

APPENDIX G – PERS ASSESSMENT

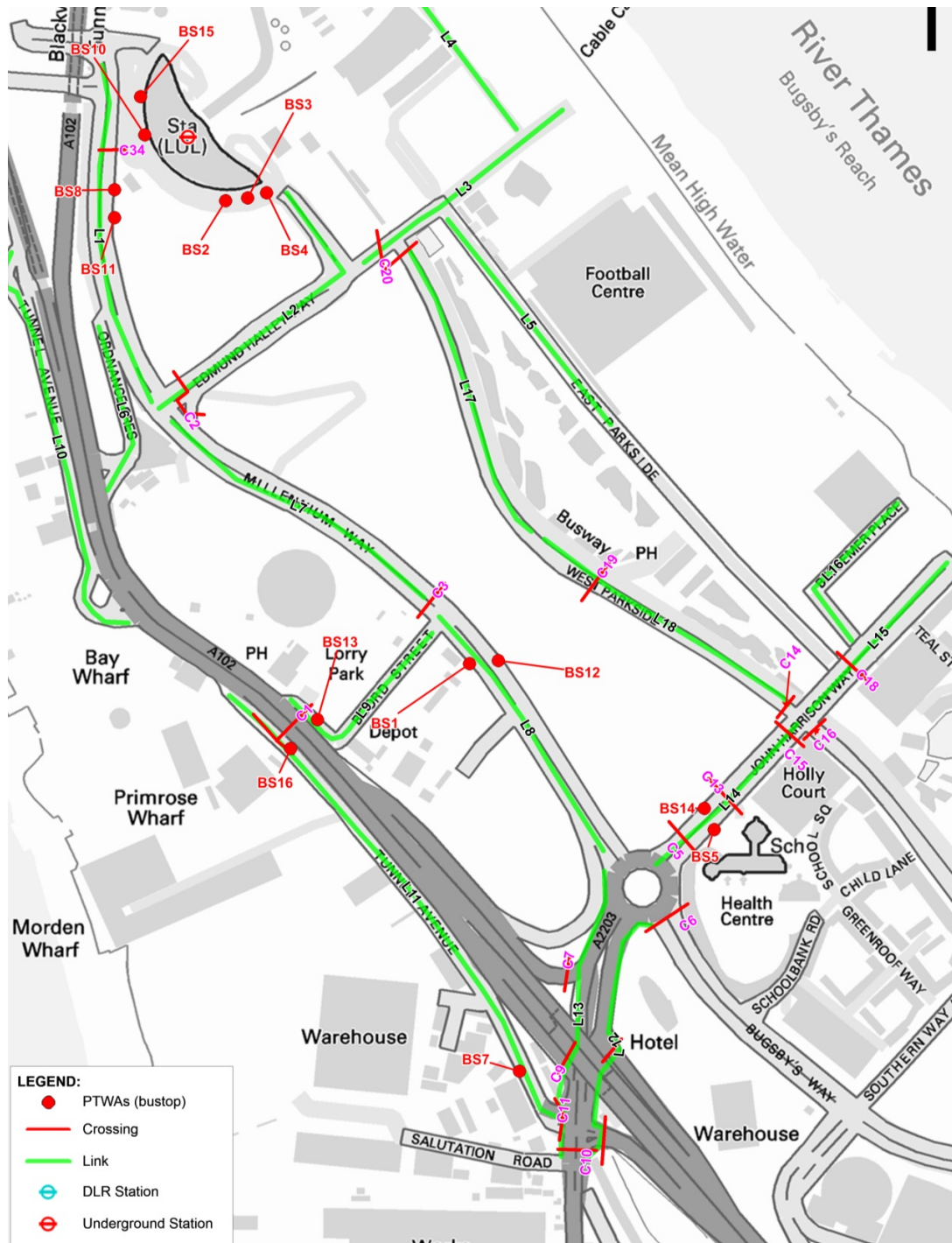
G.1 Introduction

- G.1.1 This Pedestrian Environment Review System (PERS) audit has been submitted to support the Silvertown Tunnel Transport Assessment. It has been undertaken in order to establish the quality of the existing pedestrian environment within the vicinity of the proposed tunnel portals in the North Greenwich and Silvertown areas.
- G.1.2 A PERS audit is useful in identifying the strengths and weaknesses of the existing pedestrian environment and their location. In addition, the PERS assessment serves as a tool to demonstrate the issues described in the strategic case.
- G.1.3 The PERS audit was undertaken on 20 and 21 July 2015. The area of study for the PERS audit has been scoped having taken into account walking routes to local amenities and PT in the vicinity of the development. The audit took place in dry and wet weather conditions.
- G.1.4 The 37 links, 17 bus stops and 34 pedestrian crossings were included in the survey, as shown in the figures below. It should be noted that links 16, 22 and 30, as well as crossings 27 and 28 could not be surveyed due to construction works and footpath improvements currently being undertaken.
- G.1.5 In addition links 5, 15, 23, 24 and 29 were only partially assessed because of construction works taking place. The scores of these links included in the link assessment table, refer to the pedestrian environment that was not closed to the public because of the construction works.

Figure G-1: Silvertown PERS study area



Figure G-2: North Greenwich PERS study area



G.2 Methodology

G.2.1 A PERS audit provides a consistent and recognised audit of the strengths and weaknesses of a pedestrian environment based on onsite observations. The PERS audit was conducted in accordance with Transport Research Laboratory's 'Pedestrian Environment Review System, Review Handbook Version 2, May 2006' guidance covering any footway, footpath or highway that links a trip origin and trip destination.

Prior to the site visit

- G.2.2 Before carrying out an on-street evaluation, a number of key actions are carried out at desk-top level first. The area to be audited is defined using a base map which identifies all links, crossings, areas and spaces to be reviewed.
- G.2.3 In addition, key routes to key trip attractors/generators that need to be assessed in the audit are identified.
- G.2.4 This preliminary map-based study establishes the boundaries of the review and the plans provide a basis for carrying out the on-street assessment.

On-site evaluation

- G.2.5 PERS audits require an on-street evaluation to take place. A PERS form is available for different assessments (e.g. links, crossings, PT waiting areas or routes) and the forms are completed whilst on site.
- G.2.6 The forms contain a number of parameters/pedestrian attributes that the auditor must score and comment (where appropriate) on each parameter. The (unweighted) scores range between -3 (very poor) and +3 (very good). The score indicates the level/standard of service to the pedestrian user; a comment box is also available on the form to support the score and highlight key issues.
- G.2.7 It should be noted that a PERS audit is based on both quantitative and qualitative observations and assessments. The PERS Handbook states that when attributing scores: *“Reviewers should be aware that assessing the pedestrian environment entails a review of both quantitative factors and qualitative factors. These two types of information may reflect issues of equal importance to the pedestrian but those factors that are not readily measurable (for example, the amount of litter or graffiti) require the Reviewer to make a subjective score based on their own professional judgement and experience.”*

Post site visit

- G.2.8 After the site visit, the score for each attribute is weighted according to category and an overall score is calculated in percentages according to the PERS methodology. A Red-Amber-Green (RAG) scoring system is used, where green is generally good (scoring above +25%), amber is generally neutral (scoring -25% to +25%) and red is a generally negative environment (scoring -25% or lower).

G.3 Assessment results

Links assessment

G.3.1 Each link was scored between -3 (very poor) and +3 (very good) based on the following pedestrian categories or attributes:

- Effective footway width;
- Dropped kerbs;
- Gradient;
- Obstructions;
- Permeability;
- Legibility;
- Lighting;
- Tactile Information;
- Colour contrast;
- Personal security;
- Surface quality;
- User conflict;
- Quality of environment; and
- Maintenance.

G.3.2 The rest of this section summarises the results of the links audit and lists any issues identified in the existing pedestrian environment. The links assessed as part of the PERS audit are shown on the maps provided earlier in this note, and the table below summarises the results.

Table G-1: Links assessment

Link Ref	Location	Overall Score	Main Strengths	Main Weaknesses
L1	Millennium Way	30%	Relatively wide link, surface quality	Obstructions (low overhead traffic sign), potential conflict between cyclists and pedestrians
L2	Edmund Halley Way	35%	Tactile provision, safety / security measures	Guardrail prevents permeability
L3	Edmund Halley Way	52%	Variable width, tactile provision, legibility, safety / security	Obstructions (overhead signs and telcom box)
L4	Cutter Lane	60%	High quality materials, new design, width, permeability	Potential conflict with cars
L5	East Parkside	52%	Wide link, surface quality, conflict	Permeability
L6	Ordnance Crescent	-10%	Lighting, controlled access	Safety & security, legibility, link only partially served by footway
L7	Millennium Way	37%	Tactile provision, dropped kerbs,	Footway provided only on side of link, potential conflict with cyclists

Link Ref	Location	Overall Score	Main Strengths	Main Weaknesses
L8	Millennium Way	27%	Effective width, dropped kerbs, surface quality	Obstructions (overhead signs and posts)
L9	Boord Street	-13%	Permeability (low traffic volumes), obstructions	Narrow & intermittent footpath, camber on pavement, insufficient lighting, no CCTV or security measures, safety perception, no tactile provided
L10	Tunnel Avenue	-31%	Adequately wide footpath	Quality of environment (fumes and dust, pollution), permeability, car domination and threatening environment for pedestrians, no tactiles provided, maintenance, litter, debris, surface quality,
L11	Tunnel Avenue	15%	Width, tactile information, dropped kerbs	Footway shared with cyclists, but markings have not been repainted after recent re-surfacing, permeability, personal security, quality of environment
L12	A2203 Blackwall Lane	-7%	Variable width, tactile provision	Pedestrian pinchpoints under the bridge, personal security, permeability, lighting not provided/not in operation under the bridge, quality of environment (dust, pollution, fumes). Severe drainage issues
L13	A2203 Blackwall Lane	-17%	Dropped kerbs present	Not wide enough, pedestrian pinchpoints under the bridge, personal security, permeability, insufficient lighting, and quality of environment (dust, pollution, fumes). Tactile maintenance required. Severe drainage issues
L14	John Harrison Way	51%	Wide link, surface quality, dropped kerbs, permeability,	Few cracked tactile tiles
L15	John Harrison Way	50%	Wide link, surface quality, dropped kerbs	On street parking reduces permeability and sight lines
L16	Chandlers Avenue	Could not assess link; street closed for construction work		
L17	West Parkside	25%	Width, lighting, environment	Poor quality surfacing materials, potential conflict with cyclists, better signposting needed,
L18	West Parkside	28%	Width, lighting, environment	Poor quality surfacing materials, potential conflict with cyclists
L19	Victoria Dock Road	25%	Width, legibility, permeability	Low traffic volumes, limited street activity
L20	A1020 Lower Lea Crossing	-49%	Lighting	Generally unacceptable width, overgrown vegetation, ARMCO barrier on pavement, permeability, dropped kerbs, safety & security, evidence of rough sleeping, threatening environment for pedestrians
L21	A1020 Lower Lea Crossing / Dock Road / Tidal Basin Road roundabout	0%	Adequately wide footpath	Overgrown vegetation, insufficient lighting under flyover, debris, personal security, environment

Link Ref	Location	Overall Score	Main Strengths	Main Weaknesses
L22	Scarab Close	Private road, no pedestrian provision (no footpath)		
L23	A1011 Silvertown Way	8%	Width, lighting	Permeability, legibility, personal security
L24	A1011 Silvertown Way (slip road)	3%	Width, lighting	Permeability, legibility, personal security
L25	Dock Road	-14%	Width, lighting	Inconsistent provision of paving materials, inconsistent provision & design of dropped kerbs, cars parked on pavements, high HGV traffic, dust, fumes, debris, litter
L26	North Woolwich Road	-14%	Lighting, legibility	Unacceptable width due to obstructions, inconsistent provision of dropped kerbs & tactiles, obstructions on footway include large wheelie bins & parked cars, permeability, dust, fumes, noise
L27	Unnamed Industrial Access Road	Private road, no pedestrian provision (no footpath)		
L28	A1011 Silvertown Way (slip road)	1%	Width, lighting	Permeability, surface quality
L29	Tidal Basin Road	28%	Dropped kerbs, tactile, lighting, user conflict	Traffic, smells, dust, overhead signs
L30	Tidal Basin Road	Could not assess; street/pavements closed off for construction works		
L31	Seagull Lane	32%	Legibility, Lighting,	Obstructions (low level overhead sign), permeability (reduced sightlines)
L32	Western Gateway	61%	Very wide boulevard type link, nice design, high quality materials	Inconsistent provision of tactile paving, minor obstructions
L33	Link adjacent to Siemens Centre	52%	Access-only for vehicles, wide link, permeability, legibility,	Very bad surface quality to the approach to the underpass, lighting is poor in the underpass. Parked cars encroach in the pedestrian area.
L34	Link adjacent to Royal Docks	62%	Access-only for vehicles, wide link, permeability, legibility,	Different paving materials, minor conflict between cyclists and pedestrians
L35	Hanover Avenue	57%	Wide link, pleasant to walk, low traffic volumes	Slight camber on one of the pavements
L36	Silvertown Way	10%	Wide, lighting, surface quality	Obstructions (ARMCO on pavement), permeability, gradient, lack of activity, debris, dust, fumes. Severe drainage issues
L37	Britannia Gate	52%	Effective width, dropped kerbs, surface quality	Foliage

G.3.3 The overall pedestrian environment in the vicinity of the site would benefit from the maintenance or installation of tactile paving and dropped kerbs. These improvements would potentially help people with mobility impairments (e.g. wheelchair users). In addition, footway surface could be improved by

maintenance. For some links, permeability was negatively affected because of traffic volumes (especially HGV traffic) and guard railing.

- G.3.4 Litter, debris (from moving HGV traffic) was also found to negatively impact the pedestrian environment.
- G.3.5 Most links east of Silvertown Way and links 9, 10, 11, 12 and 13 would benefit from better safety measures, especially CCTV and better lighting. The environment along these links is car dominated and hostile to pedestrians.
- G.3.6 In addition, Links 12, 13, & 36 were observed to experience severe drainage issues because of rutted or uneven tarmac in the road space or blocked drains. This means that rainwater does not drain away from the road space; any pedestrians walking along these links' footways or using a crossing or bus stop in the vicinity of these links may get wet as cars pass through the standing water in the carriageway.
- G.3.7 Overall, effective width was found to be adequate, except a few links where width was unacceptable (see photographic evidence in the next section). Links 14, 15, 17, 18, 32, 33 and 34 have wide footways and generally a pleasant environment that caters well for pedestrians.
- G.3.8 The following two maps show all the links with scores based on the Red – Amber – Green PERS scoring, as described in the methodology section. Note that the links which were not assessed are not included in these two maps.

Figure G-3: Silvertown study area – links assessment

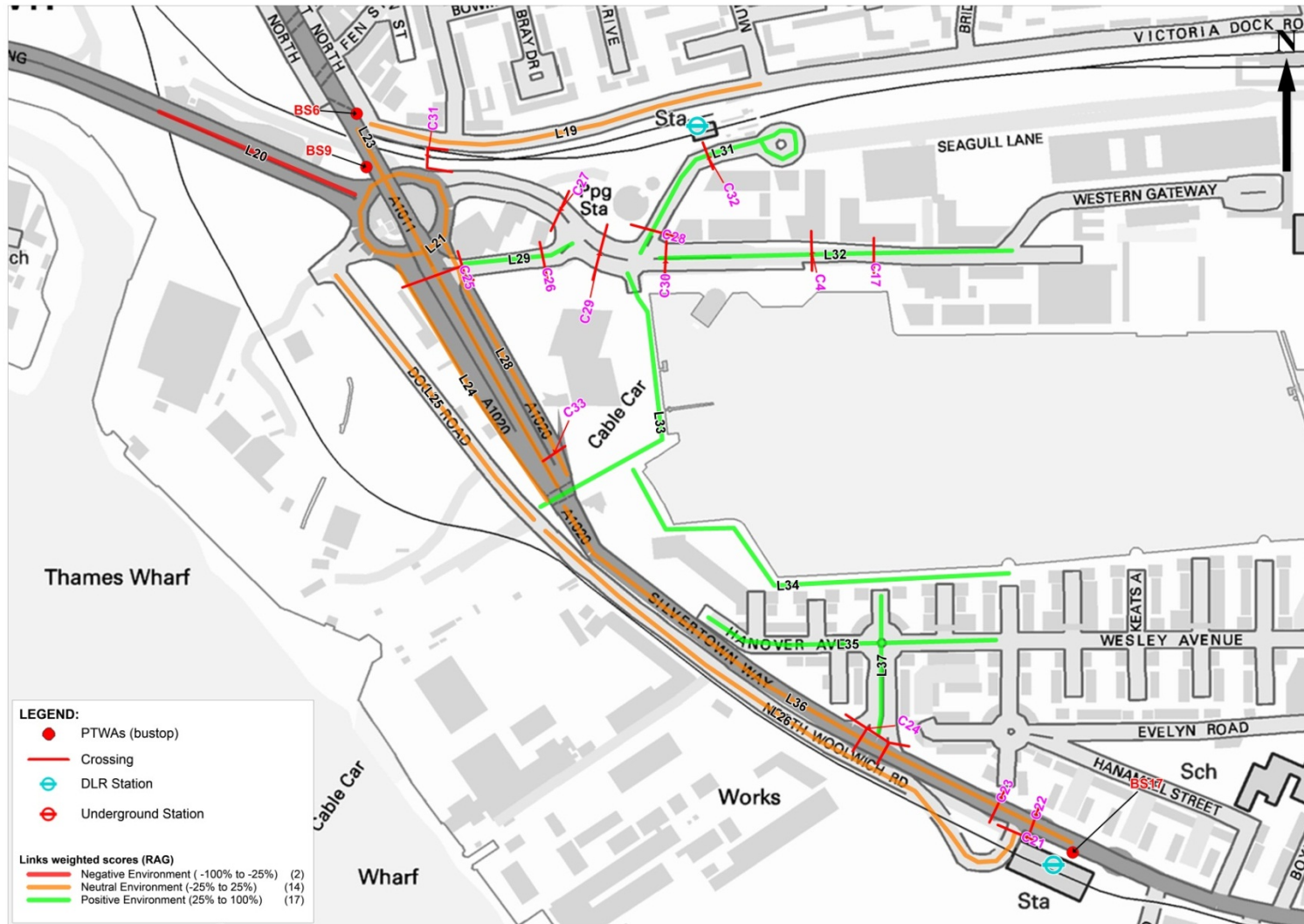


Figure G-4: North Greenwich Study Area – links assessment

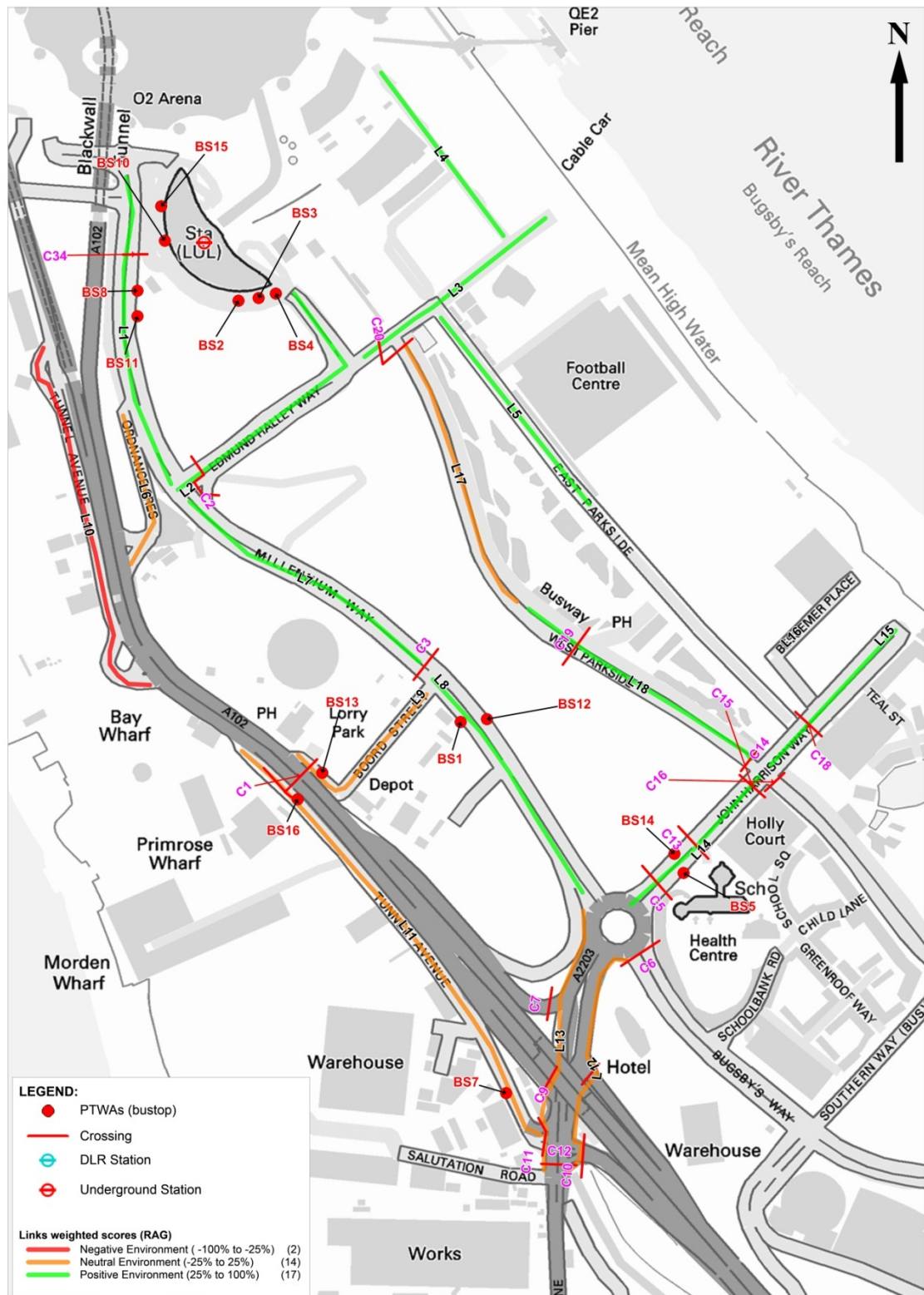








Figure G-5: Photographic evidence (links)

	<p>Link 25 (Dock Road): obstruction on footway decrease effective width to unacceptable</p>
	<p>Link 26 (North Woolwich Road): obstructions on footway (large bins and parked cars) decrease effective width to unacceptable. Note the saturated and illegal parking conditions.</p>
	<p>Link 33 (pedestrian pass under Silvertown Way): insufficient lighting, surface quality, parked car(s) encroach on pedestrian space</p>

	<p>Link 20 (A1020 Lower Lea Crossing): narrow link and because of the overgrown vegetation, the effective width is unacceptable. The vegetation also offers many places of concealment, therefore decreasing the perception of personal safety.</p>
	<p>Link 28 (A1011 Silvertown Way slip road): insufficient lighting, noise, debris</p>
	<p>Link 31 (Seagull Lane): overhead traffic sign is vertically positioned less than 2m tall; narrow footway.</p>

	<p>Link 12 (A2203 Blackwall Lane): insufficient lighting, noise, debris, narrow footpath</p>
	<p>Link 13 (A2203 Blackwall Lane): Awkward positioning of traffic & parking signs; some signs are obscured. These signs clutter the footway; a wheelchair user might have difficulty traversing this link.</p>
	<p>Link 15 (John Harrison Way): wide link, pleasant & high quality pedestrian environment.</p>

	<p>Link 4 (Cutter Lane): High quality materials and design which enhances permeability. Wide footpath, good provision of tactile information and dropped kerbs.</p>
	<p>Link 32 (Western Gateway): Place making through urban design, high quality materials and furniture.</p>
	<p>Link 34 (Link adjacent to Royal Docks): very wide link, shared only with cyclists. Pleasant and high quality pedestrian environment</p>

Crossings assessment

G.3.9 Each crossing within the study area was scored between -3 (very poor) and +3 (very good) based on the following PERS categories or attributes regarding pedestrian crossings:

- Crossing provision;
- Deviation from the desire line;
- Performance;
- Crossing capacity;
- Delay;
- Legibility;
- Legibility for sensory impaired people;
- Dropped kerbs;
- Gradient;
- Obstructions;
- Surface quality; and
- Maintenance.

G.3.10 It should be noted that crossings were grouped or assessed as a single crossing in some cases where they were used together or where they were located together and had the same characteristics.

G.3.11 The rest of this section summarises the results of the pedestrian crossings audit and lists any issues identified during the audit with regards to crossings. The maps included earlier in this note show the crossings assessed as part of the PERS audit and the table below summarises the results.

Table G-2: Crossings assessment

Ref	Location	Overall Score	Main Strengths	Main Weaknesses
C1	Tunnel Avenue / Blackwall approach	16%	Crossing provision & capacity. Rest points for wheelchair users, no obstructions, footway surface	Elevated structure, isolated crossing, variable gradient, litter, places of concealment
C2	Edmund Halley Way	63%	Large refuge, crossing capacity & performance	Multiple stages, some markings need repainting, no audible
C3	Millennium Way	59%	Relatively new crossing, crossing provision & capacity	No audible, faded tactiles
C4	Western Gateway	33%	Zebra Crossing, crossing provision & capacity	Legibility (amber light is obscured by trees/sign), markings need repainting, no tactile, obstructions
C5	John Harrison Way	58%	New buttons, crossing provision & performance	Minor obstructions, legibility
C6	Bugsby's Way	53%	Crossing provision & capacity	Faded markings, debris, drainage issues / ponding

Ref	Location	Overall Score	Main Strengths	Main Weaknesses
C7	A102 Slip Road	43%	Deviation from desire line, performance, legibility	Approach to the crossing is narrow, capacity, drainage issues / ponding
C8	Blackwall Lane slip road	50%	New buttons, crossing provision	Narrow crossing, capacity, markings require repainting, steep drop kerb, debris
C9	Blackwall Lane slip road	8%	Crossing provision	Very narrow waiting areas, markings need repainting, badly rutted tarmac, overgrown vegetation, litter, debris, drainage issues / ponding
C10	Blackwall Lane slip road	50%	Deviation from desire line, obstructions	Inconsistent provision of tactiles, maintenance, narrow approach
C11	Tunnel Avenue	48%	Legibility, obstructions	Interrupted tactiles, narrow approach, delay
C12	A2203 Blackwall Lane	49%	Crossing provision & capacity, obstructions	Markings need repainting, debris,
C13	John Harrison Way	48%	Crossing provision & capacity, legibility	Steep dropped kerb, obstructions, surface quality
C14, C15 & C16	John Harrison Way / West Parkside	53%	New style buttons, capacity, obstructions	Markings need repainting, C14 has a steep drop kerb to the refuge
C17	Western Gateway	38%	Crossing capacity, delay	No tactiles
C18	John Harrison Way	55%	Crossing capacity, delay, legibility	Vegetation on the median obscures sightlines for pedestrians and drivers.
C19	West Parkside	25%	Crossing capacity and provision	Markings need repainting, legibility for sensory impaired people, foliage
C20	Edmund Halley Way	53%	Diagonal crossing serving desire line	Rutted tarmac, markings need repainting, interrupted tactiles,
C21, C22 & C23	A1020 Silvertown Way	32%	Crossing capacity and provision	Cracked tarmac, maintenance (markings), interrupted and cracked tactiles
C24	A1020 Silvertown Way	36%	Crossing performance, provision & capacity	Dropped kerbs not flush, multiple crossing stages, tactiles are faded & cracked
C25	A1011 Silvertown Way	21%	Crossing performance, provision & capacity	No tactiles, dropped kerbs not flush, surface quality
C26	Tidal Basin Road	47%	Crossing performance, provision & capacity	Faded tactiles, litter, debris
C27	Tidal Basin Road	Crossing not in operation due to construction works		
C28	Seagull Lane	Crossing not in operation due to construction works		
C29	Western Gateway	49%	Tactile, crossing provision & capacity	Legibility, deviation from desire line
C30	Western Gateway	62%	Surface quality, crossing performance, provision & capacity	Interrupted tactiles (tripping hazard), markings need repainting
C31	Victoria Dock Road / Tidal Basin Road	26%	Elevated crossing over DLR line. Crossing capacity & provision	Gradient, litter

Ref	Location	Overall Score	Main Strengths	Main Weaknesses
C32	Seagull Lane	47%	Crossing capacity, delay	Marking need repainting, faded tactiles
C33	A1020 Silvertown Way	3%	Crossing provision	No buttons, no tactile, markings need repainting, maintenance
C34	Millennium Way	49%	Crossing provision & performance	Narrow waiting area on one side, markings need repainting

- G.3.12 Overall, pedestrian crossings in the study area scored well, with only four crossings receiving a neutral grading. The capacity and performance of the crossings generally scored well and no pedestrian overcrowding was observed during the survey.
- G.3.13 It can be seen from crossings assessment table above that the main issues identified with regards to pedestrian crossings are mainly concern with maintenance. Some crossings were identified to have faded delineation markings (e.g. of the pedestrian crossing space or driver stop line) and require repainting or maintenance.
- G.3.14 Tactile paving also requires maintenance at certain locations; some tiles were found to be cracked, loose or faded. In addition, no crossing within the study area had audible information or pedestrian time countdown, which aid legibility for sensory impaired people.
- G.3.15 Overall, crossing provision and performance were found to be adequate and no major deviations from desire line were observed.
- G.3.16 These issues are highlighted in the photographic evidence for some of the crossings below.
- G.3.17 In addition, the drainage issues described earlier also have a negative impact on crossings C6, C7 and C9. As the rainwater does not drain away from the road space any pedestrians trying to use these crossings may get wet or splashed by cars passing through the standing water in the carriageway.
- G.3.18 Note that elevated crossing C1 would be replaced by a new bridge compliant with disability legislations, which will accommodate both pedestrians and cyclists, with both access steps and ramps. The construction works phasing will ensure that the new bridge has been installed and in operation before the old bridge is removed to ensure continuous access.

