

WYRE FOREST LOCAL PLAN – STATION ACCESS

CAR PARK ACCESS & CAPACITY REPORT

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1. INTRODUCTION

In summer 2020 SYSTRA was engaged as a sub-consultant to SLC Rail to support a commissioned for Worcestershire County Council to develop an evidence base around car park demand and capacity at Blakedown and Kidderminster stations in support of submissions to the Wyre Forest Local Plan.

The Wyre Forest District is served by only two National Rail stations at Kidderminster and Blakedown. Kidderminster is the major station in the area with 1.63m passengers per annum in the 2018/19 financial year. The station is served by a car park of 226 spaces, which is typically full before the end of the morning peak period. This would suggest that demand for rail services at Kidderminster may already be suppressed, especially in the off peak by the lack of available parking.

Blakedown station is used by only around 100k trips per annum and has only 11 parking spaces, however parking demand at the station exceeds the available parking capacity with overspill parking occupying residential streets in the surrounding area.

Within this report we consider the current and future situation in terms of parking demand at rail stations around Kidderminster including the impact of suppressed demand and consider how a suitable supply of parking might be provided to address these issues.



2. THE CURRENT SITUATION

2.1.1 Currently the two National Rail stations in the Wyre Forest generate around 1.7m trips each annually c. 2,700 return passengers each day.

2.1.2 Of the two stations (Kidderminster & Blakedown), Kidderminster is by far the largest with around 1.6m trips per annum, c. 2,550 return passengers per day. The station is provided with a car park of 226 spaces which is known to be regularly full before the end of the morning peak period, with rail users occupying available space in the surrounding streets. The rail service at Kidderminster is typically formed of four trains per hour operated by West Midlands Trains as follows:

- 1tph Kidderminster – Whitlocks End
- 1tph Kidderminster – Dorridge
- 1tph Worcester – Whitlocks End
- 1tph Worcester – Dorridge

Together these services provide four trains per hour to central Birmingham and two trains per hour to Worcester, with some services extending to Great Malvern. These services are supplemented by four trains per day to London Marylebone all of which depart in the morning peak and four services from London Marylebone in the evening, operated by Chiltern Railways.

2.1.3 Demand at Blakedown station is around 100k trips per annum, and the station is provided with 10 parking spaces. This is currently insufficient for the demand at the station with the surrounding area seeing significant amounts of on street parking.

2.1.4 Blakedown is served by two trains per hour in each direction running between Kidderminster and Birmingham. Both services start/terminate at Kidderminster for much of the day and as such Blakedown does not have direct service to Worcester outside of the peak.

2.1.5 The table below summarises the current situation at Kidderminster and Blakedown.

Table 1. Current trains service, station usage and parking supply (Sources: Various)

| STATION | STATION USAGE 2018-19 | TRAIN SERVICE | PARKING SUPPLY |
|---------------|--------------------------|-------------------|----------------|
| Kidderminster | 1,638,322 | 4 trains per hour | 226 Spaces |
| Blakedown | 97,242 | 2 trains per hour | 11 Spaces |

2.2 Changes in Demand over time

2.2.1 Demand growth has over the last 15 years been dramatic with Kidderminster increasing from 734,000 trips per annum in 2004/05 to 1,638,000 in 2018/19, whilst Blakedown has grown from 28,000 to 97,000 over the same period.

2.2.2 The figures below present demand growth at the two stations over the period 2004/05 to 2018/19 (Source: ORR Station Usage Data)



