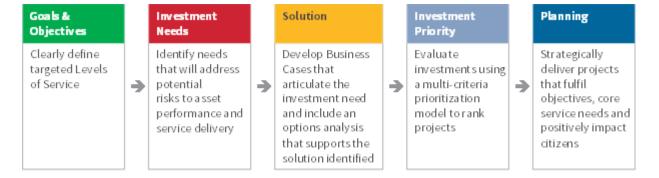
Description

Provides instructions on how to assess investment benefits in order to compare investment options and prioritize investments.

Overview

Objective

To provide guidance on how to assess the benefits of investments consistently across the City. This procedure is to be used to assess benefits at the solution options analysis and investment prioritization stages of the investment planning process.



Roles, Responsibility & Authority

Role	Responsibility	Authority
Manager of Department Asset	To ensure that the procedure is	Final review of investment priority.
Management Office (AMO)	followed and that benefits are	
	assessed for all investments.	
Business Case Author(s)/Benefit	Follow procedure in order to	Assessment of investment benefits
Evaluators	assess investment benefits based	at the options analysis and
	on the information provided in the	investment prioritization stages of
	business case.	the investment planning cycle.
Infrastructure Planning Office -	Provide training and support for	Audit use of the benefit evaluation
Corporate Asset Management	use of this procedure and	for consistency and to ensure
Office (CAMO)	associated tools.	sufficient supporting evidence for
		benefit scores.
	Complete updates and make	
	changes to the templates and	
	procedures as required.	
City Executive Management Team	Ensure alignment with strategic	Approve the assessment criteria
	priorities.	and weightings.

Document Revision No.	Date Released	Released By:	
V2.2	January 8, 2021	CAMO	

Background

The Benefit Evaluation Criteria was established to evaluate the benefits of an investment presented in a Business Case. The resulting benefit score is used in a Cost Benefit Points Ratio in order to assess investment options and to prioritize investments. The Benefit Evaluation process provides an objective means to score investments consistent with the priorities set by the City's Executive Management Team.

The following equation describes how benefit scores are calculated:

Level of Service and Strategic Alignment

The benefits assessment is based on the weighted benefit criteria outlined in the table below. Level of Service objectives combined with Strategic Alignment establishes the baseline evaluation criteria used to determine the overall benefit of making a capital investment.

It should be noted that the Levels of Service Criteria comprise the majority of weighting, as a greater emphasis has been placed on ensuring that city infrastructure can deliver vital services to residents. Strategic Alignment Criteria ensures linkage to *OurWinnipeq* and Council priorities.

	Levels of Service (LOS)	
Criteria	Description	Weightings
New Regulation	Satisfies a NEW or MODIFIED regulatory/legal requirement	31%
Maintain Level of Service	Maintains the level of service and addresses any underperforming assets	31%
Enhance Level of Service	Delivers levels of service over and above target levels	7%
	Strategic Alignment	
Criteria	Description	Weightings
Environmental Sustainability	Reduces negative environmental impact or enhances sustainability and resiliency	7%
Enables Growth	Is a PREREQUISITE or ENABLER for growth to occur in areas of the city where development does not currently exist or is targeted for densification	7%
Economic Impact	Enables job creation, business development and industry productivity	7%
Operational Efficiency / Revenue Generation	Replaces or improves EXISTING infrastructure or processes to increase revenue and/or realize savings with on-going operational activities	7%
Culture/Heritage	Preserves and/or protects historic sites; maintains/creates performance venues; includes artistic features	3%
	TOTAL:	100%

Service Usage

Service usage is based on departmental calculations on actual usage (person-hours/year) of the service provided. The more a service is used, the greater the influence service usage has on how an investment is prioritized.

Service Impact

The more an infrastructure investment has a direct impact to the Level of Service and residents, the greater the priority is placed on the investment.

Direct – The investment is required in order to ensure consistent Level of Service to customers.

Indirect – The investment supports the service, but does not directly impact delivery of the service. Marginal impact to customers.

Supplemental – The investment is supplemental to the service. While it may provide benefit to the City or customers, it is not required for delivery of services and day to day operations.

Service Importance

Service importance is meant to distinguish between important services and those core services most critical to ensuring fundamental needs of residents are being met. Although all services are important, the degree of importance varies between vital and desired services.

