



Teddington Direct River Abstraction

Preliminary Environmental Information Report
Appendix 15.1 – Sensitivity, Magnitude and
Significance Criteria

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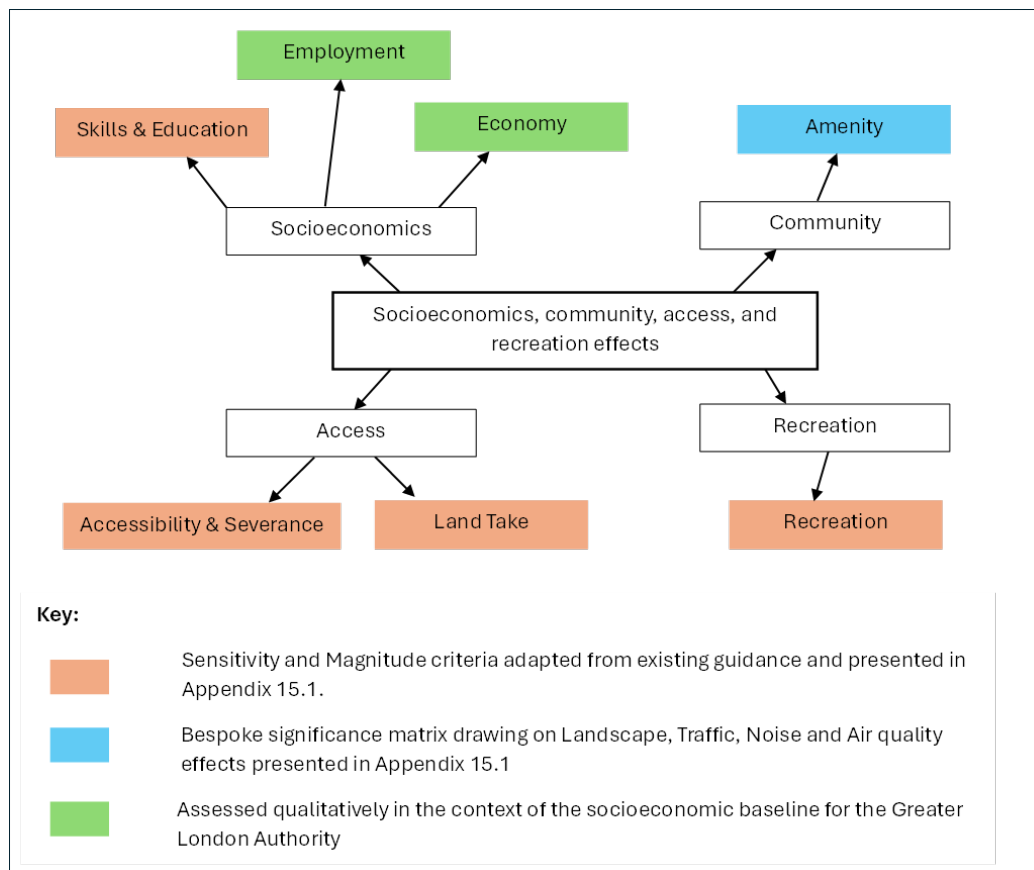
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Appendix 15.1 – Sensitivity, Magnitude and Significance Criteria

A.1 Introduction

- A.1.1 This Appendix presents more detail on the sensitivity and magnitude criteria for the Socioeconomic, Community, Access, and Recreation Assessment.
- A.1.2 There is limited guidance for the assessment of socioeconomic, community, access and recreation effects in the UK. Similarly, with the exception of accessibility and land take effects, no formalised sensitivity or magnitude criteria are available to assess effects.
- A.1.3 As such, the criteria used to determine the sensitivity and magnitude of impact and the significance of effect has been formulated with professional judgement, industry good practice and experience of similar developments, drawing on the sensitivity and magnitude criteria presented in Chapter 4 Approach to Environmental Assessment. Similarly, the application of significance of effects requires the application of professional judgement in the allocation of significance.
- A.1.4 Plate A.1 shows an overview of the various assessment topics and the assessment methodologies for each.

Plate A.1 Assessment methodologies for each aspect



Land take, accessibility and severance, recreation, and skills and education effects

- A.1.5 Table A.1 and Table A.2 present sensitivity and magnitude criteria for the assessment of land take, accessibility and severance, recreation, and skills and education effects. They present different types of receptors (residential, community, commercial, recreational and skills and education) and associated levels of sensitivity and magnitude.
- A.1.6 The categorisations presented below draw on Table 3.11 from DMRB LA 112¹, but have been adapted as appropriate for the context of the Teddington Direct River Abstraction (TDRA) Project. While DMRB LA112 was initially developed as a standard for motorway and trunk road projects, many of its principles are applicable to this project because they provide methodologies for assessing impacts on accessibility and land use for communities. However, modifications have been implemented to align the criteria more closely with the requirements of the TDRA Project, thereby enhancing the relevance to the assessment.