Figure 1. Demand Growth at Kidderminster

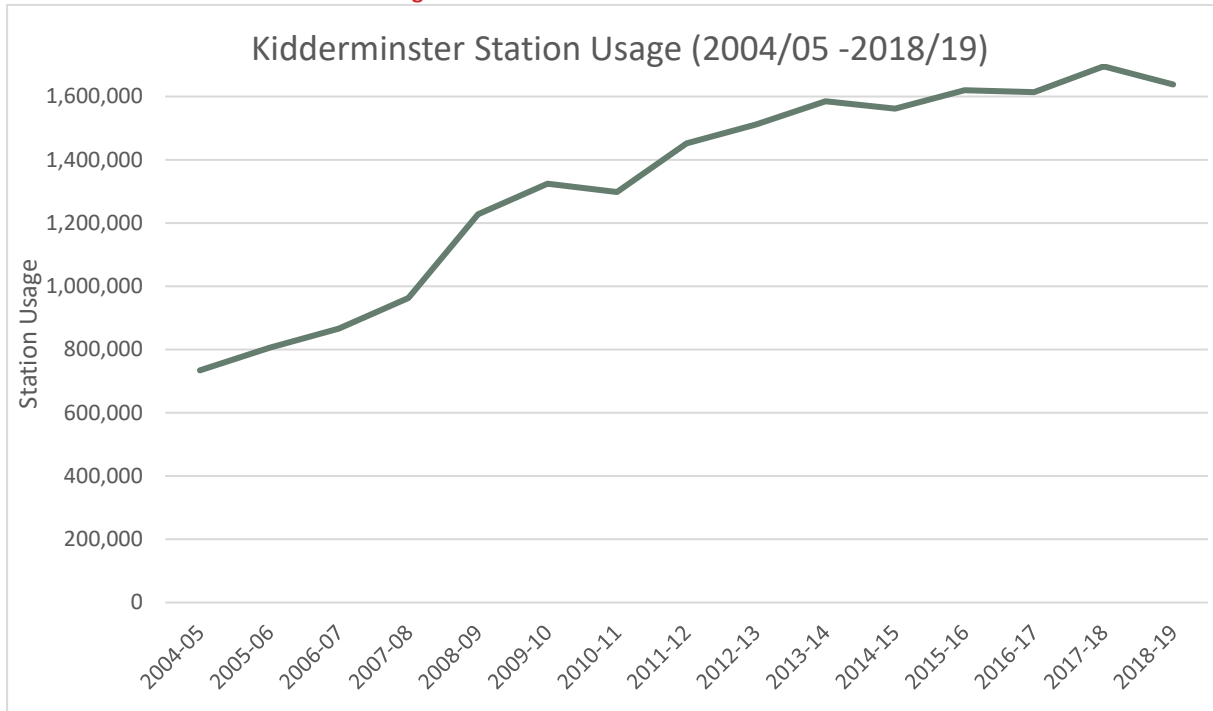


Figure 2. Demand Growth at Blakedown

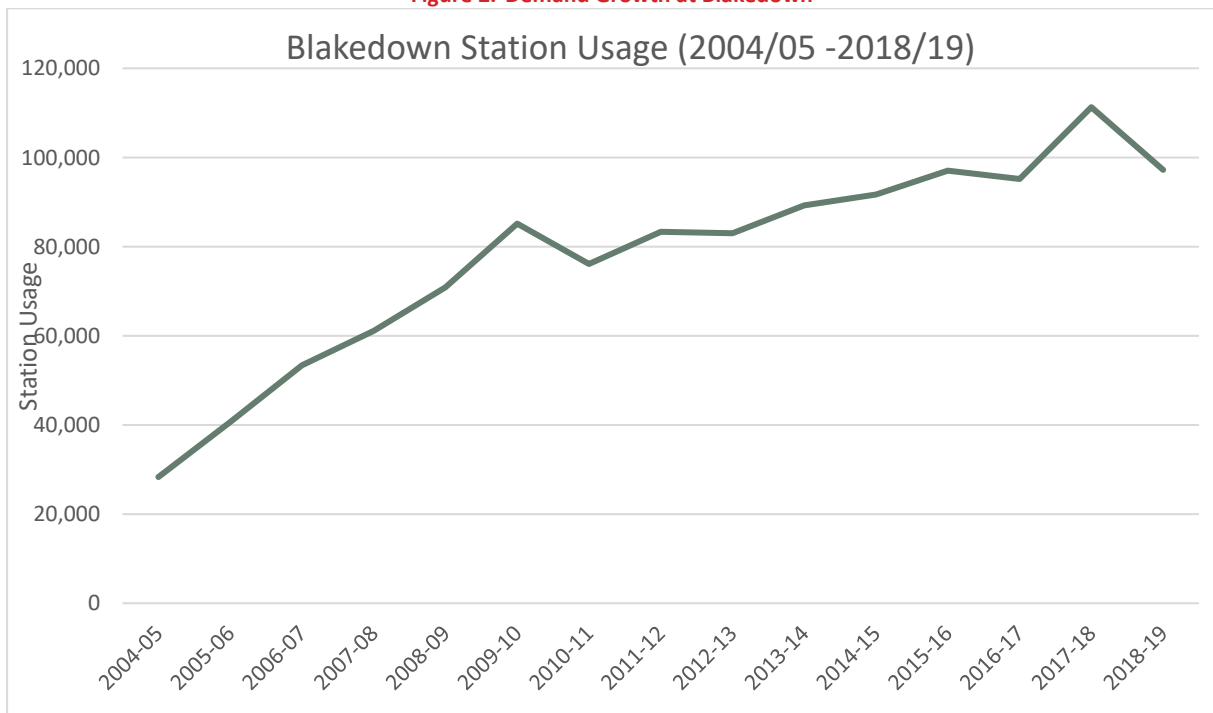
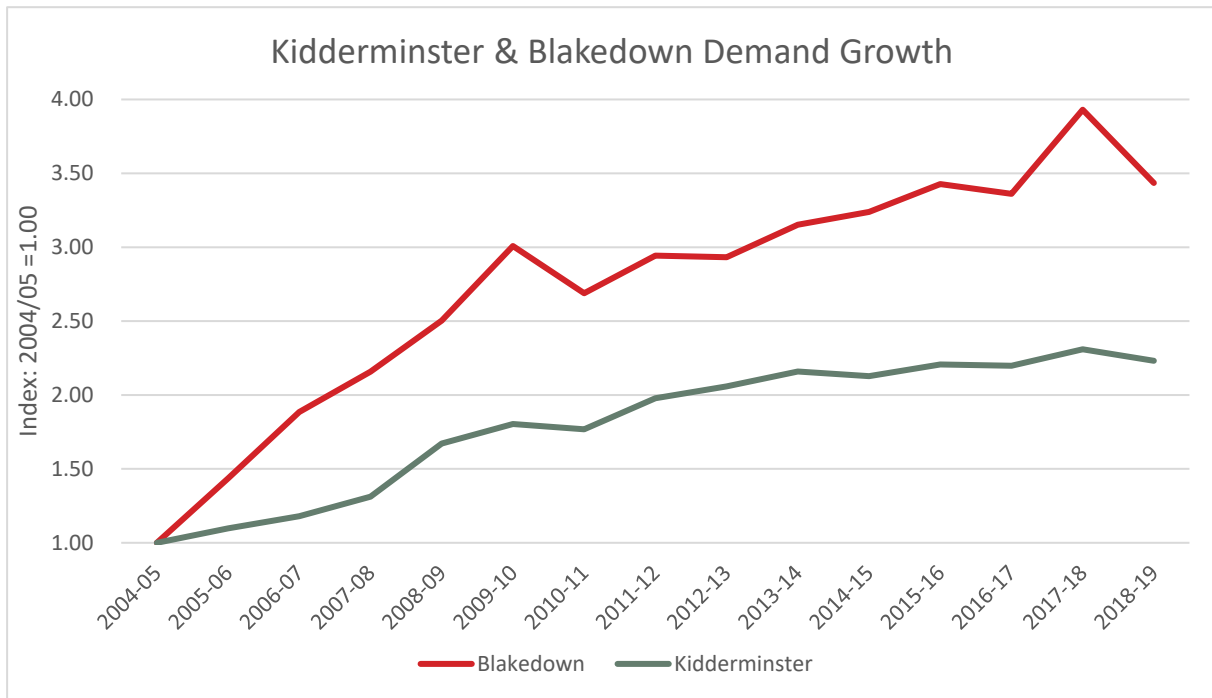


Figure 3. Index of Demand Growth (2004 =1.00)



2.2.3 The figures demonstrate that the growth in demand was strongest over the period 2004/05 to 2010/11 it has continued to be strong over the last 20 years. It is also noticeable that the rate of growth at Blakedown has been much more rapid, albeit coming from a much lower base. This is despite the train service at Blakedown¹ remaining static over the period at two trains per hour, whilst Kidderminster has increased from three to four trains per hour.

2.2.4 Whilst examined in more detail in the following sections it is possible that this more dramatic rise in demand at Blakedown relative to Kidderminster is linked to issues around the suppression of demand at Kidderminster over this period.

2.3 The Emergence of COVID19

2.3.1 Whilst the evidence above shows a pattern of strong and consistent increases in rail demand over the last 15 years, at the time of writing demand for rail services has substantially reduced as a result of the COVID19 pandemic.

2.3.2 As the post COVID19 recovery continues, and ultimately the need for social distancing diminishes, demand will return to the rail network, but it must be acknowledged that this will result in some changes in rail usage, which we have tried to provide an initial view in in the following sections.

