An aerial photograph of a train traveling on a railway line through a snowy, wooded landscape. The train is moving away from the viewer towards a bridge in the distance. The ground is covered in a thick layer of snow, and the trees are bare and also covered in snow. The train has a yellow and blue livery.

# Surrey Rail Strategy: North Downs Line Assessment

Baseline Review  
9 February 2015

# Contents

Overview

Planning and Economic Baseline

Transport Baseline

Operational Baseline

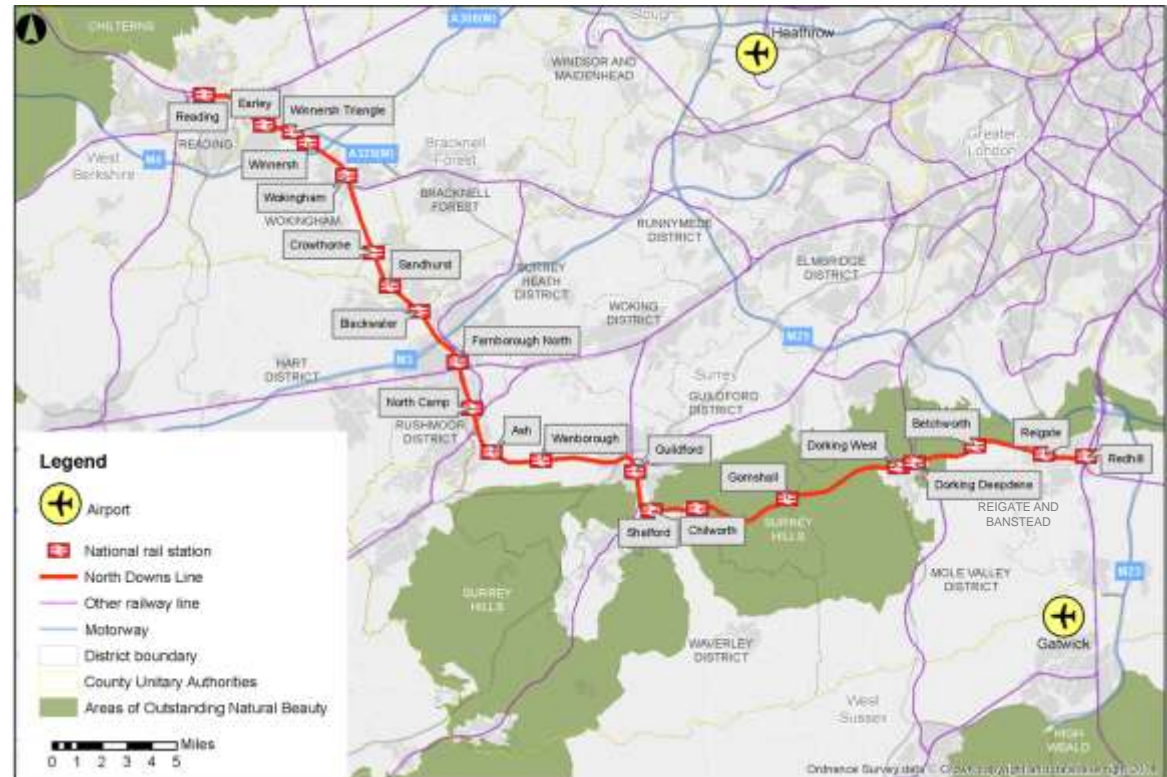
Conditional Outputs

Base Option

# Overview

# The North Downs Line (NDL)

- 48 mile route between Reading and Gatwick via Guildford.
- Orbital line connecting with various radial routes into London.
- Two trains per hour timetable - one semi-fast service between Reading and Gatwick and one stopping services between Reading and Redhill.
- Passes through three counties (Surrey, Hampshire and Berkshire) and three Local Enterprise Partnership Areas (Enterprise M3, Coast to Capital, Thames Valley Berkshire).



# Background

- Arup commissioned by Surrey County Council (SCC) to develop a Rail Strategy for Surrey - published September 2013.
- The Strategy identified local orbital rail services as a priority – focussed on delivering improvements to the North Downs Line.
- As part of the Long Term Planning Process, Network Rail has published its draft Wessex Route Study for consultation which includes proposals for the North Downs Line.
- SCC has commissioned Arup to undertake a specific assessment of the North Downs Line.
- Purpose of the study is to develop a long term vision for the line and to inform Surrey CC's response to the Wessex Route Study consultation.

# Surrey Rail Strategy

- North Downs Line conclusions:
  - ***Service frequencies*** on the North Downs Line are low and journey times are long (e.g. 45 minutes to Reading from Guildford). With faster and more frequent services rail services could be much more competitive with road and more attractive to potential users.
  - Services are ***crowded between Guildford and Reading*** in the morning peak hour reflecting commuter demand into both centres.
  - ***Passenger demand is expected to increase*** in future, with significant employment growth forecast in Reading, Guildford and Gatwick, all key destinations along the line.
  - ***Capacity improvements could be needed in the medium-long term***, particularly in the morning peak between Guildford and Reading.

# Scoping Study

- A scoping stage has been completed, informed by engagement meetings with key bodies in the rail industry (in November-December 2014):

- Network Rail.
- Department for Transport.
- South West Trains.
- First Great Western.
- Transport for London.