Figure G-6: Crossings photographic evidence

	<p>Crossing 8 (Blackwall Lane slip road): faded markings, fast flowing traffic, debris, faded tactiles, pedestrian pinchpoints to the approach, insufficient lighting.</p>
	<p>Crossing 4 (Western Gateway): reduced legibility (amber light is obscured by trees/sign), markings need repainting, no tactile, obstructions.</p>





Crossing 32
(Seagull Lane):
faded markings &
tactiles



Crossing 32 (over
Docklands Light
Rail lines):
elevated crossing
accessed via a
staircase only.
Litter.



Crossing 9
(Blackwall Lane
slip road): very
narrow approach
to the crossing,
overgrown
vegetation, fast
moving traffic,
limited waiting
areas, rutted
tarmac (tripping
hazard)

	<p>Crossing 2 (Edmund Halley Way): Large refuge, crossing capacity & performance, new drainage system</p>
	<p>Crossing 33 (Silvertown Way): No buttons or other pedestrian signage, no tactile, faded markings, maintenance required.</p>

PTWAs assessment

G.3.19 Each Public Transport Waiting Area (PTWA) within the study area was scored between -3 (very poor) and +3 (very good) based on the following PERS categories or attributes with regards to bus stops:

- Information to the waiting area;
- Infrastructure to the waiting area;
- Boarding PT;
- Information at the waiting area;
- Safety perceptions;
- Security measures;
- Lighting;
- Quality of environment;
- Maintenance & cleanliness; and

- Waiting area comfort.

G.3.20 The rest of this section summarises the results of the bus stops audit and lists any issues identified during the audit with regards to the PTWAs. The maps included earlier in this note show the location of the bus stops assessed as part of this PERS audit, and the table below summarises the results.

Table G-3: PTWAs assessed

Ref	Location	Overall Score	Main Strengths	Main Weaknesses
BS1	Millennium Way	29%	Information, lighting, comfort	Quality of environment, isolated stop, debris, no Real Time Information (RTI)
BS2, BS3, BS4, BS10 & BS15	North Greenwich Station	85%	RTI, very comfortable, high capacity,	Indoor lighting could be improved
BS5	John Harrison Way	51%	Transparent design shelter, information,	No RTI, place of concealment, security measures, no bin,
BS6	Silvertown Way	7%	Information, lighting	Infrastructure to the waiting area, security, environment, no shelter, RTI
BS7	Tunnel Avenue	36%	Boarding PT, infrastructure	No timetables, litter, RTI
BS8, BS11	North Greenwich Station	57%	Information, boarding PT, infrastructure	RTI
BS9	Silvertown Way	18%	Information, boarding PT, infrastructure	Safety, security (stop is located adjacent to a vandalised covered staircase), no bin, litter.
BS12	Millennium Way	31%	Information, boarding PT	Security, safety, environment
BS13	Boord Street	4%	Information, boarding PT	Debris, litter, heavy traffic, safety, security
BS14	John Harrison Way	52%	Boarding PT, infrastructure, shelter comfort	No RTI or bin, lack of security measures
BS16	Tunnel Avenue	-24%	Information	No shelter, flag pole is obscured, quality of environment, no shelter, difficult to access the stop, a wheelchair user would not be able to board bus at this stop
BS17	Silvertown Way	56%	Information, lighting, comfort	Stop is located too close to traffic (dust, debris and rainwater splashes passengers at the shelter)

G.3.21 Bus stops within the PERS survey area are in overall good condition. Only the bus stops at the North Greenwich station had Real Time Information (RTI) systems installed. All bus stops had timetables displayed and some also displayed extra local information/maps.

G.3.22 All PTWAS, especially isolated or secluded bus stops such as BS16, BS13, BS6 and BS9, would benefit from more provision of dedicated and advertised CCTV, which would reinforce perceptions of safety and add to security measures.

G.3.23 In addition, the shelter at bus stop BS17 becomes unusable during wet weather; there is severe tarmac rutting in the vicinity of the shelter which

collects standing rainwater. Any passing vehicle runs over the pool of water, which splashes on the shelter and seats. Passengers have been observed to wait in the adjacent West Silvertown Station and run for the route 474 bus as it approaches the stop.

G.3.24 The aforementioned issues are highlighted in the photographic evidence below.

Figure G-7: PTWAs photographic evidence

	<p>BS5 (John Harrison Way): transparent shelter design, adequate waiting area, information visible and in order</p>
	<p>BS9 (Silvertown Way): stop is located next to a vandalised stairwell (graffiti, litter, drug paraphernalia) which creates negative perceptions of safety and security. No dedicated security measures in place.</p>

G.4 Pedestrian activity observations

G.4.1 During the site visits, pedestrian activity was also observed. Within the study area, pedestrian traffic was overall observed to be light.

- G.4.2 The North Greenwich Station area experiences relatively more pedestrian activity than the areas around the A102 and the approach to the Blackwall Tunnel, decreasing as you move further away from the North Greenwich Station.
- G.4.3 Links L2, L3 & L4 experience the highest pedestrian activity and footfall because of the facilities and attractions (The O2, shops, restaurants and the EAL) in that location. Link L5 also experiences some pedestrian activity as it connects the riverside residential developments and on John Harrison Way.
- G.4.4 By comparison, links L6, L9, L10, L12, L13 receive very little footfall, especially L10 where the general environment is especially hostile to pedestrians.
- G.4.5 The low levels of pedestrian activity can be attributed to the lack of attractions or trip generators, severance created by the A102 and the negative pedestrian environment (accessibility, traffic noise, car fumes/emissions and debris).
- G.4.6 In the Silvertown area, it was observed that there is higher pedestrian activity east of the A1020 Silvertown Way, particularly along links L31, L32, L33 and L34. These links provide a pleasant pedestrian environment and various attractions (The Crystal, bars, restaurants, etc.). They also form also part of pedestrian routes to the ExCel and DLR stations (Custom House & Royal Victoria) and to the residential developments in the Royal Docks area.
- G.4.7 In addition, link L26 along North Woolwich Road receives some pedestrian traffic, as it links the West Silvertown Station with the industrial units along L26. Links L24, L23 and L28 receive very little pedestrian traffic.

G.5 Conclusions

Summary

- G.5.1 The information summarised in the previous chapters and detailed in the PERS audit forms (available upon request), shows that the pedestrian environment around the proposed Silvertown Tunnel development site is generally well provided for although in some places it is not well maintained.
- G.5.2 The table below includes a summary of the PERS scores for links, crossings and bus stops within the study area.

Table G-4: PERS scores summary (RAG)

	Negative (-100% to -25%)	Neutral (-25% to 25%)	Positive (25% to 100%)
Links	2	14	17
Crossings	0	4	28
Bus Stops	0	4	13

- G.5.3 Potential improvements for links may include the introduction of security measures to alleviate negative personal safety perceptions (CCTV, police patrols, etc.) and general maintenance of links, including clearing overgrown vegetation.
- G.5.4 With regards to pedestrian crossings and links, cyclical maintenance to tactile paving and dropped kerbs can be scheduled. Other potential but not essential improvements may include the provision of better bus stop shelters, installation of audible information at crossings and providing Real Time Information screens at all bus stops.

Pedestrian effects and mitigation during construction

- G.5.5 The planned works are likely to have an impact on some pedestrian routes and crossings immediately around the worksites planned for the scheme.
- G.5.6 Where possible, the diversion routes will be kept to a minimum length. For example, Boord Street (which currently has inadequate footway widths and lighting) will be closed and a new pedestrian route will be introduced, adjacent to the O’Keefe Group Head Office building.
- G.5.7 This pedestrian diversion will connect to the non-motorised user route along Tunnel Avenue. Crossing C1 will also be replaced by a new bridge that complies with disability legislations, which will accommodate both pedestrians and cyclists, with both access steps and ramps. The construction works phasing will ensure that the new bridge has been installed and in operation before the old bridge is removed to ensure continuous access.
- G.5.8 In addition, non-motorised user routes will be established in the vicinity of the permanent works along the diverted Dock Road, the elongated section of the roundabout and the A1020 Lower Lea Crossing. The proposed alternative routes are generally of adequate quality; with some of the diversions are along the dockside which scored highly in the PERS assessment.

APPENDIX H – CLOS ASSESSMENT

H.1 Introduction

H.1.1 A cycling review of the study area has been carried out to highlight existing problems, and to flag up areas where the construction work of the new scheme may have a negative impact on cycling conditions, and require mitigating provision. A description of cycling conditions on the main routes through (and junctions in) the study area has been provided. The Cycling Level of Service methodology has been used to provide a visual representation of cycling conditions for specific movements at a number of key junctions on both sides of the river. Site visits were carried out 25 and 27 July 2015.

H.2 North Greenwich

H.2.1 Cycling facilities and conditions for cycling vary considerably in the North Greenwich side of the study area. However, very little is of the standard specified in the London Cycling Design Standards (LCDS) and the Mayor's 'Vision for Cycling' document. The following sections summarise conditions in the main north-south routes through the junction.

Tunnel Avenue

- At the northern end, there are no dedicated facilities so cycling takes place on the carriageway along with general traffic. Conditions are reasonable for carriageway cycling with wide lanes (double yellow lines), good sightlines, and relatively light traffic levels (during the site visit).
- Further south, parking is allowed on both sides and carriageway cycling becomes more uncomfortable.
- Just south of the point where vehicles can enter/exit the main tunnel approach road, there is dedicated cycling provision. This is a relatively poor quality shared use footway, cluttered with signs and lamp columns, and interrupted with side roads and crossovers.
- To the south of the Boord Street foot and cycle bridge, off-carriageway provision continues with a shared use footway. This is a poor quality facility. It is interrupted by side roads, its width varies considerably (due to trees, signs and other obstructions) and it is incorrectly signed (as a segregated facility when there is no visible segregation).

	<p>Clutter and a poor surface result in an unattractive cycling environment to the north of the Boord Street bridge</p>
	<p>A shared use footway with frequent side road interruptions, and an excess of signs in the southern part of Tunnel Avenue</p>



Millennium Way

- A dual carriageway with two lanes in each direction along its entire length from Ordnance Crescent to John Harrison Way.
- There is a two-way cycle track along its full length on the eastern side. There is one signalised junction (with Edmund Halley Way), and the cycle route crosses via a Toucan style facility.
- There is a short and relatively new (2014) section of shared use footway on the eastern side between John Harrison Way and Old School Close, with a staggered Toucan at its northern end.
- People were seen choosing to cycle on carriageway which suggests that the cycling facilities are not sufficiently direct or advantageous relative to the carriageway alternative. Traffic flows were light in the site visit.

	<p>Segregated two-way cycle track on the eastern side of the carriageway. The lack of a clear level-difference between the two sides, and the overgrowing shrubs are likely to result in pedestrians walking on the cycling part.</p>
	<p>New unsegregated footway on western side at the southern end</p>



West Parkside

- An unusual layout with effectively two parallel roads running side by side – one for buses, the other for general traffic.
- There is a two-way cycle track on the south western side of the carriageway.
- Unusually, the footway is between the cycle track and the carriageway. Pedestrians were seen walking in the cycle track probably because it is further from the carriageway (so quieter and more attractive than the footway).
- There is a mid-link uncontrolled cycle crossing of the two West Parkside carriageways.
- There is a slightly complex junction with John Harrison Way. Cycling facilities cater for some movements. The junction is signal controlled with a long cycle time comprising four stages. The cycling facilities enable controlled or off-carriageway movements between John Harrison Way south-west and West Parkside north-west (with a cycle track following the bend) and between both arms of John Harrison Way (a Toucan style, straight-across crossing).

West Parkside cycle track (footway between it and main carriageway)	Uncontrolled mid-link cycle track and footway crossing of West Parkside
	

Edmund Halley Way

- A two lane dual carriageway in its western section before narrowing to a single carriageway (one lane in each direction) at the eastern end.
- In the dual carriageway section the only cycling facility is a west bound advisory cycle lane (approximately 1.5m in width).
- In the single carriageway section, there are on-carriageway cycle logos in places, and some off-carriageway provision although this is not clearly signed.
- There is a mixture of junction types with varying provision for cycling.
- Millennium Way junction is signal controlled with cycling facilities on some movements.
- Cycling not permitted on road leading to bus station from roundabout. It is a wide and open roundabout which could be uncomfortable for cycling, especially in the eastbound direction when traffic flows are high.
- West Parkside junction has no controlled cycling crossings.
- Uncontrolled mid-link cycle track and footway crossing of West Parkside

Advisory cycle lane on Edmund Halley Way westbound	Edmund Halley Way dual carriageway section
	

Boord Street and cycle/pedestrian route to East Parkside



- Boord Street runs between Dreadnought Street and Millennium Way, connecting the cycle and footbridge over the A102 with the cycling facilities on and to the east of Millennium Way.
- It is a lightly trafficked street with cyclists catered for on carriageway through the use of cycle symbols.
- At the Millennium Way junction, cyclists are guided onto an uncontrolled, staggered crossing with cycle symbols to the north eastern side of the junction where they can join the Millennium Way cycle track or continue north-eastwards on a traffic free cycle and pedestrian route.
- The traffic-free path is around 4m wide, with pedestrian/cycling segregation for most of its length and an uncontrolled crossing of West Parkside.
- The route continues to the East Parkside, currently under redevelopment.

Boord Street with basic on-carriageway cycling provision	Traffic-free path between Millennium Way and West Parkside
	

John Harrison Way and Blackwall Lane from Tunnel Avenue to West Parkside

- To the east of West Parkside, John Harrison Way has the feel of a lightly trafficked boulevard with a median containing shrubs and trees dividing the two carriageways. There are no cycling facilities but the traffic environment means most people would be comfortable cycling on carriageway.
- The West Parkside junction has been described previously. Between here and Millennium Way there is a shared footway on the north-western side.
- At the Millennium Way junction, the cycle track continues on the footway round into Millennium Way, where it becomes a segregated facility. There is a staggered crossing of John Harrison Way east of the Millennium Way roundabout.
- There is a cycle route along Blackwall Lane which uses controlled pedestrian crossings (not Toucans) at the two junctions (Bugsby’s Way

and the A102 slip lane). It is segregated to the north of the A102 but shared to the south and joins the stopped-off, southern residential section of Tunnel Avenue.

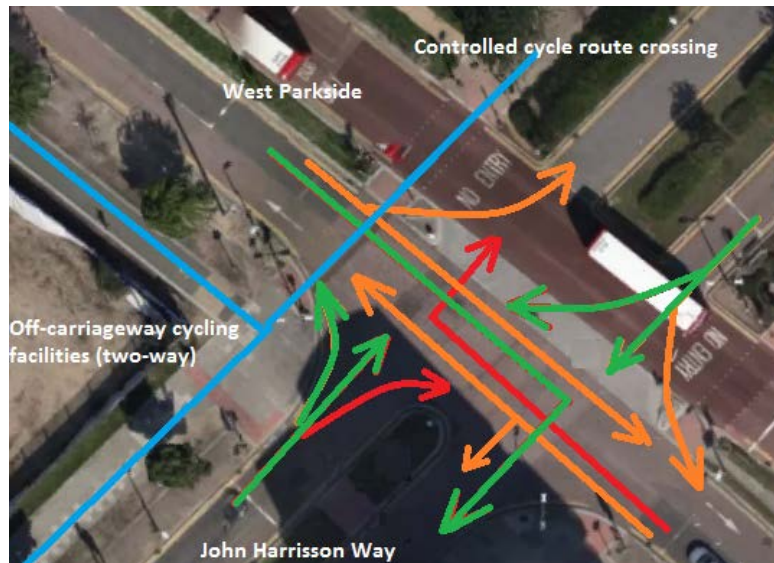
Shared footway cycle track near Millennium Way roundabout	Non-Toucan crossing, Bugsby's Way (which cyclists are directed down)
	

H.3 Junction Assessments for North Greenwich

H.3.1 Junction Assessments, using Cycling Level of Service (CLOs) guidance provided in the London Cycling Design Standards, have been carried out at a small number of key junctions in the study area. These aim to provide a simplified visual impression of how cycle-friendly the various movements are at each junction, and help to highlight where changes are most urgently needed.

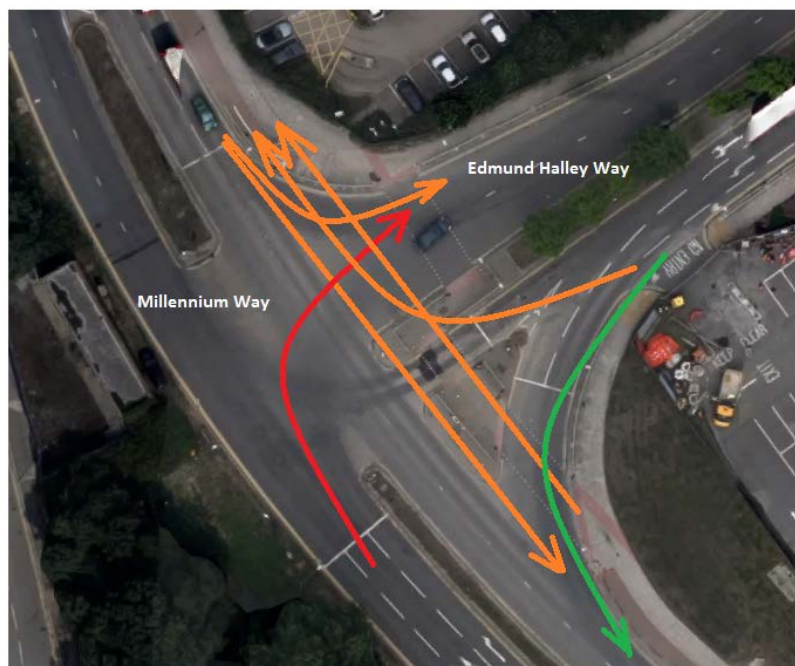
West Parkside and John Harrison Way

H.3.2 This junction has an unusual layout with two parallel two-way carriageways (one for buses, one for general traffic) on West Parkside, each with its own signal stage. There is a Toucan style crossing (which operates during an 'all-red' stage along with a pedestrian crossing). The green cycling movements either have their own controlled crossing (between the John Harrison Way arms) or can be made entirely off-carriageway (between John Harrison Way southwest and West Parkside northwest). The amber movements are on carriageway with no, or minimal, potential for conflict. The red movements are right turns which involve the need to cross a stream of traffic on the junction approach, and to pass an opposing movement as the right turn is made.



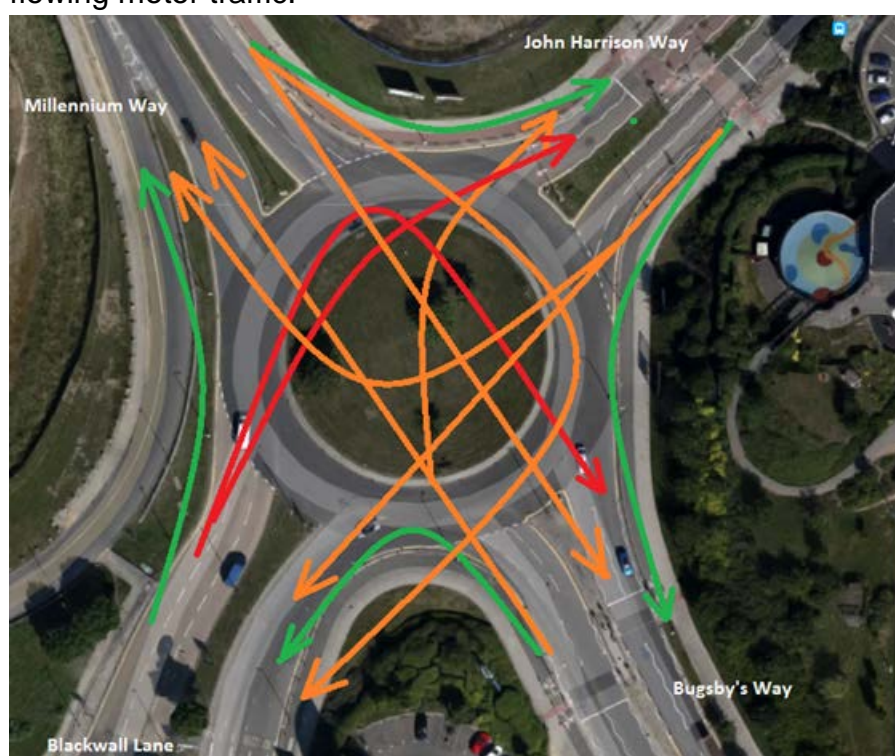
Millennium Way and Edmund Halley Way

H.3.3 This is a three-arm signalised junction with a controlled cycle crossing between the Millennium Way arms. The green movement is for the left turn from Edmund Halley Way as it can be made entirely within a cycling facility (cycle lane followed by cycle track). The amber movements include the left turn from Millennium Way on carriageway, and Toucan crossing (not a green as it is a staggered crossing and therefore takes a considerable amount of time – some cyclists were seen choosing to stay on carriageway). The red right-turn movement has no off-carriageway provision and is made as an opposing phase i.e. with the need to wait for a gap in the southbound traffic stream.



Millennium Way and John Harrison Way roundabout

H.4 This is a four arm, free flowing roundabout with offset, signal-controlled crossings on two arms. Only one crossing (John Harrison Way) has formal cycling provision but cyclists are also directed across the pedestrian crossing on Bugsby's Way. The green movements can be made off-carriageway and without delay at crossings. Amber movements require the use of the controlled crossings with considerable deviation from desire lines, and delay as they are both staggered two-stage crossings. The red movements have no off-carriageway provision, and are likely to feel particularly hazardous or intimidating as they would require cyclists to push across streams of free-flowing motor traffic.



H.5 Silvertown



H.5.1 As with the North Greenwich part of the study area, there is a range of cycling facilities and conditions on the Silvertown side with some cycle tracks, shared use footways, ASLs and signed routes. However, very little is of the standard specified by LCDS and in the Mayor's 'Vision for Cycling' document. Facilities and conditions for cycling on the main links and junctions are summarised in the following paragraphs.

A13/Leamouth Road junction

- This is a large and complex multi-lane, signal controlled T-junction.
- There are some dedicated cycling facilities – all are off carriageway (or involve controlled crossings of the carriageway). The southern side of

the A13 eastern arm has a Cycle Superhighway (CS3) - a two-way cycle track at this point. All other footway approaches on the A13 are marked as shared use.

- There is a three-stage, staggered Toucan crossing of the western arm and of the southern arm (Leamouth Road).
- Cycling is permitted on the Leamouth Road western footway (which carries CS3) but not on the eastern footway.

Shared footway cycle track on the A13	Toucan crossing of Leamouth Road (looking towards CS3)
	

Leamouth Road



- A 2+2 carriageway with a high wall between the two sides
- Cycling is permitted on the western footway (a shared-use cycle track)

Cycling not allowed on the eastern footway	Western carriageway with cycling provision on the footway
	

Lower Lea Crossing/Leamouth Road roundabout


- A large, part-signalised, six arm roundabout with three lanes on the circulatory carriageway
- Off-carriageway cycling provision is around all the roundabout except between Leamouth Road and Silvocea Way arms
- There are cycle crossings (mixture of controlled and uncontrolled) on all

arms except Leamouth Road

Staggered Toucan across Lower Lea Crossing arm	Uncontrolled crossing on a minor arm
	

Lower Lea Crossing

- This is a 900m section of dual carriageway over the River Lea connecting the A1011 with the A1261.
- There is a two-way cycle track on the southern side of the road, adjacent to the footway.
- It is reached at the western end via an uncontrolled crossing of the Orchard Place slip road. At the eastern end, it starts/ends on the A1011 roundabout by the Dock Street arm.

The cycle track across the bridge	Uncontrolled crossing at western end
	

Lower Lea Crossing/Dock Road roundabout

- This is a high capacity, four-arm roundabout with slip lanes to and from the A1011 (which passes over the junction on a flyover)
- Off-carriageway cycling provision with uncontrolled crossings around most of the roundabout
- Tidal Basin Road links to the A1011 via two signalised junctions

Two way cycle track orbiting the junction (uncontrolled crossing of Dock Road, left)



Dock Road

- Dock Road runs parallel to Silvertown Way (at ground level) and is a promoted cycle route (i.e. shown in blue in the TfL 'Local Cycling Guide').
- There are no cycling facilities on Dock Road other than cycle route signage but it appears to attract a relatively high level of cycling probably because it is a much quieter road than the adjacent Silvertown Way, and is completely flat (cycling along Silvertown Way requires climbing up to the flyover level on one of the access roads or ramps).

