The Norfolk County Council (Norwich Northern Distributor Road (A1067 to A47(T))) Order

Response to Examining Authority's Third Written Questions relating to the revised economic appraisal

Planning Act 2008

Infrastructure Planning

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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Table of Contents

Appendices

Q.1 The ExA observes that in the original economic appraisal the cost of buses is £1,212m (Doc 5.12, pg 69, Table 10.3), which in conjunction with construction of developer link roads is discounted to £828m over the period covered by the appraisal (Doc 5.12, pg 74, Table 10.9; Providers). In the revised appraisal the cost of buses and link roads is £502m (EX71, pg5, para 1.2.2), which, subject to discounting over the appraisal period, increases to £701m (EX71, pg5, Table 1; Providers).

Please clarify why the costs of buses differ when 'assumptions' for PT Option Costs indicate 'No Change' (EX71, pg4, para 1.2).

Please clarify why do the discounted costs under the revised PT Option appear to increase (EX71, pg 5, para 1.2.2 versus EX71, pg5, Table 1; Providers).

Applicant's response

1.1 The cost of buses for the PT option is £1,212m (2013Q1 prices) as stated in Table 10.3 of Document Ref 5.12. There were no changes to these costs in the revised appraisal in NCC/EX/71 as stated in Section 1.2 of NCC/EX/71. The figures of £828m and £701m are actually figures for Economic Efficiency: Business Users and Providers (the figures of £828m and £701m are negative in the tables 10.9 in Document Ref 5.12 and Table 1 in NCC/EX/71). These figures include the cost of the buses as part of the provider impacts, but they *also* include the business user impacts. The derivation of -£828m in Table 10.3 of Document Ref 5.12 can be explained from the corresponding TEE table given below in Table 1; it should be noted that this table has been superseded by Table 3 in NCC/EX/71 but the figures for private sector investment costs are unaffected. It can be seen that -£828m for net business impacts consist of travel time, vehicle operating costs and user charges for business users and revenue, operating and investment costs impacts on private sector providers.

Table 1: Transport Economic Efficiency (TEE) – PT Option Document Ref 5.12

Item	Benefit (£000s)				
	All Modes		Road		Bus
Consumer - Commuting user benefits					
Travel Time	-19,271*		-20,293		1,022*
Vehicle operating costs	-11,863		-11,863		0
User charges	-7,816*		-626		-7,190*
During Construction & Maintenance	0		0		0
NET CONSUMER - COMMUTING BENEFITS	-38,950*		-32,782		-6,168*
Consumer - Other user benefits	All Modes		Road		Bus
Travel Time	-84,701*		-93,104		8,403*
Vehicle operating costs	-20,270		-20,270		0
User charges	52,030*		164,731		-112,701*
During Construction & Maintenance	0		0		0
NET CONSUMER - OTHER BENEFITS	-52,941*		51,357		-104,298*
Business Impacts	All Modes	Road Personal	Road Freight	Bus Personal	Bus Freight
Travel Time	-146,038*	-102,121	-48,435	4,519*	0
Vehicle operating costs	-17,001	-6,197	-10,804	0	0
User charges	-7,597*	2,733	0	-10,330*	0
During Construction & Maintenance	0	0	0	0	0
Sub Total	-170,636*	-105,585	-59,240	-5,812*	0
Private Sector Provider Impacts					
Revenue	-155,031*		-94,915	-60,116*	
Operating costs	0		0	0	
Investment costs	-502,032		-20,355	-481,677	
Grant/subsidy	0		0	0	
Sub Total	-657,063*		-115,270	-541,793*	
Other business Impacts					
Developer contributions	0		0		0
NET BUSINESS IMPACT	-827,699*				
TOTAL					
Present Value of Transport Economic Efficiency Benefits (TEE)	-919,590*				

Notes: All monetary values are expressed in 2010 prices discounted to 2010

* These values are affected by the unit error and incomplete capture of fares in the public transport analysis which are corrected in table 3 of NCC/EX/71

The TEE table captures the user benefits as well as private sector provider impacts and presents a Present Value Benefit (PVB) on this basis. It should be noted that in the full appraisal presented in the Analysis of Monetised Costs and Benefits table (see table 1 of NCC/EX/71) the complete PVB also includes figures for accidents, greenhouse gases and wider public finances (indirect tax revenues).

1.2 The text in para 1.2.2 of NCC/EX/71 is correct. The discounted investment costs of buses and link roads in Table 1 above and also in Table 3 of NCC/EX/71 is -£502m which is built up from £482m for buses and £20m for link roads, both elements discounted to 2010 and adjusted to 2010 from input figures in 2013 Q1 prices. It should be noted that this figure is already discounted and it is not further discounted to give an increased figure of -£701m. The reduction in the undiscounted cost for buses of £1212m to a much lower figure of £482m is explained by the costs occurring over a 60 year appraisal and thus discounting has a much larger effect than for an infrastructure scheme cost discounted over say a six year period.

1.3 The derivation of -£701m can be found in Table 3 of NCC/EX/71. This is made up of business user impacts of £101m, and private sector provider impact of -£802m (-£300m of revenue impact and -£502m of investment costs).

Q.2 In the original economic appraisal the DCO scheme and the PT option (Doc 5.12, pg69, Table 10.3) have different 'investment costs' excluding buses that are priced at £1,212m. In the revised appraisal the DCO scheme and the NATS PT option (EX 72, pg8, Table 4) have identical 'investment costs' (even though the latter includes the DCO scheme), save buses at £501m.

Please clarify why the DCO scheme and the NATS PT option are identical (EX72, pg8, Table 4) given that the latter will involve additional 'investment costs' for buses in the form of additional complementary infrastructure/traffic management measures - as indicated by the PT Option 'investment costs' in the original appraisal (Doc 5.12, pg69, Table 10.3).

Applicant's response

2.1 To answer this question it will help to explain first the treatment of the developer link roads in the economic appraisal. The appraisal of the DCO scheme assumed that developer link roads would be in place both with and without the scheme and the costs of them have not been included in the DCO appraisal. For the purposes of examining alternatives an extended link road proposal was tested as Alternative 5. The full costs of the developer link roads (extended) were included in the appraisal of Alternative 5, shown in Table 4.1 of Document Ref. 5.12 with a total investment cost of £44.3m (2013 Q1 prices).

2.2 Turning to the PT Option, the assumptions for the option are set out in paragraph 10.2.2 in Document Ref. 5.12: *'This PT Option comprises significant service improvements as well as quality enhancements and it has been combined with the extended developer link roads defined in Alternative 5'.* Therefore the PT Option has included the investment cost of £44.3m for the developer link roads, and this is shown in Table 10.3 in Document ref. 5.12.

2.3 For the appraisal of the DCO scheme with NATS (referred to as NDR + NATS PT) this has been done making the same assumptions as for the

DCO appraisal, i.e. that the cost of the developer link roads has not been included in the appraisal. This was done originally for the DCO scheme so that the economic appraisal was concentrated on the costs and benefits of NDR and with the NDR+NATS PT appraisal it identifies the effects of undertaking the additional NATS measures successively with the provision of the DCO scheme. This explains why the investment costs (leaving aside buses) are identical in Table 4 of NCC/EX/72 for both DCO and NDR + NATS PT rather than with an additional investment cost for developer link roads with NDR + NATS PT.

2.4 The question has been raised by the ExA of additional investment costs for complementary measures for buses. The above explains that these were not included in either the PT Option (the investment costs referred to in that appraisal were for the developer link roads) or in the NDR + NATS PT appraisal. The reason for this is that there are no definitive costed plans for the complementary measures for NATS BRT and core bus improvements that could have been taken account of, but also see the response to Q8.e. However the expected costs for these measures will be relatively small in comparison with the investment in the BRT and bus fleet so they would not be expected to have a significant effect on the overall value for money had they been included.

Q.3 Please clarify how bus costs attributed to private sector business providers are made up by breaking down bus purchase, leasing, operating and maintenance costs in each of the tables. Please clarify where costs are net or gross? How is revenue or other income accounted for (EX71, pg5, Table 1 and EX72, pg8, Table 4 and EX72, pg10, Table 6)?

Applicant's response

3.1 Section 3.13.2 of NCC/EX/52 contains a breakdown of PT Option bus costs. These consist of purchase (leasing was not separately modelled), refurbishment and operating costs.

3.2 A breakdown of NATS PT strategy costs are given below in Table 2 in 2013 Q1 prices.

Table 2: Breakdown of NATS PT strategy costs

Costs over a 60 year appraisal period	Cost (£m, 2013Q1 prices)
Cost of buying vehicles	
BRT vehicle	43.0
Core bus	12.3
Refurbishment cost of core buses	0.9
Vehicle operating costs	
BRT vehicle	278.3
Core bus	166.4
Total cost	500.9

3.3 A detailed breakdown of private sector business provider impacts (PT option) of Table 1 of NCC/EX/71 can be found in Table 3 of NCC/EX/71. For the purpose of economic appraisal total PT costs are included in the appraisal. Table 3 below allocates £482m discounted costs proportionately per cost elements in Section 3.13.2 of NCC/EX/52.

Revenue impacts for PT Option are reported in Table 3 of NCC/EX/71 and are based on corresponding PT trips and fare inputs.

Table 3: Allocation of discounted bus costs by cost element – PT option

Costs over a 60 year appraisal period	Cost (£m, 2010 prices discounted to 2010)
Cost of buying vehicles	49.5
Refurbishment cost of core buses	1.1
Vehicle operating costs	431.4
Total cost	482

3.4 A detailed breakdown of private sector business provider impacts for the NDR + NATS PT strategy given Table 6 of NCC/EX/72 can be found in Table 8 of NCC/EX/72. For the purpose of economic appraisal total PT costs are included in the appraisal. Table 4 below allocates £188m discounted costs proportionately per cost elements in Section 3.13.2 of NCC/EX/52. Revenue impacts for NDR + NATS PT strategy are reported in Table 8 of NCC/EX/72 and are based on corresponding PT trips and fare inputs.

Table 4: Allocation of discounted bus costs by cost element – PT option

Costs over a 60 year appraisal period	Cost (£m, 2010 prices discounted to 2010)
Cost of buying vehicles	20.8
Refurbishment cost of core buses	0.3
Vehicle operating costs	166.9
Total cost	188

3.5 The purchase cost for vehicles would cover the possibility of leasing. If vehicles were leased there would be differences in the timing of costs and there would be asset finance charges in place of depreciation charges on owned assets but, overall, vehicle costs over the appraisal period would be similar.

3.6 Costs are net that is exclusive of tax. Bus travel is zero rated for VAT and operators can reclaim input VAT on items purchased.

3.7 The operating costs include maintenance. The costs are built up from the following cost elements shown below.

Table 5: Operating cost breakdown– PT option

Operating cost element	Proportion %
Staffing costs including drivers, supervisors and training	43
Fixed Costs – PCVs including depreciation, maintenance labour, insurance	21
Variable Costs – PCVs - including fuel, maintenance materials and cleaning	26
Property and overhead costs	10

Q.4 Can you please provide findings from a scenario where the NATS PT Strategy involves ALL bus improvements being introduced by 2017 rather than spread over an additional 15 years to 2032.

Applicant's response

4.1 NCC/EX/72 contained an appraisal of NDR + NATS PT strategy and Section 2 of NCC/EX/72 provided a description of NATS PT improvements. This included progressive implementation of the PT strategy which forms part of the NATS IP (i.e. different service BRT and core bus provisions in 2017 and 2032). It explained that the implementation reflected the build out of development with JCS and this is considered to be a more realistic scenario than assuming all service improvements and new services operate from 2017.

4.2 This sensitivity test introduces 2032 BRT and bus service provisions included in NCC/EX/72 NDR + NATS PT strategy all from 2017. Table 6 below compares the summary costs of the sensitivity test with those for NDR + NATS PT strategy reported in NCC/EX/72 and the DCO scheme, all in 2013 Q1 prices.

Table 6: Summary Costs of NDR + NATS PT strategy with all improvements from 2017

Cost type	Cost (£m) in 2013Q1 prices		
	DCO Scheme	NDR + NATS PT strategy (NCC/EX/72)	NDR + NATS PT strategy all improvements from 2017
Investment costs			
Construction	110.2	110.2	110.2
Land	22.0	22.0	22.0
Preparation	7.8	7.8	7.8
Supervision	1.3	1.3	1.3
Total investment Cost	141.3	141.3	141.3
Other costs			
Maintenance	27.8	27.8	27.8
Operation	15.9	15.9	15.9
Cost of PT (buses/operation/maintenance)*	-	500.9	548.1

Notes: Highway investment costs are before adjusting for construction price inflation and optimism bias

*included under private sector in TUBA

4.3 Table 7 below compares monetised costs and benefits adjusted to 2010 prices and discounted to 2010 for the three scenarios, the DCO Scheme, the NDR + NATS PT strategy (NCC/EX/72) and the sensitivity test for the NDR + NATS PT strategy with all PT improvements from 2017.

4.4 The results show that for the sensitivity test the Present Value of Benefits (PVB) is estimated to be £1,099m (inclusive of accident benefits), outweighing the £186m Present Value of Costs (PVC). The PVB for this scenario reduces compared to NDR + NATS PT strategy reported in NCC/EX/72. Although the bus user benefits increase there is the impact of additional operating costs on private providers which is included in the PVB part of the analysis (see TEE Table 8 for more details).

4.5 The Benefit Cost Ratio (BCR) of the scheme is 5.90 including accidents. Under the DfT's value for money criteria, this represents a Very High value for money category.

4.6 Wider economic benefits and journey time reliability benefits were not calculated for this scenario due to the limited timescale.

Table 7: Analysis of Monetised Costs and Benefits – NDR + NATS PT Strategy all improvements from 2017

Item	Accidents Included (£000)		
	DCO	NDR + NATS PT Strategy (NCC/EX/72)	NDR + NATS PT Strategy all improvements from 2017
Accidents (not assessed by TUBA)	41,219	36,186	36,186*
Greenhouse Gases	-22,756	-27,964	-27,984
Economic Efficiency: Consumer Users (Commuting)	51,164	113,632	112,109
Economic Efficiency: Consumer Users (Other)	380,623	879,290	882,560
Economic Efficiency: Business Users and Providers	267,797	5,683	-13,299
Wider Public Finances (Indirect Taxation Revenues)	55,270	109,352	109,419
Present Value of Benefits (PVB)	773,317	1,116,179	1,098,991

Item	Accidents Included (£000)		
	DCO	NDR + NATS PT Strategy (NCC/EX/72)	NDR + NATS PT Strategy all improvements from 2017
Broad Transport Budget Present Value of Costs (PVC)	185,542	186,544	186,315
OVERALL IMPACTS			
Net Present Value (NPV)	587,775	929,635	912,676
Benefit to Cost Ratio (BCR)	4.168	5.983	5.899

Notes: All monetary values are expressed in 2010 prices discounted to 2010

*Assumed similar to NDR + NATS PT strategy (NCC/EX/72)

4.7 The breakdown of benefits are extracted from the Transport Economic Efficiency (TEE) table of TUBA and reported below in Table 8. This shows the benefits split between road and bus modes and also shows the private sector provider impacts separately from the business (user) impacts which are combined under Economic Efficiency: Business Users and Providers in the TUBA table Analysis of Monetised Costs and Benefits (Table 7).

Table 8: Transport Economic Efficiency (TEE) – NDR + NATS PT strategy all improvements from 2017

Item	Benefit (£000s)		
	All Modes	Road	Bus
Consumer - Commuting user benefits			
Travel Time	134,408	60,336	74,072
Vehicle operating costs	-23,436	-23,436	0
User charges	1,137	3,102	-1,965
During Construction & Maintenance	0	0	0
NET CONSUMER - COMMUTING BENEFITS	112,109	40,003	72,107
Consumer - Other user benefits			
Travel Time	836,863	298,144	538,719
Vehicle operating costs	-131,151	-131,151	0
User charges	176,847	195,303	-18,456
During Construction & Maintenance	0	0	0
NET CONSUMER - OTHER BENEFITS	882,560	362,296	520,264

Item	Benefit (£000s)				
	All Modes	Road			Bus
Business Impacts	All Modes	Road Personal	Road Freight	Bus Personal	Bus Freight
Travel Time	596,964	221,004	181,827	194,133	0
Vehicle operating costs	-21,967	-4,361	-17,606	0	0
User charges	2,245	2,693	0	-448	0
During Construction & Maintenance	0	0	0	0	0
Sub Total	577,241	219,335	164,222	193,685	0
Private Sector Provider Impacts					
Revenue	-383,321		-118,431		-264,890
Operating costs	-207,219		0		-207,219
Investment costs	0		0		0
Grant/subsidy	0		0		0
Sub Total	-590,540		-118,431		-472,109
Other business Impacts					
Developer contributions	0		0		0
NET BUSINESS IMPACT	-13,299				
TOTAL					
Present Value of Transport Economic Efficiency Benefits (TEE)	981,370				

Notes: All monetary values are expressed in 2010 prices discounted to 2010

Q.5 Please provide a table to describe when the assessed public transport measures have been programmed for each scenario to commence for both the scheme (NATS PT strategy) and public transport alternatives (PT option)

Applicant's response

5.1 The table below provides information on service commencement, whether they are additional, replacement or modified and the assumptions on bus frequency. This is shown for the PT Option, the NDR + NATS PT strategy and the modified NDR + NATS PT strategy test requested above in Q4.

Table 9: PT service improvements for PT Option and NDR + NATS PT

	PT Option			NATS PT			NATS PT Modified		
PT Service	**Year service commences**	**Service frequency (minutes)**	**New additional service, or modified / replacement service**	**Year service commences**	**Service frequency**	**New additional service, or modified service**	**Year service commences**	**Service frequency**	**New additional service, or modified / replacement service**
BRT1	2017	10	Additional	2032	10	Additional	2017	10	Additional
BRT2	2017	10	Additional	2017	10	Modification of existing P&R from Postwick P&R with BRT	2017	10	Modification of existing P&R from Postwick P&R by BRT
BRT3	2017	10	Additional	2017	10	Modification of existing P&R with extended BRT route via Thickthorn P&R	2017	10	Modification of existing P&R with extended BRT route via Thickthorn P&R
BRT4	2017	10	Additional	2017	10	Modification of existing P&R with extended BRT route via Costessey P&R	2017	10	Modification of existing P&R with extended BRT route via Costessey P&R
BRT5	2017	10	Additional	2032	10	Additional	2017	10	Additional
BRT6	2017	10	Additional	2017	10	Modification of existing P&R from Airport P&R with BRT	2017	10	Modification of existing P&R from Airport P&R with BRT
Orbital bus	2017	10	Additional	2032	10	Additional	2017	10	Additional
Core bus service numbers:									
First 11	2017	10	Modified	2017	10	Modified to serve Sprowston P&R	2017	10	Modified to serve Sprowston P&R
First 13	2017	10	Modified	2017	10	Modified as PT Option	2017	10	Modified as PT Option
First 21	2017	10	Modified	2017	10	Modified as PT Option	2017	10	Modified as PT Option
First 22	2017	10	Modified	2017	10	Modified as PT Option	2017	10	Modified as PT Option
First 23/23A	2017	10	Modified	2017	Varies (but mainly 15 minutes)	No change in frequency from existing service	2017	Varies (but mainly 15 minutes)	No change in frequency from existing service
First 25	2017	10	Modified	2017	Varies (but mainly 15 minutes)	No change in frequency from existing service	2017	Varies (but mainly 15 minutes)	No change in frequency from existing service
First 25A	2017	10	Modified	2017	Varies (but mainly 15 minutes)	No change in frequency from existing service	2017	Varies (but mainly 15 minutes)	No change in frequency from existing service
First 37	2017	10	Modified	2017	10	Modified to serve Harford P&R	2017	10	Modified to serve Harford P&R
First X2	2017	10	Modified	2017	15	Frequency Modified	2017	15	Frequency Modified
Konectbus 9	2017	10	Modified	2017	10	Modified as PT Option	2017	10	Modified as PT Option

Q.6 The ExA would also wish to see responses to the points made in the submissions from the Norwich Green Party (Cllr Boswell) and from NNTAG (incl Prof Goodwin) dated 3 November 2014.

Applicant's response

6.1 Further responses to points made are contained in a separate document NCC/EX/91.

Q.7 Regarding the submission from Prof Goodwin on behalf of NNTAG, the ExA specifically requests that the applicant please:

a. Confirm that the tables presented on page 6 (5.13 Table 10.9; and EX71Table 1) both labelled 'Analysis of Monetised Costs and Benefits – PT Option' are indeed comparable.

b. Represent the cost items discussed in the second paragraph of page 8

c. Confirm or reproduce the city centre measures table on page 10

d. Respond to the final paragraph of page 11 – are the city centre measures "poorly designed or poorly appraised"?

e. Comment upon and clarify the work done to model the interaction between the city centre and public transport measures, referred to on page 12.

Applicant's response

7.1 In introducing this section of the response the Applicant wishes to state that it regrets the errors that were identified in the original economic appraisal of the PT Option test and that having since undertaken careful checks it has not identified any other errors in the appraisals and thus it is confident that the evidence base is robust. It also wishes to highlight that one of the main purposes for undertaking the PT Option test was to determine whether a substantial implementation of public transport service improvements in addition to extended developer link roads would address the key objectives of the scheme. The results of the modelling showed that the option failed to do this as explained in Document Ref. 5.12 in chapter 10 and in the conclusion in paragraph 10.2.27 which states: "…*the reductions of cross city centre traffic are much smaller compared with the DCO Scheme, especially for trips crossing the Outer Ring Road Cordon. The junction analyses show that the junctions between the developer link roads and North Walsham Road and Wroxham Road would operate substantially over their theoretical capacity with long queues and delays, with delays of over 9 minutes in*

the 2032 AM peak and 4 minutes in the 2032 PM peak. On these grounds the developer link roads would not operate satisfactorily and they would cause particularly severe difficulties in implementing the proposed shared use high street-type design envisaged in the development proposals. The delays would also mean that the PT Option would fail to meet the improved transport connectivity objective for the Scheme. Whilst it is understandable that Professor Goodwin has focussed on the revised economics, the Applicant notes that he has not addressed in any detail how the option fails to meet the objectives.

7.2 **Point a:** Table 1 in NCC/EX/71 replaces Table 10.9 in Document Ref. 5.12. These are the two tables presented on page 6 of Professor Goodwin's submission for NNTAG. It should be noted that the document reference on the page headers in chapter 10 of Document Ref. 5.12 were incorrectly stated as 5.13.

7.3 **Point b:** The Applicant has taken the Examination Authority's question to refer to Professor Goodwin's suggestion that the economic appraisal for the PT Option (contained in NCC/EX/71) should assume the investment costs in bus services as being funded by the public rather than the private sector (the second paragraph i.e. first full paragraph on page 8 of Professor Goodwin's submission). For clarification the Applicant has presented the relevant investment and operator costs for bus services in Table 3 of NCC/EX/71 under private sector provider impact investment costs and they amount to £481.7 in 2010 prices discounted to 2010. This value is converted to this cost base from the 2013 Q1 price of £1212m for buses contained in Table 10.3 in Document Ref. 5.12..

7.4 The Applicant does not agree that it would be logical to treat the private investment and operator bus costs as a public sector investment: the NATS strategy assumes public sector investment in supporting infrastructure but not in funding buses or their operation and this is not in accordance with WebTAG. TUBA guidance FAQs states: The definition

of PVC in TUBA (consistent with TAG, i.e. official DfT guidance) includes only public sector costs and revenues. Costs to the private sector, such as developer contributions, appear in the PVB calculation and will reduce the PVB. Therefore it would be wrong to allocate the bus purchase and operating costs to the public sector and for this to be included in the PVC if they are funded by the private sector. This method has been the same since Mott MacDonald first developed TUBA in 2000 for the Department for Transport and the main change to the presentation of costs and benefits was to move the indirect tax impacts from the PVC to the PVB. The Applicant does not agree that anything in the economic appraisal for the NDR scheme or alternatives provides a justification for changing the presentation of costs and benefits and does not expect the present method to be 'short lived' in this respect.

7.5 If one accepts that the method is correct (that only public sector costs should be included in the PVC) then the only reason that the appraisal could legitimately be changed is if there was a possibility of the public sector funding the investment in new buses and funding their operating costs. The following paragraphs address this issue.

7.6 Within the current context of the vast majority of local bus services operating in Norwich being operated commercially, it would not be legally or practicably possible for the public sector to directly fund the operating costs of additional local bus services overlapping significantly with existing commercially operated services or of modifications to existing commercially operated services on the scale required to deliver the Public Transport Option without a Quality Contracts Scheme (QCS) having been made under the provisions of the Transport Act 2000 ("the 2000 Act"), as amended by the Local Transport Act 2008 ("the 2008 Act").

7.7 A QCS is a scheme whereby the local transport authority (LTA) determines what local bus services should be provided in the area to

which the scheme relates, and local bus services may be provided in that area only in accordance with quality contracts entered into with the authority (subject to three specific exceptions).

7.8 The current legislation sets out a series of criteria which the LTA must be satisfied are met by any scheme. These criteria, referred to as the "public interest" criteria in statutory guidance, are intended to ensure that a QCS can be made only where there is a demonstrable, evidence-based case for doing so and where any adverse impacts on operators have been duly taken into consideration by the LTA.

7.9 A QCS is thus intended for use in circumstances where the deregulated bus market can be demonstrated to be failing to deliver the public sector's policy objectives. This is not the case in Norwich. There is a long history of partnership working between NCC and bus service operators serving the Norwich area dating back to the award-winning Norwich Western Corridor Quality Bus Partnership (1996-1998) and many subsequent initiatives where NCC and bus operators have worked together to coordinate public investment in bus infrastructure with operator investment in new vehicles and service enhancements. These include Norwich City Centre Public Transport Major Scheme 2003-2007 and the Joint Investment Plan with First Group 2008-2011. These partnership initiatives has been consistently successful in delivering increased bus passenger growth, improved bus service performance and increasing standards of customer satisfaction. The latest initiative is the Better Bus Area project (report contained in NCC/EX/52) which includes analysis of increased customer satisfaction).

7.10 The Norfolk County Council approach to delivering public transport services is based on public sector funding being used primarily to deliver the infrastructure required to support private sector investment by bus operators in the provision of the highest possible standards of bus service. The Cambridgeshire Guided Busway, Luton Dunstable Busway

(Translink), Crawley Fastway, Swansea Metro and South East Hampshire “Eclipse” BRT scheme all follow this model. In these examples the public sector has funded infrastructure but the private sector funds the service vehicles and operating costs.

7.11 In Norwich this approach has led to increased bus passenger growth, improved bus service performance and increasing standards of customer satisfaction. Senior council staff meet with managers in the bus industry at regular intervals (usually six monthly) to discuss long-term ambitions, service developments and the issues facing public transport generally and areas of joint working.

7.12 This approach has been key in the development of strategic work such as NATS transport options, including physical bus priority works, traffic signal priority and investment in bus interchanges and stops, as well as other more operational work such as Passenger Charters, Joint Investment Plans, Route Corridor Development, inter-ticketing and publicity/information agreements.

7.13 The vast majority of bus services operating in Norwich are operated commercially with low levels of public sector subsidy. Where subsidy is provided, this is largely associated with support of evening and weekend services and not core, daytime services.

7.14 Lastly in addressing this point, it is useful to explain the purpose of the tests carried out and the phasing. It was explained in NCC/EX/72 in paragraph 2.1.1that the PT Option test (in NCC/EX/71) assumed all services operated from 2017 so that the maximum impact could be assessed regardless of the economic viability. The PT Option also duplicated some P&R services and assumed high frequency services from the outset. The test carried out for NDR +NATS PT requested by the Examining Authority has assumed a phased implementation of services reflecting the build out of development with JCS. A comparison of the assumed implementation in both cases is contained in the

response to Q.5. The costs for NDR + NATS PT are contained in the response NCC/EX/72: the undiscounted costs are set out in Table 4 and the discounted costs are provided in the TEE table in Table 8. The profile of costs during the appraisal period are provided in Appendix A.

7.15 **Point c:** The figures in Table 10 are correct and are derived from the comparison table presented in NCC/EX/36.

7.16 **Point d:** The Applicant does not agree that the city centre measures are poorly designed, nor that they have been poorly appraised. The purpose of these measures is to make it easier for walking, cycling and public transport in the city centre and to help improve the public realm and the economic vitality of the business and retail centre. The measures were subsequently embodied in the NATS Implementation Plan. Overall the NATS city centre measures reduce extraneous through traffic but enable access to all destinations including car parks. They will also help to improve air quality in the Air Quality Management Area. In meeting these aims they are considered to be well designed in concept though they are still subject to development and optimisation. The modelling showed that the restrictions imposed on car traffic would increase journey times overall for traffic reaching their destinations in the city centre as well as in preventing traffic cutting through the city centre. This inevitably results in significant quantified disbenefits to traffic. The economic appraisal has quantified these disbenefits but a full detailed appraisal of the CC measures has not been undertaken that would capture the full range of benefits, those both quantifiable and qualitative. It is also expected that further development and optimisation would reduce the negative traffic impacts.

7.17 **Point e:** The major impact of the city centre measures is in restricting access for car traffic in the city centre: whilst access is maintained to all the car parks, it would not be possible for cars to travel through the city centre. These restrictions have been represented in the SATURN

highway model. The measures would not affect bus access in this way: all bus services could still use the same routes as they do at present. The measures include new bus priority especially on Prince of Wales Road. In the public transport model the bus routes were not altered. The subsequent development and optimisation of the measures might indicate that some beneficial changes to bus routes could be made, but these will be subject to agreement with operators.

Q.8 Regarding the submission from Cllr Boswell on behalf of Norwich Green Party, the ExA specifically requests that the applicant please:

a. Comment upon and clarify the coupling effect between the proposed NDR and public transport measures, referred to in paragraph 12

b. Provide the Transport Economic Efficiency table for the original evaluation made in Document 5.12, referred to in paragraph 24

c. Provide a maximum disaggregation of benefits and costs for the scheme and public transport option alternative, referred to in paragraph 25

d. Confirm or reproduce the overview of models table on page 11

e. Comment upon and clarify the phasing of public transport measures referred to in paragraph 44 and Note 2.

Applicant's response

8.1 **Point a:** The applicant is not aware in connection with the economic appraisal of having advanced a 'coupling effect' between NDR and public transport measures or that somehow the economic appraisal of the whole package is greater than the sum of the parts, which might be inferred from a coupling effect. The monetary benefits of both the highway and public transport measures are assessed using the standard appraisal methods. As explained in NCC/EX/72 the NATS public transport measures are significantly different to those in the PT Option test (in NCC/EX/71) with the latter assuming all services operated from 2017 with some duplication of P&R services so that the maximum impact could be assessed regardless of the economic viability. The costs for the NATS public transport measures are much lower than the PT Option, less than half (£501m for NATS compared with £1212m for the PT Option in 2013 Q1 prices) and these are exceeded by the calculated benefits. Consequently the addition of the NATS public transport to the economic appraisal of NDR results in increased benefits which outweigh

the additional costs resulting in a higher value for BCR. The Norwich Green Party's claim 'there is no evidence for there being such a drastic effect 'of turning a -3.4 stand-alone BCR into a +4 or +6 changes in the DCO BCR'. The Applicant has provided this evidence: there are two main factors, first the NDR + NATS PT of course includes the NDR which produces substantial benefits outweighing the cost of NDR and, second, the cost of the NATS public transport measures are less than half of those assessed for the PT Option whilst achieving a similar magnitude of bus benefits.

8.2 **Point b:** the TEE table is provided in the applicant's response to Q1 in Table 1.

8.3 **Point c:** The TEE table that has been provided in NCC/EX/71 (and elsewhere where TEE tables are provided) disaggregates the benefits and private sector impacts by user type and category of benefit / cost. TUBA provides these results further disaggregated in a series of tables for scheme costs and benefits. These tables are contained in Appendix A for three scenarios: a. DCO Scheme, b. PT Option and c. NDR + NATS PT.

8.4 **Point d:** The key elements included in the DCO scheme, the PT Option and the test of NDR + NATS PT are set out in the table below. However it should be noted that the delivery and implementation of BRT and Core Bus improvements varies between the scenarios. These variations are set out in the table response to Q5.

