



# Greater Exeter Trip Distribution Checks

|                 |                                          |                         |                                   |
|-----------------|------------------------------------------|-------------------------|-----------------------------------|
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| <b>SUBJECT:</b> | Greater Exeter Trip Distribution Checks  |                         |                                   |
| <b>PROJECT:</b> | 70105008 – Exeter Strategic Model Update | <b>AUTHOR:</b>          | Edward Dawn / Vishal Sheelavantar |
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## INTRODUCTION

The Greater Exeter strategic modelling work was carried out to understand the cumulative and individual impacts of the emerging Local Plans from Teignbridge District Council, Exeter City Council, Mid Devon District Council and East Devon District Council upon the highway network within the Greater Exeter area. Details of the strategic modelling work is reported in the ‘*Greater Exeter Model Update*’ report (final version dated October 2023), prepared by WSP. This technical note describes the current modelled trip distributions of the key development sites. Details of any adjustments made to match census journey to work trip distributions are provided. These distributions were agreed with Devon County Council (DCC) and National Highways (NH) in a meeting on 7 August 2024.

## DISTRIBUTION CHECKS

For each of the key development sites, there is a short description of the size and location followed by a comparison of the modelled distribution against census journey to work data for car and van drivers<sup>1</sup>. 2011 census data was used where possible, since the 2021 census results were impacted by COVID travel restrictions. Where journey to work data is displayed, ‘O %’ columns show the distribution of car trips that originate from residences within that census area to workplaces in the other sectors. ‘D %’ columns show the distribution of car trips that originate from residences in the other sectors which travel by car to workplaces within the referenced census area. Table 1 summarises the development sites included in this technical note. Figure 10 at the end of this technical note shows the locations of the MSOAs used for the distributions.

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<sup>1</sup> Census 2011, WU03EW – Location of usual residence and place of work by method of travel to work (MSOA level)

Table 1 - Development sites with distribution checks

| District   | Site                                                                      | Dwellings | Employment site area (ha) |
|------------|---------------------------------------------------------------------------|-----------|---------------------------|
| East Devon | East Devon New Community                                                  | 8,000     | 56.0                      |
|            | North of Sowton Village                                                   | -         | 17.0                      |
|            | North of the Science Park                                                 | -         | 4.3                       |
|            | East of the Airport                                                       | -         | 7.7                       |
|            | North of Topsham                                                          | 580       | 2.4                       |
| Exeter     | Water Lane                                                                | 1,705     | -                         |
|            | Land adjacent to Sandy Gate, Newcourt and land adjacent to IKEA, Newcourt | -         | 11.0                      |
|            | St Lukes Health campus, Heavitree Road                                    | -         | 4.5                       |
| Mid Devon  | Cullompton                                                                | 3,810     | 12.0                      |
|            | Tiverton                                                                  | 2,286     | 19.5                      |
|            | Crediton                                                                  | 762       | 6.50                      |
|            | Rural sites                                                               | 762       | -                         |

## East Devon

### EAST DEVON NEW COMMUNITY (EDNC)

The East Devon New Community mixed development area is located between the A30 Airport Junction and the A3052 to the south. The development consists of 8,000 residential dwellings and an employment site area of 56 ha. Figure 1 shows the location of the site and the location of Cranbrook. Table 2 shows the trip distribution of the site in the current model and the 2021 census journey to work distribution for Cranbrook – as a nearby new community, Cranbrook was considered to be the best available proxy for the EDNC distribution. Cranbrook did not exist in 2011, so it was necessary to use the 2021 census data instead.