Table A.1 Sensitivity criteria for the assessment of land take, accessibility and severance, recreation, and skills and education effects

Sensitivity of receptor	Receptor type and criteria
High	<p>Residential:</p> <p>private property or land allocated for housing located in a local authority area where the number of households are expected to increase by >16% by 2041 (ONS data); and/or</p> <p>existing housing and land allocated for housing (e.g. strategic housing sites) covering >1ha and/or >30 houses</p> <p>Note a higher sensitivity value can be allocated where private property or housing provision is integral to the character and function of the community with little/no provision for substitution (e.g. private property in small rural villages).</p>
	<p>Community:</p> <p>there is complete or substantial severance between community and community assets, with little, no or limited accessibility provision; alternative facilities are only available in the wider local planning authority area or outside the local planning authority area;</p> <p>the level of use is frequent (daily or weekly); and/or</p> <p>the land and assets are used by the majority (≥50%) of the community.</p>

¹ Standards for Highways (2020). Design Manual for Roads and Bridges – LA 112 - Population and human health [online]. Available at: <https://www.standardsforhighways.co.uk/search/1e13d6ac-755e-4d60-9735-f976bf64580a>. [Accessed September 2024].

Sensitivity of receptor	Receptor type and criteria
	<p>Recreation: there is complete or substantial severance between community and recreation assets, with limited accessibility provision; alternative facilities are only available in the wider local planning authority area or outside the local planning authority; the level of use is frequent (daily or weekly); the land and assets are used by the majority (≥50%) of the community; regional trails and routes (e.g. promoted circular walks) likely to be used for both recreation and commuting, that record frequent (daily) use; areas with a considerable shortfall of open and recreational space/poor-quality resources, or tourist attractions of national importance; routes regularly used by vulnerable travelers such as the elderly, school children and people with disabilities, who could be disproportionately affected by small changes in the baseline due to potentially different needs; and/or rights of way for Walker, Cyclist and Horse Rider (WCH) crossing roads at grade with >8,000 vehicles per day.</p> <p>Commercial: existing employment sites (excluding agriculture) and land allocated for employment (e.g. strategic employment sites) covering >1ha. Note a higher sensitivity score has been allocated where a business is the main source of employment for a community with little/no provision for substitution.</p> <p>Skills and education: Communities with limited access to educational resources or high unemployment rates. Areas where specific, high-demand skills are taught or developed, which are crucial for local industries. Areas where there is significantly below average skills and education attainment.</p>
Medium	<p>Residential: houses or land allocated for housing located in a local authority area where the number of households are expected to increase by >6-15% by 2041 (ONS data); and/or existing housing and land allocated for housing (e.g. strategic housing sites) covering <1ha and/or <30 houses.</p> <p>Community: there is severance between communities and their community land/asset but with existing accessibility provision;</p>

Sensitivity of receptor	Receptor type and criteria
	<p>limited alternative facilities are available at a local level within adjacent communities; the level of use is reasonably frequent (monthly); and/or the land and assets are used by the majority ($\geq 50\%$) of the community</p> <p>Recreation: there is severance between communities and their recreation land/asset but with existing accessibility provision; limited alternative facilities are available at a local level within adjacent communities; the level of use is reasonably frequent (monthly); the land and assets are used by the majority ($\geq 50\%$) of the community; public rights of way and other routes close to communities which are used for recreational purposes (e.g. dog walking), but for which alternative routes can be taken. These routes are likely to link to a wider network of routes to provide options for longer, recreational journeys; areas with a shortfall of open and recreational spaces/moderate-quality resources, or tourist attractions/recreational provision of regional importance and limited potential for substitution; and/or rights of way for WCH crossing roads at grade with >4000 – 8000 vehicles per day.</p> <p>Commercial: existing employment sites (excluding agriculture) and land allocated for employment (e.g. strategic employment sites) covering <1ha.</p> <p>Skills and education: Communities with good access to educational resources. Areas where general skills are taught, which are important but not critical for local industries. Areas where skills and education performance measures are in line with area averages.</p>
Low	<p>Residential: proposed development on unallocated sites providing housing with planning permission/in the planning process.</p> <p>Community: limited existing severance between community and assets, with existing full accessibility provisions for protected characteristic groups; alternative facilities are available at a local level within the wider community; the level of use is infrequent (monthly or less frequent); and/or the land and assets are used by the minority ($\leq 50\%$) of the community.</p>