Table 10: Scheme elements included in model scenarios

Element included in the modelled scenario	DCO Scheme	PT Option	NDR + NATS PT
Postwick Improvement	Y	Y	Y
NDR	Y	N	Y
Developer link roads	Y	Y	Y
Link between Hurricane Way and St Faiths Road (extending the developer link roads to Airport)	N	Y	For PT only
City centre measures	Y	Y	Y
BRT	N	Y*	Y*
Core bus improvements	N	Y*	Y*

*Assumptions for BRT and Core Bus improvements are different in the PT Option and NDR + NATS PT. See the response to Q.5

8.5 **Point e:** It was explained in NCC/EX/72 that there is uncertainty regarding the implementation of NATS measures: 'It should be noted that the public transport measures that are assumed to be implemented in this appraisal have not been subject to the development and optimisation work undertaken for the DCO scheme so there is a higher degree of uncertainty associated with their results.' However further details of BRT and progress were also given in NCC/EX/67 from page 81-89.

8.6 It is not correct to state in the NGP response that 'a third of one BRT route has been developed so far'. Instead of focussing on physical bus priority works as an indication of whether a corridor is BRT or not, it is important to note that there are other important factors that complement

BRT and will encourage modal shift from car to bus. These include improvements to bus shelters, high quality and up-to-date travel information, high quality vehicles and improved ticketing arrangements. These are more flexible in terms of their delivery and BRT corridors can benefit from these schemes in advance of bus priority measures going in. There are a number of measures consistent with BRT that have already been delivered across all BRT corridors, which include Strategic Traffic Light Priority, provision of a Voluntary Quality Partnership, smart ticketing on Park and Ride and bus shelter upgrades. The recent bus priority works in the city centre, as well as step-change improvements in printed and electronic travel information also benefit all BRT and core bus route corridors as a significant number of journeys along these corridors start/end in the city centre. The Applicant has already stated that deliverability of works along BRT corridors will be based on a number of factors, including the availability of funding, delivery of housing and jobs and progress on delivering the NDR (see Section 2.5 of Appendix D of Document Ref. 4.2)). The Applicant has a clear idea of what works are needed along BRT designated corridors for them to become firmly established as BRT corridors and investment will continue up to and beyond 2017.

8.7 With regard to the JCS LIPP4 Feb 2012 and the GNIP July 2014, the latter GNIP supersedes the LIPP and is contained within Document Ref NCC/EX/74 Appendix J. This effectively follows on from and is guided by NATS and sets out the infrastructure required to deliver the growth. This includes all of the BRT corridors. The phasing of these was considered in the latest appraisals for NDR+NATS PT and discussed further below. The GNIP will be kept under review and will be updated with regard to phasing as appropriate.

8.8 The four BRT services via P&R sites could be implemented early in the appraisal period and the assumption that they operate from the first forecast year (2017) is considered to be reasonable. If they were to be

implemented from a later date then both the stream of benefits as well as the stream of costs for these services would be reduced resulting in lower discounted results in the appraisal. This might have a small effect on the results but would not affect the overall very high value for money category that the appraisal produces for the package, and of course if the NATS public transport measures were excluded entirely then the NDR remains as very high value for money.

Q.9 Please provide material requested at the issue specific hearings:

a. Original and destination data for do minimum and do something options

b. Sensitivity tests for the NATS implementation plan

c. Information about expected revenue support for Park & Ride and other Public Transport measures both in absolute terms and as a proportion

Applicant's response

9.1 **Point a:** For this response the origin destination data has been presented in a sector form and model network plots to show trip movements to and from the employment sites mentioned at the Issue Specific Hearings. These are contained in Appendix B. The analysis has been done for the AM peak and Inter-peak time periods, for 2017 and 2032 and for Do Minimum and Do Something scenarios

9.2 **Point b:** Two sensitivity tests were carried out for NDR + NATS PT strategy. These are a) with low growth, and b) with Postwick in the Do Minimum (DM). The Postwick in the DM sensitivity test was selected instead of high growth because this test produced a higher BCR compared to high growth for the DCO scheme (See tables 6.2 and 7.5 of Document Ref 5.11 for more details) and thus the two sensitivity tests should capture the full range of possible outcomes (of those tested).

9.3 Table 11 below compares summary costs in 2013 Q1 prices for the NDR + NATS PT strategy (reported in NCC/EX/72), NDR + NATS PT strategy with Postwick in the DM and the DCO scheme. The investment cost is reduced with Postwick in the DM as the cost of the Postwick improvement is removed and assumed to be a sunk cost (which is arguably more realistic as it is under construction).

Table 11: Summary costs of NDR + NATS PT strategy sensitivity tests

Cost type	Cost (£m) in 2013Q1 prices		
	DCO Scheme	NDR + NATS PT strategy (NCC/EX/72)/ NDR + NATS PT strategy low	NDR + NATS PT strategy Postwick in DM
Investment costs			
Construction	110.2	110.2	88.5
Land	22.0	22.0	21.9
Preparation	7.8	7.8	8.3
Supervision	1.3	1.3	0.9
Total investment Cost	141.3	141.3	119.6
Other costs			
Maintenance	27.8	27.8	24.2
Operation	15.9	15.9	14.5
Cost of PT (buses/operation/maintenance)*	-	500.9	500.9

Notes: Highway investment costs are before adjusting for construction price inflation and optimism bias
*included under private sector in TUBA

9.4 Table 12 below compares monetised costs and benefits adjusted to 2010 prices and discounted to 2010 for the NDR + NATS PT sensitivity tests against the DCO scheme and NDR + NATS PT strategy reported in NCC/EX/72.

Table 12: Analysis of Monetised Costs and Benefits – NDR + NATS PT strategy sensitivity tests

Item	Accidents Included (£000)			
	DCO	NDR + NATS PT strategy (NCC/EX/72)	NDR + NATS PT strategy - low growth	NDR + NATS PT strategy – Postwick in DM
Accidents (not assessed by TUBA)	41,219	36,186	36,186*	36,186*
Greenhouse Gases	-22,756	-27,964	-24,806	-27,192
Economic Efficiency: Consumer Users (Commuting)	51,164	113,632	104,148	122,195
Economic Efficiency: Consumer Users (Other)	380,623	879,290	806,230	918,066
Economic Efficiency: Business Users and Providers	267,797	5,683	-27,083	47,463
Wider Public Finances (Indirect Taxation Revenues)	55,270	109,352	102,382	108,437
Present Value of Benefits (PVB)	773,317	1,116,179	997,057	1,205,155
Broad Transport Budget Present Value of Costs (PVC)	185,542	186,544	182,326	159,524
OVERALL IMPACTS				
Net Present Value (NPV)	587,775	929,635	814,731	1,045,631

Item	Accidents Included (£000)			
	DCO	NDR + NATS PT strategy (NCC/EX/72)	NDR + NATS PT strategy - low growth	NDR + NATS PT strategy – Postwick in DM
Benefit to Cost Ratio (BCR)	4.168	5.983	5.469	7.555

Notes: All monetary values are expressed in 2010 prices discounted to 2010

*Assumed similar to NDR + NATS PT strategy (NCC/EX/72)

9.5 The results show that overall benefits are reduced with low growth and increased with Postwick in DM compared with the NDR + NATS PT strategy reported in NCC/EX/72. The BCRs are 5.47 and 7.56 including accidents for NDR + NATS PT low growth and NDR + NATS PT with Postwick in DM scenarios respectively. Under the DfT's value of money criteria, both these represent very high value for money.

9.6 Wider economic benefits and journey time reliability benefits were not calculated for these scenarios due to the limited timescale.

9.7 Tables 13 and 14 below provide TEE tables for the NDR + NATS PT strategy low growth and NDR + NATS PT strategy with Postwick in DM respectively.

Table 13: Transport Economic Efficiency (TEE) – NDR + NATS PT strategy low growth

Item	Benefit (£000s)				
	All Modes	Road		Bus	
Consumer - Commuting user benefits					
Travel Time	122,308	53,196		69,112	
Vehicle operating costs	-18,013	-18,013		0	
User charges	-148	1,818		-1,966	
During Construction & Maintenance	0	0		0	
NET CONSUMER - COMMUTING BENEFITS	104,148	37,001		67,146	
Consumer - Other user benefits					
Travel Time	767,902	270,307		497,595	
Vehicle operating costs	-119,175	-119,175		0	
User charges	157,503	175,560		-18,057	
During Construction & Maintenance	0	0		0	
NET CONSUMER - OTHER BENEFITS	806,230	326,692		479,538	
Business Impacts	All Modes	Road Personal	Road Freight	Bus Personal	Bus Freight
Travel Time	548,562	202,683	161,824	184,054	0
Vehicle operating costs	-23,381	-4,394	-18,987	0	0
User charges	1,289	1,750	0	-461	0
During Construction & Maintenance	0	0	0	0	0
Sub Total	526,470	200,040	142,838	183,593	0
Private Sector Provider Impacts					
Revenue	-365,989	-102,473		-263,515	
Operating costs	-187,564	0		-187,564	
Investment costs	0	0		0	
Grant/subsidy	0	0		0	
Sub Total	-553,553	-102,473		-451,079	
Other business Impacts					
Developer contributions	0	0		0	
NET BUSINESS IMPACT	-27,083				
TOTAL					
Present Value of Transport Economic Efficiency Benefits (TEE)	883,295				

Notes: All monetary values are expressed in 2010 prices discounted to 2010

Table 14: Transport Economic Efficiency (TEE) – NATS strategy Postwick in DM

Item	Benefit (£000s)				
	All Modes	Road		Bus	
Consumer - Commuting user benefits					
Travel Time	136,656	63,333		73,322	
Vehicle operating costs	-17,140	-17,140		0	
User charges	2,679	4,586		-1,907	
During Construction & Maintenance	0	0		0	
NET CONSUMER - COMMUTING BENEFITS	122,195	50,780		71,415	
Consumer - Other user benefits					
Travel Time	870,819	337,306		533,513	
Vehicle operating costs	-132,814	-132,814		0	
User charges	180,061	198,712		-18,652	
During Construction & Maintenance	0	0		0	
NET CONSUMER - OTHER BENEFITS	918,066	403,204		514,861	
Business Impacts	All Modes	Road Personal	Road Freight	Bus Personal	Bus Freight
Travel Time	629,797	245,556	191,811	192,430	0
Vehicle operating costs	-19,371	-3,064	-16,307	0	0
User charges	2,111	2,565	0	-453	0
During Construction & Maintenance	0	0	0	0	0
Sub Total	612,538	245,057	175,504	191,976	0
Private Sector Provider Impacts					
Revenue	-377,511	-109,410		-268,101	
Operating costs	-187,564	0		-187,564	
Investment costs	0	0		0	
Grant/subsidy	0	0		0	
Sub Total	-565,075	-109,410		-455,665	
Other business Impacts					
Developer contributions	0	0		0	
NET BUSINESS IMPACT	47,463				
TOTAL					
Present Value of Transport Economic Efficiency Benefits (TEE)	1,087,724				

Notes: All monetary values are expressed in 2010 prices discounted to 2010

9.8 **Point c:** Revenue support information for Park and Ride(P&R) and other bus services is currently only available up to 2014/15. For P&R the figures for 2013/14 and 2014/15 are as follows:

2013/14

Actual subsidy required: £658,651 for bus costs; £7,787 for site costs; TOTAL: £666,438. These are absolute figures.

Total expenditure for Park and Ride: £3,032,375. Subsidy = 22%

2014/15

Forecast subsidy required: £617,232 for bus costs; £4,025 for site costs; TOTAL: £621,257. These are absolute figures.

Total forecast expenditure for Park and Ride: £3,053,522. Subsidy = 20%

Total subsidy support from Norfolk County Council across Norfolk for bus services other than Park and Ride is £3.8m for 2014/15. Subsidy supporting Norwich services amounts to £231k for 2014/15. There is an additional £552k spent subsidising services that run into Norwich from across Norfolk. Support for Norwich services is limited as the majority of bus services operate on a commercial basis.

Appendix A

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DCO

DS Scheme Cost (Undiscounted £000s)

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant /Sub.	Dev. _Cont
Road	2013	4780	46	1674	1168	0	0	0	0
Road	2014	3658	509	19160	1285	0	0	0	0
Road	2015	964	421	24418	6299	0	0	0	0
Road	2016	187	283	56918	3578	0	0	0	0
Road	2017	32	263	25203	5941	571	284	0	0
Road	2018	0	66	3257	3404	571	284	0	0
Road	2019	0	0	157	3694	571	284	0	0
Road	2020	0	0	0	1611	571	284	0	0
Road	2021	0	0	0	185	571	284	0	0
Road	2022	0	0	0	0	571	284	0	0
Road	2023	0	0	0	0	571	284	0	0
Road	2024	0	0	0	0	571	284	0	0
Road	2025	0	0	0	0	571	284	0	0
Road	2026	0	0	0	0	571	284	0	0
Road	2027	0	0	0	0	571	284	0	0
Road	2028	0	0	0	0	571	284	0	0
Road	2029	0	0	0	0	571	284	0	0
Road	2030	0	0	0	0	571	284	0	0
Road	2031	0	0	0	0	571	284	0	0
Road	2032	0	0	0	0	571	284	0	0
Road	2033	0	0	0	0	571	284	0	0
Road	2034	0	0	0	0	571	284	0	0
Road	2035	0	0	0	0	571	284	0	0
Road	2036	0	0	0	0	571	284	0	0
Road	2037	0	0	0	0	575	286	0	0
Road	2038	0	0	0	0	575	286	0	0
Road	2039	0	0	0	0	575	286	0	0
Road	2040	0	0	0	0	575	286	0	0
Road	2041	0	0	0	0	575	286	0	0

Road	2042	0	0	0	0	575	286	0	0
Road	2043	0	0	0	0	575	286	0	0
Road	2044	0	0	0	0	575	286	0	0
Road	2045	0	0	0	0	575	286	0	0
Road	2046	0	0	0	0	575	286	0	0
Road	2047	0	0	0	0	575	286	0	0
Road	2048	0	0	0	0	575	286	0	0
Road	2049	0	0	0	0	575	286	0	0
Road	2050	0	0	0	0	575	286	0	0
Road	2051	0	0	0	0	575	286	0	0
Road	2052	0	0	0	0	575	286	0	0
Road	2053	0	0	0	0	575	286	0	0
Road	2054	0	0	0	0	575	286	0	0
Road	2055	0	0	0	0	575	286	0	0
Road	2056	0	0	0	0	575	286	0	0
Road	2057	0	0	0	0	575	286	0	0
Road	2058	0	0	0	0	575	286	0	0
Road	2059	0	0	0	0	575	286	0	0
Road	2060	0	0	0	0	575	286	0	0
Road	2061	0	0	0	0	575	286	0	0
Road	2062	0	0	0	0	575	286	0	0
Road	2063	0	0	0	0	575	286	0	0
Road	2064	0	0	0	0	575	286	0	0
Road	2065	0	0	0	0	575	286	0	0
Road	2066	0	0	0	0	575	286	0	0
Road	2067	0	0	0	0	575	286	0	0
Road	2068	0	0	0	0	575	286	0	0
Road	2069	0	0	0	0	575	286	0	0
Road	2070	0	0	0	0	575	286	0	0
Road	2071	0	0	0	0	575	286	0	0
Road	2072	0	0	0	0	575	286	0	0
Road	2073	0	0	0	0	575	286	0	0
Road	2074	0	0	0	0	575	286	0	0
Road	2075	0	0	0	0	575	286	0	0
Road	2076	0	0	0	0	575	286	0	0

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

All entries are present values discounted to 2010, in 2010 prices.

Submode	Year	User	User_Charges			Vehicle_Operating_Cost		Operator_Revenue			Indirect
		Time	PT_fares_(pri	LA_off-street	Private_parki	Fuel	Non_fuel	PT_fares_(pri	LA_off-street	Private_parki	Taxes
Car	2017	13004	0	1142	4567	-1004	-2274	0	-702	-2807	1497
Car	2032	11783	0	953	3811	-783	-2359	0	-709	-2836	1052
LGV Personal	2017	222	0	34	138	-77	-122	0	-20	-82	74
LGV Personal	2032	217	0	28	113	-66	-128	0	-20	-78	63
LGV Freight	2017	2538	0	0	0	-471	-173	0	0	0	231
LGV Freight	2032	3072	0	0	0	-344	-166	0	0	0	162
OGV1	2017	283	0	0	0	-36	34	0	0	0	18
OGV1	2032	366	0	0	0	-29	36	0	0	0	13
OGV2	2017	246	0	0	0	17	56	0	0	0	-8
OGV2	2032	318	0	0	0	31	61	0	0	0	-14
Bus	2017	0	0	0	0	0	0	-135	0	0	20
Bus	2032	0	0	0	0	0	0	-113	0	0	15
All	2017	16292	0	1176	4705	-1572	-2479	-135	-722	-2889	1831
All	2032	15755	0	981	3924	-1191	-2556	-113	-729	-2915	1292
Car	Total	576689	0	39055	156220	-32589	-92910	0	-28052	-112210	45061
LGV Personal	Total	10295	0	1162	4647	-2720	-5025	0	-782	-3127	2602
LGV Freight	Total	149284	0	0	0	-14610	-6638	0	0	0	6933
OGV1	Total	17626	0	0	0	-1209	1423	0	0	0	573
OGV2	Total	15329	0	0	0	1145	2369	0	0	0	-541
Bus	Total	0	0	0	0	0	0	-4619	0	0	642
All	Total	769223	0	40217	160867	-49984	-100782	-4619	-28834	-115337	55271

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

All entries are present values discounted to 2010, in 2010 prices.

Submode	Year	User	User_Charges			Vehicle_Operating_Cost		Operator_Revenue			Indirect
		Time	PT_fares_(pri	LA_off-street	Private_parki	Fuel	Non_fuel	PT_fares_(pri	LA_off-street	Private_parki	Taxes
All	2017	16292	0	1176	4705	-1572	-2479	0	-722	-2889	1811
All	2032	15755	0	981	3924	-1191	-2556	0	-729	-2915	1276
Passenger	2017	0	0	0	0	0	0	-135	0	0	20
Passenger	2032	0	0	0	0	0	0	-113	0	0	15
All	Total	769223	0	40217	160867	-49984	-100782	0	-28834	-115337	54629
Passenger	Total	0	0	0	0	0	0	-4619	0	0	642

Purpose

User benefits and changes in revenues by person type, modelled years and total. £000s.

Submode	Year	User	User_Charges			Vehicle_Operating_Cost		Operator_Revenue			Indirect
		Time	PT_fares_(pri	LA_off-street	Private_parki	Fuel	Non_fuel	PT_fares_(pri	LA_off-street	Private_parki	Taxes
HB-Business	2017	2038	0	16	64	-81	-28	-14	-22	-87	79
HB-Business	2032	1894	0	14	56	-43	-22	-12	-26	-104	37
HB-Commuting	2017	1431	0	11	45	-67	-389	12	-12	-47	198
HB-Commuting	2032	1284	0	15	62	-26	-293	-22	-21	-84	109
HB-Other	2017	4949	0	919	3675	-684	-1583	-130	-435	-1742	975
HB-Other	2032	4789	0	743	2971	-596	-1700	-70	-406	-1623	731
NHB-Business	2017	6150	0	-11	-44	-548	-57	3	0	-1	334
NHB-Business	2032	6259	0	1	5	-380	-69	-4	-26	-102	215
NHB-Other	2017	1725	0	241	965	-192	-423	-6	-253	-1012	244
NHB-Other	2032	1529	0	207	830	-148	-473	-5	-250	-1001	199

HB-Business	Total	95442	0	570	2281	-1941	-896	-499	-998	-3994	1755
HB-Commuting	Total	61783	0	582	2330	-1262	-12270	-623	-773	-3090	4921
HB-Other	Total	226766	0	30646	122584	-24327	-66582	-3193	-16288	-65150	30910
NHB-Business	Total	311409	0	-36	-145	-16291	-2640	-100	-837	-3349	9404
NHB-Other	Total	73822	0	8455	33818	-6163	-18394	-203	-9939	-39754	8281

Period

User benefits and changes in revenues by person type, modelled years and total. £000s.

All entries are present values discounted to 2010, in 2010 prices.

Submode	Year	User	User_Charges			Vehicle_Operating_Cost		Operator_Revenue			Indirect
		Time	PT_fares_(pri	LA_off-street	Private_parki	Fuel	Non_fuel	PT_fares_(pri	LA_off-street	Private_parki	Taxes
AM peak	2017	1877	0	-4	-17	-11	-154	-11	18	70	93
AM peak	2032	1659	0	0	2	16	-113	-26	4	17	47
PM peak	2017	2745	0	107	428	-49	-298	-21	-95	-381	182
PM peak	2032	2273	0	100	400	-9	-257	-13	-103	-412	114
Inter-peak	2017	6768	0	388	1553	-656	-855	-53	-233	-933	720
Inter-peak	2032	6588	0	342	1367	-538	-959	-38	-280	-1121	529
Off-peak	2017	1436	0	152	609	-271	-284	-11	-94	-376	230
Off-peak	2032	1575	0	116	466	-195	-279	-11	-74	-295	156
Weekend	2017	3467	0	533	2132	-584	-887	-39	-318	-1270	606
Weekend	2032	3661	0	422	1689	-465	-948	-25	-276	-1104	445
AM peak	Total	82119	0	-16	-64	474	-4759	-925	263	1053	2158
PM peak	Total	113816	0	4014	16057	-609	-10484	-569	-4032	-16128	5026
Inter-peak	Total	323692	0	13866	55464	-22225	-37282	-1605	-10783	-43130	22455
Off-peak	Total	75672	0	4860	19442	-8291	-11108	-428	-3059	-12234	6726
Weekend	Total	173926	0	17492	69969	-19333	-37149	-1092	-11224	-44898	18906

Economy:Economic Efficiency of the Transport System(TEE)

Consumer - Commuting user benefits	**All Modes**	**Road**	**Bus**
Travel Time	61783	61783	0
Vehicle operating costs	-13532	-13532	0
User charges	2912	2912	0
During Construction & Maintenance	0	0	0
NET CONSUMER - COMMUTING BENEFITS	51164	51164	0

Consumer - Other user benefits	**All Modes**	**Road**	**Bus**
Travel Time	300588	300588	0
Vehicle operating costs	-115467	-115467	0
User charges	195502	195502	0
During Construction & Maintenance	0	0	0
NET CONSUMER - OTHER BENEFITS	380623	380623	0

Business	**All Modes**	**Road Personal**	**Road Freight**	**Bus Personal**	**Bus Freight**
Travel Time	406852	224613	182239	0	0
Vehicle operating costs	-21768	-4247	-17521	0	0
User charges	2669	2669	0	0	0
During Construction & Maintenance	0	0	0	0	0
Subtotal	387753	223035	164718	0	0

Private Sector Provider Impacts	**All Modes**	**Road**	**Bus**
Revenue	-119956	-115338	-4619
Operating costs	0	0	0
Investment costs	0	0	0
Grant/subsidy	0	0	0
Subtotal	-119956	-115338	-4619

Other business Impacts	All Modes	Road	Bus
Developer contributions	0	0	0
NET BUSINESS IMPACT	267797		

TOTAL	All Modes				

Present Value of Transport Economic Efficiency Benefits (TEE)	699584				

Note: Benefits appear as positive numbers, while costs appear as negative numbers.
Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road	Bus
Revenue	28834	28834	0
Operating Costs	17806	17806	0
Investment Costs	62333	62333	0
Developer Contributions	0	0	0
Grant/Subsidy Payments	0	0	0
NET IMPACT	108974	108974	0
Central Government Funding: Transport	ALL MODES	Road	Bus
Revenue	0	0	0
Operating Costs	0	0	0
Investment Costs	76568	76568	0
Developer Contributions	0	0	0
Grant/Subsidy Payments	0	0	0
NET IMPACT	76568	76568	0
Central Government Funding: Non-Transport	ALL MODES	Road	Bus
Indirect Tax Revenues	-55270	-54629	-642
TOTALS	ALL MODES	Road	Bus
Broad Transport Budget	185542	185542	0
Wider Public Finances	-55270	-54629	-642

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.
Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases	-22756
Economic Efficiency: Consumer Users (Commuting)	51164
Economic Efficiency: Consumer Users (Other)	380623
Economic Efficiency: Business Users and Providers	267797
Wider Public Finances (Indirect Taxation Revenues)	55270
Present Value of Benefits (PVB)	732098
Broad Transport Budget	185542
Present Value of Costs (PVC)	185542
OVERALL IMPACTS	
Net Present Value (NPV)	546556
Benefit to Cost Ratio (BCR)	3.946

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

PT OPTION

DS Scheme Cost (Undiscounted £000s)

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant /Sub.	Dev. _Cont
Road	2013	2339	14	540	940	0	0	0	0
Road	2014	1790	159	6616	94	0	0	0	0
Road	2015	472	131	8371	460	0	0	0	0
Road	2016	91	88	19443	261	0	0	0	0
Road	2017	16	82	52659	433	113	25	0	0
Road	2018	0	21	20523	248	113	25	0	0
Road	2019	0	0	19578	269	113	25	0	0
Road	2020	0	0	19443	117	113	25	0	0
Road	2021	0	0	19443	14	113	25	0	0
Road	2022	0	0	19443	0	113	25	0	0
Road	2023	0	0	19443	0	113	25	0	0
Road	2024	0	0	19443	0	113	25	0	0
Road	2025	0	0	31595	0	113	25	0	0
Road	2026	0	0	19443	0	113	25	0	0
Road	2027	0	0	19443	0	113	25	0	0
Road	2028	0	0	19443	0	113	25	0	0
Road	2029	0	0	19443	0	113	25	0	0
Road	2030	0	0	19443	0	113	25	0	0
Road	2031	0	0	19443	0	113	25	0	0
Road	2032	0	0	19443	0	113	25	0	0
Road	2033	0	0	41317	0	113	25	0	0
Road	2034	0	0	19443	0	113	25	0	0
Road	2035	0	0	19443	0	113	25	0	0
Road	2036	0	0	19443	0	113	25	0	0
Road	2037	0	0	19443	0	114	25	0	0
Road	2038	0	0	19443	0	114	25	0	0

Road	2039	0	0	19443	0	114	25	0	0
Road	2040	0	0	19443	0	114	25	0	0
Road	2041	0	0	31595	0	114	25	0	0
Road	2042	0	0	19443	0	114	25	0	0
Road	2043	0	0	19443	0	114	25	0	0
Road	2044	0	0	19443	0	114	25	0	0
Road	2045	0	0	19443	0	114	25	0	0
Road	2046	0	0	19443	0	114	25	0	0
Road	2047	0	0	19443	0	114	25	0	0
Road	2048	0	0	19443	0	114	25	0	0
Road	2049	0	0	41317	0	114	25	0	0
Road	2050	0	0	19443	0	114	25	0	0
Road	2051	0	0	19443	0	114	25	0	0
Road	2052	0	0	19443	0	114	25	0	0
Road	2053	0	0	19443	0	114	25	0	0
Road	2054	0	0	19443	0	114	25	0	0
Road	2055	0	0	19443	0	114	25	0	0
Road	2056	0	0	19443	0	114	25	0	0
Road	2057	0	0	31595	0	114	25	0	0
Road	2058	0	0	19443	0	114	25	0	0
Road	2059	0	0	19443	0	114	25	0	0
Road	2060	0	0	19443	0	114	25	0	0
Road	2061	0	0	19443	0	114	25	0	0
Road	2062	0	0	19443	0	114	25	0	0
Road	2063	0	0	19443	0	114	25	0	0
Road	2064	0	0	19443	0	114	25	0	0
Road	2065	0	0	41317	0	114	25	0	0
Road	2066	0	0	19443	0	114	25	0	0
Road	2067	0	0	19443	0	114	25	0	0
Road	2068	0	0	19443	0	114	25	0	0
Road	2069	0	0	19443	0	114	25	0	0
Road	2070	0	0	19443	0	114	25	0	0
Road	2071	0	0	19443	0	114	25	0	0
Road	2072	0	0	19443	0	114	25	0	0
Road	2073	0	0	31595	0	114	25	0	0
Road	2074	0	0	19443	0	114	25	0	0
Road	2075	0	0	19443	0	114	25	0	0

Road	2076	0	0	19443	0	114	25	0	0

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

All entries are present values discounted to 2010, in 2010 prices.

Submode	Year	User	User_Charges			Vehicle_Operating_Cost		Operator_Revenue			Indirect
		Time	PT_fares_(pri	LA_off-street	Private_parki	Fuel	Non_fuel	PT_fares_(pri	LA_off-street	Private_parki	Taxes
Car	2017	-804	0	1032	4129	-212	-249	0	-543	-2172	168
Car	2032	-5025	0	773	3090	-514	-507	0	-591	-2364	209
LGV Personal	2017	-1	0	31	125	-5	-9	0	-16	-65	4
LGV Personal	2032	-77	0	23	92	-19	-17	0	-16	-64	7
LGV Freight	2017	-195	0	0	0	8	-3	0	0	0	-4
LGV Freight	2032	-976	0	0	0	-80	-86	0	0	0	37
OGV1	2017	-17	0	0	0	-8	-6	0	0	0	4
OGV1	2032	-66	0	0	0	-39	-20	0	0	0	18
OGV2	2017	-15	0	0	0	-15	-10	0	0	0	7
OGV2	2032	-58	0	0	0	-61	-33	0	0	0	29
Bus	2017	12941	-115	0	0	0	0	-9009	0	0	1357
Bus	2032	18440	-477	0	0	0	0	-4382	0	0	697
All	2017	11910	-115	1064	4254	-231	-276	-9009	-559	-2237	1536
All	2032	12238	-477	796	3182	-713	-664	-4382	-607	-2428	997
Car	Total	-212442	0	32400	129600	-18726	-18324	0	-23097	-92388	8196
LGV Personal	Total	-3076	0	968	3871	-672	-608	0	-632	-2526	253
LGV Freight	Total	-42921	0	0	0	-2620	-2852	0	0	0	1235
OGV1	Total	-2949	0	0	0	-1341	-692	0	0	0	633
OGV2	Total	-2565	0	0	0	-2134	-1165	0	0	0	1007
Bus	Total	847603	-16420	0	0	0	0	-205443	0	0	32155
All	Total	583649	-16420	33368	133471	-25493	-23641	-205443	-23729	-94915	43479

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

All entries are present values discounted to 2010, in 2010 prices.

Submode	Year	User	User_Charges			Vehicle_Operating_Cost		Operator_Revenue			Indirect
		Time	PT_fares_(pri	LA_off-street	Private_parki	Fuel	Non_fuel	PT_fares_(pri	LA_off-street	Private_parki	Taxes
All	2017	-1032	0	1064	4254	-231	-276	0	-559	-2237	179
All	2032	-6202	0	796	3182	-713	-664	0	-607	-2428	300
Passenger	2017	12941	-115	0	0	0	0	-9009	0	0	1357
Passenger	2032	18440	-477	0	0	0	0	-4382	0	0	697
All	Total	-263954	0	33368	133471	-25493	-23641	0	-23729	-94915	11324
Passenger	Total	847603	-16420	0	0	0	0	-205443	0	0	32155

Purpose

User benefits and changes in revenues by person type, modelled years and total. £000s.

All entries are present values discounted to 2010, in 2010 prices.

Submode	Year	User	User_Charges			Vehicle_Operating_Cost		Operator_Revenue			Indirect
		Time	PT_fares_(pri	LA_off-street	Private_parki	Fuel	Non_fuel	PT_fares_(pri	LA_off-street	Private_parki	Taxes
HB-Business	2017	1427	23	16	63	-17	-25	-427	-16	-66	8
HB-Business	2032	3652	-8	13	53	-22	-45	-188	-23	-90	2
HB-Commuting	2017	880	3	-4	-17	-51	-147	-473	-4	-17	184
HB-Commuting	2032	792	-30	-3	-12	-71	-249	-186	-35	-139	154
HB-Other	2017	9132	-127	856	3425	-101	-89	-7841	-338	-1351	1330
HB-Other	2032	8536	-382	627	2509	-300	-109	-4268	-318	-1272	739
NHB-Business	2017	-238	0	-10	-40	-31	-40	-83	9	35	9
NHB-Business	2032	-1129	-7	2	9	-213	-209	171	-23	-90	94
NHB-Other	2017	708	-14	206	824	-32	24	-185	-210	-838	5

NHB-Other	2032	387	-50	156	623	-107	-52	89	-209	-837	8
HB-Business	Total	165744	-99	544	2177	-862	-1656	-9088	-853	-3411	126
HB-Commuting	Total	38170	-953	-125	-501	-2710	-9153	-9354	-1165	-4658	6407
HB-Other	Total	408816	-13392	26428	105712	-10765	-4172	-193695	-12740	-50961	33366
NHB-Business	Total	-49734	-242	2	10	-7349	-7134	5034	-677	-2709	3222
NHB-Other	Total	20653	-1733	6518	26073	-3807	-1526	1660	-8294	-33174	358

Period

User benefits and changes in revenues by person type, modelled years and total. £000s.