Figure 1 - East Devon New Community and Cranbrook

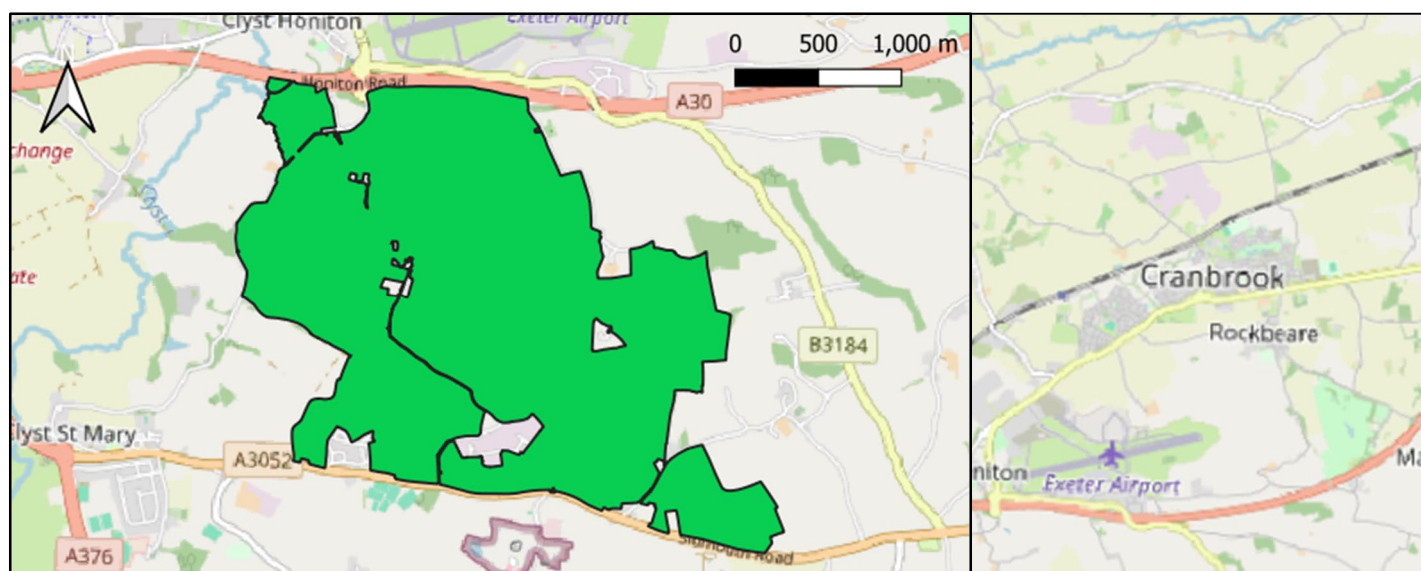


Table 2 - East Devon New Community Distribution

| East Devon New Community<br>(SATURN zone 907) | Modelled distribution |     |     |     | East Devon 022 (Cranbrook) 2021<br>JtW distribution |     |
|-----------------------------------------------|-----------------------|-----|-----|-----|-----------------------------------------------------|-----|
|                                               | AM                    |     | PM  |     | O %                                                 | D % |
|                                               | O %                   | D % | O % | D % |                                                     |     |
| Exeter                                        | 48%                   | 39% | 40% | 47% | 55%                                                 | 23% |
| West Devon to Cornwall                        | 6%                    | 8%  | 9%  | 6%  | 1%                                                  | 1%  |
| Teignbridge to Plymouth                       | 7%                    | 8%  | 8%  | 7%  | 5%                                                  | 7%  |
| Peamore, Dawlish                              | 4%                    | 5%  | 4%  | 3%  | 1%                                                  | 1%  |
| Mid Devon, Cranbrook                          | 19%                   | 21% | 20% | 20% | 14%                                                 | 34% |
| Clyst St Mary, Exmouth, Sidmouth              | 9%                    | 8%  | 9%  | 8%  | 12%                                                 | 13% |
| Ottery, Honiton, Axminster                    | 2%                    | 4%  | 3%  | 2%  | 7%                                                  | 17% |
| Rest of UK                                    | 6%                    | 7%  | 7%  | 6%  | 6%                                                  | 4%  |

As part of the modelling update, EDNC was split into separate residential and employment zones. For the residential zones, the existing origin and destination distributions were factored to match the Cranbrook journey to work origin distribution. For the employment zones, the existing origin and destination distributions were factored to match the Cranbrook journey to work destination distribution.

## NORTH OF SOWTON VILLAGE

The 'north of Sowton Village' employment development area is located between Sowton Village and A30 in the north, with a site area of 17 ha.

