

DfT Queries on LEB – 26/10/16

Traffic Speeds and delay in and around Lincoln

1 *Pattern of Delay*

DfT queries the travel times, speeds and delays in the city centre of Lincoln compared to the bypass route around the town. The objective was to understand the sources of delay within both the Do Minimum scenarios and impacts of introducing LEB on this to understand the impacts on benefits. The major focus on this is in the PM peak period which is the most heavily trafficked within Lincoln and for which benefits are suppressed in the 2033 forecast year.

To set the scene DfT are referred to the attached spreadsheet and tabs identifying low speed travel across Lincoln. In this case the threshold has been established as 15kph and below to reflect delay. The diagrams are taken from the 2033 forecasts of the Alternative VDM whereby the 2015 has been adjusted.

The pattern shows widespread delay in the peak period Do Minimums (DM), significantly less so in the inter peak period. The PM peak shows heavy delays on the A15 within the centre, the A1434 Newark Road for both traffic heading out of Lincoln and entering Lincoln from the south. This situation is consistent with patterns today, although exacerbated by traffic growth.

The DS relieves an element of this traffic particularly so for central and southern areas of Lincoln. Pressures on the Western Bypass are still maintained although much of the delay is focussed on the bypass rather than the more inappropriate local road network.

2 *Quantification of Delay*

Delay statistics have been produced for the area below. This reflects the area within the 2 bypasses and the southern suburban areas.



Delay data is included in Table 1.

Table 1 Network Statistics by Sub Area

Core	DM	DS	Abs	%
VehKm	109,127	105,488	-3,639	-3.3%
VehHrs	4,310	4,055	-255	-5.9%
Speed	25.32	26.01	1	2.7%
Total Delay	6,521,756	5,848,817	-672,939	-10.3%
Core Rev	DM	DS	Abs	%
VehKm	105,171	101,084	-4,087	-3.9%
VehHrs	3,832	3,546	-286	-7.5%
Speed	27.45	28.51	1	3.9%
Total Delay	5,150,604	4,432,372	-718,232	-13.9%
High	DM	DS	Abs	%
VehKm	111,398	107,190	-4,208	-3.8%
VehHrs	4,675	4,507	-168	-3.6%
Speed	23.83	23.78	0	-0.2%
Total Delay	7,594,037	7,289,213	-304,824	-4.0%
High P2	DM	DS	Abs	%
VehKm	110,738	106,898	-3,840	-3.5%
VehHrs	4,570	4,426	-144	-3.2%
Speed	24.23	24.15	0	-0.3%
Total Delay	7,270,137	7,032,674	-237,463	-3.3%

Definitions of this data are as follows

- Total delay time = (Travel time - Free flow travel time)*number of vehicles – measured in seconds.

In all cases VKm and VHR reduce. In the core and revised core speeds increase as a result of this. In the high scenarios the VKm reduce by more than VHrs, consistent with the outcomes from VDM. As a result the average speed actually declines. This serves to ensure that in both DM and DS congestion remains high. This is emphasised with changes in total delay time, which declines by a much smaller amount in the High scenarios. Speeds remain much lower than the network average due to the operation under congested conditions.