Those services which can be characterized by a high degree of public necessity, health and safety, and are essential to the sustainability of life are considered vital. As fundamental service needs are met, there is desire for services that focus on building communities, fostering family relationships, providing access to leisure, and promoting entertainment and culture.

The emphasis here is on public services, however investments that support **internal City services** will also need to be assessed. For internal services such as such as Innovation & Technology, Communications, Legal Services, Human Resources, etc. there are three possible scenarios:

- Supports delivery of a public service select the public service that the investment supports. Ex. Transit, Water & Waste, etc.
- 2. Supports one specific internal service select "Single Organizational Support Service" from the services list in the Asset Management Prioritization Tool service



- column. This is equivalent to investments in the Active Transportation to Urban Forest service importance category and would be applicable to investments such as a software upgrade for Legal Services.
- 3. Support multiple/all internal services select "Supports Multiple Organizational Support Services" from the services listed in the Asset Management Prioritization Tool service column. This is equivalent to the service importance for investments in the Bridges Regional to Solid Waste service importance category and would be applicable to investments such as a PeopleSoft upgrade that would impact nearly all service areas across the organization.

The majority of investments will fall into scenario 1. If the investment does not support a public service, select the appropriate categories for scenario 2 or 3.

Procedure Detail

The benefit evaluation procedure uses the attached **Benefit Evaluation Sheet** in order to assess investment benefits. The Benefit Evaluation Sheet is a matrix that helps to define and measure an investment's contribution to each Benefit Criteria. It is used to evaluate benefits within two Investment Planning templates used at different stages of the Investment Planning process:

- Net Present Value (NPV) and Benefit Template
- 2. Asset Management Prioritization Tool

It should be noted that the Economic Impact criteria has been removed from the benefit assessment in the NPV template. This criterion is only to be assessed for investment prioritization purposes later in the Investment Planning process.

The Rating Scale

The Benefit Evaluation Sheet uses a five-point rating scale to compare risk exposure across several events or rate the relative impact of one situation against another.

		Rating		
Very Low	Low	Moderate	High	Very High
(VL)	(L)	(M)	(H)	(VH)

The City of Winnipeg typically uses distribution scales to reflect Very Low, Low, Moderate, High and Very High. When a rating is selected from a template's drop-down list of ratings, it is used in the worksheets calculations to generate scores.

Each Consequence and Likelihood measure is defined using the above rating scale in the **Benefit Evaluation Sheet.**

The **Benefit Evaluation Sheet** is categorized into three parts:

- 1. Levels of Service
- 2. Strategic Alignment

3. Benefit Multipliers

For each investment, assess if a specific Benefit Criteria is applicable to the investment. Not all criteria are applicable to every project.

Note: Benefits must be evaluated based on the year the investment is needed and required to be in service.

To assess investment benefits:

- 1. Start by selecting the <u>department</u> and <u>service</u> under the investment details sections. The service importance will be used to automatically adjust the benefit score once all benefit criteria has been assessed.
- 2. Under the multiplier section:
 - a. Assess the <u>service impact</u> of the project. Used the dropdown to select whether the project has a direct, indirect or supplemental impact to the service. This will be used to automatically adjust the benefit score once all benefit criteria has been assessed.
 - b. Enter the <u>user hours per year</u>. This calculation is determined using a method of measure (ex. actual or estimated traffic counts, population, number of calls, etc.), the usage per day, and the number of users per measure (ex. 2 users per household, 1.5 user per vehicle, etc.). Use this information to calculate the total users per day. Multiply total users per day by the duration per user (in hours) to determine the user hours per year.
 - For ITT projects refer to the ITT Service Usage Calculation templates on the Corporate Asset Management webpage. For all other projects refer to Service Usage Calculation examples posted on the Corporate Asset Management webpage.
 - ii. A good starting point for service usage calculations is to determine calculations for projects that impact the entire population or network of assets. Any projects that only impact a percentage of the population or network can be prorated based on that percentage.
 - c. Service impact and user hours should be based on the service that the investment supports. For example, an IT project for the water treatment plant would use Water as the service and user hours would be based on usage of the facility.
- 3. Move to the <u>Level of Service Benefit Analysis</u> section. Refer to the Benefit Evaluation Sheet to evaluate Compliance with New Legislation, Maintain Level of Service and Enhance Level of Service. Evaluate the proposed investment relative to any of the 3 criteria that apply. If a criterion is not applicable, leave the field blank.
 - a. Compliance with New Legislation (if applicable) should be assessed from VL to VH based on the definitions provided for each rating.
 - b. Maintain Level of Service Criteria is evaluated based on anticipated risk reduction once the proposed investment is put into service. This criterion considers the change in consequence and likelihood of failure before and after the investment is made.
 - i. Select the most applicable consequence of failure category based on the definitions outline in the **Benefit Evaluation Sheet**: quality, reliability or condition.
 - ii. In the <u>From</u> column, score the consequence and likelihood of failure BEFORE the investment is made.
 - iii. In the <u>To</u> column, score the consequence and likelihood of failure AFTER the investment is made.
 - c. Assess enhance Level of Service (if applicable) by determining the most applicable consequence of failure category (quality, reliability, condition) and rating (VL, L, M, H, VH) based on the definitions in the **Benefit Evaluation Sheet**.
- 4. Move to the <u>Strategic Alignment Benefit Analysis</u> section.