Sensitivity of receptor	Receptor type and criteria
	<p>Recreation: limited existing severance between community and recreation assets, with accessibility provisions for protected characteristic groups; alternative facilities are available at a local level within the wider community; the level of use is infrequent (monthly or less frequent); the recreation land and assets are used by the minority ($\leq 50\%$) of the community; routes which have fallen into disuse or which are scarcely used because they do not currently offer a meaningful route for either utility or recreational purposes; areas with a surplus of open and recreational space/high-quality resources or recreational provision of local importance only; and/or rights of way for WCH crossing roads at grade with <4000 vehicles per day.</p> <p>Commercial: proposed development on unallocated sites providing employment with planning permission/in the planning process.</p> <p>Skills and education: Communities where the proportion of residents with highest level of qualification in line with or above the national average. Areas where basic skills are taught, which are easily replaceable or not in high demand. Areas where skills and education performance measures are consistently above the national averages.</p>
Negligible	<p>Residential: N/A</p> <p>Community: no or limited severance or accessibility issues; alternative facilities are available within the same community; the level of use is very infrequent (a few occasions yearly); and/or the land and assets are used by the minority ($\geq 50\%$) of the community.</p> <p>Recreation: no or limited severance or accessibility issues; alternative facilities are available within the same community; the level of use is very infrequent (a few occasions yearly); the land and assets are used by the minority ($\geq 50\%$) of the community; and/or</p>

Sensitivity of receptor	Receptor type and criteria
	areas with a considerable surplus of open and recreational space/high-quality resources, or, conversely, no provision of any tourism or recreational facilities to be considered as sensitive.
	Commercial: N/A
	Skills and education: N/A

Table A.2 Magnitude criteria for the assessment of land take, accessibility and severance, recreation, and skills and education effects

Magnitude of impact/change	Description of change
Large	Residential, community and commercial land and assets: loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements. e.g. direct acquisition and demolition of buildings and direct development of land to accommodate the TDRA Project; introduction (adverse) or removal (beneficial) of complete severance with no/full accessibility provision; considerable increase/decrease in quality of open space.
	Recreation land and assets: loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements. e.g. direct acquisition and demolition of buildings and direct development of land to accommodate the TDRA Project; introduction (adverse) or removal (beneficial) of complete severance with no/full accessibility provision; considerable increase/decrease in quality of recreational space; adverse or beneficial irreversible, permanent change to tourist attraction(s) of national importance; and/or >500m increase (adverse)/decrease (beneficial) in WCH journey length.
	Skills and education: Significant disruption to educational activities, leading to long-term negative effects on skill development and education; permanent loss or damage to key educational facilities or resources; significant changes in the availability or quality of education and training programs; considerable increase in workforce related education or skills attainment which addresses existing skills and education barriers.

Magnitude of impact/change	Description of change
Medium	<p>Residential, community and commercial land and assets: partial loss of/damage to key characteristics, features or elements, e.g. partial removal or substantial amendment to access or acquisition of land compromising viability of property, businesses, or community assets; introduction (adverse) or removal (beneficial) of severe severance with limited/moderate accessibility provision; Moderate increase/decrease in quality of open space.</p>
	<p>Recreation land and assets: partial loss of/damage to key characteristics, features or elements, e.g. partial removal or substantial amendment to access or acquisition of land compromising viability of recreation assets; introduction (adverse) or removal (beneficial) of severe severance with limited/moderate accessibility provision; Moderate increase/decrease in quality of recreational space; Adverse or beneficial medium term change to tourism attractions of regional importance; and/or >250m - 500m increase (adverse) or decrease (beneficial) in WCH journey length.</p>
	<p>Skills and education: Temporary interruption to education activities with some long-term effects on skill development and education; partial loss or damage to educational facilities or resources; noticeable changes in the availability or quality of education and training programs; increase in workforce related education or skills attainment which addresses existing skills and education barriers.</p>
Small	<p>Residential, community and commercial land and assets: a discernible change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements, e.g. amendment to access or acquisition of land resulting in changes to operating conditions that do not compromise overall viability of property, businesses or community assets; introduction (adverse) or removal (beneficial) of severance with adequate accessibility provision; Limited increase/decrease in quality of open space.</p>
	<p>Recreation land and assets: a discernible change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements, e.g. amendment to access or acquisition of land resulting in changes to operating conditions that do not compromise overall viability of recreation assets;</p>