All entries are present values discounted to 2010, in 2010 prices.

Submode	Year	User	User_Charges			Vehicle_Operating_Cost		Operator_Revenue			Indirect
		Time	PT_fares_(pri	LA_off-street	Private_parki	Fuel	Non_fuel	PT_fares_(pri	LA_off-street	Private_parki	Taxes
AM peak	2017	731	-12	-18	-73	-44	-61	-433	30	119	106
AM peak	2032	2319	-30	-17	-70	-48	-72	-191	15	59	59
PM peak	2017	1217	-6	81	322	-99	-117	-911	-69	-277	210
PM peak	2032	991	-46	61	244	-118	-146	-368	-80	-321	123
Inter-peak	2017	4699	-36	365	1460	-62	-56	-3627	-189	-757	568
Inter-peak	2032	3501	-185	282	1129	-368	-284	-1733	-251	-1002	415
Off-peak	2017	1598	-16	141	565	-3	-22	-1206	-75	-299	198
Off-peak	2032	1935	-63	104	417	-27	-58	-617	-62	-248	121
Weekend	2017	3664	-45	495	1980	-23	-20	-2833	-256	-1022	454
Weekend	2032	3493	-152	365	1462	-151	-104	-1473	-229	-916	280
AM peak	Total	103079	-1057	-695	-2778	-1885	-2766	-9234	686	2745	2682
PM peak	Total	48586	-1558	2551	10202	-4621	-5595	-18306	-3106	-12422	5492
Inter-peak	Total	174509	-6320	11752	47009	-12805	-9677	-81688	-9511	-38042	17639
Off-peak	Total	89950	-2186	4387	17549	-944	-2045	-28497	-2542	-10168	5327
Weekend	Total	167554	-5298	15373	61490	-5238	-3557	-67717	-9257	-37027	12338

Economy:Economic Efficiency of the Transport System(TEE)

Consumer - Commuting user benefits	**All Modes**	**Road**	**Bus**
Travel Time	38170	-20293	58463
Vehicle operating costs	-11863	-11863	0
User charges	-1579	-626	-953
During Construction & Maintenance	0	0	0
NET CONSUMER - COMMUTING BENEFITS	24729	-32782	57510

Consumer - Other user benefits	**All Modes**	**Road**	**Bus**
Travel Time	429468	-93104	522572
Vehicle operating costs	-20270	-20270	0
User charges	149606	164731	-15126
During Construction & Maintenance	0	0	0
NET CONSUMER - OTHER BENEFITS	558804	51357	507446

Business	**All Modes**	**Road Personal**	**Road Freight**	**Bus Personal**	**Bus Freight**
Travel Time	116010	-102121	-48435	266567	0
Vehicle operating costs	-17001	-6197	-10804	0	0
User charges	2392	2733	0	-341	0
During Construction & Maintenance	0	0	0	0	0
Subtotal	101401	-105585	-59240	266225	0

Private Sector Provider Impacts	**All Modes**	**Road**	**Bus**
Revenue	-300357	-94915	-205442
Operating costs	0	0	0
Investment costs	-502032	-20355	-481677
Grant/subsidy	0	0	0
Subtotal	-802389	-115270	-687119

Other business Impacts	All Modes	Road	Bus
Developer contributions	0	0	0
NET BUSINESS IMPACT	-700988		

TOTAL	All Modes

Present Value of Transport Economic Efficiency Benefits (TEE)	-117455	

Note: Benefits appear as positive numbers, while costs appear as negative numbers.
Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road	Bus
Revenue	23729	23729	0
Operating Costs	2882	2882	0
Investment Costs	0	0	0
Developer Contributions	0	0	0
Grant/Subsidy Payments	0	0	0
NET IMPACT	26611	26611	0
Central Government Funding: Transport	ALL MODES	Road	Bus
Revenue	0	0	0
Operating Costs	0	0	0
Investment Costs	0	0	0
Developer Contributions	0	0	0
Grant/Subsidy Payments	0	0	0
NET IMPACT	0	0	0
Central Government Funding: Non-Transport	ALL MODES	Road	Bus
Indirect Tax Revenues	-43478	-11324	-32154
TOTALS	ALL MODES	Road	Bus
Broad Transport Budget	26611	26611	0
Wider Public Finances	-43478	-11324	-32154

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.
Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases	-5431
Economic Efficiency: Consumer Users (Commuting)	24729
Economic Efficiency: Consumer Users (Other)	558804
Economic Efficiency: Business Users and Providers	-700988
Wider Public Finances (Indirect Taxation Revenues)	43478
Present Value of Benefits (PVB)	-79408
Broad Transport Budget	26611
Present Value of Costs (PVC)	26611
OVERALL IMPACTS	
Net Present Value (NPV)	-106019
Benefit to Cost Ratio (BCR)	-2.984

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

DCO + PT NATS

DS Scheme Cost (Undiscounted £000s)

Mode	Year	Prep.	Superv.	Constr.	Land	Maint.	Oper.	Grant /Sub.	Dev. _Cont
Road	2013	4780	46	1674	1168	0	0	0	0
Road	2014	3658	509	19160	1285	0	0	0	0
Road	2015	964	421	24418	6299	0	0	0	0
Road	2016	187	283	56918	3578	0	0	0	0
Road	2017	32	263	25203	5941	855	0	0	0
Road	2018	0	66	3257	3404	855	0	0	0
Road	2019	0	0	157	3694	855	0	0	0
Road	2020	0	0	0	1611	855	0	0	0
Road	2021	0	0	0	185	855	0	0	0
Road	2022	0	0	0	0	855	0	0	0
Road	2023	0	0	0	0	855	0	0	0
Road	2024	0	0	0	0	855	0	0	0
Road	2025	0	0	0	0	855	0	0	0
Road	2026	0	0	0	0	855	0	0	0
Road	2027	0	0	0	0	855	0	0	0
Road	2028	0	0	0	0	855	0	0	0
Road	2029	0	0	0	0	855	0	0	0
Road	2030	0	0	0	0	855	0	0	0
Road	2031	0	0	0	0	855	0	0	0
Road	2032	0	0	0	0	855	0	0	0
Road	2033	0	0	0	0	855	0	0	0
Road	2034	0	0	0	0	855	0	0	0
Road	2035	0	0	0	0	855	0	0	0
Road	2036	0	0	0	0	855	0	0	0
Road	2037	0	0	0	0	860	0	0	0
Road	2038	0	0	0	0	860	0	0	0
Road	2039	0	0	0	0	860	0	0	0
Road	2040	0	0	0	0	860	0	0	0

Road	2041	0	0	0	0	860	0	0	0
Road	2042	0	0	0	0	860	0	0	0
Road	2043	0	0	0	0	860	0	0	0
Road	2044	0	0	0	0	860	0	0	0
Road	2045	0	0	0	0	860	0	0	0
Road	2046	0	0	0	0	860	0	0	0
Road	2047	0	0	0	0	860	0	0	0
Road	2048	0	0	0	0	860	0	0	0
Road	2049	0	0	0	0	860	0	0	0
Road	2050	0	0	0	0	860	0	0	0
Road	2051	0	0	0	0	860	0	0	0
Road	2052	0	0	0	0	860	0	0	0
Road	2053	0	0	0	0	860	0	0	0
Road	2054	0	0	0	0	860	0	0	0
Road	2055	0	0	0	0	860	0	0	0
Road	2056	0	0	0	0	860	0	0	0
Road	2057	0	0	0	0	860	0	0	0
Road	2058	0	0	0	0	860	0	0	0
Road	2059	0	0	0	0	860	0	0	0
Road	2060	0	0	0	0	860	0	0	0
Road	2061	0	0	0	0	860	0	0	0
Road	2062	0	0	0	0	860	0	0	0
Road	2063	0	0	0	0	860	0	0	0
Road	2064	0	0	0	0	860	0	0	0
Road	2065	0	0	0	0	860	0	0	0
Road	2066	0	0	0	0	860	0	0	0
Road	2067	0	0	0	0	860	0	0	0
Road	2068	0	0	0	0	860	0	0	0
Road	2069	0	0	0	0	860	0	0	0
Road	2070	0	0	0	0	860	0	0	0
Road	2071	0	0	0	0	860	0	0	0
Road	2072	0	0	0	0	860	0	0	0
Road	2073	0	0	0	0	860	0	0	0
Road	2074	0	0	0	0	860	0	0	0
Road	2075	0	0	0	0	860	0	0	0
Road	2076	0	0	0	0	860	0	0	0
Bus	2017	0	0	0	0	0	15705	0	0

Bus	2018	0	0	0	0	0	6930	0	0
Bus	2019	0	0	0	0	0	6930	0	0
Bus	2020	0	0	0	0	0	6930	0	0
Bus	2021	0	0	0	0	0	6930	0	0
Bus	2022	0	0	0	0	0	6930	0	0
Bus	2023	0	0	0	0	0	6930	0	0
Bus	2024	0	0	0	0	0	6930	0	0
Bus	2025	0	0	0	0	0	11345	0	0
Bus	2026	0	0	0	0	0	6930	0	0
Bus	2027	0	0	0	0	0	6930	0	0
Bus	2028	0	0	0	0	0	6930	0	0
Bus	2029	0	0	0	0	0	6930	0	0
Bus	2030	0	0	0	0	0	6930	0	0
Bus	2031	0	0	0	0	0	6930	0	0
Bus	2032	0	0	0	0	0	15090	0	0
Bus	2033	0	0	0	0	0	12351	0	0
Bus	2034	0	0	0	0	0	8719	0	0
Bus	2035	0	0	0	0	0	8719	0	0
Bus	2036	0	0	0	0	0	8719	0	0
Bus	2037	0	0	0	0	0	8719	0	0
Bus	2038	0	0	0	0	0	8719	0	0
Bus	2039	0	0	0	0	0	8719	0	0
Bus	2040	0	0	0	0	0	14978	0	0
Bus	2041	0	0	0	0	0	8998	0	0
Bus	2042	0	0	0	0	0	8719	0	0
Bus	2043	0	0	0	0	0	8719	0	0
Bus	2044	0	0	0	0	0	8719	0	0
Bus	2045	0	0	0	0	0	8719	0	0
Bus	2046	0	0	0	0	0	8719	0	0
Bus	2047	0	0	0	0	0	8719	0	0
Bus	2048	0	0	0	0	0	14978	0	0
Bus	2049	0	0	0	0	0	12351	0	0
Bus	2050	0	0	0	0	0	8719	0	0
Bus	2051	0	0	0	0	0	8719	0	0
Bus	2052	0	0	0	0	0	8719	0	0
Bus	2053	0	0	0	0	0	8719	0	0
Bus	2054	0	0	0	0	0	8719	0	0

Bus	2055	0	0	0	0	0	8719	0	0
Bus	2056	0	0	0	0	0	14978	0	0
Bus	2057	0	0	0	0	0	8998	0	0
Bus	2058	0	0	0	0	0	8719	0	0
Bus	2059	0	0	0	0	0	8719	0	0
Bus	2060	0	0	0	0	0	8719	0	0
Bus	2061	0	0	0	0	0	8719	0	0
Bus	2062	0	0	0	0	0	8719	0	0
Bus	2063	0	0	0	0	0	8719	0	0
Bus	2064	0	0	0	0	0	14978	0	0
Bus	2065	0	0	0	0	0	12351	0	0
Bus	2066	0	0	0	0	0	8719	0	0
Bus	2067	0	0	0	0	0	8719	0	0
Bus	2068	0	0	0	0	0	8719	0	0
Bus	2069	0	0	0	0	0	8719	0	0
Bus	2070	0	0	0	0	0	8719	0	0
Bus	2071	0	0	0	0	0	8719	0	0
Bus	2072	0	0	0	0	0	14978	0	0
Bus	2073	0	0	0	0	0	8998	0	0
Bus	2074	0	0	0	0	0	8719	0	0
Bus	2075	0	0	0	0	0	8719	0	0
Bus	2076	0	0	0	0	0	8719	0	0

SUBMODE

User benefits and changes in revenues by submode/vehicle type, modelled years and total. £000s.

All entries are present values discounted to 2010, in 2010 prices.

Submode	Year	User	User_Charges			Vehicle_Operating_Cost		Operator_Revenue			Indirect
		Time	PT_fares_(pri	LA_off-street	Private_parki	Fuel	Non_fuel	PT_fares_(pri	LA_off-street	Private_parki	Taxes
Car	2017	12955	0	1148	4591	-1008	-2824	0	-704	-2816	1914
Car	2032	11718	0	959	3837	-784	-2978	0	-739	-2956	1339
LGV Personal	2017	221	0	35	138	-77	-150	0	-20	-82	91
LGV	2032	216	0	28	114	-66	-158	0	-20	-80	77

Personal											
LGV Freight	2017	2535	0	0	0	-470	-173	0	0	0	230
LGV Freight	2032	3075	0	0	0	-343	-166	0	0	0	161
OGV1	2017	282	0	0	0	-36	34	0	0	0	18
OGV1	2032	365	0	0	0	-29	36	0	0	0	13
OGV2	2017	245	0	0	0	16	56	0	0	0	-8
OGV2	2032	318	0	0	0	31	60	0	0	0	-14
Bus	2017	12362	-286	0	0	0	0	-9920	0	0	1505
Bus	2032	17441	-581	0	0	0	0	-6015	0	0	961
All	2017	28600	-286	1182	4729	-1574	-3057	-9920	-724	-2897	3750
All	2032	33132	-581	988	3950	-1191	-3206	-6015	-759	-3035	2537
Car	Total	573596	0	39309	157237	-32641	-116978	0	-29045	-116179	57410
LGV Personal	Total	10266	0	1167	4670	-2721	-6197	0	-792	-3169	3189
LGV Freight	Total	149401	0	0	0	-14562	-6627	0	0	0	6910
OGV1	Total	17600	0	0	0	-1208	1417	0	0	0	573
OGV2	Total	15307	0	0	0	1136	2360	0	0	0	-537
Bus	Total	799159	-20990	0	0	0	0	-265181	0	0	41807
All	Total	1565330	-20990	40477	161907	-49996	-126025	-265181	-29837	-119347	109352

PERSON_TYPES

User benefits and changes in revenues by person type, modelled years and total. £000s.

All entries are present values discounted to 2010, in 2010 prices.

Submode	Year	User	User_Charges			Vehicle_Operating_Cost		Operator_Revenue			Indirect
		Time	PT_fares_(pri	LA_off-street	Private_parki	Fuel	Non_fuel	PT_fares_(pri	LA_off-street	Private_parki	Taxes
All	2017	16239	0	1182	4729	-1574	-3057	0	-724	-2897	2244
All	2032	15691	0	988	3950	-1191	-3206	0	-759	-3035	1577
Passenger	2017	12362	-286	0	0	0	0	-9920	0	0	1505
Passenger	2032	17441	-581	0	0	0	0	-6015	0	0	961

All	Total	766171	0	40477	161907	-49996	-126025	0	-29837	-119347	67545
Passenger	Total	799159	-20990	0	0	0	0	-265181	0	0	41807

Purpose

User benefits and changes in revenues by person type, modelled years and total. £000s.

All entries are present values discounted to 2010, in 2010 prices.

Submode	Year	User	User_Charges			Vehicle_Operating_Cost		Operator_Revenue			Indirect
		Time	PT_fares_(pri	LA_off-street	Private_parki	Fuel	Non_fuel	PT_fares_(pri	LA_off-street	Private_parki	Taxes
HB-Business	2017	3693	7	16	64	-81	-28	-418	-22	-89	85
HB-Business	2032	4510	-6	14	56	-43	-22	-163	-28	-113	30
HB-Commuting	2017	2400	-12	15	58	-68	-552	-638	-15	-60	422
HB-Commuting	2032	2931	-55	19	78	-27	-546	-486	-44	-177	307
HB-Other	2017	13587	-262	921	3684	-687	-1979	-8609	-432	-1726	2624
HB-Other	2032	15230	-456	745	2979	-596	-2088	-5446	-401	-1603	1786
NHB-Business	2017	6482	-1	-11	-44	-547	-57	-74	-1	-4	335
NHB-Business	2032	7779	-10	1	5	-379	-69	165	-32	-129	201
NHB-Other	2017	2439	-18	242	967	-191	-441	-181	-255	-1018	285
NHB-Other	2032	2682	-54	208	833	-147	-481	-85	-253	-1013	215
HB-Business	Total	218838	-137	571	2283	-1938	-906	-8226	-1080	-4320	1528
HB-Commuting	Total	134820	-1899	736	2945	-1304	-21667	-20292	-1551	-6205	13014
HB-Other	Total	708001	-16743	30722	122888	-24367	-82019	-237536	-16096	-64383	76829
NHB-Business	Total	378458	-316	-34	-136	-16247	-2657	4890	-1061	-4242	8897
NHB-Other	Total	125213	-1895	8482	33927	-6140	-18776	-4017	-10049	-40198	9083

Period

User benefits and changes in revenues by person type, modelled years and total. £000s.

All entries are present values discounted to 2010, in 2010 prices.

Submode	Year	User	User_Charges			Vehicle_Operating_Cost		Operator_Revenue			Indirect
		Time	PT_fares_(pri	LA_off-street	Private_parki	Fuel	Non_fuel	PT_fares_(pri	LA_off-street	Private_parki	Taxes
AM peak	2017	2552	-12	-4	-16	-13	-200	-379	17	68	185
AM peak	2032	2719	-33	0	2	14	-175	-322	-1	-3	124
PM peak	2017	4076	-30	109	435	-50	-390	-1125	-96	-385	413
PM peak	2032	4432	-69	102	410	-9	-367	-653	-112	-450	266
Inter-peak	2017	11980	-114	390	1560	-656	-1033	-3997	-234	-936	1443
Inter-peak	2032	13972	-224	344	1375	-536	-1149	-2351	-291	-1163	982
Off-peak	2017	3012	-36	153	612	-272	-354	-1309	-94	-377	481
Off-peak	2032	3770	-76	117	469	-195	-365	-785	-77	-310	321
Weekend	2017	6981	-95	535	2139	-584	-1080	-3111	-317	-1267	1228
Weekend	2032	8240	-179	424	1694	-465	-1149	-1903	-277	-1110	845
AM peak	Total	130097	-1159	-12	-48	401	-7119	-13150	93	372	5335
PM peak	Total	211312	-2470	4106	16422	-617	-14708	-29106	-4344	-17377	11576
Inter-peak	Total	663056	-8121	13943	55774	-22168	-44757	-104484	-11135	-44540	42267
Off-peak	Total	176322	-2728	4891	19565	-8288	-14388	-34720	-3184	-12736	13879
Weekend	Total	384580	-6512	17549	70194	-19325	-45053	-83722	-11267	-45066	36295

Economy:Economic Efficiency of the Transport System(TEE)

Consumer - Commuting user benefits	All Modes	Road	Bus
Travel Time	134820	61371	73450
Vehicle operating costs	-22971	-22971	0
User charges	1782	3681	-1899
During Construction & Maintenance	0	0	0
NET CONSUMER - COMMUTING BENEFITS	113632	42081	71550
Consumer - Other user benefits	All Modes	Road	Bus
Travel Time	833213	299914	533298
Vehicle operating costs	-131303	-131303	0

User charges	177380	196018		-18638	
During Construction & Maintenance	0	0		0	
NET CONSUMER - OTHER BENEFITS	879290	364630		514661	
Business	**All Modes**	**Road Personal**	**Road Freight**	**Bus Personal**	**Bus Freight**
Travel Time	597296	222577	182308	192411	0
Vehicle operating costs	-21749	-4264	-17485	0	0
User charges	2231	2684	0	-453	0
During Construction & Maintenance	0	0	0	0	0
Subtotal	577778	220997	164824	191957	0
Private Sector Provider Impacts	**All Modes**	**Road**		**Bus**	
Revenue	-384531	-119348		-265183	
Operating costs	-187564	0		-187564	
Investment costs	0	0		0	
Grant/subsidy	0	0		0	
Subtotal	-572095	-119348		-452747	
Other business Impacts	All Modes	Road		Bus	
Developer contributions	0	0		0	
NET BUSINESS IMPACT	5683				
TOTAL	All Modes				
Present Value of Transport Economic Efficiency Benefits (TEE)	998605				

Note: Benefits appear as positive numbers, while costs appear as negative numbers.
Note: All entries are present values discounted to 2010, in 2010 prices

Public Accounts

Local Government Funding	ALL MODES	Road	Bus
Revenue	29837	29837	0
Operating Costs	17806	17806	0
Investment Costs	62333	62333	0
Developer Contributions	0	0	0

Grant/Subsidy Payments	0	0	0
NET IMPACT	109976	109976	0
Central Government Funding: Transport	ALL MODES	Road	Bus
Revenue	0	0	0
Operating Costs	0	0	0
Investment Costs	76568	76568	0
Developer Contributions	0	0	0
Grant/Subsidy Payments	0	0	0
NET IMPACT	76568	76568	0
Central Government Funding: Non-Transport	ALL MODES	Road	Bus
Indirect Tax Revenues	-109352	-67545	-41808
TOTALS	ALL MODES	Road	Bus
Broad Transport Budget	186544	186544	0
Wider Public Finances	-109352	-67545	-41808

Note: Costs appear as positive numbers, while revenues and developer contributions appear as negative numbers.
Note: All entries are present values discounted to 2010, in 2010 prices

Analysis of Monetised Costs and Benefits

Greenhouse Gases	-27964
Economic Efficiency: Consumer Users (Commuting)	113632
Economic Efficiency: Consumer Users (Other)	879290
Economic Efficiency: Business Users and Providers	5683
Wider Public Finances (Indirect Taxation Revenues)	109352
Present Value of Benefits (PVB)	1079993

Broad Transport Budget	186544
Present Value of Costs (PVC)	186544
OVERALL IMPACTS	
Net Present Value (NPV)	893449
Benefit to Cost Ratio (BCR)	5.789

Note: This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

Appendix B

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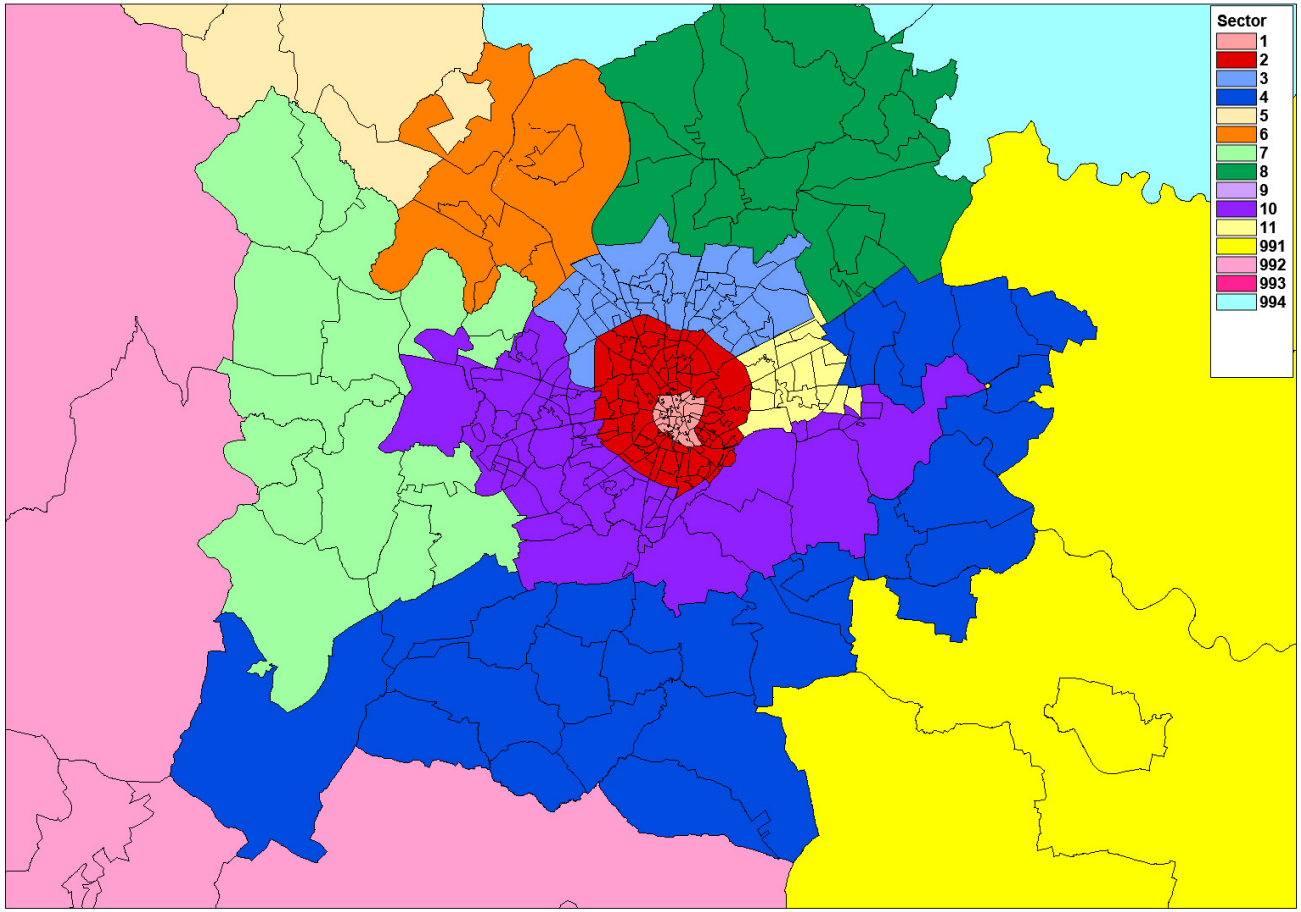
Table 1 – List of employment zones

Employment Name	**Zone number (s)**
Rackheath	533
Airport south of the A140	430
Airport north east of the A140	574
Broadland Gate	568
Broadland Business Park	348,349, 448 and 566

Figure 1- NDR models sectors



Note: The above figure is the same as Figure 6.1 in the NDR Economic Appraisal Report, ref 5.7. In the following tables sector numbers 991, 992, 993 and 994 have been re-named to sectors 12, 13, 14 and 15 respectively.

Table 2 – Select link analysis for Rackheath, sector to sector trips (PCUs), 2017 DM AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7
2	0	0	0	0	0	0	0	27	0	0	0	0	0	0	0	27
3	0	0	0	0	0	0	0	51	0	0	0	0	0	0	0	51
4	0	0	0	0	0	0	0	24	0	0	0	0	0	0	0	24
5	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
6	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
7	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	12
8	19	35	27	9	1	3	4	26	1	17	14	8	4	1	6	174
9	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6
10	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8
11	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	14
12	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	12
13	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	5
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	15
SUM	19	35	27	9	1	3	4	210	1	17	14	8	4	1	6	**359**

Figure 2 – Select link analysis for Rackheath, 2017 DM AM peak

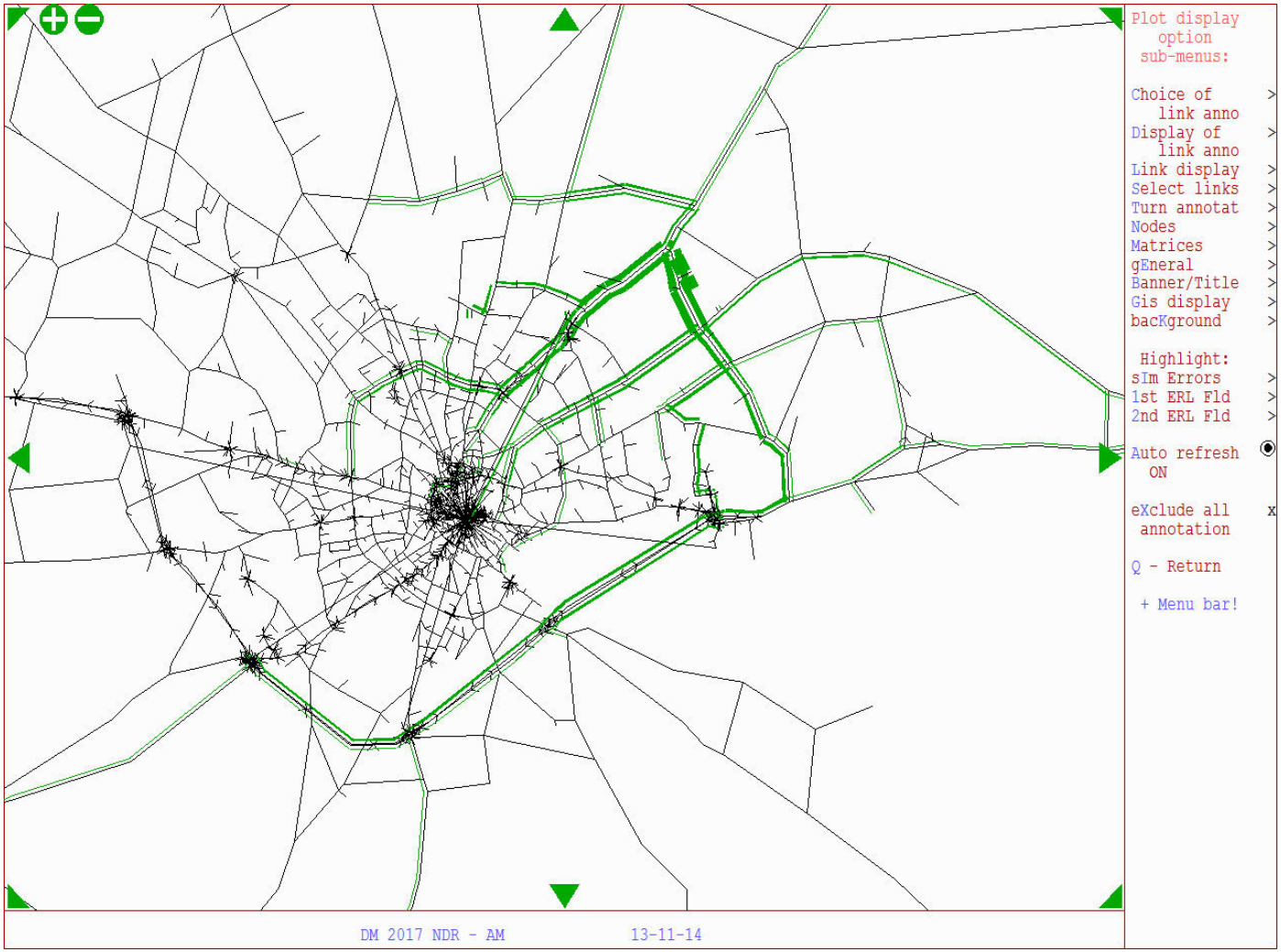


Table 3 – Select link analysis for Rackheath, sector to sector trips (PCUs), 2017 DM IP

TO: / FROM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
1	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
2	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	20
3	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	20
4	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
7	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
8	8	17	21	8	1	2	4	18	0	11	8	6	3	0	5	112
9	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6
10	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6
11	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	10
12	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7
13	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6
SUM	8	17	21	8	1	2	4	124	0	11	8	6	3	0	5	**218**

