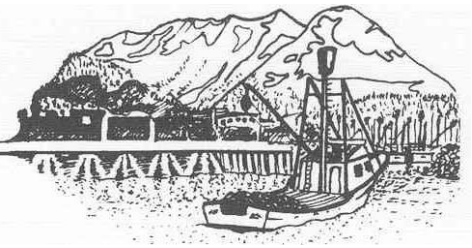
CITY OF CORDOVA



Chairman:
Andy Craig
Commissioners:
Mike Babic
Max Wiese
Ken Jones
Christa Hoover
Harbormaster:
Tony Schinella
Admin Assistant:
Brandy Griffith

HARBOR COMMISSION REGULAR MEETING
MAY 11, 2022 @ 6:00 PM
COUNCIL ROOM A&B

AGENDA

CALL TO ORDER

ROLL CALL
Andy Craig, Max Wiese, Ken Jones, Mike Babic, Christa Hoover

1. **APPROVAL OF REGULAR AGENDA**…….…..……..... (Voice vote) Page 1
2. **APPROVAL OF MINUTES**……..…….
   A. Next meeting
3. **COMMUNICATIONS BY VISITORS**
   A. Audience comments regarding agenda items (3 minutes per speaker)
4. **HARBORMASTER REPORT**…….....Next Meeting
5. **NEW BUSINESS**
   A. Harbor Rate & Cash Flow Study Draft with Michael Fisher of Northern Economics…….... Page 3-22
6. **MISCELLANEOUS BUSINESS A.** Harbor Master Plan review.....Page 23-36
7. **AUDIENCE PARTICIPATION**
8. **COMMISSION COMMENTS & NEXT MEETING AGENDA ITEMS**
9. **ADJOURNMENT**.....(voice vote)

Cordova Harbor Rate and Cash Flow Study

Draft v3

Prepared for

City of Cordova

April 2022

Prepared by

Northern Economics

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Contents

Introduction

The purpose of a rate study is to apply a structured process to the evaluation of rates being charged for the use of facilities and services. There are two general kinds of rate studies—market-based and cost-based—each of which has its own purpose. Market-based rate studies are concerned with competitiveness relative to a group of peers, while cost-based rate studies look at the costs of constructing, operating, maintaining, and replacing facilities to consider the facility's uniqueness and financial situation in setting rates.

This report presents the findings of a cost-based rate study for the City of Cordova's port and harbor facilities, including the replacement of harbor and waterfront improvements. The goal of this analysis is to build and maintain a modern, efficient port for a town that is almost entirely economically reliant on commercial fishing. To that end, the analysis includes South Harbor RAISE work in 2022 and the planned North Harbor PIDP work in 2024 and North Harbor Float Replacement in 2036. Other, smaller projects include a new harbor office in 2025, a new north ramp breakwater in 2027, and a new travel lift in 2032. The analysis also considers the effect of debt issuance needed to fund a portion of the cost of these improvements and looks at projected cash flows to provide better recommendations for sustainable, cost-based rates. More information about the approach, data sources, and assumptions used for this study can be found in the section titled, *Analysis*.

Findings and Recommendations

This section discusses the findings of the rate and cash flow study, followed by recommendations. Please see the section titled *Analysis* for detailed assumptions.

Findings

The baseline analysis assumes construction of harbor and waterfront improvements, along with the debt needed for their completion, but it does not include changes to rates beyond inflation. Under the baseline, the net present value of costs is $118.1 million, which is reduced to $35.1 million after offsetting the cost with fixed revenues and grant and debt proceeds. On an annualized basis with offsets, this translates to an annual revenue requirement of $1.63 million compared to $1.59 million of adjustable revenues. Therefore, the baseline analysis calls for a one-time, across-the-board increase of 2.5 percent to moorage and other adjustable rates, along with annual inflation adjustments, without which the port and harbor working funds would be depleted. However, once fund balances are considered, there are several times over the next 30 years in which fund balances would be insufficient to meet projected capital and operation needs.

The analysis looks at two scenarios for rate increases to address this funding shortfall. The first would only include annual adjustments intended to cover inflation plus a catch-up amount, while the second would introduce a one-time rate increase in addition to annual rate adjustments.

In the first scenario, annual rate increases of 10.4 percent would be required for the initial three years (2023 through 2025) to avoid a funding shortfall, after which rate increases of 3.0 percent annually should meet needs. In the second scenario, an initial 19.0 percent rate increase (15.0 percent adjustment to 2022 rates as suggested by the rate study, plus 4.0 percent inflation adjustment to 2023) followed by annual rate increases of 4.0 percent for 2023 through 2025 and then 3.2 percent thereafter would avoid a funding shortfall.

Table 1 summarizes the rate changes to meet the goal of avoiding a shortfall in working funds.

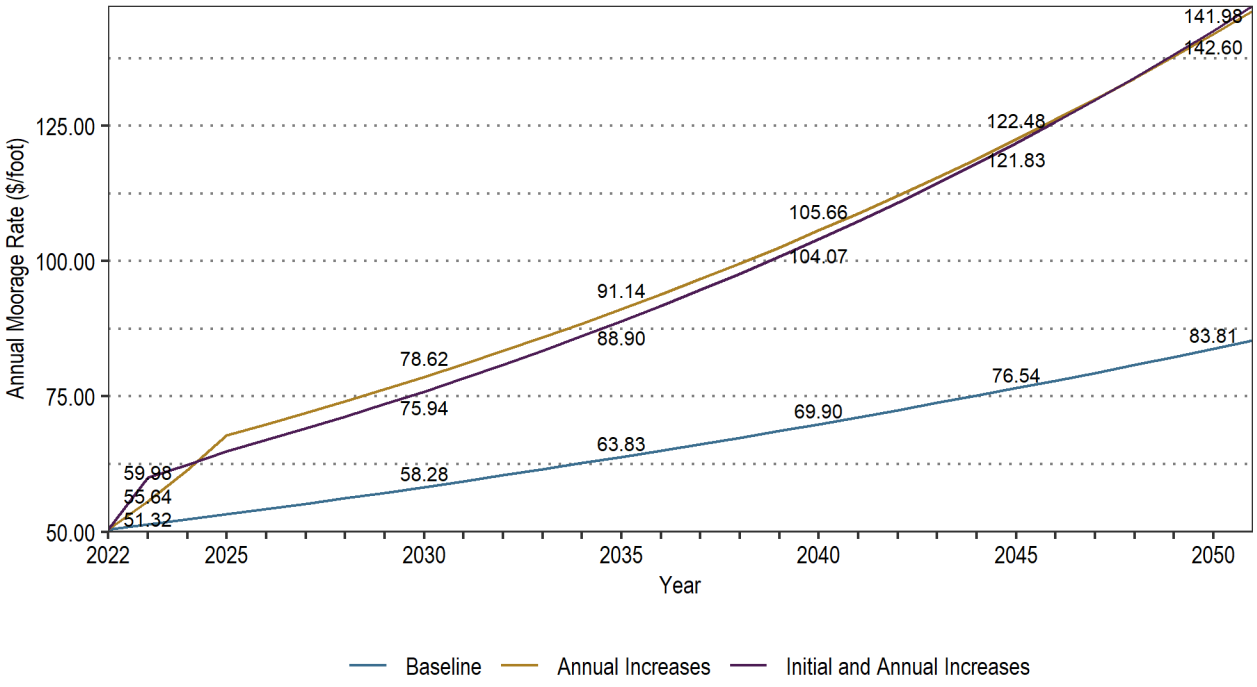
Table 1. Summary of Cost Analysis Findings

Scenario	Initial Rate Adjustment (%)	Annual Inflation Adjustment (%)		Moorage Rate ($/foot)		
		2023–2025	2026–2051	2022	2023	2024
Baseline	0.00	1.83	1.83	50.40	51.32	52.26
Annual Increases	0.00	10.40	3.00	50.40	55.64	61.43
Initial and Annual Increases	15.00	4.00	3.20	50.40	59.98	62.38

Source: City of Cordova (2021b) and Northern Economics analysis

The resulting annual moorage rates are shown for the next several years are shown in Figure 1. Please note that while moorage rates are shown, the analysis assumes adjustments would be made to all rates for use of Cordova's port and harbor facilities.