Figure 2 - North of Sowton Village

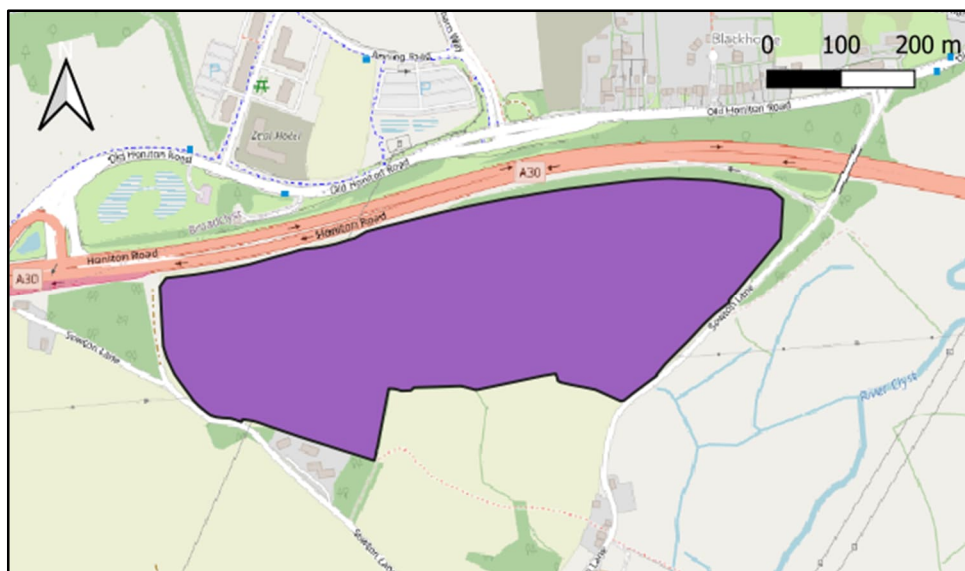


Table 3 - North of Sowton Village Distribution

| North of Sowton Village<br>(SATURN zone 850) | Modelled distribution |     |     |     | East Devon 006 (Broadclyst, Airport)<br>2011 JtW distribution |
|----------------------------------------------|-----------------------|-----|-----|-----|---------------------------------------------------------------|
|                                              | AM                    |     | PM  |     |                                                               |
|                                              | O %                   | D % | O % | D % |                                                               |
| Exeter                                       | 43%                   | 37% | 38% | 43% | D %                                                           |
| West Devon to Cornwall                       | 12%                   | 13% | 14% | 11% | 23%                                                           |
| Teignbridge to Plymouth                      | 13%                   | 16% | 16% | 14% | 5%                                                            |
| Peamore, Dawlish                             | 6%                    | 3%  | 2%  | 3%  | 14%                                                           |
| Mid Devon, Cranbrook                         | 14%                   | 15% | 15% | 15% | 2%                                                            |
| Clyst St Mary, Exmouth, Sidmouth             | 6%                    | 8%  | 9%  | 7%  | 17%                                                           |
| Ottery, Honiton, Axminster                   | 2%                    | 3%  | 3%  | 2%  | 12%                                                           |
| Rest of UK                                   | 4%                    | 4%  | 4%  | 4%  | 12%                                                           |
|                                              |                       |     |     |     | 15%                                                           |

The original modelled distribution had twice as many trips going to and from Exeter compared to the census distribution, so it was factored to match the census distribution.

## NORTH OF THE SCIENCE PARK

The 'north of the Science Park' employment development area is located between the M5, Langaton Lane and Tithebarn Way in the south, with a site area of 4.3 ha.

Figure 3 - North of the Science Park

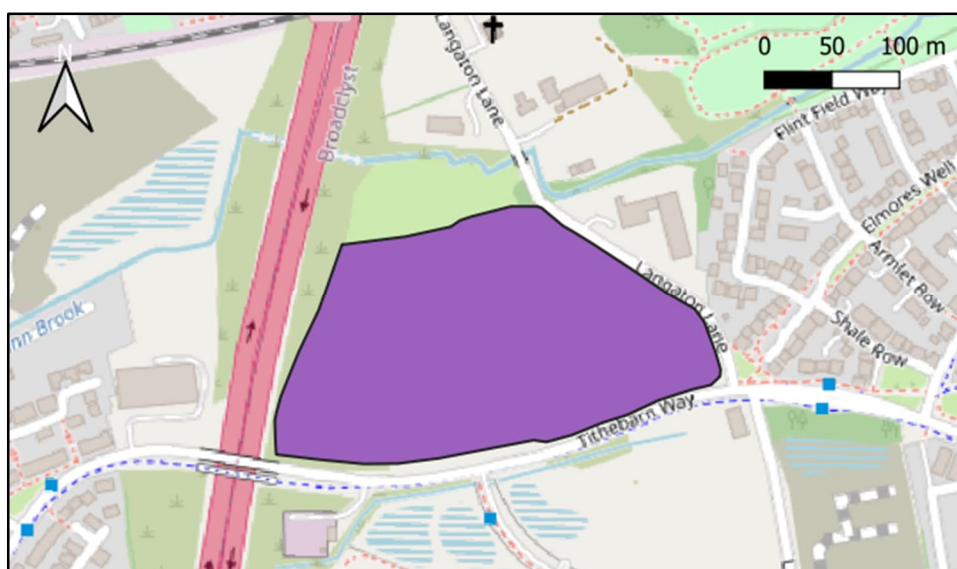


Table 4 - North of the Science Park distribution

| North of the Science Park<br>(SATURN zone 851) | Modelled distribution |     |     |     | East Devon 006 (Broadclyst,<br>Airport) 2011 JtW distribution |
|------------------------------------------------|-----------------------|-----|-----|-----|---------------------------------------------------------------|
|                                                | AM                    |     | PM  |     |                                                               |
|                                                | O %                   | D % | O % | D % | D %                                                           |
| Exeter                                         | 43%                   | 37% | 37% | 43% | 23%                                                           |
| West Devon to Cornwall                         | 12%                   | 13% | 14% | 11% | 5%                                                            |
| Teignbridge to Plymouth                        | 13%                   | 16% | 16% | 14% | 14%                                                           |
| Peamore, Dawlish                               | 6%                    | 3%  | 2%  | 3%  | 2%                                                            |
| Mid Devon, Cranbrook                           | 14%                   | 16% | 17% | 16% | 17%                                                           |
| Clyst St Mary, Exmouth, Sidmouth               | 6%                    | 8%  | 8%  | 7%  | 12%                                                           |
| Ottery, Honiton, Axminster                     | 2%                    | 4%  | 3%  | 2%  | 12%                                                           |
| Rest of UK                                     | 4%                    | 4%  | 4%  | 4%  | 15%                                                           |

The original modelled distribution had twice as many trips going to and from Exeter compared to the census distribution, so it was factored to match the census distribution.

