

Responding to the Transformation of the Royal Docks

TfL Surface Transport –
Public Transport Service Planning

August 20 19

MAYOR OF LONDON



Bus services in Royal Docks Area

Objective

Identify how the bus network needs to evolve to respond to changes in travel demand in the Royal Docks area.

TfL Bus Strategy (February 2019)

Amongst the six priorities set out for the bus network, this study responds to priorities 5 and 6 “Re-shaping the bus network” and “Growing demand”.

Regarding the strategy for Outer London it means:

- *Enhancing network coverage*
- *Supporting growth areas*
- *Continuing to remove spare capacity where it exists*



Bus service planning guidelines

In designing bus service changes, the bus service planning guidelines are followed; namely:

- **Comprehensive** network
- **Frequent** network
- **Reliable** network
- **Simple and easy to use** network
- **Value for money**



Structure

- Royal Docks Transformation
 - Elizabeth Line – *new rail capacity and links*
 - Gallions Reach – *changing shopping habits*
 - ABP - Royal Albert Dock – *new employment opportunities*
 - Royal Wharf – *new housing and growing population*
 - Silvertown Tunnel – *new travel patterns*
- Summary



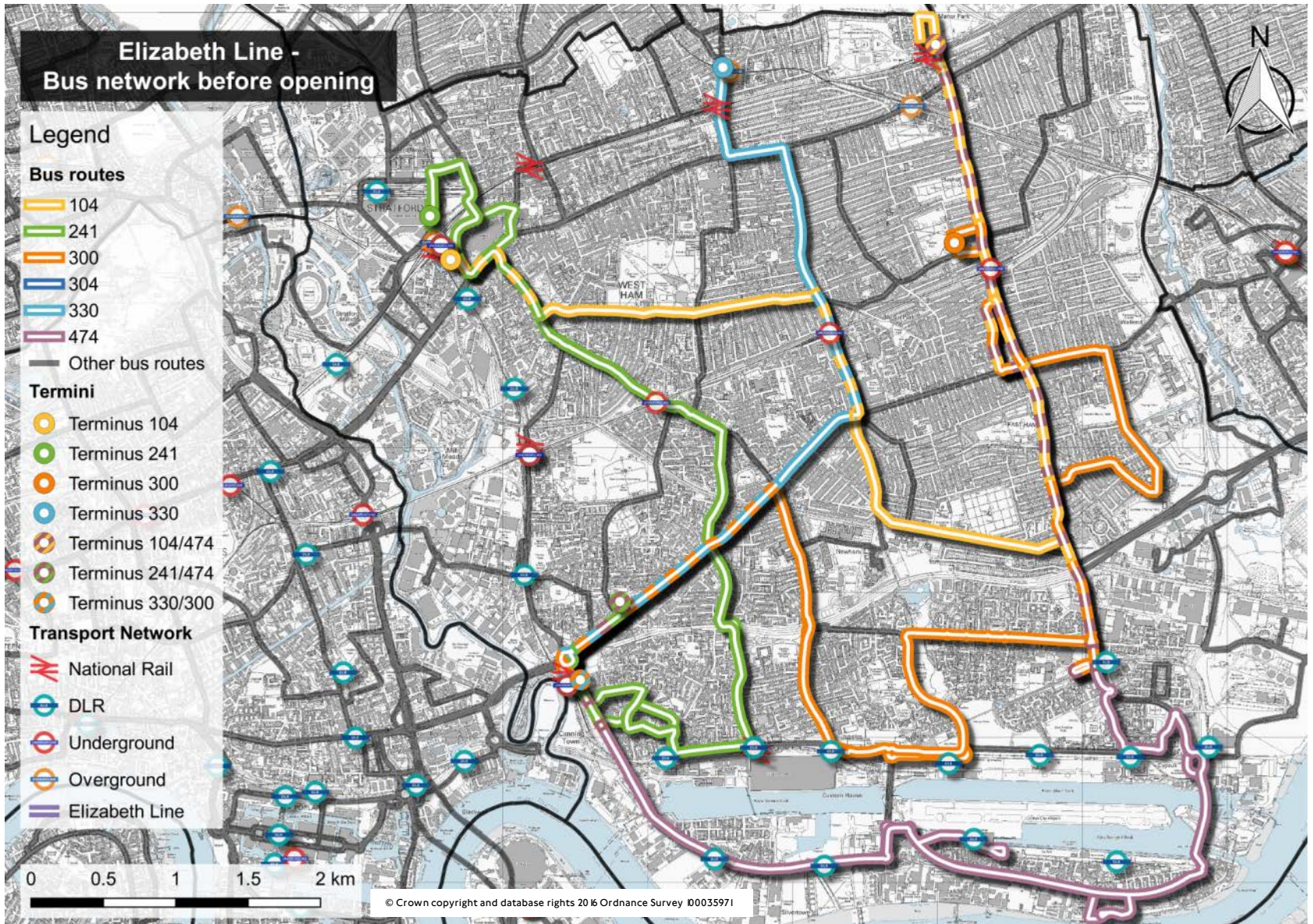
Royal Docks – Drivers for change

2013 South Newham review looked at how land uses were changing and how new development and existing issues influenced bus travel in the Royal Docks. This study updates that review focusing on particular factors transforming travel in the Royal Docks.