# North Downs Line Assessment Methodology

Baseline Review

Conditional Outputs

Base Case Assessment

Assessment of Alternative Options

Recommendations

**Route Study Consultation Response**

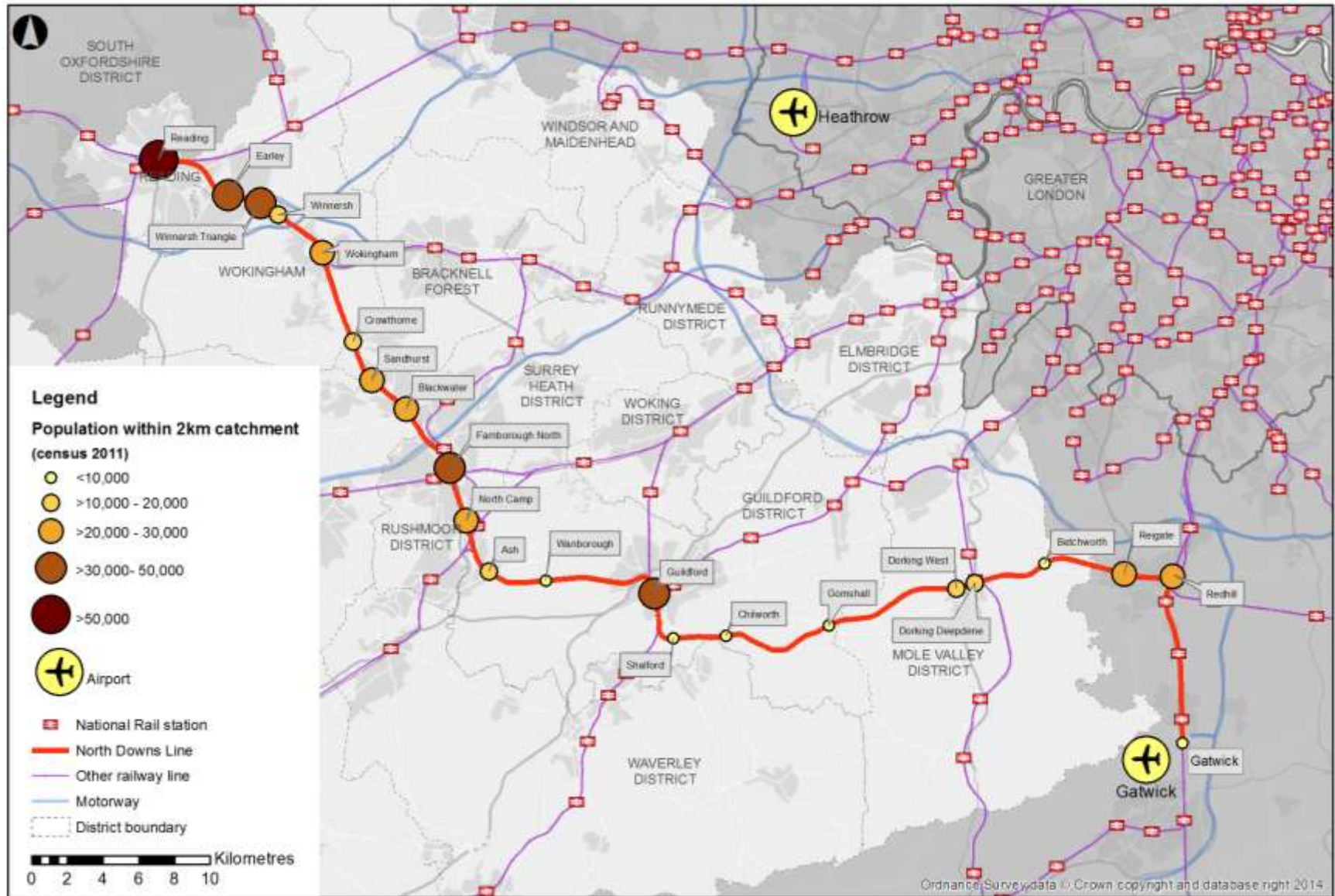


# Planning and Economic Baseline

Population  
Employment  
Commuting Patterns  
Major Projects and Developments  
Environmental Designations

