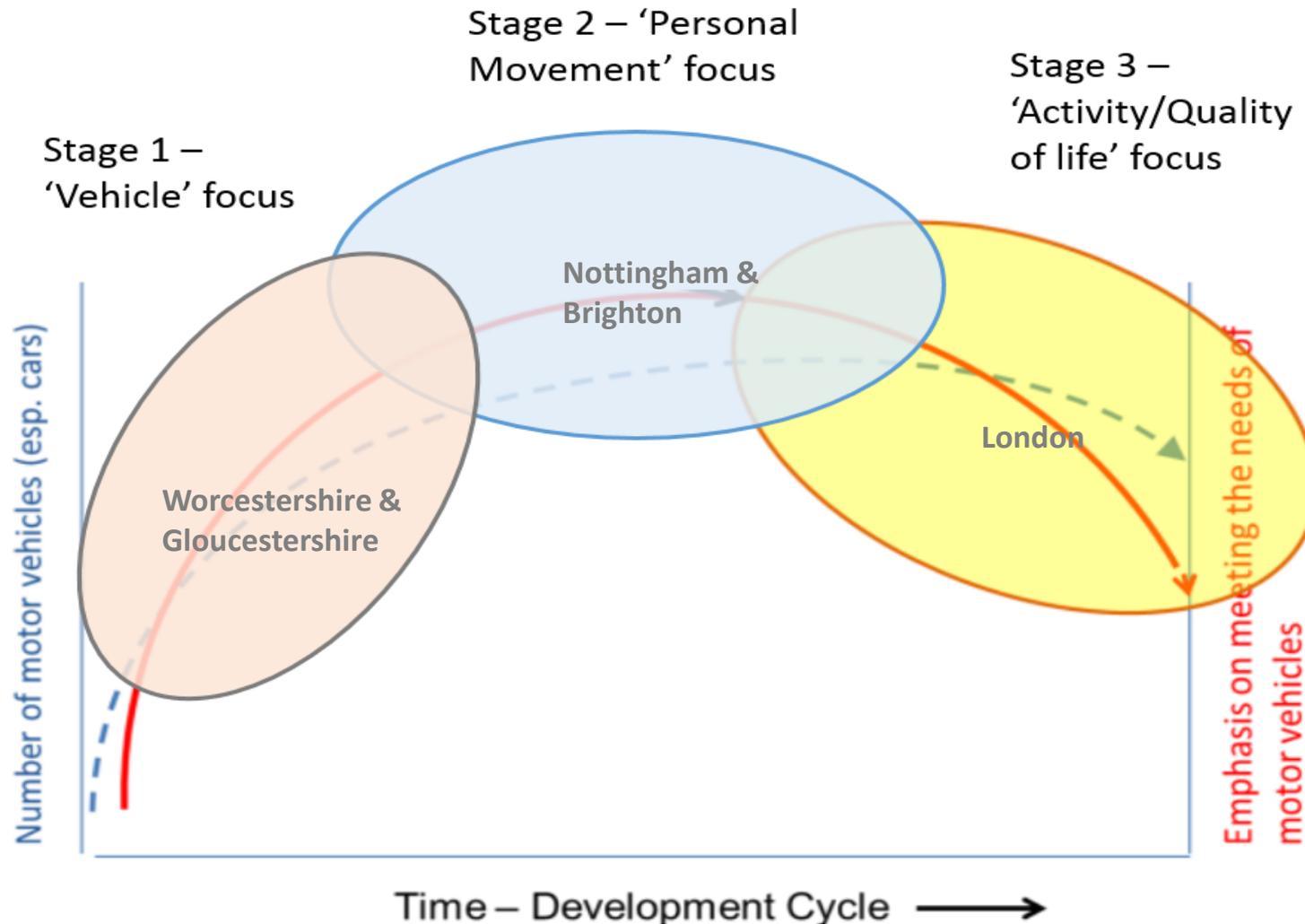
# In Conclusion...

# Summary

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- Congestion is worsening and represents a **critical challenge** to LTP delivery
- Health and the environment are key to future **quality of life** for all residents
- Any future strategy to address congestion should focus on **moving people not vehicles**
- Removal of the incentive of cheap long stay **parking** and supporting **bus services** really must be at the centre of a future strategy if you want to address traffic congestion on Worcestershire's roads
- Plenty of infrastructure and softer supporting measures that can be taken as part of a package to **encourage Smarter Travel** behaviour
- The principal of induced demand means that **'if you build it, they will come'** whether that's by car or by sustainable modes of transport is up to you

# Transport policy evolution in UK towns & cities



# Any questions?

Page 47

## Jim Bradley

Director

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