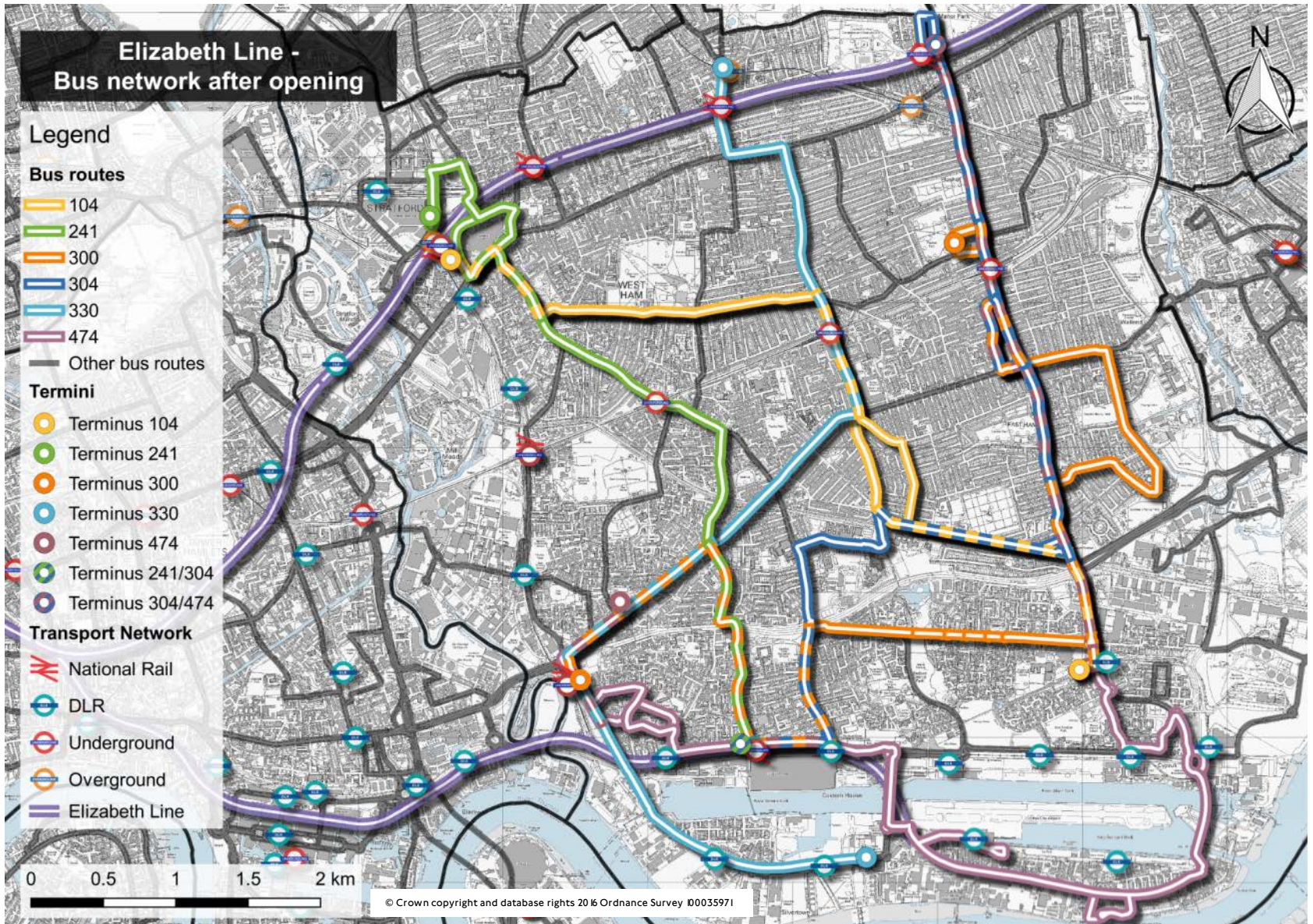
Transformation	Bus planning	Planning status
Elizabeth Line	Schemes identified for routes 241, 300, 330, 474, 104, 304	Complete
Shopping habits	Schemes identified for routes 101 and 262 in Gallions Reach	In development
ABP employment centre	Schemes identified for routes 325 and 376	In development
West Silvertown/ Royal Wharf housing	Scheme identified for route 241	In development
Silvertown Tunnel	Initial work done for DCO. Detailed planning to commence not less than 2 years before opening	Concept



