

# Cambridge Light Rail

Dr Colin Harris  
Cambridge Connect



All Party Parliamentary  
Light Rail Group  
24 Oct 2017



**railfuture**  
EAST ANGLIA

UK  
Tram

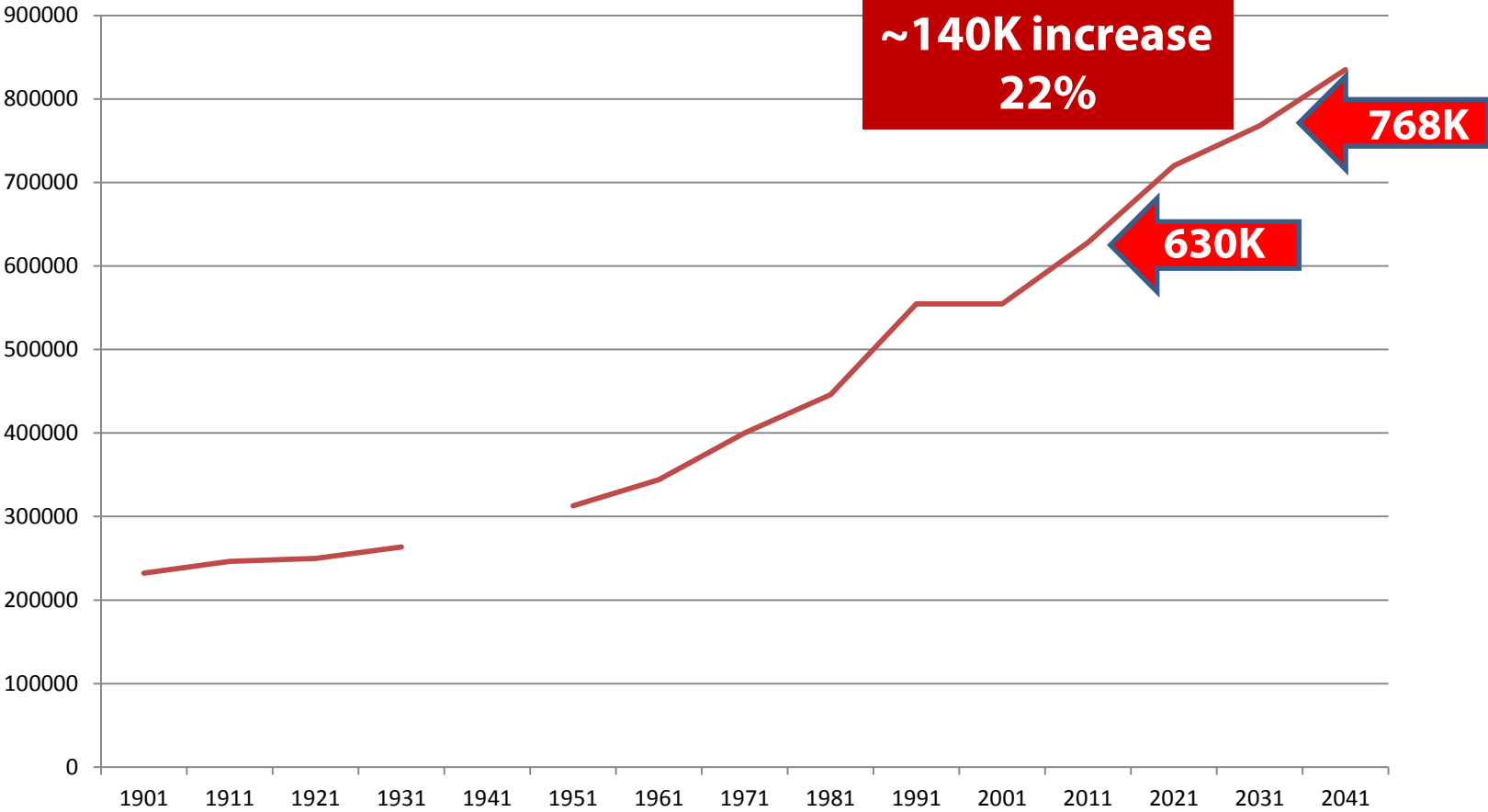
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**Why?**



# Cambridgeshire Population



<http://opendata.cambridgeshireinsight.org.uk/dataset/cambridgeshire-population-forecasts-2012>





# A sleepy market /University town...What's changed?

**Growth**

**2031**

- **Employment growth over 7% annually 2011-16**  
**Life Sciences / Construction 10-12%**
- **Global leadership: AstraZeneca, Apple, Amazon, ARM...**
- **Global turnover £36 bn**  
**Comparable to city of Manchester**
- **Business growth of 97% over 10 years**

## **Challenges:**

- **Environment**
- **Quality of life**
- **Housing**
- **Transport / infrastructure**

## **Sustainable development**

Data Source: Cambridge Ahead

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**2011**



Why not?



