

APPENDIX B – TRAFFIC IMPACT OF DEVELOPMENTS

1. Development Traffic Generation

1.1 Trip rates for the development uses were obtained from the TRICS database (version 2006b). As agreed with LCC, average trip rates were applied for the AM peak (08:00 - 09:00) and PM peak (17:00 -18:00).

1.2 **Table 1** below summarises for each of the existing/proposed land uses, which TRICS category was applied and the assumptions made:

Table 1: Land Use TRICS Assumptions

Land Use	TRICS Category	Assumptions
Car Park	N/A	Trip rate based on existing data
Cinema	Cinema	
Cultural Facilities	N/A	No trips during peak hours
Employment Use	Industrial Unit	
Flats	Flats privately owned	
Hospital	General Hospital (without casualty)	
Houses	Houses privately owned	
Leisure Centre	Sports centre	
Leisure Use	Art Gallery/Museum/Exhibition	
Live/Work Units	N/A	No trips during peak hours
Offices	Office	
Retail (non-food)	N/A	Trips assumed to use town centre car parks
Retail Park	Retail Park (excluding food)	
Supermarket	Food Superstore	
Warehouse	Warehousing (commercial)	

1.3 A summary of the relevant TRICS trip rates is presented in **Table 2** below:

Table 2: Trip Rates

Land Use	Trips per	AM Peak		PM Peak	
		Arrivals	Departures	Arrivals	Departures
Cinema	100 sqm GFA	0.00	0.00	2.03	2.01
Employment Use	100 sqm GFA	0.51	0.13	0.07	0.47
Flats	Flat	0.07	0.21	0.19	0.08
Hospital	100 sqm GFA	0.81	0.24	0.22	0.45
Houses	House	0.17	0.41	0.37	0.24
Leisure Centre	100 sqm GFA	0.57	0.51	1.26	1.15
Leisure Use	100 sqm GFA	0.10	0.01	0.02	0.26
Offices	100 sqm GFA	1.60	0.19	0.19	1.31
Retail Park	100 sqm GFA	0.67	0.35	1.28	1.37
Supermarket	100 sqm GFA	3.81	2.06	6.80	7.67
Warehouse	100 sqm GFA	0.20	0.09	0.11	0.23

1.4 Applying the trip rates in **Table 2** to the existing and proposed land uses in **Table 2** of chapter 2 and **Table 3** of chapter 3 gives the following total AM and PM peak hour trips as summarised in **Table 3**:

Table 3: Total Traffic Generation

	AM Peak		PM Peak	
	Arrivals	Departures	Arrivals	Departures
Existing Use	336	105	129	351
Proposed Use	548	451	854	886
Increase	212	346	792	390

1.5 **Table 3** above shows that the combined redevelopment traffic will lead to a large increase in traffic above the existing traffic. There is estimated to be an increase of 558 two way trips in the AM peak hour and 1260 two way trips in the PM peak hour.

Car Park Traffic Generation

1.6 A car park trip rate was estimated using parking survey information for the town centre. Details of the calculation are attached and the trip rate is shown in **Table 4** below:

Table 4: Car Park Trip Rate

AM Peak		PM Peak	
Arrivals	Departures	Arrivals	Departures
0.10	0.05	0.49	0.87

Applying trip rates in **Table 4**, to the number of existing and proposed car parking spaces as set out in **Table 6** of chapter 6 the number of car parking related trips can be calculated.

Trip Distribution

1.7 Separate trip distributions have been calculated to determine the likely origins and destinations of trips travelling to and from the town centre. The 2001 Census travel to work data has been used to estimate a residential and employment use distribution and the remaining uses have been distributed based on current traffic flows into and out of the town centre.

1.8 At this stage the exact site access location for some of the developments is not known therefore the site access location for the developments has been estimated from information presented in the Masterplan and from a logical assessment based on site location and road hierarchy and although there may be minor changes, it is not thought that these will have a significant impact on the distributions.

1.9 As agreed with LCC, to calculate the employment and residential distributions, travel to work data for the Hinckley Castle and Hinckley De Montfort wards was combined to provide a representative data set. For the residential distribution, the destination of trips for all car drivers from the combined wards was used as this represents the current destinations of vehicle trips for residents of the combined wards. For the employment distribution the origin of all car driver trips to the combined wards was used as this represents the current origins of vehicle trips for employees travelling to the combined wards.

