

The Mayor's Street Tree Programme

Final Evaluation Report: 2008 to 2012



Winter 2012

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1. Introduction

The MSTP aimed to plant 10,000 additional street trees across 40 Priority Areas in London between 2008 and 2012.

In order to ensure that street trees were planted in areas of greatest need the 40 Priority Areas were based on a number of criteria:

- Street tree density
- Multiple deprivation
- Urban heat island effect
- Air quality
- Noise
- Areas of deficiency in access to nature

A total of 10,221 trees were planted through the MSTP between 2008 and 2012. The numbers of street trees planted over four planting seasons were:

2008-2009: 1,424
2009 – 2010: 3,588
2010-2011: 4,564
2011-2012: 645

The total capital spend for delivery of this ambitious programme to improve the quality of life for Londoners was approximately £3.5million over four years or an average cost of £343.00 per tree. This compares well with the average standard cost (using Forestry Commission Standard Costs for London) of £373.00 per "standard" tree. Overall the scheme was delivered under budget, on time and exceeded the target by planting just over two hundred more trees than the ten thousand pledged by the Mayor. A summary of the total number of trees planted per borough and per priority area can be found in **Appendix 1**.

Monitoring of the programme

As part of The Forestry Commission's management of the MSTP, early spring and mid to late summer monitoring of a sample of the trees planted was undertaken. These monitoring inspections were, for the most part, integrated into the assessment process for previous season's planting and subsequent year's applications respectively. As all the trees

were in tightly defined priority areas these inspections could be undertaken quickly and cost effectively.

A random sample of approximately 20 per cent of all trees planted has given a robust analysis of the health and viability of the trees and their prospects for survival. This monitoring was undertaken to identify those trees that might be stressed just before/around the time of bud burst and also prior to the onset of normally induced water stress that is often usual at the end of the summer period.

Sites Inspected

Barking and Dagenham (Barking, Dagenham), Barnet (Edgware), Bexley (Erith), Brent (Neasden), (Bromley (Penge), Camden (Kilburn), City of Westminster (Paddington, Church Street, Notting Hill) , Croydon (Broad Green), Ealing (Northolt South), Enfield (Lower and Upper Edmonton), Hammersmith and Fulham (Hammersmith), Haringey (Tottenham East), Harrow (Wealdstone), Havering (Rainham) Hillingdon (Yiewsley), Hounslow (Feltham, Brentford), Islington (Caledonian Road), Royal Borough of Kingston (Kingston), Lambeth (Coldharbour, Rush Common), Lewisham, Merton (North Mitcham), Newham (Forest Gate), Redbridge (Seven Kings and Goodmayes), Southwark (Camberwell, Borough) Sutton (St. Helier), Tower Hamlets (Bromley by Bow, Stepney), Waltham Forest (North Leyton).

This evaluation report sets out the results of the MSTP. It includes details on the priority areas and how well these were received, the quality of the planting and aftercare, issues that arose through the programme, lessons learned and conclusions.

2. Priority Areas

The 40 Priority Areas were generally well received by applicants as being the areas that most needed tree planting. However, there were some Priority Areas that for a number of reasons needed refinement. Following discussions, those boroughs that expressed the view of wishing to amend their Priority Areas were given the opportunity to make the case at the Expert Panel held in February 2010. The discussions at this panel centred around the difficulties of planting within such urbanised and constrained locations. Services, physical space and appropriateness were all cited as issues.

The amended Priority Areas (16 in total) were published and agreed in May 2010. It was also agreed that boroughs could within their third and fourth round applications plant trees in roads that were immediately adjacent to, or contiguous, with their existing priority areas.

3. Species selection

Species selection appeared to be better in the second and third years than the first year, with applicants taking opportunities to plant larger canopied trees when possible. Species selection in the final year followed this trend. However, there still appeared to be a clear preference for Prunus and Sorbus on suburban residential roads. There are also encouraging examples of using trees likely to be resilient in the context of climate change.