¹ Although the spread of services Blakedown has improved, where previously gaps in services were 20 and 40 minutes they are now an even 30 minutes.

3. STATION CATCHMENTS AREAS

3.1.1 To understand the current and future demand for car parking at Kidderminster and Blakedown requires an understanding of station catchment areas, access modes and the existence of suppressed demand.

3.1.2 Achieving this might typically rely on a mixture of primary and secondary data sources, with the primary data collection coming in the form of surveys of passengers and car park counts. This has however not been achievable in within the constraints imposed by the COVID19 pandemic, not just has not been practical to undertake surveys the reduction in demand associated with the lockdown been that any surveys undertaken would not be valid.

3.1.3 Instead we have had to rely on the use of secondary data for our assessment, and for this we have turned to the National Rail Travel Survey (NRTS) provided by the DfT. NRTS is a survey of rail stations undertaken in 2005 which provides data on the true origins and destination of passengers, and thus provides, at postcode level, the catchment area for rail stations. In addition to this they also provide data on the mode used to access stations.

3.1.4 Whilst NRTS data is now quite old, there are reasons that we believe that it is still a valid data source for understanding demand for rail services in the Wyre Forest. These reasons include:

- No new stations have opened in the area since the survey was undertaken which might have impacted on station catchments. The new station at Worcestershire Parkway was only opened in February 2020, shortly before the COVID lockdown.
- The frequency and origin and destinations of services have remained largely static over this period. The most significant change to Kidderminster has been an incremental increase from three to four trains per hour and at both stations a restructuring of the timetable to provide a more even pattern of departures. Other services have remained broadly constant with the exception of Bromsgrove has seen a considerable improvement in service frequency, which may have had an impact on the periphery of the Kidderminster catchment area.
- The car park capacities at Kidderminster and Blakedown have remained constant in size and thus there has been no change in the available supply of car parking at the two stations.

3.1.5 The three points above suggest that the data would still be valid for the purposes of this study.

3.2 NRTS Station Catchments

3.2.1 The figures below present the station catchment areas derived from NRTS data at postcode sector level for both Kidderminster and Blakedown stations.

3.2.2 The shading shows the annual usage at each station from each catchment area, whilst the percentages indicate the proportion of arrival trips made by car.



Figure 4. Kidderminster Station Catchment (NRTS data inflated to 2019)

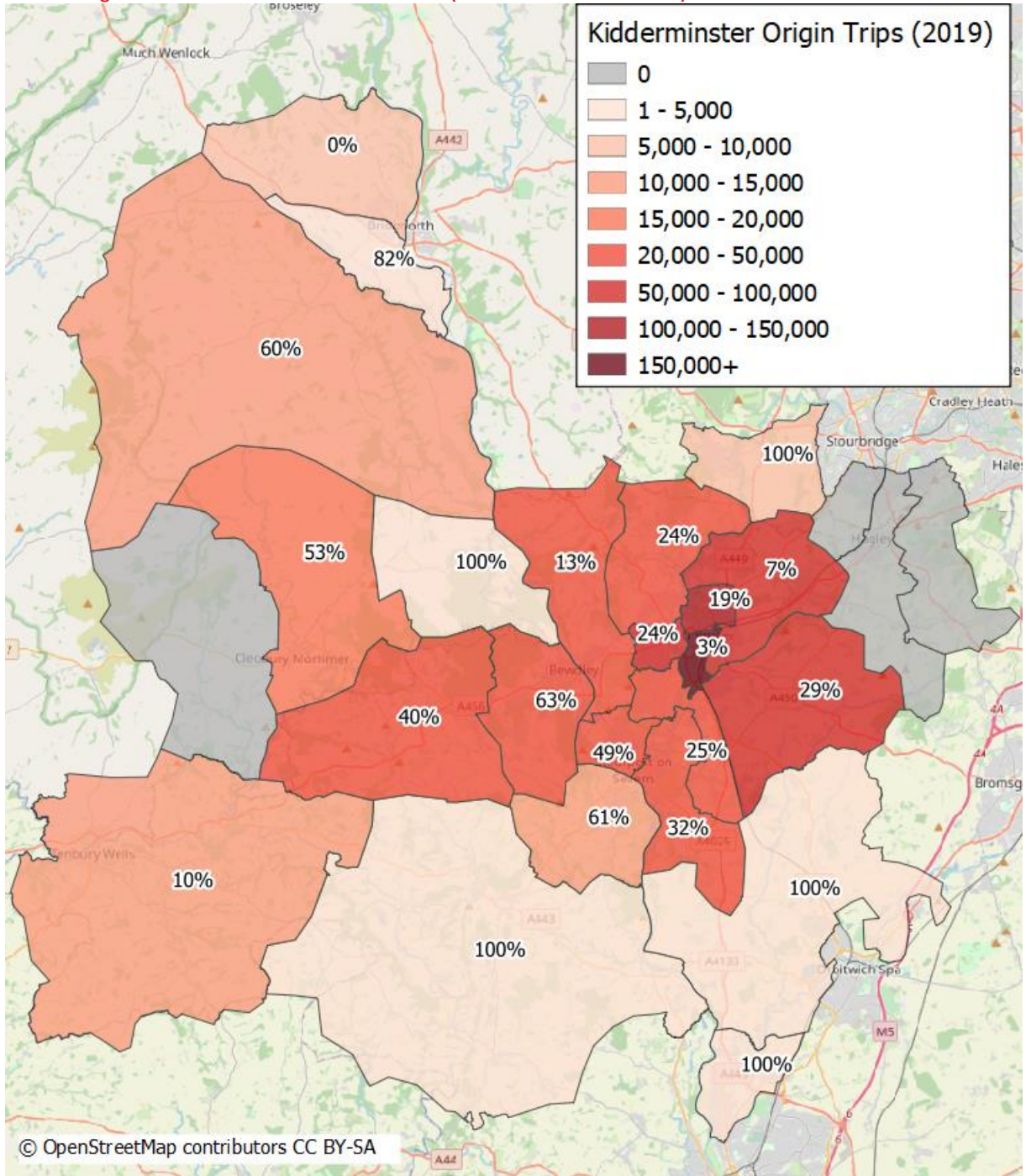
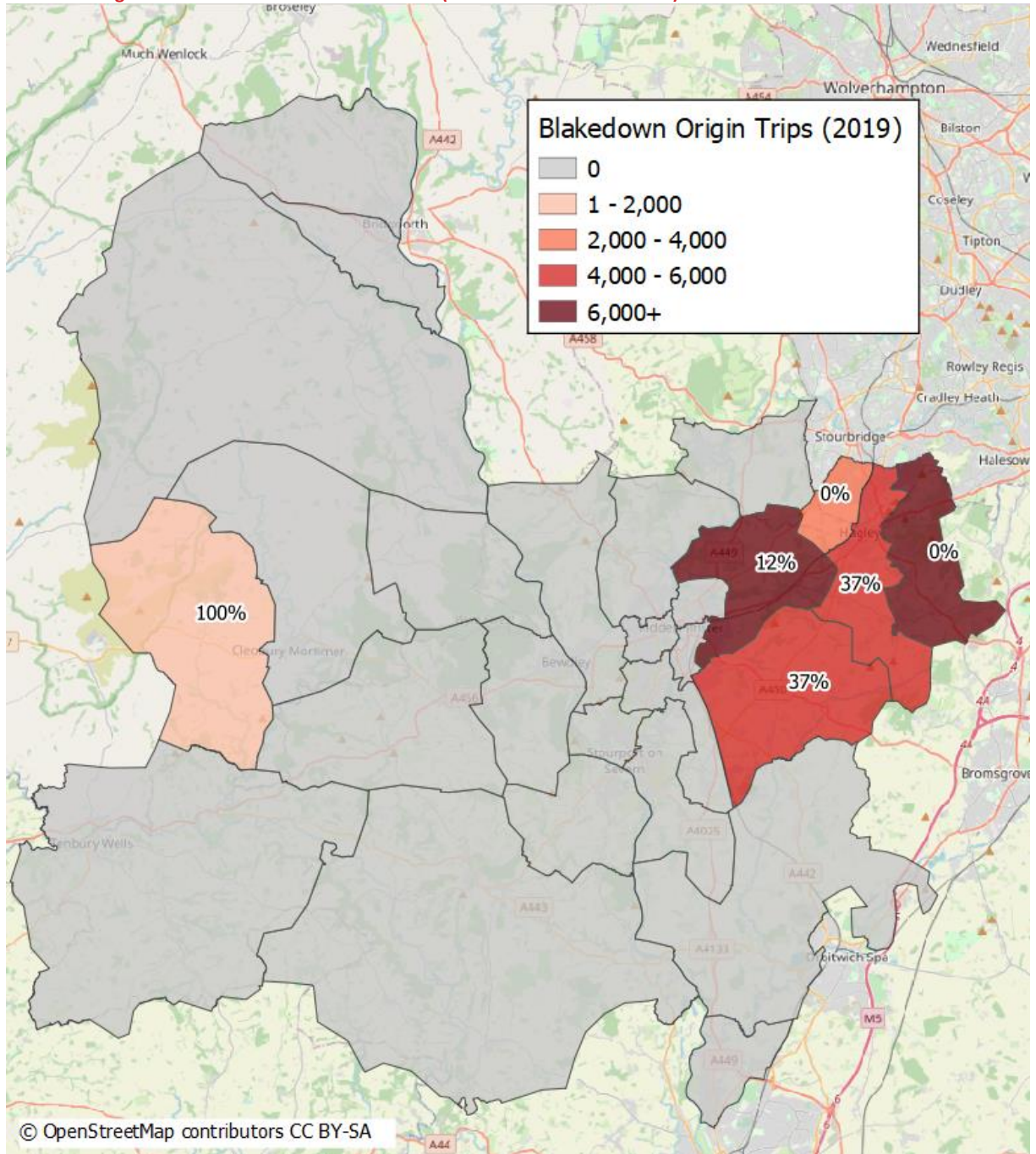