1.10 Once the residential and employment origin and destinations were determined, routes to and from the town centre were assigned using the Autoroute package and the percentage of trips across these routes was then calculated. This gave the following residential and employment distribution, as summarised in **Table 5**:

Table 5: Residential and Employment Distribution

Route	Residential Traffic %	Employment Traffic %
Ashby Road	12.0	14.2
Leicester Road	12.8	17.6
Hinckley Road	20.3	20.3
Lutterworth Road	0.7	2.4
Rugby Road/A5 East	17.2	14.8
Rugby Road/M69 South	13.8	4.7
Coventry Road/A5 West	10.0	12.2
Coventry Road/Hinckley West	10.1	6.5
Hollycroft	3.2	7.4

1.11 The distributions in **Table 5** were applied to both the AM and PM peak trips.

1.12 The distribution for the remaining uses has been estimated from the traffic survey flows for traffic entering and exiting the town centre. **Table 6** shows the estimated distribution for the inbound and outbound traffic for the AM and PM peak hours for the same routes as above;

Table 6: Existing Traffic Distribution

Route	AM Peak		PM Peak	
	Inbound (%)	Outbound (%)	Inbound (%)	Outbound (%)
Ashby Road	18.0	12.5	13.6	12.9
Leicester Road	18.6	14.4	12.3	15.2
Hinckley Road	19.9	27.1	25.2	25.0
Rugby Road/A5 East	18.7	15.9	19.1	18.5
Coventry Road/A5 West	11.6	18.0	16.7	12.7
Hollycroft	13.2	12.1	13.1	15.6

Town Centre Traffic Impact

1.13 As a guide, estimated development traffic generation was compared with background opening year traffic flows on the adjacent highway network in order to determine the resultant percentage increases in 2-way flows. Increases in 2-way traffic flows of 10% or greater were regarded as being material. Where appropriate the traffic survey data was factored to a base year of 2006 using TEMPRO growth factors. The estimated change in car parking traffic was added to the 2006 base traffic data to give the background traffic flows. The net change in development traffic for all developments was then compared to the

background traffic for each junction. The two way percentage change in traffic flows for the junctions is summarised in **Table 7** (with detailed results are attached).

Table 7: Town Centre Traffic Impact Summary

Junction		Number of Arms with Percentage Impact above 5% (10%)	
Location	No. Arms	AM	PM
1. Trinity Lane/Lower Bond Street Junction	4	4 (0)	0 (4)
2. Stockwell Head/Lower Bond Street Junction	4	0 (3)	1 (3)
3. Rugby Road/Brunel Road Junction	3	0 (3)	0 (3)
4. Trinity Lane/Mansion Street Junction	3	0 (3)	0 (3)
5. Rugby Road/Trinity Lane Junction	4	0 (2)	0 (2)
6. Coventry Road/Trinity Lane Junction	4	1 (2)	0 (3)
7. Station Road/Mount Road Junction	4	0 (2)	0 (2)
8. Station Road/Lancaster Road Junction	4	0 (0)	0 (0)
9. New Buildings Holliers Walk Junction	4	1 (2)	0 (3)
10. Derby Road/Druid Street Junction	3	0 (0)	0 (0)
11. London Road/Park Road Junction	3	1 (1)	0 (2)
12. Hawley Road/Rugby Road Junction	4	1 (1)	0 (2)
13. Hawley Road/Station Road Junction	4	0 (3)	0 (3)
14. Leicester Road/Spa Lane Junction	3	1 (1)	0 (2)
15. Upper Bond Street/Derby Road Junction	4	2 (0)	0 (2)
16. Council Road/Stockwell Head Junction	3	3 (0)	1 (2)
17. London Road/Spa Lane Junction	3	0 (0)	0 (0)

1.14 **Table 7** above demonstrates that the combined developments will have a significant impact on traffic flows within the town centre. At only 3 of the 17 junctions will there not be a material impact. This demonstrates that there will be a need to mitigate the impacts of the additional traffic across the town centre. The views of the Highways Agency (HA) in terms

of any material impact on the Trunk Road network will also need to be taken into account, although no response has been received as yet from the HA.

Town Centre Transport Improvements

1.14 1.15 The Framework TA report outlines the improvements required in terms of highways, parking, public transport, pedestrian, cycle and Travel Plan for the town centre as a whole to mitigate the impact of the developments when considered on a comprehensive basis. In order to determine the likely transportation impacts of the combined developments, several site visits to were undertaken in Hinckley town centre during the AM peak, PM peak and throughout the day time. The current transportation problems were assessed and the likely transportation impacts of the combined developments were investigated. As part of this assessment a review of potential accident 'blackspots' was undertaken for the town centre, although there were not considered to be any significant road safety issues that required further investigation.