Dock Road – flat, direct and lightly trafficked making it a relatively popular cycle route



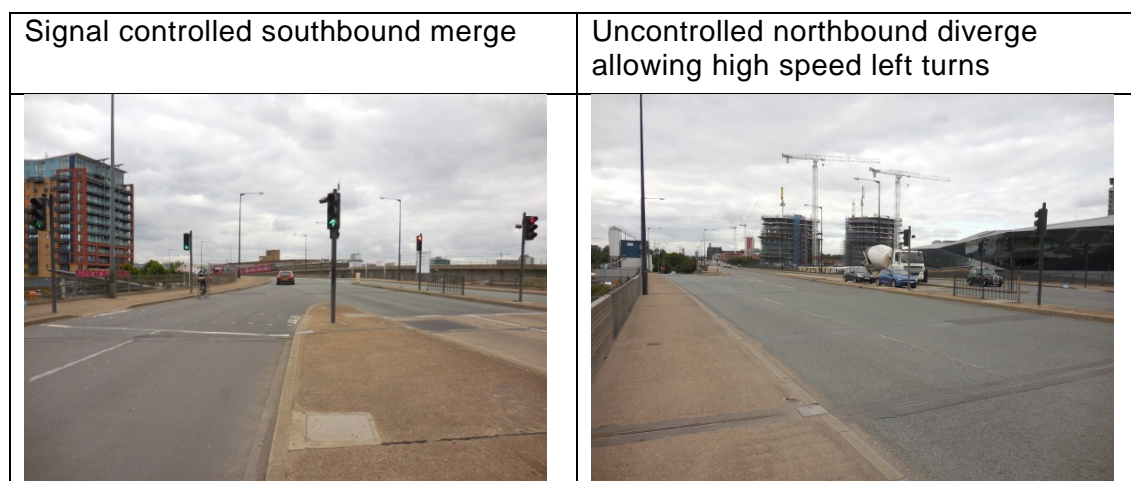
Tidal Basin Road/Silvertown Way junction

- A three arm, signalised junction with controlled pedestrian crossing facilities across, and footways on, all arms
- No right turn allowed into Tidal Basin Road (restricted through geometry)
- On carriageway provision (cycle lanes and ASLs) for movements between Tidal Basin Road and the Silvertown Way north arm.



Tidal Basin junction to the part-signalised junction with roundabout slip roads

- Slip roads to/from the roundabout have two lanes and a footway.
- The junction is signalised in the southbound direction (vehicles are controlled at the top of the ramp as they enter Silvertown Way). The signals operate on a simple two-stage ‘flip/flop’ cycle.
- A pedestrian crossing is marked out on the southern side between the two streams of traffic but there is no pedestrian aspect at the signals
- There is no signal control on the northbound side. Motorists can exit Silvertown Way at speed as they follow the ramp to Tidal Basin Roundabout. Any cyclist continuing northbound movement on Silvertown Way may find the movement intimidating if they need to find a gap in a stream of left turning motorists.



Silvertown Way from the Tidal Basin Roundabout slip-roads to the junction with Woolwich Road

- Wide single carriageway (approximately 12m) marked out as one lane in each direction with motor traffic sometimes doubling up into two lanes.
- There are footways on both sides

- There is a signalised junction with Britannia Gate, with controlled pedestrian crossings on all arms. All arms have two lane approaches and there are no cycling facilities.
- Section ends at the signalised junction with North Woolwich Road (to the east of which cyclists will not be directly affected by the new scheme).
- There are controlled ped crossings on the two major arms of the junction, and a straight-across Toucan crossing on the minor (North Woolwich Road) arm.
- The Toucan serves a two-way cycle track which runs parallel to North Woolwich Road from its major eastern arm to the minor arm which bends back and runs parallel to Silvertown Way at a lower level.



H.6 Junction Assessments in Silvertown

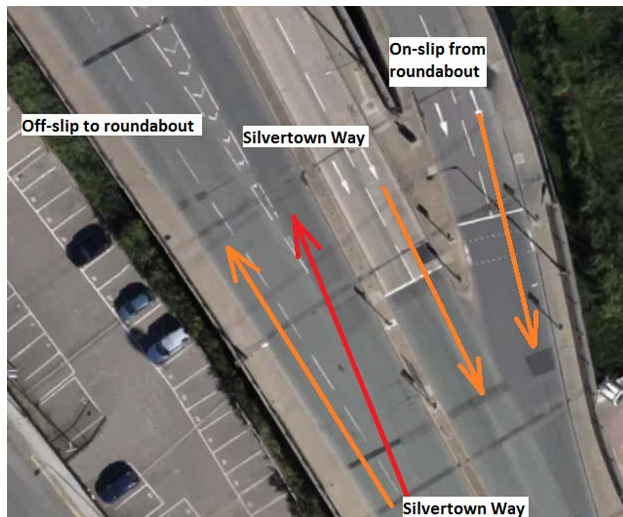
North Woolwich Road Silvertown Way junction

- H.6.1 The plan below shows a basic Junction Assessment for the junction of Silvertown Way and North Woolwich Road. This is currently a three arm, signal controlled junction which also has a two-way cycle track on either side. The cycle track runs parallel to North Woolwich Road on the eastern side of the junction but diverges from the main road (Silvertown Way) on the western side where it re-joins the minor arm of North Woolwich Road (a signed cycle route leading into Dock Road).
- H.6.2 The green arrow movements are for those made to and from the cycle track as this can be done via a separate stage at the Toucan crossing. The amber movements are made on carriageway and do not involve conflict with other streams of traffic. The red movements involve potential conflict with motor vehicles, as cyclists would either need to pull out across a stream of traffic to make the movement (right turns), or could have motor vehicles turn left in front of them (as they continue straight ahead).



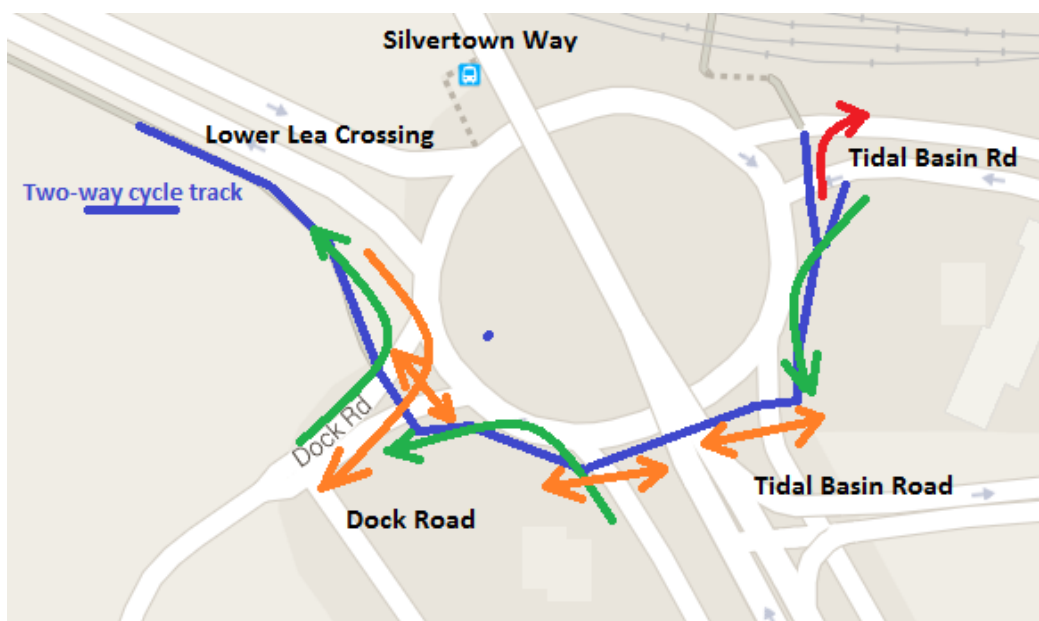
Silvertown Way junction with Tidal Basin Roundabout

- H.6.3 The plan below shows the junction of Silvertown Way and the slip roads from the Tidal Basin Roundabout. Realistic potential movements are limited to just two in each direction as anyone wishing to cycle between Silvertown Way northern arm and the Tidal Basin Roundabout could do this much more directly via Tidal Basin Road.
- H.6.4 The southbound movements are both labelled as amber. This is because they are on-carriageway with potentially fast moving and heavy traffic flows (preventing a green rating) but they are signal controlled, and there are no conflicting movements within each stage.
- H.6.5 The northbound movement towards the off-slip is rated as amber, as this does not involve any conflicting movements although it is in a (potentially) high speed, high flow environment. The most hazardous movement by far is northbound for cyclists remaining on Silvertown Way as they may have conflicting movements with fast moving, left-turning motor vehicles who are heading for the off-slip.



Tidal Basin Roundabout

H.6.6 The plan below shows the junction of Tidal Basin Road roundabout. Silvertown Way passes over the junction as a flyover. There is a two-way cycle track (shown in blue) which connects most of the arms with uncontrolled crossings. The movements are shown differently in this diagram as it is an unusual junction. Left turns which don't require crossing any traffic streams and can be made mainly off-carriageway are shown as green. Movements which involve uncontrolled crossings of arms (between cycle tracks) are shown as amber – they would need to be controlled for a green rating. The one red rating is given to a movement which goes directly onto a carriageway without any signal control.

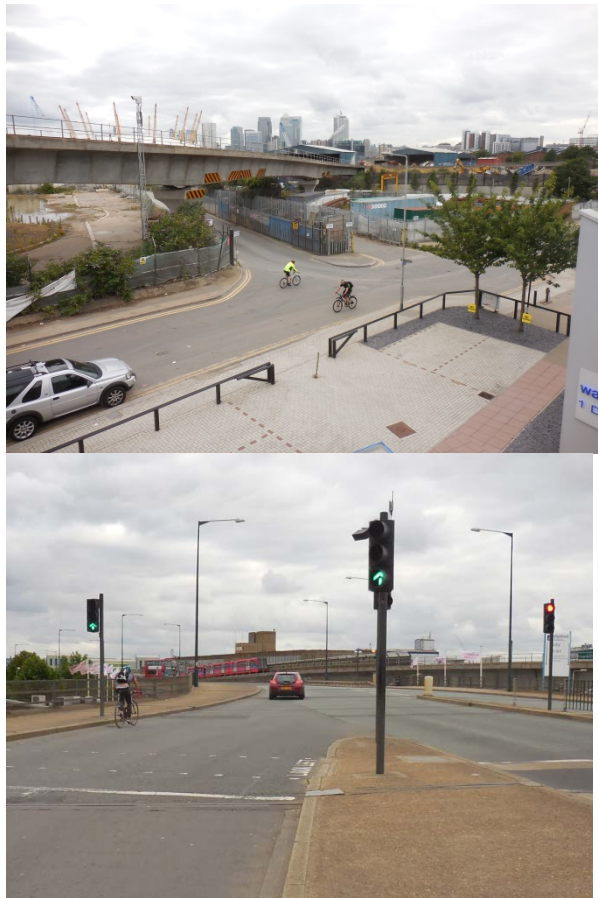


H.7 Current levels of cycling activity

H.7.1 Two site visits were carried out during the study, and levels of cycling were observed during both. In the visit to North Greenwich, cycling activity was very light with approximately 12 to 15 cyclists seen throughout the four hour stay (in the inter-peak). About half were on carriageway where there was an option to use an off-carriageway. This is probably due to the relatively light motor-traffic flows on the carriageway and/or the quality and directness of the off-carriageway cycling provision. A cyclist was seen on the northbound carriageway of Millennium Way (below left) instead of using the footway cycle track. His crossing of Edmund Halley way would have been simpler and quicker on carriageway as the Toucan is staggered with three separate crossings. Conversely, the photograph, below right shows three people cycling on a footway which has no cycle route status.



H.7.2 On the north side of the river, in Silvertown, levels of cycling were higher during the site visit. This will have been partly due to the fact that the site visit included the early part of the evening peak but also that the geography on this side of the river lends itself to radial cycle trips to and from central London (on the south side the meandering river acts as a barrier). The main area of cycling activity was Dock Road, and it was estimated that 60-100 cyclists were using this route per hour (below left).



H.7.3 It is easy to understand why as it is a much quieter road than the parallel Silvertown Way and stays at ground level (Silvertown Way is elevated along here). However, Silvertown way also attracted cycle trips including on the eastern section (above right) despite a lack of formal cycle route provision (which only extends eastwards as far as the junction with Tidal Basin Road).

H.8 Impact of proposed lorry routes

H.8.1 The lorry route on the Silvertown side of the scheme follows Lower Lea Crossing and Leamouth Road to/from the A13. As previously described in the report, there is only cycling provision on one side of Leamouth Road, and there are also gaps in provision on the Leamouth Road/Lower Lea Crossing Roundabout. With an inevitable increase in lorry traffic on these roads, it is important that cycling provision is improved and provided for on both sides of the Leamouth Road carriageway and all sides of the roundabout. This could simply be allowing cycling on the footways which, although not recommended in the LCDS, may be an appropriate short term measure during the construction phase.

H.8.2 Lower Lea Crossing has a segregated two-way cycle track which is of sufficient quality for the cycle flows and adjacent lorry traffic. However, the cycle track crossings on the arms of the Tidal Basin Roundabout are

uncontrolled, and it is likely that these will need to be improved to create attractive cycling conditions in the context of a large increase in lorry traffic.

H.8.3 The currently proposed lorry route on the North Greenwich side will follow Millennium Way along its entire length before joining Blackwall Lane where it joins the A102. There is currently cycling provision on all these links but there is much room for improvements with many sections not up to the standards set out in the Mayor's Vision for Cycling. Poor quality sections involve circuitous crossing facilities without formal cycling facilities (with cyclists directed across controlled pedestrian-only crossings), shared use footways (which should now be avoided wherever possible), and provision on only one side of the carriageway. A key focus on this side of the study area should be the Millennium Way/John Harrison Way roundabout which has had several recorded cycling casualties in the last five years, and only provides for some of the potential cycling movements through the junction with some of this provision of a poor quality. With the amount of lorry traffic due to increase through here, making improvements should be a high priority. In the context of the scheme, simple footway cycle-track provision may be appropriate as a short term measure during the construction phase to make sure that all movements can be made off-carriageway and via controlled crossings which are sufficiently close to desire lines.

H.9 Summary and recommendations

H.9.1 This review has provided an overview of facilities and conditions for cycling in the study area. These have been found to be quite mixed - quite typical of the situation in London, generally. There is some poor quality provision e.g. narrow, cluttered, shared-use footways without dedicated cycle crossings, some average quality (e.g. 1.5m cycle lanes, Toucan crossings), and there are facilities which are just about good enough to reach the Mayor's Vision for Cycling aspirations (e.g. wide, 'traffic free' routes with clear segregation between pedestrian and cycling space).

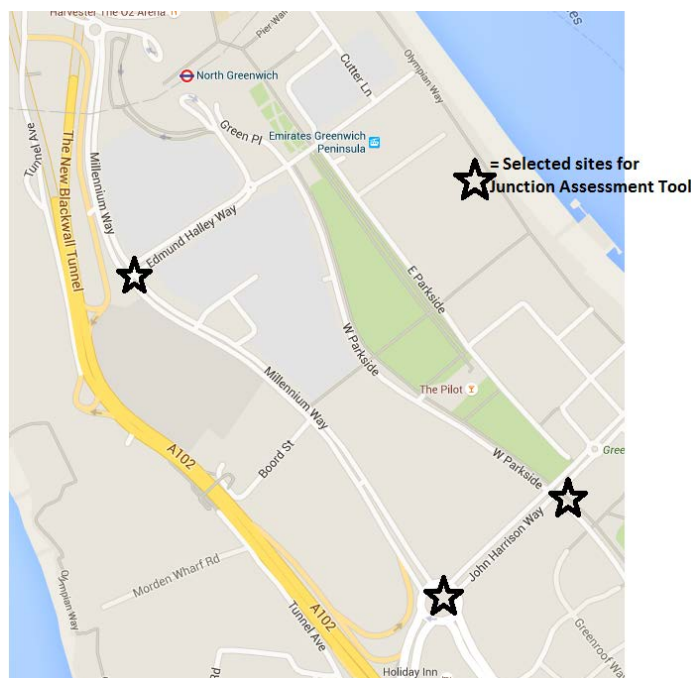
H.9.2 The following list comprises suggestions for improved facilities and conditions. These are listed in approximate order of recommended priority.

North Greenwich

- Junction of Millennium Way/John Harrison Way Roundabout – several movements at this roundabout received a red RAG rating in the junction assessment. It already has a record of recorded cycling collisions (one in the last three years, several in the last five), and many of the existing cycling facilities are indirect and substandard.
- Blackwall Lane south of Millennium Way/John Harrison Way Roundabout. The junction with the A102 is quite intimidating to cycle

through (on Blackwall Lane). Existing cycling facilities are substandard (a cluttered shared use footway on one side), and there is nothing on the western side (a group of cyclists seen using the footway indicates that it is a desire line). The existing, unattractive cycling environment is likely to worsen considerably with the increase in lorry traffic that the tunnel construction will result in. Although shared footways are not an appropriate permanent facility, they may be considered sufficient to mitigate against the lorry traffic increase during the construction phase.

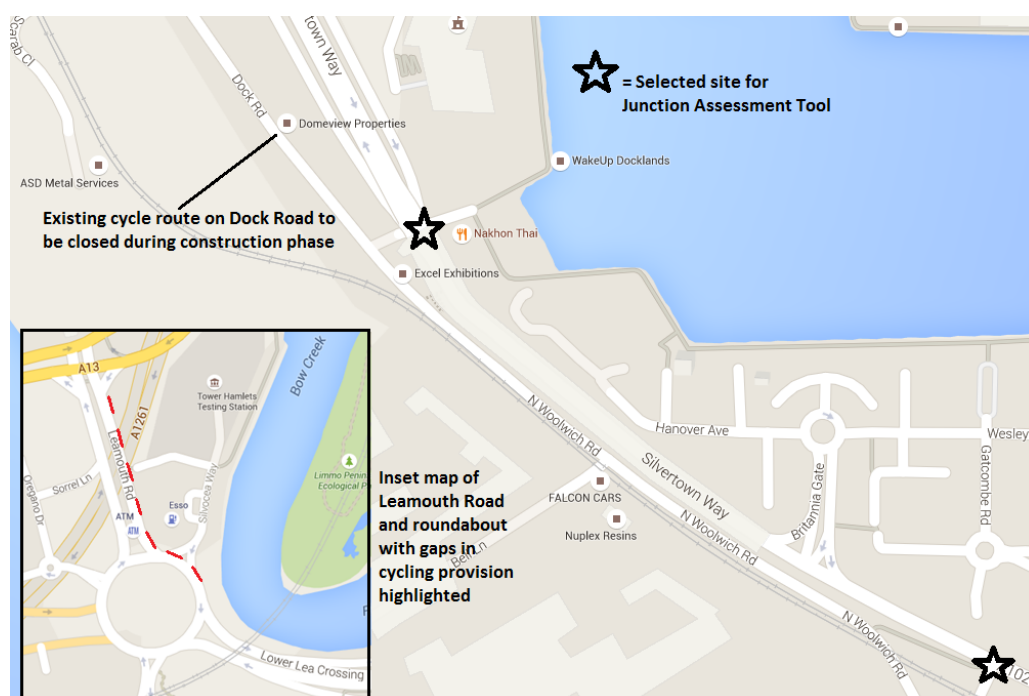
- Millennium Way – this will be the key ‘lorry route’ during the construction phase. Although cycling facilities are currently provided, opportunities should be taken to upgrade them if the cost and extent of the works can be justified by the temporary nature of the construction phase.



- Direct access to North Greenwich Bus and Underground station. Cyclists are currently forced to make relatively circuitous journeys into North Greenwich with roads restricted to bus traffic and authorised vehicles only. Allowing cycling access would require relatively little in the way of engineering work, and would help make cycle trips easier and more advantageous relative to other modes.
- Although less attractive than the Millennium Way alternative, Tunnel Avenue may offer the most direct route to the North Greenwich employment, transport and leisure facilities from the Greenwich area. The current cycling facilities are of a particularly poor standard (cluttered, frequently interrupted, incorrectly signed) so an upgrade would improve conditions considerably, although may not be essential in the context of this scheme (i.e. mitigation for the impact of a temporary lorry route).

Silvertown

- Dock Road alternative route via Silvertown Way (probably from North Woolwich Road to Tidal Basin Roundabout). Although a traffic-free combined walking and cycling route has been proposed via Siemens Brothers Way and Western Gateway, this is too indirect for people making utility journeys by bike who would previously have used Dock Road. It is essential, therefore, that conditions for cycling are improved along Silvertown Way itself especially to the southeast of the tidal Basin Road junction (there are facilities already in place to the northwest, although these could be improved). The most hazardous and intimidating movement that northbound cyclists on Silvertown Way currently have to make is to continue straight ahead where the slip-road to the Tidal Basin Roundabout exits. A high cost facility may not be needed – light segregation could be an option if space allows, and a ‘jug handle’ crossing of the slip road may provide an acceptable level of safety.



- Tidal Basin Roundabout – there is currently a two-way cycle track around most of the perimeter of the roundabout with uncontrolled crossings of each arm. When the lorry traffic increases during the construction phase, these crossings will need to be improved especially if a Dock Road alternative route is to be signed via the roundabout (and slip roads to and from Silvertown Way). The roundabout itself is to be redesigned as part of the scheme so any changes to cycling provision will obviously need to tie in with this.
- Lower Lea Crossing/Leamouth Road roundabout – cycling facilities are provided on part of the roundabout but they are incomplete, and would benefit from being upgraded. This junction has also had several

recorded cyclist collisions in the most recent three years of data possibly due to problems with the existing layout lending extra weight to the need to make improvements.

- Leamouth Road – this is an unusual dual carriageway as it has a high wall along the dividing median. Cycling provision has only been made on the western side which carries Cycle Superhighway 3 for a short section. Cycling is not currently permitted on the eastern footway despite a relatively generous width, and the likelihood of low pedestrian flows (there are no Tube or railway stations, offices or shops nearby). With construction lorry traffic due to be signed along here (to and from the A13), it will be important to improve conditions for cycling along here whether through off-carriageway provision or some kind of segregated cycle lane.

H.10 Design and Access Statement proposals

H.10.1 Some cycle route proposals have been included in the Design and Access Statement (DAS). These are on the Silvertown side of the tunnel at, and close to, the Tidal Basin Roundabout. The plan showing proposed cycling facilities in the DAS has been reproduced below.



H.10.2 Dock Road would be built over, and would therefore no longer be available as a cycle route. However, the map above shows a segregated cycle route following a similar alignment to Dock Road so this is likely to provide a better level of service for cycling than the existing facility. This would connect in with the Lower Lea Crossing cycle route, and there would be provision linking in to Tidal Basin Roundabout although some of this would be signed

rather than segregated. There are some additional 'potential routes' shown on new roads (or at least highways) following the north bank of the River Thames with what appears to be a new bridge to Thames Buoy Wharf. These are all encouraging and potential useful connections. However, more information is needed on the exact form they will take – the current distinction of 'segregated and signed' does not really explain what is planned as signed routes could be anything from a mandatory cycle lane to a traffic-calmed street to a busy arterial road without any cycling infrastructure at all.

