



Item No.: 6A_supp
Date of Meeting: Mar 5, 2020

Northwest Seaport Alliance

Discount Rate and Net Present Value March 5, 2020

Background

As borrowing rates have decreased the question has been asked if the discount rate used for financial analysis (currently 8.4%) should be reduced



Introduction

- The discount rate is the interest rate used to determine the present value of future cash flows (net present value)
- The discount rate makes it possible to estimate how much the project's future cash flows would be worth in present dollars
- Changes in the discount rate are unlikely to alter decisions between two investments (as long as the same rate is used for each)



Primary Project Financial Considerations

- **Net Present Value**

- Focuses on discounted cash flows
- Includes:
 - Acquisition costs, project costs, revenue and expenses
 - Opportunity costs in some cases
- Current discount rate is 8.4% for longer term payback

- **Debt Service Coverage (home port)**

- Margin of safety for payment of debt service on the debt required to finance either a project or the entire entity
- Debt service coverage determines the Port's ability to borrow and higher debt service coverage supports higher credit ratings which may affect the interest rate that the port pays on new debt or existing variable rate debt
- POT currently targets 2x debt service coverage. POS (non-airport) 1.8x.

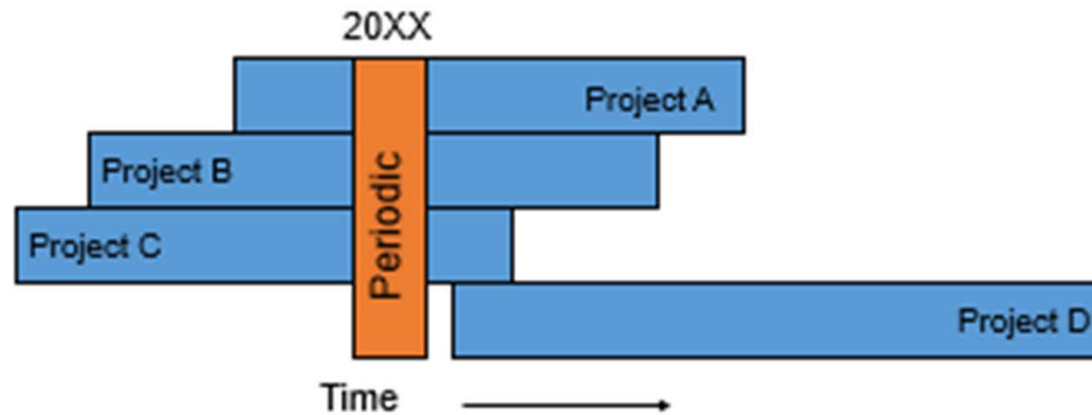


Secondary Project Financial Considerations

- **Internal Rate of Return**
 - A fallout of the NPV calculation. Want IRR to exceed our discount rate.
- **Return On Assets**
 - Net Income divided by total assets.
- **Payback period**
 - The number of years required to recover the Port's investment
 - Intuitively measures how long a project takes to "pay for itself"
 - Payback does not take into account the time value of money, magnitude of investment, risk, financing or opportunity costs
 - In general, the longer the payback, the more risky the project



Time vs Project Based Measures



- Project Measures: NPV, IRR, payback period
- Periodic Measures: ROA, Net Income, Debt service coverage
 - Can be entity wide measures and/or project specific measures

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Discount Rate Methodology & History

Discount Rate Formula

	<u>< 8 Years</u>	<u>> 8 Years</u>
Borrowing Rate	X	X
Multiplier	1.5	1.7
Risk	1%	2%

Calculation (Multiplier x Borrowing Rate)+ Risk

	2016	2017	2018	2019	2020
Borrowing Rate	3.79%	3.29%	3.56%	3.67%	2.85%
Calculated Discount Rate					
< 8 Years	6.7%	5.9%	6.3%	6.5%	5.3%
> 8 Years	8.4%	7.6%	8.1%	8.2%	6.9%
Discount Rate Used					
< 8 Years	6.7%	6.7%	6.7%	6.7%	6.7%
> 8 Years	8.4%	8.4%	8.4%	8.4%	8.4%



2020 What If Scenario

Scenario One - Lower the discount rate based on lowered borrowing cost

Borrowing rate	2.9%
Calculated Discount Rate	6.9%
Principal (30 year loan)	(1,000,000.00)
Debt service coverage ratio	
Average Debt Service first 5 years	130%
Average Debt Service 30 years	194%
Cash Available	
Average Excess Cash first 5 years	\$ 15,067.17
Average Excess Cash 30 years	\$ 47,210.04

Scenario Two - Maintain the standard discount rate in a lowered borrowing rate environment

Borrowing rate	2.9%
Standard Discount Rate	8.4%
Principal (30 year loan)	(1,000,000.00)
Debt service coverage ratio	
Average Debt Service first 5 years	135%
Average Debt Service 30 years	202%
Cash Available	
Average Excess Cash first 5 years	\$ 17,684.79
Average Excess Cash 30 years	\$ 51,119.48



Financial Standards Considerations

- Financial Analysis Alternatives
 - Proposed business deal should be evaluated against other realistic alternatives
 - Alternatives could include
 - Sale of land/facility if appropriate (home port impact)
 - Alternate use of land/facility with or without major investment
 - Book Value where the above is impractical (e.g., small investment)
 - Cash to ports to pay down debt or invest



Financial Standards Considerations

- Historically, financial analysis has been one input into a decision
 - NPV/IRR has been a target not a hurdle—non financial measures have been considered
 - Ports have established debt service targets above bond covenants
- Historically, some projects that don't meet the financial target have been authorized due to other considerations:
 - Job growth/retention
 - Strategic significance
 - Environmental
 - Public stewardship





Financial Standards: Recommendation

- Continue to use 8.4% as the discount rate target
- Adjust discount rate as needed if longer term trends show significant changes. Multi-year decisions benefit from infrequent changes
- Set an expectation that all approved projects have a NPV greater than zero at the agreed upon discount rate.