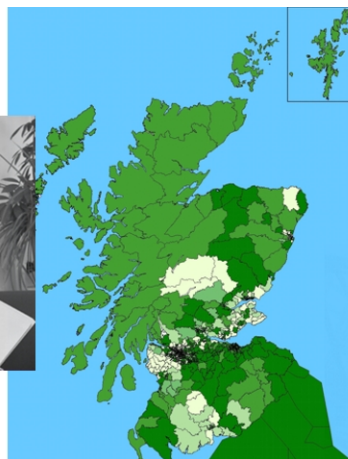


Transport Model for Scotland 05A Park and Ride Model Report

Report for Transport Scotland

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1 Introduction

1.1 Background

- 1.1.1 In 2001, MVA Consultancy was commissioned by the Scottish Executive (now Transport Scotland) to undertake the Transport Model for Scotland (TMfS) project. The purpose was to build on existing transport models (eg CSTM3 and CSTM3A) and develop, support and maintain a methodologically enhanced and geographically expanded multi-modal forecasting tool. The development of TMfS was completed in August 2004.
- 1.1.2 In December 2005, MVA was instructed by Transport Scotland to undertake a rebase of TMfS to a 2005 Base Year. This work involved the update and enhancement of the model to incorporate newly available data and other procedural enhancements. The model has a Base Year of 2005 and since completion has been used for a range of infrastructure and policy assessments by MVA, other consultants, Local Authorities and Transport Scotland.

1.2 Development of TMfS:05A

- 1.2.1 During 2007, MVA was instructed by Transport Scotland to produce an updated version of TMfS:05, known as TMfS:05A. This model forms the latest version of the model for general release. The main aims of TMfS:05A were twofold.
- 1.2.2 The first was to improve spatial detail and the representation of the supply side of the model in 'external' areas of the highway and public transport models, mainly the Highlands. The purpose of this enhancement was to feed a new accessibility analysis module to allow nationwide accessibility analysis to be undertaken on a consistent basis. It also provides more accurate travel time / cost information in these areas, building on new journey time surveys also undertaken in 2007.
- 1.2.3 The second aim was to incorporate new demand data from recent roadside interviews in the highway model in areas where the model was previously perceived to be weak, namely the Ayrshire and Dundee areas.
- 1.2.4 This report describes the calibration and validation of the TMfS Park and Ride Model following the changes to the HAM and PTAM modules within TMfS:05A. Separate reports detail the other aspects of the TMfS:05A development as follows:
- TMfS:05A HAM Cal Val Draft Report, MVA October 2007; and
 - TMfS:05A PTAM Cal Val Draft Report, MVA October 2007.

1.3 Structure of this Report

- 1.3.1 Following this introductory Chapter this Report includes the following chapters:
- **Chapter 2** describes the update of the model;
 - **Chapter 3** describes the calibration of the model; and
 - **Chapter 4** provides conclusions and recommendations.

2 Model Update

2.1 Background

- 2.1.1 As part of the 2005 Rebase the PARAM (Park and Ride Assignment Model) became an integral part of TMfS and the calibration and validation of the Highways and PT Assignment model is carried out post park and ride.
- 2.1.2 The TMfS:05A PARAM has been updated to reflect changes in park and ride provision based on newly available data sources.

2.2 Update of Site Information

- 2.2.1 The Park and Ride Assignment Model (PARAM) includes 67 sites in the 2005 base year as detailed in Table 2.1. The existing sites have been updated to reflect new available information on parking provision where available. Appendix A details the sites in the TMfS:05A PARAM and the amended parking capacities.