Figure 5. Blakedown Station Catchment (NRTS data inflated to 2019)



- 3.2.3 The maps present an intuitive picture, with the Kidderminster catchment being dominated by Kidderminster town with an “outer” catchment, dominated by the use of car as an access mode, and which is focused on the A456 catchment.
- 3.2.4 The Blakedown catchment is more constrained being limited to the postcode sector that the station sits in and the eastern part of the district, with the exception of small amount of usage from the far west of the district



4. SUPPRESSED DEMAND

- 4.1.1 The use of NRTS that dates from 2005 has the advantage of providing a perspective on what position the car parks at the two stations were in during 2005 and thus help identify the extent to which demand is already suppressed as a result of parking capacity issues. Understanding suppressed demand is important as where demand is suppressed the benefits associated with rail use are also suppressed, these include access to opportunities and the promotion of mode shift from car to rail with the environmental and decongestion benefits associated with this.
- 4.1.2 The table below presents rail access mode share to Kidderminster and Blakedown, where access mode was parked car and the resulting requirement for parking spaces for the 2004/05 year.

Table 2. Kidderminster and Blakedown 2004/05 car park demand

| STATION | 2004/05 DEMAND | CAR MODE SHARE | MAX DAILY PARKING DEMAND ² | EXISTING CAR PARK CAPACITY | CAR PARK OCCUPANCY |
|---------------|----------------|----------------|---------------------------------------|----------------------------|--------------------|
| Kidderminster | 734,132 | 23% | 321 | 226 | 142% |
| Blakedown | 28,311 | 17% | 23 | 11 | 209% |