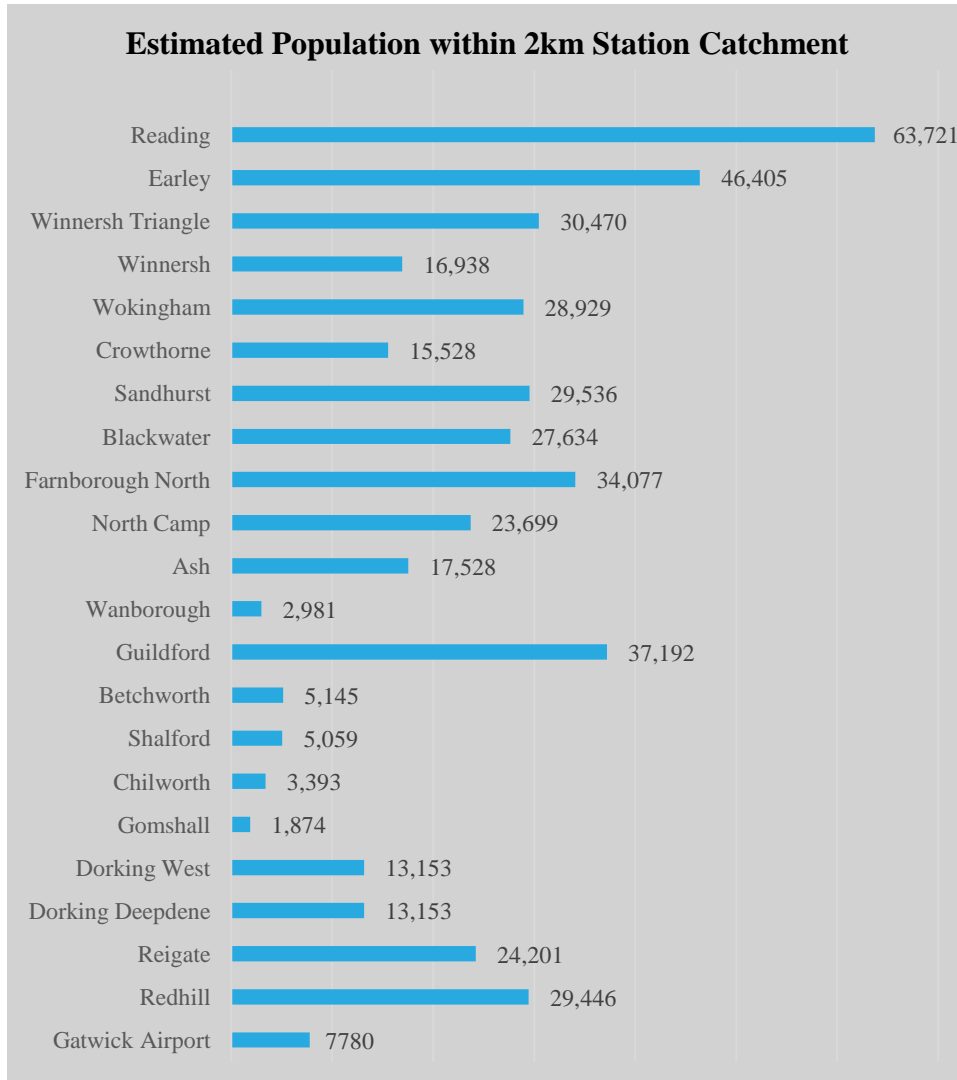
# Existing Population

Source: 2011 Census



Ordnance Survey data © Crown copyright and database right 2014

# Existing Population

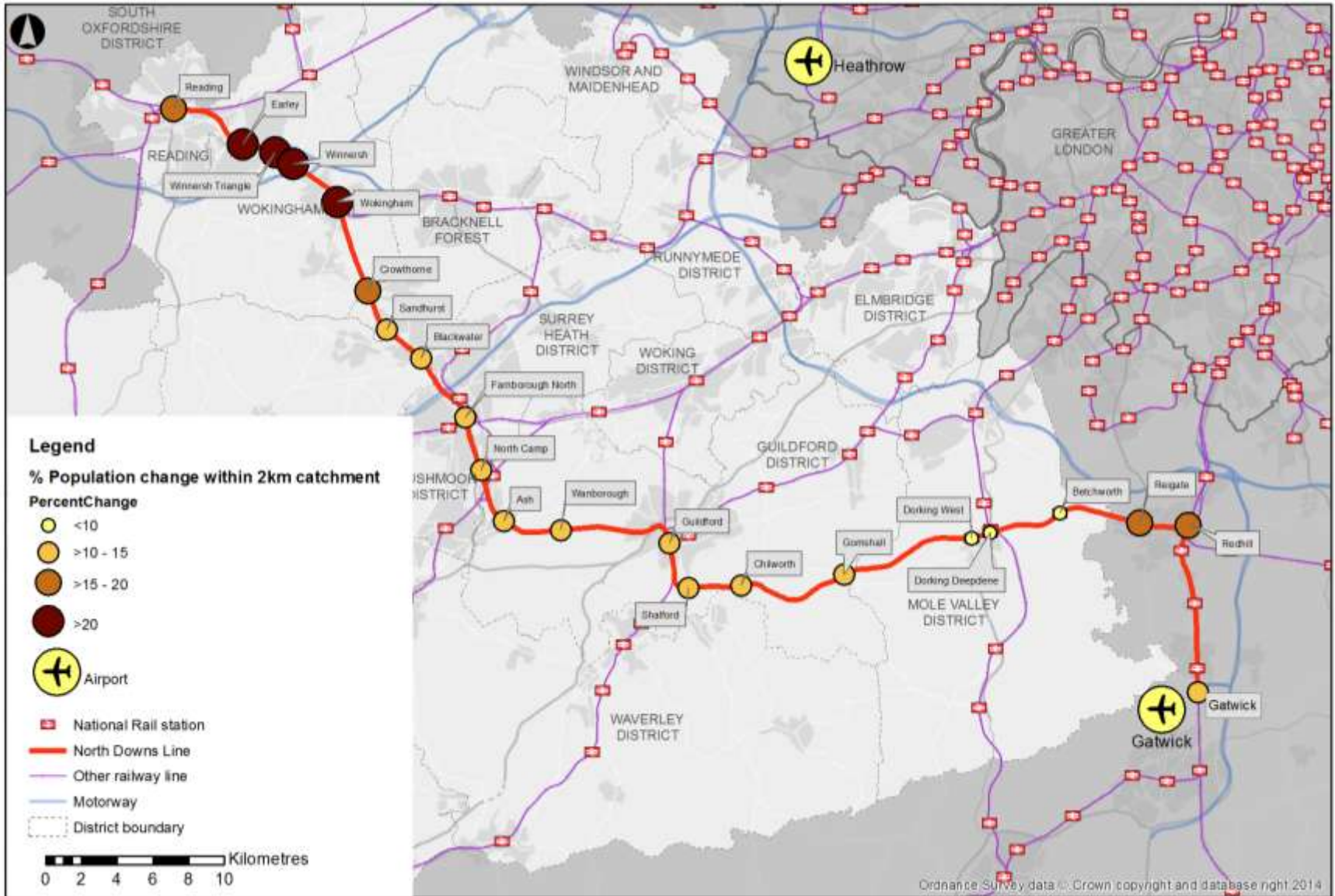


Source: 2011 Census

- North Downs Line serves a population of 392,000 people within a 2km catchment of stations.
- Reading and Guildford are the largest settlements served by the North Downs Line.
- Stations between Reading and Guildford have the largest population catchments (e.g. Earley, Farnborough, Winnersh Triangle, Sandhurst and Wokingham).
- Redhill and Reigate, the eastern most stations on the line, also serve large urban populations of between 20-30,000 people each.
- The stations between Betchworth and Gomshall are located in a rural area and have relatively small population catchments.