The general distribution of the species planted was as follows:

Most commonly planted in Outer London

Plane, Lime, Oak, Ash Tulip, Maple, Liquidambar (where space allows), Prunus, Birch, Sorbus.

Others: Alnus, Metasequoia, Amelanchier, Hornbeam, Juglans, Ligustrum, Gleditsia.

Most commonly planted in Inner London

Pyrus, Prunus, Betula, Sorbus, Malus, Crataegus, Corylus (due to restricted space).

Others: Plane, Lime, Tulip, Alder (where space allows).

4. Quality of Tree Planting

In all cases the quality of all the initial planting was of an acceptable standard and although different techniques for staking, tying, tree protection and mulching were used across different localities these techniques all met their objectives and were “fit for purpose”.

Observations:

- The triple staking method used by one South West London authority was particularly effective and in an urban context appeared to afford the tree enhanced protection as well as demonstrating a clear intent that the tree was worth looking after.
- When used, thickness of mulch was variable across different schemes with some boroughs insisting on a depth of over 10cm while others appeared happy with shallower depths. This variability in mulching depth has not thrown up any maintenance issues as survivability across the majority of sites appears to be comparable regardless of depth of mulch, probably due to localised maintenance regimes being adequately implemented based on need.
- In some high profile locations - due to local concerns - resin bonded gravel was used to top off the tree pit providing a walkable surface as

well as a mulching function. How successful this is will be apparent in future years.

- Many boroughs have made use of standard wire mesh guards and on occasion larger heavy duty steel ones when required. The advice provided in the first year of using smaller, cheaper or no guards where appropriate appears to have been taken on board by particular applicants and this has resulted in savings on schemes that has translated into lower unit costs per tree. However, a number of boroughs and a charity successfully insisted on the use of very heavy steel guards due to problems of vandalism around particular locations and in areas known to be problematic.
- The larger guards were funded by the scheme when the local authority tree officer as owner of the land deemed it necessary due to local factors.
- One borough used anti-climb paint/grease as a remedy to vandalism.
- The planting found to be the highest quality (100 per cent designated as “excellent”) and having the lowest failure rates across all their schemes (two per cent and one per cent respectively) was undertaken by an inner London borough and a London based tree planting charity.

5. Quality of Aftercare

The quality of the aftercare across the programme was considered on average “good” to “excellent”. While there were individual trees that had died across all the sites inspected, there were no observable trends that could have been indicative of poor aftercare on the part of the applicant.

The majority of trees (85 per cent) showed good leaf cover and very little chlorosis, their condition being described as “fair” to “excellent”. A proportion of the trees (eight per cent) displayed some water stress and were described as being “poor” in terms of their condition. It is thought that this was primarily due to the drought at the beginning of 2012.

On average the aggregated failure rate across all the schemes at the time of survey was approximately seven per cent or within the acceptable range on a scheme of this nature. On some individual schemes the failure rates were slightly higher (12 per cent) and one scheme displayed an unusually localised high failure rate of 30 per cent in one area alone (see vandalism below). In line with the Funding Agreements those applicants that had failure rates higher than 10 per cent were contacted and have agreed to or have already replaced dead and vandalised trees.

A particular issue in the final year was the implementation of a hosepipe ban that prevented applicants from undertaking routine watering in the early months of 2012. Due to the very dry spring in 2012 this initially caused concern as many trees were beginning to suffer water stress following bud burst. The breaking of the weather in April and the lifting of the hosepipe ban alleviated this concern to a certain extent and it remains to be seen if the drought has had a lasting negative impact. The overall

survival rate averaged across all the individual schemes at the time of the survey was 93 per cent.