Figure 1. Summary of Moorage Rates by Scenario 2022–2051

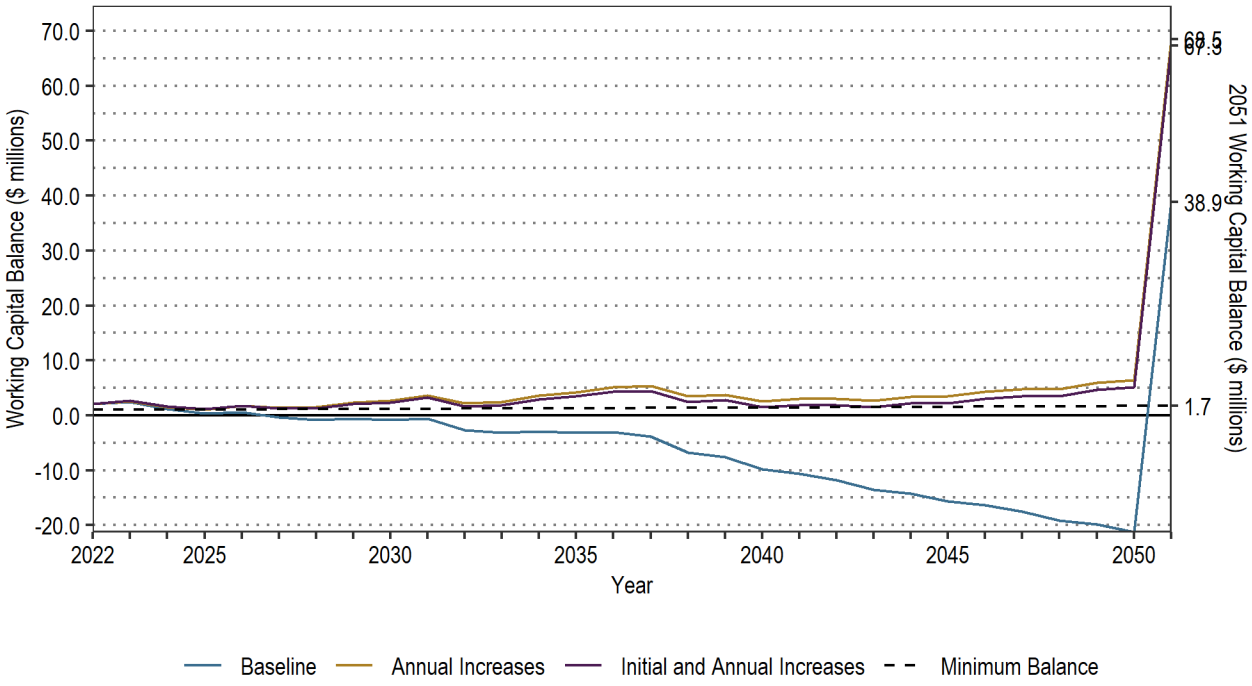


Source: City of Cordova (2021b) and Northern Economics analysis

The projected fund balance over time is shown in Figure 2. The increase shown in 2051 is due to the residual value of facilities and is intended to show the working capital balance relative to the cost of replacing facilities again in the future. Since most facilities are presumed to have a 40-year useful life, at the end of the 30-year analysis period those facilities would have one-quarter of their value remaining. The working capital balances under each scenario can be compared with the net present value shown above, with an inflation adjustment. After 1.83 percent annual inflation for 30 years, about $60 million would be needed, assuming a similar mix of debt and grant funding for the next replacements. The figure shows that the two scenarios with increases beyond inflation would exceed that amount, meaning that rates could potentially be eased longer term. However, it is very important to note the further into the future these projections are made, the less certain they are, and actual experiences with capital and operating cost increases, enacted rate adjustments, and other policy decisions will have a great deal of influence on the outcome.

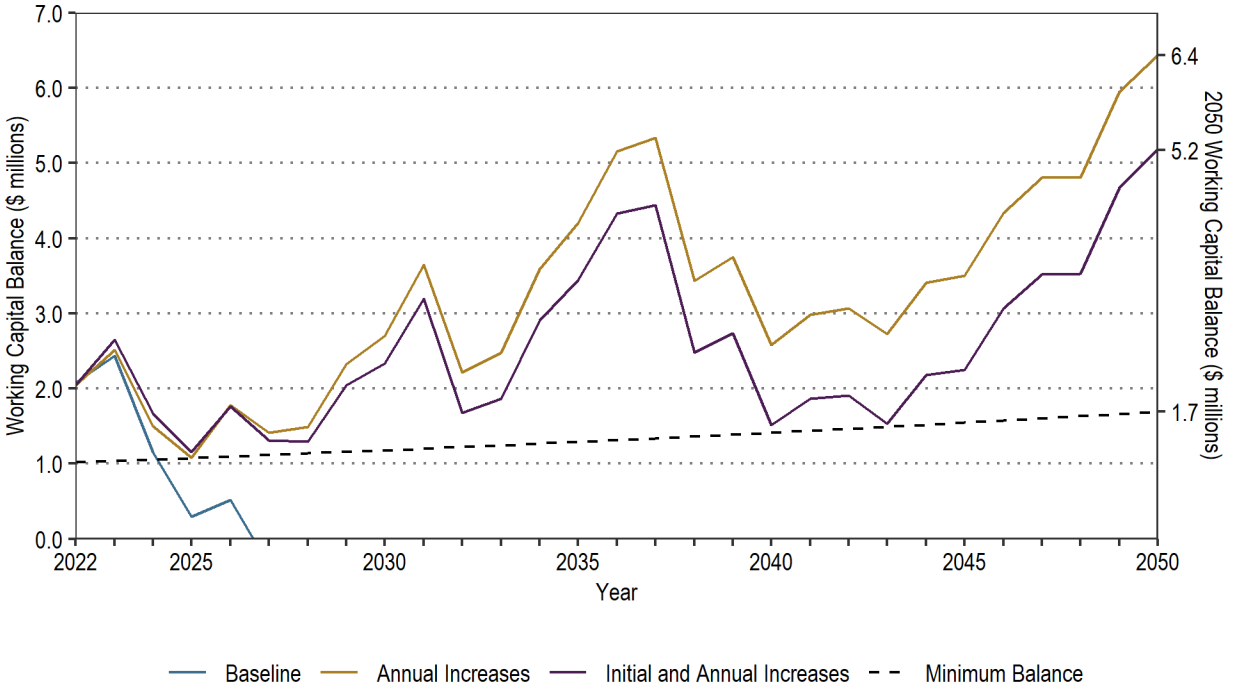
Figure 3 focuses on the working capital balance projections for those two increase scenarios through 2050. As noted above, both scenarios maintain working capital balances above the inflation-adjusted target and begin to build working capital rapidly in the mid- to late 2040s.