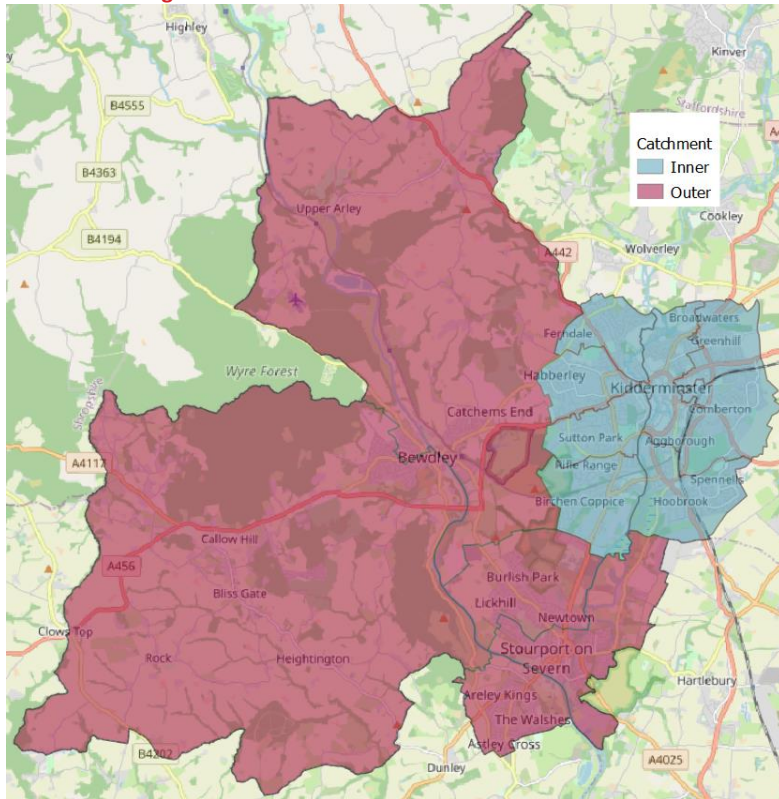
- 4.1.3 It can be seen that in 2005 the car park at Kidderminster was already operating above capacity with 95 cars above the capacity of the station. These additional cars are likely to have used surrounding car parks and residential streets, and it is understood that at some periods the adjacent Severn Valley Railway car park may have been used. In 2005 this would have been before the SVR installed car park barrier controls into and out of its car park and restricted access from 1900 in the evening. Typically an occupancy in excess of 85% suggests that a car park is operating at full capacity as due to varying occupancy on a daily basis the car park may be 100% full on some occasions. Clearly in the case of Kidderminster the car park is already fully occupied.
- 4.1.4 At Blakedown it can be seen that daily occupancy was around 70%, although given how small the car park is it could be imagined that at times it was also at full capacity.
- 4.1.5 The analysis above suggests that the car park at Kidderminster was already operating at capacity in 2005 and as such demand may have been suppressed since before 2005.

4.2 Kidderminster Demand Suppression

- 4.2.1 We have explored the level of demand suppression at Kidderminster in more detail by comparing the level of demand growth over the period from 2005 to 2019, comparing areas where access by car to the station dominates with those where other modes (principally walking) dominate. This was achieved by defining an inner and outer station catchment area, with the outer catchment being the area where car use dominates. The map below presents the catchment areas defined.

² Daily occupancy estimated using data from the National Rail Travel Survey (for 2004) which gives average weekday demand.

Figure 6. Kidderminster Inner & Outer Catchments



4.2.2 The inner catchment area covers the Kidderminster urban area and has a population of around 57,000 (2018). The outer area covers the areas to the west of Kidderminster not served directly by rail and includes settlements such as Bewdley and Stourport on Severn. The areas to the east of Kidderminster has not been included as this largely represents the Blakedown catchment. This area has a catchment of around 35,000 people.

4.2.3 To understand if there is evidence that demand suppression exists an analysis of 2001 and 2011 census data has been made looking at the rate of change in rail commuting in the inner and outer catchments, the result of this are shown below.

Table 3. Kidderminster Inner & Outer Catchment Change in Rail Commuting

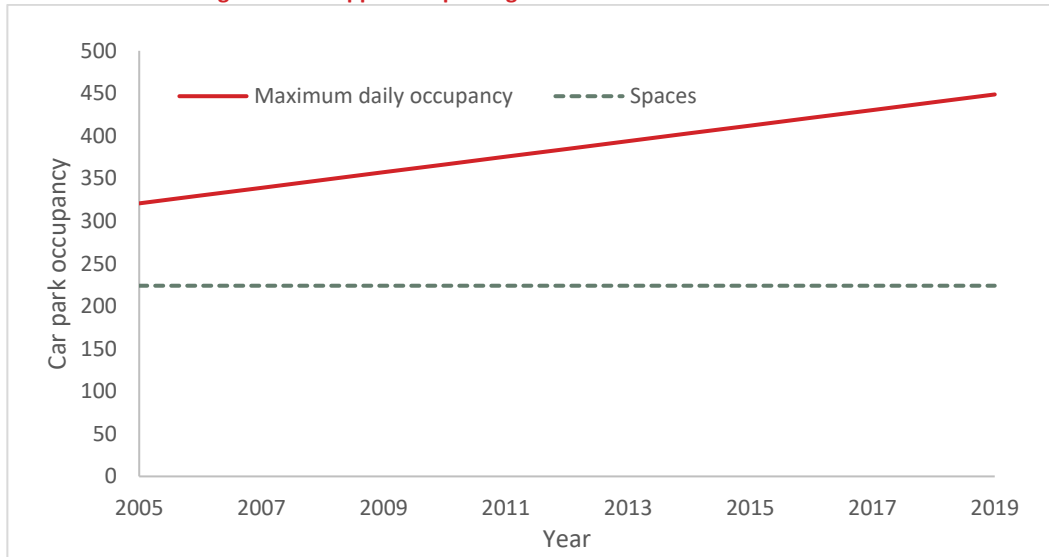
| CATCHMENT | 2001 | 2011 | DIFFERENCE | % CHANGE |
|-----------|------|------|------------|----------|
| Inner | 571 | 773 | 202 | +35% |
| Outer | 223 | 260 | 37 | +17% |
| Total | 794 | 1033 | 239 | +30% |

4.2.4 The results show that the inner catchment saw an increase in rail commuting of 35% compared to only 17% in the outer catchment. Whilst there maybe a number of reasons for this, a decline in the availability of car parking at Kidderminster may well be one reason for this as residents in the outer catchment have no choice but to use car to access the station.

4.2.5 To understand the level of demand suppression we have applied the inner catchment rate of growth to the outer catchment population and extrapolated the trend between 2005 and 2019 (resulting in approximately 40% growth between the two years) to estimate the level of demand that may have been suppressed at the station. The growth in relation to the current car park capacity is shown in the figure below.



Figure 7. Unsuppressed parking demand 2005 -2019



4.2.6 Based on this analysis we estimate that, were capacity available, up to an additional 223 cars would use the Kidderminster station car park at 2019. This would represent up to an additional 116,000 trips to or from Kidderminster per annum.

4.3 Estimating Car Parking Occupancy at Blakedown

4.3.1 As outlined above parking demand at Blakedown in 2005 was approximately 23 spaces.

4.3.2 As with Kidderminster, analysis was undertaken using Census data to understand the potential growth in demand at Blakedown. This is summarised in the table below.

Table 4. Kidderminster Inner & Outer Catchment Change in Rail Commuting

| CATCHMENT | 2001 | 2011 | DIFFERENCE | % CHANGE |
|-----------|------|------|------------|----------|
| Blakedown | 97 | 143 | 46 | +47% |

4.3.3 The table above shows that rail commuting from the Blakedown catchment increased by 47% between 2001 and 2011. Assuming that this same increase can be applied to car access to the station this would result in a parking demand of 33 spaces in 2011. Assuming this same pattern could also be extended to 2019 then the predicted number of car drivers accessing the station would be 42.