## EAST OF THE AIRPORT

The 'east of the airport' employment development area is located to the east of the Exeter Airport Business Park and north of the A30, with a site area of 20 ha.

Figure 4 - East of the airport

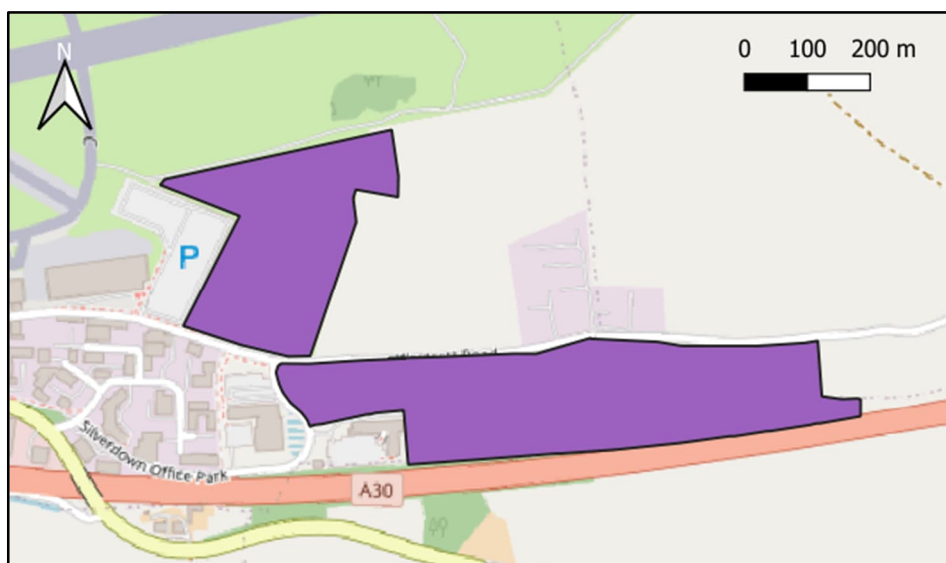


Table 5 - East of the airport distribution

| East of the airport<br>(SATURN zone 852) | Modelled distribution |     |     |     | East Devon 006 (Broadclyst, Airport)<br>2011 JtW distribution |
|------------------------------------------|-----------------------|-----|-----|-----|---------------------------------------------------------------|
|                                          | AM                    |     | PM  |     |                                                               |
|                                          | O %                   | D % | O % | D % |                                                               |
| Exeter                                   | 42%                   | 34% | 32% | 36% | D %                                                           |
| West Devon to Cornwall                   | 11%                   | 11% | 12% | 10% | 23%                                                           |
| Teignbridge to Plymouth                  | 13%                   | 14% | 13% | 12% | 5%                                                            |
| Peamore, Dawlish                         | 5%                    | 3%  | 2%  | 3%  | 14%                                                           |
| Mid Devon, Cranbrook                     | 16%                   | 24% | 28% | 27% | 2%                                                            |
| Clyst St Mary, Exmouth, Sidmouth         | 6%                    | 7%  | 8%  | 7%  | 17%                                                           |
| Ottery, Honiton, Axminster               | 2%                    | 3%  | 3%  | 2%  | 12%                                                           |
| Rest of UK                               | 3%                    | 4%  | 3%  | 4%  | 12%                                                           |
|                                          |                       |     |     |     | 15%                                                           |

The original modelled distribution had twice as many trips going to and from Exeter compared to the census distribution, so it was factored to match the census distribution.



## NORTH OF TOPSHAM

The development area is mixed type and located next to M5 and North of Topsham. The area consists of 580 residential dwellings and an employment site area of 2.4 ha.

