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

# NDR Option Comparative Table

Planning Act 2008

Infrastructure Planning

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

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Norfolk County Council

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## 1. Transport Economic Efficiency (TEE) Tables

			DCO				NDR	+ NATS P1	Ī		NDR + I	NATS PT a	II measure	es/ops from	2017		PT C	ption orig	inal			PT C	ption Cori	ected	
	All Modes		Road		Bus	All Modes		Road		Bus	All Modes		Road		Bus	All Modes		Road		Bus	All Modes		Road		Bus
Consumer - Comm	uting user b	enefits																							
Travel Time	61783		61783		0	134820		61371		73450	134408		60336		74072	-19271*		-20293		1022*	38170		-20293		58463
Vehicle operating costs	-13532		-13532		0	-22971		-22971		0	-23436		-23436		0	-11863		-11863		0	-11863		-11863		0
User charges	2912		2912		0	1782		3681		-1899	1137		3102		-1965	-7816*		-626		-7190*	-1579		-626		-953
During Construction &																									
Maintenance NET CONSUMER - COMMUTING	0		0		0	0		0		0	0		0		0	0		0		0	0		0		0
BENEFITS	51164		51164		0	113632		42081		71550	112109		40003		72107	-38950*		-32782		-6168*	24729		-32782		57510
Consumer - Other u	user benefits	S																			<u> </u>				
Travel Time		-																							
	300588		300588		0	833213		299914		533298	836863		298144		538719	-84701*		-93104		8403*	429468		-93104		522572
Vehicle operating	-		-					-			-		-		0										
costs	115467		115467		0	-131303		131303		0	131151		131151			-20270		-20270		0	-20270		-20270		0
User charges	195502		195502		0	177380		196018		-18638	176847		195303		-18456	52030*		164731		۔ 112701*	149606		164731		-15126
During																									
Construction & Maintenance	0		0		0	0		0		0	0		0		0	0		0		0	0		0		0
NET CONSUMER - OTHER BENEFITS	380623		380623		0	879290		364630		514661	882560		362296		520264	-52941*		51357		۔ 104298*	558804		51357		507446
Business Impacts	All Modes	Road Pers	Road Fre	Bus Pers	Bus Fre	All Modes	Road Pers	Road Fre	Bus Pers	Bus Fre	All Modes	Road Pers	Road Fre	Bus Pers	Bus Fre	All Modes	Road Pers	Road Fre	Bus Pers	Bus Fre	All Modes	Road Pers	Road Fre	Bus Pers	Bus Fre
Travel Time											596964	221004	181827	194133		-									
Vehicle operating	406852	224613	182239	0	0	597296	222577	182308	192411	0	-21967	-4361	-17606	0	0	146038*	-102121	-48435	4519*	0	116010	-102121	-48435	266567	0
costs	-21768	-4247	-17521	0	0	-21749	-4264	-17485	0	0	21507	4501	17000	Ū	0	-17001	-6197	-10804	0	0	-17001	-6197	-10804	0	0
User charges	2669	2669	0	0	0	2231	2684	0	-453	0	2245	2693	0	-448	0	-7597*	2733	0	-10330*	0	2392	2733	0	-341	0
During Construction &																									
Maintenance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub Total	387753	223035	164718	0	0	577778	220997	164824	191957	0	577241	219335	164222	193685	0	- 170636*	-105585	-59240	-5812*	0	101401	-105585	-59240	266225	0
Drivota Castar Da	idor Im	2																							
Private Sector Prov Revenue	nder impact	5													I										
TEVENUE	- 119956		- 115338		4610	-384531		- 119348		- 265183	- 383321		- 118431		- 264890	۔ 155031*		-94915		-60116*	- 300357		-94915		-205442
Operating costs	006611		110338		-4619	504551		115540		- 203103	-		110431			100001		-9-1910		-00110	500357		-9-915		-200442
	0		0		0	-187564		0		187564	207219		0		207219	0		0		0	0		0		0
Investment costs	-		-		-																-				
	0		0		0	0		0		0	0		0		0	-502032		-20355		-481677	502032		-20355		-481677
Grant/subsidy	0		0		0	0		0		0	0		0		0	0		0		0	0		0		0
Sub Total	- 119956		- 115338		-4619	-572095		-		-	-		-		-	-		-		-	-		-		-687119