Table 2.1 Park and Ride Sites

Aberdour	Airdrie	Ayr
Bargeddie	Bathgate	Bearsden
Bishopton	Blantyre	Bridge of Don
Croy	Cumbernauld	Dalmeny
Drem	Dunbar	Dunfermline Queen Margaret
Dunfermline Town	Dyce	East Kilbride
Ellon	Falkirk Grahamston	Falkirk High
Ferrytoll	Giffnock	Glengarnock
Glenrothes with Thornton	Hairmyres	Hamilton Central
Helensburgh Central	Hermiston	Ingilston
Inverkeithing	Inverurie	Johnstone
Kilmarnock	Kilwinning	Kingswells
Kirkcaldy	Larbert	Lenzie
Leuchars	Linlithgow	Livingston North
Longniddry	Milngavie	Montrose
Musselburgh	Newcraighall	Newton
North Berwick	Paisley Gilmour St	Perth
Perth P&R	Polmont	Prestonpans
Prestwick Town	Saltcoats	Shettleston
South Gyle	Stirling	Troon
Uddingston	Uphall	Wallyford
Wemyss Bay	Westerton	Whitecraigs
Williamwood		

3 Model Calibration

3.1 Introduction

- 3.1.1 This Chapter describes the recalibration of the TMfS Park and Ride Assignment Model (PARAM). The main calibration criteria have been the observed car park occupancies from the previous development of the PARAM. In addition the parking occupancies at all other sites have been examined to check they are within reasonable ranges.
- 3.1.2 The PARAM calibration has been undertaken using the cost matrices from the TMfS:05A pre-park and ride Highways and PT model runs.
- 3.1.3 The calibration process was undertaken in two stages:
- setting global parameters; and
 - setting site specific parameters.
- 3.1.4 The main calibration requirement was to adjust and define site specific transfer parameters and catchment areas to match the observed site car park occupancies. Where no observed data was available at specific site the modelled occupancies were checked for validity based on local knowledge.
- 3.1.5 At the outset it was necessary to define a 'starting point' of global parameters for the PARAM and these were based on the parameters used in TMfS:05. As the calibration process was undertaken, and more specific parameters were defined at each site, global parameters were reviewed and updated as necessary.

3.2 Adjustment of Parameters

- 3.2.1 The PARAM requires a LAMBDA value to be set which defines the overall attractiveness of Park and Ride as a mode. The PARAM also requires mode constant parameters to be set, which define the attractiveness of switching from highway and public transport to Park and Ride. These values were initially set with reference to values used in the previous version of PARAM.
- 3.2.2 The initial PARAM run indicated that the modelled car park occupancies were within reasonable proximity to the observed data. The model, however, showed lower than expected park and ride patronage at a number of sites.
- 3.2.3 Therefore, the mode constant parameters were both reduced by five minutes to -25 minutes (previously -20 minutes) for car and 25 minutes (previously 30 minutes) for public transport. The LAMBDA value was not changed from the previous version of the PARAM.
- 3.2.4 Table 3.1 summarises the modelled car park occupancies, which are compared with observed data where available. Appendix A contains the full model results and includes the equivalent data for TMfS:05 for comparison purposes.

Table 3.1 Modelled and Observed Car Park Occupancies

Park & Ride Site	Total Capacity	Maximum Observed Daily Occupancy	Maximum Modelled Daily Occupancy
Aberdour	93	-	55
Airdrie	139	-	127
Ayr	191	-	8
Bargeddie	50	-	49
Bathgate	132	-	52
Bearsden	92	-	92
Bishopton	112	-	110
Blantyre	54	-	37
Bridge of Don	600	416	370
Croy	338	345	338
Cumbernauld	85	43	50
Dalmeny	142	-	142
Drem	68	-	9
Dunbar	71	120	17
Dunfermline Queen Margaret	93	-	36
Dunfermline Town	175	-	35
Dyce	100	-	100
East Kilbride	162	-	162
Ellon	250	-	50
Falkirk Grahamston	340	227	73
Falkirk High	290	261	106
Ferrytoll	1040	500	427
Giffnock	107	-	106
Glengarnock	80	-	10
Glenrothes with Thornton	50	-	0
Hairmyres	86	-	84
Hamilton Central	190	-	190
Helensburgh Central	62	-	0
Hermiston	450	-	439
Ingilston	535	-	535
Inverkeithing	507	447	346
Inverurie	50	-	50
Johnstone	247	-	244
Kilmarnock	101	-	101
Kilwinning	147	-	67
Kingswells	900	142	221
Kirkcaldy	274	101	75
Larbert	178	145	172
Lenzie	149	160	149
Leuchars	136	-	100
Linlithgow	323	332	223
Livingston North	75	-	75
Longniddry	65	-	57
Milngavie	134	-	134