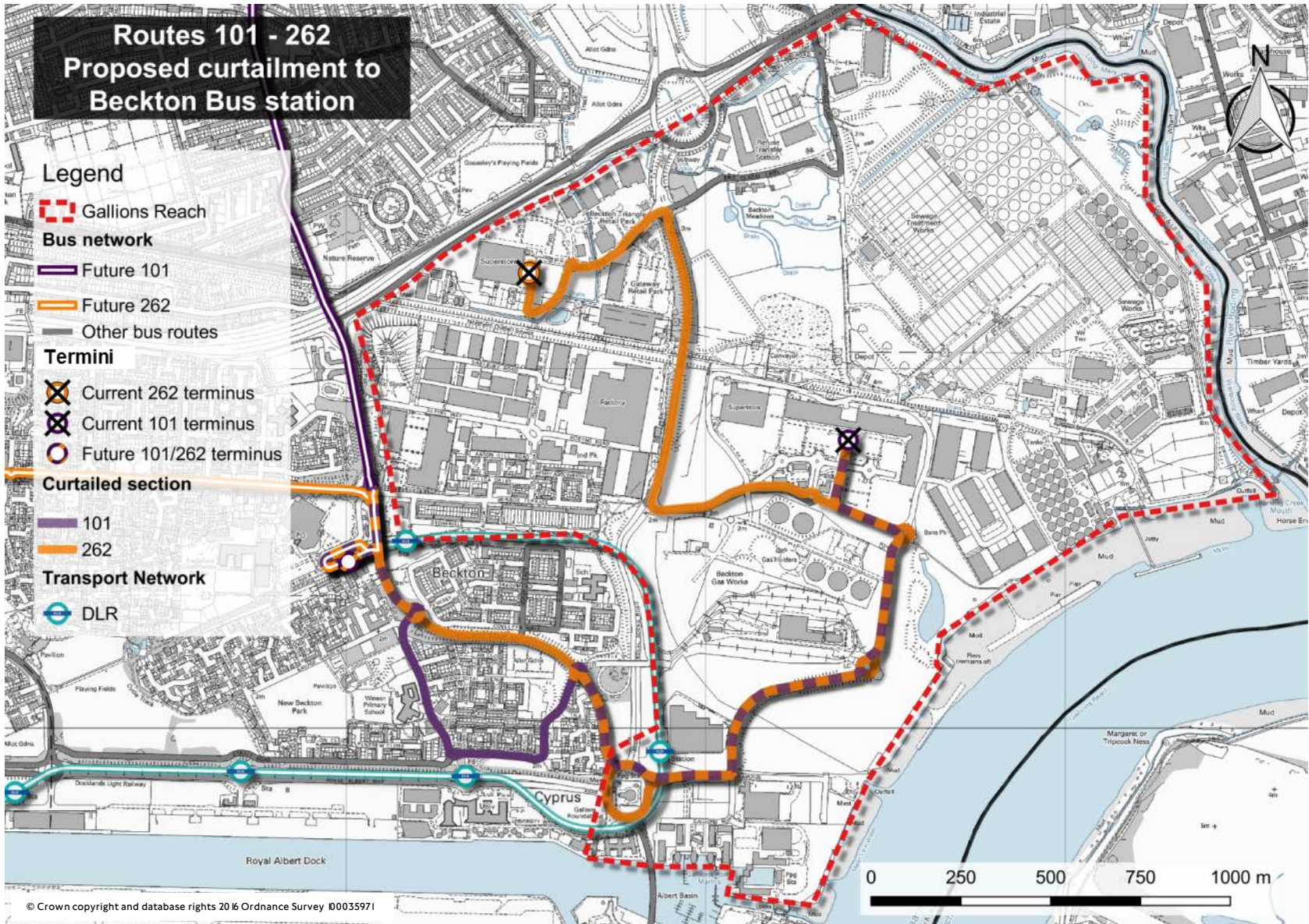
ELIZABETH LINE



ELIZABETH LINE



GALLIONS REACH CAPACITY REVIEW



Routes 10 I/262

Issue:

- **Decrease in demand** within the area marked in red on the map.
-23% between 2007 and 2015. Probably due to changing shopping habits e.g. online shopping and the opening of Westfield Stratford City.
- **Excess capacity on the corridor** within the area marked in red on the map.
Peak hour demand equivalent to around 4 double-deck buses. Currently 22 bph provided.

Proposed scheme: 262 and 101 curtailment at Beckton

- **NB: Subject to consultation.**

Implication:

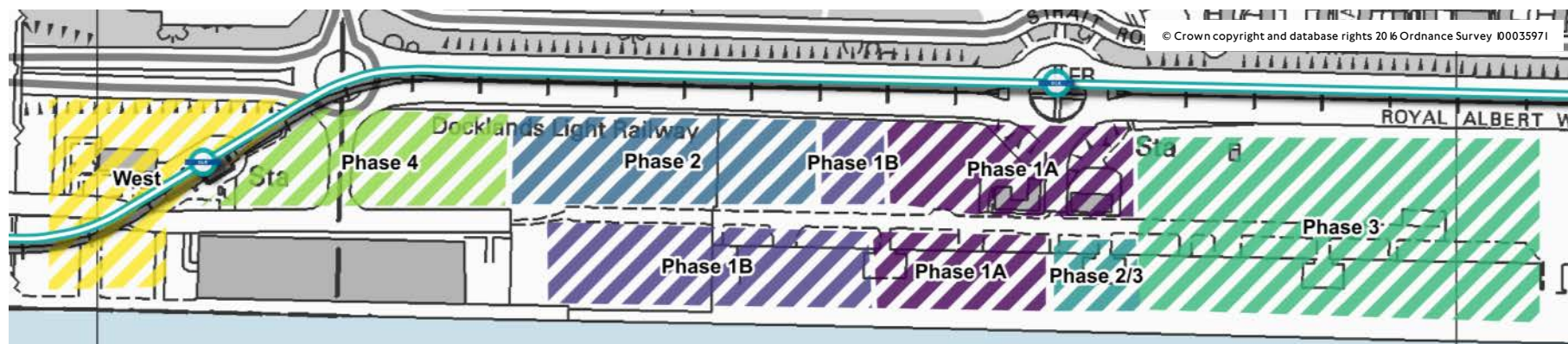
- Better matches capacity to demand.
- Significant savings which can be better allocated elsewhere on the network.
- Does break passenger links but dotted area continues to be served by routes 325, 366, 474, N551 and DLR.
- Possibility to extend 101 to ABP site.



Development description

Phased development

Phase	Completion	Residential units per phase	Number of residents per phase	Office (sqm) per phase	Retail (Sqm) per phase	Number of workers per phase
1A	2020	-	-	63,118	-	2,556
1B	2023	-	-	67,777	2,860	2,868
1	2023	-	-	130,895	2,860	5,424
2	2026	296	592	30,770	1,164	1,296
3	2028	300	600	96,400	4,233	4,084
1-3	2028	596	1,192	258,065	8,257	10,804
4	2030	-	-	34,925	520	1,437
West	2033	249	498	26,885	1,062	1,135
Total	2033	845	1,690	319,875	9,839	13,376



Bus network

Current Network:

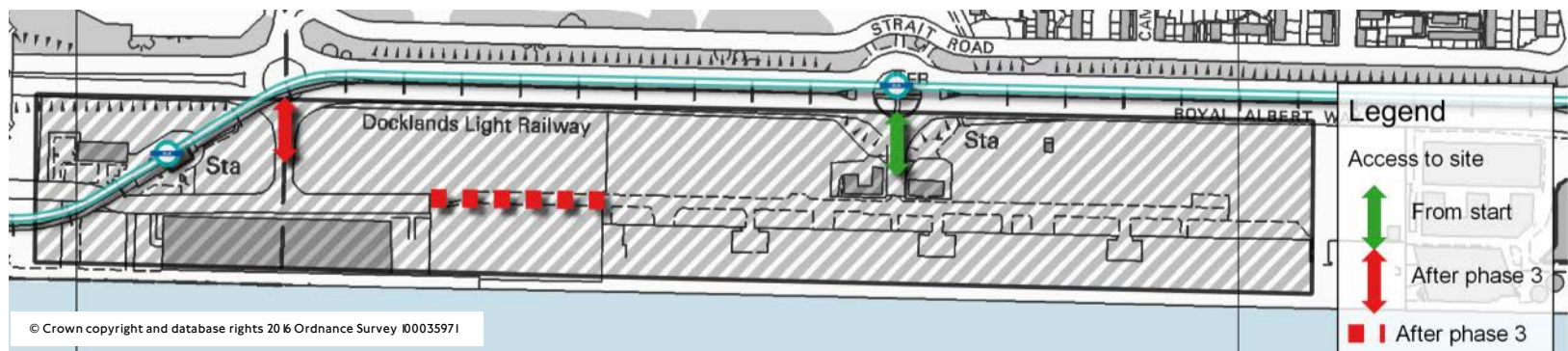
- Route 376 (4 bph), single deck. Pedestrian access from Strait Rd via Beckton Park DLR