- a. Based on the criteria definitions in the **Benefit Evaluation Sheet**, assess environmental sustainability and operational efficiency/revenue generation. If applicable, score from VL to VH.
- b. For Culture/Heritage, select Yes/No from the dropdown menu indicating whether the investment supports Culture and Heritage.
- c. Enables Growth and Economic Impact to be assessed by Infrastructure Planning Office.
- 5. Once the assessment is complete for each proposed investment, the <u>benefits score summary</u> and <u>rank</u> sections will automatically calculate. Overall benefit rank will be based on the cost benefit score for each investment. The lower the cost benefit points ratio, the greater the value to the City and the higher a potential investment will be prioritized.

				Benefit Eval	uation Sheet		
Moo	sure			Rating			Notes & Examples
IVIE	isure	VL	L	М	н	VH	Notes & Examples
	New Regu	nt is put into service.	The other criteria fo	r "New Regulation" a proposed i a NEW or MODIFIEI	. "Maintain LOS" crite Ind "Enhance LOS" a Investment. Dilegal/regulatory req	are strictly evaluated uirement. This include	ised on anticipated risk reduction once the on the anticipated benefits of making the deany federal or provincial regulations or part of the sewage treatment plant
Criteria		icences (<i>Environmen</i> Addresses new			Addresses a	Addresses clear	Must clearly state in the business case th
	ce with New slation	regulations which currently present either unclear requirements, are open to interpretation, or have wide tolerances within which there is a very low risk of noncompliance.	requirements which currently have significant grey areas or have tolerances within which there is general compliance but there is a low risk of non-	clear set of	requirements where there is a known and significant shortfall or moderate to high risk of noncompliance and/or a potential for fines.	and certain	address.
Benefit Criteria	established	d targets. For exampl	e, build new or replac		n in order to maintain	response time. For	les bringing levels of service up to this section, select the most applicable
	Quality		Minor deviation from expected standards, policies or LOS targets with no record of historical problems. Should address, but low priority/long term resolution.	Moderate deviation from expected standards, policies or LOS targets and may have had a sporadic history of problems. Should address, but moderate priority/medium term resolution.	Significant deviation from current expected standards, policies or LOS targets and may have had an intermittent history of problems. Must do – high priority/short term resolution.	Major deviation from current expected standards, policies or LOS targets with a history of frequent and significant problems. Must do top priority/immediate resolution.	Quality: The degree to which the infrastructure or asset meets the requirements of the customer. Considers whether the investment is fit for purpose, whether it conforms to requirements, and how it complies with standards, processes and specifications.
Consequence of Failure	Reliability	Very minor reliability problems. Issues generally not noticeable to customer.	Minor reliability problems. Occasional short-term issues affecting parts of the asset for a few hours at a time.	Moderate reliability problems. Frequent short-term issues affecting parts of the asset or occasional moderate issues	but occasional reliability problems. Extended outage (several days/ weeks) causing closure or severe use restriction.	Severe and recurring reliability	Reliability: The certainty with which the infrastructure or asset will meet performance standards and perform its required function for a given amount of time.
	Condition	system or network is generally in very good condition, typically new or recently rehabilitated. A few	Good condition. The infrastructure in the system or network is in good condition; some elements show general signs of deterioration that require attention. A few elements may exhibit significant deficiencies.	system of network is in fair condition; it	Poor condition. The infrastructure in the system or network	system or network is in unacceptable condition with	Condition: A 5 point rating scale that aligns with the Canadian Infrastructure Report Card (CIRC). This is the same rating scale used to assess asset condition within the City's Departmental Asset Management Plans and State of the Infrastructure Report.
ikelihood (of Failure	Probability of occurrence ≤5% or likely to occur beyond 10 years.	Probability of occurrence >5% or ≤10% or likely to occur within 5 to 10 years.	Probability of occurrence >10% or ≤25% or likely to occur within 4 to 5 years	Probability of occurrence >25% or ≤50% or likely to occur within 2 to 3 years.	Probability of occurrence >50% or occurred/imminent occurrence.	
Benefit Criteria		Level of Service: Dy of real time schedul			rget levels. For exam	nple, introducing GPS	s technology on Transit Buses to enhance
	Quality	Very minor improvement beyond expected standards, policy or LOS targets.	Minor improvement beyond expected standards, policies or LOS targets.	Moderate improvement beyond expected standards, policies or LOS targets.	Significant improvement beyond current expected standards, policies or LOS targets.	Major improvement beyond current expected standards, policies or LOS targets.	Quality: The degree to which the infrastructure or asset meets the requirements of the customer. Considers whether the investment is fit for purpose, whether it conforms to requirements, and how it complies with standards, processe and specifications.
Consequence of Failure	Reliability	Minor reliability improvement, largely unnoticed by customers.	Minor reliability improvement solving short-term issues affecting parts of the asset for a few hours at a time.	Moderate reliability improvement solving frequent short-term issues affecting parts of the asset or occasional moderate issues affecting larger part of the asset or lasting more than a	Moderate improvement solving moderate and recurring or severe but occasional reliability problems causing extended outage (several days/weeks) with closure or severe	Major improvement solving severe and recurring reliability problems as a result of extended outages with closure of asset or severe use restrictions that were actively driving users away.	Reliability: The certainty with which the infrastructure or asset will meet performance standards and perform its required function for a given amount of time.