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Photo credit: Cambridge News

# City centre buses...

## 2017 – 125 per hr



10 Buses

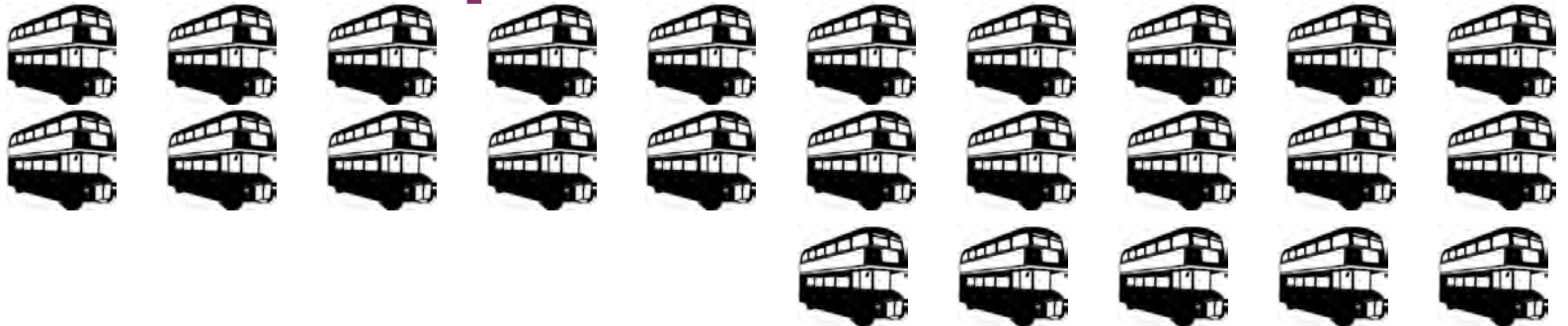
Every 5 mins



## 2031 – 200-300 per hr

20-25 Buses

Every 5 mins



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**Nottingham chose  
trams because the  
number of buses  
needed could not fit  
into the constrained  
city centre**







# Light Rail benefits

- **Proven, Safe** - deliverable
- **Reliable, Frequent, Fast**
- **Capacity, Scalable** – future proof
- **Environment** – energy, air quality
- **People prefer**



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*'Fast Forward'*  
The "Isaac Newton Line"  
Underground / Overground  
Extensions A & B  
Conceptual Plan 2018-31