Phase I (2023):

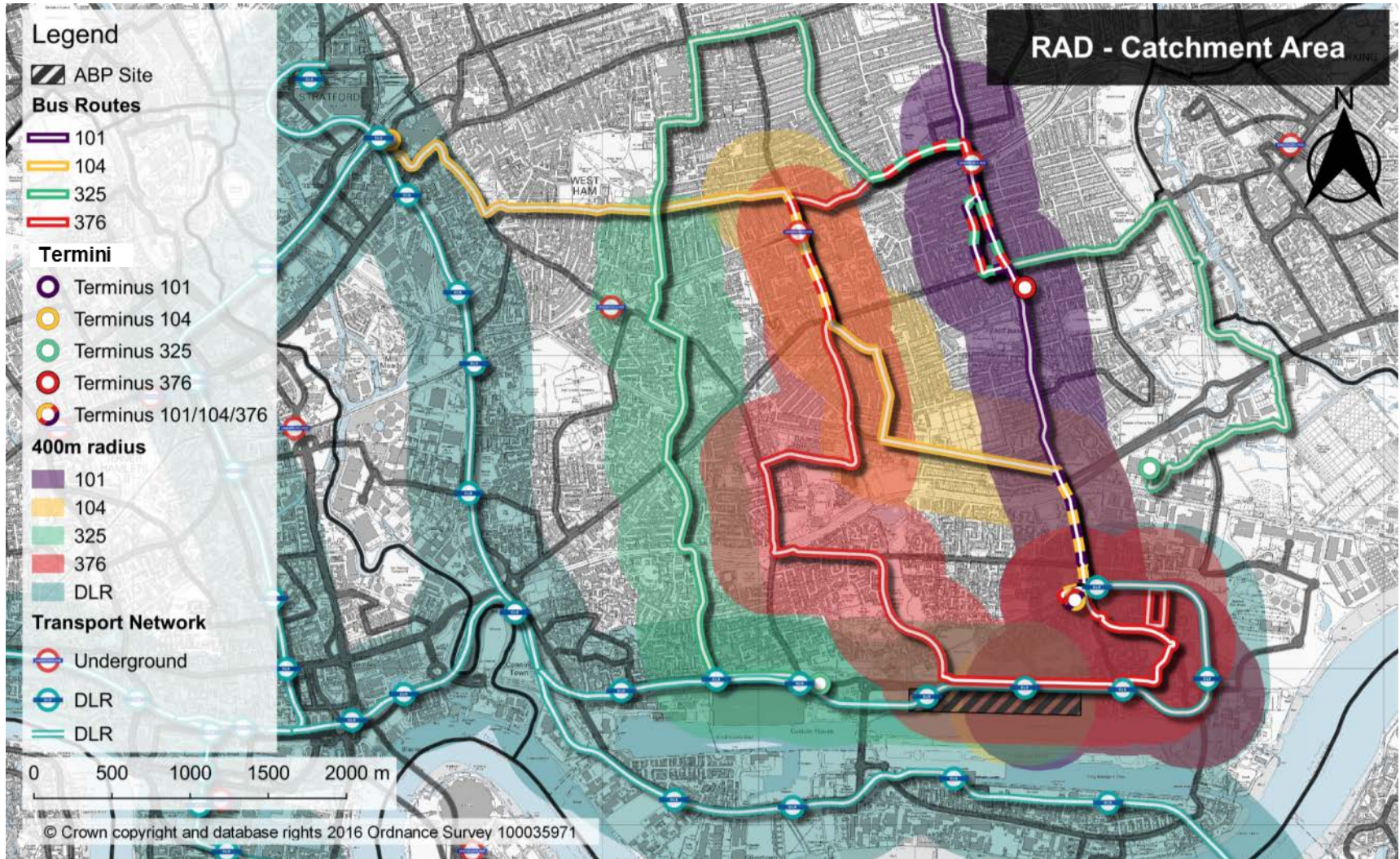
- Demand generated equivalent to **3 double-deck buses in the peak**
- Limited vehicle access through Beckton Park Roundabout

Future network (2028):

- 2,000+ daily bus trips
- Demand generated equivalent to **8 double-deck buses in the peak**
- Site access also includes via Royal Albert Roundabout



Bus and DLR corridors



Bus and DLR corridors

- The TA has been used to inform likely bus demand to ABP. This demand is likely to materialise from 2-3 miles from the site.
- Given the average length of bus travel, a catchment area bounded by the District/Hammersmith and City lines has been assumed.
- There are a number of North-South corridors running towards the Royal Docks that are highlighted on the previous slide.
- From west to east, these corridors are characterized by the DLR, route 325 (Freemasons Rd), route 376 (Green Street, Prince Regent Lane) and route 101 (East Ham High Street)
- A corridor characterized by route 104 overlaps the catchment areas for routes 376 and 101 (and 325 and the DLR). The population exclusively served by route 104 is small. Those wishing to travel by bus to ABP are better served by other bus corridors. Therefore other corridors have been prioritised over the 104.
- The population covered by routes 101, 325 and 376 is distributed as follows: 35% for route 325, 36% for route 376 and 29% for route 101.
- This distribution has been used to allocate bus trips to the different corridors on the basis that more bus travel will materialise where more people live.



Bus Network proposals

Possible scenarios for phase 1A (Feb 2020):

- Frequency increase 376 (+3 bph) – *discounted*
- Extend 101 + frequency increase 376 (+1 bph) – *investigated*
- Extend 325 + frequency increase 325 and 376 (+1 bph) – *investigated*
- Extend 101 and 325 + frequency increase 376 (+1 bph) – *investigated*

Scenarios for longer term:

- Extend 101 and 325
- Frequency increase to match demand
- Connection south to North Greenwich via Silvertown Tunnel



Route 376

Current: Beckton Bus Station – East Ham, Newham Town Hall (4 bph)

Proposal: Beckton Bus Station – East Ham, Newham Town Hall (5 bph)

Scheme	Estimated Gross Cost (£pa)	Benefit to Net Cost Ratio X:1	Estimated PVR
Monday to Saturday frequency increase to 5bph	£324,162	4.6	2

Benefits:

- Increases capacity to ABP from Beckton, West Beckton, Prince Regent Lane, Upton Park Stn.
- Reduces waiting time for all passengers making journey times quicker.