APPENDIX I – TRAFFIC AND ACCESSIBILITY PLOTS

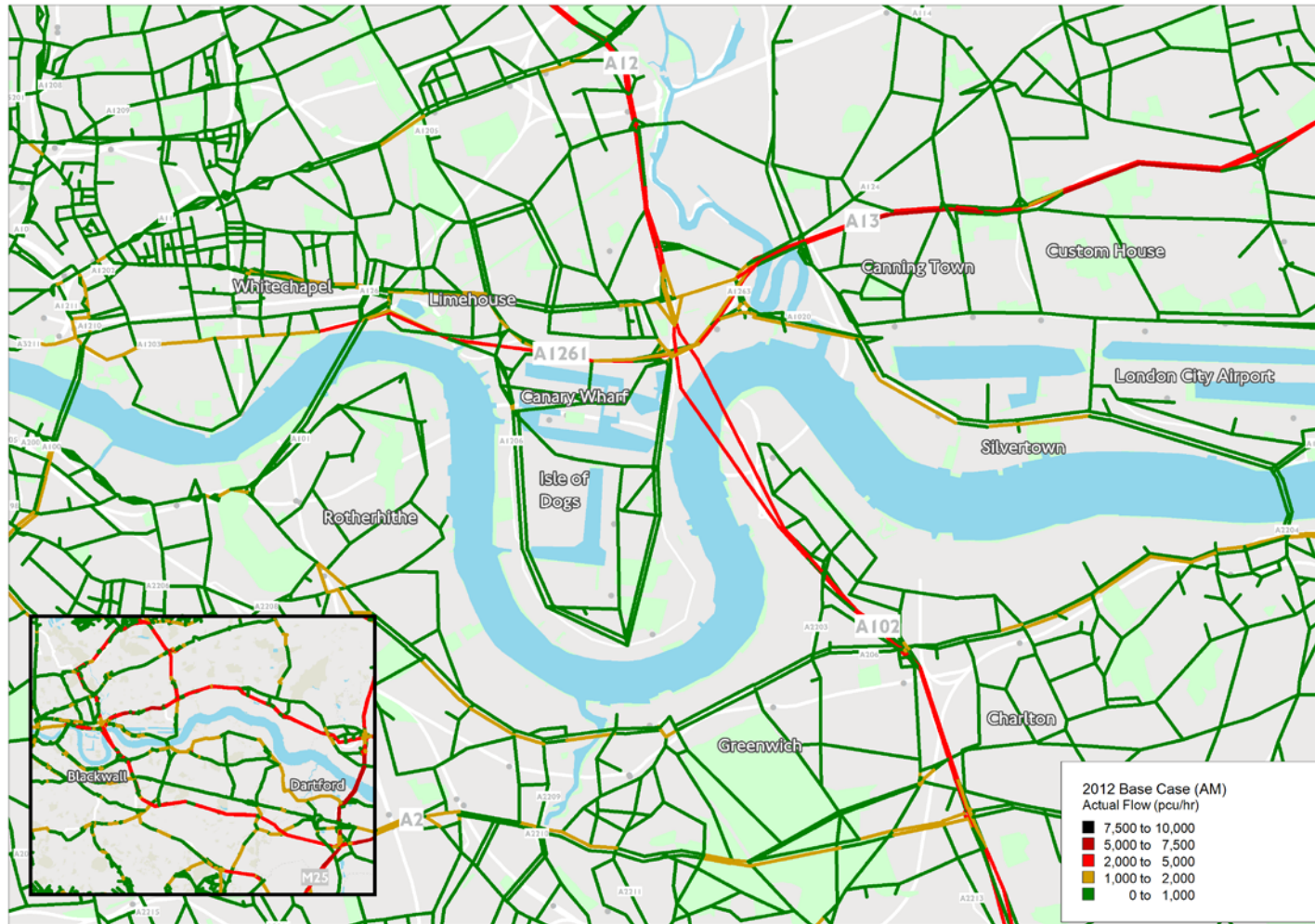


Figure 4-15: 2012 AM peak hour actual flow

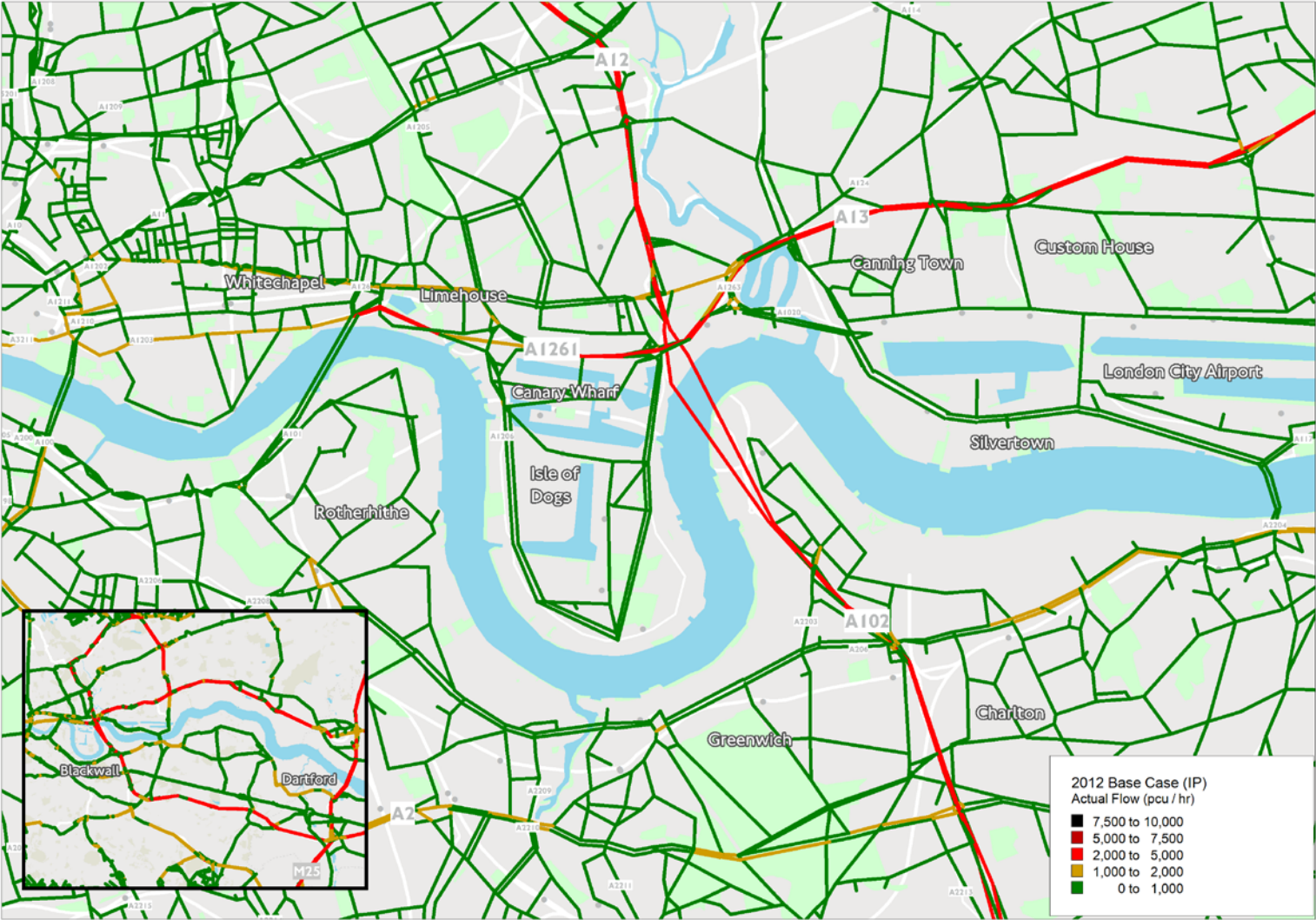


Figure 4-16: 2012 IP average hour actual flow

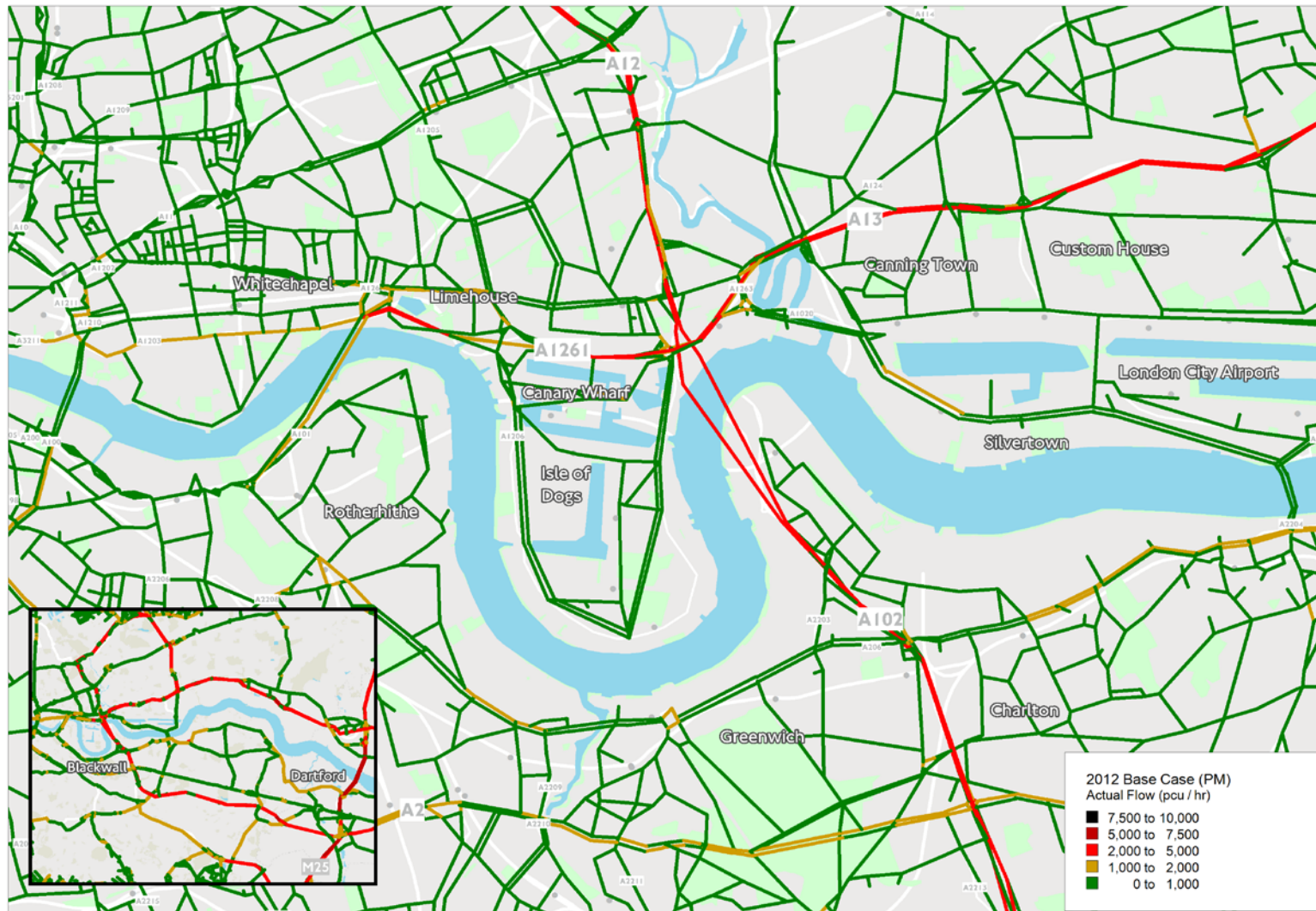


Figure 4-17: 2012 PM peak hour actual flow

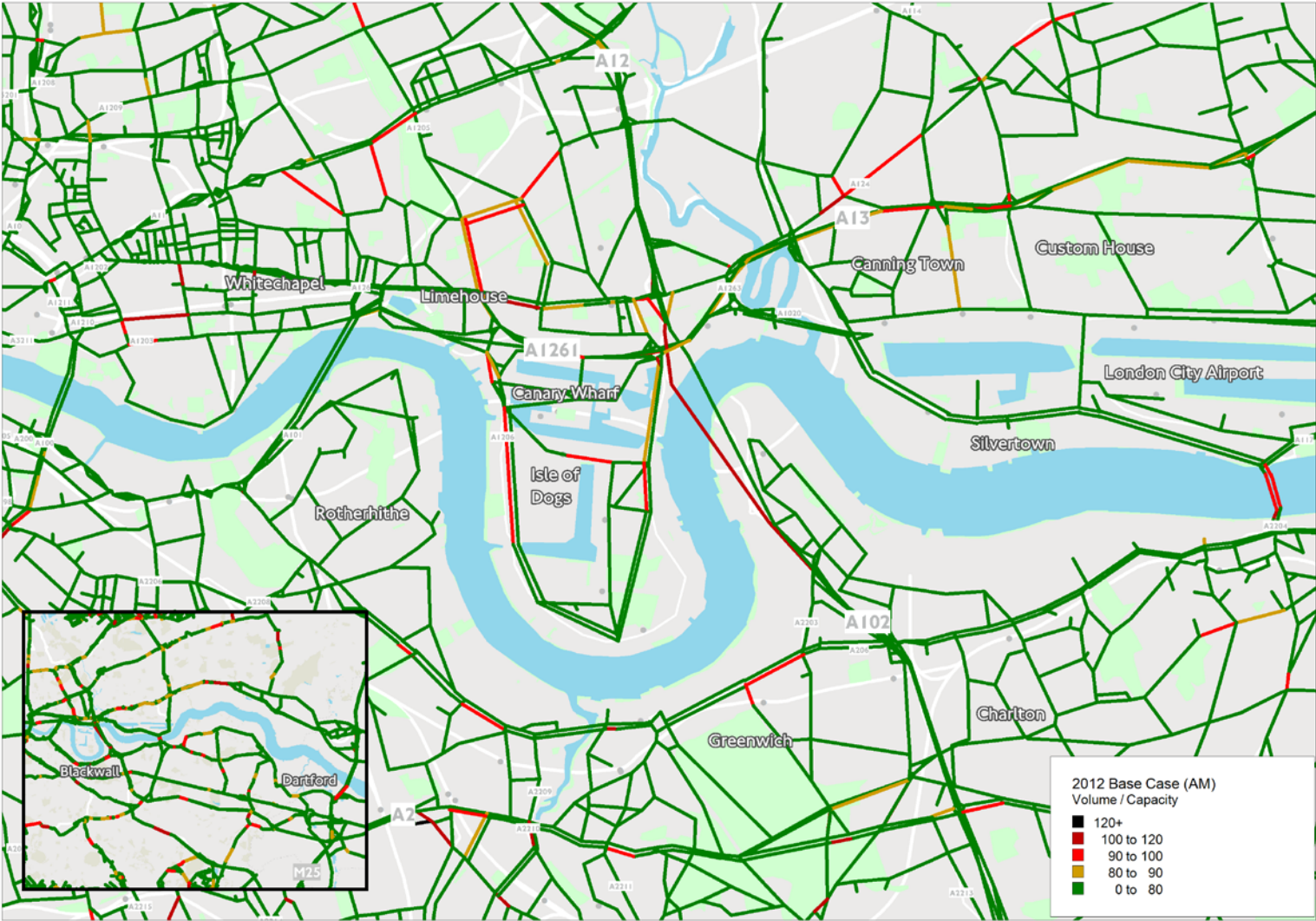


Figure 4-18: 2012 AM peak hour VCR

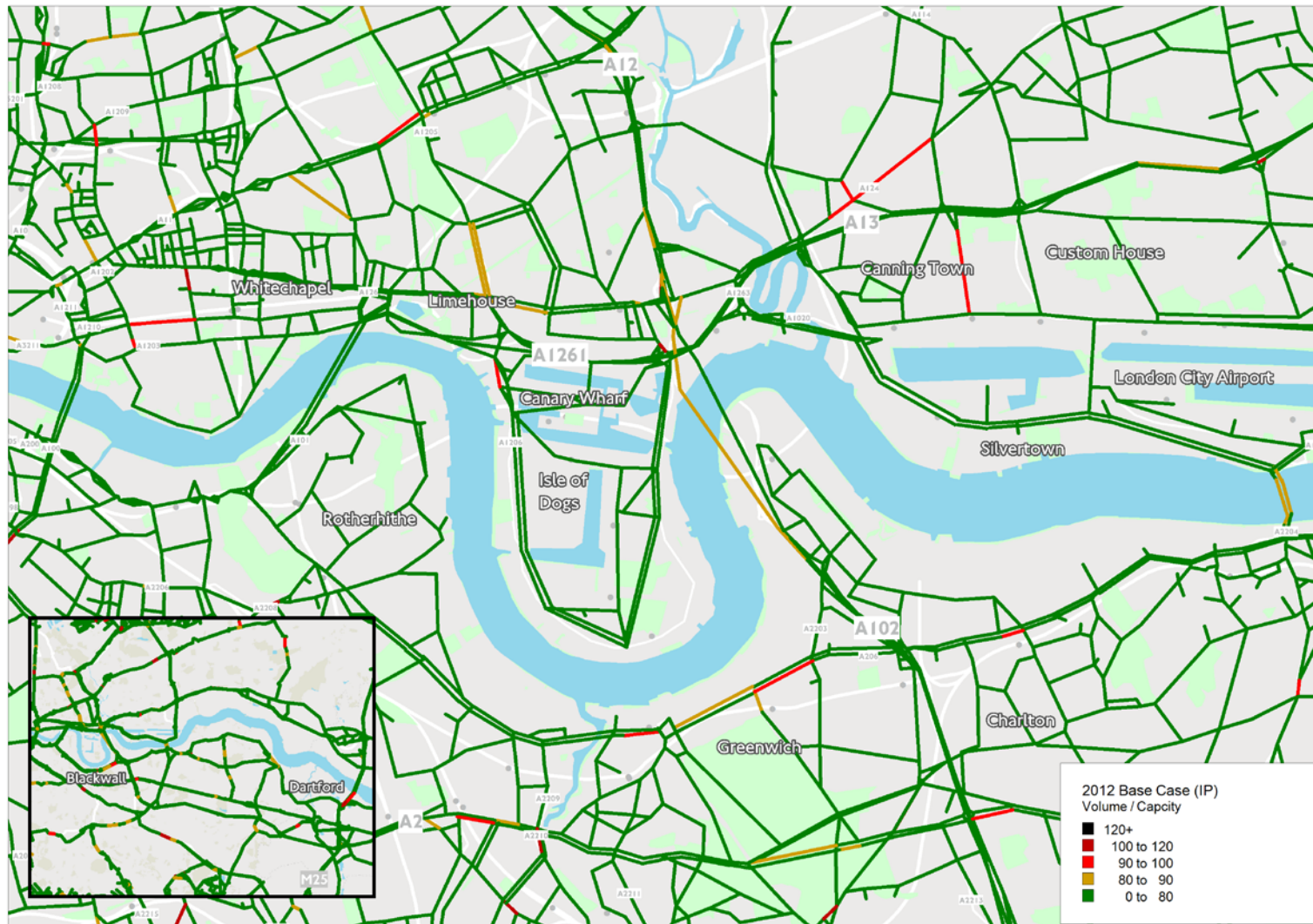


Figure 4-19: 2012 IP average hour VCR

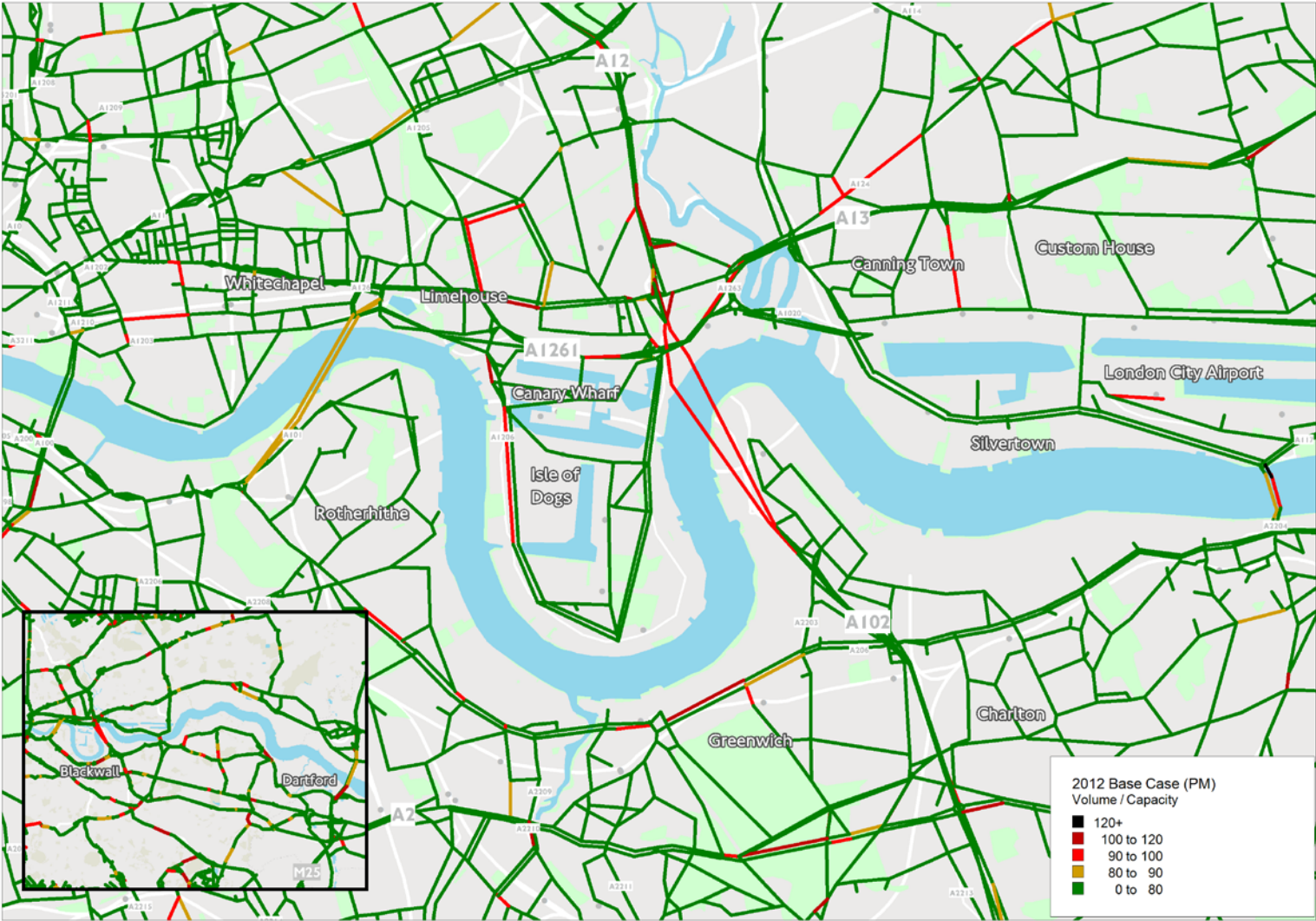


Figure 4-20: 2012 PM peak base VCR

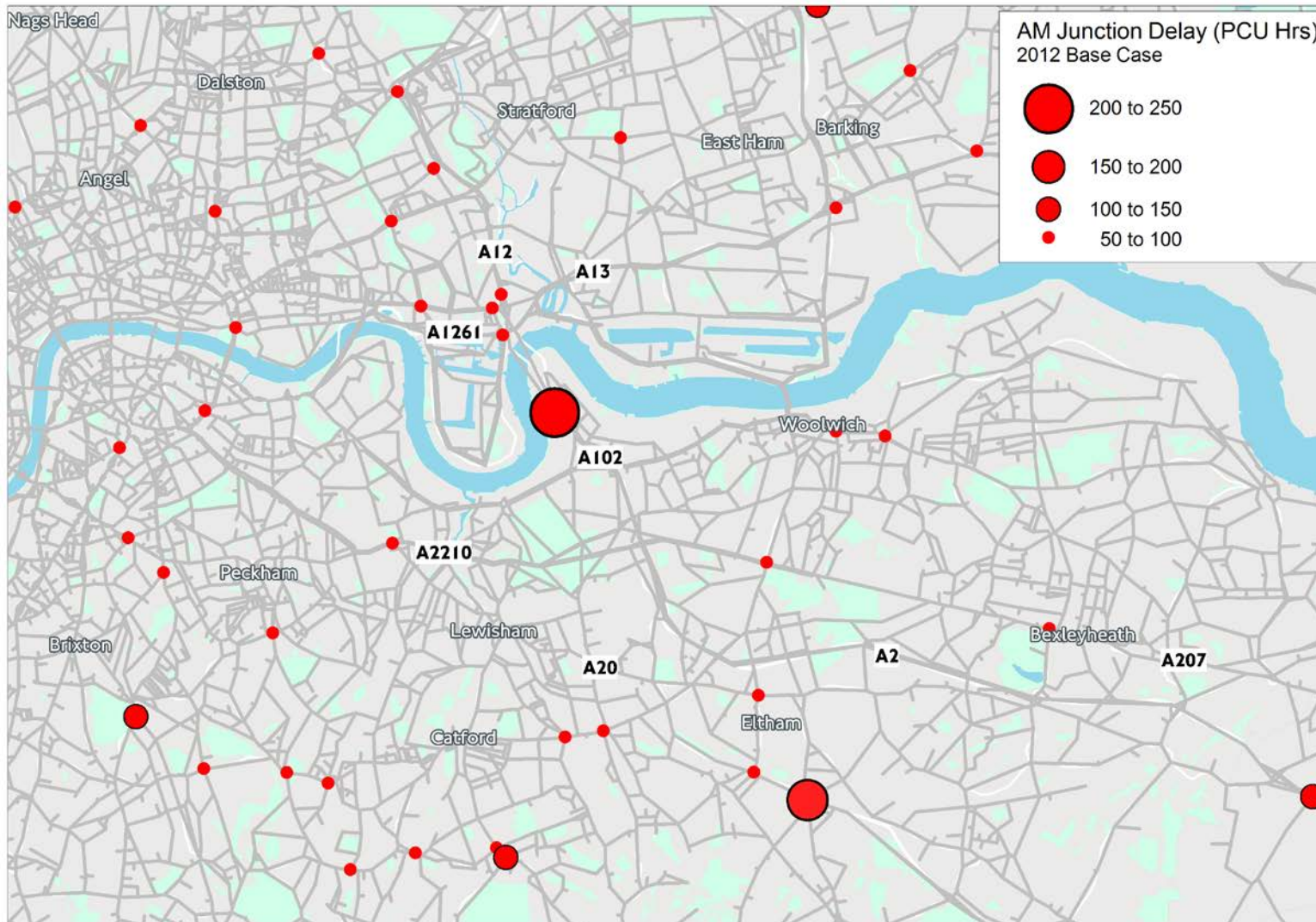


Figure 4-21: 2012 AM peak hour junction delay

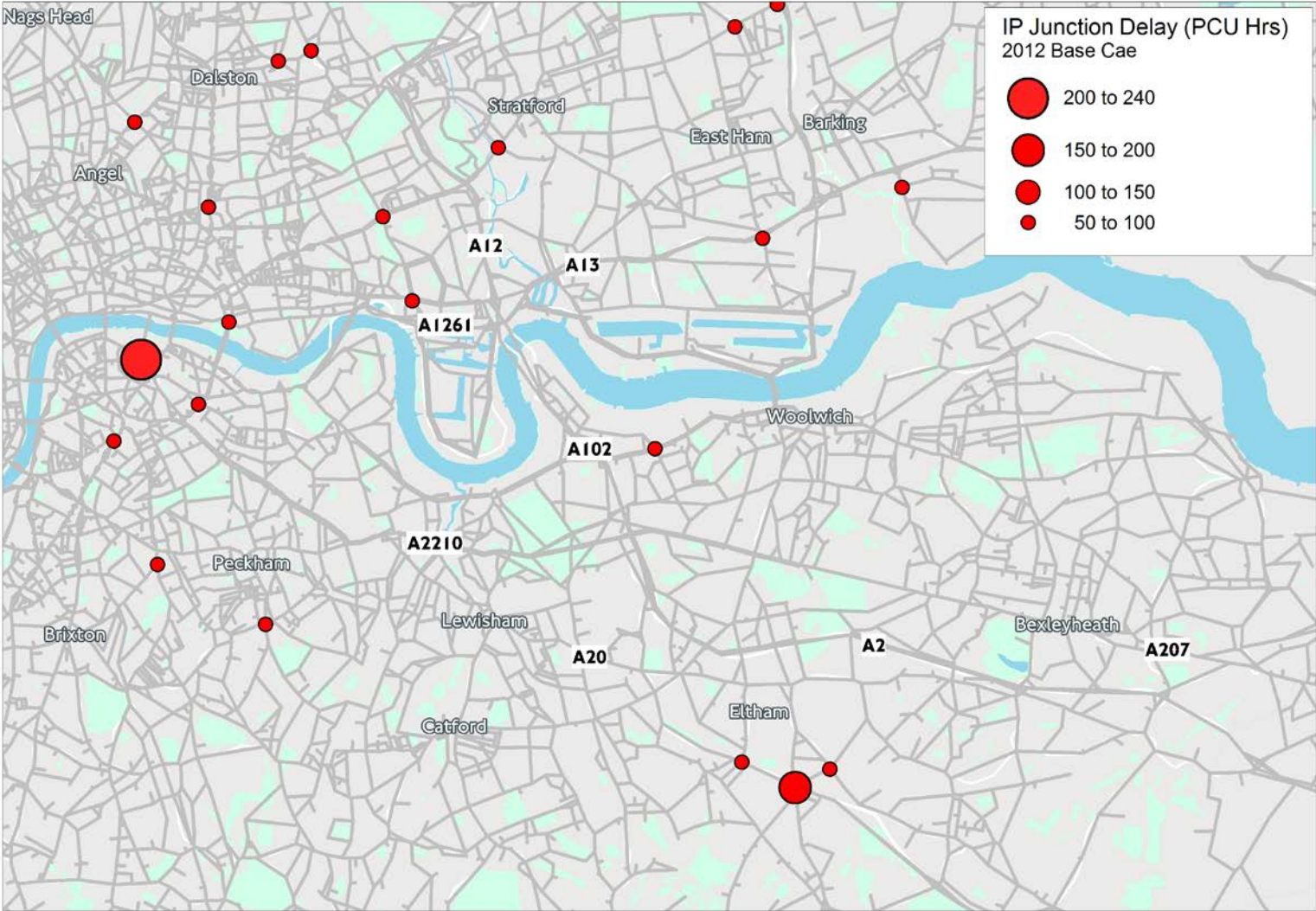


