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**LATIS**

LAND-USE AND TRANSPORT INTEGRATION IN SCOTLAND

# TMfS14 Do Minimum Model Definition

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## Introduction

The Transport Model for Scotland (TMfS) forecasts include committed interventions and a number of assumptions about the future.

The primary Do Minimum forecast represents a future that would arise should the following circumstances arise:

- people's behaviour in the future remains the same as it is today
- only those interventions which are currently committed are delivered
- the assumptions about the economy, population, fuel prices, parking, fares, land-use etc. all materialise as described

The primary Do Minimum forecast is intended to be a self-defeating forecast; i.e. by creating the forecast, it ensures that it will never happen. One of the purposes of the forecast is to highlight where further intervention may be desired.

## Assumptions

Where values come from webTAG these are from the [Nov 2014](#) databook.

### **Value of time**

Values of time change in line with webTAG Table A1.3.2.

Vehicle occupancy change in line with webTAG Table A1.3.3.

### **Vehicle operating costs**

Fuel prices change in line with webTAG Table A1.3.7.

Fleet composition changes in line with webTAG Table A1.3.9.

Fuel efficiency changes in line with webTAG Table A1.3.10.

### **Demographic projections**

National population – [2012 based](#).

National households – [2012 based](#).

Employment – Experian.

### **Economic forecasts**

Experian.

### **Planning policy**

Taken from the Assembly of Planning Policy 2014 (APPI2014)

### **Airports growth**

Airport growth for Edinburgh, Prestwick and Aberdeen airports based upon DfT's UK Aviation Forecasts. Growth for Glasgow Airport based upon the Glasgow Airport's 2011 Operators Plan.

### **Bus services**

It is assumed that all routes needing bus services will already have a bus service running. Where there is a significant expansion to an urban area, existing bus services will be extended to serve these areas.

Where a service reaches capacity, it is assumed that the bus service provider will respond by running more buses with a higher frequency. The above assumption requires no change to the do-minimums, as capacity restraint is not modelled for bus services.

Bus fares are assumed to increase in line with RPI.

## **Ferry, tram and subway services**

No changes are made to these services in terms of service pattern or frequency. In the absence of evidence to the contrary, fares will be assumed to grow in line with RPI. The introduction of Edinburgh Trams in 2017 assume timetables available at the time of coding (February 2016), thereafter the assumption is that the level of service remains constant through time.

## **Parking charges**

Future year parking charges rise in line with RPI.

## **Car ownership**

Application of [National Car Ownership Program](#) (i.e. no change to the current methodology).

## **New development access**

Developers will be expected to ensure that, at a minimum, traffic to and from any new development will not overload the immediate access roads to the development.

Minor road accesses to new development will be reviewed and where they are over 100% capacity, then additional capacity will be provided.

## **Excess demand**

Where new development exceeds the capacity of the road and/or the Public Transport system to a point where the model cannot robustly represent the effects and responses due to insufficient capacity in the transport system, then the following measures will be undertaken:

- consider if the Base/Do Minimum network is representative and adjust if necessary
- improve accessibility to the development if required
- add developer led infrastructure if appropriate
- cap development growth

Initially, before the do minimums land-use interaction is run through between 2017 and 2037, the 'worst case' i.e. the TMfS14 2037 Do Minimum scenario inputs will be generated using TELMoS14 using the 2014 Base costs. This scenario will be assessed and any issues will be highlighted and addressed as required.

## Committed interventions

### Roads

See Appendix A for committed interventions.

Interventions considered and not included within the TMfS14 Do-minimums with rationale for exclusion is shown in Appendix B:

### Rail

Rail fare changes are described in the ScotRail Franchise agreement [[Schedule 5.1 para. 1.5](#)].

- 2015 onwards (Peak Fare change) - RPI p.a.
- 2015-2021 (Inter Peak Fare change) - RPI -1% p.a.
- 2022 onwards (Inter Peak Fare change) - RPI p.a.

Rail service changes are in Appendix C (page numbers refer to the ScotRail Franchise agreement).

In addition, the 'Revolution in Rail' proposals announced in March 2016 are considered. There is clear overlap between the proposals and the Rail service changes detailed in appendix C; the proposals taken forward are detailed in Appendix D.