Figure 3 – Select link analysis for Rackheath, 2017 DM IP

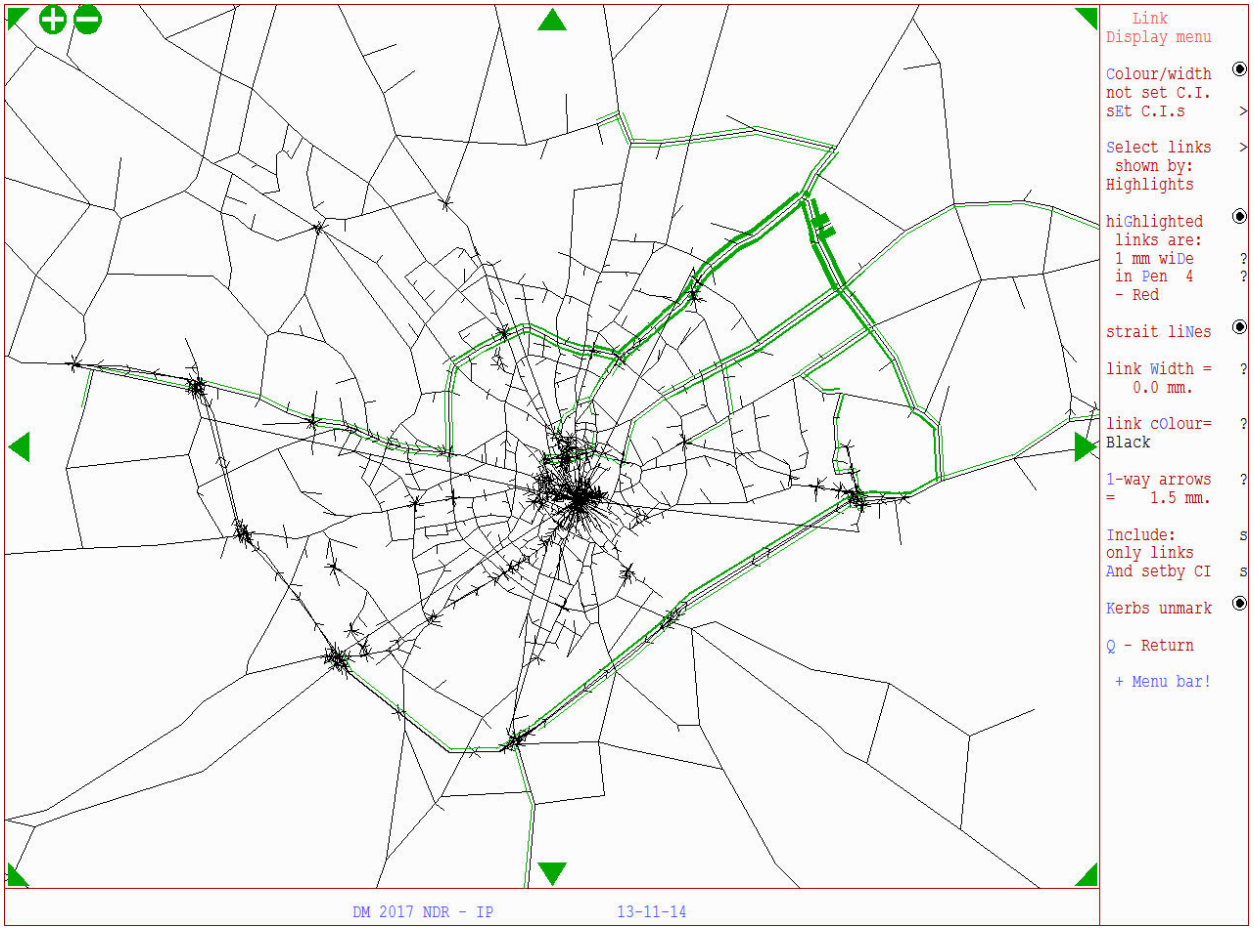


Table 4 – Select link analysis for the Airport South of the A140, sector to sector trips (PCUs), 2017 DM AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	38	0	0	0	0	0	0	0	0	0	0	0	0	38
2	0	0	142	0	0	0	0	0	0	0	0	0	0	0	0	142
3	21	54	215	15	10	8	11	9	12	34	29	27	18	6	12	481
4	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	29
5	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	32
6	0	0	52	0	0	0	0	0	0	0	0	0	0	0	0	52
7	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	32
8	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	24
9	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	17
10	0	0	60	0	0	0	0	0	0	0	0	0	0	0	0	60
11	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	34
12	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	46
13	0	0	56	0	0	0	0	0	0	0	0	0	0	0	0	56
14	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	25
15	0	0	44	0	0	0	0	0	0	0	0	0	0	0	0	44
SUM	21	54	847	15	10	8	11	9	12	34	29	27	18	6	12	**1113**

Figure 4 – Select link analysis for the Airport South of the A140, 2017 DM AM peak

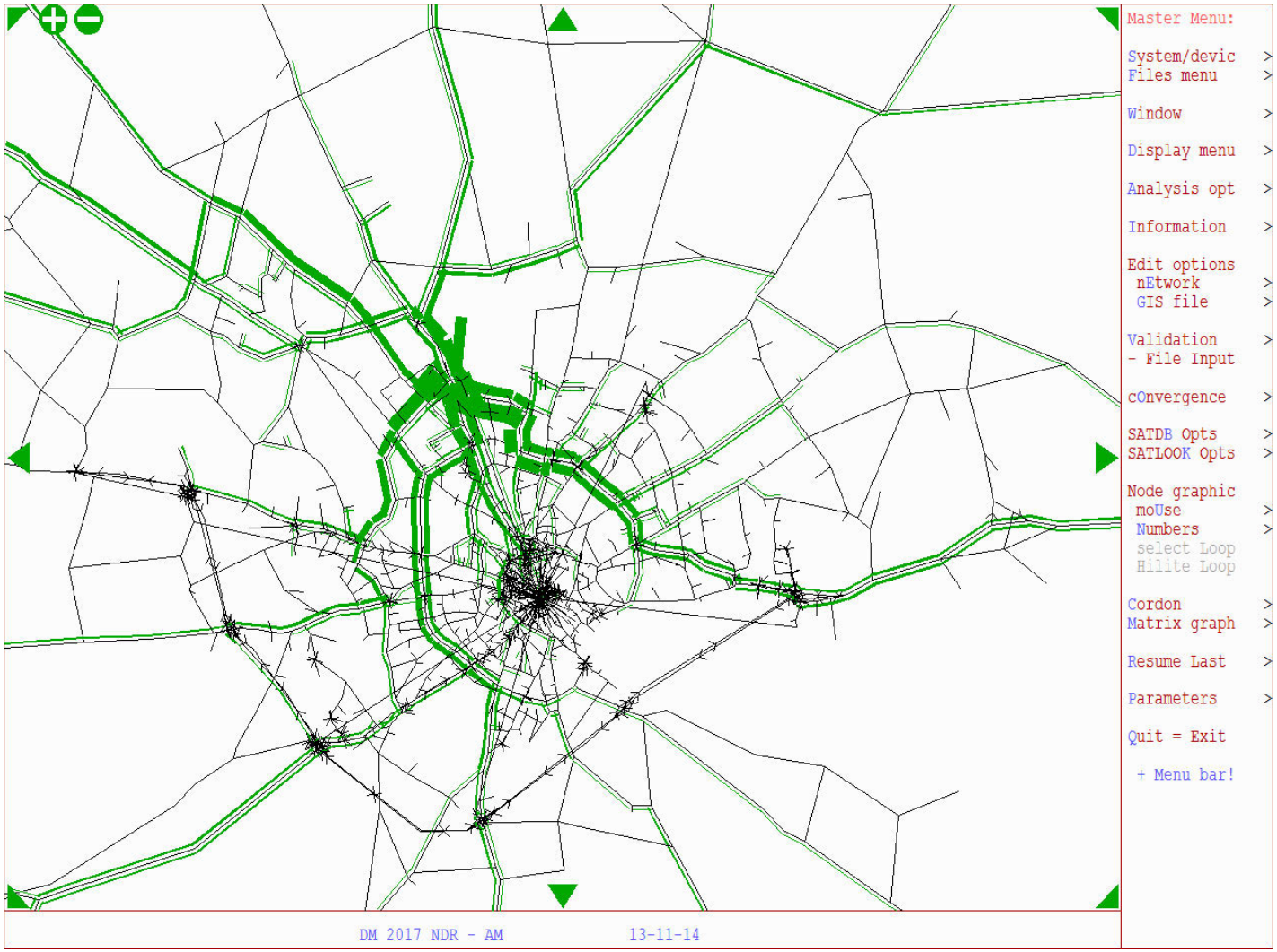


Table 5 – Select link analysis for the Airport South of the A140, sector to sector trips (PCUs), 2017 DM IP

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	30
2	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	50
3	35	58	143	11	11	21	15	13	10	27	16	28	24	11	20	443
4	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
5	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
6	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	18
7	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	13
8	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	12
9	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	10
10	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	22
11	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	15
12	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	24
13	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	24
14	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	11
15	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	20
SUM	35	58	410	11	11	21	15	13	10	27	16	28	24	11	20	**710**

Figure 5 – Select link analysis for the Airport South of the A140, 2017 DM IP

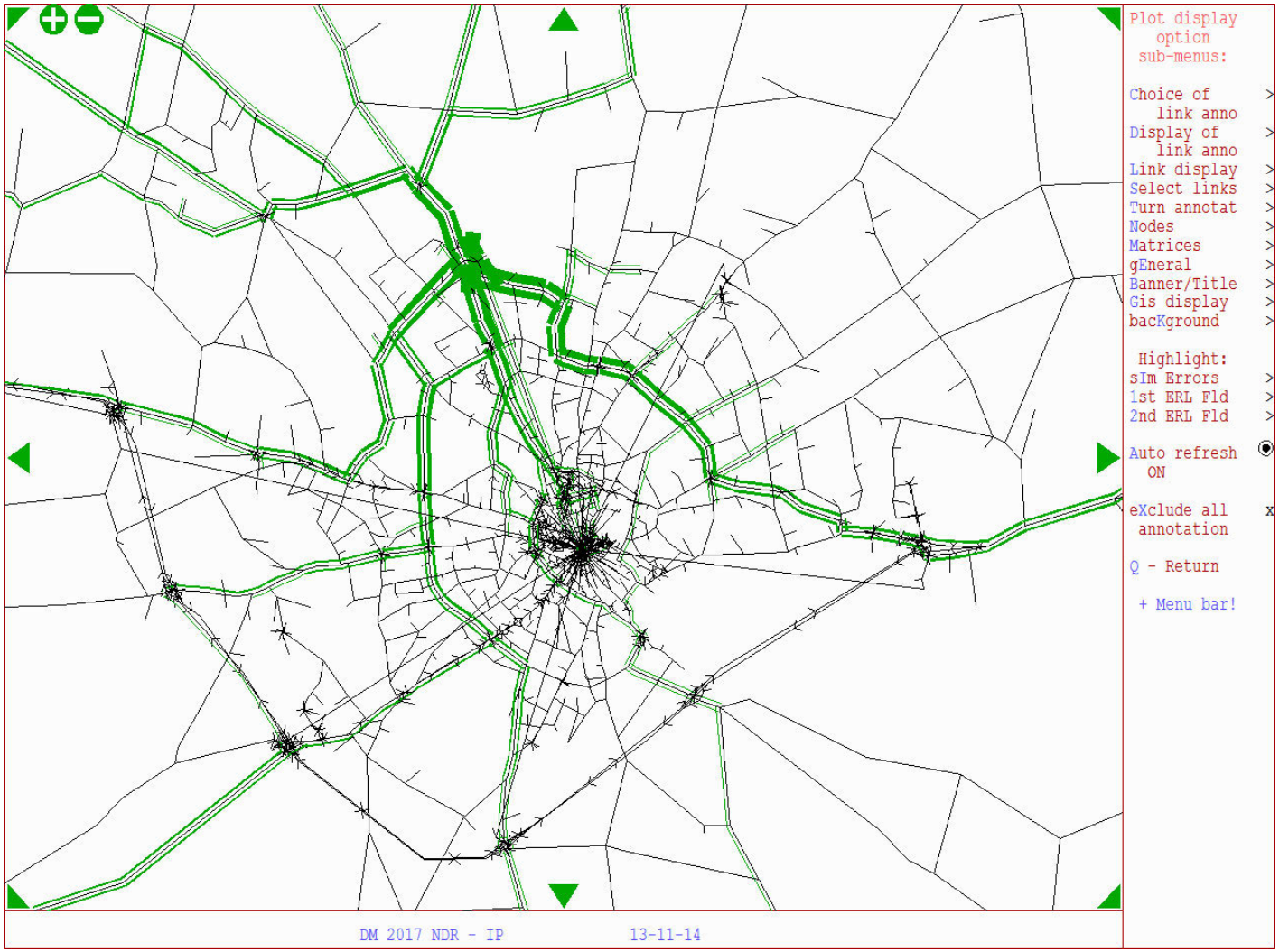


Table 6 – Select link analysis for Broadland Gate, sector to sector trips (PCUs), 2017 DM AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	10
2	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	15
3	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	9
4	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	6
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
7	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
8	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	3	4	2	2	0	0	0	1	0	9	3	1	0	0	0	26
11	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	8
12	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
13	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
SUM	3	4	2	2	0	0	0	1	0	67	3	1	0	0	0	**85**

Figure 6 – Select link analysis for Broadland Gate, 2017 DM AM peak

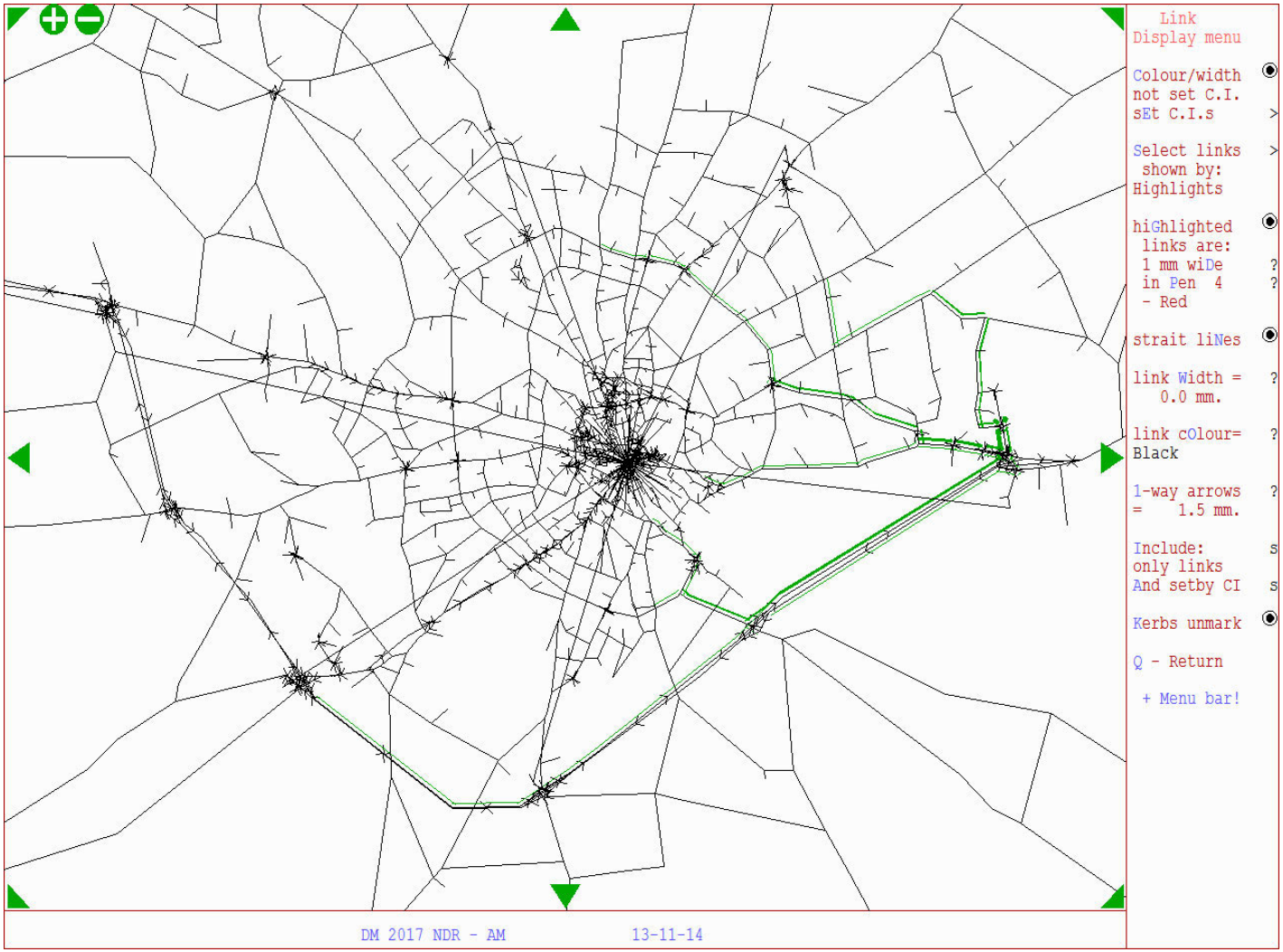


Table 7 – Select link analysis for Broadland Gate, sector to sector trips (PCUs), 2017 DM IP

TO: / FROM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
1	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5
2	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	6
3	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
4	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
7	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
8	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	5	6	3	2	0	1	1	1	0	6	4	1	0	0	0	32
11	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4
12	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
13	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUM	5	6	3	2	0	1	1	1	0	32	4	1	0	0	0	**58**

Figure 7 – Select link analysis for Broadland Gate, 2017 DM IP

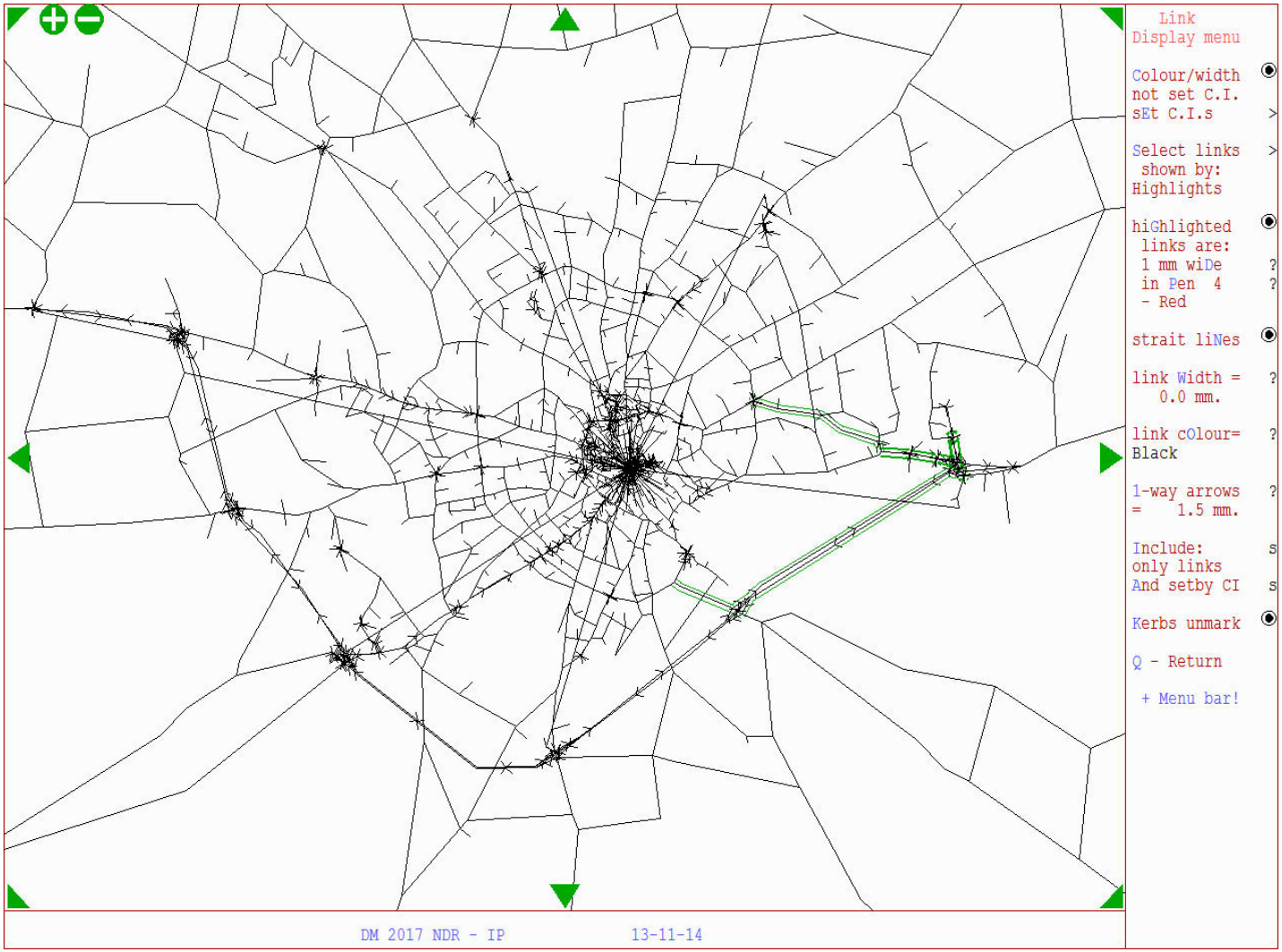


Table 8 – Select link analysis for Broadland Business Park, sector to sector trips (PCUs), 2017 DM AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	4	0	0	0	0	0	11	38	0	0	0	0	53
2	0	0	0	9	0	0	0	0	0	28	131	0	0	0	0	168
3	0	0	0	6	0	0	0	0	0	22	63	0	0	0	0	91
4	1	1	1	4	0	0	0	0	0	37	64	1	0	0	0	108
5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2
6	0	0	0	1	0	0	0	0	0	3	2	0	0	0	0	6
7	0	0	0	1	0	0	0	0	0	12	31	0	0	0	0	44
8	0	0	0	2	0	0	0	0	0	14	6	0	0	0	0	22
9	0	0	0	0	0	0	0	0	0	4	8	0	0	0	0	12
10	3	6	3	18	0	0	2	1	0	12	41	2	2	1	4	96
11	14	20	6	28	1	1	5	3	7	8	49	33	13	2	13	203
12	0	0	0	2	0	0	0	0	0	27	111	0	0	0	0	139
13	0	0	0	1	0	0	0	0	0	25	44	0	0	0	0	70
14	0	0	0	0	0	0	0	0	0	18	26	0	0	0	0	45
15	0	0	0	1	0	0	0	0	0	25	7	0	0	0	0	33
SUM	18	28	9	77	1	1	7	5	7	246	621	35	15	3	17	**1091**

Figure 8 – Select link analysis for Broadland Business Park, 2017 DM AM peak

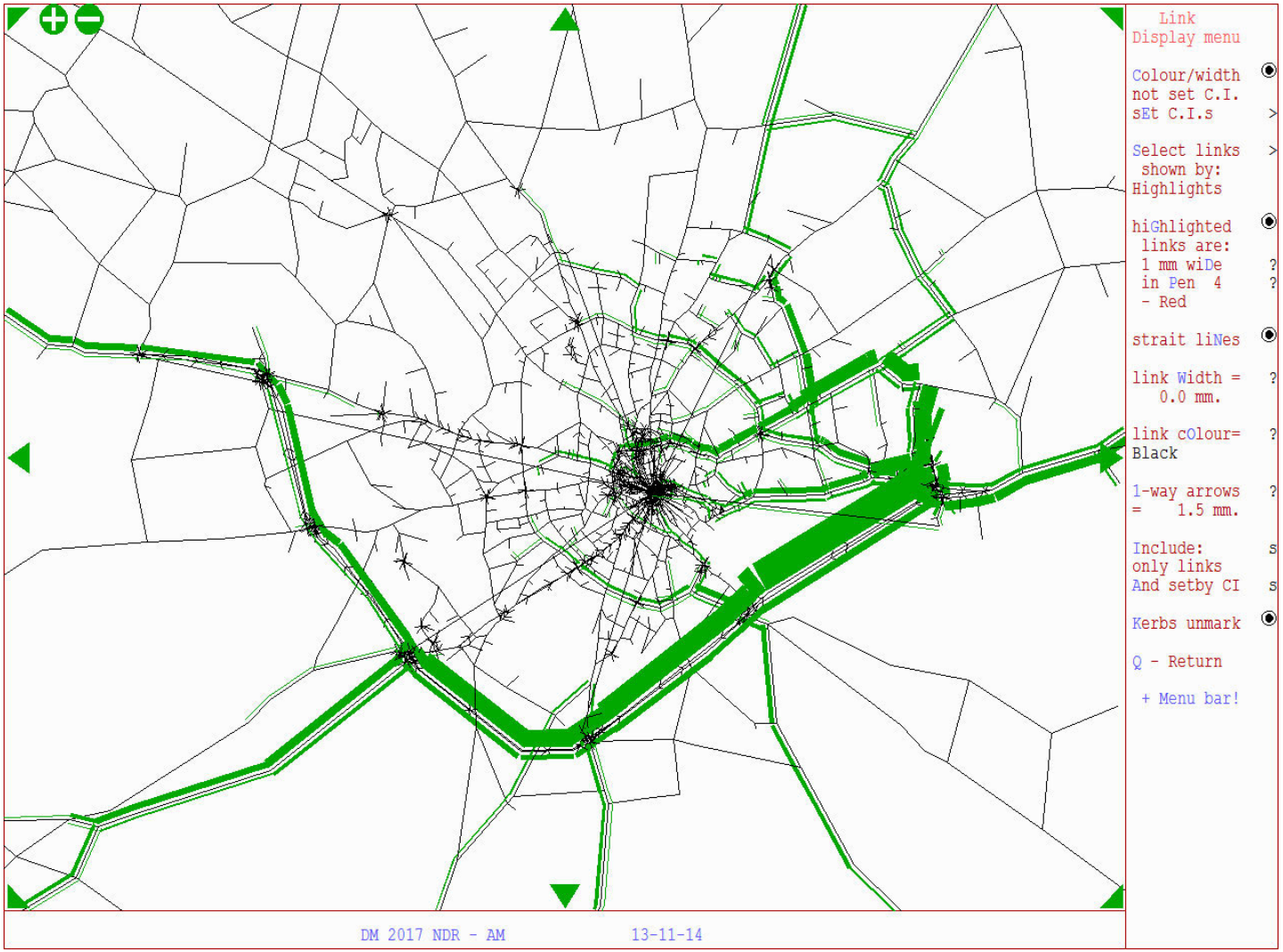


Table 9 – Select link analysis for Broadland Business Park, sector to sector trips (PCUs), 2017 DM IP

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	2	0	0	0	0	0	7	48	0	0	0	0	56
2	0	0	0	2	0	0	0	0	0	10	40	0	0	0	0	53
3	0	0	0	1	0	0	0	0	0	3	10	0	0	0	0	14
4	3	2	1	1	0	0	0	0	0	14	21	1	1	0	0	47
5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2
7	0	0	0	0	0	0	0	0	0	3	5	0	0	0	0	9
8	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	5
9	0	0	0	0	0	0	0	0	0	2	6	0	0	0	0	8
10	8	14	5	21	0	0	4	2	1	6	13	6	5	2	3	91
11	46	49	25	20	2	4	5	4	9	10	21	44	13	3	11	266
12	0	0	0	1	0	0	0	0	0	7	48	0	0	0	0	56
13	0	0	0	1	0	0	0	0	0	5	24	0	0	0	0	29
14	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	3
15	0	0	0	0	0	0	0	0	0	5	2	0	0	0	0	7
SUM	57	66	31	49	2	5	9	7	9	77	245	51	18	5	15	**647**

Figure 9 – Select link analysis for Broadland Business Park, 2017 DM IP

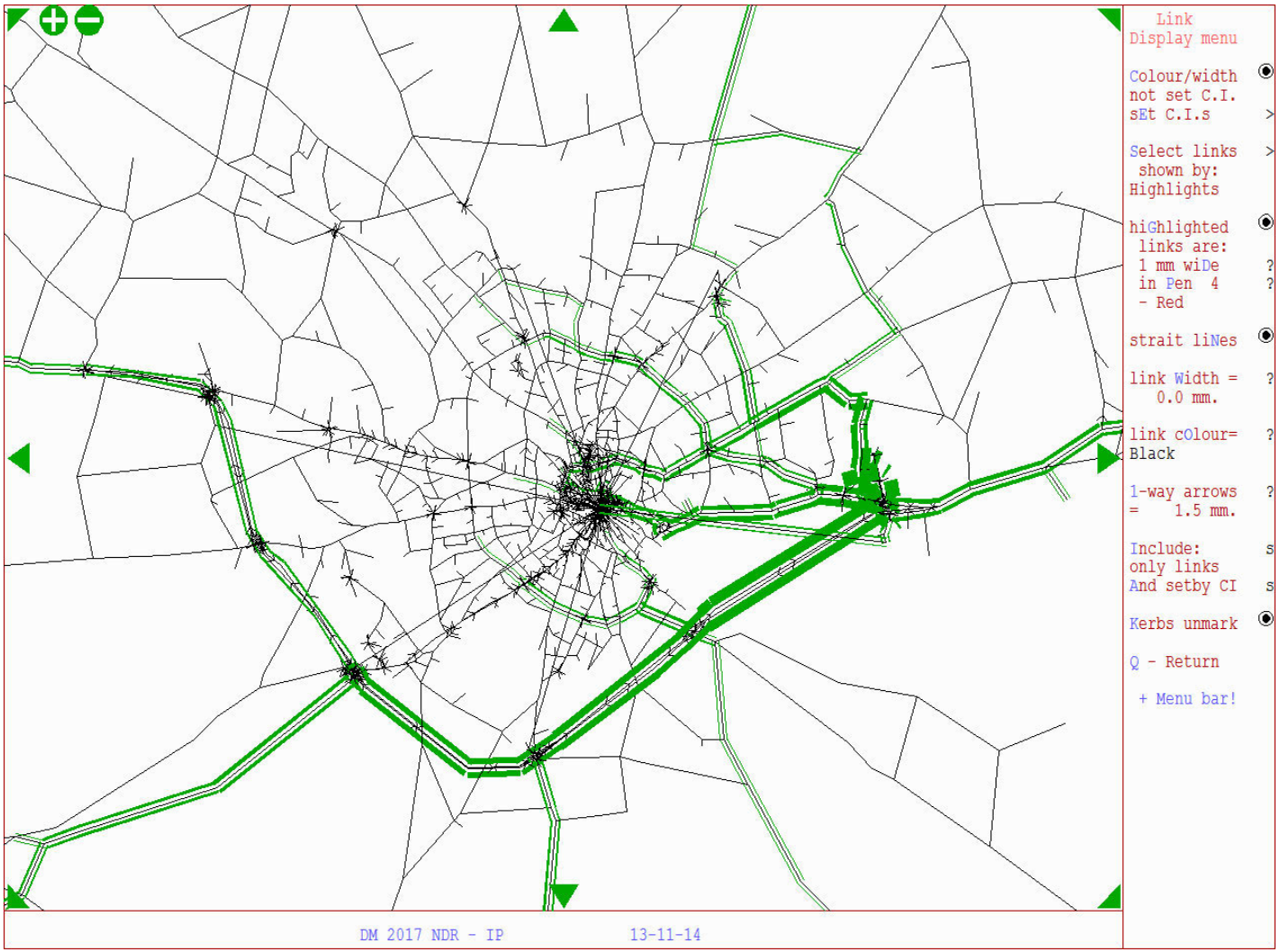


Table 10 – Select link analysis for Rackheath, sector to sector trips (PCUs), 2032 DM AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	0	0	0	0	43	0	0	0	0	0	0	0	43
2	0	0	0	0	0	0	0	117	0	0	0	0	0	0	0	117
3	0	0	0	0	0	0	0	178	0	0	0	0	0	0	0	178
4	0	0	0	0	0	0	0	54	0	0	0	0	0	0	0	54
5	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
6	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	16
7	0	0	0	0	0	0	0	31	0	0	0	0	0	0	0	31
8	104	159	149	63	4	16	17	118	2	123	84	38	24	3	24	928
9	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8
10	0	0	0	0	0	0	0	58	0	0	0	0	0	0	0	58
11	0	0	0	0	0	0	0	77	0	0	0	0	0	0	0	77
12	0	0	0	0	0	0	0	43	0	0	0	0	0	0	0	43
13	0	0	0	0	0	0	0	32	0	0	0	0	0	0	0	32
14	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
15	0	0	0	0	0	0	0	39	0	0	0	0	0	0	0	39
SUM	104	159	149	63	4	16	17	821	2	123	84	38	24	3	24	**1630**