Figure 2. Projected Working Capital Balance, Nominal Dollars, 2022–2051



Source: Northern Economics analysis

Figure 3. Projected Working Capital Balance, Increase Scenarios, Nominal Dollars, 2022–2050



Source: Northern Economics analysis

Comparison of Annual Reserved and Daily Transient Moorage Rates

This section compares the current moorage rates in Cordova to those in other harbors. It considers annual reserved moorage rates and daily transient rates. While rates in other harbors may or may not change in the future, several the harbors shown do make annual adjustments to account for inflation and may make other changes to account for planned improvements. Therefore, while it is impossible to know how Cordova's rates will compare with other harbors in the future, it is reasonable to assume that changes to rates over time will be at least partially matched by some ports.

The comparison includes the harbors in Homer, Juneau (including Aurora, Douglas, Harris, and Statter Harbors), Petersburg, Seward, Sitka, Unalaska (including Bob Storrs International Boat Harbor and Carl E. Moses Boat Harbor), Valdez, and Whittier. The rates shown account for all local fees and sales taxes and, where applicable, show the daily transient rate for advance payment (versus billed) and the summer season (versus winter, during which Whittier does not offer a daily rate).

Table 2 summarizes the comparison of relative rates and figures over the next four pages give more detail about absolute and relative moorage costs.

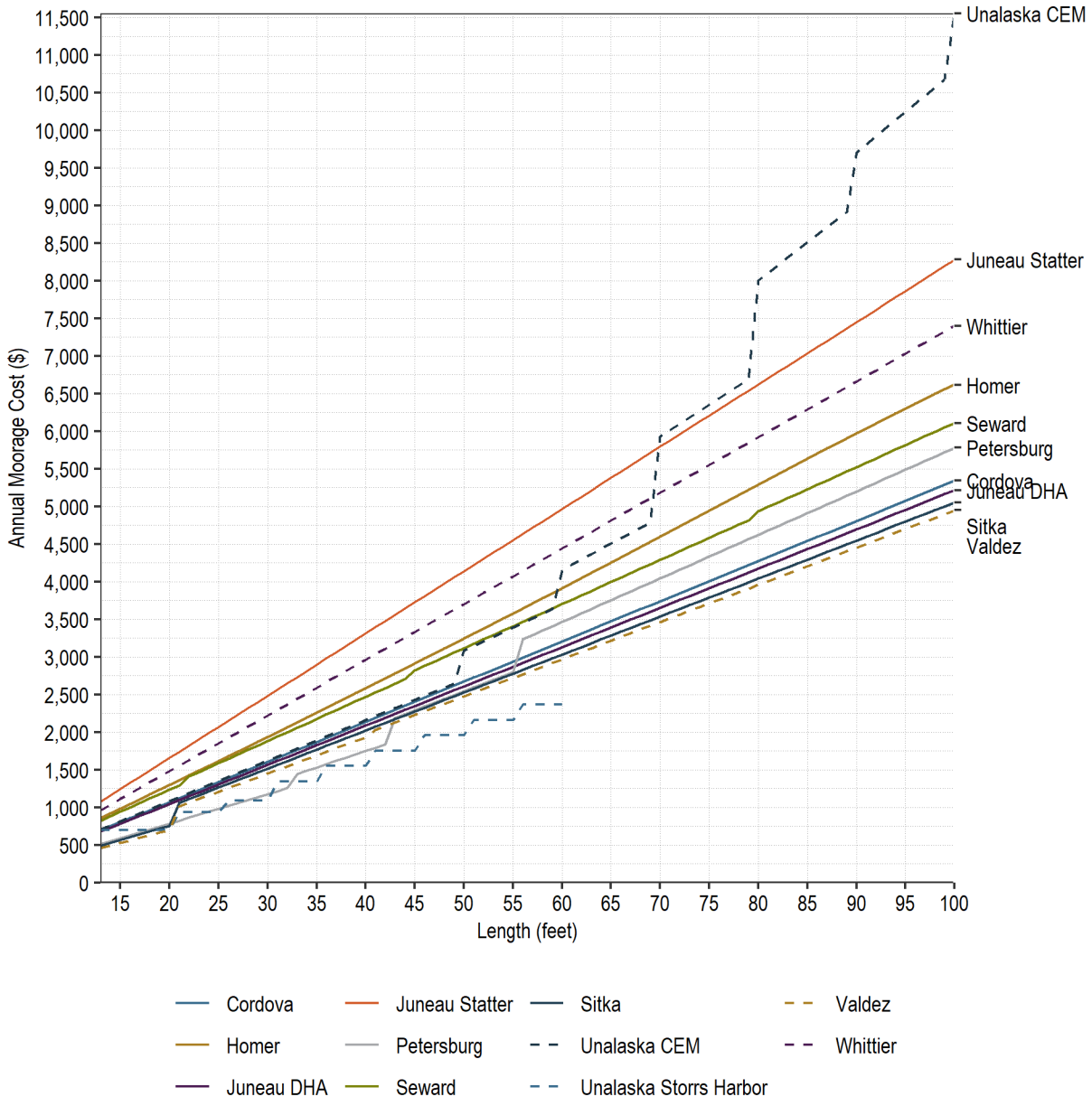
Table 2. Summary of Moorage Rates Relative to Cordova for Vessels 20–100 Feet

	Moorage Rates Relative to Cordova	
Harbor	Annual Reserved	Daily Transient
Cordova	1.00	1.00
Homer	1.21–1.24	1.44–1.66
Juneau DHA	0.98	0.55
Juneau Statter	1.55	
Petersburg	0.73–1.08	0.65–0.65
Seward	1.14–1.20	0.75
Sitka	0.71–0.95	1.06–1.81
Unalaska CEM	1.01–2.16	0.25–0.55
Unalaska Storrs Harbor	0.65–0.83	0.31–0.40
Valdez	0.66–0.93	0.66
Whittier	1.39	1.01

Source: City of Cordova (2021b), City of Homer (2022), City and Borough of Juneau (2022), Petersburg Borough (2019), City of Seward (2021), City and Borough of Sitka (2022), City of Unalaska (2021), City of Valdez (2021), City of Whittier (2021), and Northern Economics analysis

Annual moorage rates for permanent or reserved moorage are shown in Figure 4 and Figure 5. While Cordova's moorage is higher than Valdez and a few other harbors, it is less expensive than many of the other harbors, particularly for larger vessels.