Park & Ride Site	Total Capacity	Maximum Observed Daily Occupancy	Maximum Modelled Daily Occupancy
Montrose	50	-	9
Musselburgh	64	69	64
Newcraighall	560	142	220
Newton	245	-	82
North Berwick	91	91	9
Paisley Gilmour St	75	-	75
Perth	54	-	32
Perth P&R	250	125	154
Polmont	214	214	212
Prestonpans	95	80	89
Prestwick Town	104	-	19
Saltcoats	101	-	5
Shettleston	75	-	75
South Gyle	63	-	63
Stirling	276	-	62
Troon	141	-	21
Uddingston	99	-	98
Uphall	97	-	74
Wallyford	76	79	76
Wemyss Bay	100	-	8
Westerton	110	-	110
Whitecraigs	172	-	172
Williamwood	52	-	52

3.2.5 In general, the TMfS:05A Park and Ride model displays a reasonable level of calibration, broadly similar to corresponding TMfS:05 results.

3.2.6 There are, however, a number of sites where the modelled car park occupancy is lower than the observed level and/or significantly lower than specified capacity. These include Glenrothes with Thornton, Ayr, Glengarnock, Drem, Dunbar, Ellon, Helensburgh Central, Montrose, North Berwick, Prestwick Town, Saltcoats, Troon and Wemyss Bay.

3.2.7 Reasons for these potential under-estimates of P&R demand include:

- over-estimate of the cost of using a specific P&R site, eg because the relevant Park and Ride facility is a significant distance from the centre of the relevant TMfS zone;
- over-estimate of the attractiveness of walk-in public transport demand;
- under-estimation of the costs of the competing car journey (congestion, shortage of town centre car parking etc);
- actual demand is much lower than the capacity (ie model is correctly predicting low car park occupancy – this could be confirmed by additional Park and Ride surveys; and
- observed values include users of local facilities as well as P&R users – again this could be confirmed by additional P&R surveys.

3 Model Calibration

- 3.2.8 It is strongly recommended that model users should consider the calibration and validation of Park and Ride sites in their study area before using this aspect of the TMFS model for a given application.

4 Conclusions and Recommendations

4.1 Conclusions

- 4.1.1 This report has detailed the recalibration of the TMfS:05A Park and Ride model. This has shown that the Park and Ride model generally displays a good level of calibration.
- 4.1.2 The conclusions brought about from this work are that the model is fit for purpose as a strategic Park and Ride model, which will form an integral part of TMfS. The model database and processes can also be adopted, extended and calibrated for use in more localised assessment of Park and Ride schemes.

4.2 Recommendations

- 4.2.1 It is recommended by MVA that this model is used as an initial appraisal of potential major Park and Ride sites or strategies. It is expected that during such appraisal, further more detailed work would be undertaken in the local transport corridor under evaluation.
- 4.2.2 If the Park and Ride model is used as part of a more detailed appraisal, it is recommended that, where necessary, additional Park and Ride data collection is undertaken, which would then form part of the appraisal process.