4.4 Summary

4.4.1 It can be seen that there may have been a high level of demand suppression at Kidderminster station for a long period of time. The car park was clearly operating above capacity in 2005 and since this point demand has risen further. Whilst it may be supposed that some level of parking demand could have been absorbed into adjacent non railway car parks and streets in 2005 it is likely that the station will have become less attractive over time for new users as there is less certainty over obtaining a parking space and as such demand will have been suppressed. Since 2005 we estimate a need for an additional 223 spaces. At Blakedown, relative to the size of both the village and the station car park significant on street car parking is taking place totalling around 31 vehicles per day in excess of the 11 spaces available.



5. FORECASTING FUTURE DEMAND

5.1.1 Having estimated the level of suppressed demand at Kidderminster in the current year and the current level of parking demand at Blakedown we have estimated the future level of demand at these two station over the next 20 years if demand were unconstrained, that is to say the demand that would be generated if there were no issues associated with the station car park.

5.1.2 To achieve this we have used demand forecasting guidance set out in the RDG Passenger Demand Forecasting Handbook.

5.1.3 First, the daily trips at Kidderminster were split across several destinations using data from Network Rail’s Regional Urban Market study and Census Method of Travel to Work data for rail. The destinations were then assigned to one of four PDFH elasticity groups:

- Non-London <20 miles PTE (O or D = Core or Major)
- Non-London <20 miles PTE (O or D not Core or Major)
- Over 20 miles
- Rest of country to / from London TCA

5.1.4 A separate growth rate was also calculated for ‘Season’ and ‘Full / Reduced’ tickets. An average overall growth rate was then calculated by weighting the ticket type split from ORR station usage data (49% season and 51% other) and weighting the various destinations.

5.1.5 The following datasets were used in the calculations:

Table 5. Background growth data sources

| FRAMEWORK PARAMETER | DATA SOURCE |
|-----------------------------|--|
| GVA per capita | TAG forecast GDP |
| GJT trend | PDFH Table B2.6 |
| Population | NTEM forecasts (from TEMPro 7.2 dataset) |
| Employment | NTEM forecasts (from TEMPro 7.2 dataset) |
| Car cost | TAG fuel and non-fuel costs combined with UK government office region average speeds |
| Car time | Forecast average speeds by region and area type (large urban, urban or rural) |
| Bus travel time and headway | N/A = Assumed to stay the same |

5.1.6 The table below summarises the results of this analysis. It should be noted that at Blakedown station we have applied a factor based on full and reduced tickets rather than full, reduced and season tickets as the station has a very high proportion of season ticket holding, possibly linked to large numbers of school children using the station, however the rate of growth forecast for season tickets is very low. As we believe the level of season ticket usage is anomalous we have applied only a full and reduced factor.



Table 6. Background growth to 2036: Parking Space Requirements

| STATION | GROWTH 2019 – 2036 | 2018/19 DEMAND | 2035/36 DEMAND |
|---------------|--------------------|----------------|----------------|
| Kidderminster | 22% | 449 | 547 |
| Blakedown | 29% | 42 | 54 |

5.1.7 Based on the demand forecasts set out above we have been able to estimate a change in the level of car parking requirements at both Kidderminster and Blakedown.

5.1.8 This is based on an assumption that access mode shares remained constant which for the Kidderminster outer catchment and the Blakedown catchment is likely to be reasonable assumption, it also assumes that the existing rail service at Kidderminster remains broadly similar to that operated now and that unconstrained car parking supply could be provided.

5.2 Constrained Car Parking at Kidderminster

5.2.1 For a number of reasons it was felt that the construction of a large multi deck car park at Kidderminster may face deliverability and acceptability issues relating to aesthetics and traffic flow problems. As such an approach has been derived that looks at how excess parking demand might be split between Kidderminster and an expanded Blakedown station. Therefore, a logit model was developed to explore the possibility of this suppressed demand being transferred to an expanded car park at Blakedown.

5.2.2 The logit model was used to compare the Generalised Cost for each postcode sector in the Wyre Forest area to both Kidderminster and Blakedown. The access costs to each station accounted for the following:

- Fuel and non-fuel vehicle operating costs (TAG databook)
- Station parking cost (£4.70 all day)
- Access time (converted to cost using TAG values of time)

5.2.3 In addition, rail journey times (including interchange and headway penalties from PDFH) and fares to both Worcester and Birmingham were added to the Generalised Cost to account for the different service levels at Blakedown and Kidderminster. Journey times were converted to cost using TAG values of time.

5.2.4 The whole Generalised Cost (car access cost + rail cost) was then used in the logit model to determine the likely number of passengers that would use Blakedown station.

5.2.5 The model suggested that between 36% and 50% of passengers would transfer to Blakedown if sufficient parking capacity was available. Across the catchment as a whole the average transfer rate was 42%.

5.2.6 Applying the 42% rate to 2036 demand would result in 135 additional vehicles³ per day transferring to Blakedown from Kidderminster leading to a total of 178 additional vehicles⁴ per day at Blakedown in with local suppressed demand included.

³ Calculated as $((547 - 226) \times 42\%) = 134.82$ (rounded to 135)

⁴ Calculated as $135 + (54 - 11) = 178$

5.3 Proposed new station east of Kidderminster

- 5.3.1 An alternative that has been proposed to resolve parking issues at Kidderminster and Blakedown is the construction of a proposed new station located close to the Birmingham Road half way between Kidderminster and Blakedown stations.
- 5.3.2 The construction of such a station would be likely to cost in excess of £12m, far more than the costs associated with car park expansion at either Blakedown or Kidderminster. With no surrounding walk up catchment the station would be dependent on drive up demand from the Wyre Forest area.
- 5.3.3 Based on the level of suppressed demand that was forecast to be released at Kidderminster coupled to growth at Blakedown the likely level of **new to rail** demand for such a station would be no more than 278 car parking spaces per day. This may generate a total of around 206,000 trips per annum at the station (compared to 1.6m at Kidderminster).
- 5.3.4 It is anticipated a new station would not present good value for money on a capex/per additional car park basis when compared to the expansion of existing stations at a much lower capital cost.