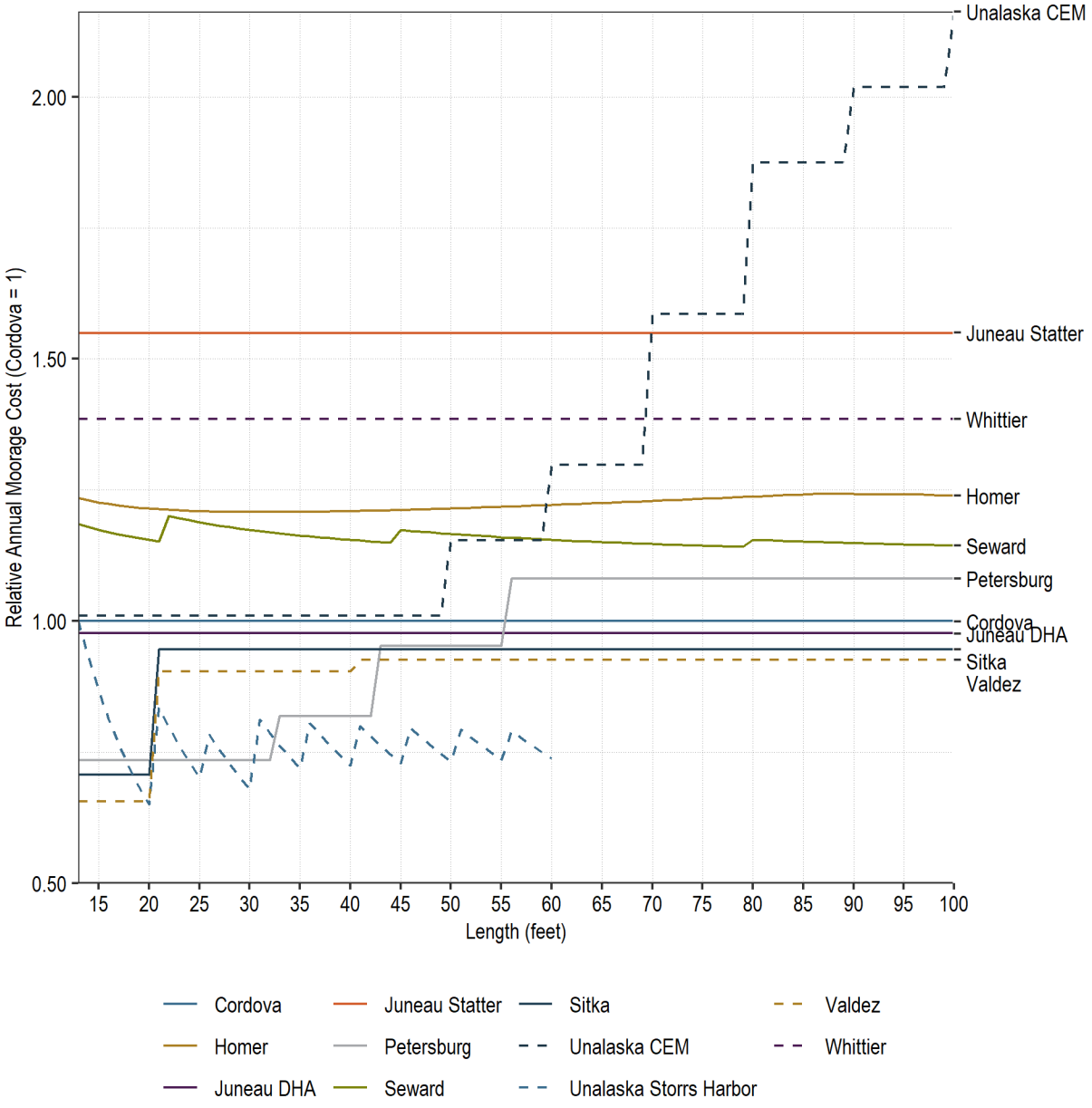
Figure 4. Comparison of Annual Reserved Moorage Rates for Selected Harbors



Source: City of Cordova (2021b), City of Homer (2022), City and Borough of Juneau (2022), Petersburg Borough (2019), City of Seward (2021), City and Borough of Sitka (2022), City of Unalaska (2021), City of Valdez (2021), City of Whittier (2021), and Northern Economics analysis

Figure 5 illustrates this point by showing the relative annual moorage cost by vessel length. In this figure, Cordova is shown with a value of 1. For vessels of 20–100 feet in length, Valdez is only 66–93 percent of Cordova's cost, though Whittier is 39 percent more expensive, and Seward is 14–20 percent more expensive.

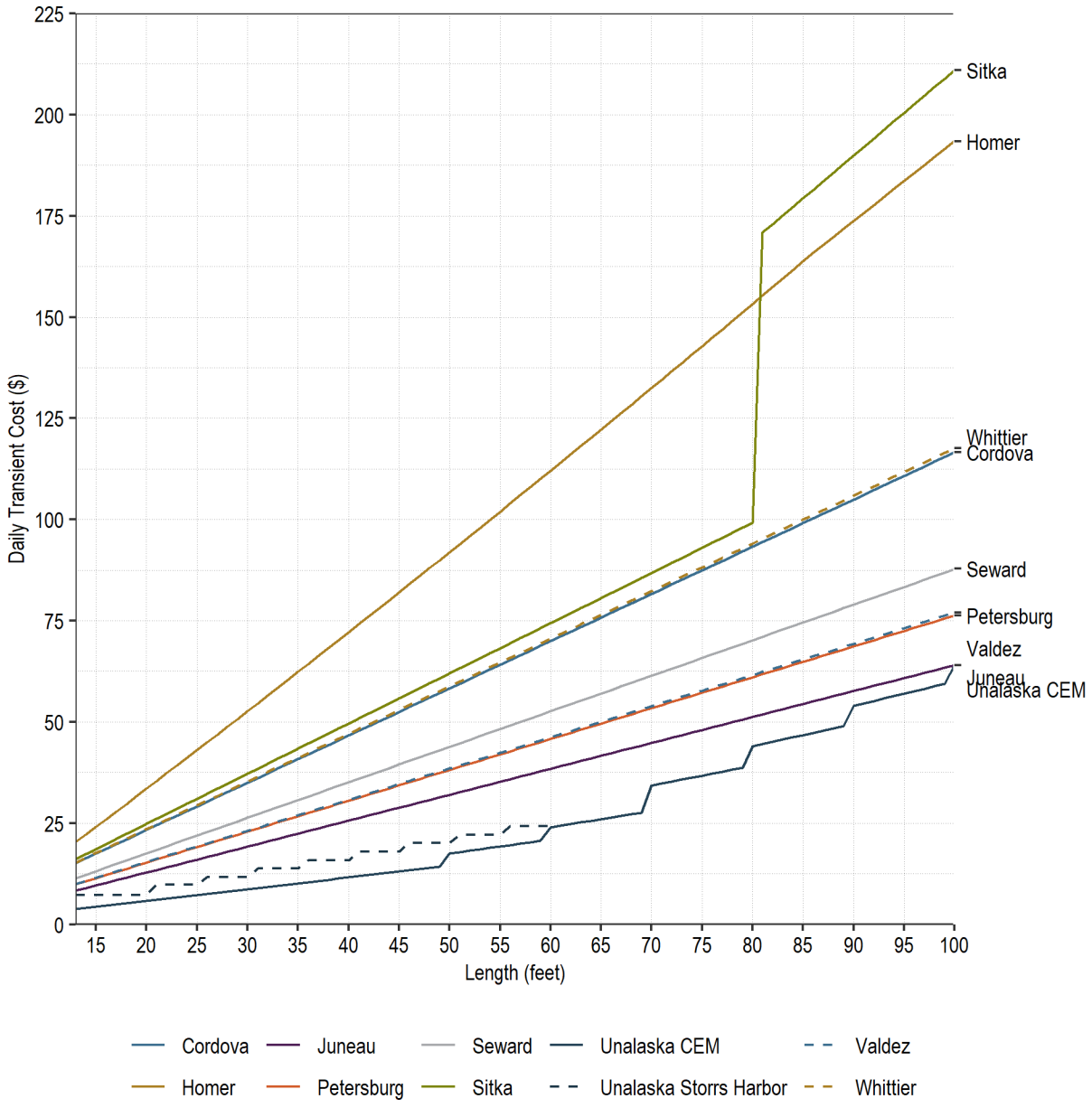
Figure 5. Comparison of Relative Annual Reserved Moorage Rates for Selected Harbors



Source: City of Cordova (2021b), City of Homer (2022), City and Borough of Juneau (2022), Petersburg Borough (2019), City of Seward (2021), City and Borough of Sitka (2022), City of Unalaska (2021), City of Valdez (2021), City of Whittier (2021), and Northern Economics analysis

Daily transient moorage rates are shown in Figure 6 and Figure 7. In contrast to annual reserved moorage, Cordova's daily transient rates are at the high end, with only Whittier, Homer, and Sitka above it.