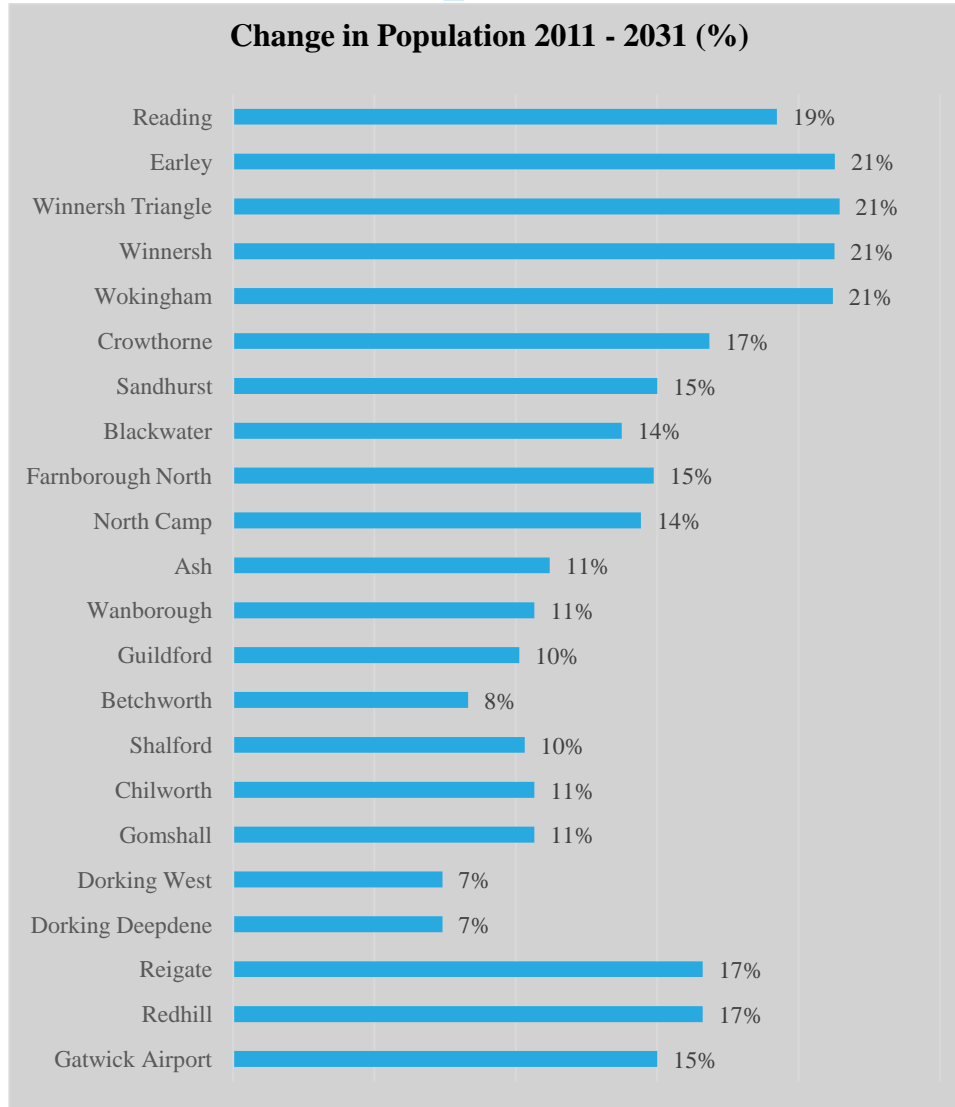
# Forecast Population

Source: TEMPRO data based on 2008-based population projections





# Forecast Population

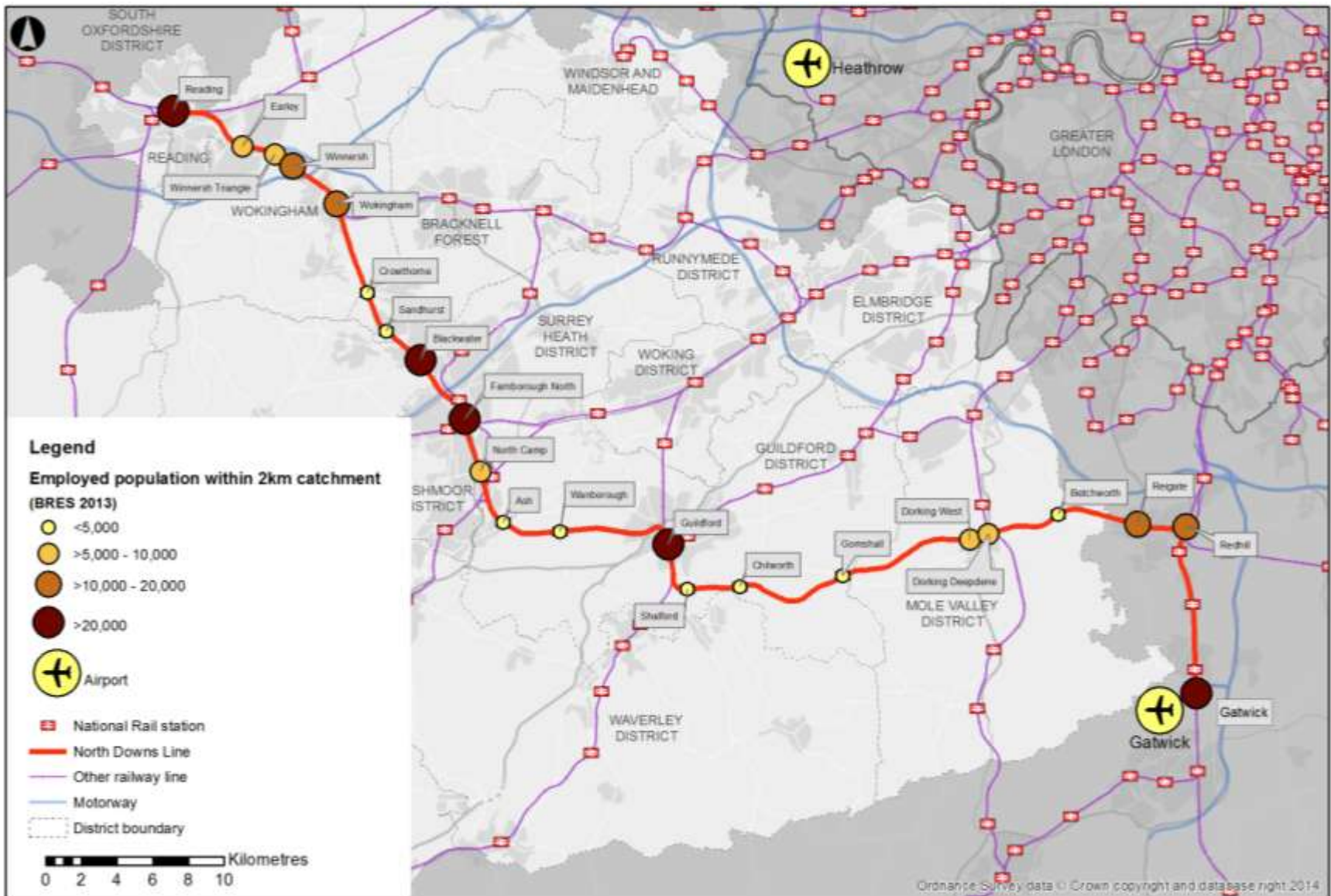


Source: Temprow

- Overall, population along the line is forecast to grow by 16% (63,000) by 2031 giving a future population of 455,000.
- In general, the largest settlements are expected to exhibit strongest growth:
  - Early, Winnersh and Wokingham are expected to grow by more than a fifth.
  - Populations located towards the east of the North Downs Line (at Reigate, Redhill and Gatwick Airport) are estimated to have relatively high population increases (17%).
- Stations in more rural areas are forecast to have the smallest population gains (e.g. Bletchworth).