	Benefit Evaluation Sheet						
Meas	Rating Notes & Examples						
		VL	L	M NADE 2: SEDATE	H GIC ALIGNMENT	VH	
		anticipate	ed benefits of the pro	iorities of Council and posed investment for	d help improve qualit r each of the strategi	ic alignment criteria t	,
Benefit	(GHG), imp	roved climate resilier c. Refer to list of "Cur	ncy, diverting and rec rrent City of Winnipeg	ducing waste, increas g Sustainability Strate	ed use of public trans gies and Relevant Pla	sportation, improved ans ".	example: reduction in greenhouse gases building energy efficiency, renewable
Environ Sustair		Very minor positive environmental impact. The project contributes to target(s) or objective(s) within any action plan related to sustainability (ex. departmental actions plans).	environmental	Moderate positive environmental impact. Contributes to two or more actions or objectives within a City sustainability strategy or plan; and/or contributes to multiple performance indicators within a specific sector (transportation, waste, land use, buildings).	Significant positive environmental impact. Significant contribution towards actions, objectives or performance indicators within the Climate Change Action Plan or Climate Resiliency Plan. Demonstrates measurable impacts (ex. percentage reduction in greenhouse gas emissions, energy consumption, enhanced climate preparedness etc).	indicators within the Climate Change Action Plan or Climate Resiliency Plan that provides incremental environmental benefits and have a high impact on either community greenhouse gases OR long term value to Winnipeg Climate Change Action Plan, Key Direction 3.5: Reduce Traffic	The specific environmental targets and deliverables that the project will achieve should be documented within the business case and quantified where possible. Ther is potential for coordination with other benefit criteria. For example: operational savings for energy efficiency as well as points for environmental stewardship as a result of reduced energy usage and/or reduced greenhouse gas emissions. Refer to Appendix A of the Benefits Evaluation Procedure for a listing of Current City of Winnipeg Sustainabilty Strategies and Relevant Plans. Spreadsheets are available to calculate emissions reductions for buildings, waste and transportation. (refer to Greenhouse Gas Calculation Tools) Contact the Office of Sustainability for questions or verification of GHG calculations (compared to most recent data year) and energy reduction calculations.
Benefit Criteria	targeted fo	r densification. Typic ithin the Planning, Pr	al projects would incl	ude sewer, water or r	oads infrastructure n	eeded for City expan	evelopment does not currently exist or is sion or densification. Please contact Urban ortunities of making the proposed
development and necessary enabling infrastructure. Waverly West, or extending sewer and water to allow for industrial and comme Growth scenarios will be based on assessments of potential growth areas across different Urban Woverly West, or extending sewer and water to allow for industrial and comme growth or upgrading the capacity of					Boulevard to support the development of Waverly West, or extending sewer and water to allow for industrial and commercia growth or upgrading the capacity of existing sewer and water to support in-fill		
Benefit Criteria	detailed an	Affect job creation, b	ousiness developmen ated economic review	t and industry produc		e full impact an inves	triment may have on the economy requires a inning Office to help evaluate the economic
Economi	c Impact	Assessments completed by City Economist will consider the following: Examples include: improved					transportation access to new inland port or the completion of a regional ring road to