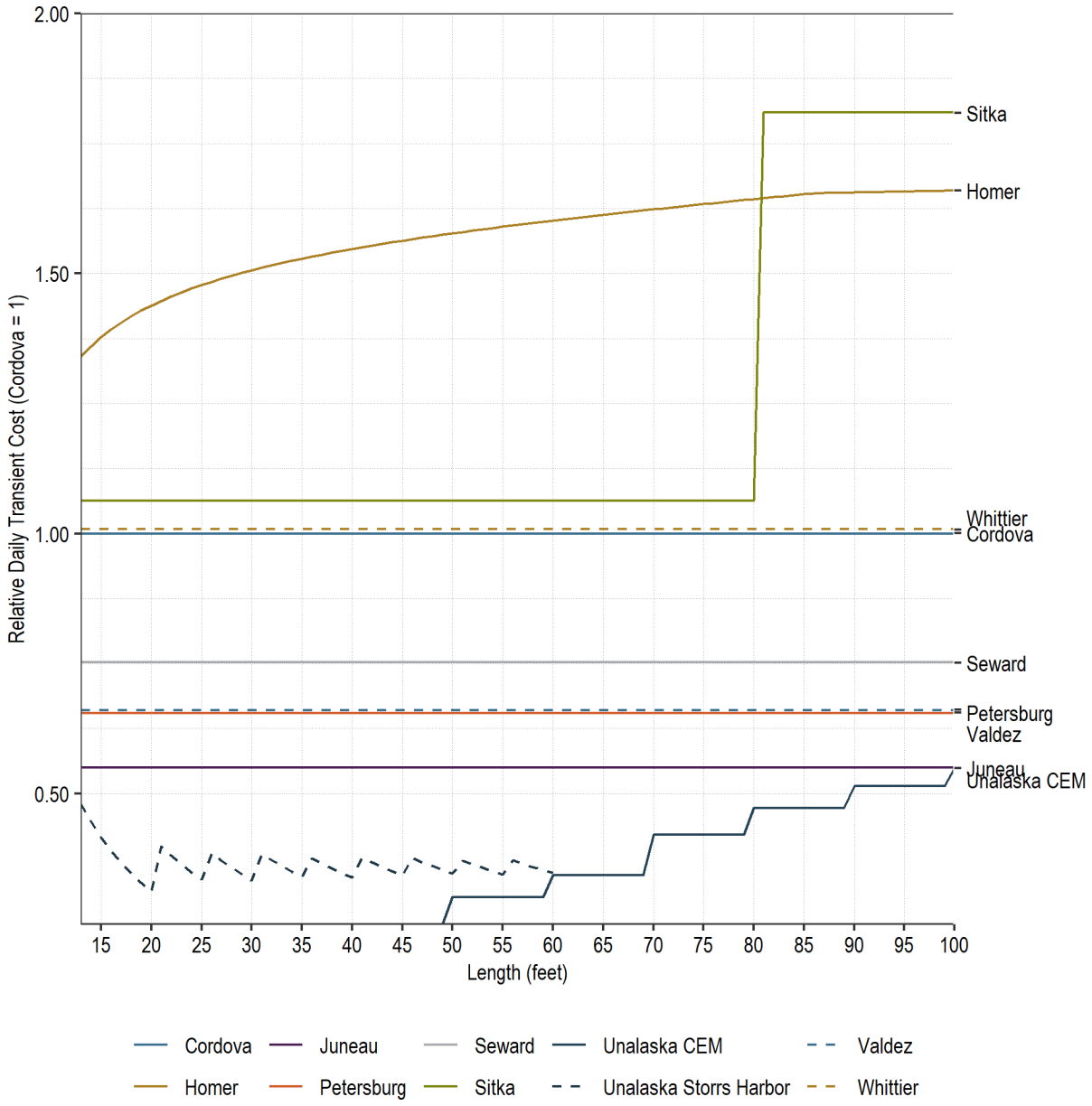
Figure 6. Comparison of Daily Transient Moorage Rates for Selected Harbors



Source: City of Cordova (2021b), City of Homer (2022), City and Borough of Juneau (2022), Petersburg Borough (2019), City of Seward (2021), City and Borough of Sitka (2022), City of Unalaska (2021), City of Valdez (2021), City of Whittier (2021), and Northern Economics analysis

Figure 7 shows the relative rates, with Sitka leading for larger vessels (81 percent more expensive than Cordova for 100-foot vessels), followed by Homer at 44–66 percent more than Cordova. Whittier is just 1 percent more expensive than Cordova's daily transient rates.

Figure 7. Comparison of Relative Daily Transient Moorage Rates for Selected Harbors



Source: City of Cordova (2021b), City of Homer (2022), City and Borough of Juneau (2022), Petersburg Borough (2019), City of Seward (2021), City and Borough of Sitka (2022), City of Unalaska (2021), City of Valdez (2021), City of Whittier (2021), and Northern Economics analysis

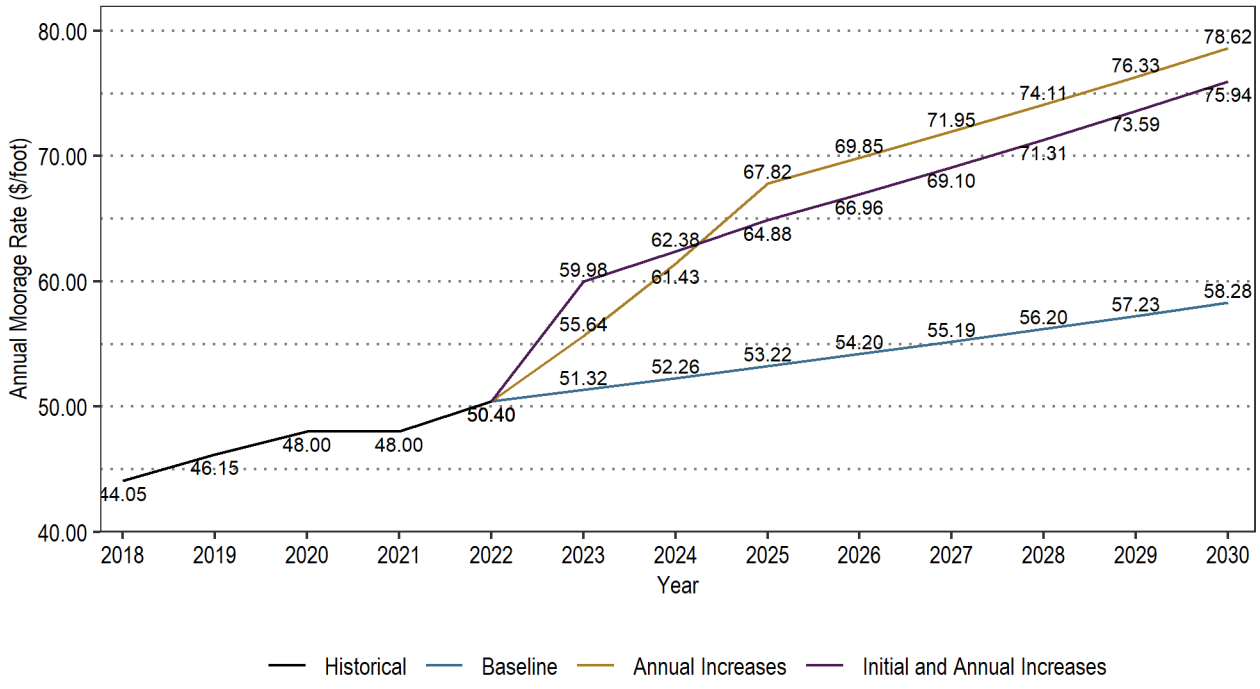
Discussion and Recommendations

The City of Cordova will need to make rate adjustments to ensure sufficient funds are available for harbor operations and capital needs. That said, based on the RAISE Grant funds awarded for the South Harbor reconstruction, it is in a strong position. The primary risk from a cash flow standpoint appears to be the availability of grants and other private funds for future large improvements. As discussed in the *Assumptions* section, the analysis assumes that North Harbor PIDP work will cost $29.5 million (in today's dollars) in 2024 and $20 million for North Harbor Float Replacement in 2036, with the 2024 work largely paid for by $27.0 million of grants and the 2036 work to a lesser extent and with more reliance on debt. Other, smaller projects are also assumed in 2025 (new harbor office), 2027 (new north ramp breakwater), and 2032 (new travel lift).