Issues:

- Does not enter the ABP site, increasing walking times for passengers and reducing its prominence to future users.
- Does not fully provide for the predicted demand generated by ABP on its own but does with routes 101 or 325.



Route 325

Current: East Beckton, Sainsbury’s – Prince Regent Station (5 bph)

Proposal: East Beckton, Sainsbury’s – **ABP site** (6 bph)

Scheme	Estimated Gross Cost (£pa)	Benefit to Net Cost Ratio X:1	Estimated PVR
Extension to ABP site	£279,861	1.9	1
Monday to Saturday daytime frequency increase to 6 bph Sunday daytime and all evenings frequency increase to 4 bph	£666,027	5.5	3
Total	£945,889	3.7	4

Benefits:

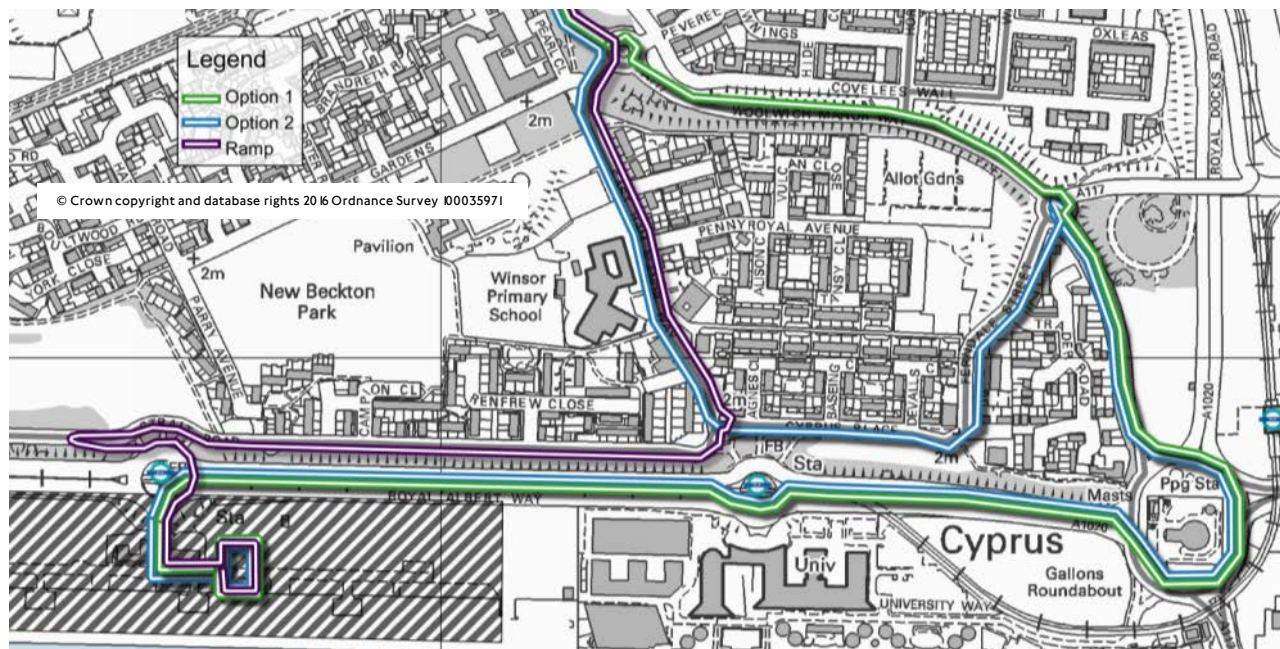
- Would enter the ABP site reducing walk times to final destinations.
- Provides new direct links to ABP from Custom House Stn, Freemasons Rd, Plaistow Stn.
- Reduces waiting time for all passengers making journey times quicker.
- Provides additional capacity to meet demand to ABP in conjunction with route 376.

Issues:

- Due to no western access into ABP from Royal Albert Roundabout it will have limited benefits for passengers wanting to travel to other destinations between Prince Regent Stn and ABP e.g. LB Newham offices.