**A428 EXPRESSWAY TO OXFORD CONNECT AT GIRTON INTERCHANGE**

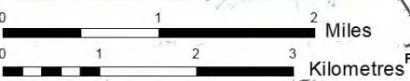
**"ISAAC NEWTON LINE" 2018-23**

**Cambridge Light Rail**  
Isaac Newton Line - indicative

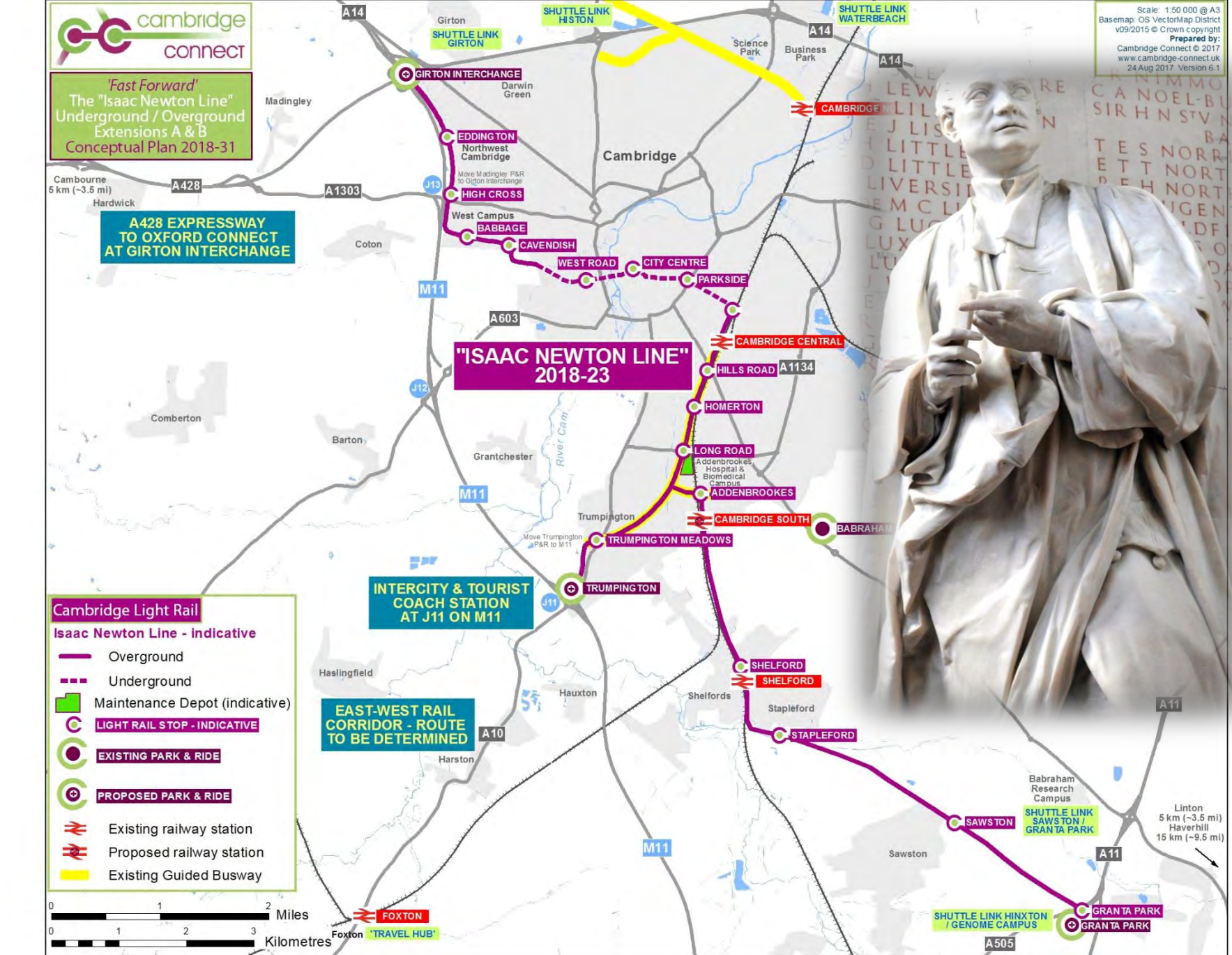
- Overground
- - - Underground
- Maintenance Depot (indicative)
- LIGHT RAIL STOP - INDICATIVE
- EXISTING PARK & RIDE
- ⊕ PROPOSED PARK & RIDE
- Existing railway station
- Proposed railway station
- Existing Guided Busway

**INTERCITY & TOURIST COACH STATION AT J11 ON M11**

**EAST-WEST RAIL CORRIDOR - ROUTE TO BE DETERMINED**



**FOXTON 'TRAVEL HUB'**



Linton 5 km (~3.5 mi)  
Haverhill 15 km (~9.5 mi)



*'Fast Forward'*  
The "Isaac Newton Line"  
Underground / Overground  
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**A428 EXPRESSWAY TO OXFORD CONNECT AT GIRTON INTERCHANGE**