5.4 Summary

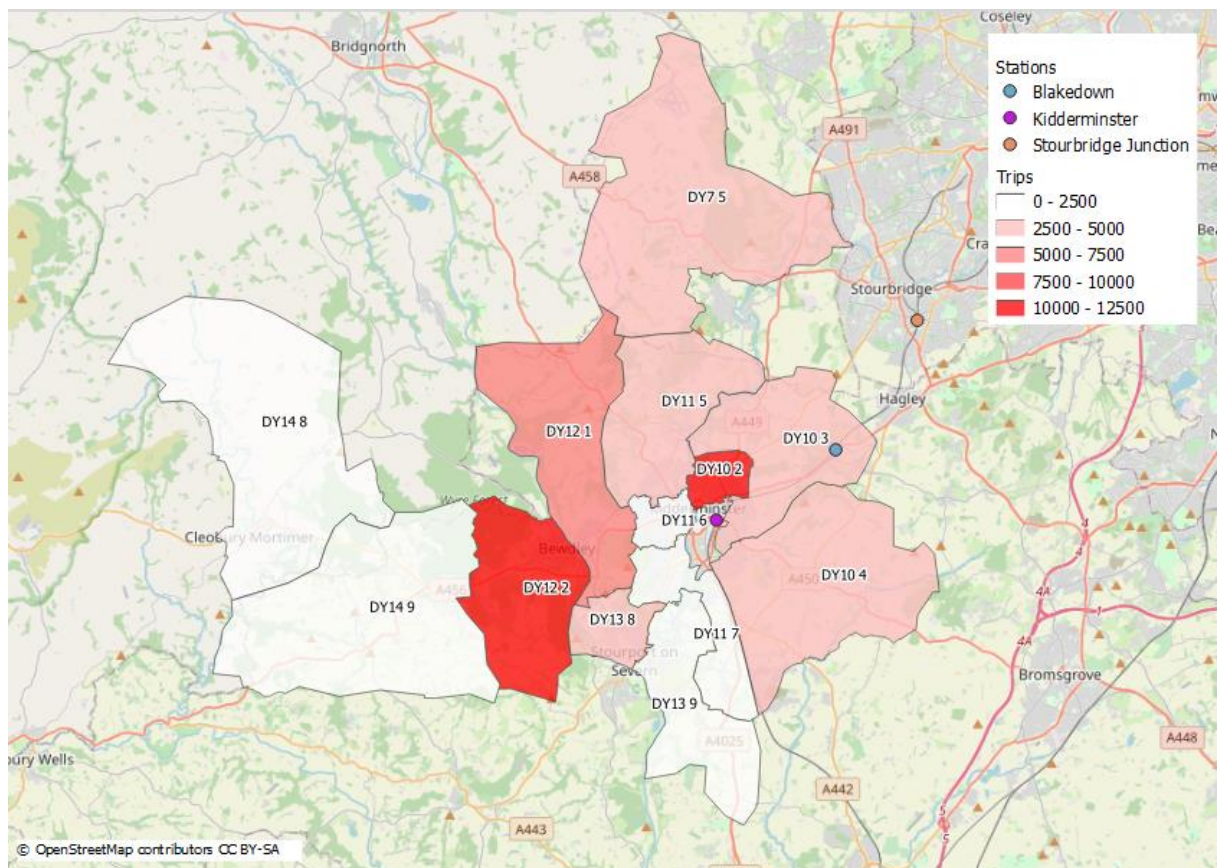
- 5.4.1 The chapter has considered future demand requirements for car parking at Blakedown and Kidderminster. Whilst the former generates only modest additional parking requirements, the situation at Kidderminster is more significant with a potential need for up to 547 spaces at the station by 2036 if all suppressed demand were to be released, which equates to 321 additional spaces.
- 5.4.2 It has also been shown that if all of the demand could not be accommodated at Kidderminster by applying a transfer rate of 42%, approximately 135 spaces could be transferred to Blakedown, giving a total requirement of 178 spaces⁵ by 2036 when local suppressed demand at Blakedown is included.

6. STOURBRIDGE JUNCTION SENSITIVITY TEST

- 6.1.1 Analysis of the NRTS data indicates that passengers in some parts of the Wyre Forest district are travelling by car to Stourbridge Junction to access rail services. The map below shows the number of passengers (inflated to 2019) accessing Stourbridge Junction from each postcode area.

⁵ 43 existing growth + 135 re-distributed from Kidderminster = 178 net additional spaces by 2036

Figure 8. Stourbridge Junction station catchment



6.1.2 Approximately 53,000 trips at Stourbridge Junction are predicted to originate within the Wyre Forest District. Predominantly these passengers travel from Bewdley (DY12 2) which has no mainline station and DY10 2 which links directly to Stourbridge Junction via the A451 Stourbridge Road.

6.1.3 To understand the extent to which this demand might transfer back to stations in the Wyre Forest if parking provision changed, three sensitivity tests have been undertaken.

6.1.4 The logit model described in section 5.2 was used to test the transfer in demand. This model assumes that car parking capacity at each station is unlimited. It accounts for the generalised cost of station access including car journey time, rail journey time and parking cost. In total three tests were undertaken:

- Current situation
- Current situation + £4.50 charge at Stourbridge
- As above + £4.50 charge at Blakedown

6.2 Current situation

6.2.1 The table below summarises how the 53,000 passengers currently using Stourbridge Junction may redistribute if parking capacity at each station were unlimited, assuming parking charges and journey times were to remain at current levels.



Table 7. Number of trips per annum (2019) – current situation

| STATION | KIDDERMINSTER VS STOURBRIDGE | BLAKEDOWN VS STOURBRIDGE |
|----------------------|------------------------------|--------------------------|
| Kidderminster | 22,000 | |
| Blakedown | | 25,000 |
| Stourbridge Junction | 31,000 | 28,000 |
| TOTAL | 53,000 | 53,000 |

6.2.2 The table above suggests that Blakedown, given its location and the lack of parking charge in this baseline scenario, has the potential to attract 47% of the current Stourbridge Junction demand. If this demand were to transfer then an additional 60 spaces would be required at Kidderminster and an additional 68 spaces would be required at Blakedown.

6.3 With Stourbridge Parking charge

6.3.1 The table below summarises how the 53,000 passengers may redistribute if a £4.50 parking charge was introduced at Stourbridge Junction.