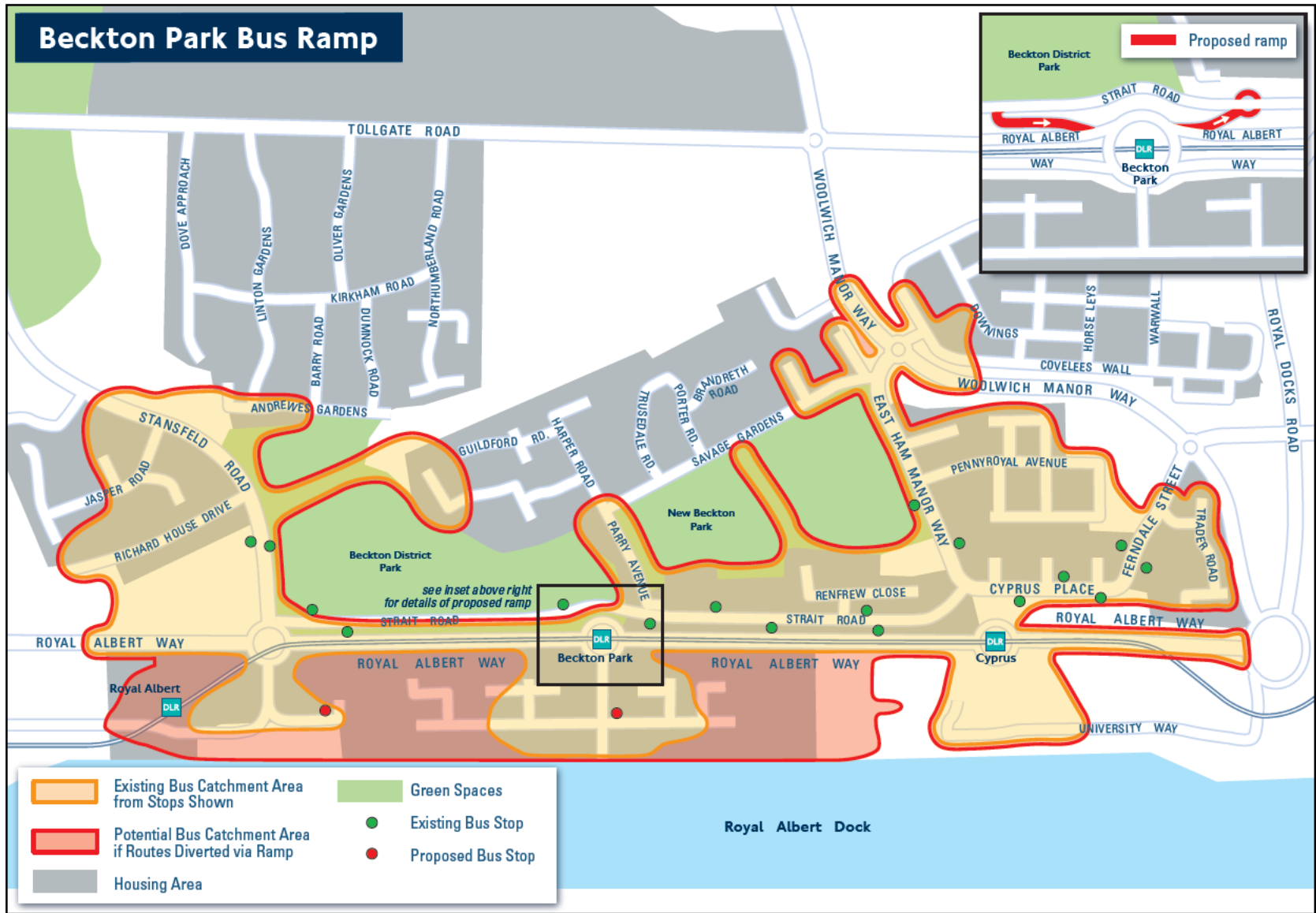
Route 101



Current: Wanstead Station – Gallions Reach, Shopping Park (5 bph)
 Proposal: Wanstead Station – ABP site (5 bph)

Scheme	Estimated Gross Cost (£pa)	Benefit to Net Cost Ratio X:1	Estimated PVR
Extension to ABP - Option 1	£427,513	0.7	2
Extension to ABP - Option 2	£491,458	1.0	2
Extension to ABP - Ramp	£328,309	1.7	1





Route 101

Current:	Wanstead Station – Gallions Reach, Shopping Park	(5 bph)
Proposal:	Wanstead Station – ABP site	(5 bph)

Analysis:

- Current options for route 101 do not provide value for money.
- Capacity provided by route 101 not forecast to be required in phase 1 if 376 and 325 schemes delivered. Will be required from 2031.
- Expected demand from the 101 corridor likely to be lower than from the 376 and 325 corridors.
- Providing a ramp reduces operating costs and retains passenger benefits. Therefore much more value for money. The 101 scheme could be delivered sooner with the ramp.



Recommendations

101 Extension	325 Extension Frequency		376 Frequency	Estimated Gross Cost (£pa)	Benefit to Net Cost Ratio X:1	Estimated PVR
X			X	£815,620	1.8	4
	X	X	X	£1,238,869	3.9	6
X	X		X	£1,095,481	1.9	5

Summary table for phase I

Phase 1: Extend 325 + increase frequency of routes 325 and 376

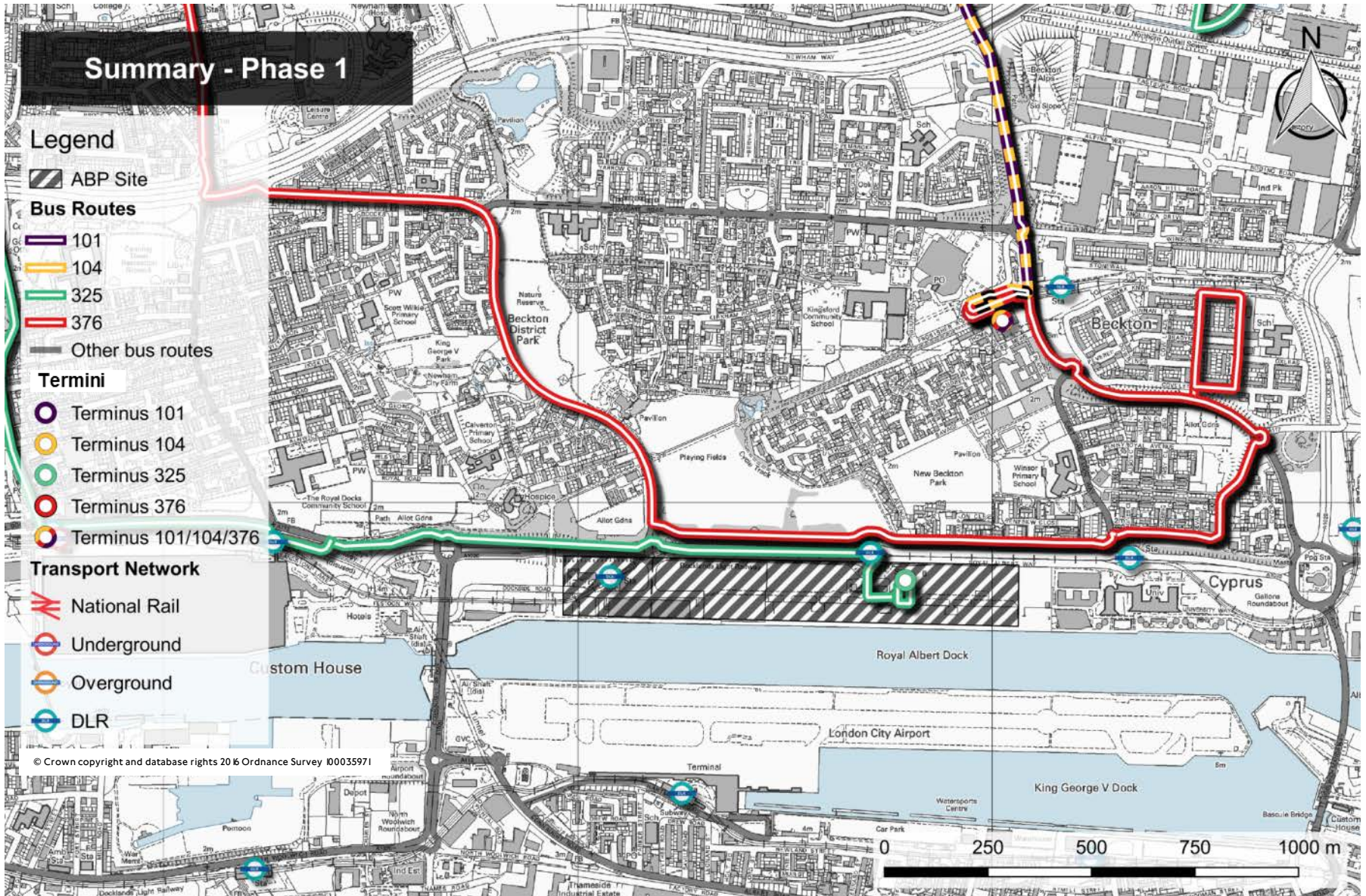
Phase 3: Reroute 325 through ABP from Royal Albert Roundabout

