

Top 5 Consolidated MCA Criteria - Design Definitions

Economic Criteria



Top 5 community based economic criteria	Attributes	Attributes that contribute to differentiate between design options	Attributes that do not contribute to differentiate between design options	Combine and interpret Design Definitions
<p>1. Cost of Construction(Ec1) (The cost of design options for constructing the road).</p>	<ul style="list-style-type: none"> • Tunnel - not discounted due to cost • Cost of bridge/interchange design • Pervious pavement - may increase construction costs but reduce drainage infrastructure, reduce impact on environment • Use of wire road barriers or road safety barriers to reduce cost associated with accident trauma/fatalities • Cost of construction netting across wetlands • Type of construction (eg Bridge vs embankments) • On-ground construction versus above ground construction • Scope and methods (bridges, tunnels, standard of roads) applicable? • Truck route - higher standard • Is the budget sufficient for world's best practice? • Does the budget take into consideration the cost of building to a high standard • Road should be designed to its ultimate Freeway configuration & not compromised in terms of its traffic function, leading to greater economic value to broader region. • Design life of 50 yrs vs 10 yrs • Cost of construction of RHE vs rail to freight goods (ie increase upgrading rail freight from 15% to say 40% to reduce trucks on existing roads). • Cost of upgrading other roads vs building RHE • Offsets (formerly criteria name of Ec11) • Cost of offsets • Cost of operation/maintenance • Maintenance costs (formerly criteria name of Ec9) • External economic conditions (available funds) • Materials as per existing standards • Length of road project 	<ul style="list-style-type: none"> • Tunnel - not discounted due to cost • Cost of bridge/interchange design • Pervious pavement - may increase construction costs but reduce drainage infrastructure, reduce impact on environment • Use of wire road barriers or road safety barriers to reduce cost associated with accident trauma/fatalities • Cost of construction netting across wetlands • Offsets (formerly criteria name of Ec11) • Type of construction (eg Bridge vs embankments) • On-ground construction versus above ground construction • Scope and methods (bridges, tunnels, standard of roads) applicable? • Truck route - higher standard • Road should be designed to its ultimate Freeway configuration & not compromised in terms of its traffic function, leading to greater economic value to broader region. • Design life of 50 yrs vs 10 yrs • Materials as per existing 	<ul style="list-style-type: none"> • Is the budget sufficient for world's best practice? • Does the budget take into consideration the cost of building to a high standard • Cost of construction of RHE vs rail to freight goods (ie increase upgrading rail freight from 15% to say 40% to reduce trucks on existing roads). • Cost of upgrading other roads vs building RHE • External economic conditions (available funds) • Length of road project • Cost of construction now to avoid environmental damage with relocation of proposed port. • Need for the link not proven • What are the traffic congestion causes (eg freight/normal traffic) • Environmental and access compromise on promises/needs when money runs out • Economic considerations of alternative options • Completion of a ring road for transport planning in Perth • Consider the overall 	<ul style="list-style-type: none"> • Tunnels • Bridges • Road surfaces • Embankments • Intersection layouts • Super-elevation • Pervious pavement • Wire road safety barriers • Building above required standards/World's best practice • Build to freeway standards to maximise economic benefits • Design life • Physical barriers to protect wetlands • Consider whole of project costs that include cost of offsets • Cost of upgrading existing infrastructure

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Economic Criteria

	<ul style="list-style-type: none"> • Cost of construction now to avoid environmental damage with relocation of proposed port. • Managing run-off in the wetlands • Need for the link not proven • What are the traffic congestion causes (eg freight/normal traffic) • Is the total resourcing package sufficient for all needs ie. Fauna and pedestrian underpasses • Environmental and access compromise on promises/needs when money runs out • Damage to roads due to road trains • Economic considerations of alternative options • Construction (formerly criteria name of Ec12) • Cost of construction • Collateral cost i.e. upgrade of other routes (maybe additional LGA/local resident's costs) • Design (formerly criteria name of Ec20) • Impact • Completion of a ring road for transport planning in Perth • Consider the overall impact on Perth • Cost of planning (formerly criteria name of Ec27) • Cost of construction may be impacted if planning/design within wetlands area carried out last 	<p>standards</p> <ul style="list-style-type: none"> • Managing run-off in the wetlands • Is the total resourcing package sufficient for all needs ie. Fauna and pedestrian underpasses • Collateral cost i.e. upgrade of other routes (maybe additional LGA/local resident's costs) • Cost of offsets 	<p>impact on Perth</p> <ul style="list-style-type: none"> • Cost of planning (formerly criteria name of Ec27) • Cost of construction may be impacted if planning/design within wetlands area carried out last • Damage to roads due to road trains 	
<p>2. Accessibility (Ec 5) (access and connectivity to the road and to surrounding areas and facilities).</p>	<ul style="list-style-type: none"> • Access to schools • Cost of accessibility for children, to schools and recreation • Access to industrial areas • Access to shopping centres • Access to Murdoch Activity Centre (Fiona Stanley Hospital) all private vehicles? • Access to Jandakot Airport • Access to Fremantle Port • Access to Inner and Proposed Outer Harbour 	<ul style="list-style-type: none"> • Access to schools • Access to industrial areas • Access to shopping centres • Access to Murdoch Activity Centre (Fiona Stanley Hospital) all private vehicles? • Access to Jandakot Airport • Access to Fremantle Port • Access to Inner and 	<ul style="list-style-type: none"> • Cost of accessibility for children, to schools and recreation • Need for link? (formerly criteria name of Ec6) • Funding for road not yet obtained • More volume of trucks & traffic using/hitting stock Road (North and South) • More transport to and from 	<ul style="list-style-type: none"> • Access to educational facilities • Access to industrial areas • Access to shopping centres • Access to MAC • Access to Fiona Stanley • Access to Jandakot Airport • Access to Latitude 32 • Access to Cockburn Coast • Access to Fremantle Port