Figure 4-22:2012 IP peak hour junction delay

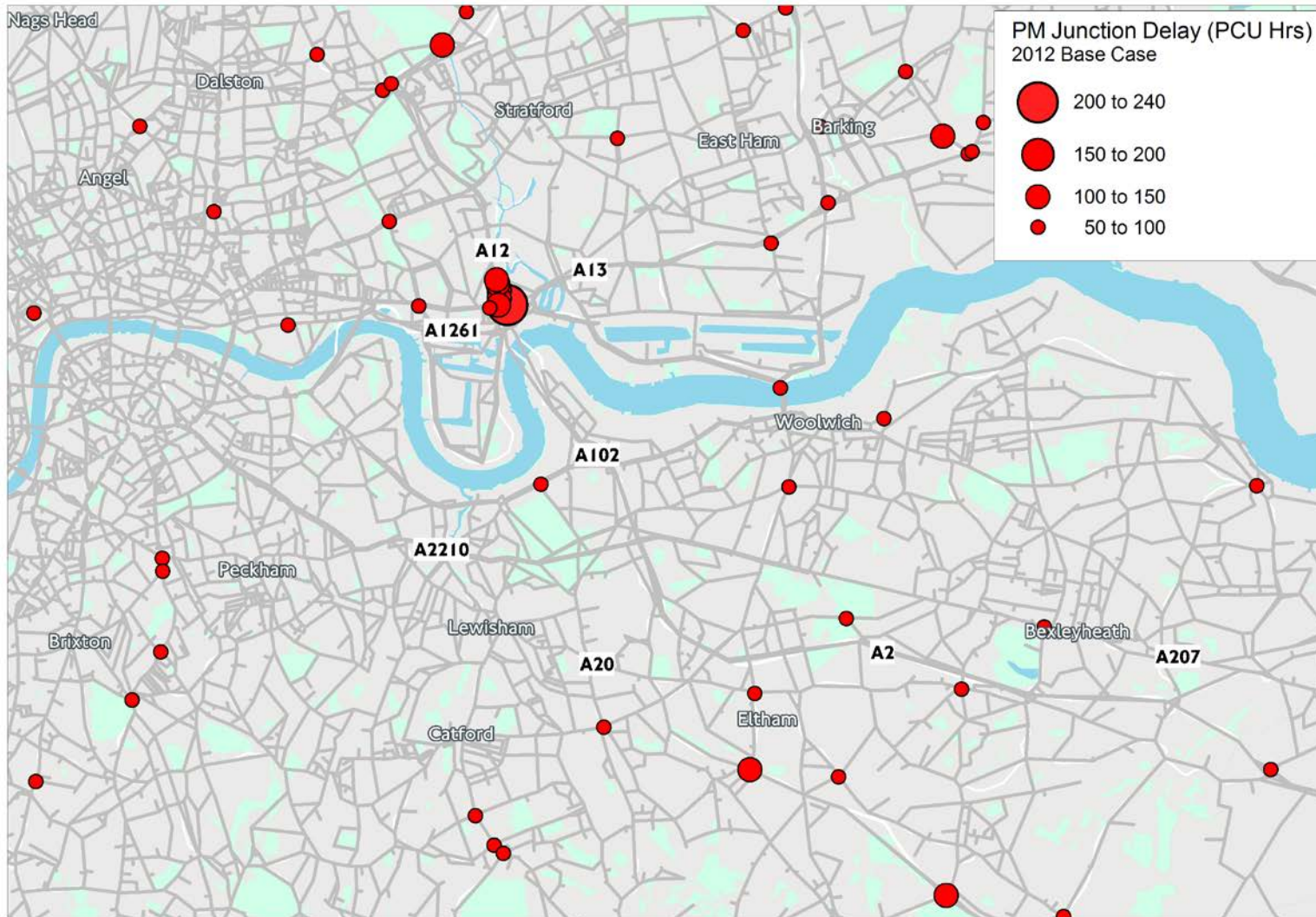


Figure 4-23: 2012 PM peak hour junction delay

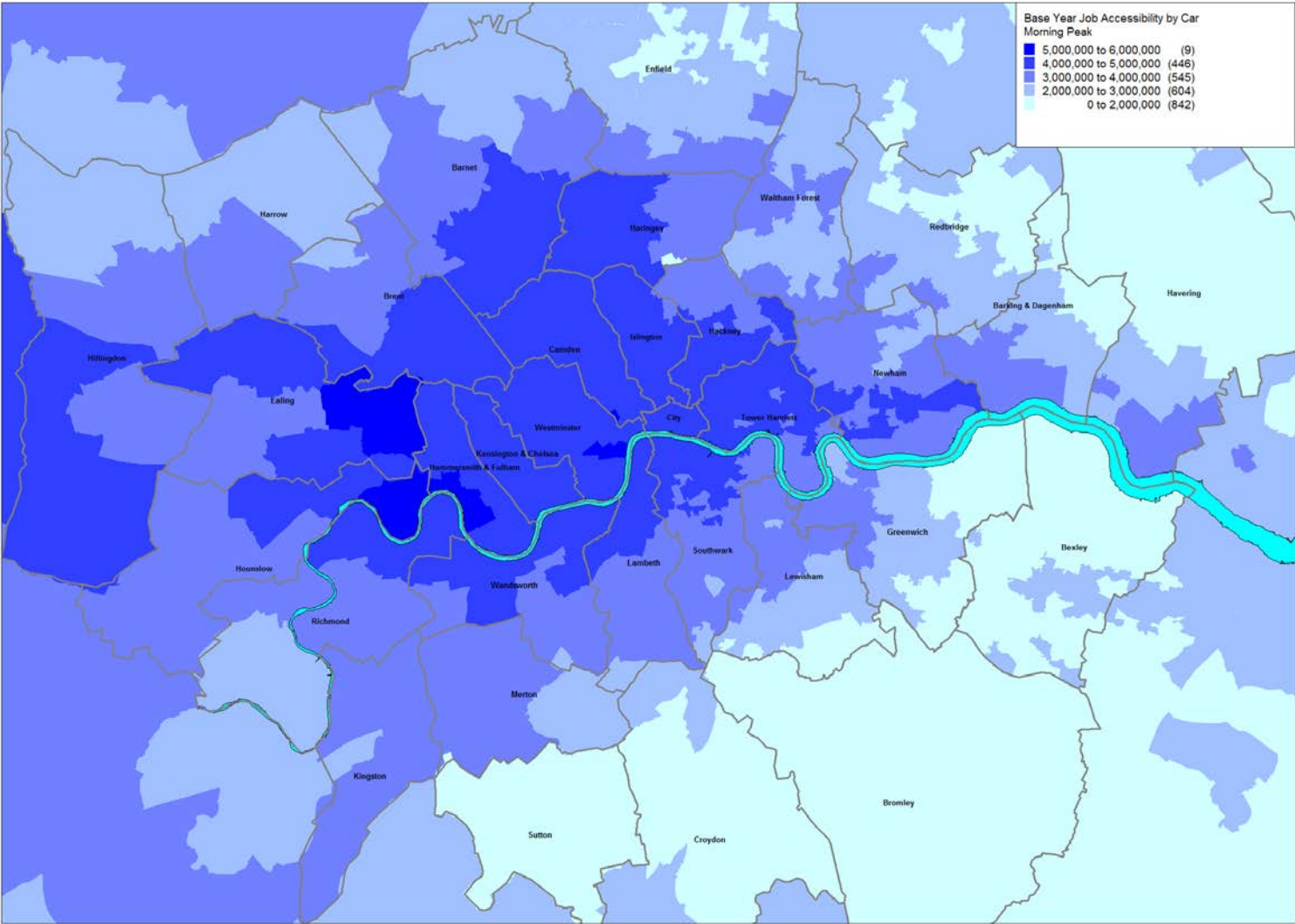


Figure 4-39: Base year job accessibility by car – AM Peak

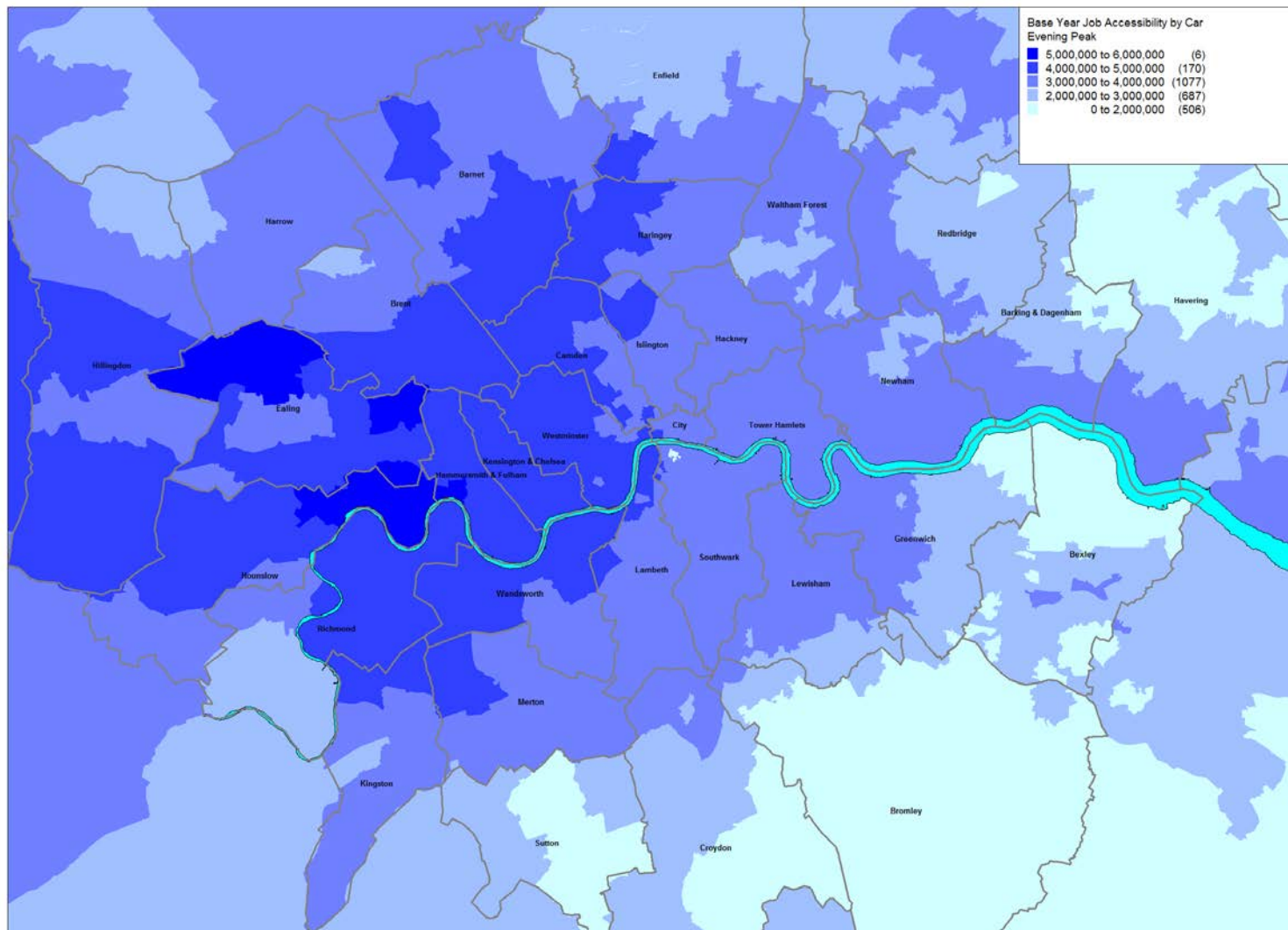


Figure 4-40: Base year job accessibility by car – PM peak

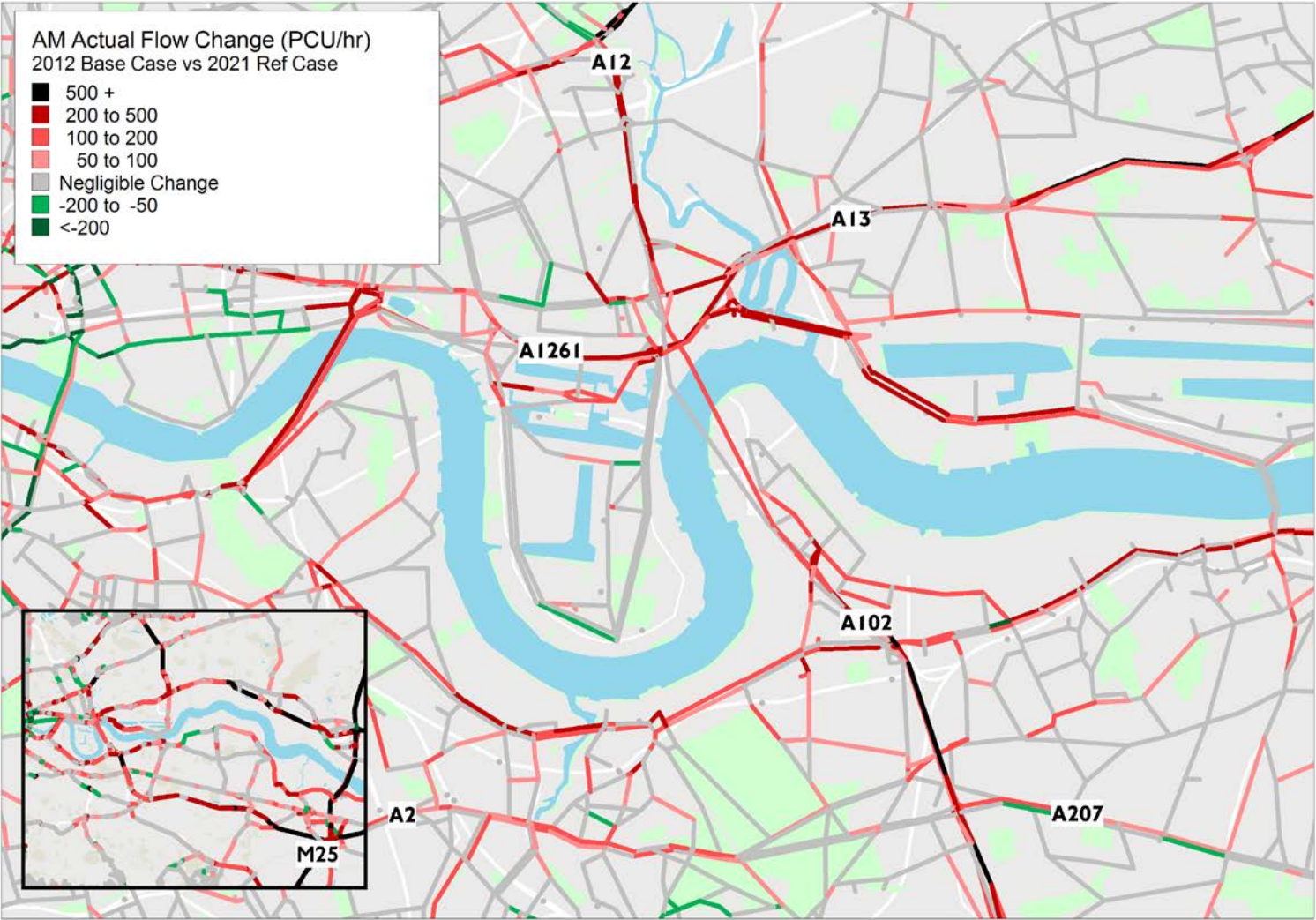


Figure 5-4: AM peak forecast change in actual flow (2021 Reference Case – 2012 base)

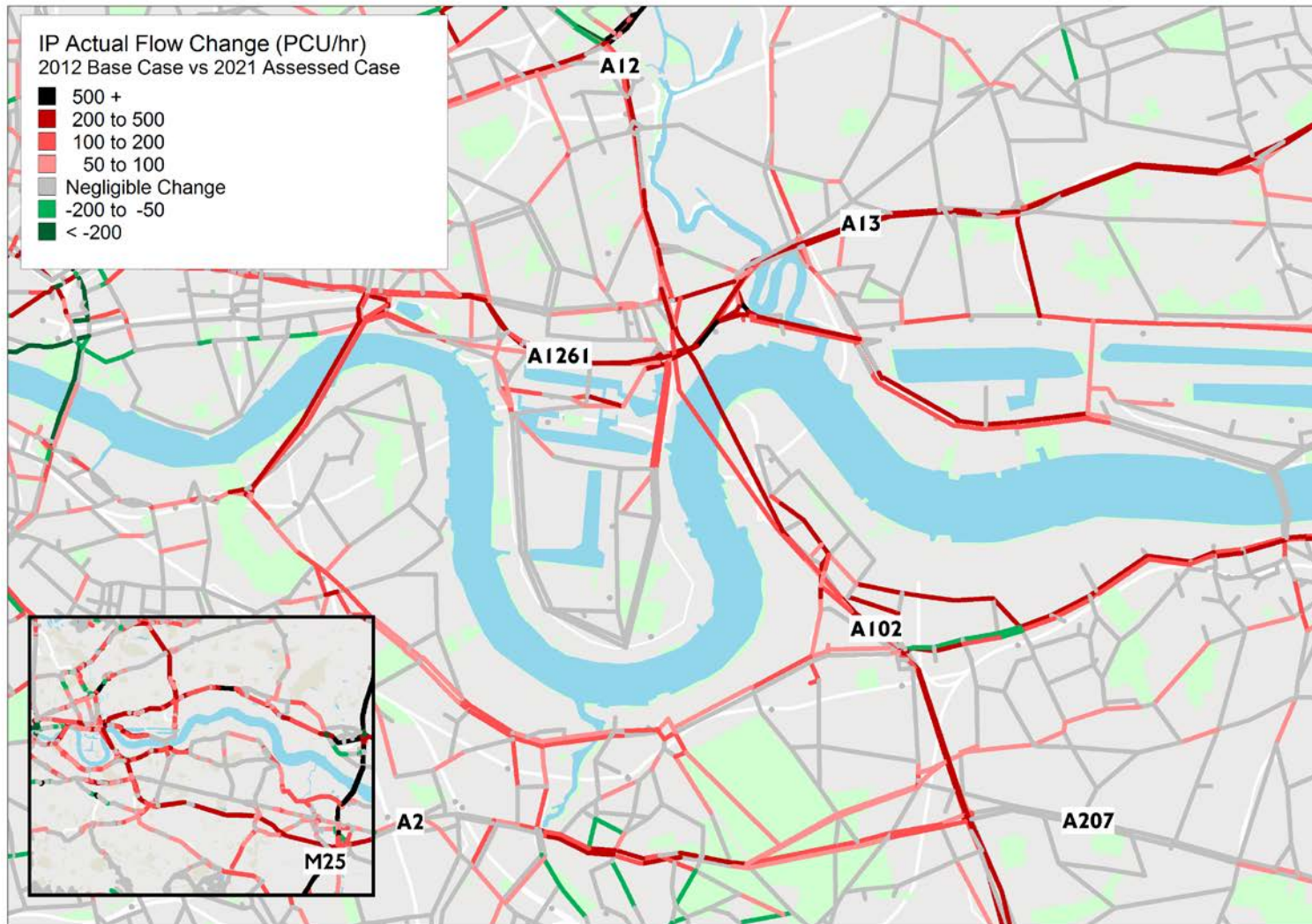


Figure 5-5: IP forecast change in actual flow (2021 Reference Case – 2012 base)

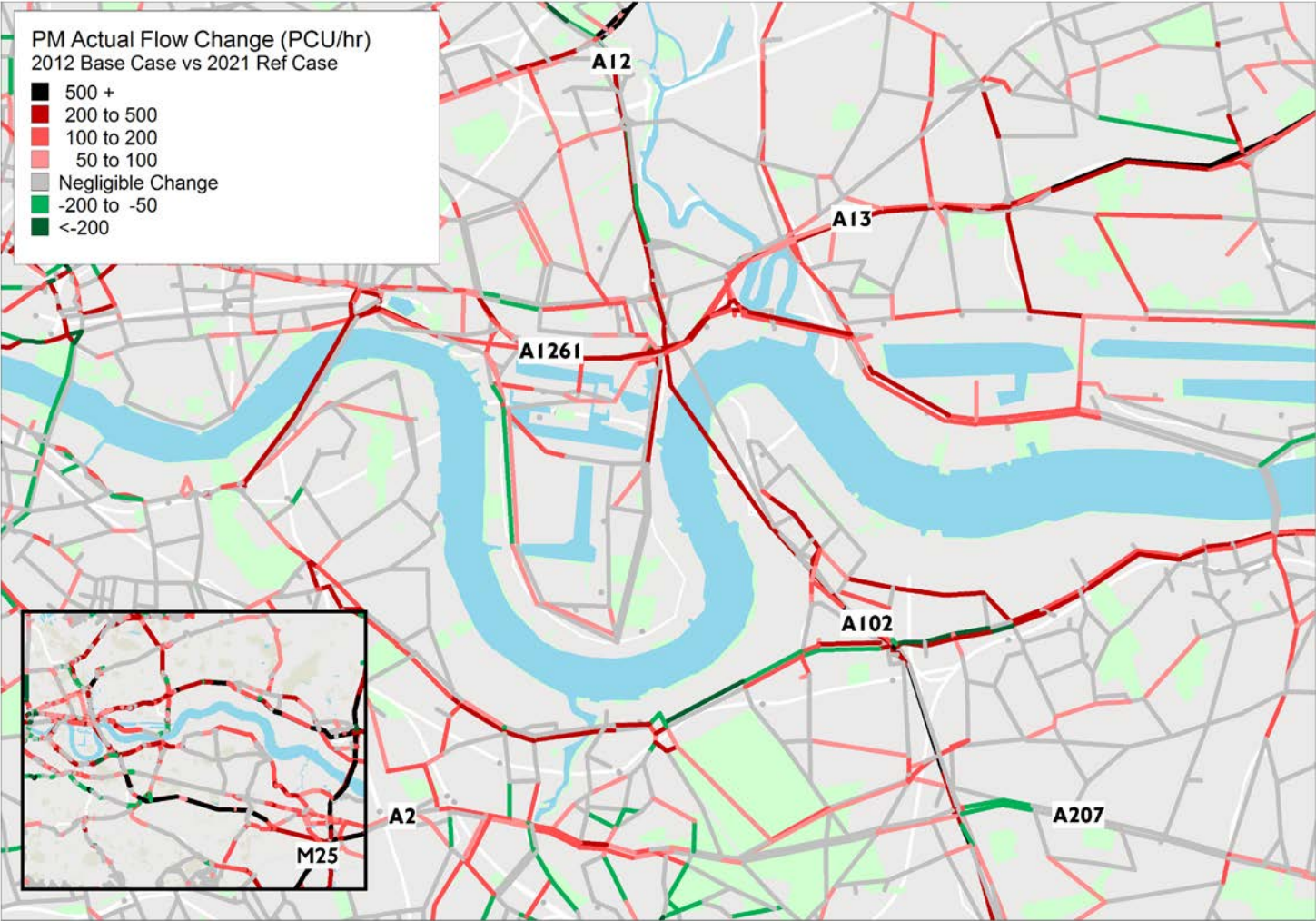


Figure 5-6: PM peak forecast change in actual flow (2021 Reference Case – 2012 base)