**Cambridge Light Rail**

**Isaac Newton Line - indicative**

- Overground
- Underground

**Extension A - indicative**

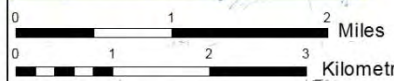
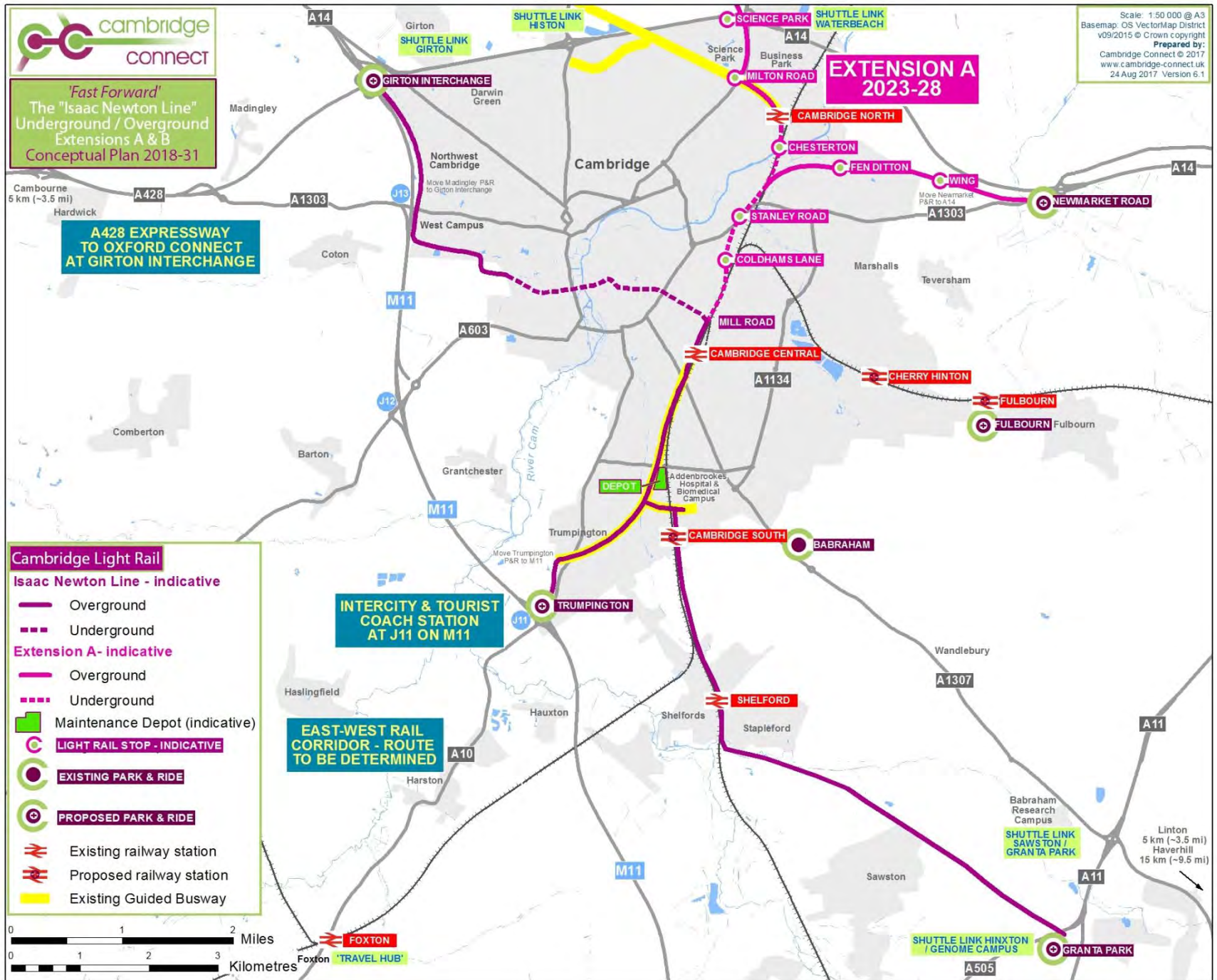
- Overground
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**INTERCITY & TOURIST COACH STATION AT J11 ON M11**

**EAST-WEST RAIL CORRIDOR - ROUTE TO BE DETERMINED**

**EXTENSION A 2023-28**



*'Fast Forward'*  
The "Isaac Newton Line"  
Underground / Overground  
Extensions A & B  
Conceptual Plan 2018-31