Benefit Criteria	activities. E	xamples include, rep	lacing old pumps with	n new to reduce the f		ted maintenance eve	ealize savings with on-going operational nts and/or to minimize electrical d facility.
Opera Efficiency/ Gener	/Revenue	<\$50k net savings and/or revenue generation per year	\$50-\$200k net savings and/or revenue generation per year	\$200-\$500k net savings and/or revenue generation per year	\$500k-\$1m net savings and/or revenue generation per year	>\$1m net savings and/or revenue generation per year	Net savings or increase to revenue should be established with support from operational staff and validated using Net Present Value (NPV) and/or Basis of Estimate (BoE) calculations.
Benefit Criteria Culture & Heritage: Preserves and/or protects historic sites; maintains/creates performance venues and/or includes artistic features. Examples include, the renovation of a performance stage within a park/community space or graphics on sound barriers and/or bridge structures.							
Culture &	Heritage	Select "yes" if the pr	oject has a positive in	mpact on the Culture	& Heritage of the City	y.	
Multipliers	s are attribu			, improve or advance	T MULTIPLIERS e a department's ser the need for an infras		easing the total overall benefits associated (Project).
A means to quantify or measure the extent of impact a service has on Citizens. Requires departments to calculate actual usage of the service that their area delivers. The number of users and total hours spent using the service are required for this calculation.				Internal services such as assessment & taxation, city clerks, innovation, IT, legal services, municipal accommodations etc., are linked to the public service they support.			
A means to distinguish between non-essential services and those core services most critical to ensuring fundamental needs of residents of the City of Winnipeg are being met.							

References & Resources

Title	Description	Document Location
Investment	Provides a methodology to develop a consistent,	https://winnipeg.ca/infrastructure/as
Planning Manual	efficient and effective process to develop	set-management-
	Investment Plans.	program/templates-manuals.stm#3
Business Case	Template used to detail the business case and	https://winnipeg.ca/infrastructure/as
Template	rationale for making an investment.	set-management-
		program/templates-manuals.stm#4
Net Present	Template used to assess options that address a	https://winnipeg.ca/infrastructure/as
Value Template	need or take advantage of an opportunity to	set-management-
	enhance a level of service. Compares investment	program/templates-manuals.stm#4
	options for a particular project.	
Asset	Tool used to assess the cost and benefits of	https://winnipeg.ca/infrastructure/as
Management	projects; creates a priority list of projects to be	set-management-
Prioritization Tool	used to create the department's capital budget	program/templates-manuals.stm#4
	submission.	
GHG Calculation	Calculation templates to be used to assess Green	https://winnipeg.ca/infrastructure/as
Templates	House gas reduction for solid waste, building and	set-management-
	vehicles.	program/templates-manuals.stm#4
Service Usage	Example of standard calculations used to determine	https://winnipeg.ca/infrastructure/as
Calculation	service usage by departments.	set-management-
Examples		program/templates-manuals.stm#4
ITT Service Usage	Template and methodology to determine service	https://winnipeg.ca/infrastructure/as
Calculation	usage for ITT projects.	set-management-
Template		program/templates-manuals.stm#4