It appears that the city could meet its needs with either a one-time rate increase followed by modest annual increases or with a few years of larger annual increases followed by lower annual increases thereafter. The decision between the two approaches is largely a policy decision and could be based on users' tolerance for a single large increase versus planned increases over multiple years.

Figure 8 compares historical (2018–2022) and projected (2023–2030) rates for annual moorage under each scenario. As mentioned earlier, moorage rates are used for comparison though the analysis assumes that all port and harbor rates would be adjusted by the same percentages.

Figure 8. Comparison of Current and Recommended Rates, 2018–2030



Source: City of Cordova (2018, 2019, 2021a, 2022a) and Northern Economics analysis

Analysis

This section provides more detail about the approach, data sources, and assumptions that were used in the analysis and to create the findings presented in the prior section.

Approach

The analysis uses a life cycle cost approach to evaluate the complete cost of operating, maintaining, and replacing the City of Cordova's harbor facilities. Conceptually, we have used this approach to find the total cost of the facilities, expressed in today's dollars, and then develop an annualized cost to be covered through moorage revenues and other sources to achieve financial sustainability. A cash flow model was then developed to evaluate the working capital balance over time.

This cash flow model was used to fine tune rate adjustments to meet a minimum balance; this process resulted in the rate changes discussed in the prior section. While countless approaches could be applied to develop changes in rates over time, the approach used for this analysis was to make the minimum number of adjustments to demonstrate the viability of each scenario.

It is important to note that the analysis does not include depreciation expense, as it is a non-cash expense used when a cost is capitalized and recorded as an accounting expense over the depreciable life of the asset. Government Accounting Standards Board Statement 34 (GASB 34) requires public entities to recognize depreciation expense in their financial statements, regardless of funding sources, presumably from the perspective of encouraging municipalities to think about asset value and replacement over time. A life cycle cost model, by definition, assumes facility replacements occur over time and includes an annualized cost for these replacements. In fact, the annualized replacement cost produced by the model exceeds the straight-line depreciable amount due to inflation.

The life cycle cost combines the acquisition or construction, operations, maintenance, and replacement cost of facilities over their useful lives. This forward-looking approach uses the time value of money concept to "discount" future life cycle costs over a set period (2022–2051 for this analysis) to a single net present value in 2021 dollars. That cost is then annualized to arrive at an annual portion of the harbor facilities' life cycle costs that needs to be covered by moorage and other revenues.

Following the life cycle cost analysis, Northern Economics developed a model of the harbor's cash flow and working capital balance over the 30-year study period. The model uses the recommended rate structure, annual rate increases, and historical information to estimate revenues received by the harbor. On the expense side, the model considers both annual operations and maintenance spending and periodic capital project costs.

Data Sources

This section briefly discusses data sources used in the modeling effort for this analysis.

Table 3 presents a count of slips by size and the total linear footage of moorage stalls in Cordova.

Table 3. Vessel Stalls by Size

Stall Size (Feet)	Number of Stalls	Total Linear Feet
20	64	1,280
24	82	1,968
26	16	416
30	267	8,010
36	34	1,224
40	119	4,760
50	103	5,150
60	28	1,680
68	8	544
100	1	100
Total	**722**	**25,132**

Source: Schinella (2022)

Table 4 summarizes the three most recent years of revenue sources for Cordova's port and harbor.

Table 4. Summary of Harbor Fund Revenues, 2019–2021

Revenue Source	2021	2020	2019
Slip fees (permanent, monthly, daily, seaplane)	$1,192,500	$1,212,935	$1,099,868
Wharfage and dockage	$201,000	$84,696	$236,422
Rents, leases, and storage fees (Dry Land Storage Fees, Shipyard Storage)	$90,000	$90,000	$72,501
Travel lift fees	$105,000	$105,000	$101,612
Launch Ramp Fees	$2,000	$2,500	$1,741
Other revenues	$45,800	$40,035	$94,182
Investment income	$1,500	$1,500	$162
State of Alaska PERS relief	$33,181	$24,627	$22,612

Source: City of Cordova (2020)

Harbor operations expenditures have averaged $1.3 million annually over the past three years (City of Cordova 2020). Expenses for parts and services for repairs have grown over the last several years, as shown in Table 5. During the period shown, nearly 400 hours of harbor staff labor time was used for repairs and improvements to South Harbor (Schinella 2022).

Table 5. Summary of Harbor Maintenance Expenses, 2015–2019

Year	Repair Expenses for Parts and Services
2015	$17,731.02
2016	$57,681.81
2017	$79,545.82
2018	$111,651.14
2019	$122,731.44

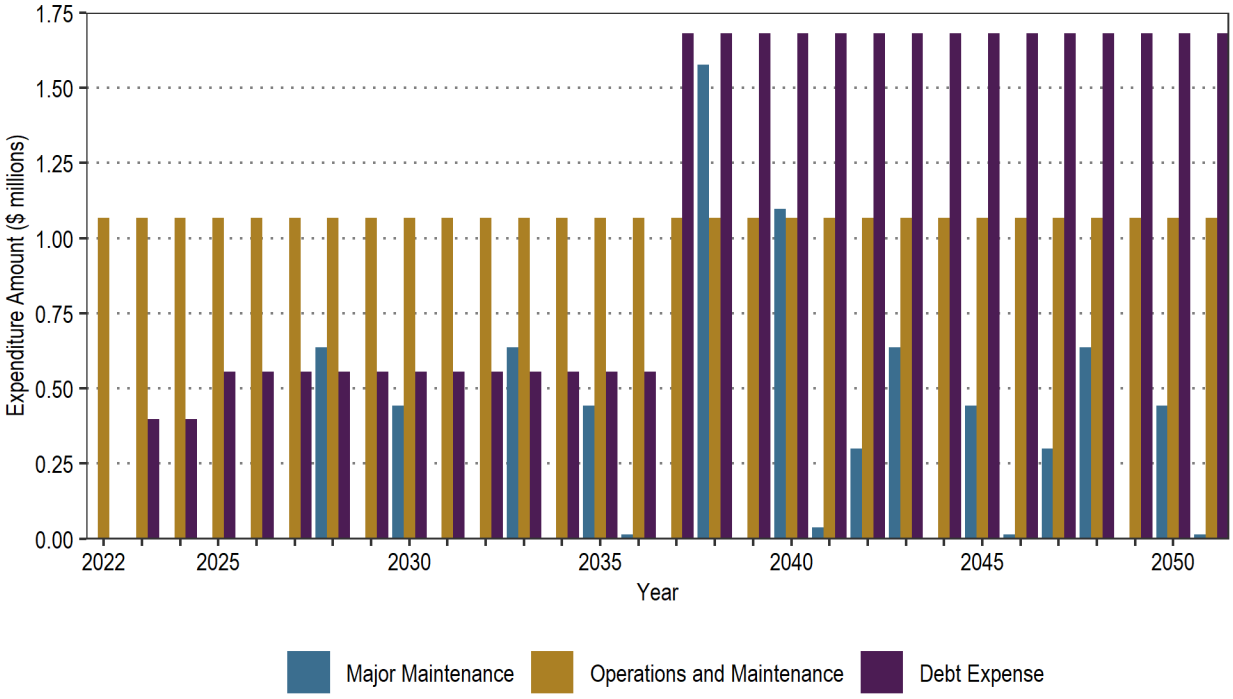
Source: Schinella (2022)

Assumptions

This section briefly presents assumptions used in the modeling effort for this analysis.