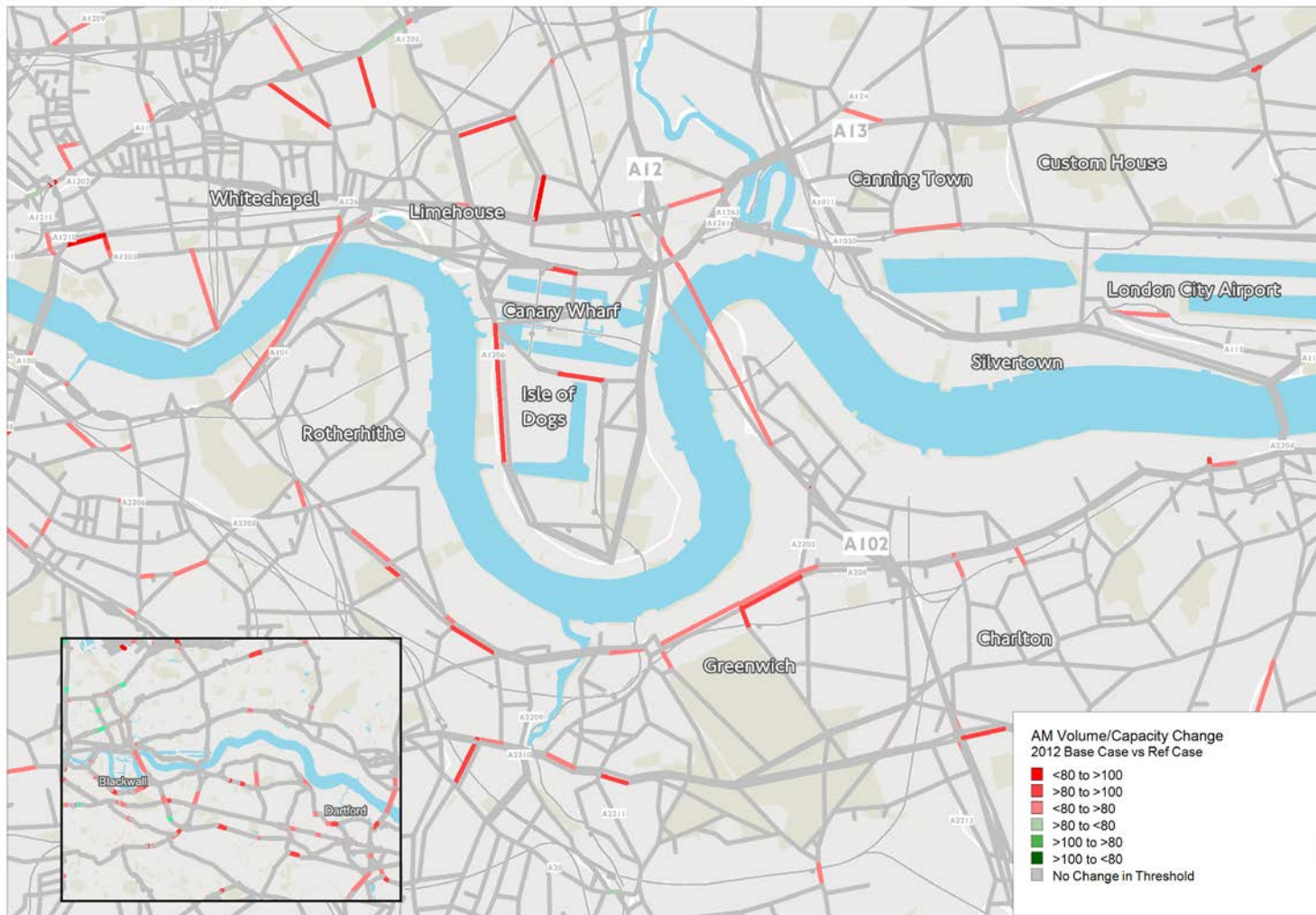


Figure 5-9: 2012 base vs 2021 Reference Case AM peak VCR change

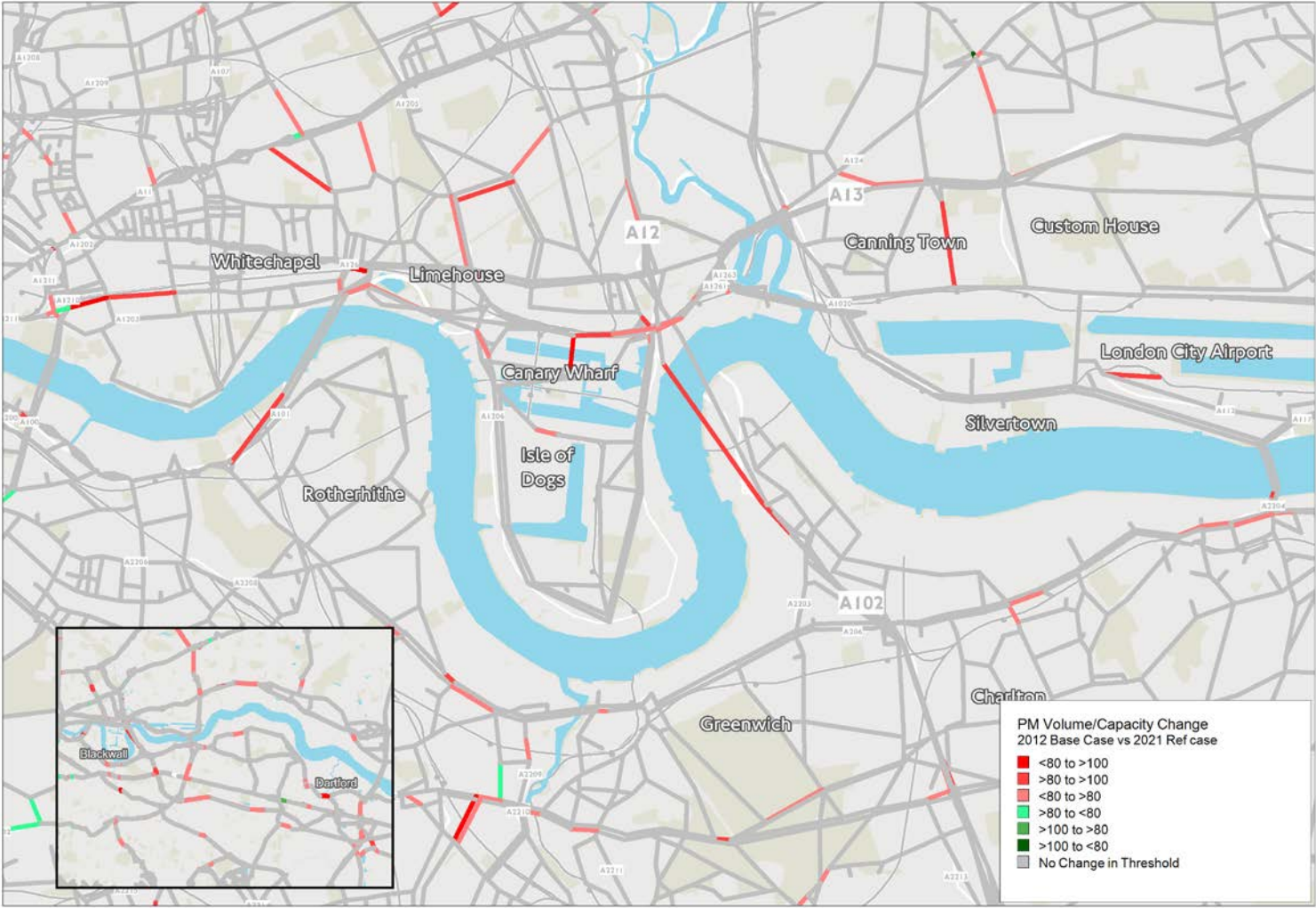


Figure 5-10: 2012 base vs 2021 Reference Case PM peak VCR change

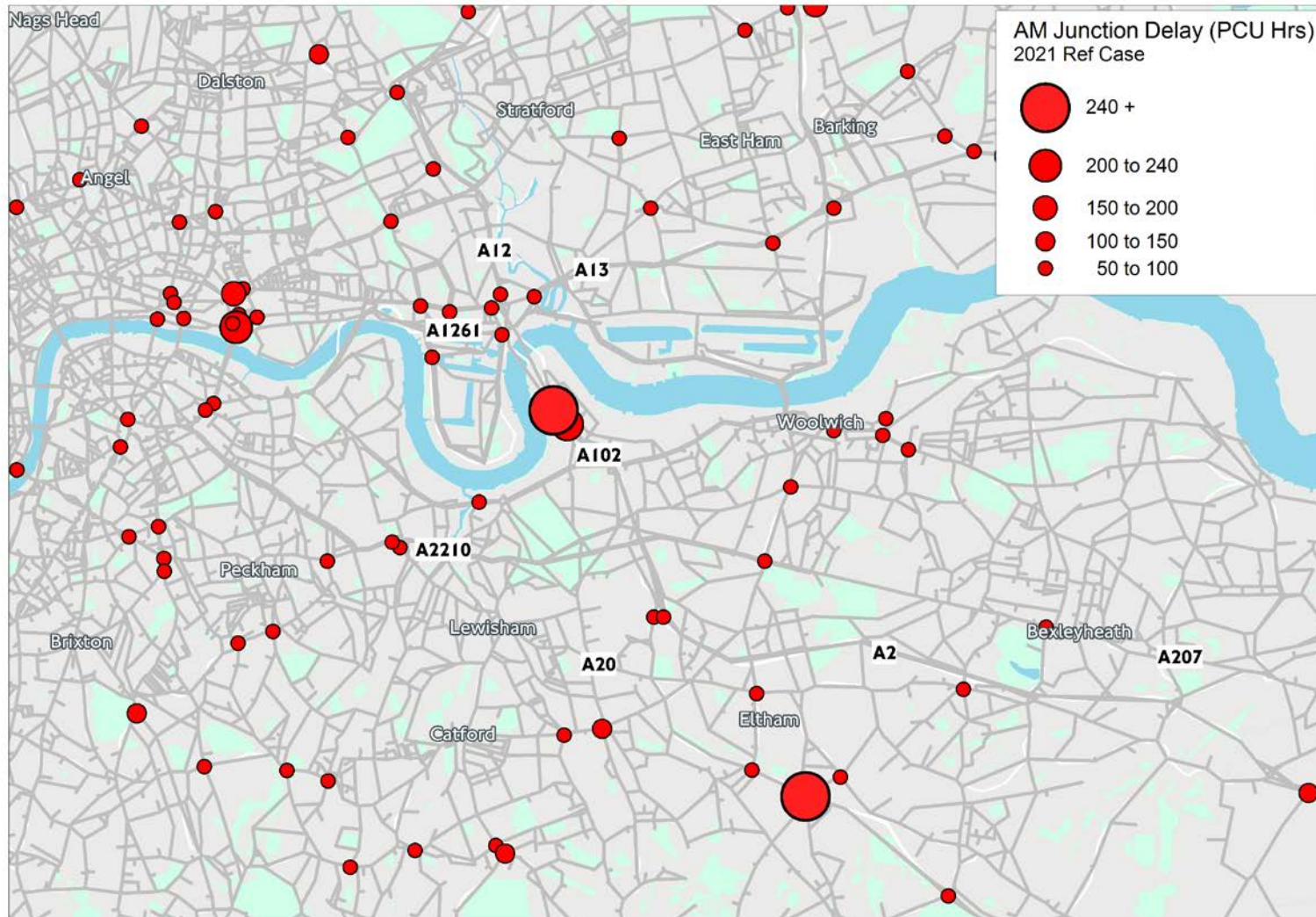


Figure 5-11: 2021 AM peak hour Reference Case junction delay

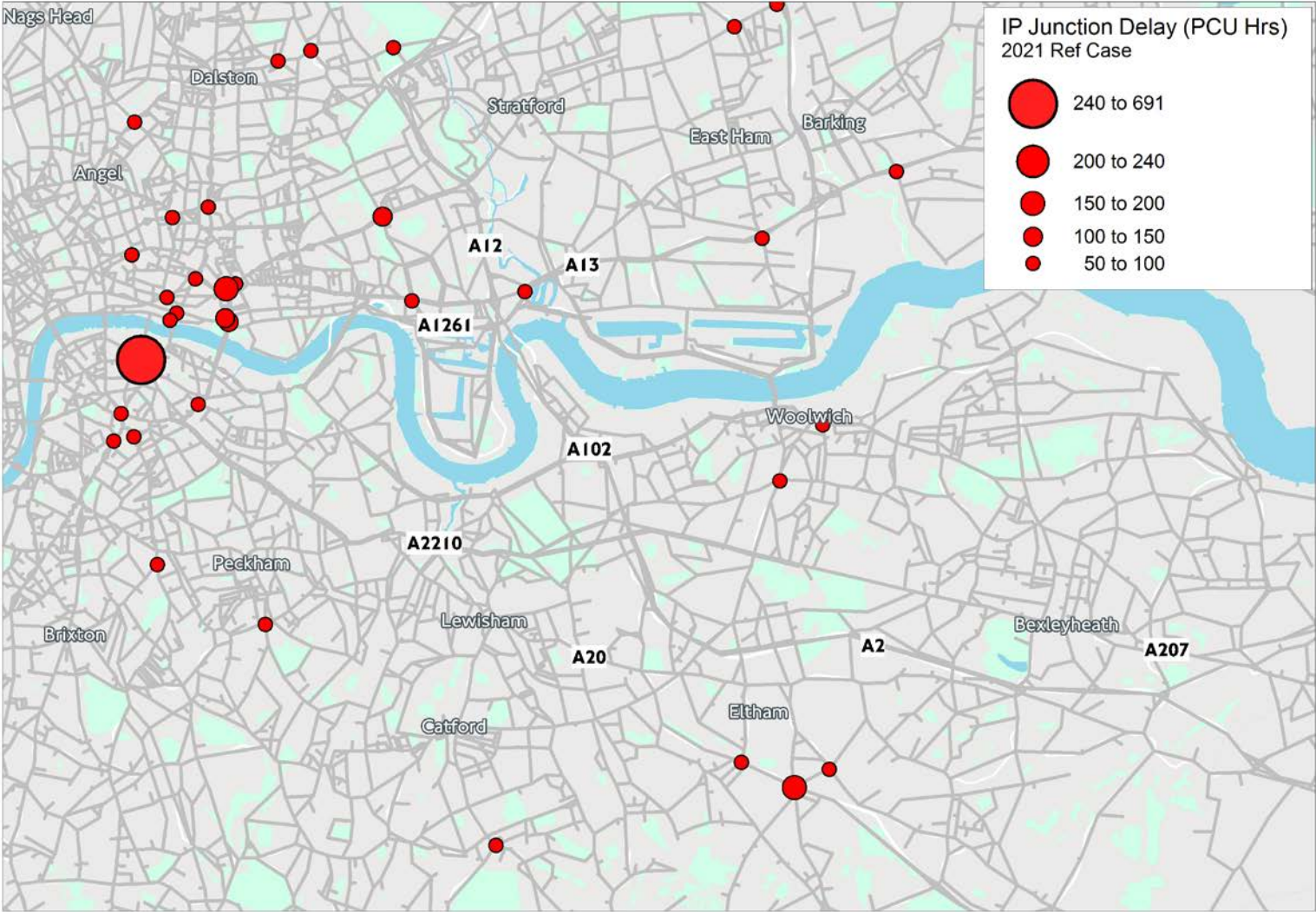


Figure 5-12: 2021 IP peak hour Reference Case junction delay

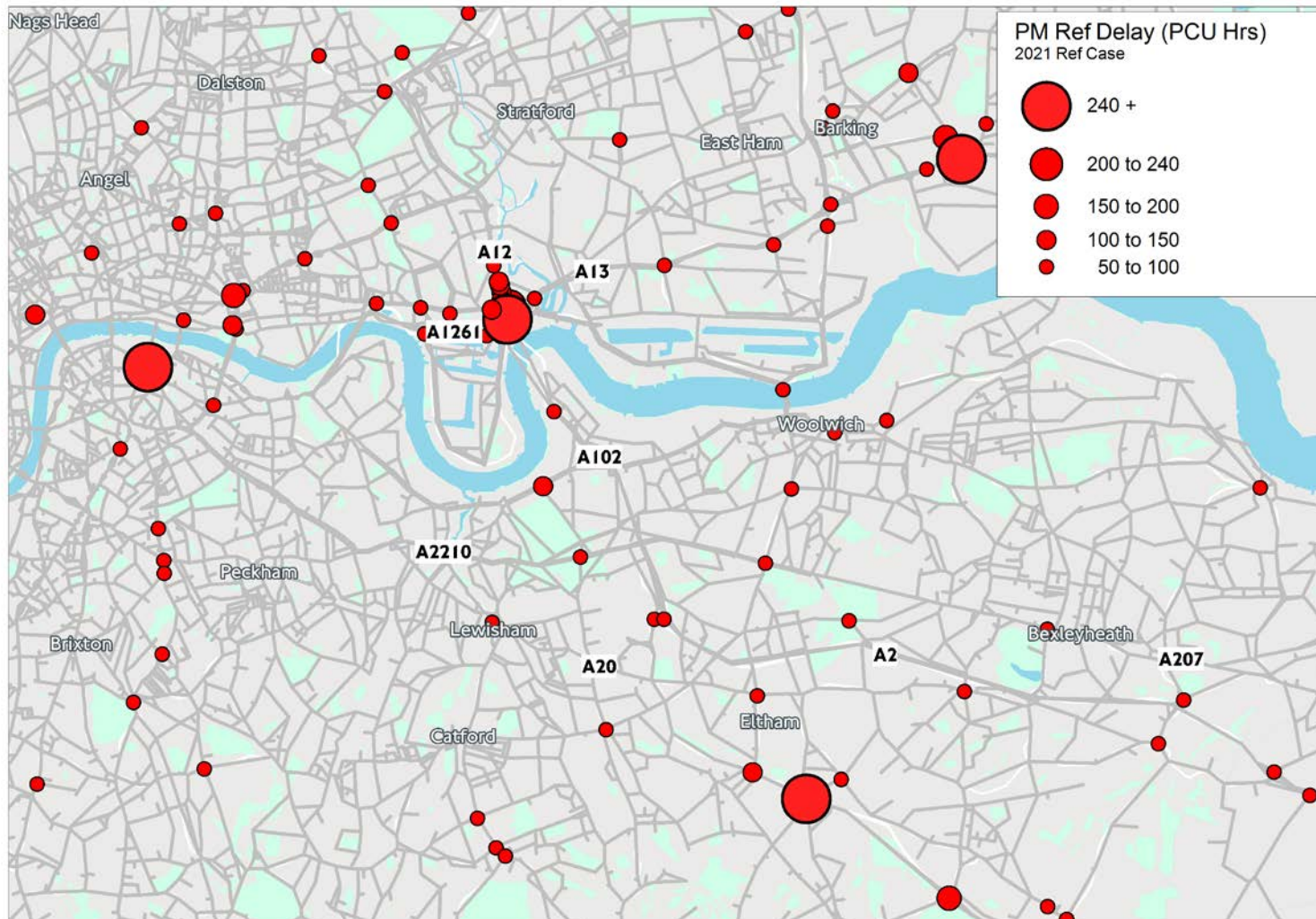


Figure 5-13: 2021 PM peak hour Reference Case junction delay

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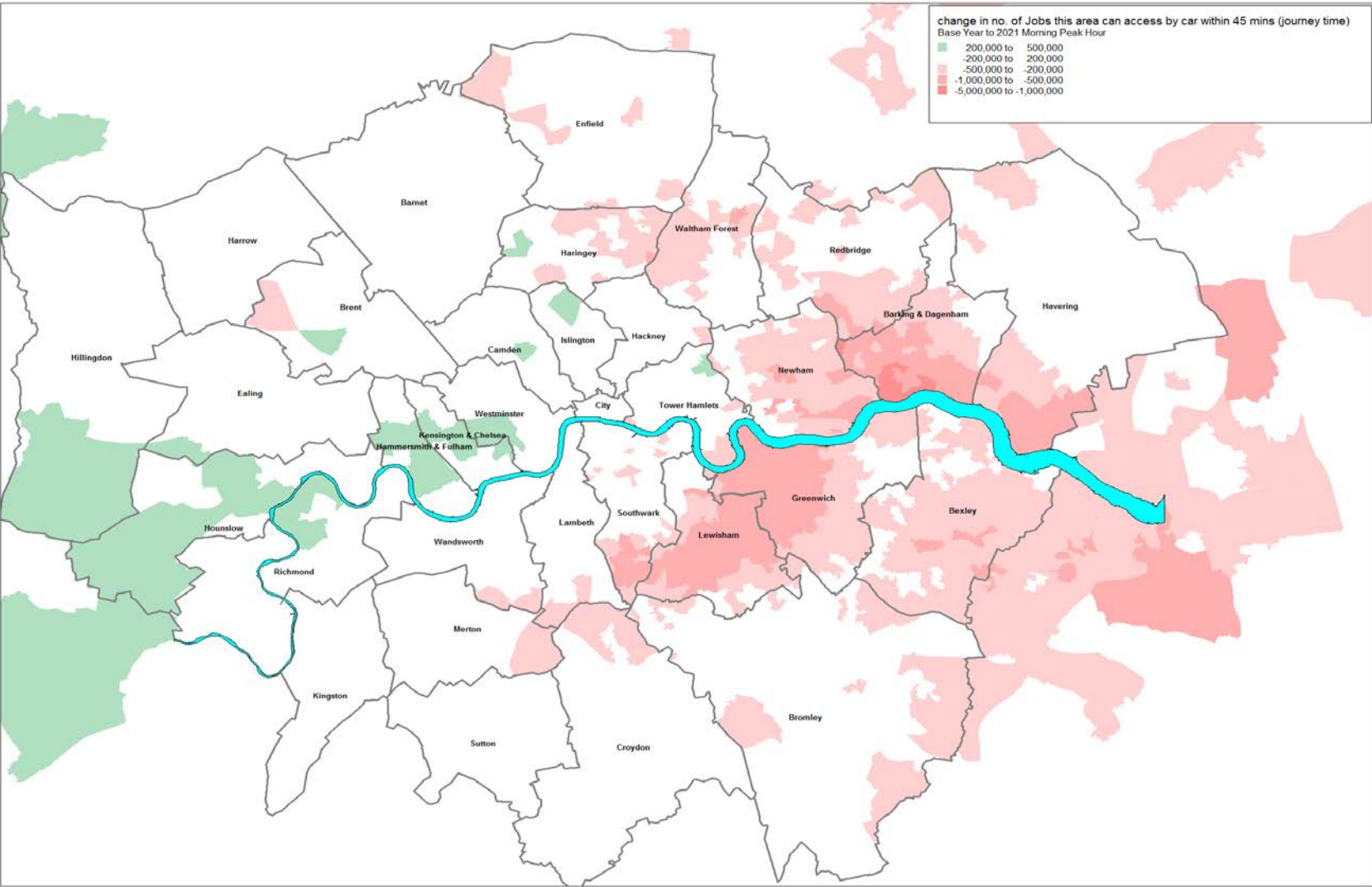


Figure 5-21: Change in job accessibility by car from 2012 to 2021 Reference Case – AM peak

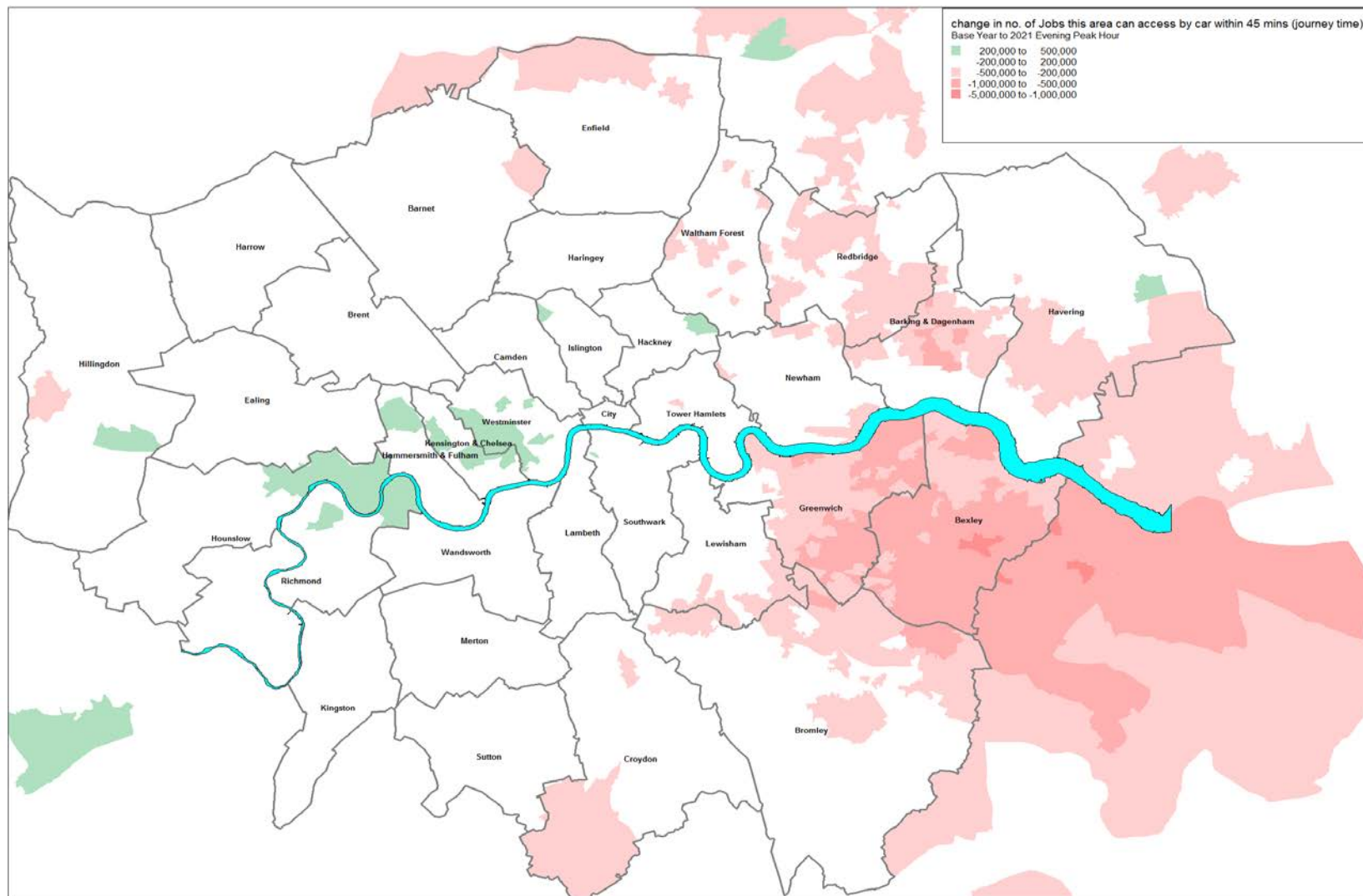


Figure 5-22: Change in job accessibility by car from 2012 to 2021 Reference Case – PM peak

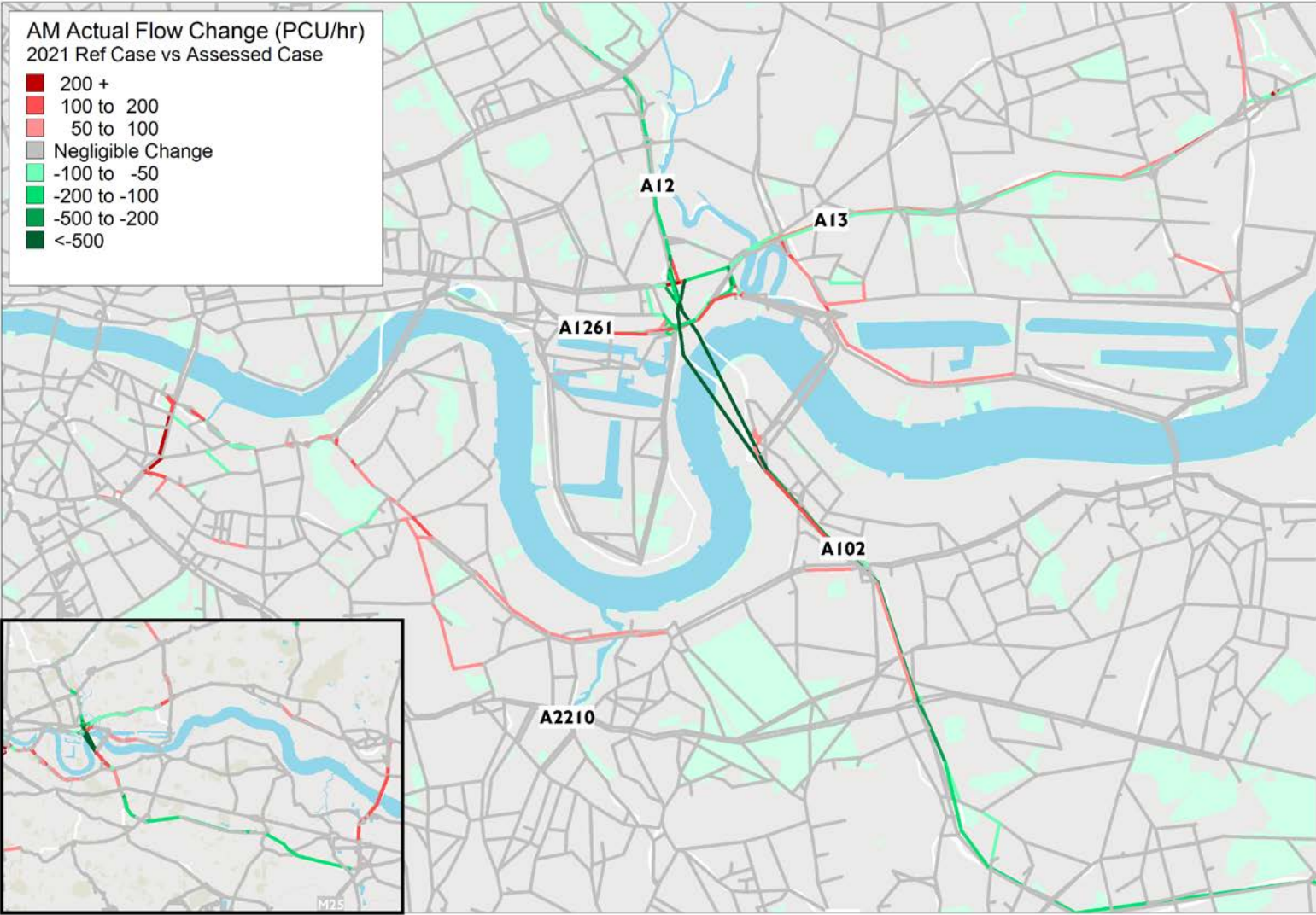


Figure 7-13: Change in actual flow (PCU/hr) with Silvertown Tunnel (Assessed Case, AM peak hour, 2021)

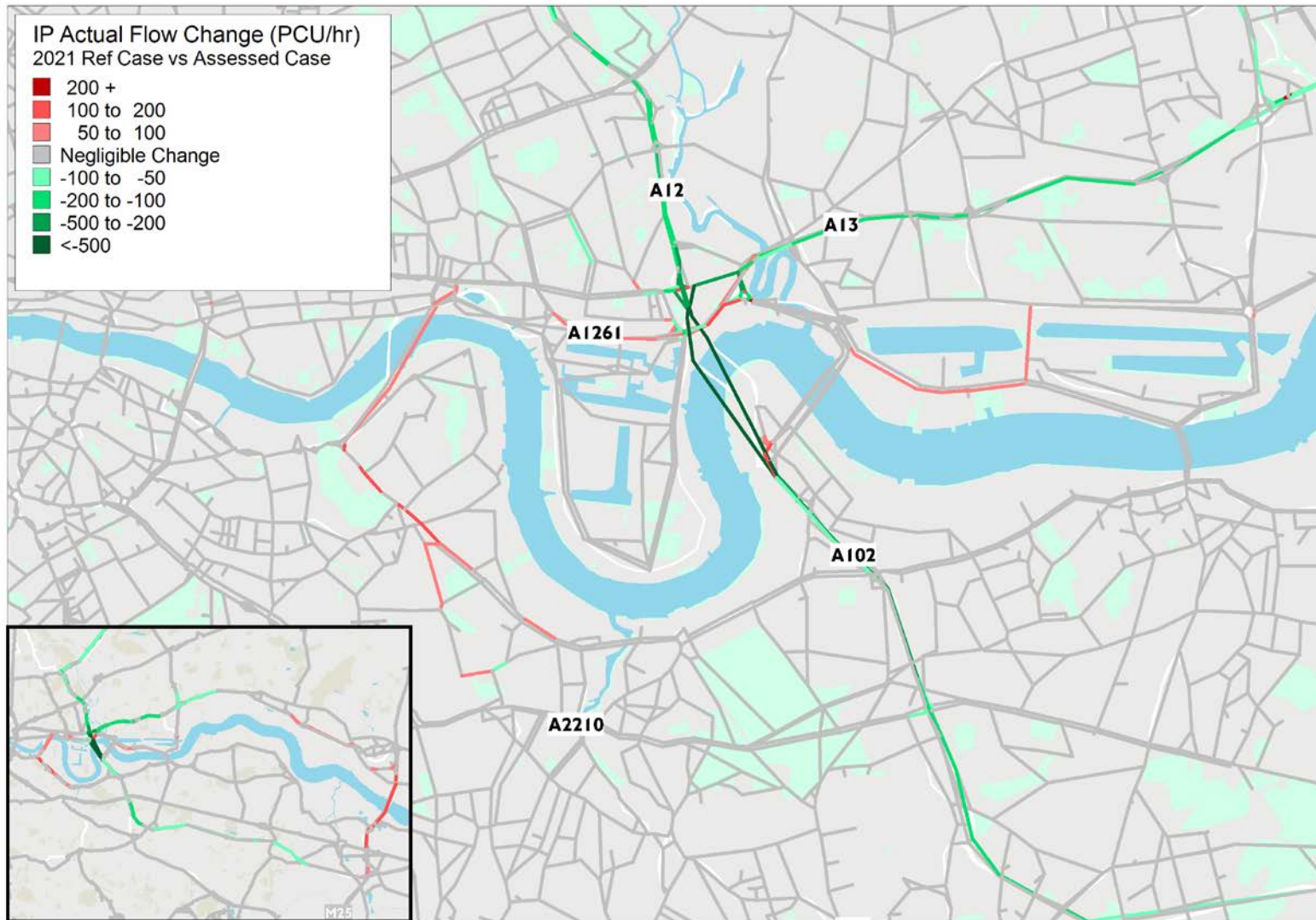


Figure 7-14: Change in actual flow (PCU/hr) with Silvertown Tunnel (Assessed Case, IP average hour, 2021)