Magnitude of impact/change	Description of change
	<p>introduction (adverse) or removal (beneficial) of severance with adequate accessibility provision; Limited increase/decrease in quality of recreational space; Adverse or beneficial short term change to tourism attractions of local importance; and/or >50m - 250m increase (adverse) or decrease (beneficial) in WCH journey length.</p> <p>Skills and education: Minor interruption to educational activities, with no long-term effects on skills development and education; Minor damage to educational facilities or resources that do not affect their functionality; minor changes to the availability or quantity of education and training programs; a small increase in workforce related education or skills attainment to address existing skills and education barriers.</p>
Negligible	<p>Residential, community, and commercial land and assets: very minor loss or detrimental alteration to one or more characteristics, features or elements. e.g. acquisition of non operational land or buildings not directly affecting the viability of property, businesses, or community assets; and/or very minor introduction (adverse) or removal (beneficial) of severance with ample accessibility provision.</p> <p>Recreation land and assets: very minor loss or detrimental alteration to one or more characteristics, features or elements. e.g. acquisition of non operational land or buildings not directly affecting the viability of recreation assets; and/or very minor introduction (adverse) or removal (beneficial) of severance with ample accessibility provision; and/or <50m increase (adverse) or decrease (beneficial) in WCH journey length.</p> <p>Skills and education: Educational activities continue as usual without any interruptions; educational facilities and resources remain fully functional; no or very minor increase in workforce related education or skills attainment to address existing skills and education barriers.</p>
No change	No loss or alteration of characteristics, features, elements or accessibility; no observable impact in either direction.

Employment and Economic Effects

A.1.7 For the assessment of employment and economic effects, sensitivity and magnitude will not be assessed explicitly; rather expenditure and employment effects will be considered against baseline economic performance in the Greater London Authority as measured by Gross Value Added (GVA) and existing employment levels to determine whether the effects are significant or not significant. Therefore, no detailed sensitivity and magnitude tables are provided. A significant effect would typically be characterised by a 1% or greater increase in regional GVA or creation of new permanent jobs equivalent to 0.5% or more of the regions workforce in the sector.

Community Amenity

A.1.8 Table A.3 presents a significance matrix for the assessment of community amenity effects. Amenity effects will be assessed for individual receptors by taking the residual effects reported in the relevant aspect sections and determining a 'combined significance' guided by the matrix in Table A.3. The matrix can be applied to any combination of four aspects. The assessment will follow a more detailed significance matrix which encompasses a comprehensive set of combinations.

A.1.9 Professional judgement will also be applied in determining whether the combination of aspect effects could result in a significant amenity effect overall for that receptor.

Table A.3 Significance matrix for the assessment of community amenity effects (Source: Jacobs 2021)

Aspect 1	Aspect 2	Aspect 3	Aspect 4	Combined Significance
Major	Major	Major	Major	Major
Major	Major	Major	Moderate	Major
Major	Major	Major	Minor	Major
Major	Major	Major	Negligible	Major
Major	Major	Moderate	Moderate	Major
Major	Major	Moderate	Minor	Moderate
Major	Major	Moderate	Negligible	Moderate
Major	Major	Minor	Minor	Moderate
Major	Major	Minor	Negligible	Moderate
Major	Major	Negligible	Negligible	Moderate
Major	Moderate	Moderate	Moderate	Major
Major	Moderate	Moderate	Minor	Moderate
Major	Moderate	Moderate	Negligible	Moderate

Aspect 1	Aspect 2	Aspect 3	Aspect 4	Combined Significance
Major	Moderate	Minor	Minor	Moderate
Major	Moderate	Minor	Negligible	Moderate
Major	Moderate	Negligible	Negligible	Moderate
Major	Minor	Minor	Minor	Moderate
Major	Minor	Minor	Negligible	Minor
Major	Minor	Negligible	Negligible	Minor
Major	Negligible	Negligible	Negligible	Minor
Moderate	Moderate	Moderate	Moderate	Major
Moderate	Moderate	Moderate	Minor	Moderate
Moderate	Moderate	Moderate	Negligible	Moderate
Moderate	Moderate	Minor	Minor	Moderate
Moderate	Moderate	Minor	Negligible	Moderate
Moderate	Moderate	Negligible	Negligible	Moderate
Moderate	Minor	Minor	Minor	Moderate
Moderate	Minor	Minor	Negligible	Moderate
Moderate	Minor	Negligible	Negligible	Minor
Moderate	Negligible	Negligible	Negligible	No amenity effect
Minor	Minor	Minor	Minor	Moderate
Minor	Minor	Minor	Negligible	Minor
Minor	Minor	Negligible	Negligible	Minor
Minor	Negligible	Negligible	Negligible	No amenity effect
Negligible	Negligible	Negligible	Negligible	No amenity effect