Appendix A – Park and Ride Sites and Results

**Transport Model for Scotland
Park and Ride Model Results
TMFS:05A - 2005 Base Year BSE**

Park & Ride Site	Transfer Parameter (mins)		Near Parking Cap.	Far Parking Cap.	Total Parking Cap.	Max. Daily Occ. (Obs.)	All Sites Modelled Occupancies										% Near Car Park Occ.	% Tot. Car Park Occ.	% Tot. Car Park Occ.	% Obs. Occ.
	Near	Far					Near AM	Far AM	Tot. AM	Near IP	Far IP	Tot. IP	Near Daily	Far Daily	Tot. Daily					
Aberdour	0	-	93	0	93	-	46	0	46	9	0	9	55	0	55	59%	-	59%	-	
Airdrie	5	-	139	0	139	-	103	0	103	24	0	24	127	0	127	91%	-	91%	-	
Ayr	5	-	191	0	191	-	7	0	7	1	0	1	8	0	8	4%	-	4%	-	
Bargeddie	5	-	50	0	50	-	49	0	49	0	0	0	49	0	49	98%	-	98%	-	
Bathgate	5	-	132	0	132	-	47	0	47	5	0	5	52	0	52	39%	-	39%	-	
Bearsden	5	-	92	0	92	-	92	0	92	0	0	0	92	0	92	100%	-	100%	-	
Bishopton	5	-	112	0	112	-	110	0	110	0	0	0	110	0	110	98%	-	98%	-	
Blantyre	5	-	54	0	54	-	29	0	29	8	0	8	37	0	37	69%	-	69%	-	
Bridge of Don	5	-	600	0	600	416	289	0	289	81	0	81	370	0	370	62%	-	62%	89%	
Croy	5	5	153	185	338	345	153	183	336	0	2	2	153	185	338	100%	100%	100%	98%	
Cumbernauld	20	-	85	0	85	43	42	0	42	8	0	8	50	0	50	59%	-	59%	116%	
Dalmeny	5	-	142	0	142	-	142	0	142	0	0	0	142	0	142	100%	-	100%	-	
Drem	5	-	68	0	68	-	8	0	8	1	0	1	9	0	9	13%	-	13%	-	
Dunbar	1	1	51	20	71	120	12	0	12	5	0	5	17	0	17	33%	0%	24%	14%	
Dunfermline Queen Margaret	5	-	93	0	93	-	31	0	31	5	0	5	36	0	36	39%	-	39%	-	
Dunfermline Town	5	-	175	0	175	-	31	0	31	4	0	4	35	0	35	20%	-	20%	-	
Dyce	5	-	100	0	100	-	86	0	86	14	0	14	100	0	100	100%	-	100%	-	
East Kilbride	5	-	162	0	162	-	153	0	153	9	0	9	162	0	162	100%	-	100%	-	
Ellon	5	-	250	0	250	-	39	0	39	11	0	11	50	0	50	20%	-	20%	-	
Falkirk Grahamston	1	-	340	0	340	227	53	0	53	20	0	20	73	0	73	21%	-	21%	32%	
Falkirk High	5	5	219	71	290	261	91	0	91	15	0	15	106	0	106	48%	0%	37%	41%	
Ferrytoll	7	-	1040	0	1040	500	326	0	326	101	0	101	427	0	427	41%	-	41%	85%	
Giffnock	5	-	107	0	107	-	106	0	106	0	0	0	106	0	106	99%	-	99%	-	
Glengarnock	5	-	80	0	80	-	9	0	9	1	0	1	10	0	10	13%	-	13%	-	
Glenrothes with Thornton	5	-	50	0	50	-	0	0	0	0	0	0	0	0	0	0%	-	0%	-	
Hairmyres	5	-	86	0	86	-	84	0	84	0	0	0	84	0	84	98%	-	98%	-	
Hamilton Central	5	-	190	0	190	-	190	0	190	0	0	0	190	0	190	100%	-	100%	-	
Helensburgh Central	5	-	62	0	62	-	0	0	0	0	0	0	0	0	0	0%	-	0%	-	
Hermiston	10	-	450	0	450	-	439	0	439	0	0	0	439	0	439	98%	-	98%	-	
Ingliston	10	-	535	0	535	-	535	0	535	0	0	0	535	0	535	100%	-	100%	-	