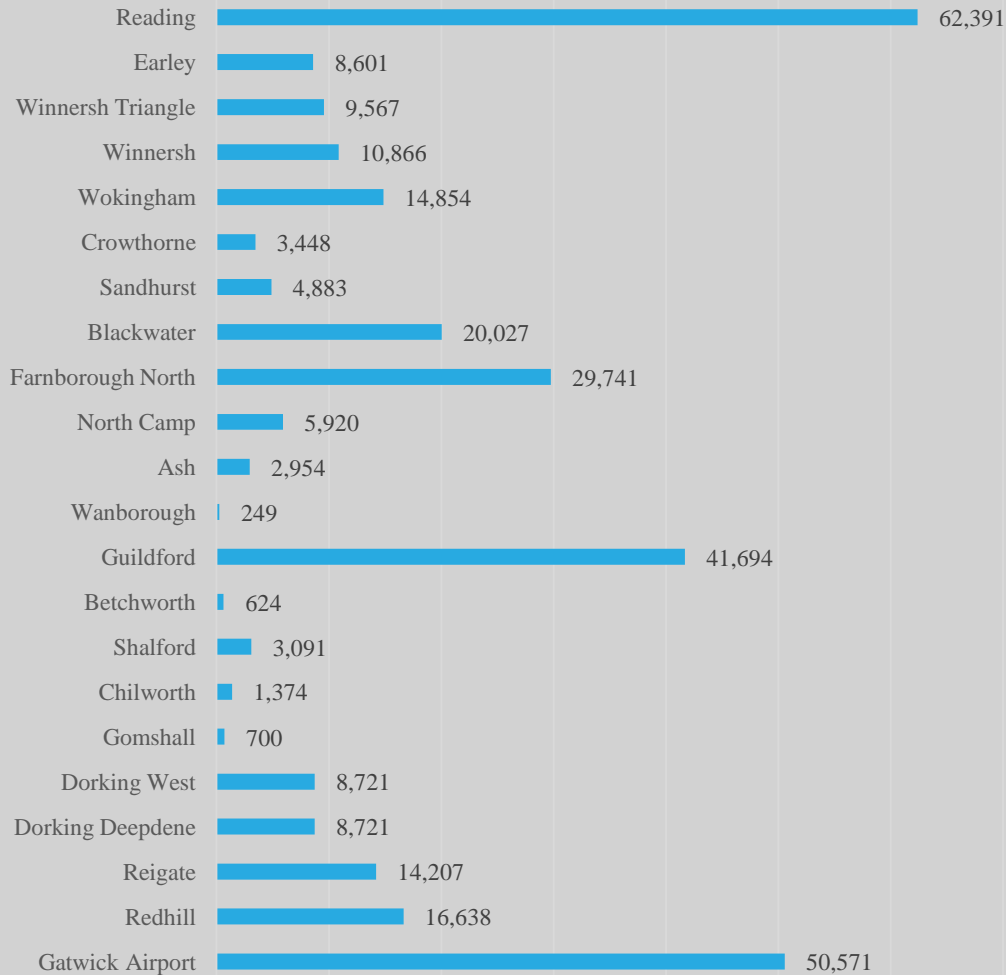
# Existing Employment

Source: BRES, 2013



# Existing Employment

Estimated Number of Jobs within 2km Station Catchment

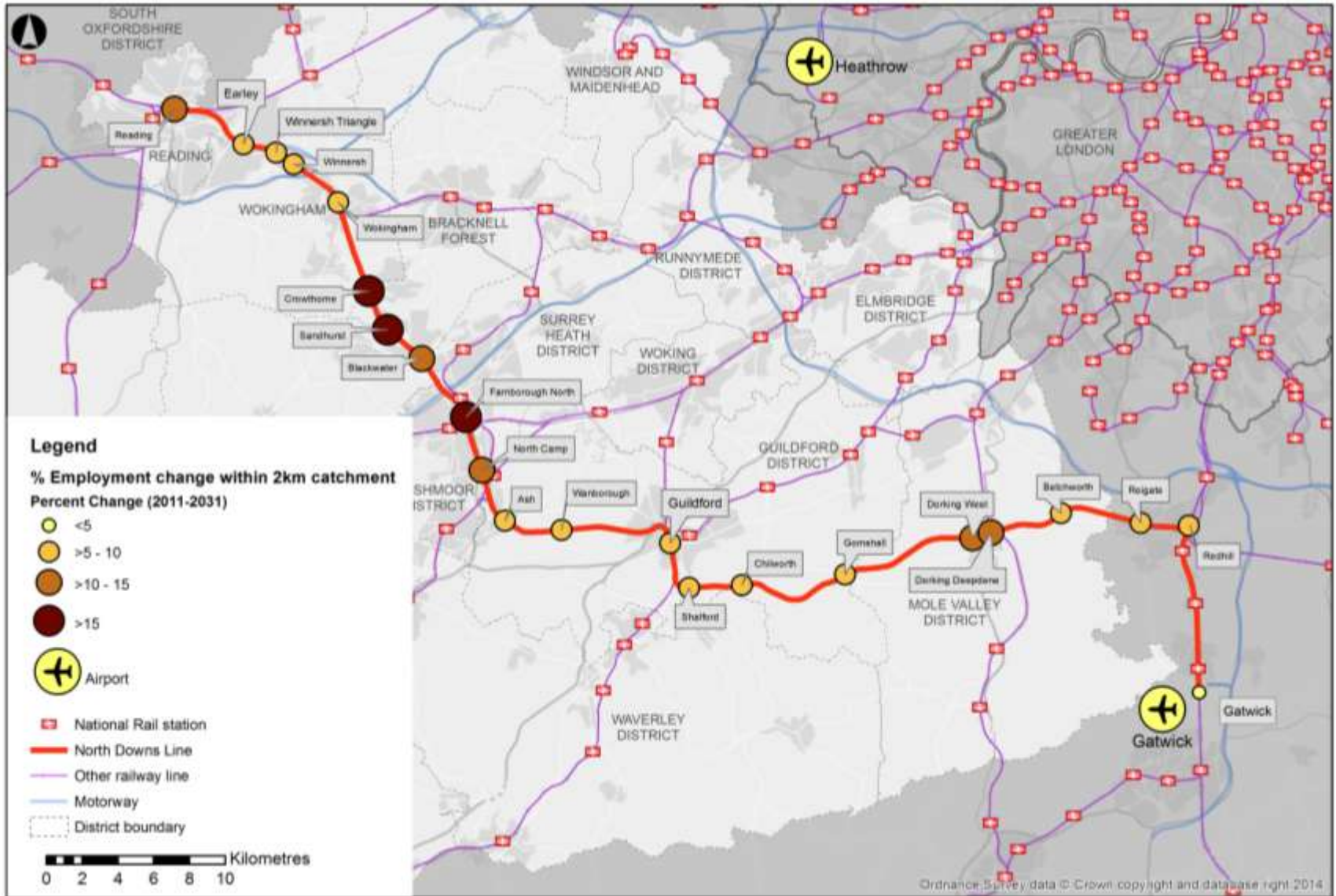


Source: BRES, 2013

- North Downs Line serves 290,000 jobs within a 2km catchment of stations.
- Reading has the highest number of jobs followed by Gatwick Airport and then Guildford.
- Gatwick is an important employment centre in its own right, including employers beyond the airport boundary.
- Blackwater and Farnborough North also act as employment centres. Substantial employment uses are located to the south and west of Farnborough town centre as well as at Farnborough Airport.
- Towards the eastern end of the line, Reigate and Redhill act as employment centres
- As expected, very few jobs are clustered around rural stations.