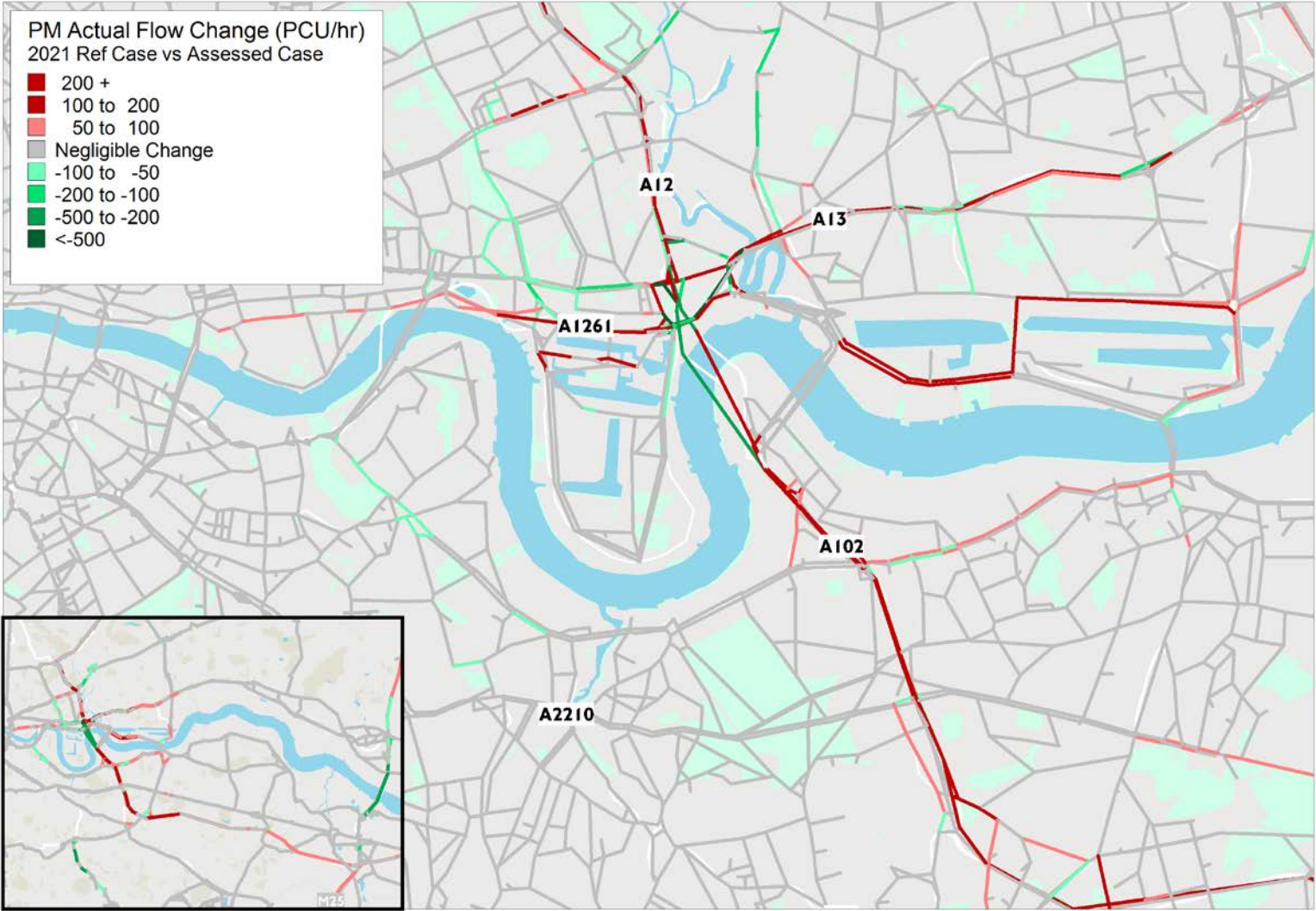


Figure 7-15: Change in actual flow (PCU/hr) with Silvertown Tunnel (Assessed Case, PM peak hour, 2021)

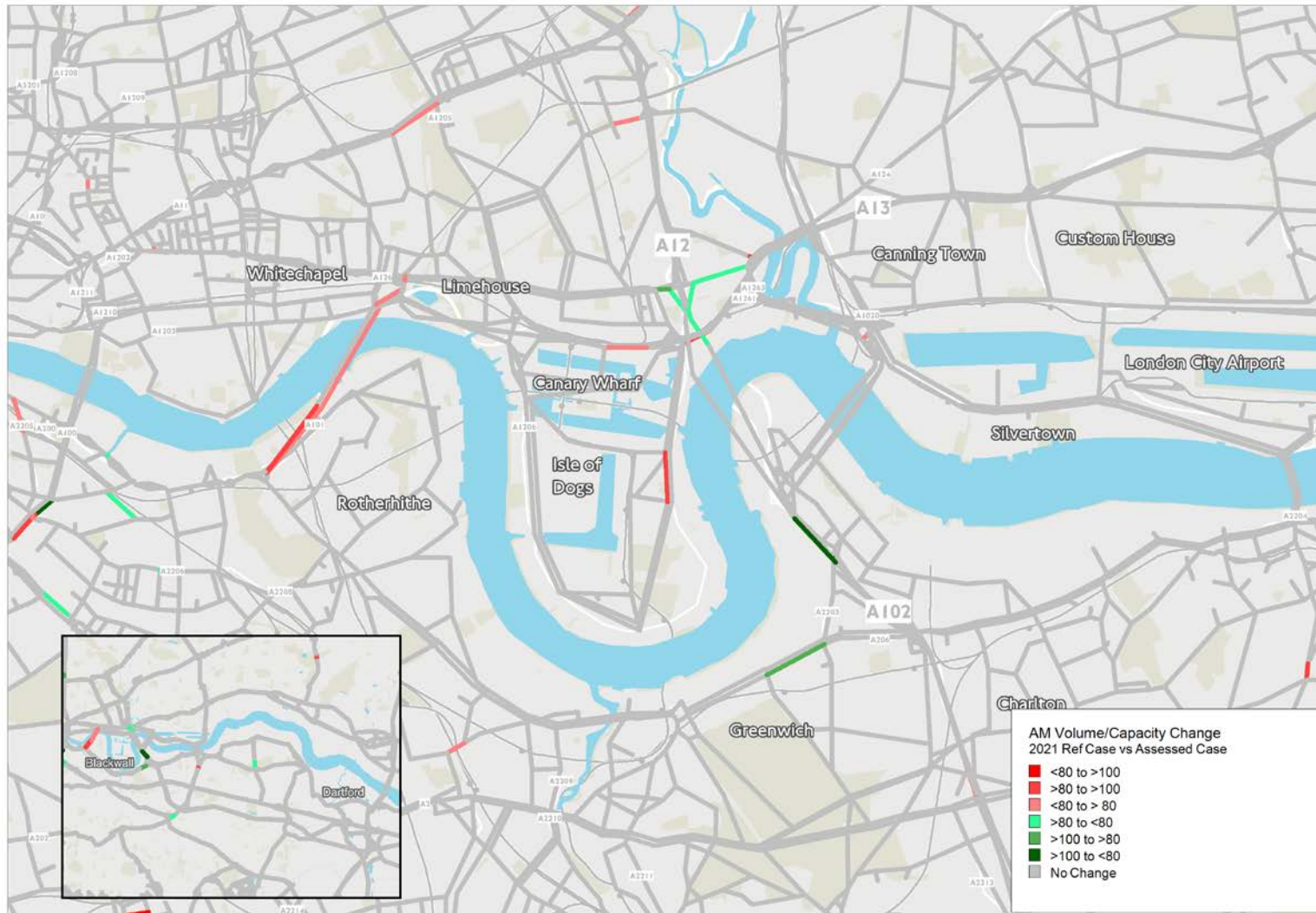


Figure 7-16: VCR change with Silvertown Tunnel (Assessed Case v Reference Case, AM peak hour, 2021)

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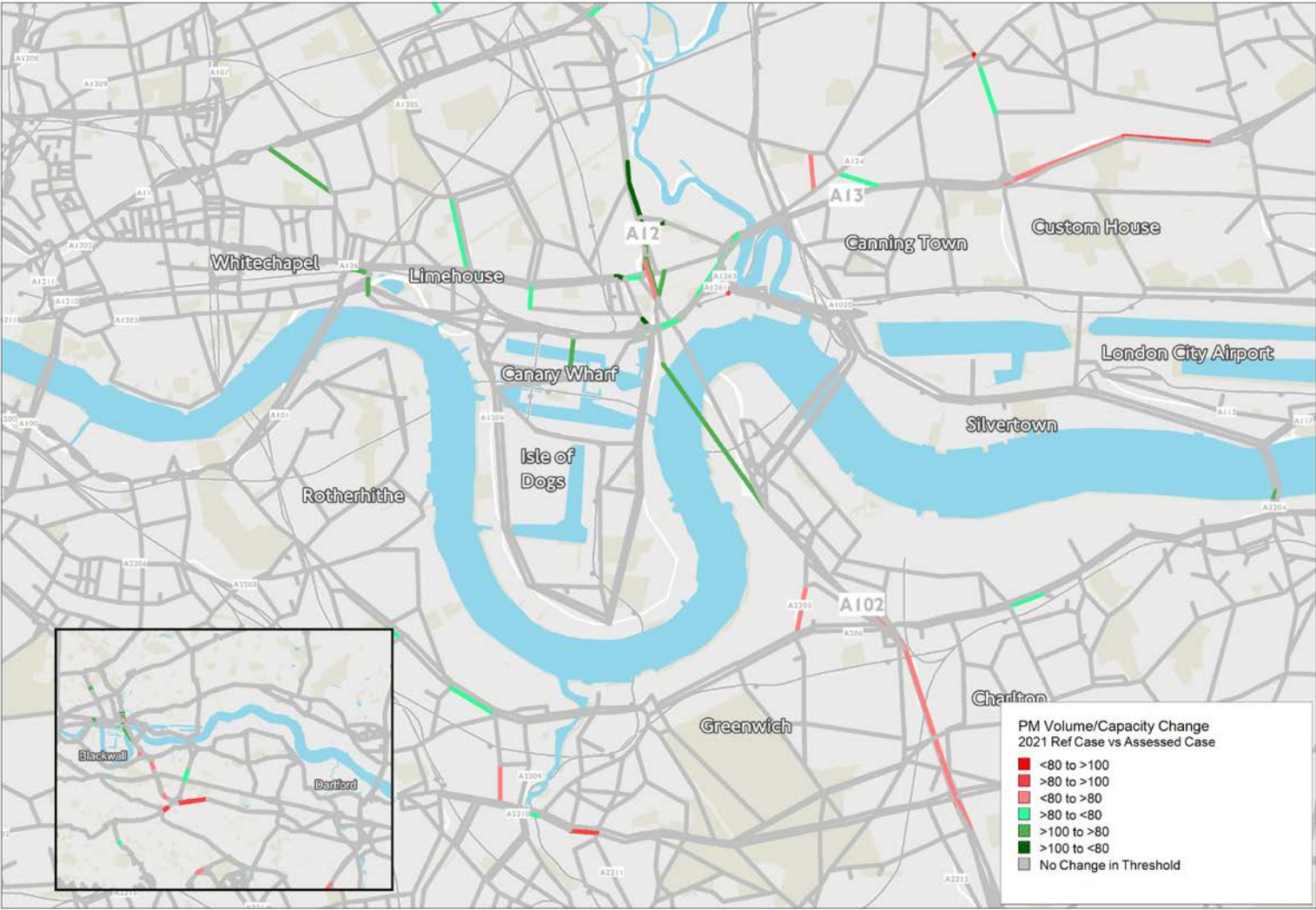


Figure 7-17: VCR change with Silvertown Tunnel (Assessed Case v Reference Case, PM peak hour, 2021)

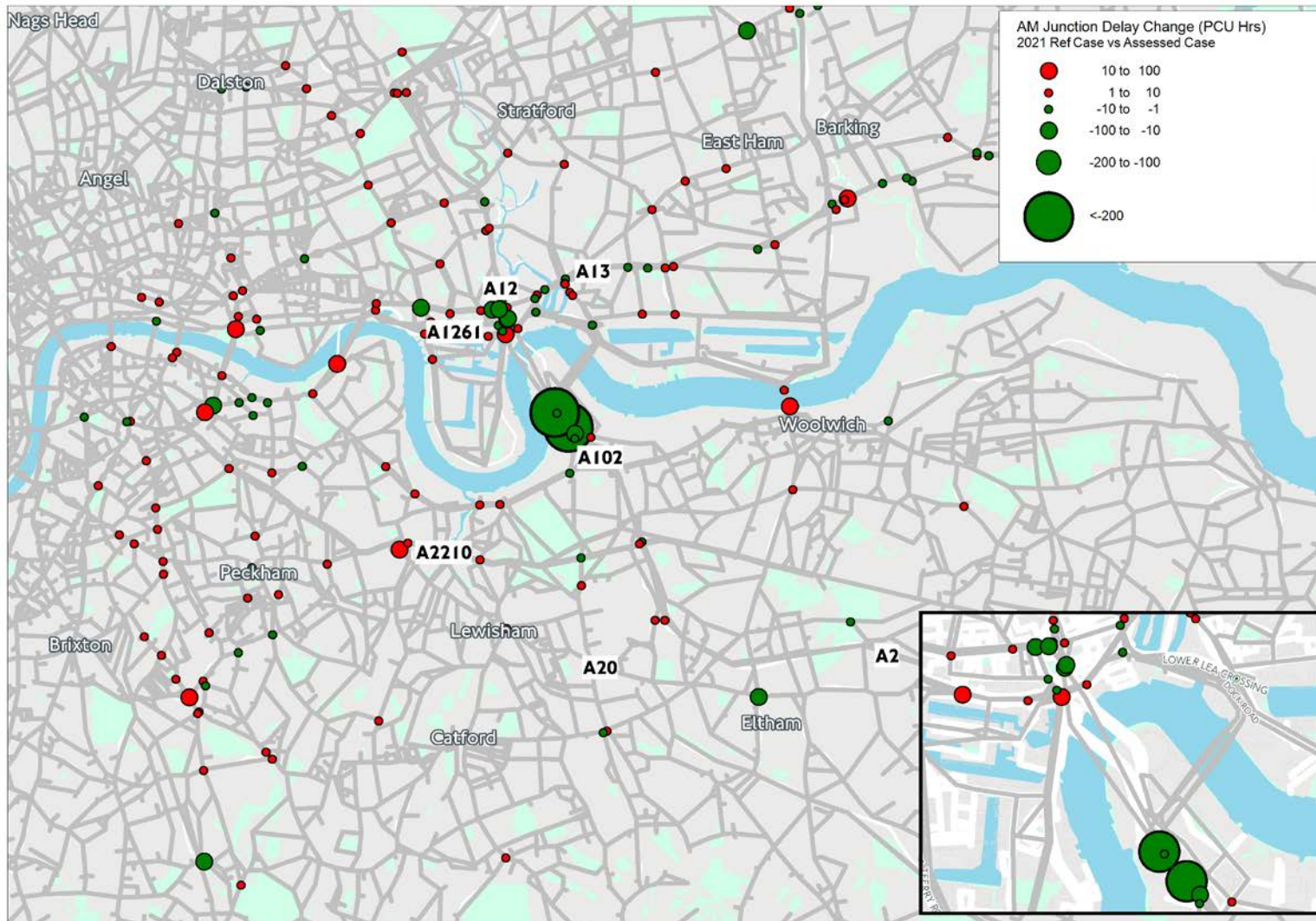


Figure 7-18: Change in junction delay with Silvertown Tunnel (Reference Case Vs Assessed Case, AM peak hour, 2021)

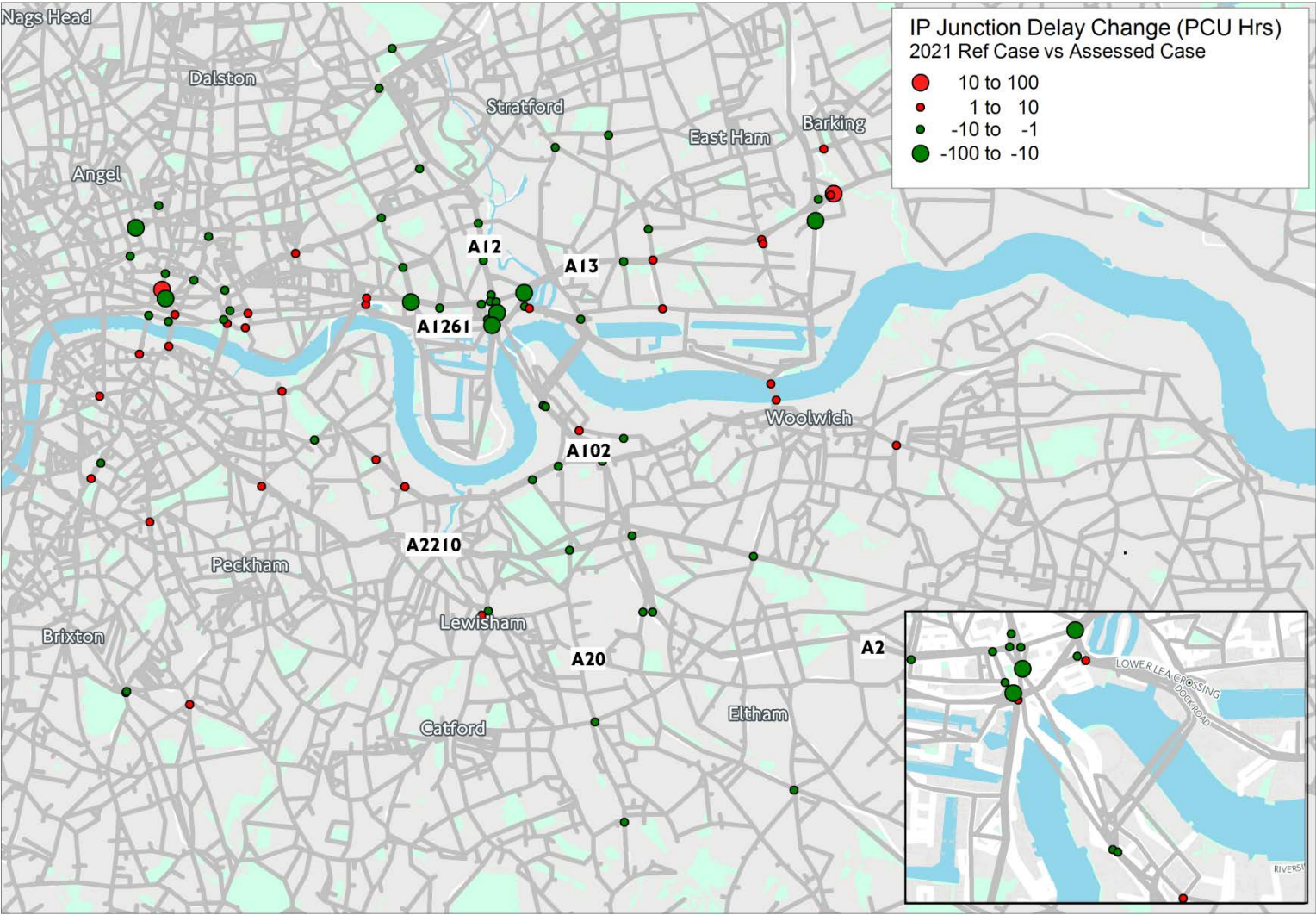


Figure 7-19: Change in junction delay with Silvertown Tunnel (Reference Case vs Assessed Case, IP average hour, 2021)

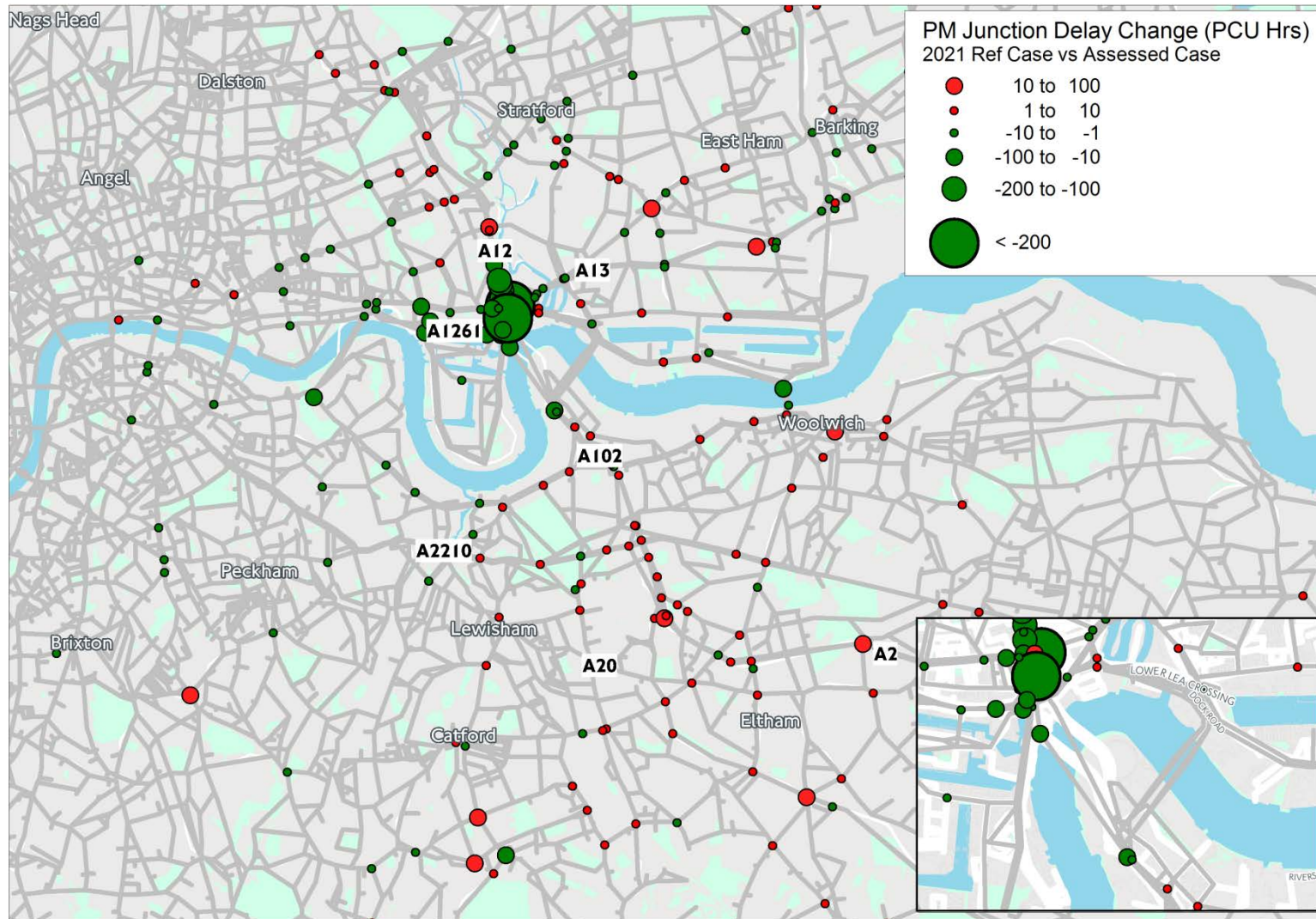


Figure 7-20: Change in junction delay with Silvertown Tunnel (Reference Case vs Assessed Case, PM peak hour, 2021)

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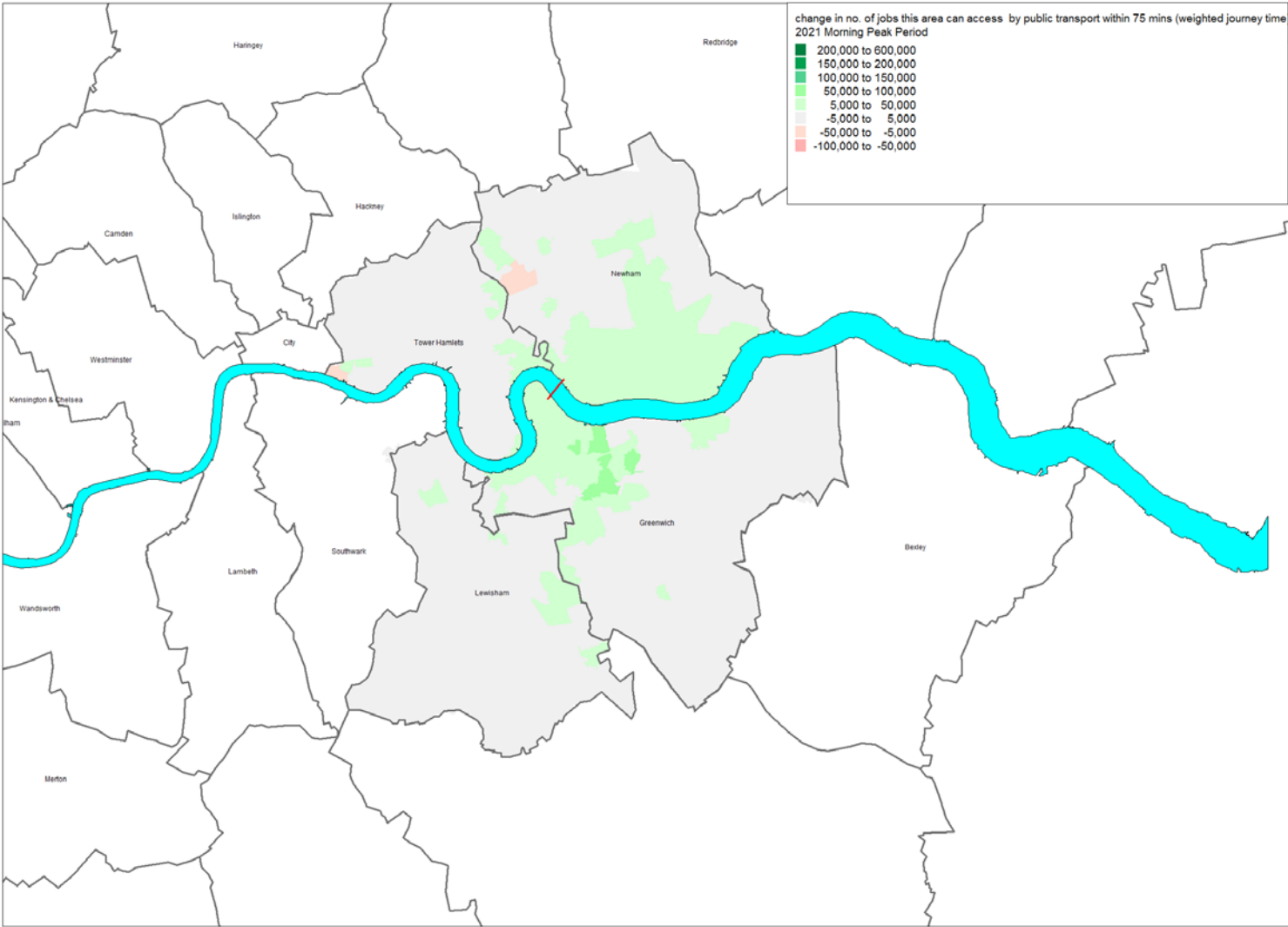