Inverkeithing	20	10	427	80	507	447	299	0	299	47	0	47	346	0	346	81%	0%	68%	77%	
Inverurie	5	-	50	0	50	-	43	0	43	7	0	7	50	0	50	100%	-	100%	-	
Johnstone	5	-	247	0	247	-	241	0	241	3	0	3	244	0	244	99%	-	99%	-	
Kilmarnock	5	-	101	0	101	-	100	0	100	1	0	1	101	0	101	100%	-	100%	-	
Kilwinning	5	-	147	0	147	-	59	0	59	8	0	8	67	0	67	46%	-	46%	-	
Kingswells	30	-	900	0	900	142	172	0	172	49	0	49	221	0	221	25%	-	25%	156%	
Kirkcaldy	1	1	274	0	274	101	62	0	62	13	0	13	75	0	75	27%	-	27%	74%	
Larbert	1	1	73	105	178	145	73	63	136	0	36	36	73	99	172	100%	94%	97%	119%	
Lenzie	5	-	149	0	149	160	149	0	149	0	0	0	149	0	149	100%	-	100%	93%	
Leuchars	5	-	136	0	136	-	75	0	75	25	0	25	100	0	100	74%	-	74%	-	
Linlithgow	1	1	91	232	323	332	91	92	183	0	40	40	91	132	223	100%	57%	69%	67%	
Livingston North	5	-	75	0	75	-	75	0	75	0	0	0	75	0	75	100%	-	100%	-	
Longniddry	5	-	65	0	65	-	47	0	47	10	0	10	57	0	57	88%	-	88%	-	
Milngavie	5	-	134	0	134	-	134	0	134	0	0	0	134	0	134	100%	-	100%	-	
Montrose	5	-	50	0	50	-	8	0	8	1	0	1	9	0	9	18%	-	18%	-	
Musselburgh	20	15	30	34	64	69	30	34	64	0	0	0	30	34	64	100%	100%	100%	93%	
Newcraighall	40	-	560	0	560	142	188	0	188	32	0	32	220	0	220	39%	-	39%	155%	
Newton	5	-	245	0	245	-	66	0	66	16	0	16	82	0	82	33%	-	33%	-	
North Berwick	1	1	75	16	91	91	8	0	8	1	0	1	9	0	9	12%	0%	10%	10%	
Paisley Gilmour St	5	-	75	0	75	-	75	0	75	0	0	0	75	0	75	100%	-	100%	-	
Perth	5	-	54	0	54	-	25	0	25	7	0	7	32	0	32	59%	-	59%	-	
Perth P&R	25	-	250	0	250	125	92	0	92	62	0	62	154	0	154	62%	-	62%	123%	
Palmont	3	1	100	114	214	214	100	69	169	0	43	43	100	112	212	100%	98%	99%	99%	
Prestonpans	20	10	91	4	95	80	79	0	79	10	0	10	89	0	89	98%	0%	94%	111%	
Prestwick Town	5	-	104	0	104	-	17	0	17	2	0	2	19	0	19	18%	-	18%	-	
Saltcoats	5	-	101	0	101	-	5	0	5	0	0	0	5	0	5	5%	-	5%	-	
Shettleston	5	-	75	0	75	-	75	0	75	0	0	0	75	0	75	100%	-	100%	-	
South Gyle	5	-	63	0	63	-	63	0	63	0	0	0	63	0	63	100%	-	100%	-	
Stirling	5	-	276	0	276	-	52	0	52	10	0	10	62	0	62	22%	-	22%	-	
Troon	5	-	141	0	141	-	18	0	18	3	0	3	21	0	21	15%	-	15%	-	
Uddingston	5	-	99	0	99	-	98	0	98	0	0	0	98	0	98	99%	-	99%	-	
Uphall	5	-	97	0	97	-	64	0	64	10	0	10	74	0	74	76%	-	76%	-	
Wallyford	20	15	67	9	76	79	67	9	76	0	0	0	67	9	76	100%	100%	100%	96%	
Wemyss Bay	5	-	100	0	100	-	7	0	7	1	0	1	8	0	8	8%	-	8%	-	
Westerton	5	-	110	0	110	-	110	0	110	0	0	0	110	0	110	100%	-	100%	-	
Whitecraigs	5	-	172	0	172	-	169	0	169	3	0	3	172	0	172	100%	-	100%	-	
Williamwood	5	-	52	0	52	-	52	0	52	0	0	0	52	0	52	100%	-	100%	-	