Figure 5 - North of Topsham

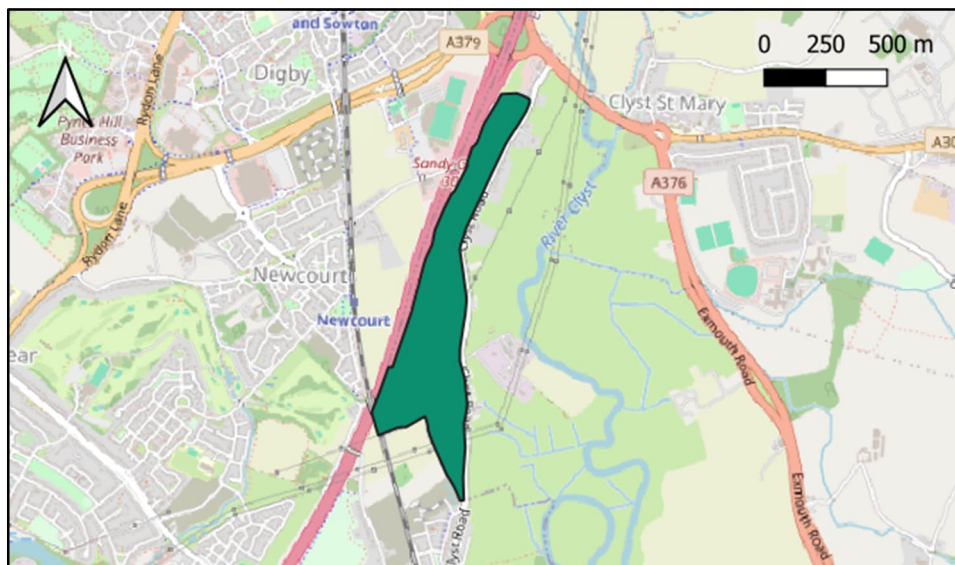


Table 6 - North of Topsham distribution

| North of Topsham<br>(SATURN zone 937) | Modelled distribution |     |     |     | Exeter 015 (Topsham) 2011 JtW<br>distribution |     |
|---------------------------------------|-----------------------|-----|-----|-----|-----------------------------------------------|-----|
|                                       | AM                    |     | PM  |     |                                               |     |
|                                       | O %                   | D % | O % | D % | O %                                           | D % |
| Exeter                                | 48%                   | 40% | 42% | 45% | 66%                                           | 42% |
| West Devon to Cornwall                | 3%                    | 4%  | 4%  | 3%  | 1%                                            | 4%  |
| Teignbridge to Plymouth               | 4%                    | 5%  | 5%  | 4%  | 6%                                            | 11% |
| Peamore, Dawlish                      | 2%                    | 3%  | 2%  | 1%  | 2%                                            | 6%  |
| Mid Devon, Cranbrook                  | 19%                   | 17% | 16% | 20% | 7%                                            | 8%  |
| Clyst St Mary, Exmouth, Sidmouth      | 15%                   | 17% | 19% | 16% | 9%                                            | 19% |
| Ottery, Honiton, Axminster            | 3%                    | 6%  | 5%  | 3%  | 2%                                            | 6%  |
| Rest of UK                            | 7%                    | 8%  | 7%  | 8%  | 7%                                            | 4%  |

The original modelled north of Topsham distributions all had 40-48% of trips going to and from Exeter, which was in line with the census data. The distribution of trips to and from Mid Devon and Cranbrook was slightly lower than census, while trips to and from West Devon and beyond were correspondingly higher. Overall this distribution was considered to be suitable for the forecast modelling.

## Exeter

### WATER LANE

The Water Lane residential development area is located between Water Lane Road in the North and Matford Business Park in the South, with 2200 dwellings.