Figure 10 – Select link analysis for Rackheath, 2032 DM AM peak

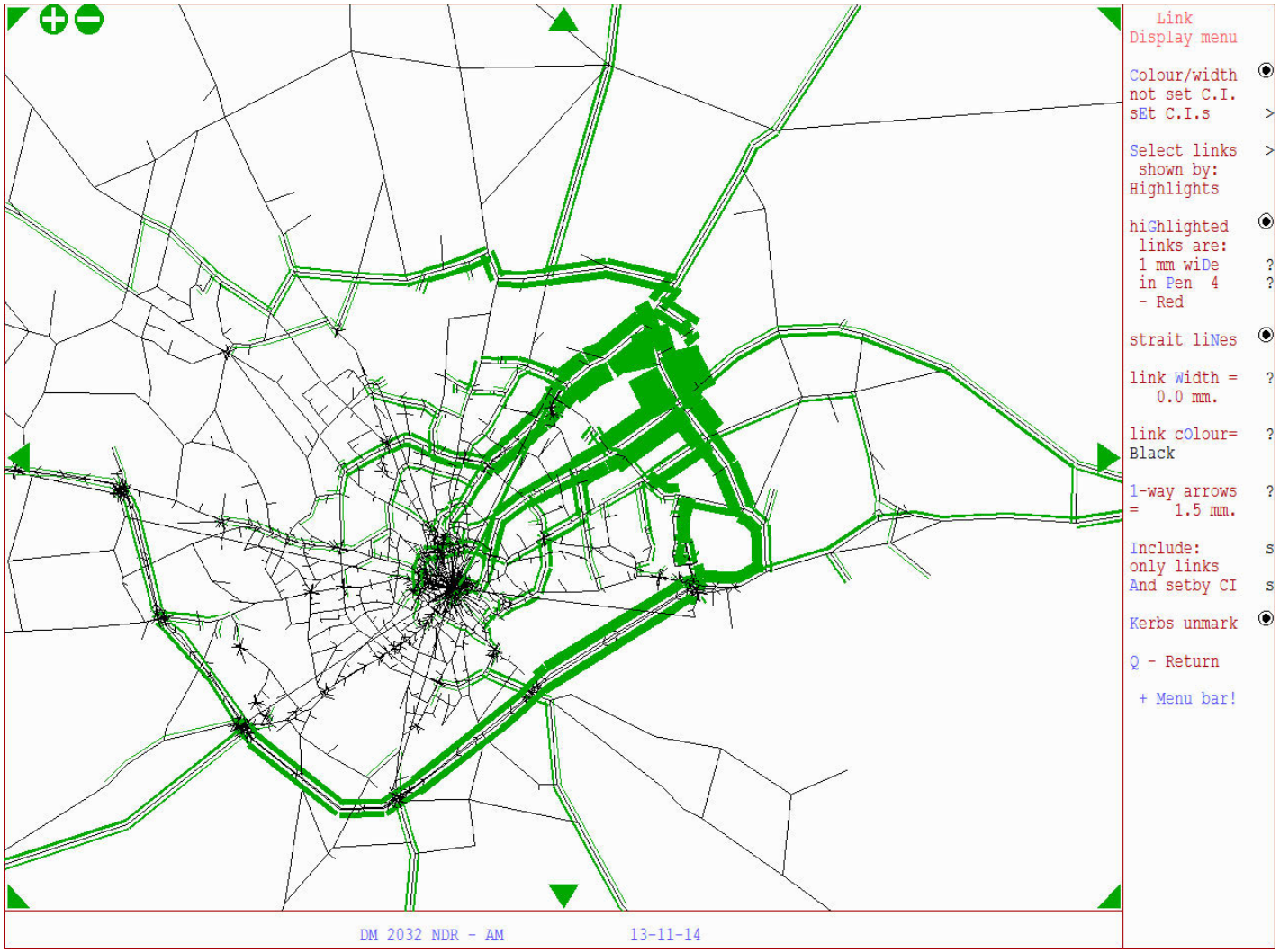


Table 11 – Select link analysis for Rackheath, sector to sector trips (PCUs), 2032 DM IP

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	0	0	0	0	42	0	0	0	0	0	0	0	42
2	0	0	0	0	0	0	0	83	0	0	0	0	0	0	0	83
3	0	0	0	0	0	0	0	89	0	0	0	0	0	0	0	89
4	0	0	0	0	0	0	0	30	0	0	0	0	0	0	0	30
5	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
6	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8
7	0	0	0	0	0	0	0	17	0	0	0	0	0	0	0	17
8	40	81	93	31	2	9	12	66	1	49	49	26	18	2	15	494
9	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7
10	0	0	0	0	0	0	0	43	0	0	0	0	0	0	0	43
11	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	50
12	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0	26
13	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	20
14	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
15	0	0	0	0	0	0	0	17	0	0	0	0	0	0	0	17
SUM	40	81	93	31	2	9	12	502	1	49	49	26	18	2	15	**930**

Figure 11 – Select link analysis for Rackheath, 2032 DM IP

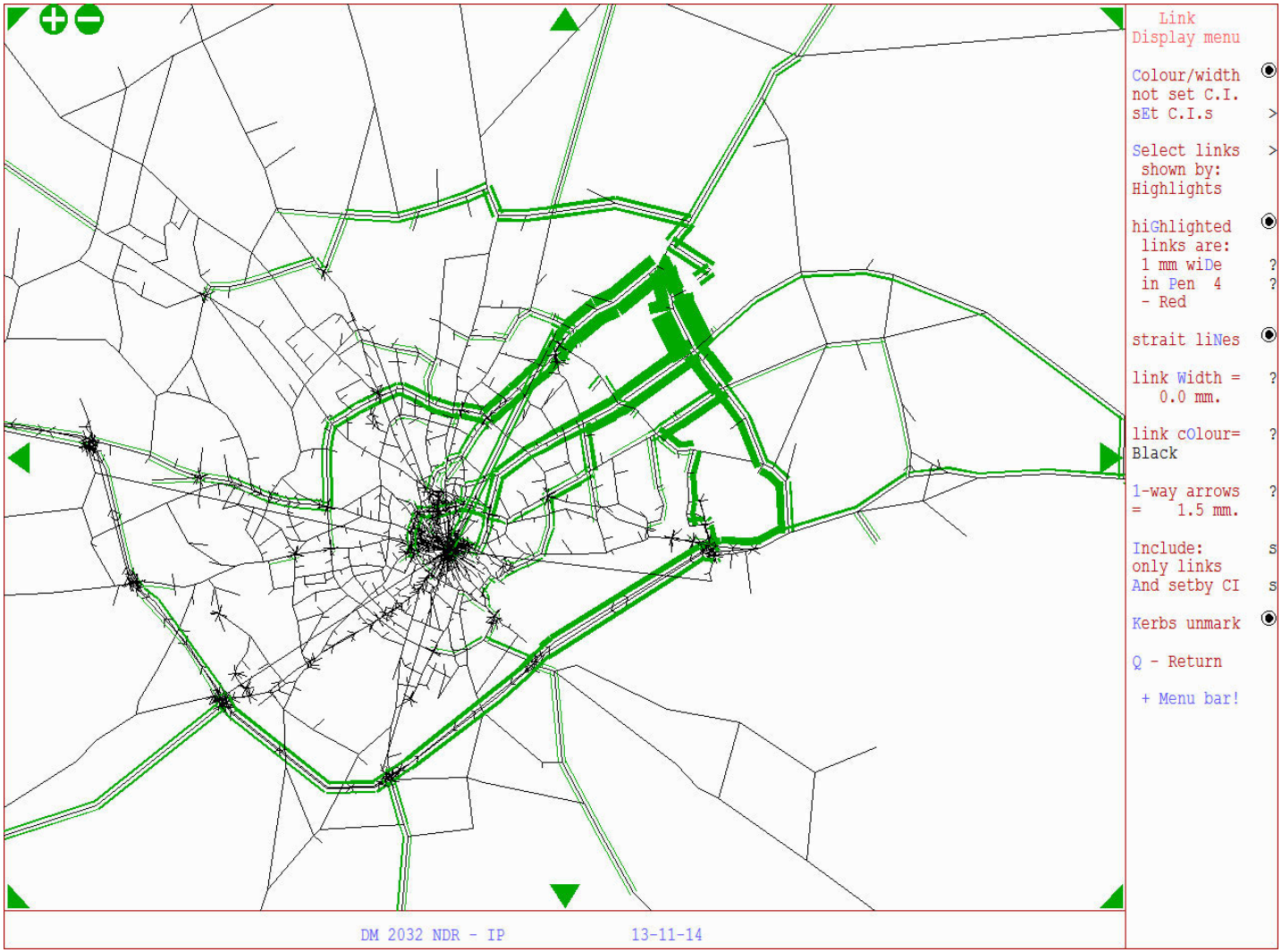


Table 12 – Select link analysis for the Airport south of the A140, sector to sector trips (PCUs), 2032 DM AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	28
2	0	0	107	0	0	0	0	0	0	0	0	0	0	0	0	107
3	19	44	178	13	9	6	9	19	17	40	22	29	23	8	14	451
4	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	22
5	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	24
6	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	36
7	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	31
8	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	29
9	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	25
10	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	46
11	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	31
12	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	46
13	0	0	71	0	0	0	0	0	0	0	0	0	0	0	0	71
14	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	30
15	0	0	44	0	0	0	0	0	0	0	0	0	0	0	0	44
SUM	19	44	748	13	9	6	9	19	17	40	22	29	23	8	14	**1020**

Figure 12 – Select link analysis for the Airport south of the A140, 2032 DM AM peak

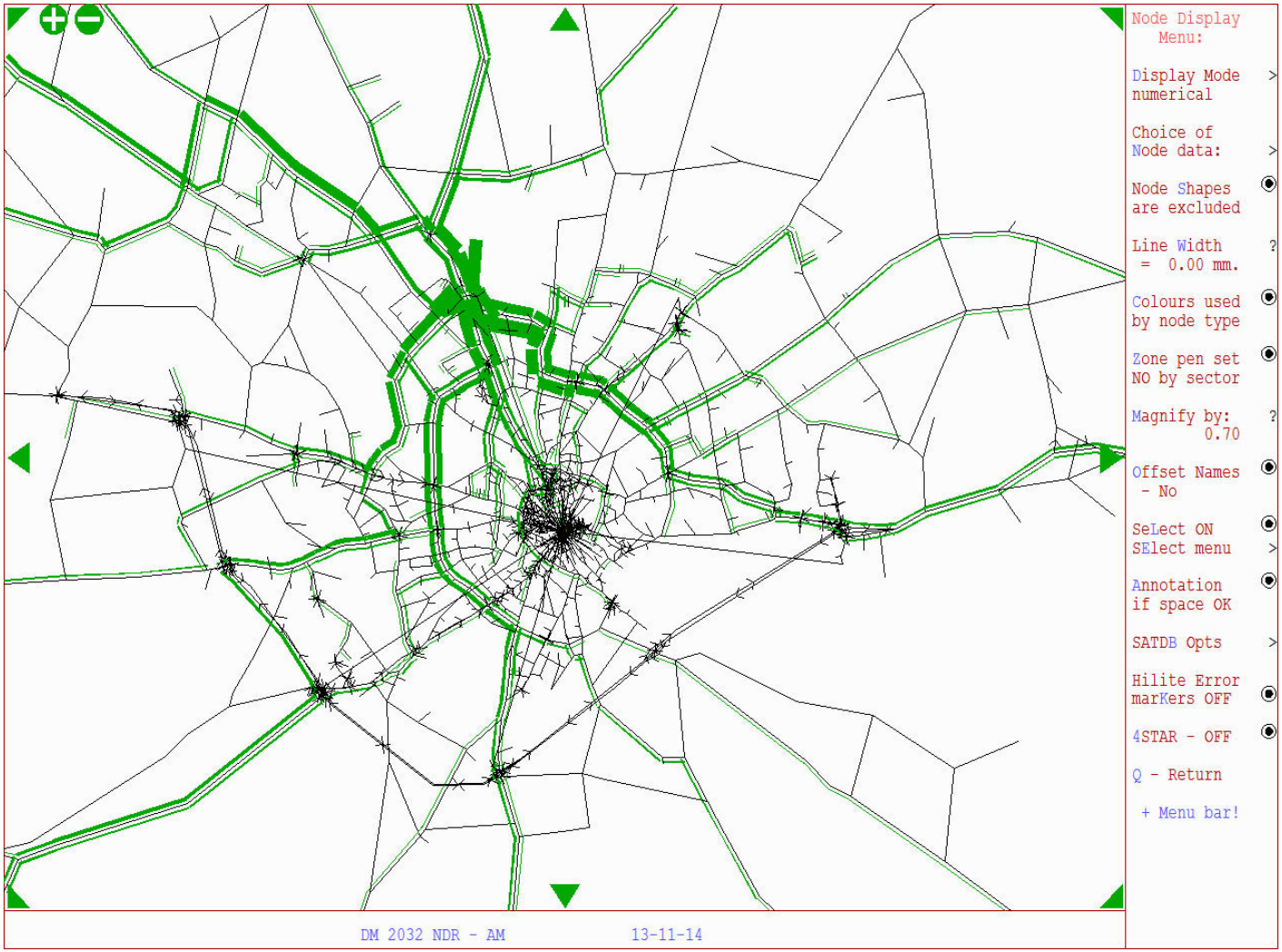


Table 13 – Select link analysis for the Airport south of the A140, sector to sector trips (PCUs), 2032 DM IP

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	29
2	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	46
3	29	52	137	10	10	18	15	17	18	28	16	32	32	14	23	452
4	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
5	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
6	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	15
7	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	13
8	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	17
9	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	13
10	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	24
11	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	14
12	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	26
13	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	30
14	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	14
15	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	23
SUM	29	52	419	10	10	18	15	17	18	28	16	32	32	14	23	**734**

Figure 13 – Select link analysis for the Airport south of the A140, 2032 DM IP

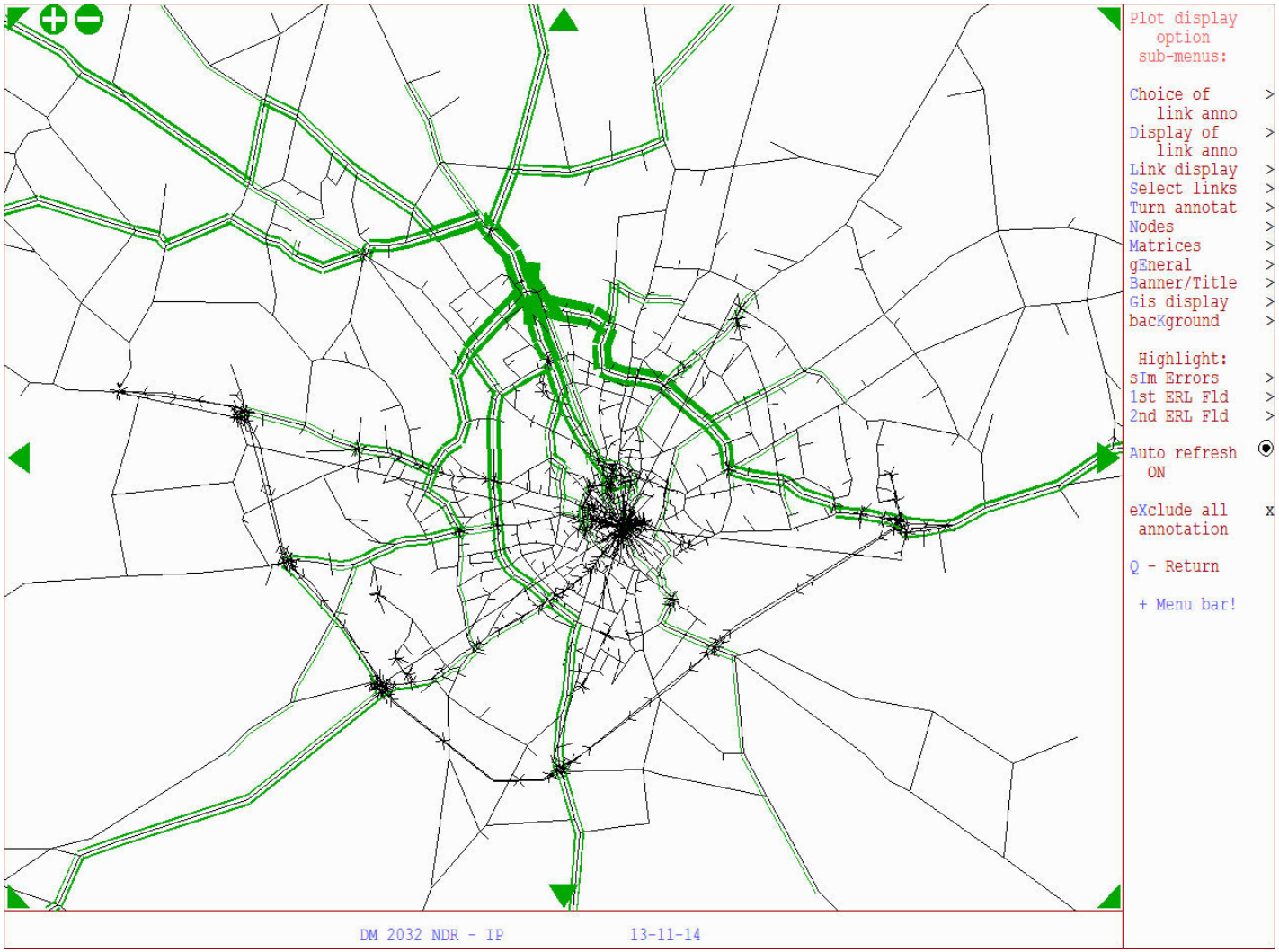


Table 14 – Select link analysis for the Airport north east of the A140, sector to sector trips (PCUs), 2032 DM AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	0	0	0	0	60	0	0	0	0	0	0	0	60
2	0	0	0	0	0	0	0	123	0	0	0	0	0	0	0	123
3	0	0	0	0	0	0	0	136	0	0	0	0	0	0	0	136
4	0	0	0	0	0	0	0	24	0	0	0	0	0	0	0	24
5	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
6	0	0	0	0	0	0	0	29	0	0	0	0	0	0	0	29
7	0	0	0	0	0	0	0	43	0	0	0	0	0	0	0	43
8	21	26	26	7	1	4	6	50	0	32	7	7	8	1	3	199
9	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
10	0	0	0	0	0	0	0	68	0	0	0	0	0	0	0	68
11	0	0	0	0	0	0	0	40	0	0	0	0	0	0	0	40
12	0	0	0	0	0	0	0	19	0	0	0	0	0	0	0	19
13	0	0	0	0	0	0	0	31	0	0	0	0	0	0	0	31
14	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
15	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	13
SUM	21	26	26	7	1	4	6	641	0	32	7	7	8	1	3	**791**

Figure 14 – Select link analysis for the Airport north east of the A140, 2032 DM AM peak

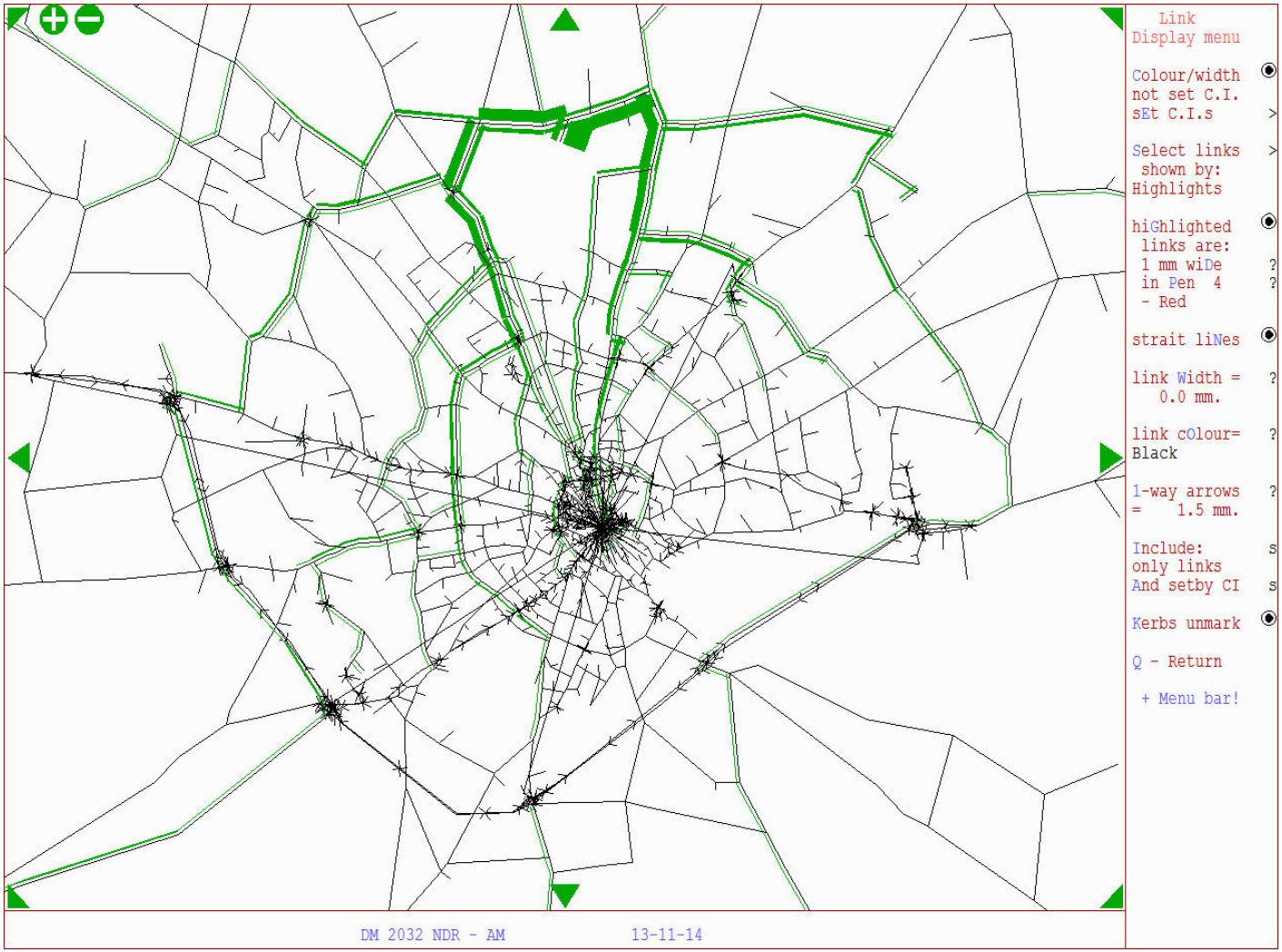


Table 15 – Select link analysis for the Airport north east of the A140, sector to sector trips (PCUs), 2032 DM IP

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	0	0	0	0	22	0	0	0	0	0	0	0	22
2	0	0	0	0	0	0	0	33	0	0	0	0	0	0	0	33
3	0	0	0	0	0	0	0	33	0	0	0	0	0	0	0	33
4	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	5
5	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
6	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7
7	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8
8	22	38	37	7	1	8	10	16	1	23	9	10	12	2	5	199
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	19	0	0	0	0	0	0	0	19
11	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7
12	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
13	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	11
14	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
15	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	5
SUM	22	38	37	7	1	8	10	179	1	23	9	10	12	2	5	**361**

Figure 15 – Select link analysis for the Airport north east of the A140, 2032 DM IP

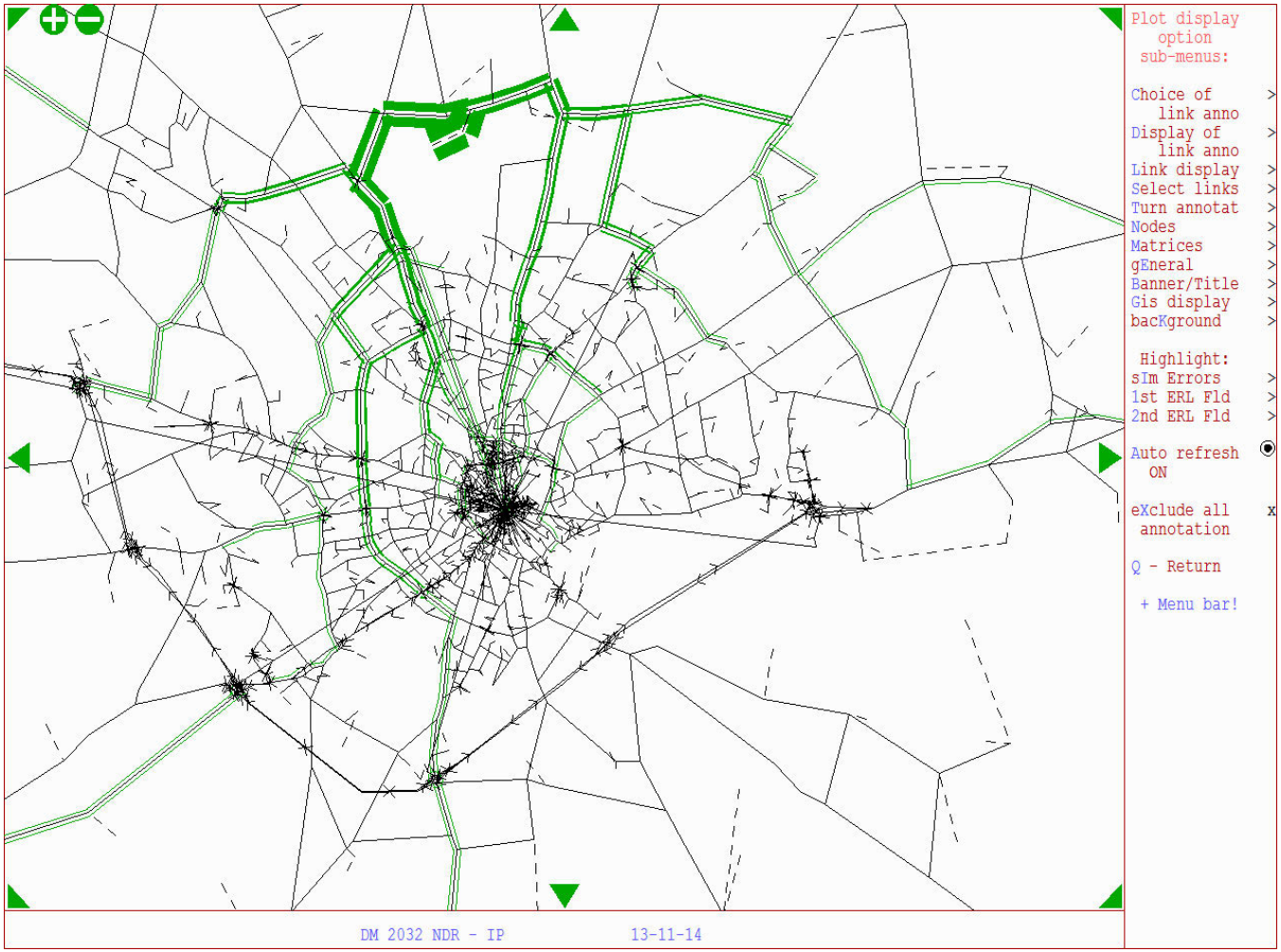


Table 16 – Select link analysis for Broadland Gate, sector to sector trips (PCUs), 2032 DM AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	0	0	0	0	0	0	65	0	0	0	0	0	65
2	0	0	0	0	0	0	0	0	0	114	0	0	0	0	0	114
3	0	0	0	0	0	0	0	0	0	101	0	0	0	0	0	101
4	0	0	0	0	0	0	0	0	0	44	0	0	0	0	0	44
5	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
6	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	9
7	0	0	0	0	0	0	0	0	0	26	0	0	0	0	0	26
8	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	50
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	22	35	25	17	0	2	4	15	0	72	29	5	4	0	1	232
11	0	0	0	0	0	0	0	0	0	82	0	0	0	0	0	82
12	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	16
13	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	19
14	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
15	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7
SUM	22	35	25	17	0	2	4	15	0	607	29	5	4	0	1	**767**

Figure 16 – Select link analysis for Broadland Gate, 2032 DM AM peak

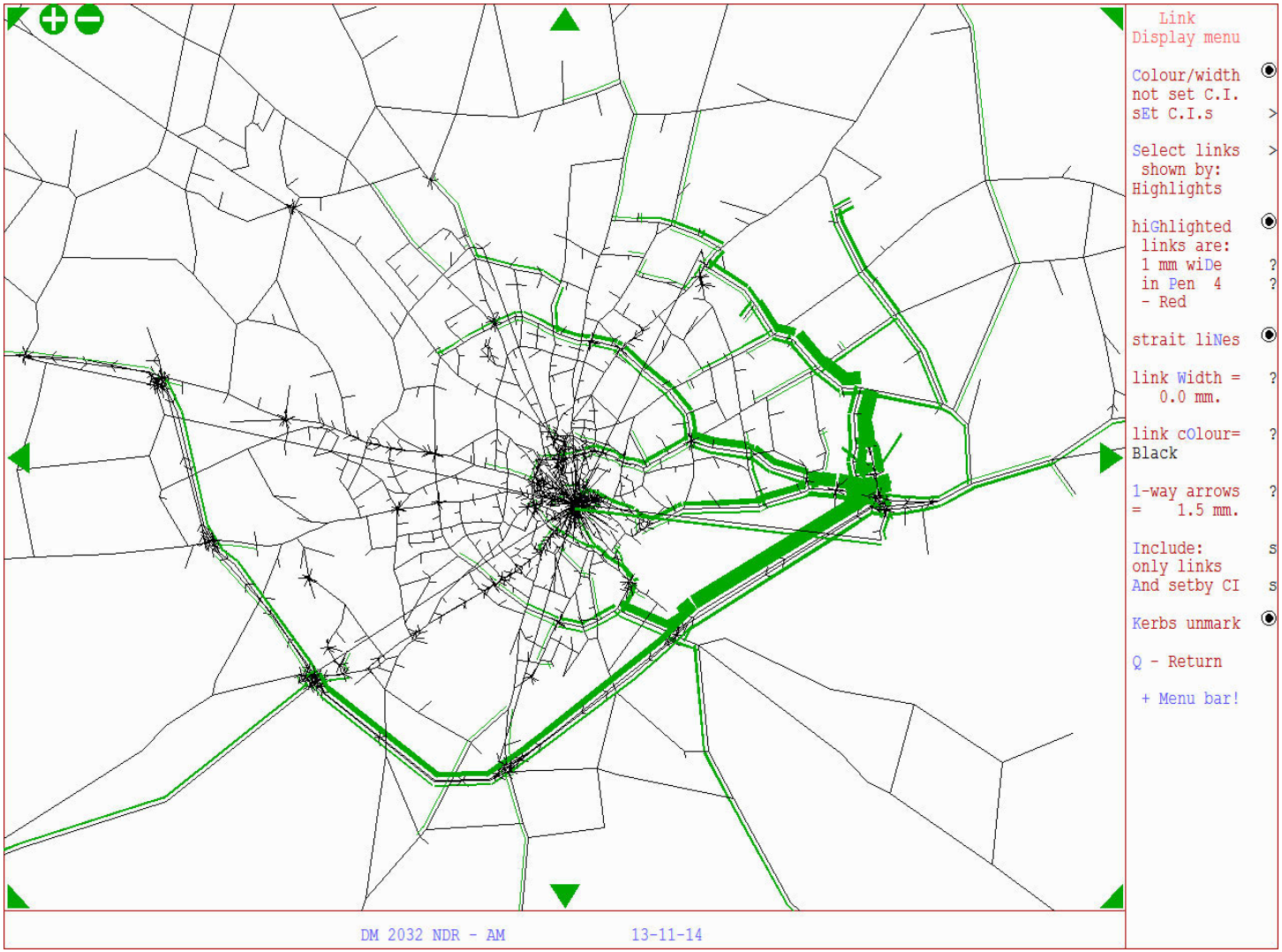


Table 17 – Select link analysis for Broadland Gate, sector to sector trips (PCUs), 2032 DM IP