Possible extension 101 depending on Silvertown Tunnel route planning

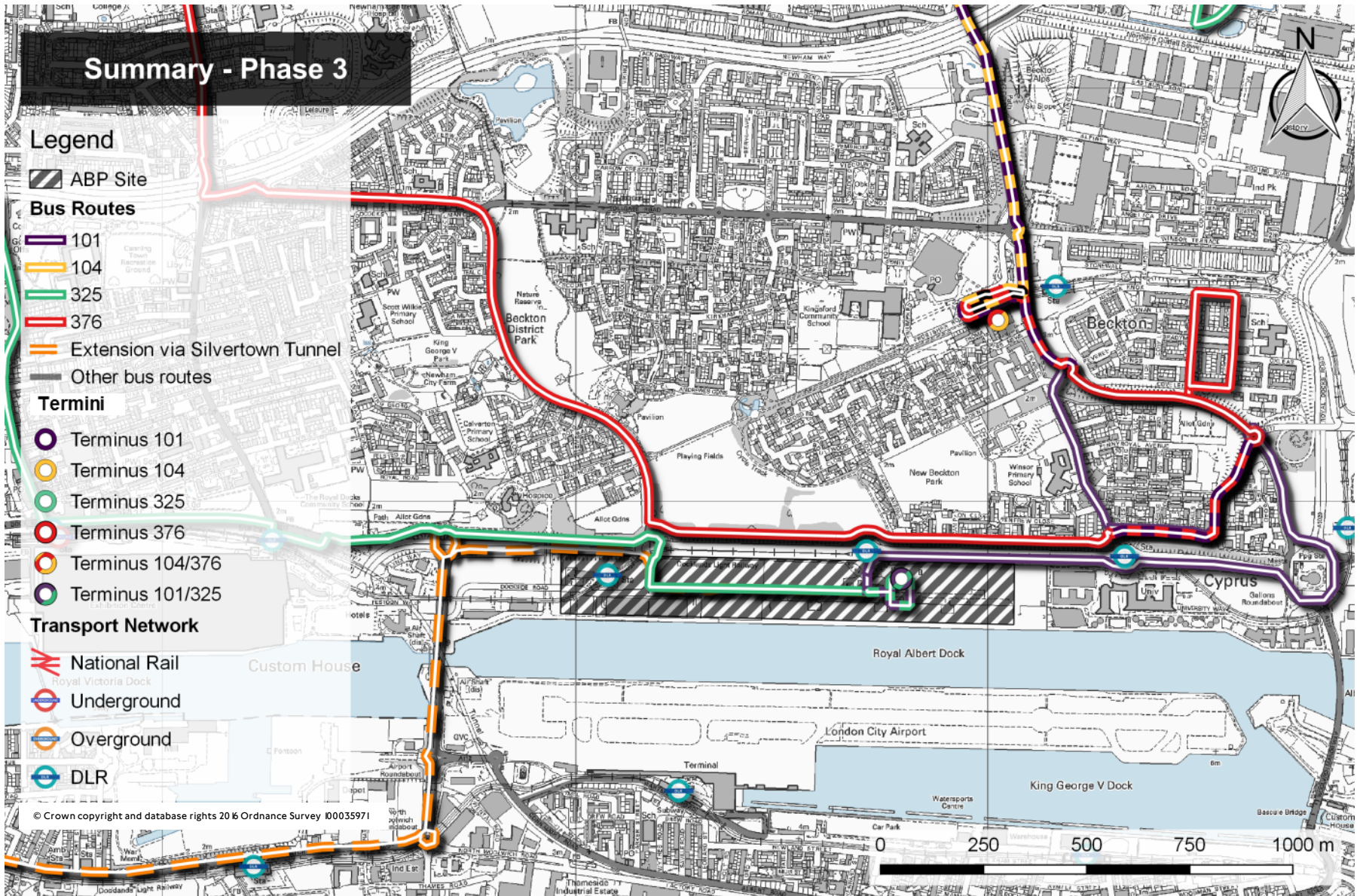
S106 funding: £220,000 a year for 5 years

Promote active investigation of delivering a ramp to release benefits of 376 & 101 schemes - (Estimated cost £5m)