Figure 6 - Water Lane

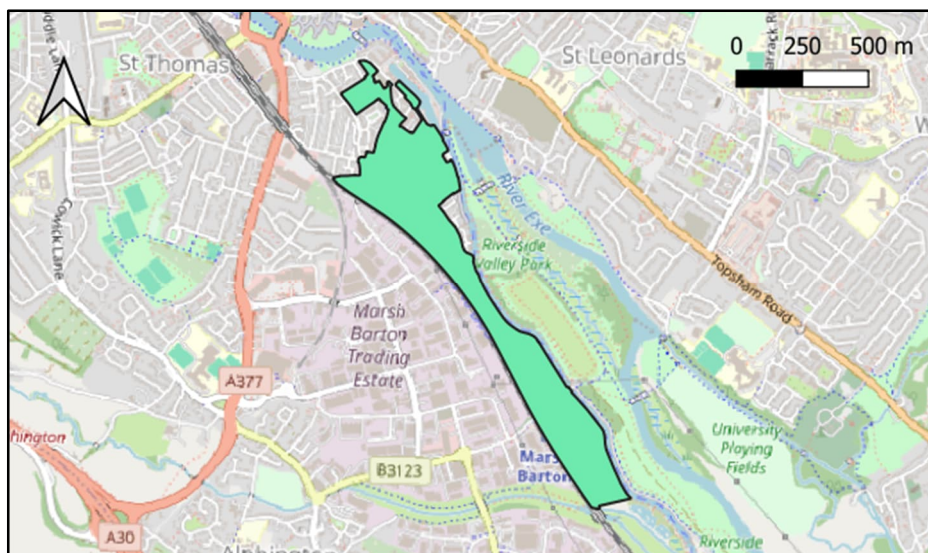


Table 7 - Water Lane distribution

| Water Lane<br>(SATURN zone 926)  | Modelled distribution |     |     |     | Exeter 014 (Marsh Barton) 2011<br>JtW distribution |
|----------------------------------|-----------------------|-----|-----|-----|----------------------------------------------------|
|                                  | AM                    |     | PM  |     |                                                    |
|                                  | O %                   | D % | O % | D % | O %                                                |
| Exeter                           | 36%                   | 42% | 38% | 40% | 65%                                                |
| West Devon to Cornwall           | 4%                    | 0%  | 3%  | 7%  | 2%                                                 |
| Teignbridge to Plymouth          | 7%                    | 4%  | 10% | 5%  | 9%                                                 |
| Peamore, Dawlish                 | 16%                   | 29% | 23% | 18% | 3%                                                 |
| Mid Devon, Cranbrook             | 18%                   | 11% | 16% | 17% | 8%                                                 |
| Clyst St Mary, Exmouth, Sidmouth | 16%                   | 3%  | 7%  | 11% | 6%                                                 |
| Ottery, Honiton, Axminster       | 2%                    | 3%  | 3%  | 2%  | 3%                                                 |
| Rest of UK                       | 1%                    | 8%  | 1%  | 0%  | 4%                                                 |

The original modelled Water Lane distribution had a much lower percentage of trips remaining within Exeter than the Marsh Barton census distribution, but this was considered to be appropriate for the modelling given the low car nature of the development. The modelled distribution was left as-is.

#### LAND ADJACENT TO SANDY GATE, NEWCOURT AND LAND ADJACENT TO IKEA, NEWCOURT

The 'land adjacent to Sandy Gate' and 'land adjacent to IKEA' development sites are located south of the A379 and west of the M5. They consist of employment site areas of 7ha and 4ha respectively.

Figure 7 - Land adjacent to Sandy Gate (right) and land adjacent to IKEA (left)

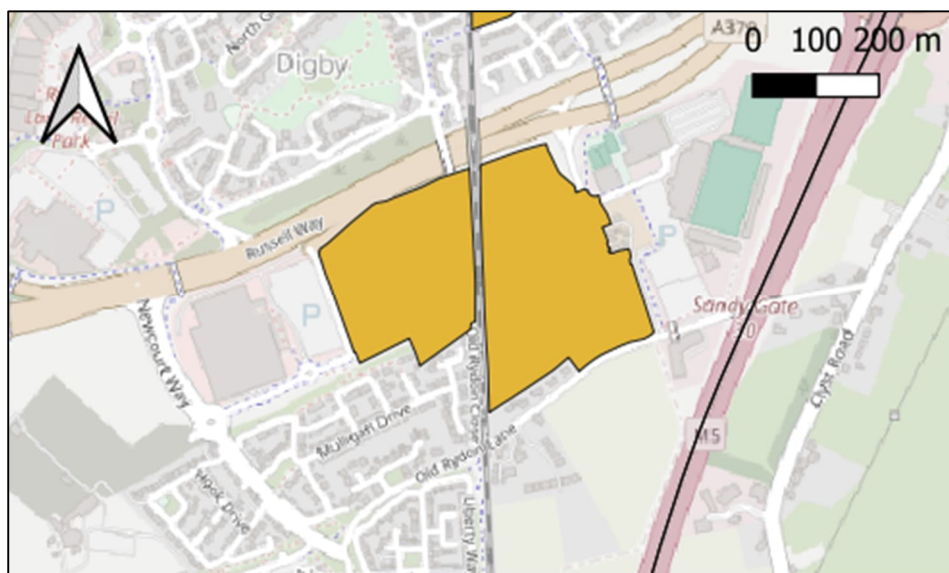


Figure 8 - Land adjacent to Sandy Gate distribution

| Sandy Gate<br>(SATURN zone 939)  | Modelled distribution |     |     |     | Exeter 011 (Sowton, Newcourt)<br>2011 JtW distribution |
|----------------------------------|-----------------------|-----|-----|-----|--------------------------------------------------------|
|                                  | AM                    |     | PM  |     |                                                        |
|                                  | O %                   | D % | O % | D % | D %                                                    |
| Exeter                           | 49%                   | 41% | 42% | 46% | 30%                                                    |
| West Devon to Cornwall           | 3%                    | 4%  | 4%  | 3%  | 6%                                                     |
| Teignbridge to Plymouth          | 4%                    | 5%  | 5%  | 4%  | 19%                                                    |
| Peamore, Dawlish                 | 1%                    | 3%  | 2%  | 1%  | 4%                                                     |
| Mid Devon, Cranbrook             | 17%                   | 15% | 14% | 18% | 13%                                                    |
| Clyst St Mary, Exmouth, Sidmouth | 16%                   | 18% | 20% | 17% | 12%                                                    |
| Ottery, Honiton, Axminster       | 3%                    | 6%  | 5%  | 3%  | 8%                                                     |
| Rest of UK                       | 7%                    | 8%  | 8%  | 8%  | 7%                                                     |