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	0	0	0	0	0	0	38	0	0	0	0	0	38
2	0	0	0	0	0	0	0	0	0	53	0	0	0	0	0	53
3	0	0	0	0	0	0	0	0	0	41	0	0	0	0	0	41
4	0	0	0	0	0	0	0	0	0	22	0	0	0	0	0	22
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4
7	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	8
8	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	19
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	37	55	41	22	0	4	8	19	0	48	44	7	6	0	2	294
11	0	0	0	0	0	0	0	0	0	42	0	0	0	0	0	42
12	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7
13	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
SUM	37	55	41	22	0	4	8	19	0	291	44	7	6	0	2	**537**

Figure 17 – Select link analysis for Broadland Gate, 2032 DM IP

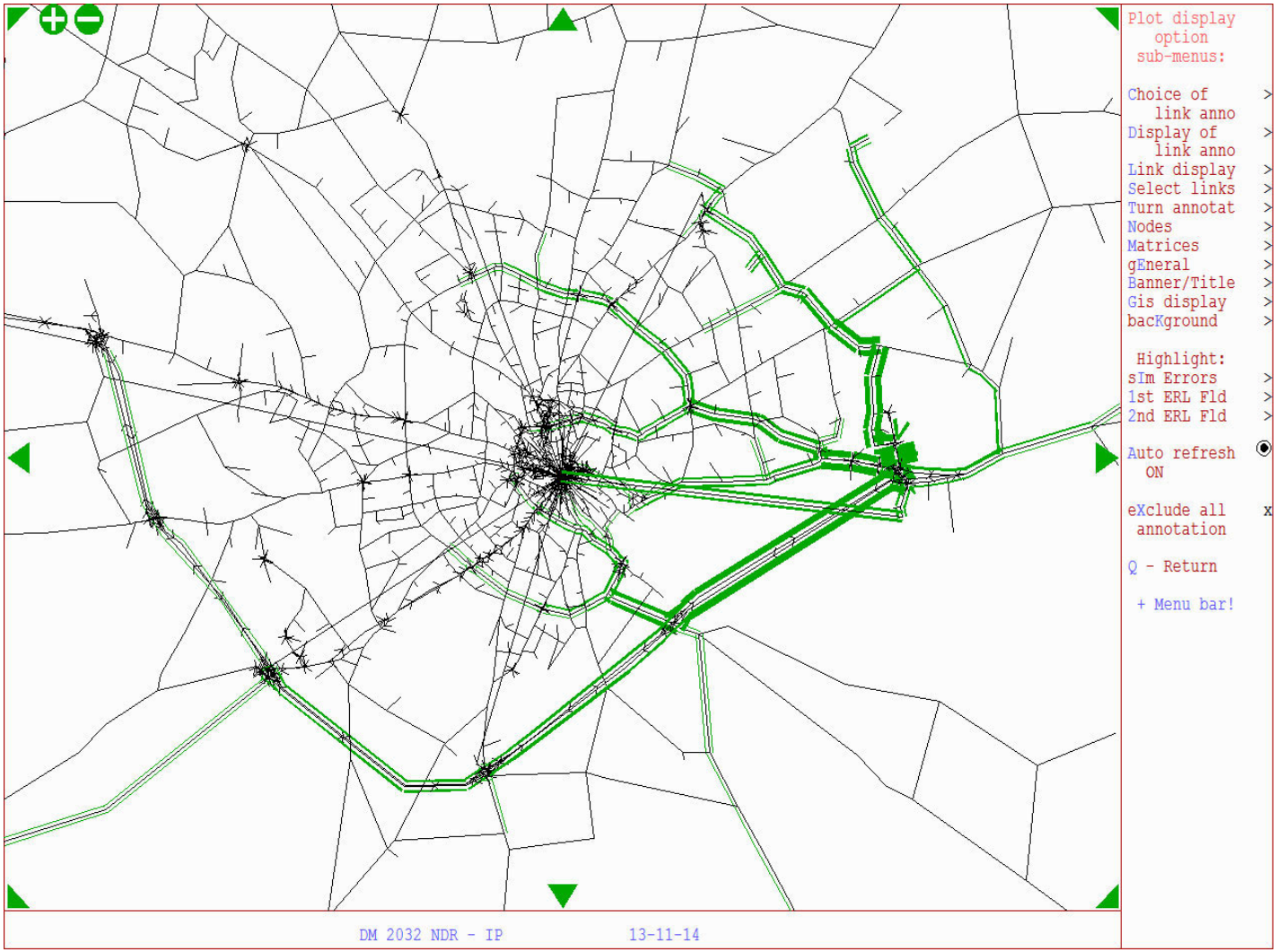


Table 18 – Select link analysis for Broadland Business Park, sector to sector trips (PCUs), 2032 DM AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	30	0	0	0	0	0	16	20	0	0	0	0	67
2	0	0	0	64	0	0	0	0	0	42	88	0	0	0	0	194
3	0	0	0	74	0	0	0	0	0	36	58	0	0	0	0	168
4	5	7	6	25	0	1	2	5	0	42	54	5	3	0	1	157
5	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	3
6	0	0	0	8	0	0	0	0	0	4	1	0	0	0	0	14
7	0	0	0	15	0	0	0	0	0	16	26	0	0	0	0	57
8	0	0	0	36	0	0	0	0	0	21	15	0	0	0	0	72
9	0	0	0	0	0	0	0	0	0	6	9	0	0	0	0	16
10	6	9	6	47	0	1	2	5	1	27	33	4	4	1	5	148
11	8	14	6	68	1	1	4	7	12	26	45	35	14	3	16	260
12	0	0	0	15	0	0	0	0	0	26	93	0	0	0	0	134
13	0	0	0	15	0	0	0	0	0	33	50	0	0	0	0	98
14	0	0	0	1	0	0	0	0	0	21	31	0	0	0	0	53
15	0	0	0	7	0	0	0	0	0	30	8	0	0	0	0	45
SUM	19	30	18	406	1	2	8	17	13	348	533	43	21	4	22	**1485**

Figure 18 – Select link analysis for Broadland Business Park, 2032 DM AM peak

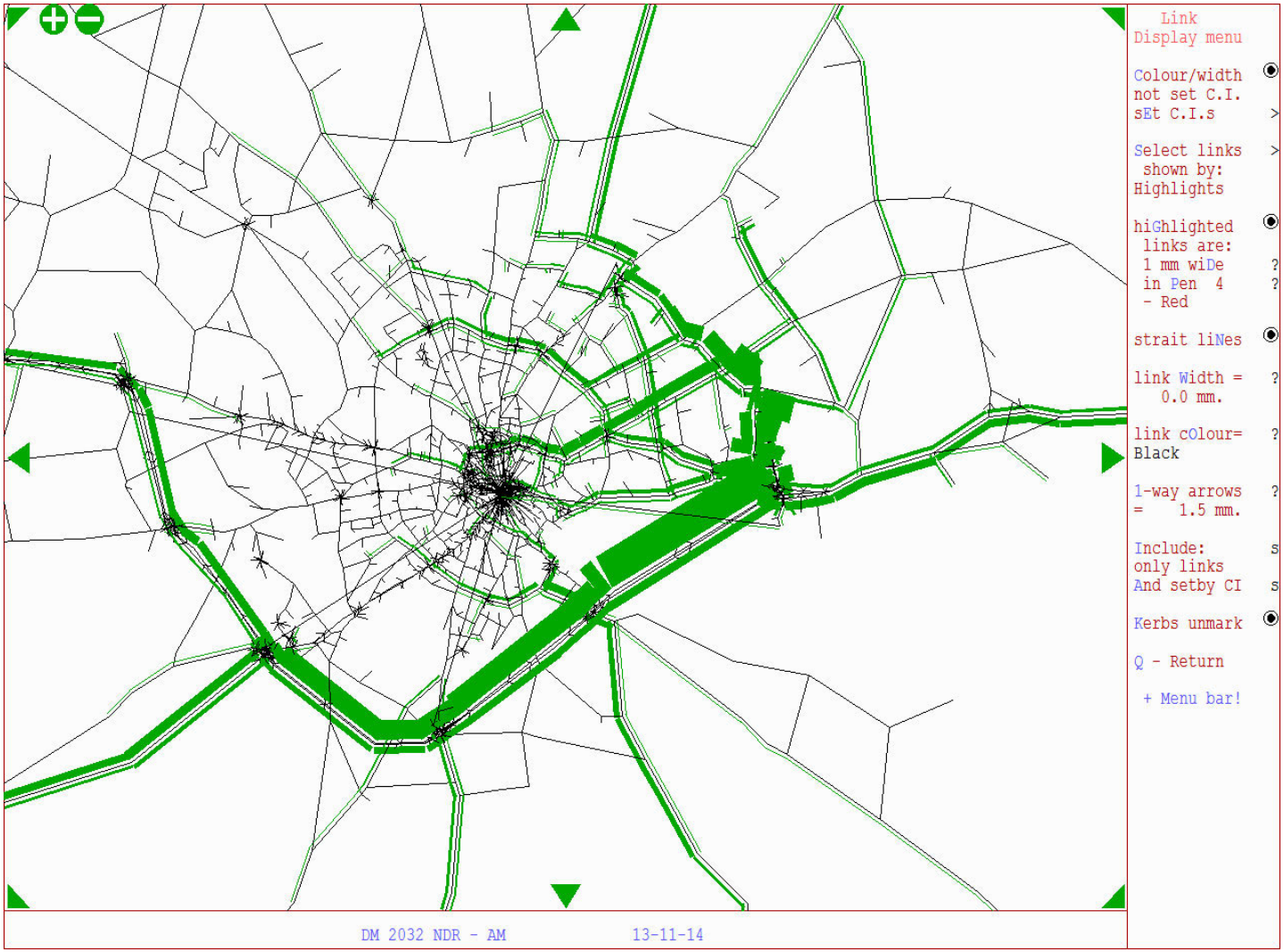


Table 19 – Select link analysis for Broadland Business Park, sector to sector trips (PCUs), 2032 DM IP

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	11	0	0	0	0	0	9	40	0	0	0	0	60
2	0	0	0	16	0	0	0	0	0	14	36	0	0	0	0	66
3	0	0	0	14	0	0	0	0	0	7	11	0	0	0	0	32
4	12	19	16	11	0	2	4	8	0	25	31	7	6	1	2	145
5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
6	0	0	0	2	0	0	0	0	0	1	1	0	0	0	0	4
7	0	0	0	3	0	0	0	0	0	4	5	0	0	0	0	12
8	0	0	0	7	0	0	0	0	0	5	6	0	0	0	0	18
9	0	0	0	0	0	0	0	0	0	3	8	0	0	0	0	11
10	10	19	9	30	0	1	5	5	1	14	20	9	8	2	4	139
11	31	42	26	28	2	4	5	8	28	15	23	46	16	4	14	292
12	0	0	0	7	0	0	0	0	0	10	50	0	0	0	0	67
13	0	0	0	6	0	0	0	0	0	8	30	0	0	0	0	44
14	0	0	0	1	0	0	0	0	0	1	2	0	0	0	0	4
15	0	0	0	2	0	0	0	0	0	7	3	0	0	0	0	12
SUM	54	79	52	137	3	7	14	21	29	123	267	62	30	6	20	**907**

Figure 19 – Select link analysis for Broadland Business Park, 2032 DM IP

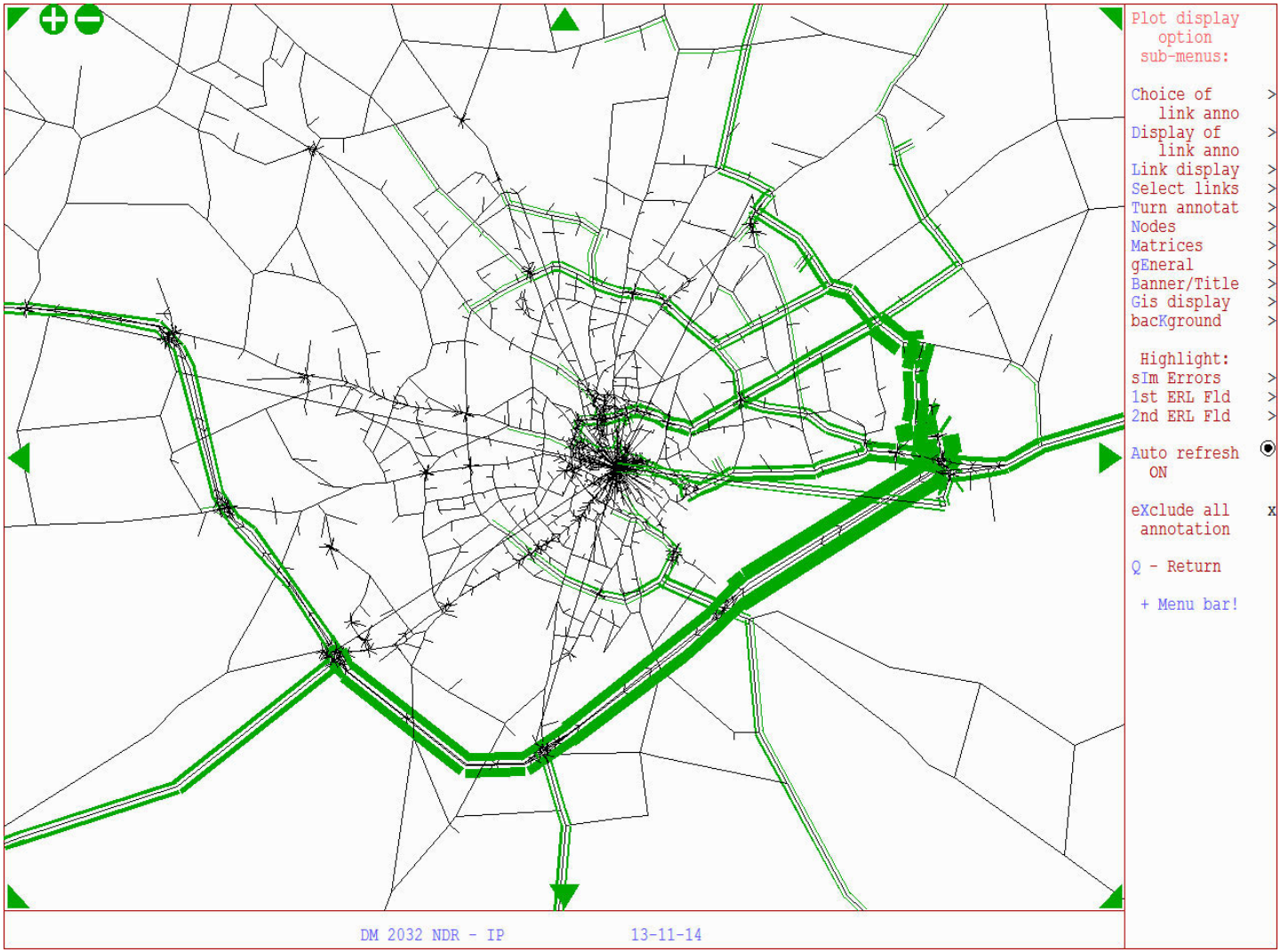


Table 20 – Select link analysis for Rackheath, sector to sector trips (PCUs), 2017 DS AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6
2	0	0	0	0	0	0	0	24	0	0	0	0	0	0	0	24
3	0	0	0	0	0	0	0	44	0	0	0	0	0	0	0	44
4	0	0	0	0	0	0	0	24	0	0	0	0	0	0	0	24
5	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4
6	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7
7	0	0	0	0	0	0	0	17	0	0	0	0	0	0	0	17
8	16	34	26	9	2	5	5	24	1	19	14	7	5	1	6	174
9	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6
10	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	10
11	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	12
12	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	12
13	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7
14	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
15	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	14
SUM	16	34	26	9	2	5	5	213	1	19	14	7	5	1	6	**362**

Figure 20 – Select link analysis for Rackheath, 2017 DS AM peak

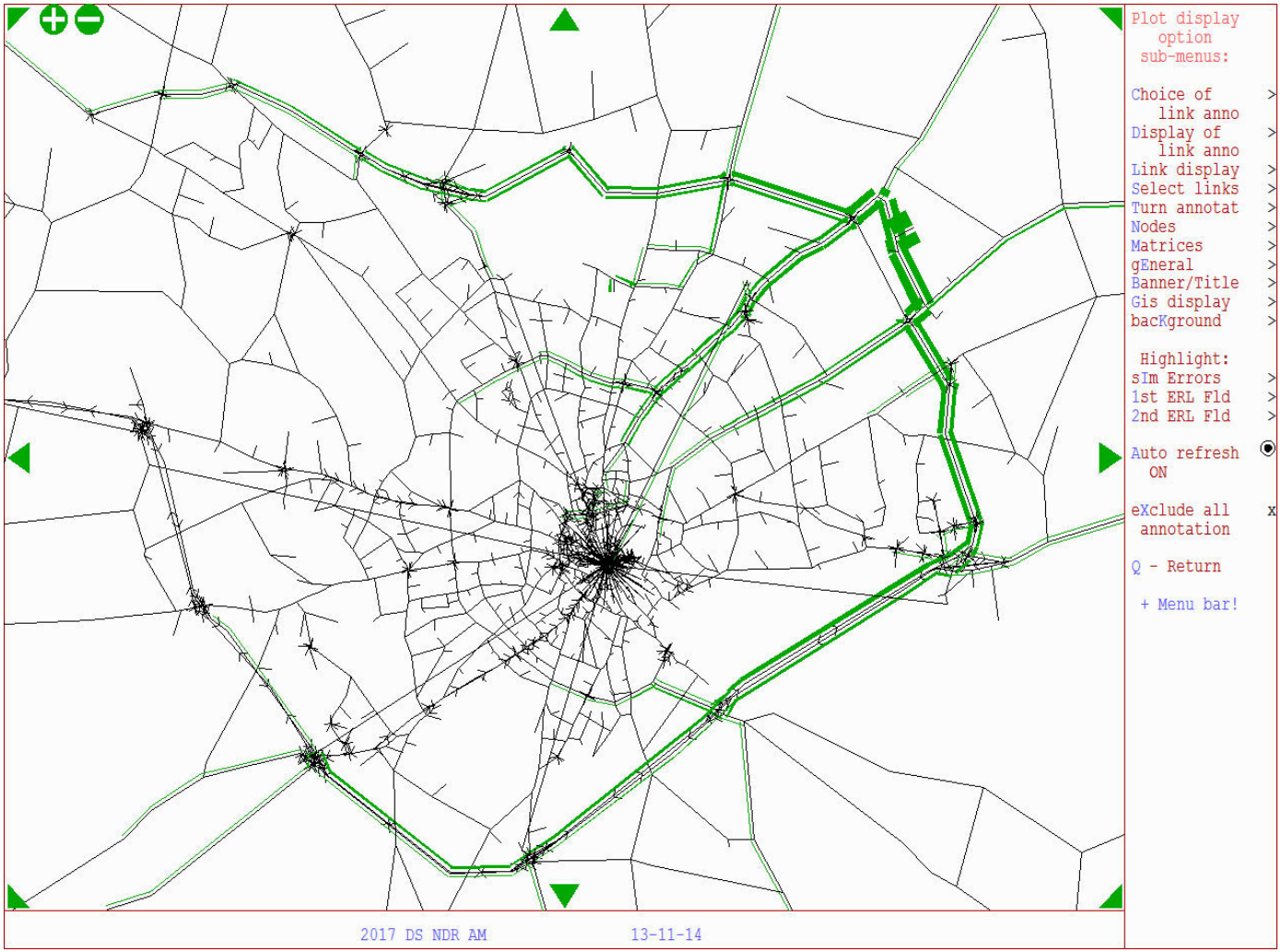


Table 21 – Select link analysis for Rackheath, sector to sector trips (PCUs), 2017 DS IP

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
2	0	0	0	0	0	0	0	19	0	0	0	0	0	0	0	19
3	0	0	0	0	0	0	0	19	0	0	0	0	0	0	0	19
4	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
5	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
6	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
7	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	10
8	8	17	20	8	1	3	5	18	1	11	8	6	4	1	5	113
9	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6
10	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7
11	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
12	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7
13	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4
14	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
15	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6
SUM	8	17	20	8	1	3	5	126	1	11	8	6	4	1	5	**221**

Figure 21 – Select link analysis for Rackheath, 2017 DS IP

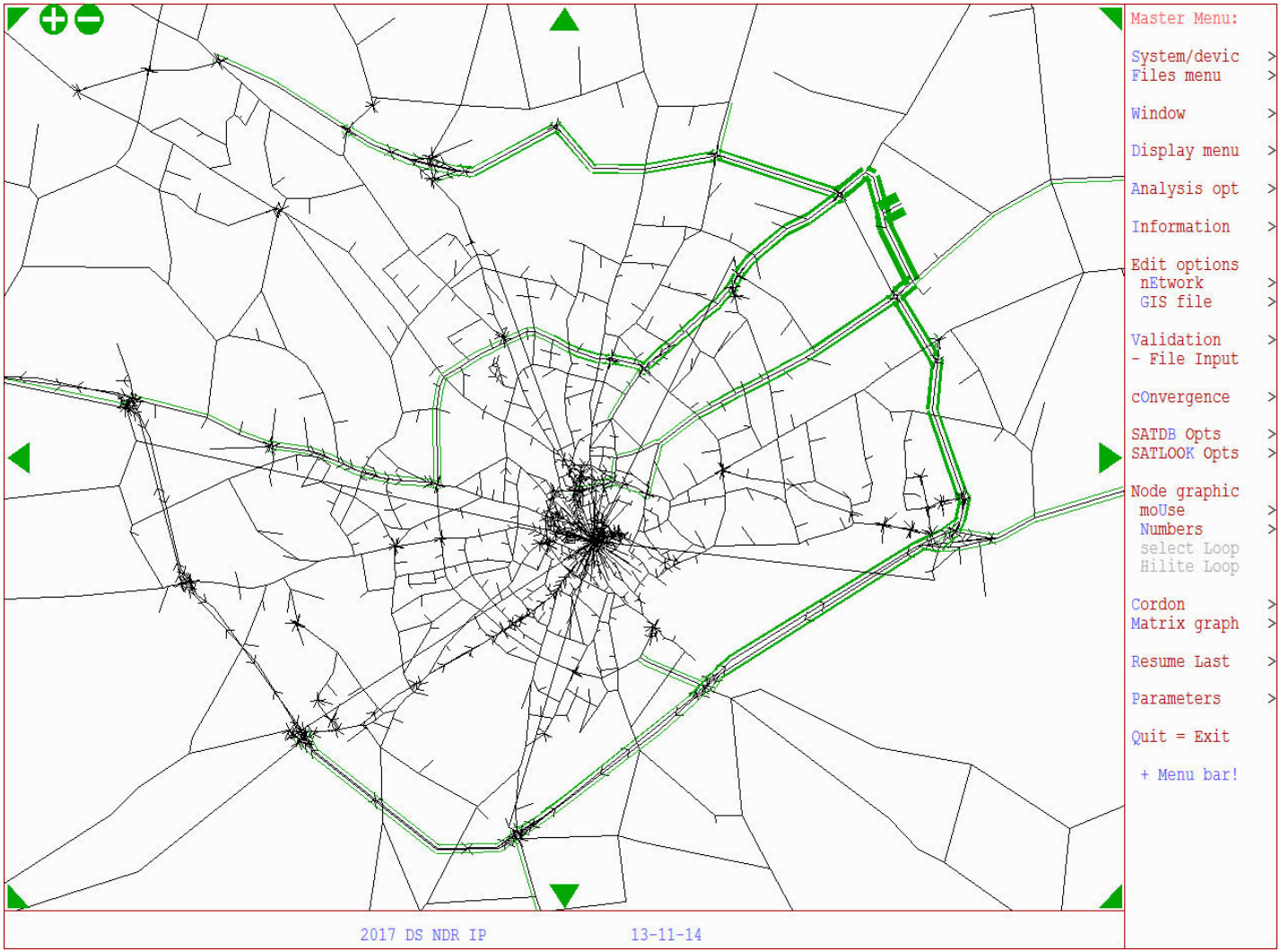


Table 22 – Select link analysis for the Airport South of the A140, sector to sector trips (PCUs), 2017 DS AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	40
2	0	0	149	0	0	0	0	0	0	0	0	0	0	0	0	149
3	21	53	218	17	10	7	11	10	12	34	28	31	19	7	11	490
4	0	0	39	0	0	0	0	0	0	0	0	0	0	0	0	39
5	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	34
6	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	46
7	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	37
8	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	26
9	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	19
10	0	0	67	0	0	0	0	0	0	0	0	0	0	0	0	67
11	0	0	38	0	0	0	0	0	0	0	0	0	0	0	0	38
12	0	0	70	0	0	0	0	0	0	0	0	0	0	0	0	70
13	0	0	70	0	0	0	0	0	0	0	0	0	0	0	0	70
14	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	32
15	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	40
SUM	21	53	925	17	10	7	11	10	12	34	28	31	19	7	11	**1196**

Figure 22 – Select link analysis for the Airport South of the A140, 2017 DS AM peak

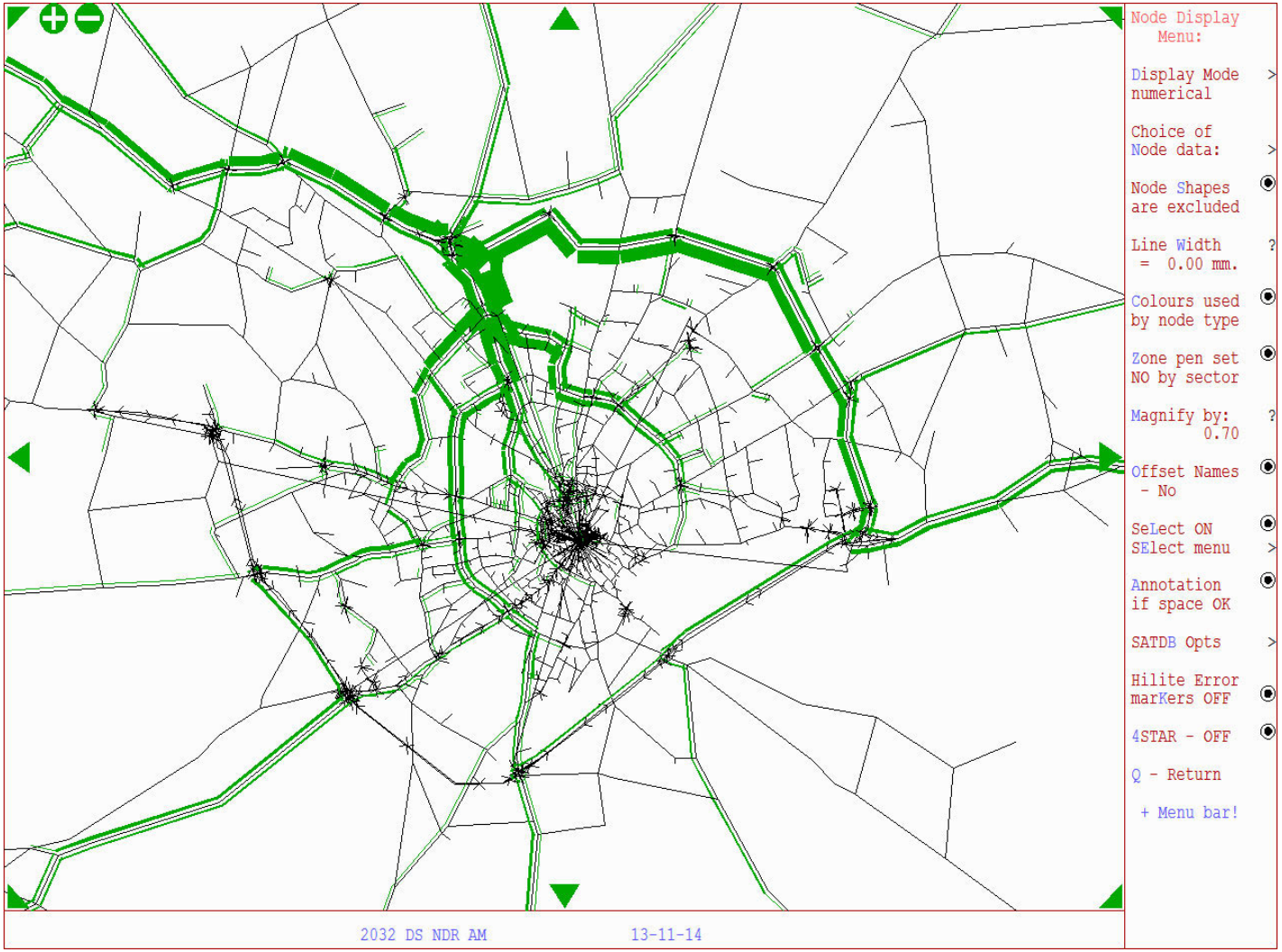


Table 23 – Select link analysis for the Airport South of the A140, sector to sector trips (PCUs), 2017 DS IP

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	30
2	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	50
3	34	58	140	12	12	19	15	13	11	27	16	32	26	13	19	447
4	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	11
5	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
6	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	16
7	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	14
8	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	12
9	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	10
10	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	23
11	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	15
12	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	29
13	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	27
14	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	13
15	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	19
SUM	34	58	418	12	12	19	15	13	11	27	16	32	26	13	19	**725**

Figure 23 – Select link analysis for the Airport South of the A140, 2017 DS IP

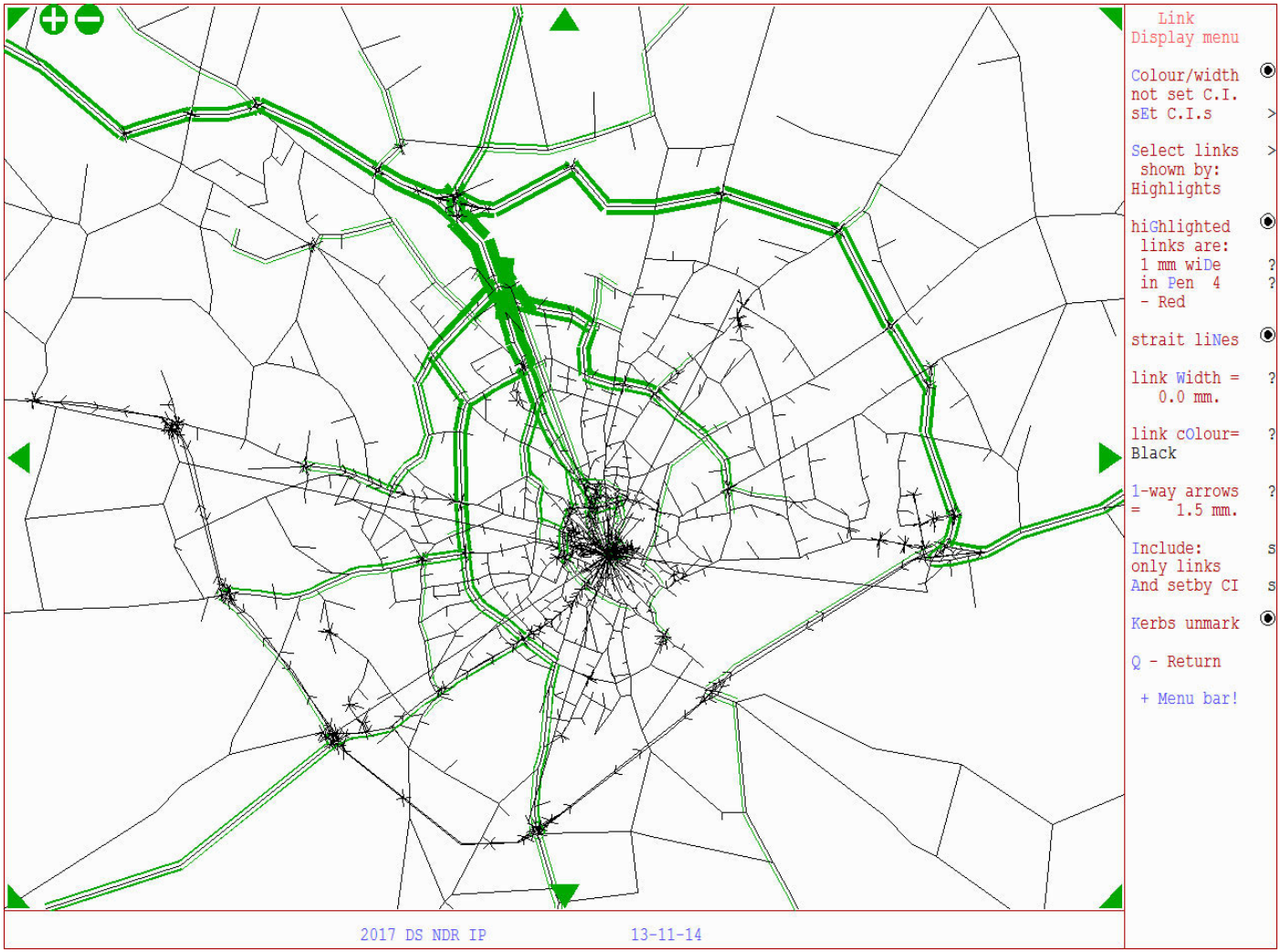


Table 24 – Select link analysis for Broadland Gate, sector to sector trips (PCUs), 2017 DS AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	10
2	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	15
3	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	10
4	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4
7	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
8	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	3	4	3	2	0	1	0	1	0	8	3	1	0	0	0	27
11	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	8
12	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
13	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
SUM	3	4	3	2	0	1	0	1	0	71	3	1	0	0	0	**90**