6. Issues

There were a number of issues associated with weather, underground services, locations and time constraints that affected the programme:

Vandalism - inevitably some element of vandalism featured across most of the sites inspected. This was usually in the form of individual trees in specific locations (near schools, high streets, pubs etc.) rather than generally across each area. Most of this vandalism (when aggregated with other tree failures) was well within the scheme's parameter of accepted losses of 10 per cent or less for each project. The area with the greatest losses for vandalism (near a secondary school) had lost 30 per cent of trees planted. Six out of 62 trees planted in one road alone were lost to vandalism. The localised deaths in this particular scheme appeared incongruous with the losses in the rest of the planting in the area and there was a distinct possibility that these failures had been brought about by action on the part of residents who did not want trees outside their houses rather than by neglect or failures on the part of the applicant. Some vandalism appeared to be opportunistic and did not result in the death of the tree, but caused minor damage (minor branches broken, ties cut, etc.) that were unlikely to affect the tree's long term viability.

- The preparation and planting in the second year's planting season were disrupted by two periods of snow. These two events had the effect of delaying many schemes across London and, in conjunction with other factors, reducing the overall numbers of trees planted in the second year. In the second year the factors listed above together with bad weather contributed to the expected numbers of trees falling from 3963 expected to 3588 actually planted, a drop of 375 trees. While this was not a particular issue for the programme, it does highlight the fact that successful tree planting in urban areas is subject to a diverse range of factors, many not associated with actually putting a tree in the ground.
- Delays due to snow appeared to lead some applicants into planting trees in locations that were deemed "easy wins", such as grass verges, adjacent to highway on grassed areas etc. This approach predicated against investing more time and effort into equally deserving locations that still needed trees and could accommodate them but required more survey and investigative work.
- In keeping with feedback from the first, second and third years, underground services were consistently cited as being problematic in achieving the numbers of trees in the ground that were originally applied for by applicants. Presence of underground services often precluded tree planting in otherwise suitable locations.
- It was noticeable that those applications made by local authority highway sections or charities took a more reserved approach (in

terms of identifying suitable locations) to street tree planting than those processed and managed by the local authority tree sections with in-house arboricultural expertise.

- It was clear that time constraints enforced as a result of unexpected events resulted in missed opportunities to plant trees in areas where more could have been planted.
- Tree planting on highway land and footway in particular appeared to be subject to local car parking permissions, restrictions or planning consents related to off road or kerb edge parking.

7. Lessons learned

A number of lessons have been learned through the MSTP. These will inform the second phase of the Mayor's Street Tree Initiative which aims to plant another 10,000 street trees across London by March 2015.

1. Although the identification of Priority Areas was helpful in ensuring trees were planted in areas of greatest need, this did result in additional constraints or costs due to the limitations this imposed.
2. The size of trees should be tailored to the planting locations with smaller trees being preferable in grassed areas and on roadside verges. Vandalism does not appear to be an issue in these locations and smaller trees tend to establish better than larger ones.
3. The Targeted use of heavy steel guards can reduce vandalism around schools and pubs; but away from potential vandalism 'hot-spots' this level of protection is unnecessary.
4. Underground services and off-road or kerb edge parking schemes severely curtail street tree planting opportunities. Consequently a more flexible approach to where trees should be planted is required to ensure sufficient numbers of trees are planted.
5. Tree planting by boroughs was critical to the success of the scheme both in terms of planting enough trees to reach the 10,000 target but also in terms of bringing the scheme in on time and under budget. Despite increased constraints on borough spending, they are likely to continue to be the main delivery mechanism and any future scheme should complement borough planting programmes.
6. Despite the inherent difficulties of involving local communities in planting and caring for trees in a street environment there are clear benefits of doing so. However, meaningful community involvement often involves an additional initial cost, albeit these may be offset in the longer-term by better tree survival and establishment, in addition to the less tangible cost-savings instilled by increased civic action.

8. Public reaction to the programme (Vox pop)

Opportunities to speak to local residents and ask their views on the street trees were taken during the survey work where possible. The survey teams always explained that the trees were funded as part of the Mayor's street tree programme and asked proactive questions.

A sample of responses from local residents is set out below:

Positive

QA: "Are you pleased with the tree planting and has it made the area a better place to live?"

AA1: *"Yes, they've really made a difference. Brilliant"*

AA2: *"Great, they're fantastic"*

AA3: *"It's nice to have greenery"*

QB: "Has the tree planting been an improvement for this road?"