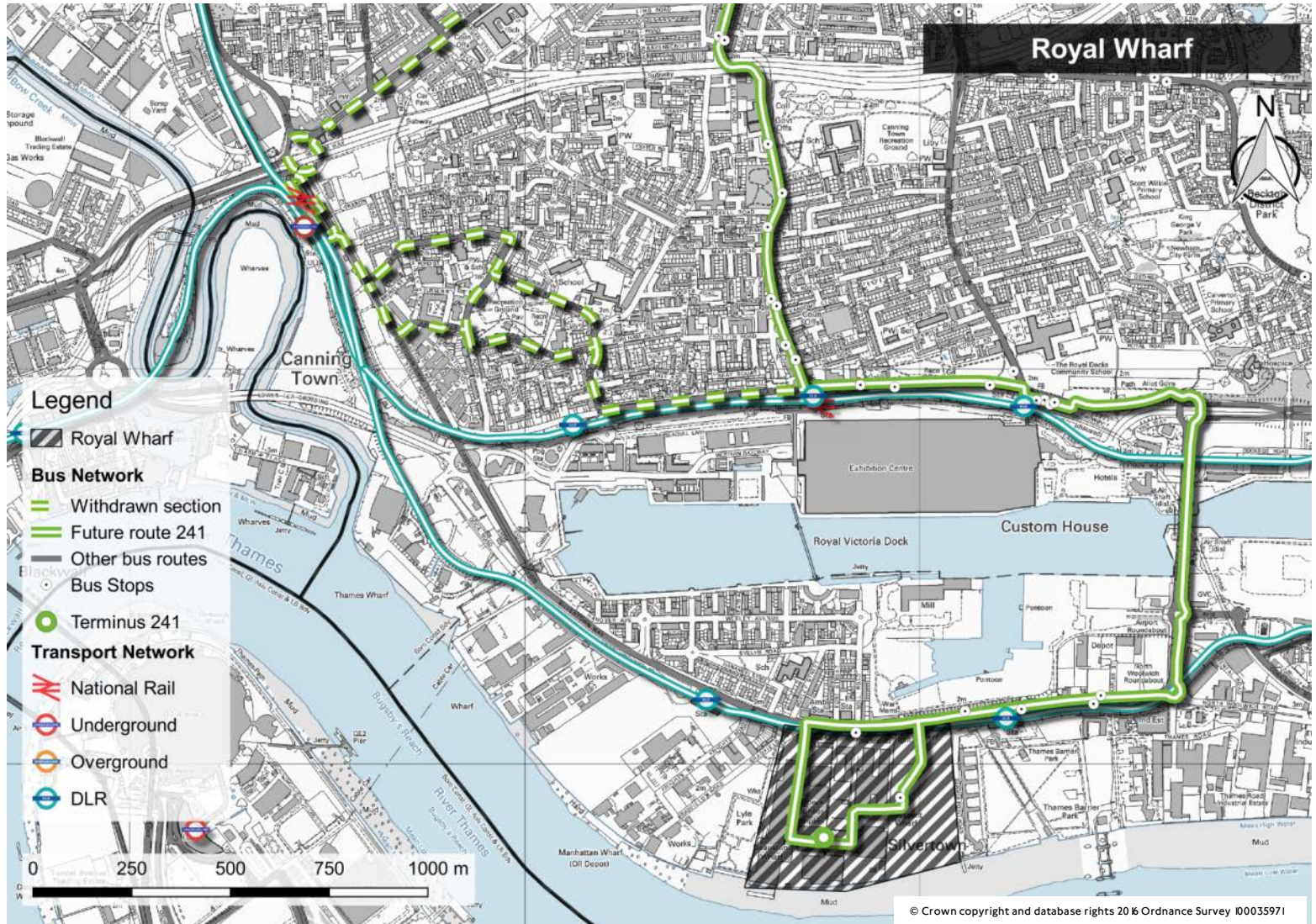




ABP – ROYAL ALBERT DOCK



Royal Wharf



Route 241

Current: Stratford City Bus Station – Canning Town, Hermit Rd (6 bph)
Future: Stratford City Bus Station – **Custom House** (6 bph)
Proposal: Stratford City Bus Station – **Royal Wharf** (6 bph)

Scheme	Estimated Gross Cost (£pa)	Benefit to Net Cost Ratio X:1	Estimated PVR
Extension to Royal Wharf	£721,050	3.3	3
Sunday shopping hours and all evenings frequency increase to 4 bph	£58,232	5.2	0

Analysis:

- Royal Wharf is a development of 3,385 new homes and will include roads within the development to permit operation of a bus route including a bus stand.
- Other developments are also coming forward at the present time e.g. Knights Road and Pontoon Dock developments which are new homes.
- There are also proposals for the redevelopment of Silvertown Quays.
- Extending route 241 will complement the existing bus network and DLR service and provide additional public transport capacity.
- It will also provide new direct travel connections to the Elizabeth Line, Plaistow Station and Stratford City.



Silvertown Tunnel

- The Silvertown Tunnel creates new cross-river road links enabling new bus connections and reducing the pressure on the Blackwall Tunnel.
- A Development Consent Order (DCO) was issued in May 2018.
- Work to award a contract to build the tunnel is currently happening. 2024 is the earliest opening date of the new tunnel.
- The DCO has a number of requirements:
 - Service planning to determine bus routeings to commence not less than 2 years prior to opening (circa 2022)
 - Process to engage with stakeholders to inform the bus planning.



Summary / Next steps

- There are a number of factors changing bus travel in the Royal Docks.
- The proposals put forward respond to these changes and are in line with the Bus Strategy (Feb 2019) and build upon previous bus planning work.
- Proposals to restructure bus routes 101, 262, 325 and 241 will require further input derived from wider consultation.
- We will also continue to work closely with ABP, LB Newham and other stakeholders regarding the details required to deliver the service changes e.g. costs, bus stands, driver toilets, etc.
- Bus priority and infrastructure are also vital components of a good bus service. This study has identified the potential value of a bus ramp to link Cyprus with ABP and LB Newham offices. Our partners are encouraged to investigate further the feasibility of delivering it.
- The Royal Docks will continue to regenerate and evolve. The bus network will continue to be kept under review to support such change e.g. Silvertown Tunnel.



Glossary (I)

ABP – RAD (Royal Albert Dock)

ABP – RAD is the name of the development site located between Royal Albert and Beckton Park

BNCR (Benefit to Net Cost Ratio)

The BNCR is the key result of our standardised cost-benefit appraisal to determine whether decisions are value for money

The formula for the BNCR is: passenger benefits (or disbenefits) / net cost

To be considered worthwhile a scheme must achieve at least a BNCR of 2.0

BPH (Buses per hour)

Buses per hour in each direction. Buses are scheduled to operate at even intervals.

Buses Per Hour	Interval
2 bph	Every half hour
3 bph	Every 20 minutes
4 bph	Every 15 minutes
5 bph	Every 12 minutes
6 bph	Every 10 minutes



Glossary (2)

PVR (Peak vehicle requirement)

Peak Vehicle Requirement is the number of buses required to operate the level of service on a route. The average network cost per PVR is around £250,000, which includes all associated costs such as vehicle leasing costs, driver wages and fuel.

