

## **Technical Note – M20 Junction 7 Contributions**

Mott MacDonald was asked by Maidstone Borough Council (MBC) to assess which developments should contribute towards improvements for M20 Junction 7. No detailed scheme for this junction exists, however a part signalised improvement feasibility scheme was developed under KIMS. MBC are looking to apportion the costs of this scheme amongst the developments which have the greatest impact on this junction.

Advice is being sought from MBC to ensure funding for this junction is coming forward at the right time to mitigate the impact of Local Plan development. In the absence of funding from the Kent Institute of Medicine and Surgery (KIMS) which would still be required to implement the improvements at this junction should the level of development exceed 75% occupation (as per condition 21 of planning permission 16/507292), Highways England (HE) have asked for a “managed approach” to be led by MBC to ensure funding availability. The assessment put forward in this note should be seen as the first approach with the alternative of KIMS implementing the improvements as a fall-back position should their development reach 75% occupation.

This note sets out the schemes (except for KIMS) that should contribute and the percentage apportionment of the costs based on an overarching assessment. The approach taken in this note is based on the fact that mitigation is required at this junction to accommodate development as set out in the Local Plan, and that those developments with the greatest impact on this junction should be paying for such mitigation. As such, the approach described in this note is to satisfy HE’s request to secure funding for the junction.

In relation to Land South of Sutton Road H1(10), Paul Lulham of DHA has submitted an assessment to MBC reviewing all Local Plan development, and based on this, proposed a number of sites for inclusion. We have carried out a detailed review of this assessment and commented on it which led to it being revised. Our review is discussed in detail in the section below. In principle, we consider the assessment is now acceptable and sound, and its results contain the sites with the greatest impact on the junction.

The assessment takes a purely transport-related approach by considering the trip generation and distribution of each development. In order to establish the list of sites that should contribute and their percentage of contribution, the following also needs consideration:

- When within the Local Plan period is the site likely to come forward?
- Will the site be developed by a single or multiple developers with the latter potentially leading to pooling issues.

This note is set out as follows:

- Detailed review of DHA’s assessment
- Sites identified
- Proportional split of contributions
- Way forward

**Detailed Review of DHA’s Assessment**

DHA’s assessment is structured as follows:

- Sites to be considered
- Trip generation for each site
- Trip distribution for each Middle Layer Super Output Area (MSOA) based on Census 2011 data
- Trips arriving at M20 Junction 7 for each site based on the above.

These steps are discussed in more detail below:

*Site to be considered*

The assessment contains a list of all remaining Local Plan sites in Maidstone and surrounding area, i.e. in Maidstone’s urban area and periphery. The list sets out the percentage of affordable units and the total units the allocations are for.

*Trip generation for each site*

Based on TRICS data, the assessment sets out the trip rates and trip generation for each development based on whether it is located in an urban or rural area split by “mixed private” and “mixed affordable” housing.

For sites where a Transport Assessment exists and is in the public domain (on planning portal linked to a planning application), the values from the individual Transport Assessments were taken.

The same approach was applied to employment and shopping/foodstore sites, using Transport Assessment data where these exist. For the Maidstone School of Science and Technology, the values from the Transport Assessment were used.

*Trip distribution for each MSOA*

Data for each MSOA was downloaded from the Origin – Destination Census 2011 data, location of usual residence and place of work by method of travel to work.

The trips undertaken by car (“Driving a car or van”) were then routed across the network based on the area’s location and all trips made from this area to their destinations, and percentages worked out. This resulted in a percentage of trips travelling through M20 Junction 7 for each MSOA.

The example below shows the resulting distribution for MSOA Langley.

MSOA Langley	A229 (N)	A229 (S)	B2163 (W)	A274 (S)	Horseshoes Lane	Willington Street	M20 J7
2973 car or van	1283	0	454	221	239	776	665
	43.2%	0%	15.3%	7.4%	8.0%	26.1%	22.4%

## M20 Junction 7 Contributions

### *Trips arriving at M20 Junction 7 for each site*

For each site, the total trip generation for both peak hours was multiplied by the percentage of trips travelling through M20 Junction 7 of the MSOA the relevant site is located in. This resulted in the total trips – AM and PM peaks, arrivals and departures – that could be expected to impact on M20 Junction 7, either by joining the M20 at this point or continuing through the junction along the A249.

### *Assessment Review*

The assessment was reviewed in detail and these are the findings:

- Trip generation: although the TRICS outputs the data is based on has not been made available, the trip rate data appears reasonable. The trip generation from the various Transport Assessments has correctly been reported in the assessment.
- In the original assessment, both the Land South of Sutton Road H1(10) site and the Maidstone School of Science and Technology were missing from the assessment. This was reported back to DHA and the revised assessment now includes those two sites.
- The census data has been checked and was found to be accurate.
- Spot checks have been carried out on the distribution assumptions with the distribution for the MSOA Langley where three of the large housing sites are located within being checked in detail. Whilst google journey times would indicate a slightly lower distribution via M20 Junction 7 and more via M20 Junction 8, local knowledge does not support this. Our review accordingly fully supports the assumptions in the assessment in terms of distribution.
- The calculation of the resulting trips through M20 Junction 7 is a simple multiplication of the total number of trips in both peak hours for each site by the distribution percentage of the MSOA they are located within.