AB1: *"Yes, they couldn't make it any worse".*

AB2: *"Beautiful. Really like. I love them"*

AB3: *"Yes, more fruit trees please! They should yield something Caribbean".*

QC: "The new tree outside your house is doing well, do you look after it?"

AC1: *"I always water my tree but I've never seen the local authority look after any of the trees down this road"*

AC2: *"I water the tree outside my house. The council have not watered it since it was put in".*

QD: "Were you consulted about the tree planting in this road?"

AD1: *"Yes, the Council put a leaflet through the door. I think they're great they really cheer the place up"*

Negative

QE: "Are you pleased to have a new tree outside your house?"

AE1: *"No, it's a waste of money if you ask me. Are you a policeman?"*

AE2: *"I don't have an opinion"*

QF: "Were you consulted about the tree planting in this road?"

A1F: "No, the council never contacted me at all"

9. Conclusion

The Mayor's Street Tree Programme has been successful both in terms of meeting targets (within budget) and in delivering a programme that will have long-term benefits across London. It was a clear, practical example of the Mayor delivering on his commitments and providing leadership on environmental improvement in a way that resonates with ordinary Londoners.

The challenge will be to ensure that the investment in these locations is maintained properly so that the trees planted thrive and provide even greater public and environmental benefits, and to find ways of funding for future such initiatives which are less reliant on the public purse. Future initiatives should explore opportunities for private sector sponsorship (especially at the local level) and links to tree warden initiatives and broader-based community projects to harness local voluntary effort.

Jim Smith

Urban Forestry Adviser

Forestry Commission

September 2012

Appendix 1: Summary of Street Tree Programme

Borough	Priority area	2008/09			2009/10			2010/11			2011/12			TOTAL PROGRAMME		
		Per priority area	Trees planted - borough	Funding - by borough	Trees planted - priority area	Trees planted - borough	Funding - by borough	Trees planted - priority area	Trees planted - borough	Funding - borough	Trees planted - priority area	Trees planted - borough	Funding - borough (TBC)	TOTAL trees planted by borough	Per priority area	TOTAL funding by borough
Barking and Dagenham	Dagenham	0			173			386						559		
	Barking	0	0	£0.00	206	379	£103,242.47	398	784	£186,302.00		£0.00	1163	604	£289,544.47	
Barnet	Edgware Road	0	0	£0.00	88	88	£66,685.44	0	0	£0.00		£0.00	88	88	£66,685.44	
Bexley	Erith	0	0	£0.00	75	75	£18,860.25	140	140	£19,468.00	79	79	£10,328.71	294	294	£48,656.96
Brent	Neasden	100	100	£47,385.00	70	70	£30,179.10	193	193	£82,662.25	50	50	£17,329.50	413	413	£177,555.85
Bromley	Penge	0	0	£0.00	208	208	£87,360.00	207	207	£75,519.00		£0.00	415	415	£162,879.00	
Camden	Kilburn	0			0			0			38			38		
	Central Camden	0	0	£0.00	0	0	£0.00	0	0	£0.00	38	76	£9,395.74	76	38	£9,395.74
Croydon	Broad Green	0	0	£0.00	0	0	£0.00	60	60	£19,800.00		£0.00	60	60	£19,800.00	
Ealing	Northholt South	0	0	£0.00	202	202	£71,857.76	122	122	£41,199.00		£0.00	324	324	£113,056.76	
Enfield	Upper and Lower Edmonton	0	0	£0.00	265	265	£79,193.60	300	300	£76,096.00		£0.00	565	565	£155,289.60	
Greenwich	Abbey Wood	0	0	£0.00	0	0	£0.00		0	£0.00		£0.00	0	0	£0.00	
Hackney	Downs Park Area	0			0			0				£0.00				
	Shoreditch	0	0	£0.00	0	0	£0.00	0	0	£0.00		£0.00	0	0	£0.00	
Hammersmith and Fulham	Hammersmith	0	0	£0.00	97	97	£51,223.00	80	80	£27,059.00	65	65	£20,149.00	242	242	£98,431.00
Haringey	Haringey East	250	250	£73,750.00	150	150	£44,132.00	150	150	£45,750.00		£0.00	550	550	£163,632.00	
Harrow	Wealdstone	0	0	£0.00	400	400	£100,000.00	106	106	£34,875.00		£0.00	506	506	£134,875.00	
Havering	Rainham	62	62	£17,583.00	0	0		145	145	£65,837.00		£0.00	207	207	£83,420.00	
Hillingdon	Yiewsley	51	51	£10,819.00	88	88	£22,929.28	121	121	£26,569.02	33	33	£7,147.00	293	293	£67,464.30
Hounslow	Brentford	0			136			167				£0.00		303		
	Feltham	0	0	£0.00	174	310	£121,095.00	183	350	£100,000.00		£0.00	660	357	£221,095.00	
Islington	Caledonian Road and Kings Cross	230	230	£89,635.36	0	0	£0.00	91	91	£48,424.76			321	321	£138,060.12	
Kensington and Chelsea	Kensington High Street, South Kensington and Brompton	0	0	£0.00	0	0	£0.00		0	£0.00			0	0	£0.00	
Kingston	Kingston	0			0			34				£0.00		34		
	Surbiton South	0	0	£0.00	0	0	£0.00		34	£12,240.00		£0.00	34	0	£12,240.00	
Lambeth	Coldharbour	0			89			131			75			295		
	Rush Common	0	0	£0.00	97	186	£90,791.00	36	167	£82,491.00		£33,000.00	428	133	£206,282.00	
Lewisham	New Cross, Deptford and Brockley (TfL)	0	0	£0.00	355	355	£121,156.00					£0.00	355	355	£121,156.00	
Merton	Micham North	47	47	£22,587.55	207	207	£77,370.39	140	140	£74,932.00		£0.00	394	394	£174,889.94	
Newham	Forest Gate	380	380	£99,953.30	0	0	£0.00	100	100	£29,803.25		£0.00	480	480	£129,756.55	