Figure 9 shows the projected expenditures over time in real dollars, meaning that the actual (nominal) cost in each year will increase based on inflation.

Figure 9. Projected Expenditures over Time, 2022–2051



Approximately $1.1 million will be expended annually for regular harbor operations. Debt expense will increase as it is used to finance improvements, first with the South Harbor reconstruction and then other waterfront improvements in the uplands and North Harbor. With the new infrastructure in place, periodic major maintenance expenses will be incurred to care for those facilities.

There are five types of revenues considered to be adjustable in the analysis, meaning that they are subject to the percentage adjustments under each alternative:

- Slip fees (permanent, monthly, daily, seaplane)
- Rents, leases, and storage fees (Dry Land Storage Fees, Shipyard Storage)
- Travel lift fees
- Launch Ramp Fees
- Wharfage and dockage

Other revenue sources were fixed or calculated by the model.

Table 6 presents selected assumptions used in the rate and cash flow model. Please see the Excel model for all assumptions as well as specifics about how each was used.

Table 6. Model Assumptions

Measure	Value
Discount rate (%)	2.29
Inflation rate, Consumer Price Index, 10-year annualized rate (%)	1.83
Inflation rate, Producer Price Index, Operation of Port Waterfront Terminals, 5-year annualized rate (%) *(not used in analysis)*	3.27
Occupancy rate (%)	100
Capital cost ($) and year, South Harbor	42,412,638 in 2022
Capital costs ($) and year, North Harbor	Uplands improvements: 29,500,000 in 2024 Float replacement: 20,000,000 in 2036
Capital costs ($) and year, other projects	North ramp breakwater: 1,000,000 in 2025 Harbor office: 1,000,000 in 2027 Travel lift: 2,000,000 in 2032
Funding mix, South Harbor	Debt: $7,000,000; 2022; 30-year term; weighted average rate 3.64% RAISE and state harbor grants: $25,000,000
Funding mix, North Harbor	Debt: $2,500,000; 2024; 30-year term, rate 4.5% Debt: $18,000,000; 2036; 30-year term, rate 4.5% Grant: $10,000,000 in 2024 Grant: $8,000,000 in 2036
Funding mix, other projects	Travel lift grant: $1,000,000 in 2032
Debt issuance cost (%)	0.22
Fund starting balance ($)	12,000,000
Working capital minimum value ($) (2022)	1,000,000
Interest rate on fund balance (%)	0.30
Fish taxes received for debt offset ($)	150,000

Source: Alaska Department of Labor and Workforce Development (2022), Bloomberg (2022), Federal Reserve Bank of St. Louis (2022), Fincher (2022), Mitchell (2016), PND Engineers (2022), Schinella (2022), and Northern Economics analysis

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CITY OF CORDOVA
HARBOR FACILITIES/UPLANDS MASTER PLAN

The purpose of this document is to provide the Harbor Commission, city council, city administration and city staff direction for the future maintenance, use and development of the Cordova Harbor facilities and the immediate adjacent harbor area uplands.

Prepared by Cordova Harbor Dept., 2012

FACILITIES

OLD HARBOR – Originally constructed in 1938, this facility was re-built following the 1964 earthquake. In 2005, after 41 years, this facility was completely renovated using funds received from the State in a transfer of ownership agreement which gave the City full ownership of the entire harbor. This facility is constructed using wooden floats, supported by steel piles and has the capacity to moor 214 vessels. **Current condition: Excellent**

Future Needs Within:

- 5 Years – Minor maintenance
- 10 Years – Minor maintenance/limited replacement of float components such as bullrails, decking, utilities where necessary.
- 20 Years- Maintenance to major components becomes more significant and frequent. Ongoing replacement of floats, decking, utilities should continue. Discussion regarding renovation should begin as this facility will be 26 years old. As part of renovation discussion, consideration should be given to installing sheet pile the length of Breakwater Ave. on the harbor side to provide for expanded parking, sidewalks or additional dock space.

LOADING DOCK – This facility was also rebuilt following the 1964 earthquake. The decking was replaced in 1998 and again in 2010. The old gantry style hoist was removed in 2010 and replaced with a hydraulic hoist. There are no known problems with existing piling or bracing. **Current condition: Good**

Future Needs Within:

- 5 Years- Replacement of decking where needed.
- 10 Years- Evaluation of support piles and bracing. Replacement of all decking.
- 20 Years-Evaluation of entire facility for useful life remaining.

OLD GRID- This facility is a 180'/90 ton wooden grid which was constructed following the 1964 earthquake. It has had some replacement of timbers in the early 90's but no other maintenance. Several of the supporting piling are rotten. The Harbor Department placed a vessel length limit of 50' on this facility in the late 1990's to help reduce damage. The trestle and dock associated with this grid have had some minor piling repair and bracing replacement. The building on this dock is currently being used as offices for the Prince William Sound Science Center. It has had extensive repairs and upgrades but is an old structure and should be evaluated in the future to determine if it retains any useful life. The deck to this trestle was replaced in 1998. **Current condition: Grid-Poor to Fair, Trestle-Fair**

Future Needs Within:

- 5 Years-Replacement of grid timbers and trestle decking as needed.
- 10 Years-Evaluation of entire facility including the building. Based on the evaluation of the facility, decide whether to close and remove entire facility including grid, trestle, dock and building. This area could be used as a location for future expansion of harbor facilities. Possibilities include a new grid, more slips, and new airplane float.
- 20 Years-Construction of a new facility in this area.

OLD HARBOR APPROACH #4- This facility was constructed following the 1964 earthquake and the only maintenance performed has been decking replacement. During the renovation of the Old Harbor in 2005, this approach had a complete decking replacement. The building on this approach, although appears to be in fair condition, is approximately 46 years old. To eliminate future maintenance, this structure should be removed once it has reached the end of its useful life. The gangway on this approach was installed during the 2005 renovation and is in excellent condition. **Current condition: Good**

Future Needs Within:

- 5 Years- Replacement of all decking.
- 10 Years- Evaluation of all decking, support piles and bracing and replace as needed. Evaluation of building and removal if necessary. Evaluation of gangway and repair where necessary.
- 20 Years- Evaluation of support piles, bracing and replace as needed. Replacement of all decking. Evaluation of building (if still in existence) and removal if necessary. Evaluation of gangway and repair where necessary.

OLD HARBOR APPROACH #5- This facility was constructed following the 1964 earthquake and the only maintenance performed has been decking replacement. The decking was replaced in 1998 and again in 2010. The gangway on this approach was installed during the 2005 renovation and is in excellent condition. **Current condition: Good**

Future Needs Within:

- 5 Years-Continued replacement of decking as needed.
- 10 Years- Evaluation of all decking, support piles and bracing and replace as needed. Evaluation of gangway and repair where necessary.
- 20 Years- Evaluation of entire facility for remaining useful life.