### **Sites Identified**

The number of trips through M20 Junction 7 from the sites contained in the assessment ranges from 0 to over 100 per peak hour. A cut-off criteria as to the minimum trips that should be considered, was discussed between DHA and MBC. This was also shared with HE. A threshold of 30 movements in either AM or PM peak was discussed for sites to be included for contribution purposes.

At a junction that has reached its capacity, such an hourly number of trips can lead to further deterioration of the junction performance. As such, and whilst there is no scientific basis for this number, it is not unreasonable to use 30 movements per peak hour as the criteria for a site to be included for contributing towards the improvements for M20 Junction 7.

The table below lists the sites that have been identified in the DHA assessment as having an impact of 30 movements in any peak hour or more on M20 Junction 7:

M20 Junction 7 Contributions

Site		AM	PM	Total
H1(10) Land South of Sutton Road	Arr	21	63	183
	Dep	61	38	
	Total	82	101	
Maidstone East and Sorting Office	Arr	28	36	123
	Dep	22	38	
	Total	50	74	
Lenham (broad location)	Arr	15	35	107
	Dep	34	22	
	Total	50	57	
H1 (8) West of Church Road	Arr	11	26	80
	Dep	26	17	
	Total	37	43	
H1(7) Land North of Bicknor Wood	Arr	5	24	74
	Dep	32	13	
	Total	37	36	
Maidstone School of Science and Technology	Arr	47	0	72
	Dep	25	0	
	Total	72	0	
Mote Road	Arr	28	2	58
	Dep	4	24	
	Total	32	26	

The above sites were considered in terms of when they are expected to come forward within the Local Plan period and whether there could be pooling issues with these sites:

Site	Description
H1(10) Land South of Sutton Road	Outline application approved in 2016, site expected to come forward within the next 5 years with reasonable certainty
Maidstone East and Sorting Office	Site has a temporary permission for the next 5 years, therefore unlikely to come forward until beyond 5+ years
Lenham (broad location)	Sites expected to come forward towards the latter part of the plan period, consists of a number of sites, there are therefore likely to be pooling issues attached to this site.
H1(8) West of Church Road	H1(8) is at a pre-application stage. No application has yet been submitted. It is set in the housing trajectory to be delivered in the first five year tranche.
H1(7) Land North of Bicknor Wood	Outline application approved in 2016, detailed application submitted in 2017, site expected to come forward within the next 5 years with reasonable certainty
Maidstone School of Science and Technology	Promotors aiming to complete school in time for the 2018 / 2019 academic year. The school has however been excluded from the list of schemes contributing to the M20 Junction 7 improvements due to both Highway Authorities' views (Highways England and Kent County Council) that there is a robust Travel Plan led approach in place which mitigates the impact of the school on this junction.
Mote Road	This site is at early pre-application stage and is a mixed office, residential and retail project in a 16 storey tower. The uses, mix and scale has not yet been considered by the LPA. On that basis it is not expected to come forward until years 6-10.

Based on the above, at this stage, the following sites should not be considered for contributing to the M20 Junction 7 improvements as they are unlikely to come forward in time, and would therefore delay the implementation of the improvements:

- Maidstone East and Sorting Office
- Lenham (broad location)

## M20 Junction 7 Contributions

- Maidstone School of Science and Technology
- Mote Road

However, should the timing of any of the above sites change, they should be reconsidered.

### Proportional Split of Contributions

The table below sets out the sites which should fund the M20 Junction 7 improvements, and based on the number of trips in both peak hours, the percentage contribution for each site.

Site	Total number of trips (AM and PM)	Percentage Contribution
H1(10) Land South of Sutton Road	183	54.3%
H1(8) West of Church Road	80	23.7%
H1(7) Land North of Bicknor Wood	74	22.0%
Total Trips	337	100.0%

### Way Forward

This note identifies the sites that should be funding the improvements required due to Local Plan development at M20 Junction 7.

Sites which are likely to come forward later in the Local Plan period, should presently be excluded. However, going forward, the list should regularly be reviewed, and if sites move towards implementation sooner than expected, they should be added to the list.

Furthermore, the current agreement with KIMS would remain in place with this scheme implementing the improvements as a fall-back position should their development reach 75% occupation prior to the above schemes being progressed.

If sites presently included on the list are not implemented in the timeframe expected or are not implemented at all, then the Local Plan related impact on M20 Junction 7 would occur later in the plan period and the contributions identified above should be spread onto sites which are expected to be developed later and are presently not included in the above.