### Tram

Edinburgh trams Phase 1a is included in the 2017 Do Minimum.

### Park and Ride

The additional sites to be included from 2017 onwards are as follows:

- Walnut Grove, Perth
- Galashiels
- Stow
- Eskbank
- Newtongrange
- Tweedbank
- Gorebridge
- Shawfair
- Bogston
- Dyce Drive

The additional sites to be included from 2022 onwards are as follows:

- Kintore Station (2019)

- Findon Junction, Portlethen (2018)
- Dalcross (2019)

## **Scenario variations**

There are inevitably uncertainties with regards to the assumptions used in the development of the primary forecast. TBC.

## Appendix A – Road projects

Model Year	Description
2017	Queensferry Crossing (Forth Replacement Crossing)
2017	M8/ M74 / M73 / M74 Motorway Improvements
2017	Aberdeen Western Peripheral Route (AWPR) / Balmedie to Tipperty
2017	A96 Inveramsay Bridge
2017	A68 Pathhead to Tynehead Junction
2017	A702 Candymill Bend and Edmonstone Brae
2017	A95 Lackghie
2017	A75 Dunragit Bypass Scheme
2017	A75 Hardgrove to Kinmount Scheme
2017	A82 Crianlarich Bypass Scheme
2017	A82 Pulpit Rock Scheme
2017	Glasgow East End Regeneration Route Phase 3 (Clyde Gateway)
2017	Portstown Link Road
2017	Third Don Crossing
2017	Soutra South to Oxtou
2017	Dundee Waterfront
2017	Dyce Drive Link Road
2022	Inverness West Link
2022	Cross Tay Link Road
2022	M8 J29a Bishopton Junction
2027	M9 Winchburgh Junction

## Appendix B – Interventions not included in TMfS I 4 Do Minimums

**A96 Threapland Junction** – This intervention is a change in junction alignment which is considered too subtle of a change to be included.

**A77 Symington and Bogend Toll** – The side roads associated with the junctions are not modelled within the TMfS network.

**Connection between M73 J2a and Glenboig as part of Gartcosh/Glenboig CGA** – considering level of aggregation of zone system, this intervention considered too subtle of a scheme.

**New roundabout on A8 to access Mossend Rail Freight Terminal and diversion of HGVs to avoid Bellshill** – Rail Freight Terminal not modelled.

**Bourtreesbush Grade Separated Junction on the A90 between Newtonhill and Badentoy** – The side roads associated with the junction are not modelled within the TMfS network.

**Connection between M77 J2 and Boydstone Road as part of Silverburn expansion** - Boydstone Road is not part of the TMfS Network.

**Haudagain Roundabout** – Not included as recommended by TS.

**Thainstone Grade Separated Junction** – This overlaps with A96 Dualling assumptions, not included as recommended by TS.

**West Facing Slips at M9 J3 Linlithgow** - not through planning application process as advised by TS.

**Southern ‘bypass of Tranent** – not through planning application process as advised by TS.

**A701/A702 link at Straiton** - this intervention is considered too subtle of a scheme for inclusion.

**Stewartfield Way upgrade** - not through planning application process as advised by TS.

The interventions listed below were considered and excluded; taking into account the higher level of detail of the TMfS network the subtleties of each scheme were considered not to be reflected:

- Houston Road-Drumshoreland Road link at Pumpherston
- Broxburn A89 distributor road between Clarkson Road and Greendykes Road
- bus priority and new roundabout at the A71/B7031 junction
- bus priority on the B7015 at the A71 junction
- Winchburgh - junction improvements on B8020 at Broxburn and Newton
- Winchburgh distributor road connection to East Broxburn

- new distributor road linking the A706 at Blaeberryhill to the B7066 at Cultsykefoot
- A71 bypass north of Wilkieston (Calderwood development)
- access to Brodie Road at Dunbar (Hallhill and Hallhill South West (Dunbar))
- access to B1347 from A199 (Mains Farm (North Berwick))
- access to A6094 North of A1 and to A199 East of A6094 (Wallyford)
- access to B6471 and A6093 and new link road (Letham Mains)
- Glenrothes - signalisation of Preston Roundabout (A92/A911)
- signalisation and upgrading Leslie Road Corridor
- new link road between the A7 and A6106
- A801 Avon Gorge
- Edinburgh 20mph Scheme
- Glenrothes - signalisation of Bankhead Roundabout (A92/B921)