Figure 24 – Select link analysis for Broadland Gate, 2017 DS AM peak

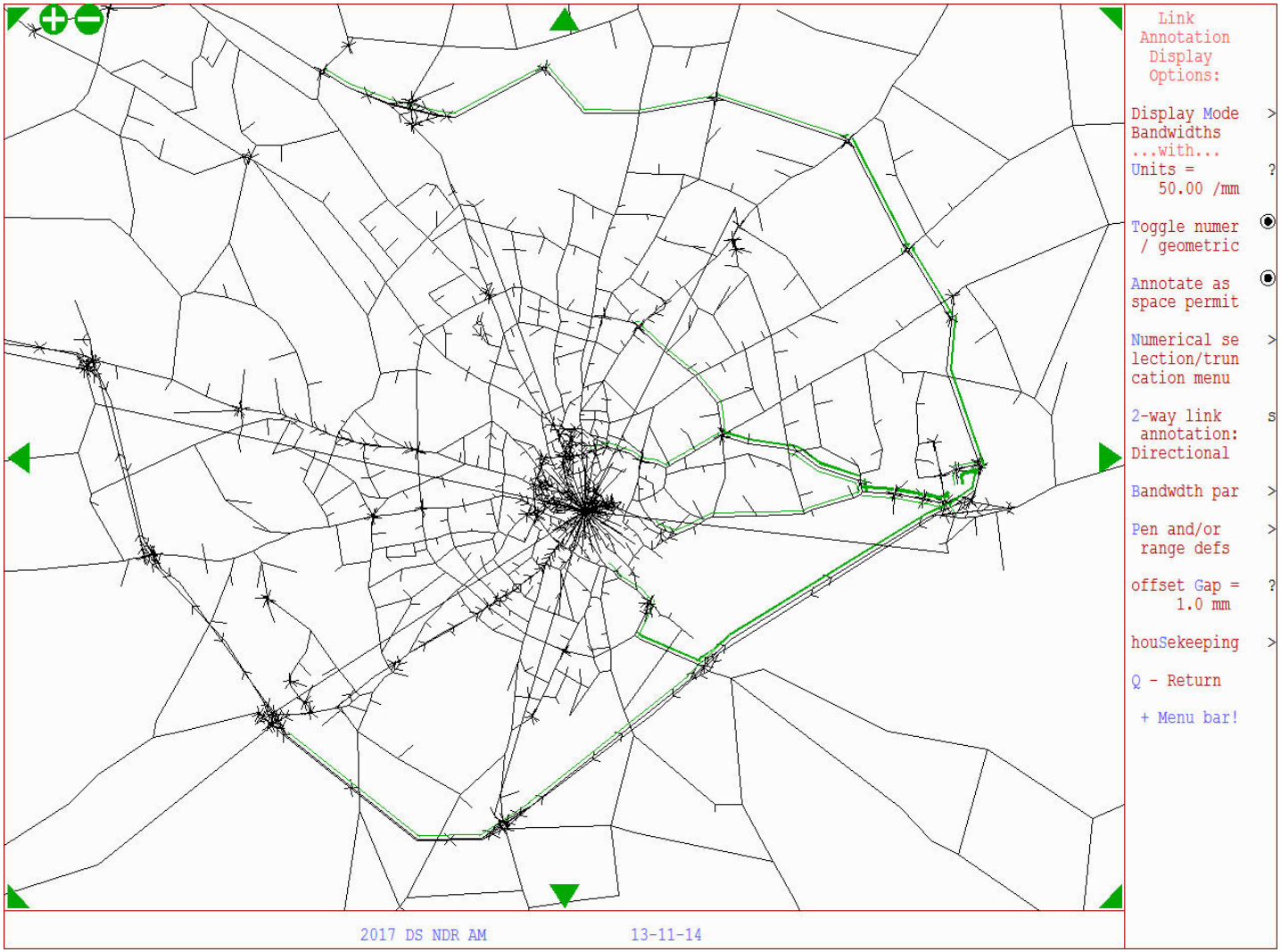


Table 25 – Select link analysis for Broadland Gate, sector to sector trips (PCUs), 2017 DS IP

TO: / FROM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
1	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	6
2	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7
3	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4
4	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
7	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
8	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	5	7	4	2	0	1	1	1	0	5	4	1	0	0	0	33
11	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4
12	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
13	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUM	5	7	4	2	0	1	1	1	0	33	4	1	0	0	0	**61**

Figure 25 – Select link analysis for Broadland Gate, 2017 DS IP

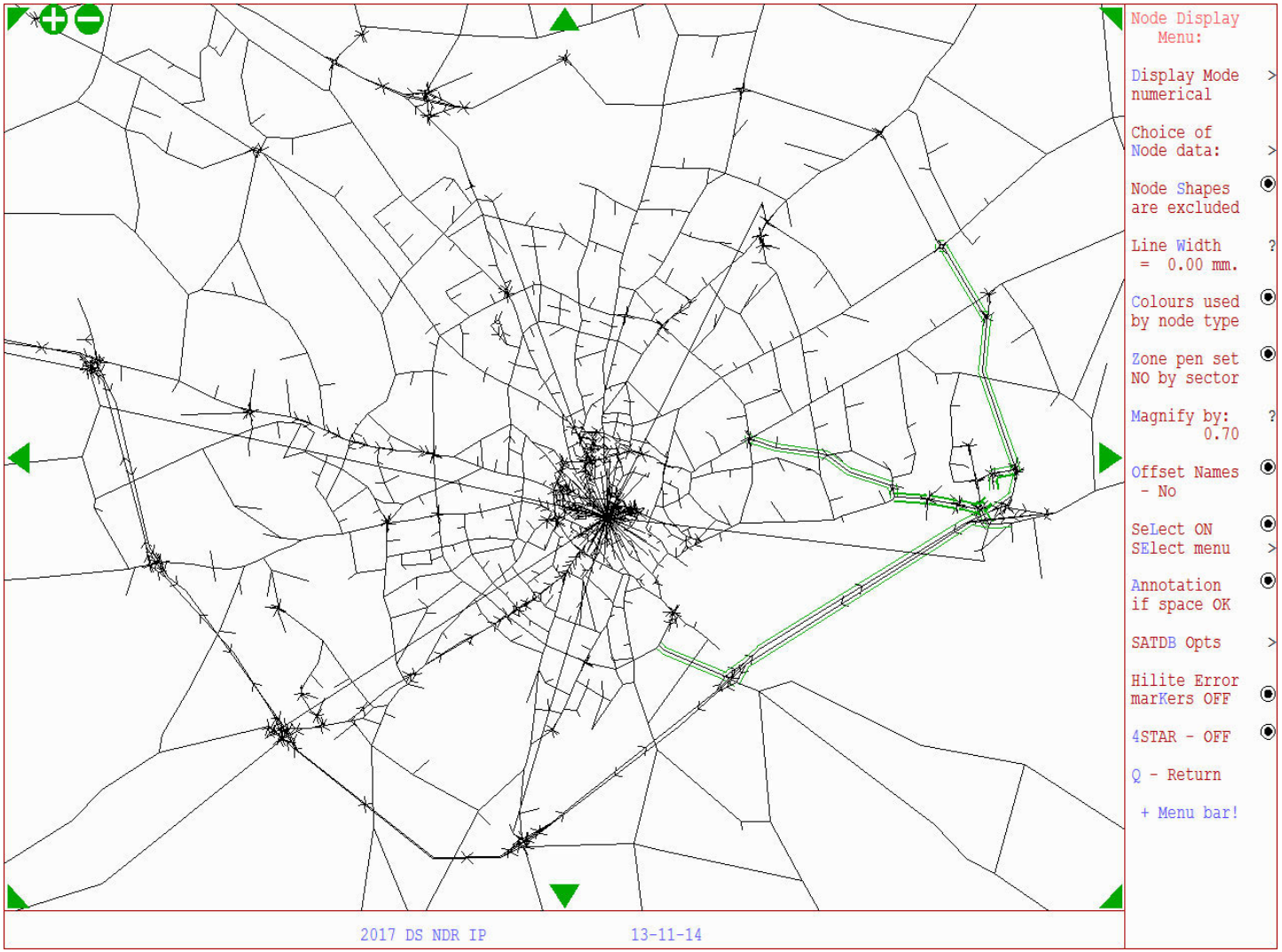


Table 26 – Select link analysis for Broadland Business Park, sector to sector trips (PCUs), 2017 DS AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	4	0	0	0	0	0	10	38	0	0	0	0	52
2	0	0	0	9	0	0	0	0	0	27	132	0	0	0	0	168
3	0	0	0	6	0	0	0	0	0	22	65	0	0	0	0	93
4	1	1	1	3	0	0	0	0	0	33	59	1	0	0	0	100
5	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	4
6	0	0	0	2	0	0	0	0	0	6	3	0	0	0	0	12
7	0	0	0	1	0	0	0	0	0	10	30	0	0	0	0	40
8	0	0	0	2	0	0	0	0	0	21	10	0	0	0	0	32
9	0	0	0	0	0	0	0	0	0	4	8	0	0	0	0	12
10	3	6	3	18	0	1	1	2	0	10	39	2	2	1	5	92
11	14	21	6	27	1	1	5	4	6	8	50	32	12	3	14	204
12	0	0	0	2	0	0	0	0	0	21	100	0	0	0	0	122
13	0	0	0	1	0	0	0	0	0	22	43	0	0	0	0	66
14	0	0	0	0	0	0	0	0	0	15	29	0	0	0	0	45
15	0	0	0	1	0	0	0	0	0	42	15	0	0	0	0	57
SUM	18	28	10	77	2	2	6	5	7	249	625	34	14	3	19	**1099**

Figure 26 – Select link analysis for Broadland Business Park, 2017 DS AM peak

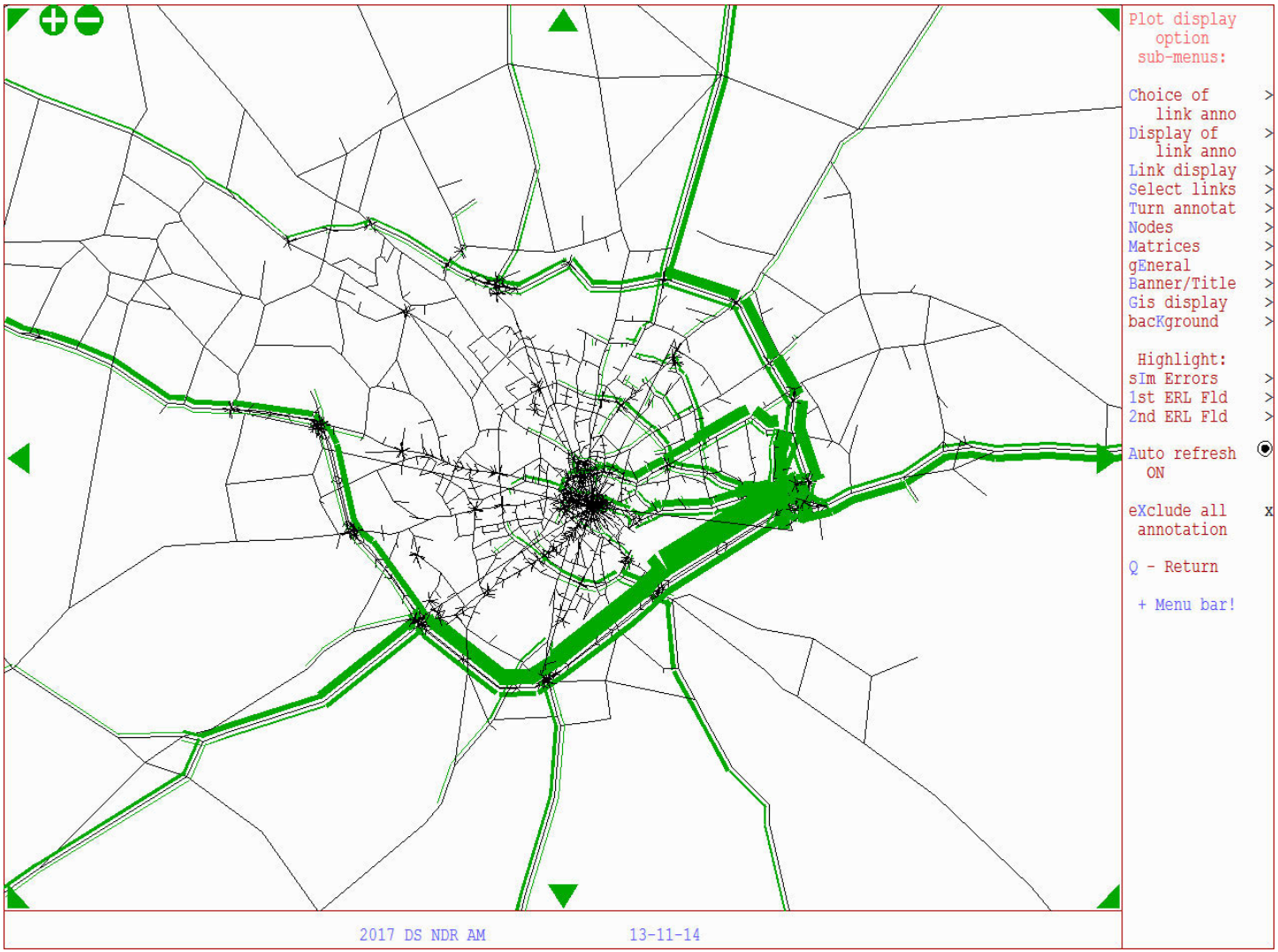


Table 27 – Select link analysis for Broadland Business Park, sector to sector trips (PCUs), 2017 DS IP

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	2	0	0	0	0	0	7	47	0	0	0	0	56
2	0	0	0	2	0	0	0	0	0	10	40	0	0	0	0	52
3	0	0	0	1	0	0	0	0	0	3	10	0	0	0	0	14
4	3	2	1	1	0	0	0	0	0	14	21	1	1	0	0	45
5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
6	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
7	0	0	0	0	0	0	0	0	0	3	5	0	0	0	0	8
8	0	0	0	0	0	0	0	0	0	4	2	0	0	0	0	6
9	0	0	0	0	0	0	0	0	0	2	6	0	0	0	0	8
10	8	14	5	20	0	1	3	3	1	6	13	6	5	1	5	90
11	45	49	27	19	3	4	5	5	8	9	21	42	12	3	12	265
12	0	0	0	1	0	0	0	0	0	7	46	0	0	0	0	54
13	0	0	0	1	0	0	0	0	0	5	22	0	0	0	0	27
14	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	3
15	0	0	0	0	0	0	0	0	0	8	3	0	0	0	0	11
SUM	57	66	33	48	3	5	9	9	9	78	242	48	17	5	18	**644**

Figure 27 – Select link analysis for Broadland Business Park, 2017 DS IP

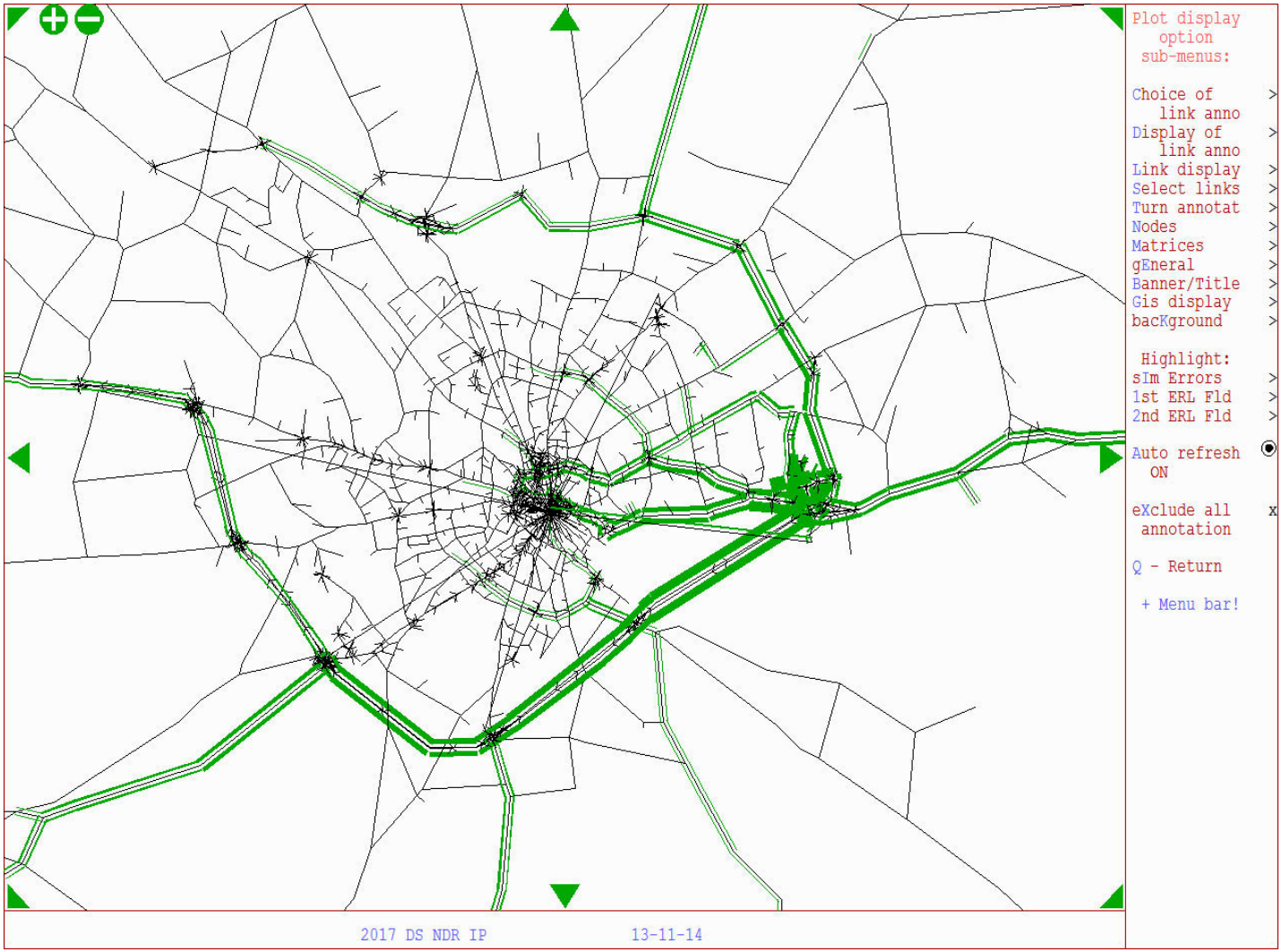


Table 28 – Select link analysis for Rackheath, sector to sector trips (PCUs), 2032 DS AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	0	0	0	0	40	0	0	0	0	0	0	0	40
2	0	0	0	0	0	0	0	114	0	0	0	0	0	0	0	114
3	0	0	0	0	0	0	0	161	0	0	0	0	0	0	0	161
4	0	0	0	0	0	0	0	54	0	0	0	0	0	0	0	54
5	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7
6	0	0	0	0	0	0	0	30	0	0	0	0	0	0	0	30
7	0	0	0	0	0	0	0	40	0	0	0	0	0	0	0	40
8	95	156	145	56	7	26	22	109	2	149	79	37	28	4	24	937
9	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
10	0	0	0	0	0	0	0	68	0	0	0	0	0	0	0	68
11	0	0	0	0	0	0	0	68	0	0	0	0	0	0	0	68
12	0	0	0	0	0	0	0	42	0	0	0	0	0	0	0	42
13	0	0	0	0	0	0	0	41	0	0	0	0	0	0	0	41
14	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4
15	0	0	0	0	0	0	0	36	0	0	0	0	0	0	0	36
SUM	95	156	145	56	7	26	22	821	2	149	79	37	28	4	24	**1650**

Figure 28 – Select link analysis for Rackheath, 2032 DS AM peak

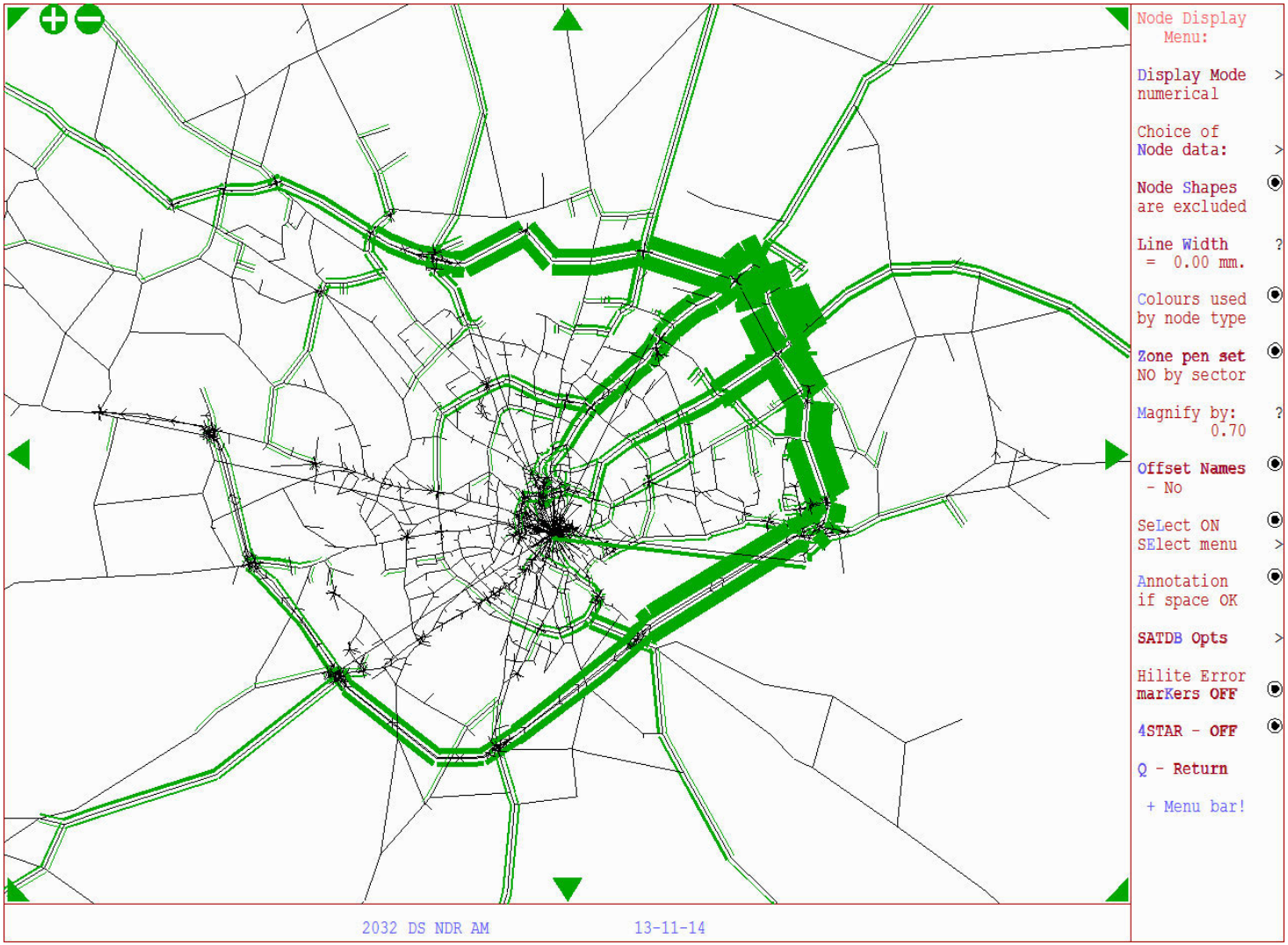


Table 29 – Select link analysis for Rackheath, sector to sector trips (PCUs), 2032 DS IP

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	0	0	0	0	41	0	0	0	0	0	0	0	41
2	0	0	0	0	0	0	0	82	0	0	0	0	0	0	0	82
3	0	0	0	0	0	0	0	87	0	0	0	0	0	0	0	87
4	0	0	0	0	0	0	0	30	0	0	0	0	0	0	0	30
5	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
6	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	10
7	0	0	0	0	0	0	0	19	0	0	0	0	0	0	0	19
8	39	79	90	30	2	12	14	63	2	55	47	26	19	3	15	496
9	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7
10	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	50
11	0	0	0	0	0	0	0	48	0	0	0	0	0	0	0	48
12	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0	26
13	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	21
14	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
15	0	0	0	0	0	0	0	17	0	0	0	0	0	0	0	17
SUM	39	79	90	30	2	12	14	507	2	55	47	26	19	3	15	**940**

Figure 29 – Select link analysis for Rackheath, 2032 DS IP

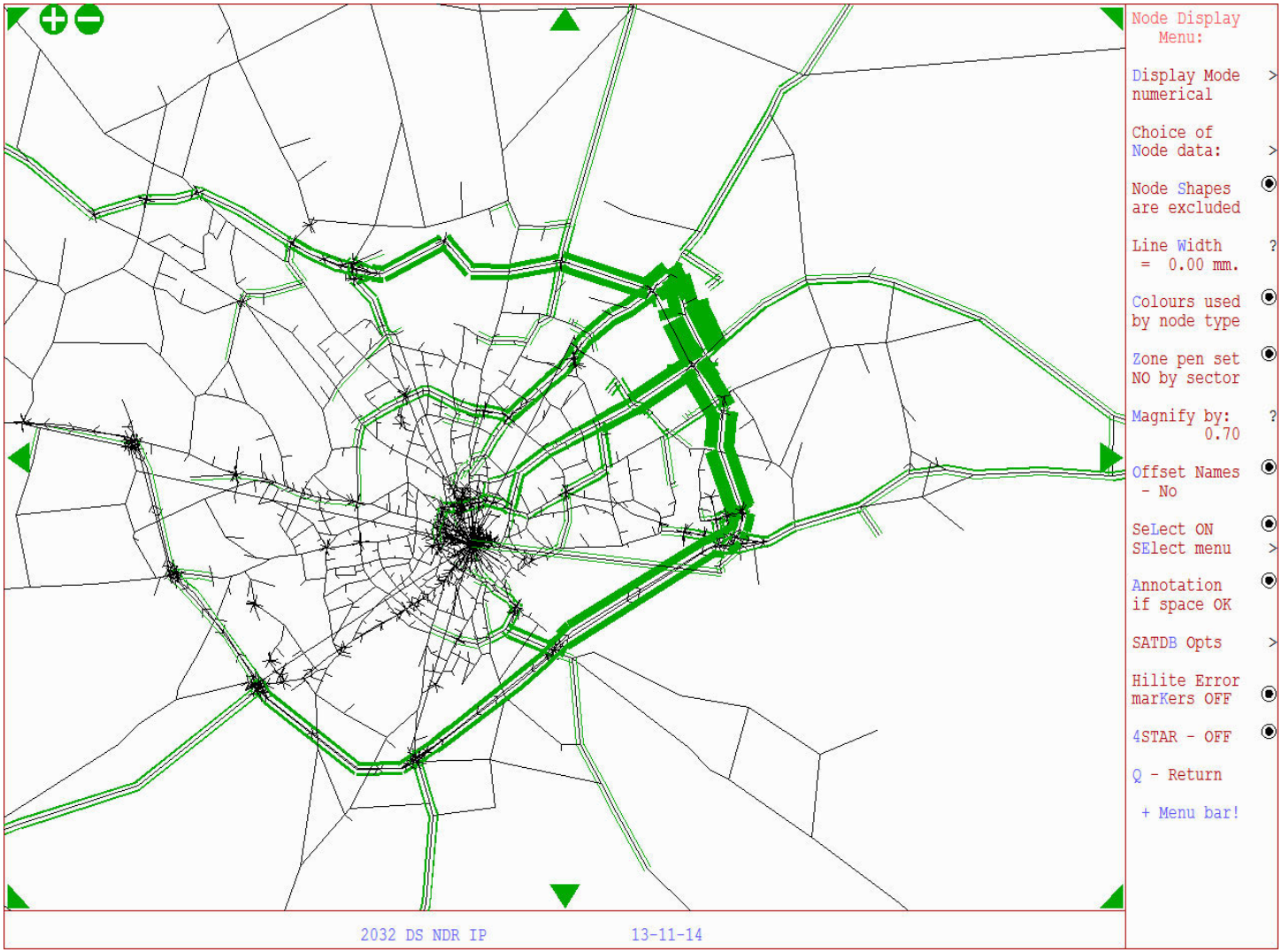


Table 30 – Select link analysis for the Airport south of the A140, sector to sector trips (PCUs), 2032 DS AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	28
2	0	0	104	0	0	0	0	0	0	0	0	0	0	0	0	104
3	18	43	174	15	9	5	9	21	17	39	22	34	25	9	13	453
4	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	29
5	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	22
6	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	29
7	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	33
8	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	34
9	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	26
10	0	0	47	0	0	0	0	0	0	0	0	0	0	0	0	47
11	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	35
12	0	0	70	0	0	0	0	0	0	0	0	0	0	0	0	70
13	0	0	80	0	0	0	0	0	0	0	0	0	0	0	0	80
14	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	33
15	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	37
SUM	18	43	781	15	9	5	9	21	17	39	22	34	25	9	13	**1060**

Figure 30 – Select link analysis for the Airport south of the A140, 2032 DS AM peak