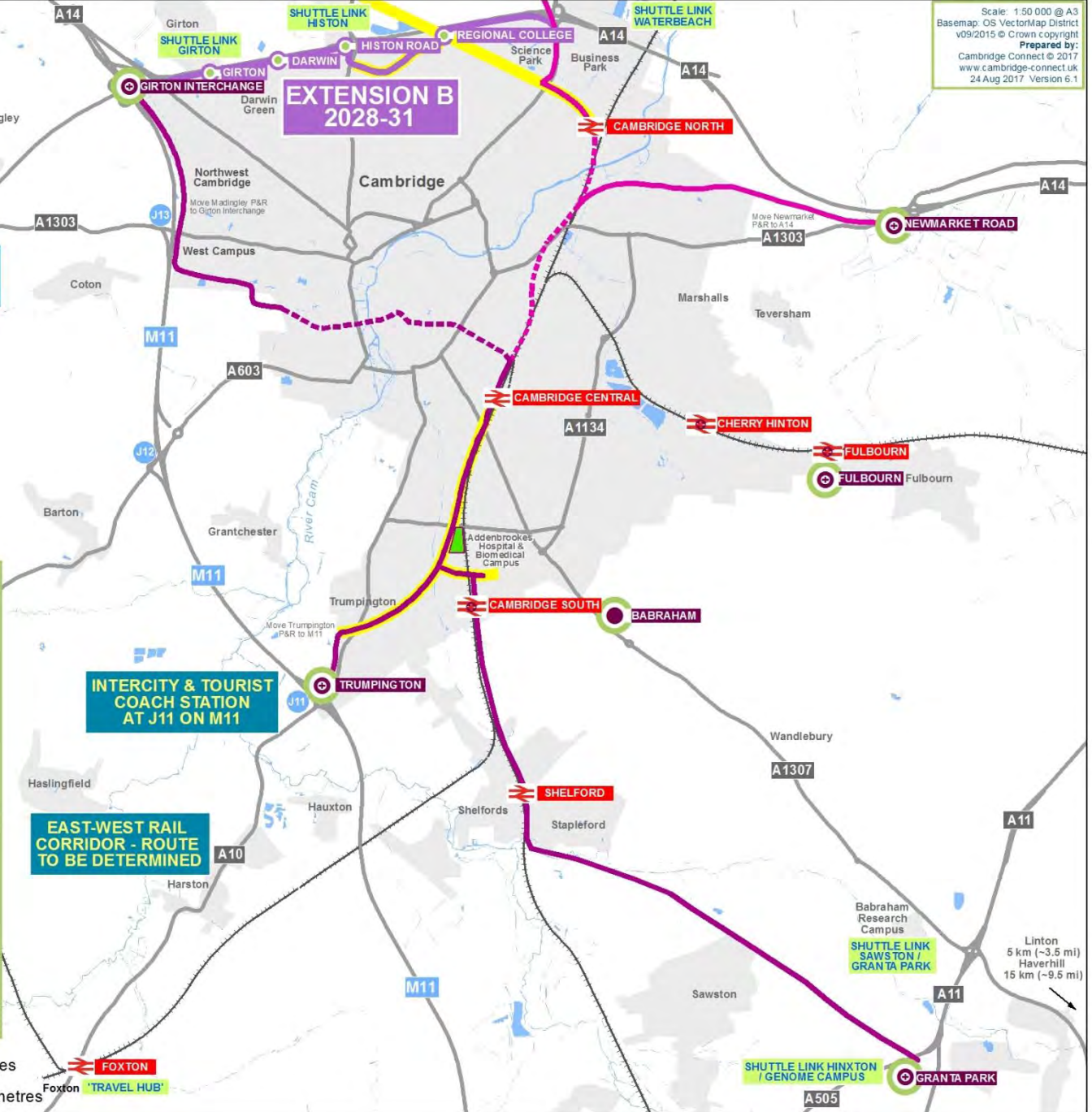
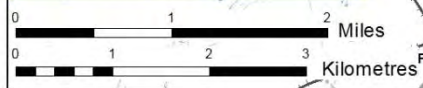
**A428 EXPRESSWAY TO OXFORD CONNECT AT GIRTON INTERCHANGE**

**EXTENSION B 2028-31**

**INTERCITY & TOURIST COACH STATION AT J11 ON M11**

**EAST-WEST RAIL CORRIDOR - ROUTE TO BE DETERMINED**

- Cambridge Light Rail**
- Isaac Newton Line - indicative**
    - Overground
    - - - Underground
  - Extension A - indicative**
    - Overground
    - - - Underground
  - Extension B - indicative**
    - Overground
  - Maintenance Depot (indicative)
  - LIGHT RAIL STOP - INDICATIVE
  - EXISTING PARK & RIDE
  - PROPOSED PARK & RIDE
  - Existing railway station
  - Proposed railway station
  - Existing Guided Busway



**FOXTON 'TRAVEL HUB'**

**SHUTTLE LINK HINXTON / GENOME CAMPUS**

**SHUTTLE LINK SAWS TON / GRAN TA PARK**

Linton 5 km (~3.5 mi)  
Haverhill 15 km (~9.5 mi)



*'Fast Forward'*  
The "Isaac Newton Line"  
Underground / Overground  
Extensions A & B  
Conceptual Plan 2018-31

**A428 EXPRESSWAY TO OXFORD CONNECT AT GIRTON INTERCHANGE**



**INTERCITY & TOURIST COACH STATION AT J11 ON M11**

**EAST-WEST RAIL CORRIDOR - ROUTE TO BE DETERMINED**

**Cambridge Light Rail**

**Isaac Newton Line - indicative**

— Overground

- - - Underground

**Extension A - indicative**

— Overground

- - - Underground

**Extension B - indicative**

— Overground

**Regional Extensions - indicative**

— Regional Extensions - indicative

Maintenance Depot (indicative)