**Transport Model for Scotland
Park and Ride Model Results
TMFS:05 - 2005 Base Year S00**

Park & Ride Site	Transfer Parameter (mins)		Near Parking Cap.	Far Parking Cap.	Total Parking Cap.	Max. Daily Occ. (Obs.)	All Sites Modelled Occupancies									% Near Car Park Occ.	% Tot. Car Park Occ.	% Tot. Car Park Occ.	% Obs. Occ.
	Near	Far					Near AM	Far AM	Tot. AM	Near IP	Far IP	Tot. IP	Near Daily	Far Daily	Tot. Daily				
Aberdour	0	-	93	0	93	-	49	0	49	8	0	8	57	0	57	61%	-	61%	-
Airdrie	5	-	139	0	139	-	82	0	82	22	0	22	104	0	104	75%	-	75%	-
Ayr	5	-	191	0	191	-	11	0	11	1	0	1	12	0	12	6%	-	6%	-
Bargeddie	5	-	50	0	50	-	49	0	49	1	0	1	50	0	50	100%	-	100%	-
Bathgate	5	-	132	0	132	-	47	0	47	7	0	7	54	0	54	41%	-	41%	-
Bearsden	5	-	92	0	92	-	91	0	91	0	0	0	91	0	91	99%	-	99%	-
Bishopton	5	-	112	0	112	-	111	0	111	1	0	1	112	0	112	100%	-	100%	-
Blantyre	5	-	54	0	54	-	23	0	23	7	0	7	30	0	30	56%	-	56%	-
Bridge of Don	5	-	600	0	600	416	225	0	225	64	0	64	289	0	289	48%	-	48%	69%
Croy	5	5	160	185	345	345	160	169	329	0	14	14	160	183	343	100%	99%	99%	99%
Cumbernauld	20	-	85	0	85	43	35	0	35	5	0	5	40	0	40	47%	-	47%	93%
Dalmeny	5	-	142	0	142	-	142	0	142	0	0	0	142	0	142	100%	-	100%	-
Drem	5	-	78	0	78	-	6	0	6	1	0	1	7	0	7	9%	-	9%	-
Dunbar	1	1	51	20	71	120	10	0	10	35	0	35	45	0	45	88%	0%	63%	38%
Dunfermline Queen Margaret	5	-	93	0	93	-	36	0	36	5	0	5	41	0	41	44%	-	44%	-
Dunfermline Town	5	-	175	0	175	-	34	0	34	5	0	5	39	0	39	22%	-	22%	-
Dyce	5	-	100	0	100	-	79	0	79	21	0	21	100	0	100	100%	-	100%	-
East Kilbride	5	-	162	0	162	-	134	0	134	28	0	28	162	0	162	100%	-	100%	-
Ellon	5	-	250	0	250	-	30	0	30	10	0	10	40	0	40	16%	-	16%	-
Falkirk Grahamston	1	-	340	0	340	227	57	0	57	22	0	22	79	0	79	23%	-	23%	35%
Falkirk High	5	5	219	71	290	261	82	0	82	14	0	14	96	0	96	44%	0%	33%	37%
Ferryhill	7	-	1040	0	1040	500	288	0	288	76	0	76	364	0	364	35%	-	35%	73%
Giffnock	5	-	107	0	107	-	106	0	106	0	0	0	106	0	106	99%	-	99%	-
Glenarnock	5	-	80	0	80	-	7	0	7	1	0	1	8	0	8	10%	-	10%	-
Glenrothes with Thornton	5	-	50	0	50	-	0	0	0	0	0	0	0	0	0	0%	-	0%	-
Hairmyres	5	-	86	0	86	-	85	0	85	1	0	1	86	0	86	100%	-	100%	-
Hamilton Central	5	-	190	0	190	-	188	0	188	2	0	2	190	0	190	100%	-	100%	-
Helensburgh Central	5	-	62	0	62	-	0	0	0	0	0	0	0	0	0	0%	-	0%	-
Hermiston	10	-	450	0	450	-	441	0	441	9	0	9	450	0	450	100%	-	100%	-
Ingliston	10	-	535	0	535	-	532	0	532	0	0	0	532	0	532	99%	-	99%	-
Inverkeithing	20	10	470	80	550	447	352	0	352	52	0	52	404	0	404	86%	0%	73%	90%
Inverurie	5	-	50	0	50	-	46	0	46	4	0	4	50	0	50	100%	-	100%	-