					119348	452747	590540	118431	472109 657063*	115270	541793*	802389	115270	
Other business Imp	pacts													
Developer contributions	0	0	0	0	0	0	0	0	0 0	0	0	0	0	0
NET BUSINESS IMPACT							10000					-		
	267797			5683			-13299		827699*			700988		
TOTAL														
Present Value of Transport Economic Efficiency Benefits (TEE)									-			-		
Benefits (TEE)	699584			998605			981370		919590*			117455		

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 PT Option corrected columns

DCO: Table 5.1 of Document Ref 5.7; repeated in Appendix A NCC/EX/90

NDR + NATS PT: Table 8 of NCC/EX/72; repeated in Appendix A NCC/EX/90

NDR + NATS PT all measures/ops from 2017: Table 8 of NCC/EX/90

PT Option original: Table 1 of NCC/EX/90

PT Option corrected: Table 3 of NCC/EX/71; repeated in Appendix A NCC/EX/90

#### Norwich Northern Distributor Road

#### Document Reference: NCC/EX/106

## 2. Analysis of Monetised Costs and Benefits Tables

Item	Accidents Included (£000)									
	DCO	NDR + NATS PT (NCC/EX/72)	NDR + NATS PT all improvements from 2017	PT Option original	PT Option corrected					
Accidents (not assessed by TUBA)	41,219	36,186	36,186*	-11,718	-11,718					
Greenhouse Gases	-22,756	-27,964	-27,984	-5,431	-5,431					
Economic Efficiency: Consumer Users (Commuting)	51,164	113,632	112,109	-38,950	24,729					
Economic Efficiency: Consumer Users (Other)	380,623	879,290	882,560	-52,941	558,804					
Economic Efficiency: Business Users and Providers	267,797	5,683	-13,299	-827,699	-700,988					
Wider Public Finances (Indirect Taxation Revenues)	55,270	109,352	109,419	20,803	43,478					
Present Value of Benefits (PVB)	773,317	1,116,179	1,098,991	-915,936	-91,126					
Broad Transport Budget Present Value of Costs (PVC)	185,542	186,544	186,315	26,611	26,611					
OVERALL IMPACTS										
Net Present Value (NPV)	587,775	929,635	912,676	-942,547	-117,737					
Benefit to Cost Ratio (BCR)	4.168	5.983	5.899	-34.419	-3.424					

Notes: All monetary values are expressed in 2010 prices discounted to 2010 \*Assumed similar to NDR + NATS PT (NCC/EX/72)

DCO: Table 5.3 of Document Ref 5.7; repeated in Table 7 of NCC/EX/90

NDR + NATS PT: Table 6 of NCC/EX/72; repeated in Table 7 of NCC/EX/90

NDR + NATS PT all measures/ops from 2017: Table 7 of NCC/EX/90

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Document Reference: NCC/EX/106

PT Option original: Table 10.9 of Appendix B of Document Ref 5.12

PT Option corrected: Table 1 of NCC/EX/71

## 3. Wider economic benefits and Journey time reliability

Wider Economic benefits:

	Year 2017	Year 2032	Full Appraisal Period	Year 2017	Year 2032	Full Appraisal Period	Year 2017	Year 2032	Full Appraisal Period	Year 2017	Year 2032	Full Appraisal Period
Agglomeration – manufacturing	(£) 376,864	(£) 218,217	(£) 12,099,287	(£) 373,874	(£) 215,690	(£) 11,968,637	(£) -139,452	(£) -125,914	(£) -6,445,905	(£) -139,452	(£) -125,914	(£) -6,445,905
Agglomeration – construction	308,611	190,741	10,433,028	306,365	188,615	10,324,901	-157,539	-162,540	-8,166,592	-157,539	-162,540	-8,166,592
Agglomeration - consumer services	946,115	724,016	38,054,835	938,458	714,885	37,604,220	-594,045	-887,759	-42,775,043	-594,045	-887,759	-42,775,043
Agglomeration - producer services	2,413,810	1,577,908	85,351,823	2,397,401	1,555,704	84,271,260	-2,378,999	-4,411,316	-208,618,191	-2,378,999	-4,411,316	-208,618,191
Agglomeration – Total	4,045,400	2,710,882	145,938,973	4,016,098	2,674,894	144,169,018	-3,270,035	-5,587,529	-266,005,731	-3,270,035	-5,587,529	-266,005,731
Labour supply impact	44,195	71,134	2,634,209	41,514	68,747	2,537,606	-40,160	-42,895	-1,681,254	-40,160	-42,895	-1,681,254
Increased output in imperfectly competitive market			38,775,300			37,477,500			-16,802,700			-16,802,700
The move to more/less productive jobs			Not assessed			Not assessed			Not assessed			Not assessed
Total	4,089,595	2,782,016	187,348,482	4,057,612	2,743,641	184,184,124	-3,310,195	-5,630,424	-284,489,685	-3,310,195	-5,630,424	-284,489,685

Notes: All entries are in £ in 2010 prices discounted to 2010

DCO: Table 8.1 of Document Ref 5.7

NDR + NATS PT: Overall figures - Section 5.1.5 of NCC/EX/72; supporting sub-entries added from existing data sheets

NDR + NATS PT all measures/ops from 2017: Not calculated due to limited timescale as explained in Section 4.6 of NCC/EX/90

PT Option original: Overall figures – Section 10.2.25 of Appendix B of Document Ref 5.12; supporting sub-entries added from existing data sheets

PT option corrected: Overall figures - Section 1.2.5 of NCC/EX/71; supporting sub-entries added from existing data sheets

#### Document Reference: NCC/EX/106



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## 4. Costs - investment and other costs

#### Summary investment and other costs

Cost type	Cost (£m) in 2013Q1 prices									
	DCO Scheme	NDR + NATS PT strategy (NCC/EX/72)	NDR + NATS PT strategy all improvements from 2017	PT Option original/ corrected						
Investment costs										
Construction	110.2	110.2	110.2	37.7						
Land	22.0	22.0	22.0	2.4						
Preparation	7.8	7.8	7.8	3.8						
Supervision	1.3	1.3	1.3	0.4						
Total investment Cost	141.3	141.3	141.3	44.3						
Other costs										
Maintenance	27.8	27.8	27.8	5.5						
Operation	15.9	15.9	15.9	1.4						
Cost of PT (buses/operation/maintenance)	-	500.9	548.1	1,211.9						

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

DCO: Tables 4.1, 4.7, and 4.8 of Document Ref 5.7; collated in Table 6 of NCC/EX/90

NDR + NATS PT: Table 4 of NCC/EX/72; repeated in Table 6 of NCC/EX/90

NDR + NATS PT all measures/ops from 2017: Table 6 of NCC/EX/90

PT Option original: Table 10.3 of Document Ref 5.12

PT Option corrected: data not presented in NCC/EX/71 but same as PT Option original because no change to PT Option costs as explained in Section 1.2 of NCC/EX/71 and in Section 1.1 of NCC/EX/90

#### Allocation of discounted bus costs by cost element

Costs over a 60 year appraisal period	Cost (£m, 2010 prices discounted to 2010)								
	NDR + NATS PT	NDR + NATS PT all measures/ops from 2017	PT Option original/corrected						
Cost of buying vehicles	20.8	22.8	49.5						
Refurbishment cost of core buses	0.3	0.4	1.1						
Vehicle operating costs	166.9	183.8	431.4						
Total cost	188	207	482						

DCO: N/A

NDR + NATS PT: Table 4 of NCC/EX/90 [NB the heading of Table 4 erroneously refers to the PT Option and should refer to the NDR + NATS PT]

NDR + NATS PT all measures/ops from 2017: Figures not presented in NCC/EX/90 but supplied from supporting data sheets