LIGHT RAIL STOP - INDICATIVE

EXISTING PARK & RIDE

PROPOSED PARK & RIDE

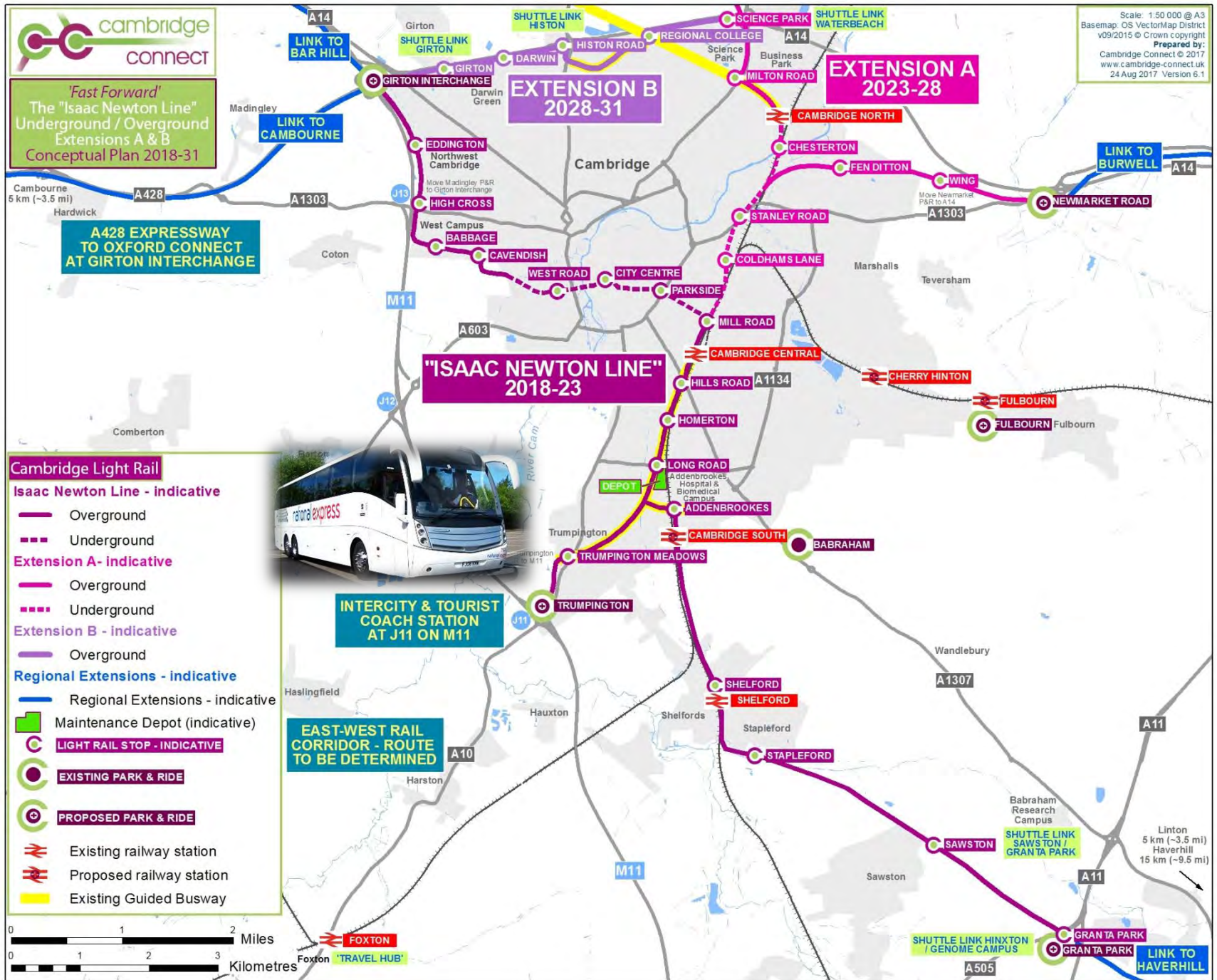
Existing railway station

Proposed railway station

Existing Guided Busway

0 1 2 Miles

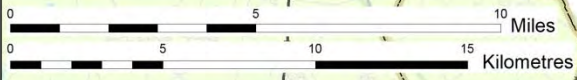
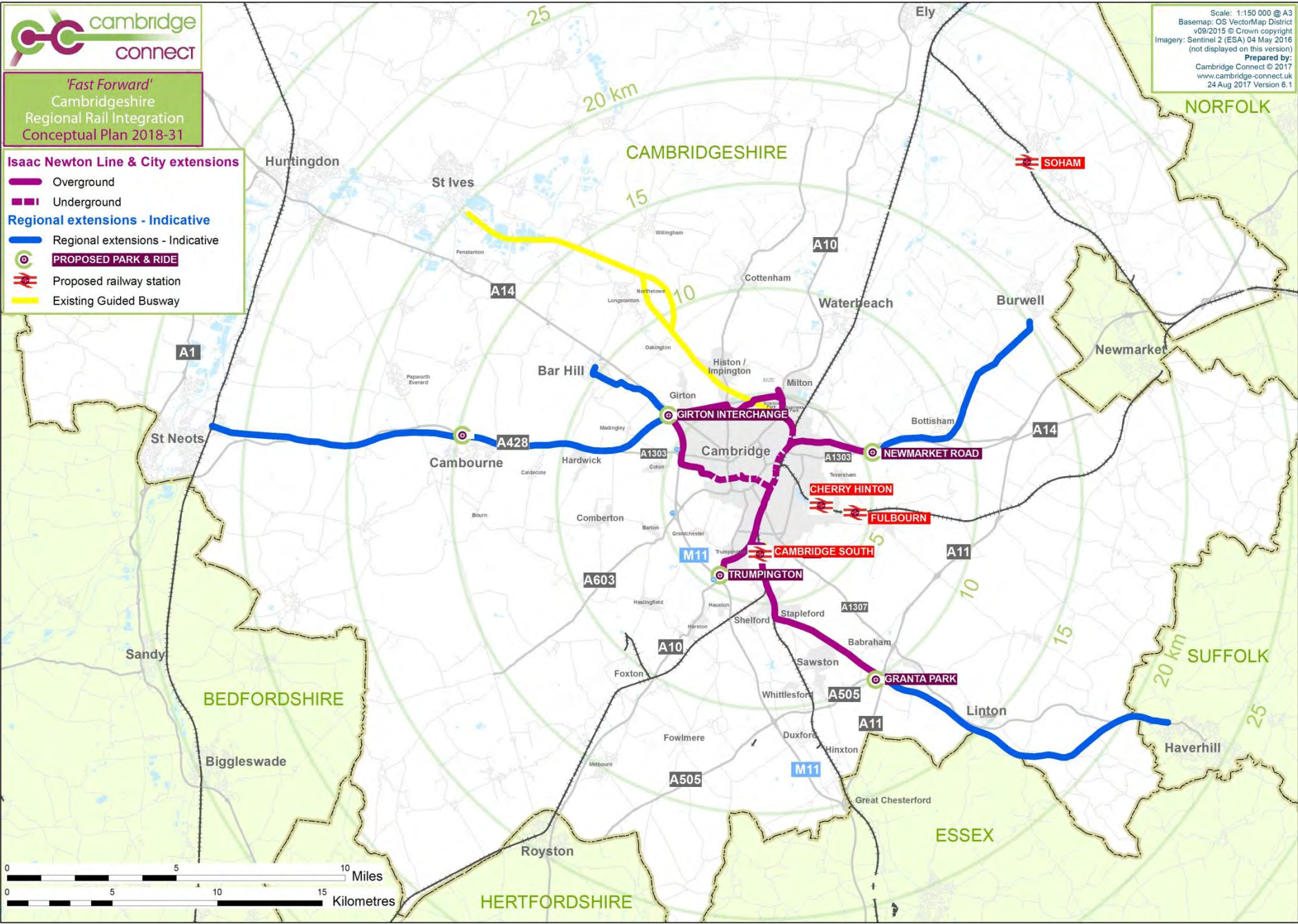
0 1 2 3 Kilometres





- Isaac Newton Line & City extensions**
- Overground
  - - - Underground
- Regional extensions - Indicative**
- Regional extensions - Indicative
  - PROPOSED PARK & RIDE
  - Proposed railway station
  - Existing Guided Busway

Scale: 1:150 000 @ A3  
 Basemap: OS VectorMap District  
 v09/2015 © Crown copyright  
 Imagery: Sentinel 2 (ESA) 04 May 2016  
 (not displayed on this version)  
 Prepared by:  
 Cambridge Connect © 2017  
 www.cambridge-connect.uk  
 24 Aug 2017 Version 6.1