Borough	Priority area	2008/09			2009/10			2010/11			2011/12			TOTAL PROGRAMME		
		Per priority area	Trees planted - borough	Funding - by borough	Trees planted - priority area	Trees planted - borough	Funding - by borough	Trees planted - priority area	Trees planted - borough	Funding - borough	Trees planted - priority area	Trees planted - borough	Funding - borough (TBC)	TOTAL trees planted by borough	Per priority area	TOTAL funding by borough
Redbridge	Severn Kings and Goodmayes	27	27	£16,478.50	94	94	£29,000.00	100	100	£33,000.00	67	67	£16,000.00	288	288	£94,478.50
Richmond	Mortlake and East Sheen (TfL)	0	0	£0.00	41	41	£16,196.02	0	0	£0.00			£0.00	41	41	£16,196.02
Southwark	Camberwell (TfC 97 & 25)	122			0			45					£0.00		167	
	Borough	0	122		0	0	£0.00	52	97	£50,199.00			£0.00	219	52	£50,199.00
Sutton	St Helier	0	0	£0.00	135	135	£26,582.28	347	347	£115,931.00			£0.00	482	482	£142,513.28
Tower Hamlets	Stepney	55			89			225							369	
	Bow Common / Bromley by Bow	100	155	£93,267.00	49	138	£63,134.16	225	450	£239,000.00			£0.00	743	374	£395,401.16
Waltham Forest	Leyton North	0	0	£0.00	100	100	£48,350.00	0	0	£0.00	100	100	£36,717.00	200	200	£85,067.00
Wandsworth	Wandsworth (Latchmere)	0	0	£0.00	0	0	£0.00	150	150	£24,750.00			£0.00	150	150	£24,750.00
Westminster	Paddington and Church Street	0	0	£0.00	0	0	£0.00	130	130	£59,683.00	100	100	£42,779.50	230	230	£102,462.50
		1424	1424	£471,458.71	3588	3588	£1,269,337.75	4564	4564	£1,571,590.28	645	645	£192,846.45	10221	10221	£3,505,233.19