Appendix A: Current City of Winnipeg Sustainability Strategies and Relevant Plans

Strategy or Plan	Description	Reference
Departmental	As they support environmental resiliency.	OurWinnipeg:
Action Plans	Examples include: <i>OurWinnipeg</i> , Green Fleet	https://winnipeg.ca/interhom/CityHall/OurWi
	Plan, Garbage & Recycling Action plan, Combined Sewer Overflow (CSO) Master Plan,	nnipeg/
	Transportation Master Plan, etc.	Combined Sewer Overflow Master Plan:
	,	https://www.winnipeg.ca/waterandwaste/pu
		blicengagement/cso-mp/default.stm
		Green Fleet Plan:
		https://www.winnipeg.ca/Sustainability/docu
		ments/SustainableTransportation/Green-
		<u>Fleet-Plan.pdf</u>
		Garbage and Recycling Master Plan:
		https://www.winnipeg.ca/waterandwaste/ga rbage/grmp.stm
		Transportation Master Plan:
		https://www.winnipeg.ca/publicworks/transp
		ortation/transportationmasterplan.stm
		Transit Master Plan:
		https://winnipegtransit.com/en/major-
		projects/transit-master-plan/
		Pedestrian and Cycling Strategies:
		https://www.winnipeg.ca/publicworks/pedes
		triansCycling/strategiesActionPlan/pdf/strate
		gy.pdf
		Parks and Recreation Strategies:
		https://winnipeg.ca/cms/projects/rec_parks/r
		ec parks.stm
		Urban Forestry Strategy (under development)
Winnipeg	Climate Change. Acting for People. The Plan	https://winnipeg.ca/sustainability/PublicEnga
Climate Action	provides a framework to proactively,	gement/ClimateActionPlan/pdfs/WinnipegsCli
Plan	meaningfully, and effectively mitigate climate	mateActionPlan.pdf
	change by reducing greenhouse gas emissions.	
		Specific Deliverables/Actions identified
		throughout plan (Pg. 57 – 68 of Climate
		Change Action Plan)
		2. Emission Reduction Targets/Performance
		Indicators (Page 71-73, Tables 7.1 – 7.4)

Strategy or Plan	Description	Reference
Climate Resiliency Strategy (Under development)	Identified as a key action in the Winnipeg Climate Change Action Plan and currently under development. To include items such as COS reduction, urban heat island, flood planning, etc. Until the City plan is published, departments should identify their own adaptation projects and outline their impact on climate resiliency within the project business case.	
Corporate Waste Reduction Strategy	The Corporate Waste Reduction Strategy was approved by Council in 2015 and is part of an ongoing effort to pursue waste reduction and recycling in all types of City facilities. Goals include adopting waste diversion targets and a corporate zero waste philosophy to reduce waste going to landfill through policies that support the waste reduction hierarchy.	http://clkapps.winnipeg.ca/DMIS/ViewDoc.as p?DocId=14396&SectionId=&InitUrl=
Green Building Policies	Outlines requirements for construction of new buildings and major additions and provides direction on the energy and water benchmarking requirements for existing Cityowned and leased buildings.	 Green Building Policy: New City-owned Buildings and Major Additions https://winnipeg.ca/Sustainability/documents/GreenBuildings/Green-Building-Policy.pdf Green Building Policy for Existing City-owned and leased Buildings https://winnipeg.ca/Sustainability/documents/GreenBuildings/Green-Building-Policy-for-Existing-City-owned-and-leased.pdf
Ecologically Significant Natural Lands and Strategy Policy	The City of Winnipeg will be a city which has protected important pockets of natural flora and fauna representative of the original natural ecosystems and lands susceptible to damage from flooding or erosion for the enrichment of the quality of life of the citizens of Winnipeg.	https://www.winnipeg.ca/publicworks/parks OpenSpace/NaturalistServices/PDF/ESNL.pdf