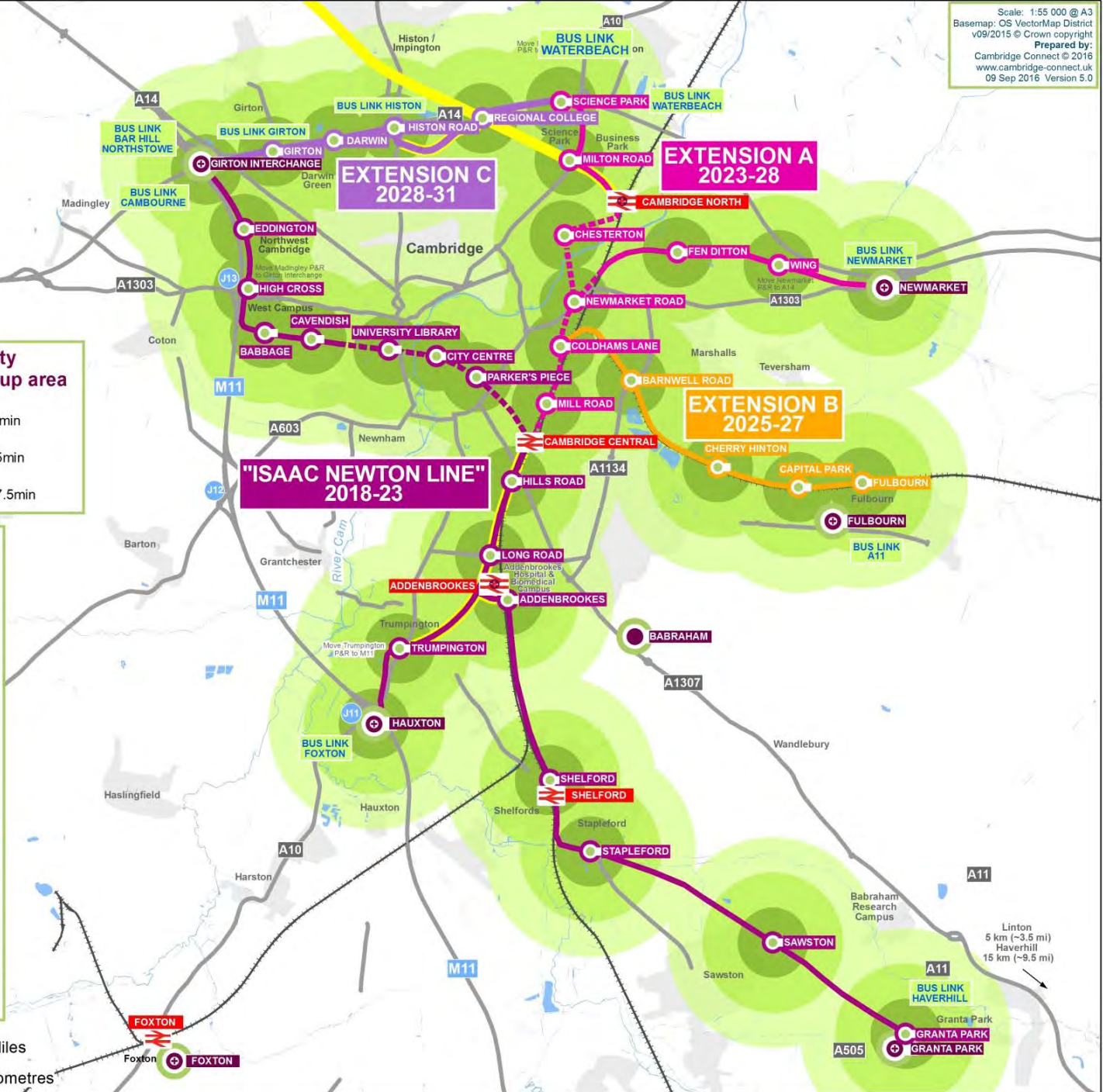
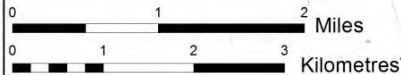
*'Fast Forward'*  
The "Isaac Newton Line"  
Underground / Overground  
Extensions A, B, C  
Conceptual Plan 2018-31

**Light Rail Stop Accessibility  
to Cambridge region built-up area**

- 32% 500m - Walk 6min; Cycle 2.5min
- 72% 1000m - Walk 12min; Cycle 5min
- 91% 1500m - Walk 18min; Cycle 7.5min

**Isaac Newton Line - indicative**

- Overground
- Underground
- Extension A - indicative**
- Overground
- Underground
- Extension B - indicative**
- Overground
- Underground
- Extension C - indicative**
- Overground
- LIGHT RAIL STOP - INDICATIVE
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## Demand - Cambridge City Centre visitors Feb 2017

Total Visitors (000)	Visitors / day (000)	Trips / Day (000)	Light rail (15%) Trips / Day (000)	Trips / Year Light rail (m)	Inbound / Outbound per hour (12 hrs)
2,675	90	180	27	9.8	2250
<b>Busiest Day Sat 18 Feb 2017</b>					
	144	288	43	15.7	3600





# How much...?

## Cambridge Light Rail

*First priority:*

Isaac Newton Line - Girton to Granta Park

Length  
(km)

Stops

Total £M

Sources

Tunnelling based on published cost used by Miles / Mair (pers comm 2016) & Métropole Nice Côte D'Azur (Oct 2015)

22

19

932

Overground tram cost of £20-30M / km B.Menzies (2015) quoted Cambridge News

Extension A – Northeast

9

10

435

Extension B – North

5.5

4

140

Line: £25m/km. Tunnelling : £50m/km bi-directional. Underground stations 3x £50m 1x £40m (smaller)

*City Extensions Subtotal*

20

18

575

*Isaac Newton Line & Extensions Subtotal*

42

37

1507

Extension Haverhill

15

2

382

Extension Cambourne

11

3

271

**Total**

68

42

2160





# GREENPRINT FOR A SUSTAINABLE FUTURE

Responsible investment  
Enduring legacy



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