Figure 7-31: Change in job accessibility by PT (2021 Reference Case v Assessed Case) based on generalised cost – AM peak period (07:00-10:00)

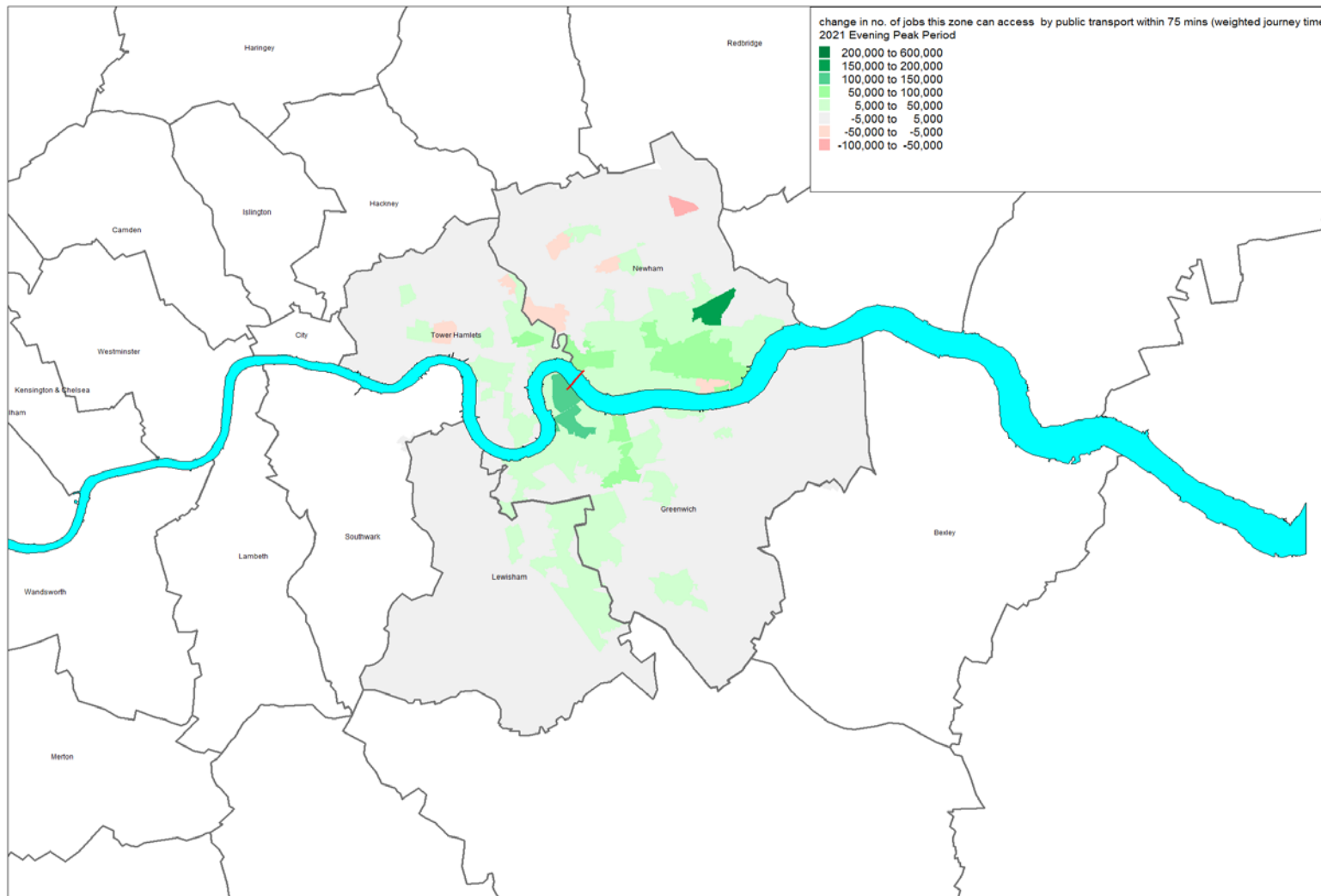


Figure 7-32: Change in job accessibility by PT (2021 Reference Case v Assessed Case) based on generalised cost – PM peak period (16:00-19:00)

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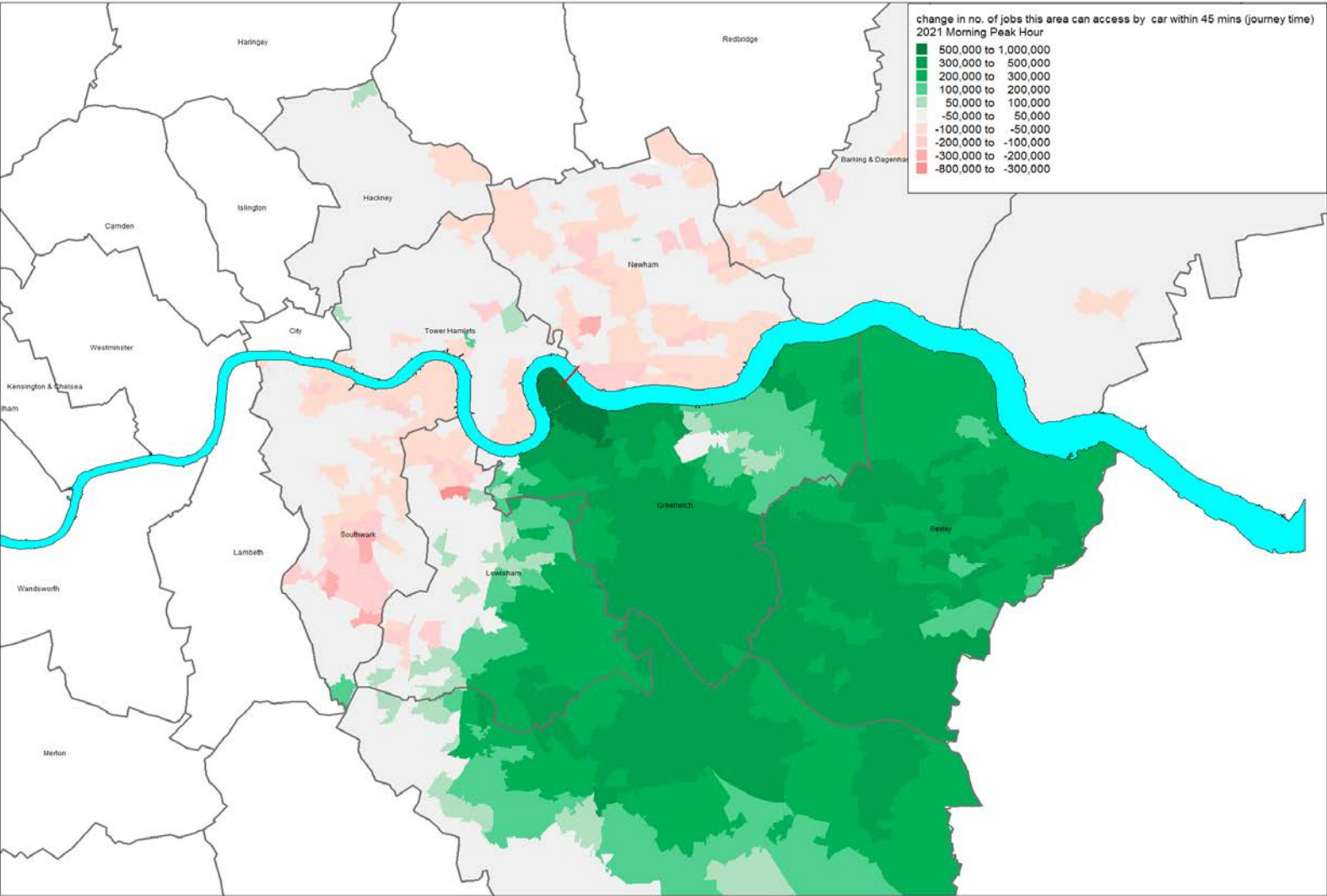


Figure 7-33: Change in job accessibility by Car (2021 Reference Case v Assessed Case) based on journey time – AM peak hour

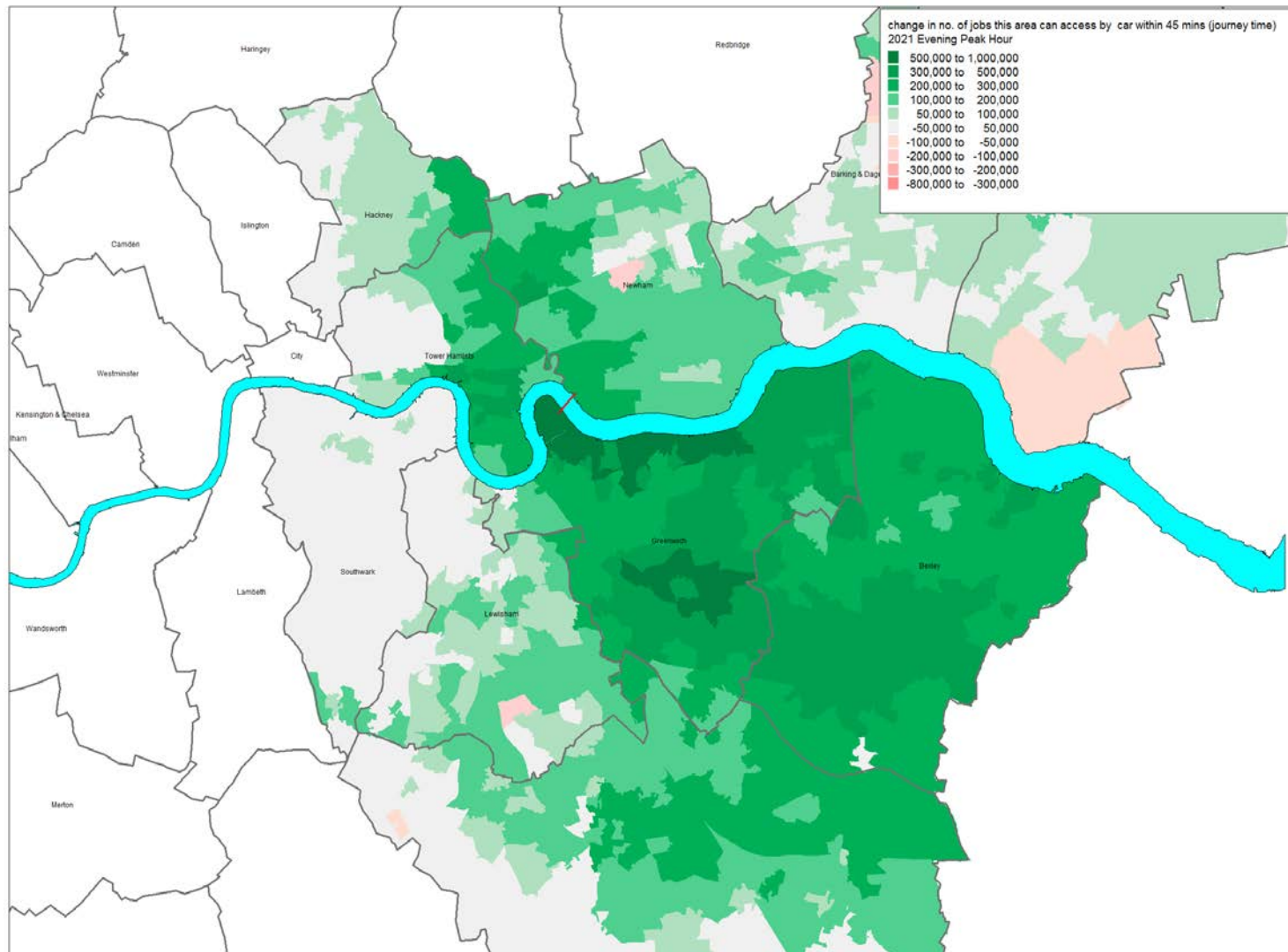


Figure 7-34: Change in job accessibility by Car (2021 Reference Case v Assessed Case) based on journey time – PM peak hour

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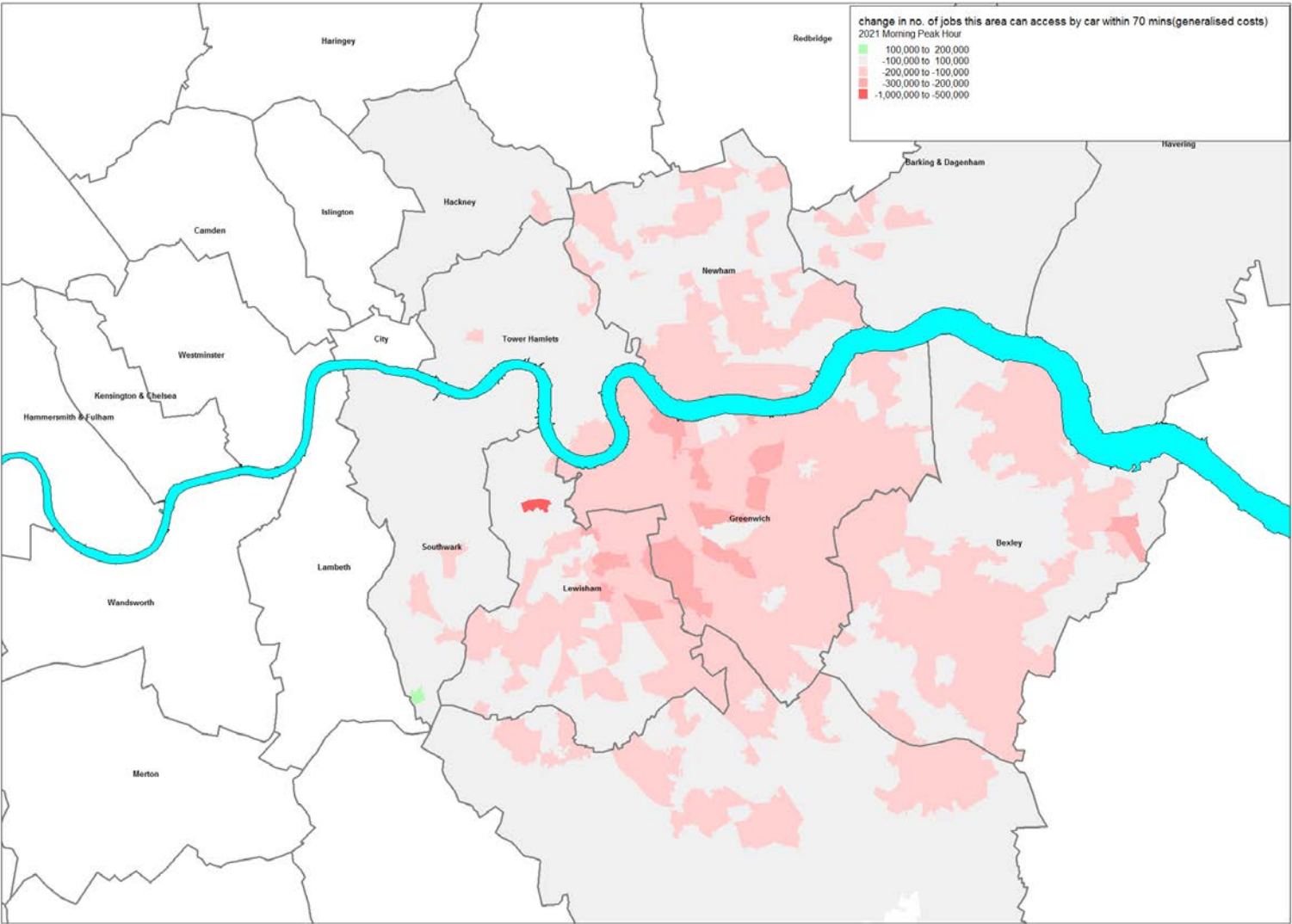


Figure 7-35: Change in job accessibility (2021 Reference Case v Assessed Case) based on generalised cost for Car Commuters – AM peak hour

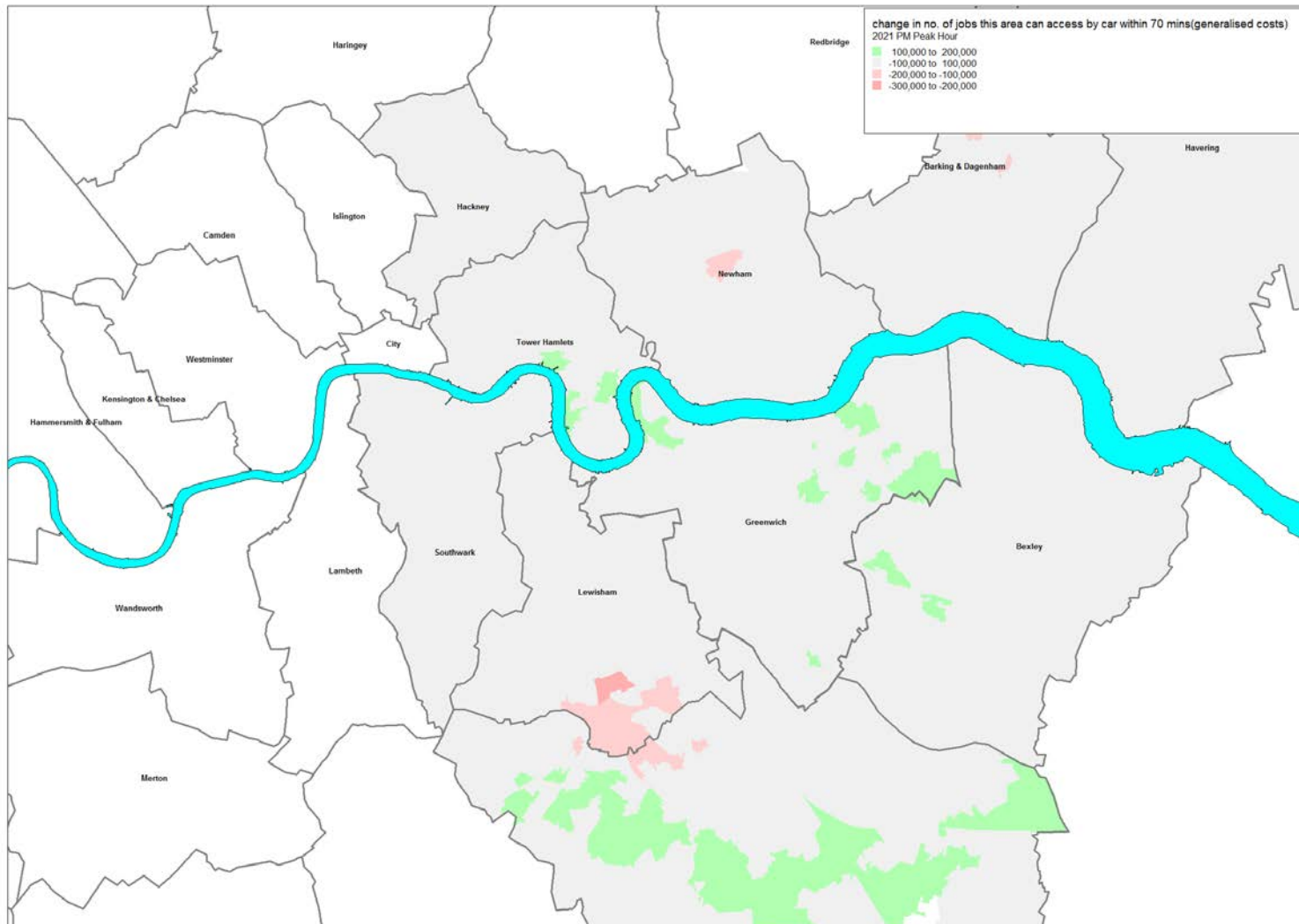


Figure 7-36: Change in job accessibility (2021 Reference Case v Assessed Case) based on generalised cost for Car Commuters – PM peak hour

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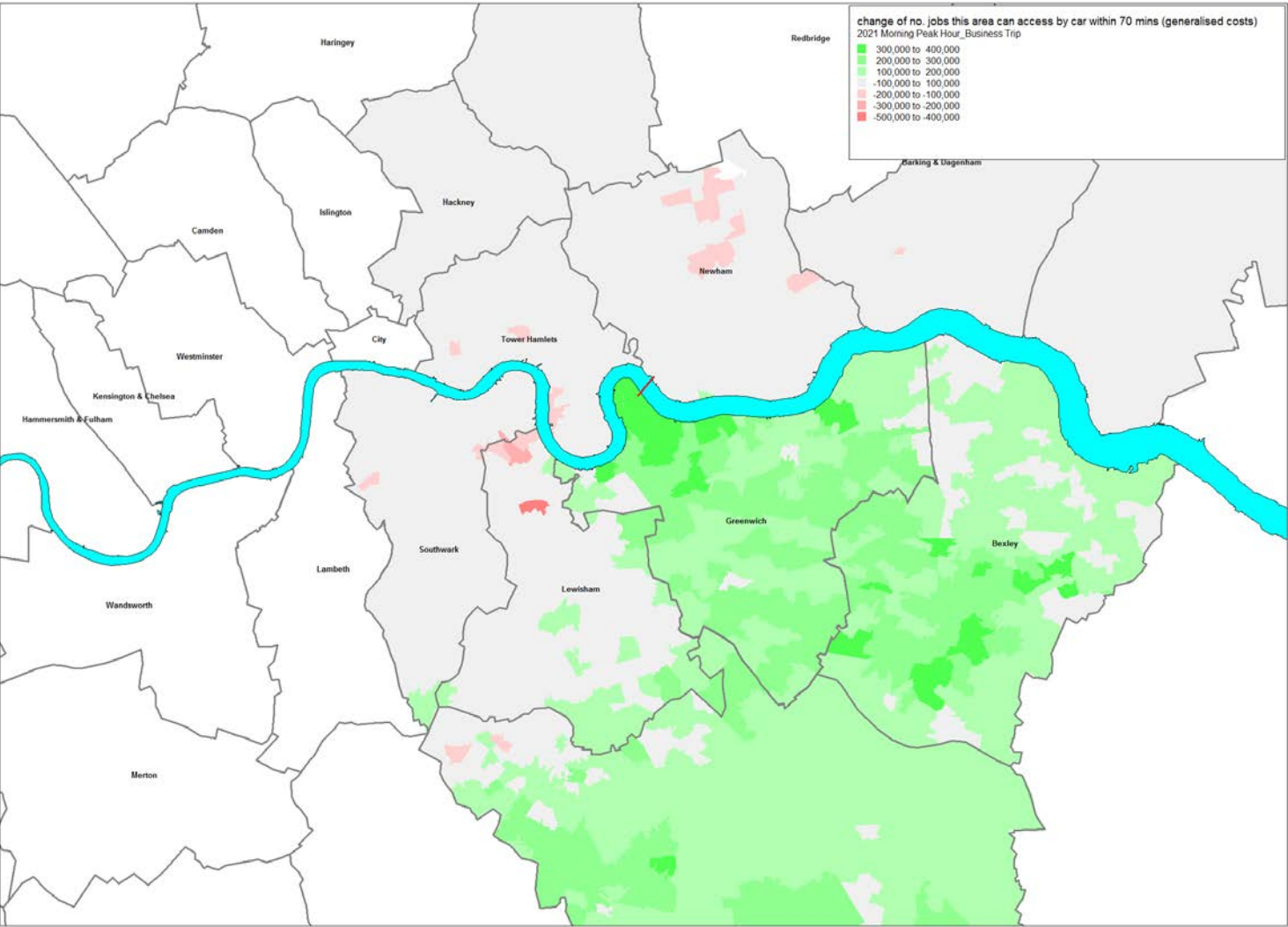


Figure 7-37: Change in job accessibility (2021 Reference Case v Assessed Case) based on generalised cost for Car Business – AM peak hour

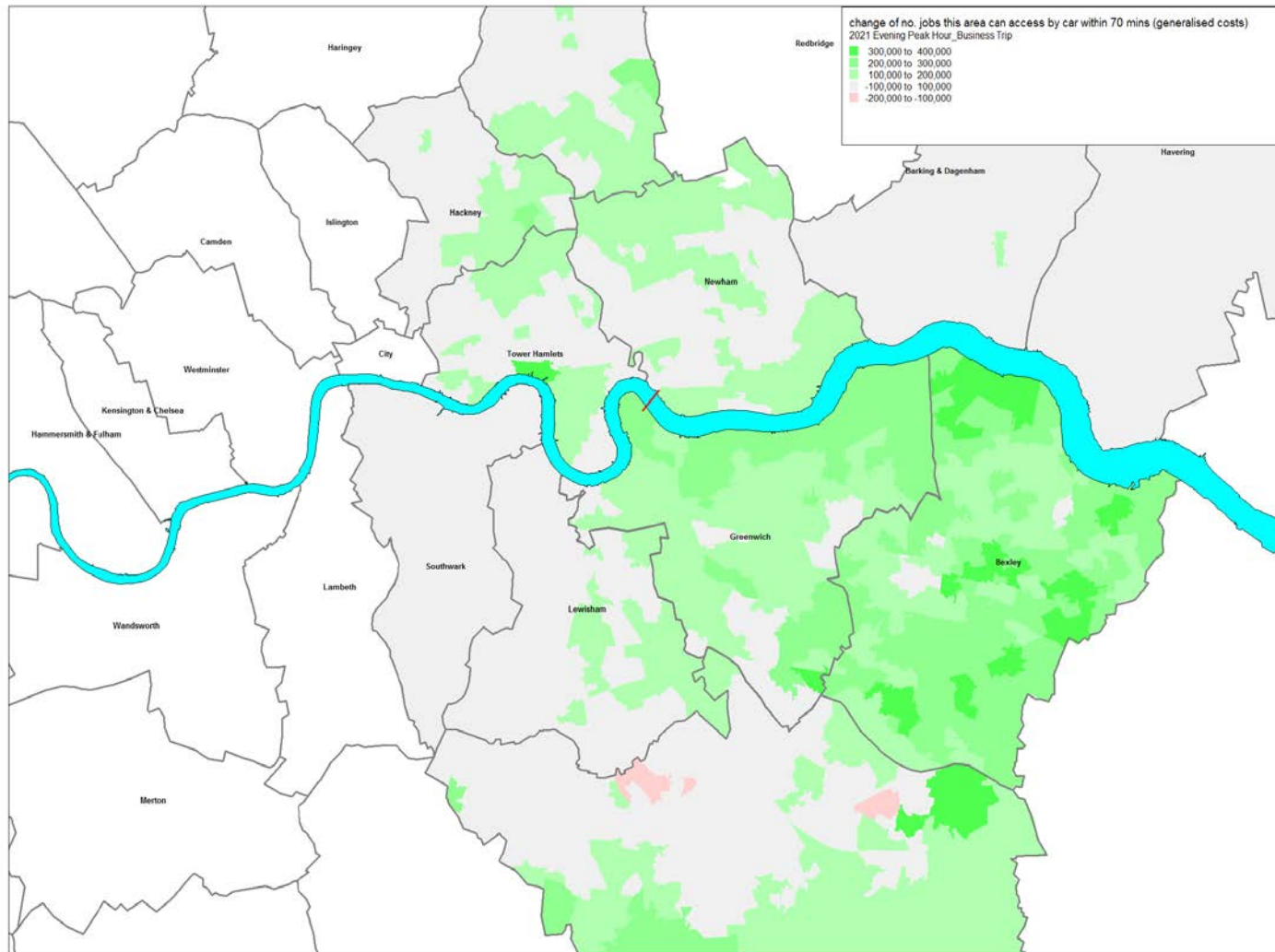


Figure 7-38: Change in job accessibility (2021 Reference Case v Assessed Case) based on generalised cost for Car Business – PM peak-hour