PT Option original: Data not presented in Document Ref 5.12 but same as PT Option corrected (see Table 3 of NCC/EX/90) because no change to PT Option costs as explained in Section 1.2 of NCC/EX/71 and in Section 1.1 of NCC/EX/90

PT Option corrected: Table 3 of NCC/EX/90

Document Reference: NCC/EX/106

## **5. Public accounts tables**

ltem			Cost (£000s)		
	DCO	NDR + NATS PT (NCC/EX/72)	NDR + NATS PT all improvements from 2017	PT Option original	PT Option corrected
Local Government Funding					
Revenue	28,834	29,837	29,608	23,729	23,729
Operating Costs	17,806	17,806	17,806	2,882	2,882
Investment Costs	62,333	62,333	62,333	0	0
Developer Contributions	0	0	0	0	0
Grant/Subsidy Payments	0	0	0	0	0
NET IMPACT	108,974	109,976	109,747	26,611	26,611
Central Government Funding: Transport					
Revenue	0	0	0	0	0
Operating costs	0	0	0	0	0
Investment costs	76,568	76,568	76,568	0	0
Developer Contributions	0	0	0	0	0
Grant/Subsidy Payments	0	0	0	0	0
NET IMPACT	76,568	76,568	76,568	0	0
Central Government Funding: Non-Transport					
Indirect Tax Revenues	-55,270	-109,352	-109,419	-20,803	-43,478
TOTALS					
Broad Transport Budget	185,542	186,544	186,315	26,611	26,611
Wider Public Finances	-55,270	-109,352	109,419	-20,803	-43,478

Document Reference: NCC/EX/106

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

DCO: Table 5.2 of Document Ref 5.7 and repeated in Appendix A of NCC/EX/90

NDR + NATS PT: Appendix A of NCC/EX/90

NDR + NATS PT all measures/ops from 2017: Figures not presented in NCC/EX/90 but supplied from supporting data sheets and overall figures match Table 7 of NCC/EX/90

PT Option original: Figures not presented in Document Ref 5.12 but supplied from supporting data sheets and overall figures match Table 10.9 of Appendix B of Document Ref 5.12

PT Option corrected: Appendix A of NCC/EX/90

## 6. Description of Option contents – as per Table 10 of NCC/EX/90

Element included in the modelled scenario	DCO Scheme	NDR + NATS PT	NDR + NATS PT all measures/ops from 2017	PT Option original	PT Option corrected
Postwick Improvement	Y	Y	Y	Y	Y
NDR	Y	Y	Y	N	N
Developer link roads	Y*	Y*	Y*	Y*	Y*
Link between Hurricane Way and St Faiths Road (extending the developer link roads to Airport)	N	For PT element only	For PT element only	Y	Y
City centre measures	Y	Y	Y	Y	Y
BRT	N	Y**	Y**	Y**	Y**
Core bus improvements	N	Y**	Y**	γ**	Y**

Document Reference: NCC/EX/106

\* Assumptions for developer link roads are different in the DCO, NDR + NATS PT and NDR + NATS PT all measures/ops from 2017 scenarios to the PT Option original and the PT Option corrected scenarios. In all scenarios the developer link roads are included in the highway network but the costs of the developer link roads are only included in the scenarios which are alternatives to the NDR (rather than additions to the NDR), i.e. the PT Options, as explained in Sections 2.2 and 2.3 of NCC/EX/90. Even if the costs of the developer link roads were excluded it is expected that the BCR of the PT Options would remain negative.

\*\*Assumptions for BRT and Core Bus improvements are different in the PT Option original and the PT Option corrected to the NDR + NATS PT and NDR + NATS PT all measures/ops from 2017. For the PT Options the assumptions are set out in Table 10.1 and Section 10.2.9 of Appendix B of Document Ref 5.12. For the NDR + NATS PT scenario the assumptions are set out in Table 1 and Section 2.1.2 of NCC/EX/72 and for the NDR + NATS PT all measures/ops from 2017 the assumptions are set out in Section 4.2 of NCC/EX/90.