Top 5 Consolidated MCA Criteria - Design Definitions

Economic Criteria



	<ul style="list-style-type: none"> • Access to Latitude 32 • Access to Cockburn Coast and other major roads/ areas • Movement at intersections and interchanges • Smooth connections • Roundabouts vs intersections vs traffic lights • Access to social amenities (footpaths, public open spaces etc) • Latitude 32, Cockburn Coast and other major roads/ areas • Provision for flexibility ie. improvements in moving traffic • Need for link? (formerly criteria name of Ec6) • Connectivity (formerly criteria name of Ec8) • Funding for road not yet obtained • More volume of trucks & traffic using/hitting stock Road (North and South) • More transport to and from Fremantle Port • High St status not determined. No confirmation from Council to be upgraded. • A road to nowhere • Integrate roads to local needs/ traffic/transport network planning • Connecting Roe to cost - construction and transport planning • Accessibility (formerly criteria name of Ec10) • RHE does have/provide accessibility to MAC, Jandakot Airport, Fremantle Port, Proposed Outer Harbour etc • Pedestrian and cyclist & cost saved from this • Scout Group • Cockburn Wetlands Centre • Yangebup & Kardinya to Bibra Lake & Wetlands Centre 	<p>Proposed Outer Harbour</p> <ul style="list-style-type: none"> • Access to Latitude 32 • Access to Cockburn Coast and other major roads/ areas • Movement at intersections and interchanges • Smooth connections • Roundabouts vs intersections vs traffic lights • Access to social amenities (footpaths, public open spaces etc) • Latitude 32, Cockburn Coast and other major roads/ areas • Provision for flexibility ie. improvements in moving traffic • Connectivity (formerly criteria name of Ec8) • Integrate roads to local needs/ traffic/transport network planning • Accessibility (formerly criteria name of Ec10) • RHE does have/provide accessibility to MAC, Jandakot Airport, Fremantle Port, Proposed Outer Harbour etc • Pedestrian and cyclist & cost saved from this • Scout Group • Cockburn Wetlands Centre • Yangebup & Kardinya to Bibra Lake & Wetlands Centre 	<p>Fremantle Port</p> <ul style="list-style-type: none"> • High St status not determined. No confirmation from Council to be upgraded. • A road to nowhere • Connecting Roe to cost - construction and transport planning 	<p>(Inner and Proposed outer)</p> <ul style="list-style-type: none"> • Access to community centres • Access to social amenities and facilities • Speedy access • Local road connections
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<p>3. Efficient freight and vehicle movement (Ec 4) (maximising the efficient movement of all vehicles).</p>	<ul style="list-style-type: none"> • Load sizes • Number of lanes (already set in standards) • Suitability for heavy vehicles (aren't they getting larger). • Stop-start movements • Use of air brakes • Ability to maximise use of loaded vehicles/full use of return journeys • See Point 7 • Efficient automobile movements • Access costs need to be considered • Economic importance of moving freight • Efficiency (formerly criteria name of Ec25) • Attractive to freight vehicles • Reduce use of Leach Highway 	<ul style="list-style-type: none"> • Load sizes • Number of lanes (already set in standards) • Stop-start movements • Use of air brakes • Efficient automobile movements • Efficiency (formerly criteria name of Ec25) • Attractive to freight vehicles 	<ul style="list-style-type: none"> • See Point 7 • Access costs need to be considered • Reduce use of Leach Highway • Suitability for heavy vehicles (aren't they getting larger). • Ability to maximise use of loaded vehicles/full use of return journeys 	<ul style="list-style-type: none"> • Width of road/number of lanes to accommodate heavy freight • Frequency of freight slow/stop
<p>4. Future Costs (Ec 13) (future costs associated with the road).</p>	<ul style="list-style-type: none"> • Consider cost of ultimate needs ie. 6 lanes/light rail and its role in overall freight network • Maintenance cost of ongoing impact on environment and heritage • Retrofitting cost of noise reduction in adjacent residential areas ie Roe 7 (east of Kwinana Freeway) • Cost of grade or road surface for minimising noise • Suggestion that potential users will not prefer the route (ie they will use Russell Road) • Cost of getting potential users to use Roe over other routes (marketing it as an option) • Design for future development - population needs Impact to wider network • Future costs associated with road (formerly criteria name of Ec3) • Operations • Maintenance • Upgrades • Work in process when and if it is built,(should be known by 	<ul style="list-style-type: none"> • Consider cost of ultimate needs ie. 6 lanes/light rail and its role in overall freight network • Maintenance cost of ongoing impact on environment and heritage • Retrofitting cost of noise reduction in adjacent residential areas ie Roe 7 (east of Kwinana Freeway) • Cost of grade or road surface for minimising noise • Design for future development - population needs Impact to wider network • Future costs associated with road (formerly criteria name of Ec3) • Operations 	<ul style="list-style-type: none"> • Suggestion that potential users will not prefer the route (ie they will use Russell Road) • Cost of getting potential users to use Roe over other routes (marketing it as an option) • Extension will help community by moving goods & services in the least cost and most efficient way • Toll road? • Costs associated with time delays in approval process - depending on option could become Federal issue eg indigenous/environmental approval • Heritage listing of Hope 	<ul style="list-style-type: none"> • High standards of materials and methods to reduce costs associated with road • High standards of material and methods to reduce costs from impacts on vehicles • Cost of maintenance • Cost of upgrades • Impact on local businesses • Reduce life cost