## Appendix C – Rail

Model Year	Description
2017	<b>Edinburgh Gateway / Gogar Interchange</b> 4 trains per hour 2 Fife 1 Edinburgh to Dundee Hourly 1 Edinburgh to Perth Hourly South Gyle drops to 2 trains per hour
2017	<b>Borders Railway</b> constructed. Use published timeable JT delay at Waverley for Borders to Fife services to be reduced.
2022	<b>Aberdeen to Inverness</b> New Stations - Dalcross and Kintore open Inverurie <-> Aberdeen - every half hour using 3-coach Class 170. AM peak extra Elgin to Inverness using 3-coach Class 170. PM peak extra Inverness to Elgin using 3-coach Class 170.
2027	<b>Aberdeen to Inverness</b> Hourly Aberdeen <-> Inverness service using 4-coach HST with a 20 minute journey time reduction over the whole route.
2022	<b>Perth to Inverness</b> Changes to a 5-coach HST on current frequency with a JT saving of 10 minutes over the whole Glasgow to Inverness / Edinburgh to Inverness route.
2017	<b>EGIP</b> No change to current service.
2022	<b>EGIP</b> (page 312) End to End Journey Time to 42 minutes using 8 coach Class 3XX. Dunblane to Edinburgh has a 10 minute journey time reduction using a 4 coach Class 3XX. Hourly Dunblane <-> Glasgow with a 6 minute journey time saving. Hourly Alloa <-> Glasgow with a 6 minute journey time saving.
2017	<b>Glasgow to Paisley</b> 4 trains per hour to Gourrock between 0900 and 1600 - 2 are fast, 2 are stoppers. All services which terminated at Irvine now go through to Ayr.
2017	<b>Lanarkshire / Argyle line</b> Class 321 services replacing existing sets
2017	<b>Glasgow to Stranraer</b> Priced Option 2 (page 264)
2017	<b>Conon Bridge Station</b>
2022	<b>Winchburgh Station</b> Priced Option 3 (page 265)
All	<b>Journey Time Improvements</b> Journey Time Metrics Table (page 413)
2022	<b>Station Car Parking Spaces</b> Increased provision of car-park spaces (page 133)
2022	<b>Cathcart Circle</b> Hitachi 385* replacing the Class 314 *Class 3XX/3 on page 23
2022	<b>Shotts Line</b> 7 coach electric Class 3XX in the AM peak

## Appendix D – Revolution in Rail proposals taken forward

### Inverness:

- hourly service to Nairn, Forres and Elgin

### Aberdeen:

- hourly 'local' service across the city between Inverurie & Montrose, stopping at all stations
- additional services to the above to create a half hourly service between Aberdeen and Inverurie. Additional early morning and late evening services to Elgin, Keith, Huntly and Insch

### Dundee:

- hourly service to Broughty Ferry, Monifieth, Carnoustie and Arbroath
- half hourly service to Perth, Stirling and Glasgow – one limited stop High Speed Train and one regional service
- continuation of existing half hourly service to Edinburgh - one limited stop High Speed Train and one regional service

### Perth:

- new regional Glasgow – Dundee service provides an hourly service between Glasgow and Stirling, Bridge of Allan, Dunblane, Gleneagles, Perth and Invergowrie

### Edinburgh:

- new through service each hour between Borders railway and Fife. Borders railway primarily operated by 3-coach class 170 trains (up to 30% more seats per train)
- new half hourly service to Glasgow via Cumbernauld, Stepps and Gartcosh

### Glasgow:

- four trains per hour service to Cumbernauld with two operating via Falkirk Grahamston through to Edinburgh
- hourly service to Dundee reducing journey times to Stirling, Bridge of Allan and Dunblane

### Stirling:

- a new hourly service connecting Stirling with more trains to Glasgow, Dundee and Gleneagles



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