Table 8. Number of trips (2019) – with Stourbridge Junction parking charge

| STATION | KIDDERMINSTER VS STOURBRIDGE | BLAKEDOWN VS STOURBRIDGE |
|----------------------|------------------------------|--------------------------|
| Kidderminster | 26,000 | |
| Blakedown | | 29,000 |
| Stourbridge Junction | 27,000 | 24,000 |
| TOTAL | 53,000 | 53,000 |

6.3.2 The table above indicates that this test would drive more passengers to use Blakedown instead of Stourbridge (54%). In comparison, the split between Kidderminster and Stourbridge is more equal with 49% predicted to use Kidderminster and 51% predicted to use Stourbridge. This would require an additional 71 spaces at Kidderminster and 79 spaces at Blakedown.

6.4 With Blakedown Parking charge

6.4.1 This final test examines the impact of introducing a £4.50 parking charge at Blakedown, in line with the charge at Stourbridge in the previous test.

Table 9. Number of trips (2019) – with Stourbridge Junction parking charge

| STATION | KIDDERMINSTER VS STOURBRIDGE | BLAKEDOWN VS STOURBRIDGE |
|----------------------|------------------------------|--------------------------|
| Kidderminster | N/A | |
| Blakedown | | 25,000 |
| Stourbridge Junction | N/A | 28,000 |



| STATION | KIDDERMINSTER VS STOURBRIDGE | BLAKEDOWN VS STOURBRIDGE |
|---------|------------------------------|--------------------------|
| TOTAL | N/A | 53,000 |

6.4.2 The table above demonstrates that if a parking charge were to be introduced at Blakedown then the distribution of demand would return to the same level as the current situation (47% to Blakedown and 53% to Stourbridge), resulting in a requirement of 68 additional spaces at Blakedown.

6.5 Summary

6.5.1 The tests above indicate that if parking capacity at Blakedown and Kidderminster were unlimited then a significant proportion of the demand which currently uses Stourbridge Junction would be expected to switch to either station. This impact is enhanced if a parking charge were introduced at Stourbridge.

6.5.2 However, the NRTS data suggests that passengers have been using Stourbridge Jn since 2005, a point at which we also know that the car park at Kidderminster was already fully occupied.

6.5.3 It is possible that the demand from Stourbridge Jn is actually formed of trips that have been suppressed at Kidderminster due to a lack of capacity. We therefore believe that the trips that use Stourbridge Jn currently and have origins in the Wyre Forest fall into two categories:

- Group 1: Demand that would otherwise have used Kidderminster but has been suppressed by a lack of car parking and has diverted to Stourbridge Jn
- Group 2: Those who are located at a point where Stourbridge Jn is more attractive than Kidderminster or Blakedown under all circumstances. An example of this is the Postcode sector DY12 2, located in North East Kidderminster, located on the A451 Stourbridge Road, which provides quick uncongested access to Stourbridge Jn and so will be more attractive than Kidderminster for many users.

6.5.4 It has been shown in the modelling that Group 1 represents up to an additional 71 spaces at Kidderminster station, but we believe that in practice this would be double counting our forecast of released demand at Kidderminster described above.



7. COVID-19 SENSITIVITY TESTS

- 7.1.1 At the time of writing the country is in the process of lifting COVID-19 related restrictions, however it is generally accepted that the pandemic will have long term impacts on how people work and travel. In view of this we have prepared a series of sensitivity tests to consider how travel might be impacted and how this will impact on the case for additional parking.
- 7.1.2 To achieve this we have used survey data collected by SYSTRA as part of wider research into COVID-19 and travel. We have linked this to 2011 census data for the Wyre Forest to understand the impacts
- 7.1.3 Clearly at this stage our results and assumptions are only indicative but we realise it is important to attempt to understand the impacts.
- 7.1.4 For this purpose we have looked at five tests:
- Test A – 20% reduction in rail demand based on all rail passenger who when asked said they would travel by train less stopping travelling by rail altogether
 - Test B – All those who travel by train more than three times per week and work in an office (and thus could work from home) travel only two or three times per week. This generated a 30% reduction in demand
 - Test C – Variation of Test B but only applied to passengers who said they would travel less rather than all office workers (7% reduction)
 - Test D – As Test A but with impact of fear of illness as a reason not to travel removed (13% reduction in demand)
 - Test E – As Test C but with impact of fear of illness as a reason not to travel removed (5% reduction in demand)
- 7.1.5 The tables below present the impact of these tests on the level of net parking required (forecast total demand minus existing capacity) at Kidderminster (with an unconstrained car park) and Blakedown.

Table 10. COVID-19 Sensitivity Tests (Car Park Net Demand at 2036)

| TEST | K'MINSTER (NET DEMAND) | B'DOWN (NET DEMAND) | TRANSFER FROM K'MINSTER TO B'DOWN (42% RATE) | B'DOWN NET DEMAND (AFTER TRANSFER) | K'MINSTER NET DEMAND (AFTER TRANSFER) |
|----------------------------|------------------------------|---------------------------|--|---|--|
| Previous Forecast Capacity | 321 | 43 | 135 | 178 | 186 |
| Test A | 257 | 34 | 108 | 142 | 149 |
| Test B | 225 | 30 | 95 | 125 | 130 |
| Test C | 298 | 40 | 125 | 165 | 173 |
| Test D | 279 | 37 | 116 | 153 | 163 |
| Test E | 305 | 41 | 128 | 169 | 177 |

- 7.1.6 This shows based on the indicative tests developed, the case for car park expansion to deal with long term growth will still exist. In the worst case scenario (Test B) net additional demand would be 225 spaces at Kidderminster and 30 spaces at Blakedown.



8. CONCLUSIONS

- 8.1.1 This note has considered a range of issues around rail station car parking capacity at Kidderminster and Blakedown. These have shown that rail demand has over a long period of time been suppressed with a shortfall in capacity of around 223 spaces at Kidderminster in 2019, whilst parking already exceeds capacity by a factor of almost 3 at Blakedown.
- 8.1.2 Looking to the future there is a case for expanding capacity at Kidderminster to provide up to 547 spaces by 2036, or alternatively providing a lower number at Kidderminster and 181 spaces at Blakedown.
- 8.1.3 The case for a proposed new station to the east of Kidderminster appears weak in value for money terms whilst there are opportunities to enhance facilities at existing stations.
- 8.1.4 Finally a number of preliminary COVID-19 sensitivity tests have been undertaken which suggest that whilst demand may be reduced there is still a case for considerable expansion in parking capacity. Applying the most severe Test B with a 30% reduction in forecast demand indicated a shortfall of 225 spaces at Kidderminster and 30 at Blakedown.



APPROVAL

| Version | Name | | Position | Date | Modifications |
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