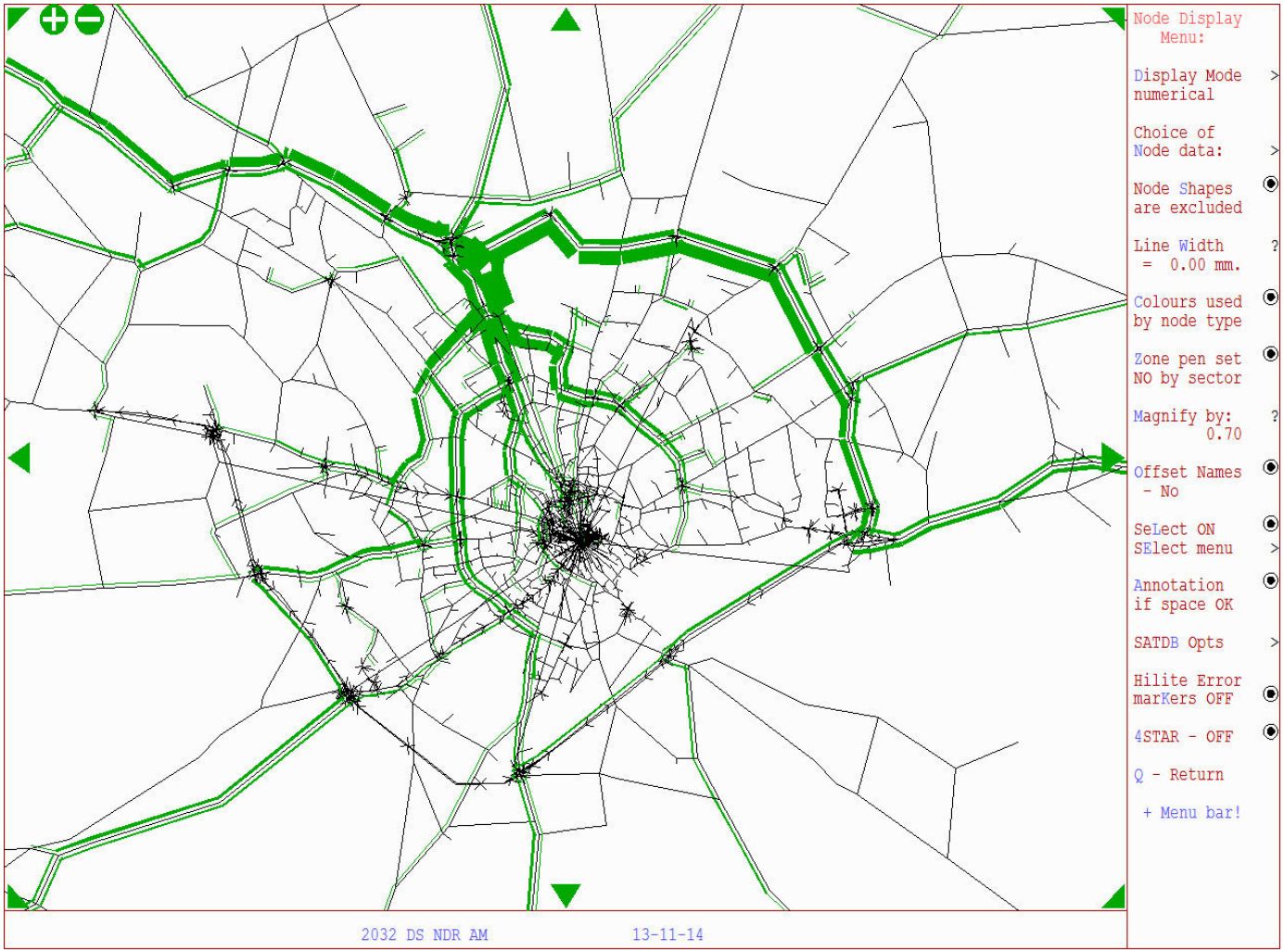


Table 31 – Select link analysis for the Airport south of the A140, sector to sector trips (PCUs), 2032 DS IP

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	29
2	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	46
3	27	50	133	12	11	16	15	19	19	28	16	39	35	17	22	459
4	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	11
5	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
6	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	14
7	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	14
8	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	18
9	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	14
10	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	26
11	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	15
12	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	33
13	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	34
14	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	16
15	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	22
SUM	27	50	433	12	11	16	15	19	19	28	16	39	35	17	22	**758**

Figure 31 – Select link analysis for the Airport south of the A140, 2032 DS IP

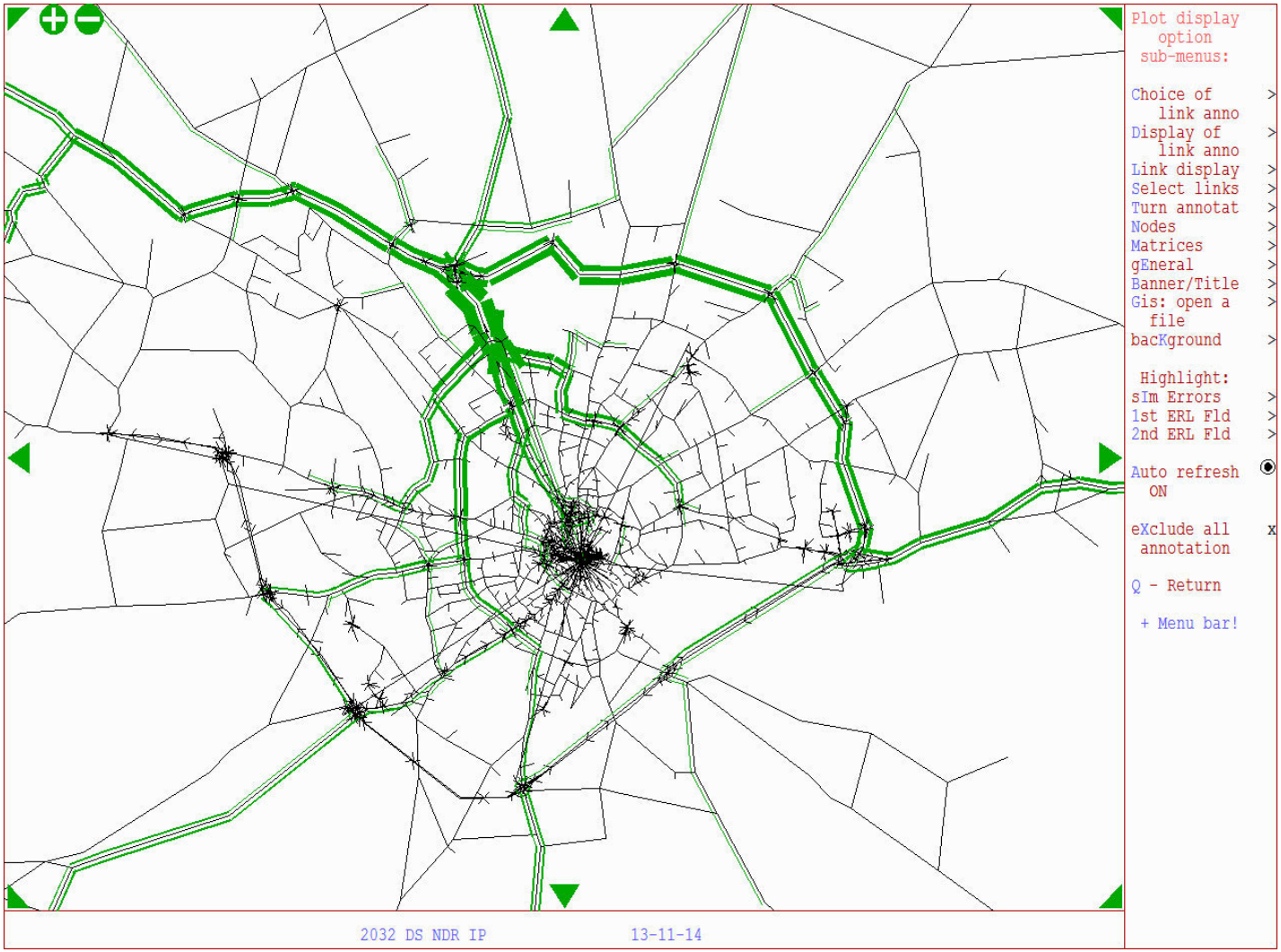


Table 32 – Select link analysis for the Airport north east of the A140, sector to sector trips (PCUs), 2032 DS AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	0	0	0	0	71	0	0	0	0	0	0	0	71
2	0	0	0	0	0	0	0	144	0	0	0	0	0	0	0	144
3	0	0	0	0	0	0	0	133	0	0	0	0	0	0	0	133
4	0	0	0	0	0	0	0	38	0	0	0	0	0	0	0	38
5	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
6	0	0	0	0	0	0	0	29	0	0	0	0	0	0	0	29
7	0	0	0	0	0	0	0	58	0	0	0	0	0	0	0	58
8	22	27	26	8	1	4	7	43	0	37	8	7	9	1	3	203
9	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
10	0	0	0	0	0	0	0	97	0	0	0	0	0	0	0	97
11	0	0	0	0	0	0	0	45	0	0	0	0	0	0	0	45
12	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	21
13	0	0	0	0	0	0	0	41	0	0	0	0	0	0	0	41
14	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
15	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	11
SUM	22	27	26	8	1	4	7	740	0	37	8	7	9	1	3	**900**

Figure 32 – Select link analysis for the Airport north east of the A140, 2032 DS AM peak

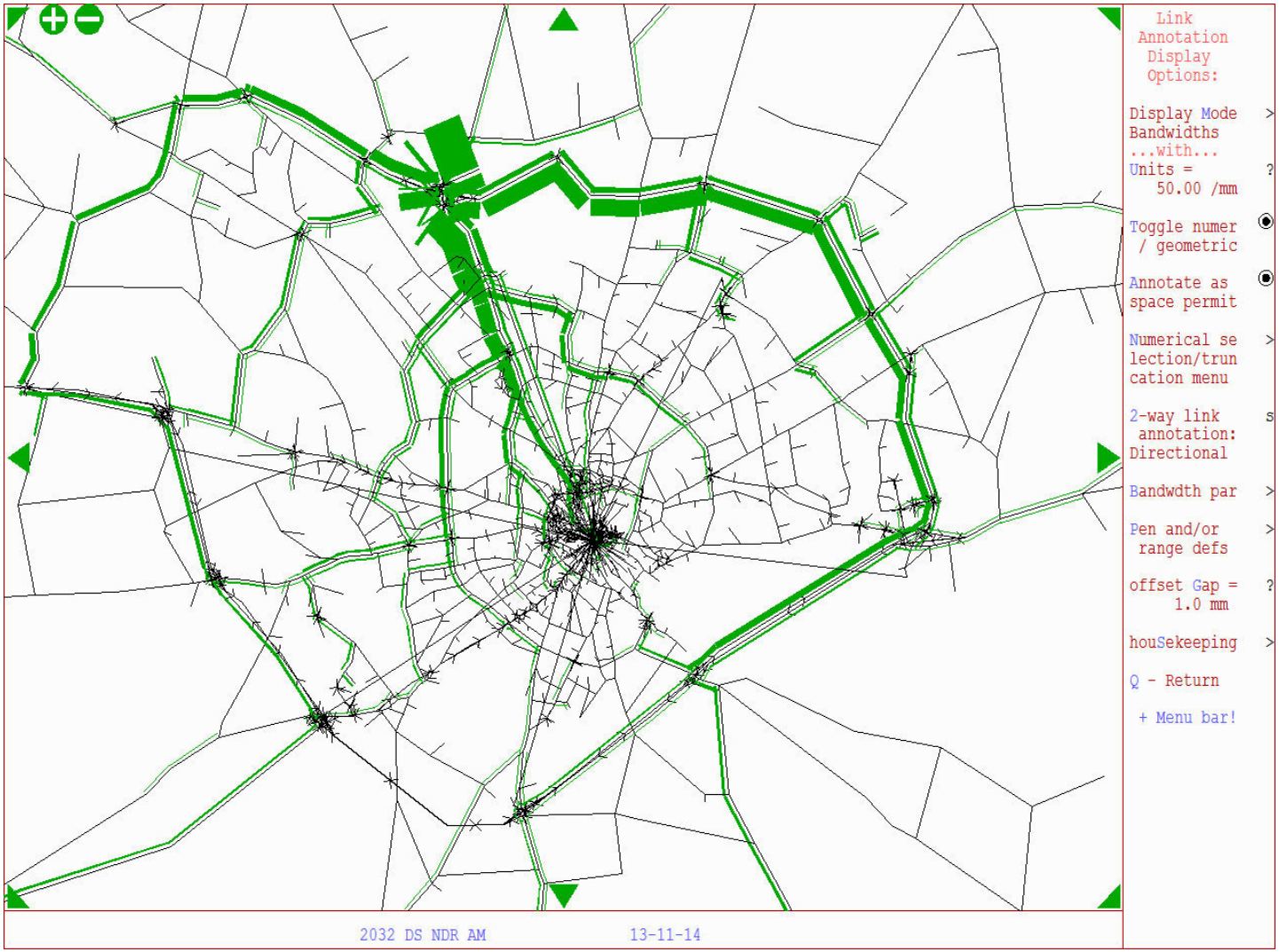


Table 33 – Select link analysis for the Airport north east of the A140, sector to sector trips (PCUs), 2032 DS IP

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	0	0	0	0	27	0	0	0	0	0	0	0	27
2	0	0	0	0	0	0	0	39	0	0	0	0	0	0	0	39
3	0	0	0	0	0	0	0	36	0	0	0	0	0	0	0	36
4	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7
5	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
6	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7
7	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
8	24	40	37	8	1	8	11	15	1	25	10	11	12	2	4	208
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	23	0	0	0	0	0	0	0	23
11	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
12	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
13	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	12
14	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
15	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4
SUM	24	40	37	8	1	8	11	200	1	25	10	11	12	2	4	**393**

Figure 33 – Select link analysis for the Airport north east of the A140, 2032 DS IP

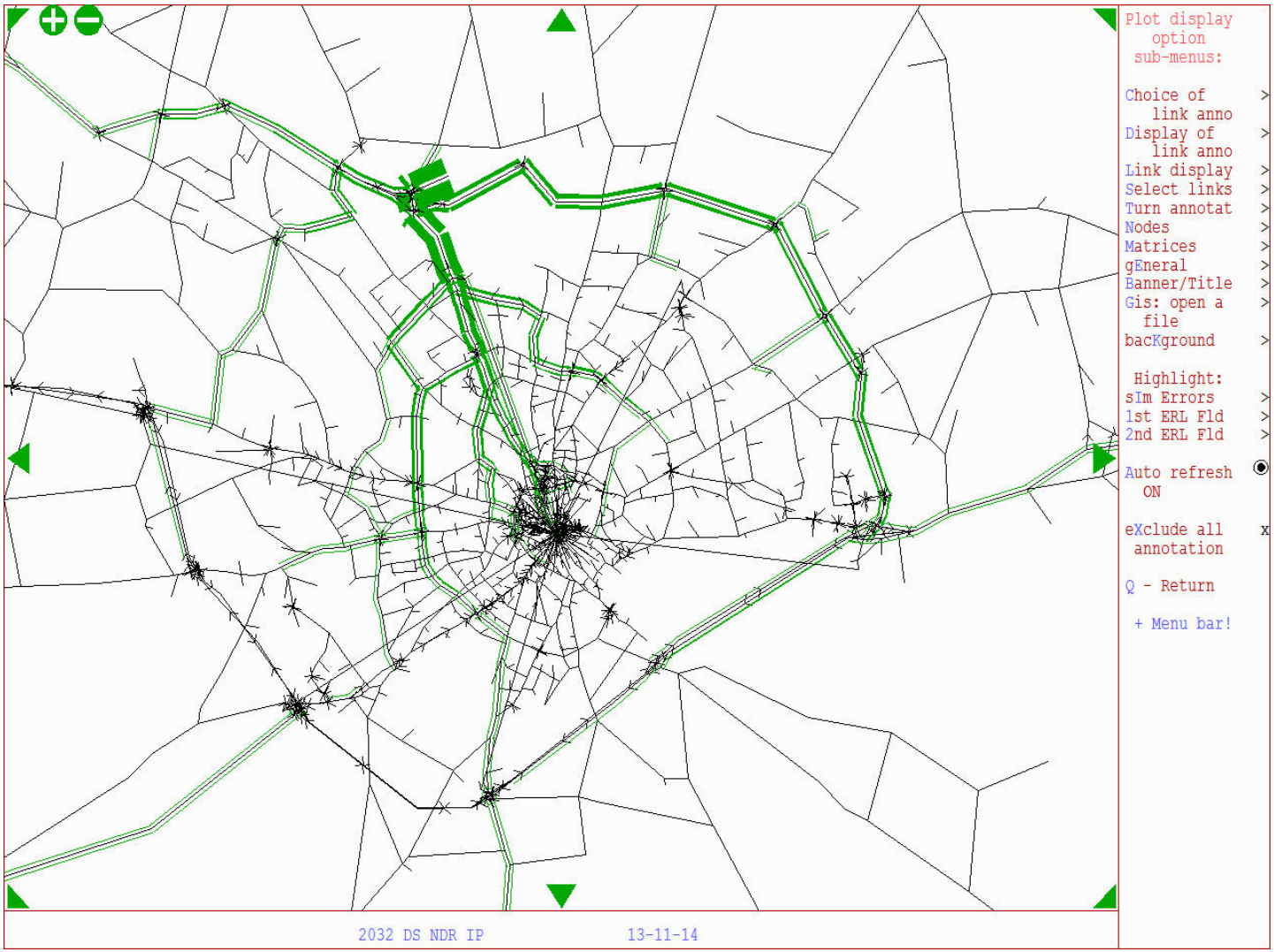


Table 34 – Select link analysis for Broadland Gate, sector to sector trips (PCUs), 2032 DS AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	0	0	0	0	0	0	66	0	0	0	0	0	66
2	0	0	0	0	0	0	0	0	0	117	0	0	0	0	0	117
3	0	0	0	0	0	0	0	0	0	113	0	0	0	0	0	113
4	0	0	0	0	0	0	0	0	0	42	0	0	0	0	0	42
5	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
6	0	0	0	0	0	0	0	0	0	26	0	0	0	0	0	26
7	0	0	0	0	0	0	0	0	0	23	0	0	0	0	0	23
8	0	0	0	0	0	0	0	0	0	67	0	0	0	0	0	67
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	23	35	29	16	0	5	4	20	0	66	29	4	4	0	2	237
11	0	0	0	0	0	0	0	0	0	80	0	0	0	0	0	80
12	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	18
13	0	0	0	0	0	0	0	0	0	17	0	0	0	0	0	17
14	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
15	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	11
SUM	23	35	29	16	0	5	4	20	0	648	29	4	4	0	2	**819**

Figure 34 – Select link analysis for Broadland Gate, 2032 DS AM peak

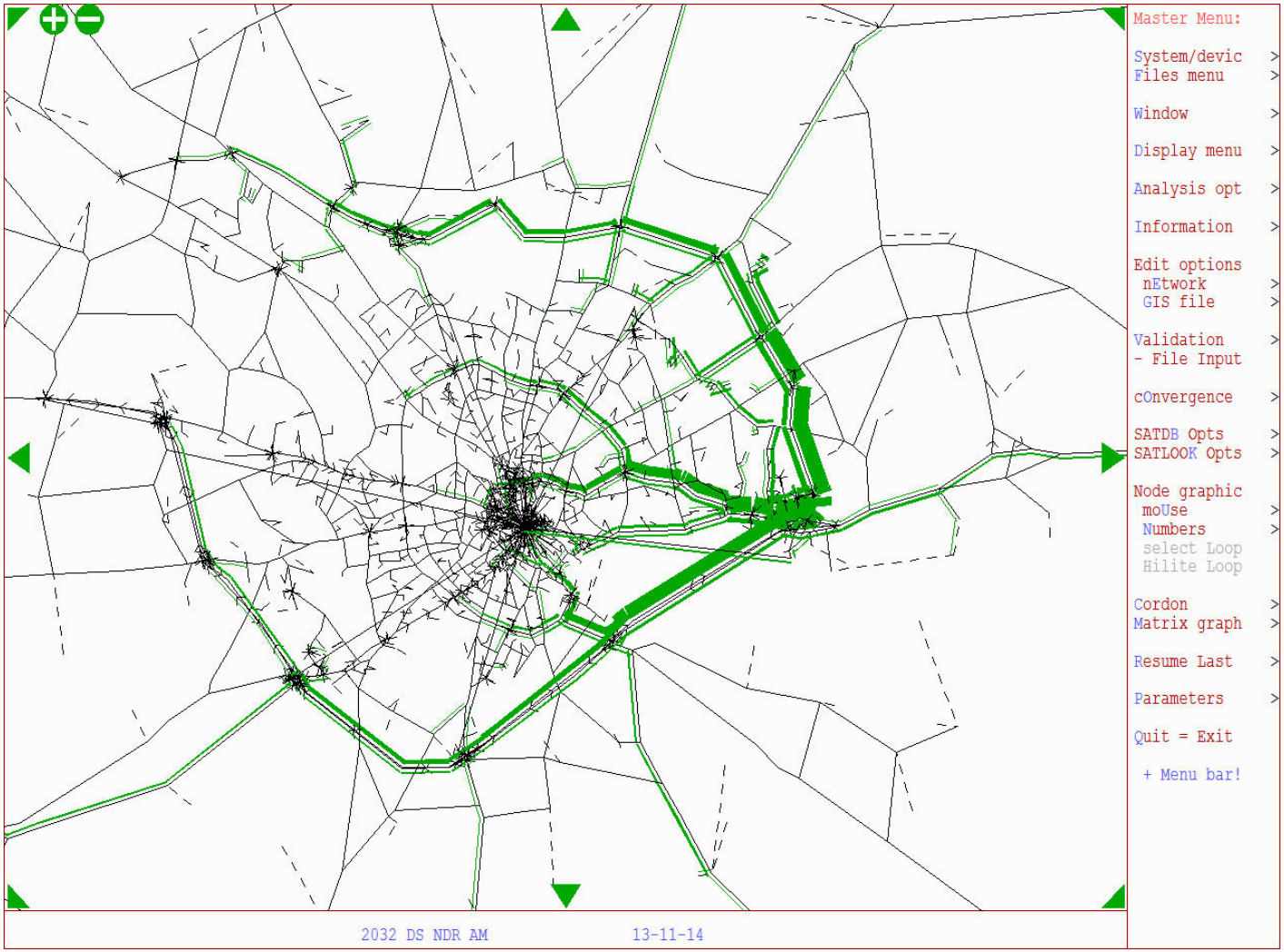


Table 35 – Select link analysis for Broadland Gate, sector to sector trips (PCUs), 2032 DS IP

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	0	0	0	0	0	0	41	0	0	0	0	0	41
2	0	0	0	0	0	0	0	0	0	55	0	0	0	0	0	55
3	0	0	0	0	0	0	0	0	0	44	0	0	0	0	0	44
4	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	21
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7
7	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	8
8	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	25
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	38	55	44	21	1	7	7	25	0	46	43	7	6	0	3	304
11	0	0	0	0	0	0	0	0	0	42	0	0	0	0	0	42
12	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7
13	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	6
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4
SUM	38	55	44	21	1	7	7	25	0	306	43	7	6	0	3	**565**

Figure 35 – Select link analysis for Broadland Gate, 2032 DS IP

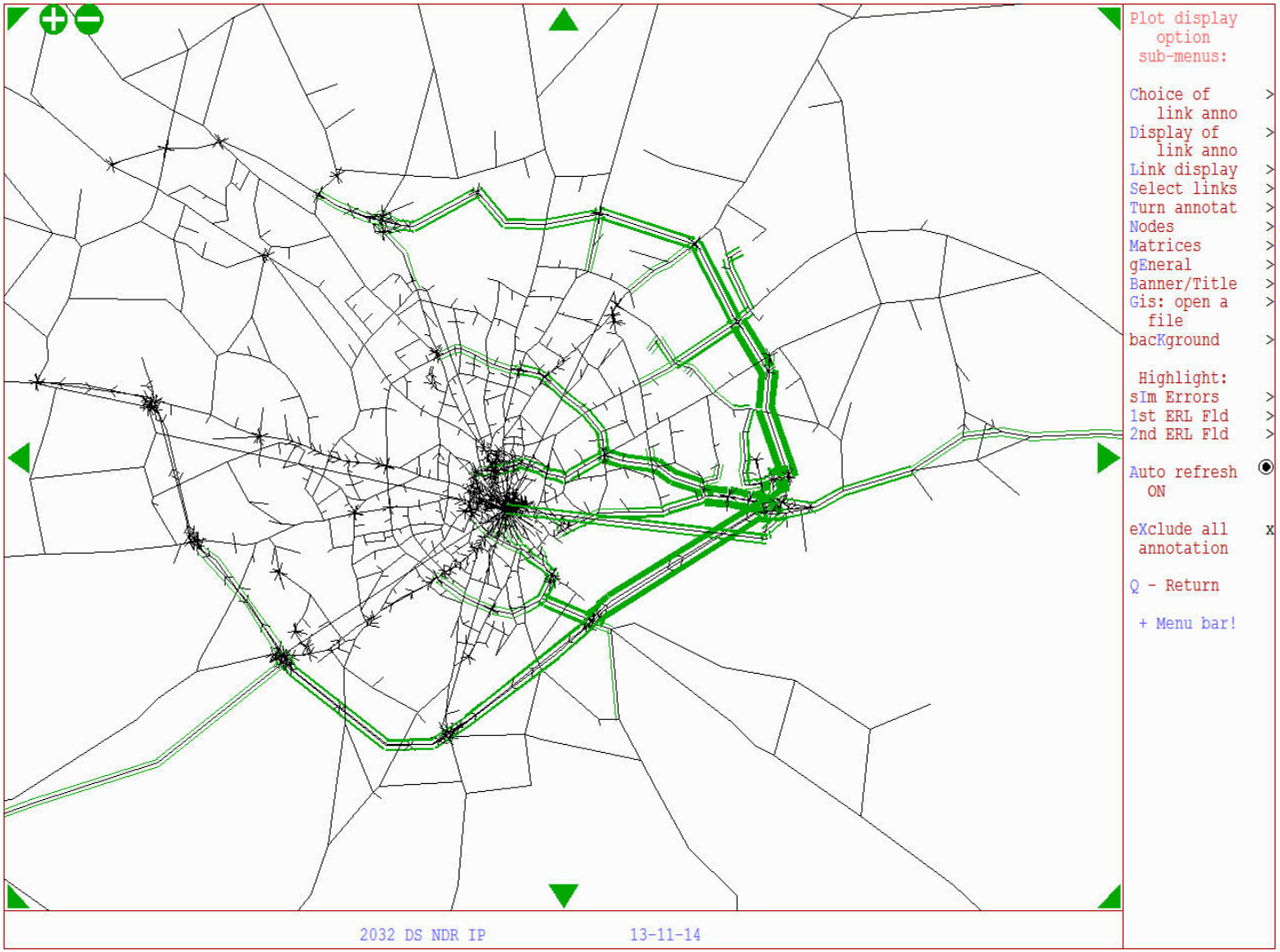


Table 36 – Select link analysis for Broadland Business Park, sector to sector trips (PCUs), 2032 DS AM peak

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	30	0	0	0	0	0	15	20	0	0	0	0	65
2	0	0	0	64	0	0	0	0	0	37	90	0	0	0	0	191
3	0	0	0	74	0	0	0	0	0	36	59	0	0	0	0	169
4	5	7	6	23	0	1	2	5	0	38	49	5	3	0	1	146
5	0	0	0	2	0	0	0	0	0	1	2	0	0	0	0	5
6	0	0	0	13	0	0	0	0	0	8	3	0	0	0	0	24
7	0	0	0	14	0	0	0	0	0	12	23	0	0	0	0	50
8	0	0	0	32	0	0	0	0	0	29	17	0	0	0	0	78
9	0	0	0	0	0	0	0	0	0	6	8	0	0	0	0	14
10	5	8	6	44	0	1	2	6	1	23	31	3	3	1	6	141
11	8	15	6	66	1	1	4	7	12	25	46	34	13	3	16	257
12	0	0	0	15	0	0	0	0	0	23	89	0	0	0	0	127
13	0	0	0	14	0	0	0	0	0	28	46	0	0	0	0	88
14	0	0	0	1	0	0	0	0	0	17	33	0	0	0	0	51
15	0	0	0	7	0	0	0	0	0	47	14	0	0	0	0	69
SUM	18	30	19	399	2	3	7	19	12	343	530	42	20	4	24	**1473**

Figure 36 – Select link analysis for Broadland Business Park, 2032 DS AM peak

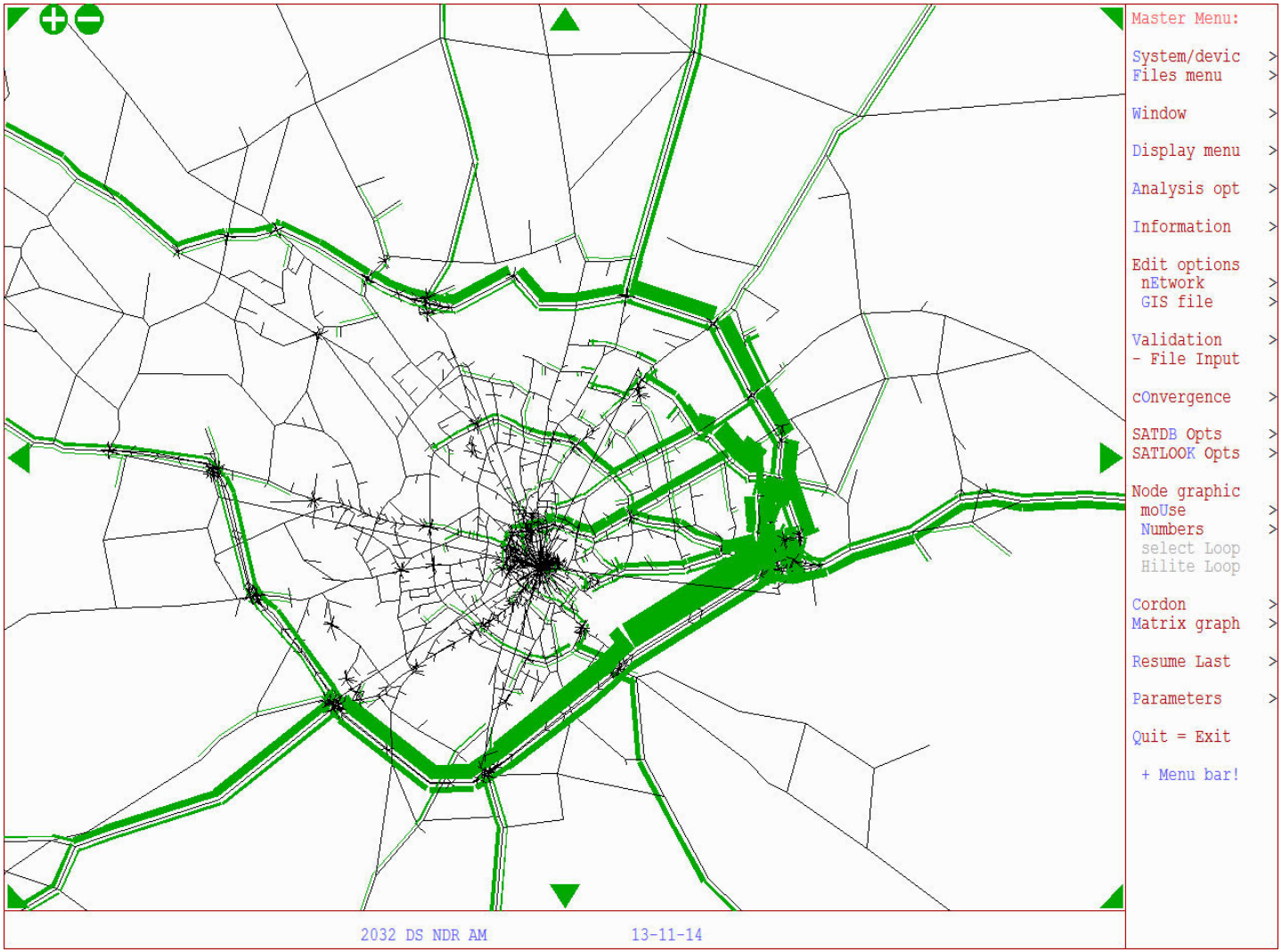


Table 37 – Select link analysis for Broadland Business Park, sector to sector trips (PCUs), 2032 DS IP

TO:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	SUM
FROM																
1	0	0	0	11	0	0	0	0	0	9	40	0	0	0	0	61
2	0	0	0	16	0	0	0	0	0	14	36	0	0	0	0	66
3	0	0	0	13	0	0	0	0	0	7	11	0	0	0	0	32
4	12	18	16	11	0	3	3	8	0	24	31	7	6	1	2	143
5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2
6	0	0	0	2	0	0	0	0	0	1	1	0	0	0	0	5
7	0	0	0	3	0	0	0	0	0	4	5	0	0	0	0	12
8	0	0	0	7	0	0	0	0	0	6	6	0	0	0	0	19
9	0	0	0	0	0	0	0	0	0	2	7	0	0	0	0	10
10	10	18	10	29	0	1	5	6	1	13	19	8	8	2	7	138
11	31	42	26	27	3	4	5	9	28	15	23	44	16	4	15	291
12	0	0	0	7	0	0	0	0	0	9	49	0	0	0	0	64
13	0	0	0	6	0	0	0	0	0	8	28	0	0	0	0	42
14	0	0	0	1	0	0	0	0	0	1	3	0	0	0	0	4
15	0	0	0	2	0	0	0	0	0	10	4	0	0	0	0	16
SUM	54	78	52	135	3	8	13	23	29	124	265	59	29	6	24	**903**

Figure 37 – Select link analysis for Broadland Business Park, 2032 DS IP