Johnstone	5	-	247	0	247	-	237	0	237	7	0	7	244	0	244	99%	-	99%	-
Kilmarnock	5	-	101	0	101	-	101	0	101	0	0	0	101	0	101	100%	-	100%	-
Kilwinning	5	-	147	0	147	-	51	0	51	6	0	6	57	0	57	39%	-	39%	-
Kingswells	30	-	900	0	900	142	138	0	138	44	0	44	182	0	182	20%	-	20%	128%
Kirkcaldy	1	1	155	155	310	101	64	0	64	14	0	14	78	0	78	50%	-	25%	77%
Larbert	1	1	73	105	178	145	73	39	112	0	37	37	73	76	149	100%	72%	84%	103%
Lenzie	5	-	160	0	160	160	160	0	160	0	0	0	160	0	160	100%	-	100%	100%
Leuchars	5	-	136	0	136	-	49	0	49	15	0	15	64	0	64	47%	-	47%	-
Linlithgow	1	1	100	232	332	332	100	47	147	0	33	33	100	80	180	100%	34%	54%	54%
Livingston North	5	-	75	0	75	-	74	0	74	1	0	1	75	0	75	100%	-	100%	-
Longniddry	5	-	65	0	65	-	38	0	38	11	0	11	49	0	49	75%	-	75%	-
Milngavie	5	-	134	0	134	-	109	0	109	25	0	25	134	0	134	100%	-	100%	-
Montrose	5	-	50	0	50	-	5	0	5	1	0	1	6	0	6	12%	-	12%	-
Musselburgh	20	15	35	34	69	69	35	34	69	0	0	0	35	34	69	100%	100%	100%	100%
Newcraighall	40	-	560	0	560	142	155	0	155	24	0	24	179	0	179	32%	-	32%	126%
Newton	5	-	245	0	245	-	47	0	47	13	0	13	60	0	60	24%	-	24%	-
North Berwick	1	1	75	16	91	91	6	0	6	1	0	1	7	0	7	9%	0%	8%	8%
Paisley Gilmour St	5	-	75	0	75	-	75	0	75	0	0	0	75	0	75	100%	-	100%	-
Perth	5	-	500	0	500	-	22	0	22	11	0	11	33	0	33	7%	-	7%	-
Perth P&R	25	-	250	0	250	125	68	0	68	46	0	46	114	0	114	46%	-	46%	91%
Polmont	3	1	100	114	214	214	100	28	128	0	44	44	100	72	172	100%	63%	80%	80%
Prestonpans	20	10	75	4	79	80	61	0	61	7	0	7	68	0	68	91%	0%	86%	85%
Prestwick Town	5	-	104	0	104	-	21	0	21	2	0	2	23	0	23	22%	-	22%	-
Saltcoats	5	-	101	0	101	-	4	0	4	0	0	0	4	0	4	4%	-	4%	-
Shettleston	5	-	75	0	75	-	75	0	75	0	0	0	75	0	75	100%	-	100%	-
South Gyle	5	-	63	0	63	-	63	0	63	0	0	0	63	0	63	100%	-	100%	-
Stirling	5	-	276	0	276	-	46	0	46	9	0	9	55	0	55	20%	-	20%	-
Troon	5	-	141	0	141	-	20	0	20	2	0	2	22	0	22	16%	-	16%	-
Uddingston	5	-	99	0	99	-	98	0	98	0	0	0	98	0	98	99%	-	99%	-
Uphall	5	-	97	0	97	-	55	0	55	7	0	7	62	0	62	64%	-	64%	-
Wallyford	20	15	70	9	79	79	70	9	79	0	0	0	70	9	79	100%	100%	100%	100%
Wemyss Bay	5	-	100	0	100	-	5	0	5	0	0	0	5	0	5	5%	-	5%	-
Westerton	5	-	110	0	110	-	110	0	110	0	0	0	110	0	110	100%	-	100%	-
Whitecraigs	5	-	172	0	172	-	172	0	172	0	0	0	172	0	172	100%	-	100%	-
Williamwood	5	-	52	0	52	-	51	0	51	0	0	0	51	0	51	98%	-	98%	-

MVA Consultancy provides advice on transport and other policy areas, to central, regional and local government, agencies, developers, operators and financiers.

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