Top 5 Consolidated MCA Criteria - Design Definitions

Economic Criteria

	<p>experience).</p> <ul style="list-style-type: none"> • Savings to road users & transport (truck) operators & the community by designing to a high standard to reduce maintenance costs on vehicles (eg brakes, tyres etc.) • Extension will help community by moving goods & services in the least cost and most efficient way • Toll road? • Costs associated with time delays in approval process - depending on option could become Federal issue eg indigenous/environmental approval • Heritage listing of Hope Road • Consider cost savings for other gvt agencies in bldg or not bldg road • Effects on local business • Economic impact on the Port - container freight, efficient freight movement • Reduction of future cost (formerly criteria name of Ec21) • Maintenance of other roads and generally • Design for larger volume & no need to retrofit later • Economic evaluation to ensure a 'life cost' is reduced • Use of existing roads to reduce costs • Cost of managing flow-on effects from Stock Road (formerly criteria name of Ec22) • Access to Port - impact to wider network • Safety • Increase in rates/tax associated with infrastructure - knock on effects of new road increase existing LGA rates • Planning for tomorrow (formerly criteria name of Ec24) • Impact to wider network • Leaving a positive legacy - investment of project into community • Proposed development 	<ul style="list-style-type: none"> • Maintenance • Upgrades • Work in process when and if it is built,(should be known by experience). • Savings to road users & transport (truck) operators & the community by designing to a high standard to reduce maintenance costs on vehicles (eg brakes, tyres etc.) • Effects on local business • Reduction of future cost (formerly criteria name of Ec21) • Design for larger volume & no need to retrofit later • Economic evaluation to ensure a 'life cost' is reduced • Safety 	<p>Road</p> <ul style="list-style-type: none"> • Consider cost savings for other gvt agencies in bldg or not bldg road • Economic impact on the Port - container freight, efficient freight movement • Maintenance of other roads and generally • Use of existing roads to reduce costs • Cost of managing flow-on effects from Stock Road (formerly criteria name of Ec22) • Access to Port - impact to wider network • Increase in rates/tax associated with infrastructure - knock on effects of new road increase existing LGA rates • Planning for tomorrow (formerly criteria name of Ec24) • Impact to wider network • Leaving a positive legacy - investment of project into community • Proposed development 	
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<p>5. Land Value (Ec 16) (Impact of road on land value).</p>	<ul style="list-style-type: none"> • Will it devalue existing residential areas? • Commercial land may increase due to increased access/mobility • Property devalue (formerly criteria name of Ec29) • Bibra Lake property values - Forrest Road • Noise pollution - cost to residents • Noise/Air pollution - cost to residents, surrounding areas • Compensation to residents - damage due to vibration during construction and operation of RHE 	<ul style="list-style-type: none"> • Will it devalue existing residential areas? • Commercial land may increase due to increased access/mobility • Property devalue (formerly criteria name of Ec29) • Bibra Lake property values - Forrest Road • Compensation to residents - damage due to vibration during construction and operation of RHE 	<ul style="list-style-type: none"> • Noise pollution - cost to residents • Noise/Air pollution - cost to residents, surrounding areas 	<ul style="list-style-type: none"> • economic impacts on existing property values • cost of damage to property
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