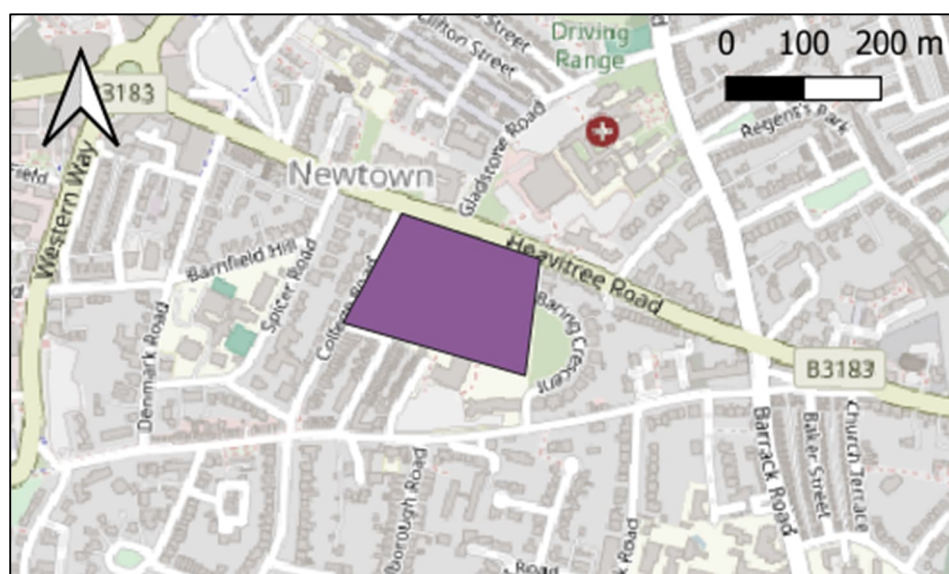
The original modelled distribution had a higher number of trips travelling to and from Exeter compared to the Sowton census journey to work distribution. It was factored to match the census destination distribution.

## ST LUKES HEALTH CAMPUS, HEAVITREE ROAD

The St Lukes Health Campus development site is located towards the western end of Honiton Road in Exeter. The development consists of an employment site area of 4.5ha.



Figure 9 - St Lukes Health Campus



| St Lukes Campus<br>(SATURN zone 130) | Modelled distribution |     |     |     | Exeter 009 (St Leonards) 2011<br>JtW distribution |
|--------------------------------------|-----------------------|-----|-----|-----|---------------------------------------------------|
|                                      | AM                    |     | PM  |     |                                                   |
|                                      | O %                   | D % | O % | D % | D %                                               |
| Exeter                               | 57%                   | 48% | 50% | 68% | 32%                                               |
| West Devon to Cornwall               | 2%                    | 7%  | 0%  | 4%  | 8%                                                |
| Teignbridge to Plymouth              | 5%                    | 17% | 16% | 9%  | 16%                                               |
| Peamore, Dawlish                     | 11%                   | 6%  | 8%  | 3%  | 5%                                                |
| Mid Devon, Cranbrook                 | 10%                   | 6%  | 7%  | 8%  | 15%                                               |
| Clyst St Mary, Exmouth, Sidmouth     | 7%                    | 9%  | 13% | 5%  | 10%                                               |
| Ottery, Honiton, Axminster           | 1%                    | 3%  | 4%  | 1%  | 8%                                                |
| Rest of UK                           | 5%                    | 3%  | 3%  | 2%  | 6%                                                |

The original modelled distribution had a higher number of trips travelling to and from Exeter compared to the St Leonards census journey to work distribution. It was factored to match the census destination distribution.

## Mid Devon

Mid Devon do not currently have draft site allocations. For the purpose of the modelling, the housing and employment targets have been distributed across Mid Devon based on the distribution of development in the current Mid Devon Local Plan 2013-2033.