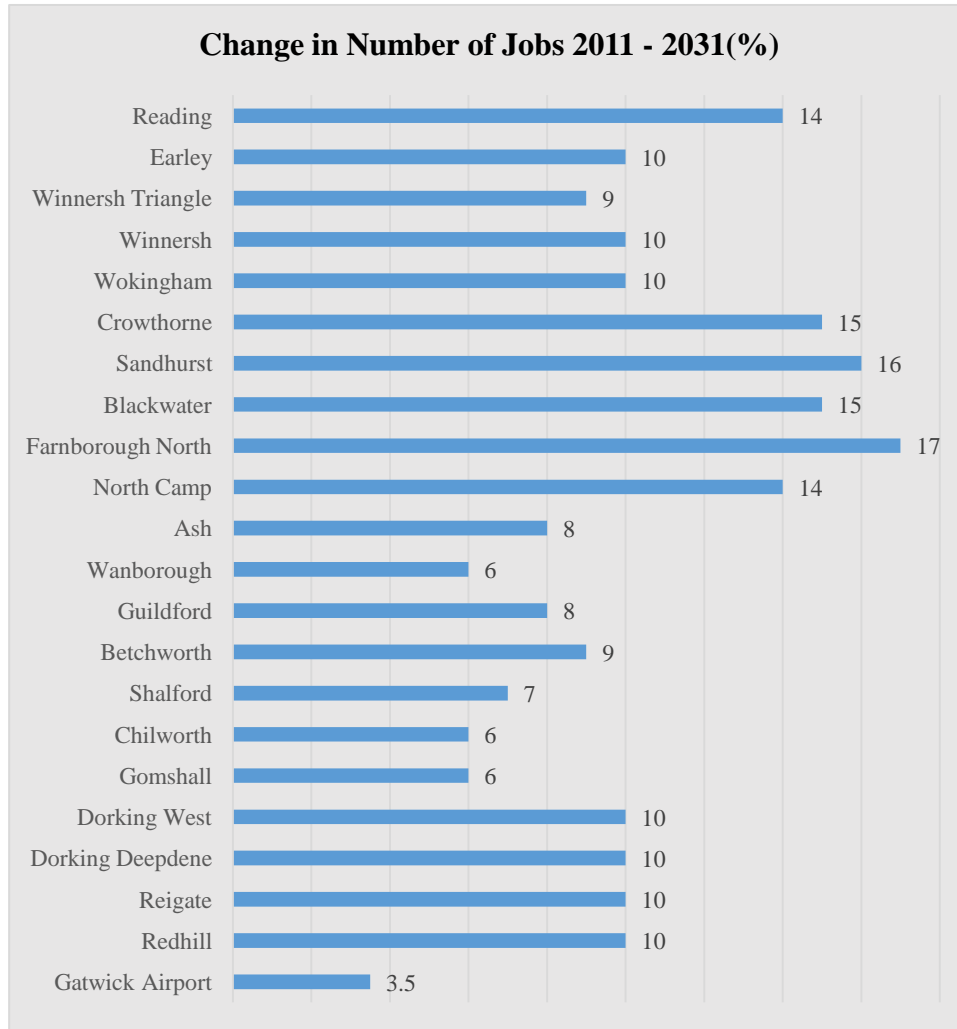
# Forecast Employment

Source: TEMPRO data based on Workforce Jobs and Labour Force Survey





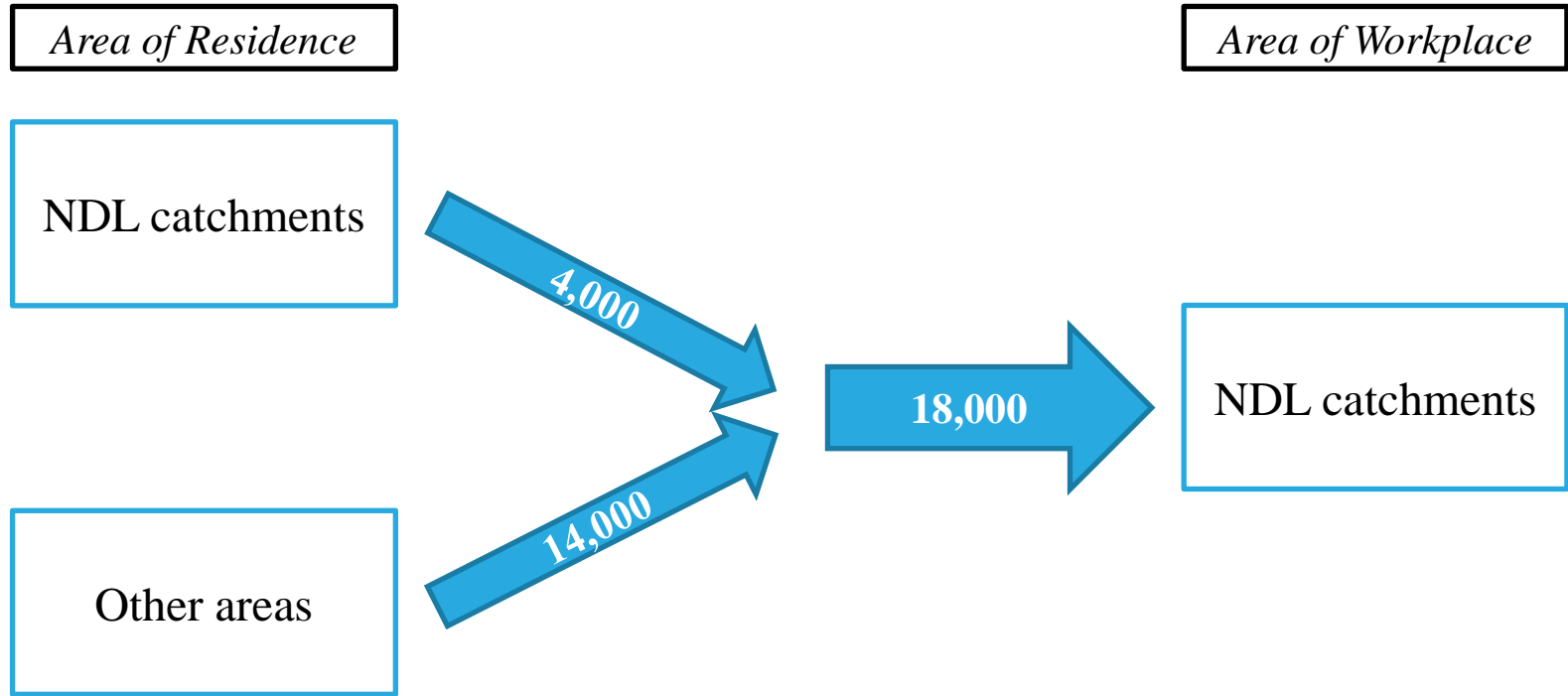
# Forecast Employment



Source: TEMPRO

- Average growth in jobs along the line is forecast to be 12% (34,000) by 2031 resulting in 324,000 jobs.
- Workplace populations to the western end of the line are expected to exhibit the fastest growth, the forecasts show a 17% increase in the working population of the Farnborough North catchment area.

# Inward Commuting by Rail



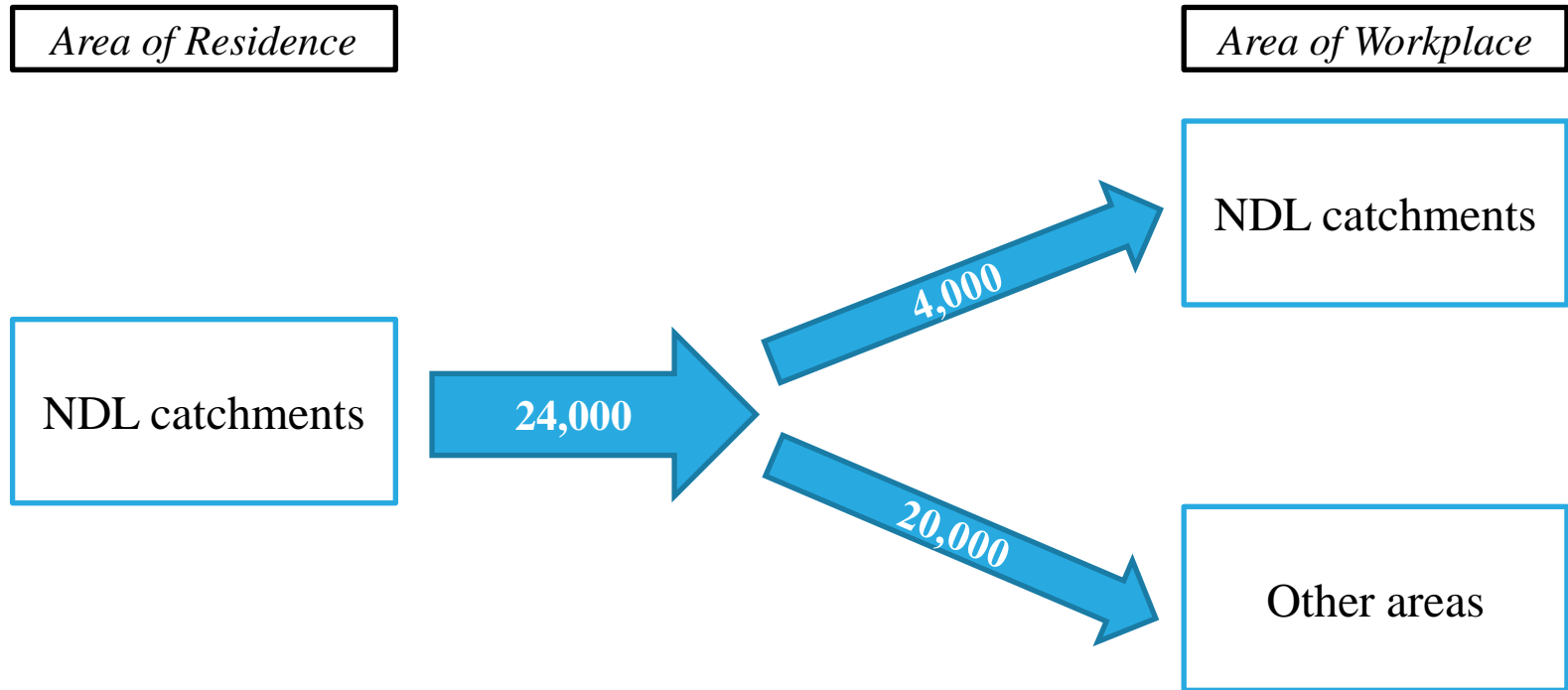
*Rail based commuting flows by destination*

**Jobs located within North Downs Line Station Catchment Areas**

	NDL Station Catchment Areas	Rest of Surrey, Berkshire, Hampshire & Reading	Central London	Outer London	Rest of UK
<b>Jobs located within North Downs Line Station Catchment Areas</b>	24%	35%	9%	12%	21%

Source: Census 2011 journey to work data

# Outward Commuting by Rail



Rail based commuting flows by destination	Area of Workplace				
	NDL Station Catchment Areas	Rest of Surrey, Berkshire, Hampshire & Reading	Central London	Outer London	Rest of UK
<b>Residents of North Downs Line Station Catchment Areas</b>	<b>18%</b>	<b>16%</b>	<b>53%</b>	<b>6%</b>	<b>7%</b>

Source: Census 2011 journey to work data