### CULLOMPTON

Cullompton is located north of Exeter at M5 J28. A total of 3,810 dwellings and 5.6ha of employment land are assigned to this area. The distribution for the residential and employment development was based on the existing zone 723 distribution as factored to match the census origin and destination distributions respectively.

| Cullompton<br>(SATURN zone 723) | Modelled distribution |     |     |     | Mid Devon 007 (Cullompton) 2011<br>JtW distribution |     |
|---------------------------------|-----------------------|-----|-----|-----|-----------------------------------------------------|-----|
|                                 | AM                    |     | PM  |     |                                                     |     |
|                                 | O %                   | D % | O % | D % | O %                                                 | D % |
| Exeter                          | 30%                   | 21% | 21% | 27% | 30%                                                 | 9%  |
| West Devon to Cornwall          | 0%                    | 0%  | 0%  | 0%  | 1%                                                  | 2%  |
| Teignbridge to Plymouth         | 0%                    | 0%  | 0%  | 0%  | 2%                                                  | 5%  |
| Peamore, Dawlish                | 1%                    | 0%  | 0%  | 0%  | 1%                                                  | 1%  |
| Mid Devon, Cranbrook            | 37%                   | 48% | 49% | 41% | 45%                                                 | 58% |

|                                  |     |     |     |     |     |     |
|----------------------------------|-----|-----|-----|-----|-----|-----|
| Clyst St Mary, Exmouth, Sidmouth | 6%  | 4%  | 5%  | 6%  | 4%  | 4%  |
| Ottery, Honiton, Axminster       | 5%  | 7%  | 6%  | 4%  | 4%  | 7%  |
| Rest of UK                       | 21% | 21% | 18% | 21% | 13% | 14% |

## TIVERTON

Tiverton is located north of Exeter alongside the A361. A total of 2,286 dwellings and 3.33ha of employment land are assigned to this area. The distribution for the residential and employment development was based on the existing zone 879 distribution as factored to match the census origin and destination distributions respectively.

| Tiverton<br>(SATURN zone 879)    | Modelled distribution |     |     |     | Mid Devon 004 (Tiverton) 2011 JtW<br>distribution |     |
|----------------------------------|-----------------------|-----|-----|-----|---------------------------------------------------|-----|
|                                  | AM                    |     | PM  |     |                                                   |     |
|                                  | O %                   | D % | O % | D % | O %                                               | D % |
| Exeter                           | 20%                   | 17% | 18% | 19% | 16%                                               | 5%  |
| West Devon to Cornwall           | 4%                    | 5%  | 5%  | 4%  | 1%                                                | 3%  |
| Teignbridge to Plymouth          | 8%                    | 11% | 10% | 8%  | 1%                                                | 1%  |
| Peamore, Dawlish                 | 1%                    | 1%  | 1%  | 1%  | 0%                                                | 0%  |
| Mid Devon, Cranbrook             | 45%                   | 37% | 39% | 43% | 62%                                               | 67% |
| Clyst St Mary, Exmouth, Sidmouth | 1%                    | 0%  | 1%  | 1%  | 2%                                                | 2%  |
| Ottery, Honiton, Axminster       | 2%                    | 4%  | 3%  | 2%  | 1%                                                | 3%  |
| Rest of UK                       | 20%                   | 25% | 23% | 22% | 17%                                               | 19% |

## CREDITON

Crediton is located to the west of Exeter along the A377. A total of 762 dwellings and 1.11ha of employment land are assigned to this area. The distribution for the residential and employment development was based on the existing zone 541 distribution as factored to match the census origin and destination distributions respectively.

| Crediton<br>(SATURN zone 541)    | Modelled distribution |     |     |     | Mid Devon 011 (Crediton) 2011 JtW<br>distribution |     |
|----------------------------------|-----------------------|-----|-----|-----|---------------------------------------------------|-----|
|                                  | AM                    |     | PM  |     |                                                   |     |
|                                  | O %                   | D % | O % | D % | O %                                               | D % |
| Exeter                           | 61%                   | 57% | 51% | 62% | 42%                                               | 14% |
| West Devon to Cornwall           | 1%                    | 2%  | 0%  | 1%  | 5%                                                | 9%  |
| Teignbridge to Plymouth          | 4%                    | 3%  | 16% | 1%  | 2%                                                | 3%  |
| Peamore, Dawlish                 | 3%                    | 4%  | 4%  | 3%  | 1%                                                | 1%  |
| Mid Devon, Cranbrook             | 9%                    | 13% | 13% | 19% | 41%                                               | 62% |
| Clyst St Mary, Exmouth, Sidmouth | 10%                   | 11% | 9%  | 10% | 3%                                                | 1%  |
| Ottery, Honiton, Axminster       | 3%                    | 2%  | 3%  | 2%  | 1%                                                | 1%  |
| Rest of UK                       | 9%                    | 8%  | 4%  | 3%  | 5%                                                | 7%  |

## RURAL

A total of 762 dwellings are assigned across rural Mid Devon areas. For the purpose of modelling they have been split down into three zones – Sampford Peverell (404 dwellings), Silverton (46 dwellings) and Copplestone (312 dwellings). The Sampford Peverell zone used the Tiverton residential distribution, the Silverton zone used the Cullompton residential distribution, and the Copplestone zone used the Crediton residential distribution.

## Census MSOAs

Figure 10 - Location of MSOAs used for distributions