NEW HARBOR-This facility was constructed with the expansion of the harbor beginning in the early 80's. It is currently 27 years old. This is primarily a concrete float facility with wooden components to tie it together. The transient float is wood with steel and wood piles. The remainder of the harbor has a combination of wood and steel piles. Although the concrete in this facility has held up well, we are starting to see the wooden components and concrete beginning to fail. The waterline was replaced in the mid-90's with an HDPE line which, since its introduction, has required very little maintenance. Electrical components have had to be replaced at frequent intervals. H and I Floats have experienced significant damage due to winter storms which produces a swell which enters the harbor uninterrupted. In 1994, the State of Alaska spent approximately $100,000 repairing damage from the north wind. Since that time, the harbor has seen the loss of several more finger floats due to the same north swells. This harbor has the capacity to moor 501 vessels. This facility should provide another 10-15 years of reliable service. **Current condition: Fair to good**

Future Needs Within:

- 5 Years-Continued replacement of and maintenance to structural components and utilities including replacement of floats damaged by north winds. Complete an evaluation of facility condition with preliminary design and cost estimate for facility replacement.
- 10 Years-Continued replacement of and maintenance to structural components and utilities including replacement of floats damaged by north winds. Efforts to secure funding for facility replacement should be in progress.
- 15 Years-Replacement of facility.

NEW GRID-This facility is a 160'/250 ton steel grid and was constructed during the harbor expansion of the early 80's. During the first twenty years of its existence, this facility required frequent replacement of the wooden timbers. The last complete replacement of the wooden components was in 1997. In 2006, all of the

wooden timbers were replaced with HDPE. Since that time, no maintenance has been required at this facility. **Current condition: Very good**

Future Needs Within:

- 5 Years-Monitor silt accumulation around lower grid bents and remove as necessary.
- 10 Years- Monitor silt accumulation around lower grid bents and remove as necessary. Complete an evaluation of all grid components, including steel piling, catwalk and HDPE timbers and replace items where necessary.
- 20 Years- Monitor silt accumulation around lower grid bents and remove as necessary. Complete an evaluation of all grid components, including steel piling, catwalk and HDPE timbers and replace items where necessary.

NEW HARBOR APPROACH #1-This facility was constructed during the New Harbor construction of the early 80's. Since that time, no maintenance or repairs has been required at this approach. **Current condition: Good**

Future Needs Within:

- 5 Years-Replace planks and bullrails as needed.
- 10 Years- Continued replacement decking where needed. Complete an evaluation of facility condition with preliminary design and cost estimate for facility replacement.
- 15 Years- Replacement of facility.

NEW HARBOR APPROACH #2- This facility was constructed during the New Harbor construction of the early 80's. Since that time, no maintenance or repairs has been required at this approach. **Current condition: Good**

Future Needs Within:

- 5 Years-Replace planks and bullrails as needed.
- 10 Years- Continued replacement decking where needed. Complete an evaluation of facility condition with preliminary design and cost estimate for facility replacement.
- 15 Years- Replacement of facility.

NEW HARBOR APPROACH #3- This facility was constructed during the New Harbor construction of the early 80's. Since that time, no maintenance or repairs has been required at this approach. **Current condition: Good**

Future Needs Within:

- 5 Years-Replace planks and bullrails as needed.
- 10 Years- Continued replacement decking where needed. Complete an evaluation of facility condition with preliminary design and cost estimate for facility replacement.
- 15 Years- Replacement of facility.

NEW HARBOR/NEW GRID APPROACH - This facility was constructed during the New Harbor construction of the early 80's. Since that time, no maintenance or repairs has been required at this approach. **Current condition: Good**

Future Needs Within:

- 5 Years-Replace planks and bullrails as needed.
- 10 Years- Continued replacement decking where needed. Complete an evaluation of facility condition with preliminary design and cost estimate for facility replacement.
- 15 Years- Replacement of facility.

THREE STAGE DOCK- There was major modification and enhancement of this facility during the New Harbor expansion of the early 80's. Since that time, the decking has been replaced on all levels of this dock, bullrails have been replaced, and all sway bracing under the dock has been replaced as well. **Current condition: Good**

Future Needs Within:

- 5 Years-Replace planks and bullrails as needed.
- 10 Years- Continued replacement decking where needed. Complete an evaluation of facility condition with preliminary design and cost estimate for facility replacement.
- 15 Years- Replacement of facility.

INNER HARBOR LAUNCH RAMP- This facility was constructed in 2005 with the renovation of the Old Harbor. This launch ramp also includes an access float. Since its construction, no maintenance has been necessary. **Current condition: Excellent**

Future Needs Within:

- 5 Years-Continued monitoring of concrete planks on ramp and articulated access float. Make repairs/maintenance as needed.
- 10 Years- Continued monitoring of concrete planks on ramp and articulated access float. Make repairs/maintenance as needed.
- 20 Years- Complete an evaluation of facility condition with preliminary design and cost estimate for facility replacement.

NORTH FILL LAUNCH RAMP- This facility was constructed in 1990 and has seen considerable damage to concrete planks due primarily to landing craft use. Although still usable, this facility needs improvement work. In 2011, funds were approved by the State of Alaska in the amount of $350,000 for launch ramp improvements. In 2013 a 3rd of the concrete planks were replaced and a seasonal floating dock with steel pilings were installed. **Current condition: Good**

Future Needs Within:

- 5 Years- Replacement of the remaining old concrete planks.
- 10 Years- Continued monitoring of facility for repairs and maintenance. Secure funding and replace facility.
- 20 Years- Continued monitoring of facility. Make repairs/maintenance as Needed.

NORTH CONTAINMENT BOAT STORAGE AREA- Since the creation of this fill, these three lots just north of Bayside Storage has been used as a city boat storage area. It has been re-organized once and the Harbor Dept., along with the Harbor Commission, has recently developed plans and guidelines for use of this area to make it more user friendly by the addition of a maintenance area with water and power beginning in 2013. **Current condition: Good**

Future Needs Within: North Fill Ramp Plan

A map of the area is attached and all areas described below have a corresponding letter on the map. Here are some definitions for terms in this plan.

Accessible Winter Storage means that the road that services the storage area will be plowed by the City. It does not mean that boats, paths to boats or boat tongues will be shoveled during the winter.

Semi Accessible Winter Storage means that the boat owner can access their boat but the city will not plow the area that the boat is stored in during the winter.

North Ramp Plan -All Areas

Purpose: Provide services for both commercial and recreational users.

Summer 2013
Continue removal and cleanup of area
Place existing properties into the newly identified areas.
Develop most efficient layout for all areas

Future 1-5 years
Evaluate area as a whole make changes if needed
Evaluate fee schedules

Future 6-10 years
1) Explore option of year-round floating dock use
   A) Potential Breakwater
   B) Wake Protection
2) Explore tideland purchase
   A) Additional Harbor Space
3) Explore Access
   A) Improving access from Copper River Highway to Coast Guard Lane
   B) Accessing areas through ROWs and Using ROW

Area A Maintenance Area
Purpose: To provide an maintenance area with water and electricity for commercial boats. A daily rate will be charged for use of this area.

Summertime: Maintenance Area 4/2-10/30

Wintertime: Semi-Accessible winter storage 10/31-4/1

Summer 2013
One Power pedestal to accommodate 4 power cords
1 spigot installed.
Water would be shut off at valve box in winter (Oct 15)

Future 1-5 years
Evaluate and make changes based on previous season's use
Metered Power for every maintenance space (1 power pedestal for every 2 spaces)
Update and determine fee schedule
Water would be combined with the power pedestals and would be supplied to every maintenance space
Research covering portions of the maintenance area (temporary vs. permanent)
Research possibility/feasibility of Gantry crane

Future 6-10 years
Update fee schedule as necessary
Implement covered maintenance areas
    Possible 220 power source
Gantry crane- purchase and install

Area B Long-Term Storage Area

Purpose: Provide an area for long term storage. Rent will be on monthly bases. This area will also be used for Oil Spill Response equipment.

Summertime: Storage 4/2-10/30

Wintertime: Accessible winter storage 10/31-4/1

Summer 2013
Continue removal of non-operable derelict boats or other property
Research how far we can push back toward CRH
Research if EVOST barges/equipment is in best area

Research fencing possibilities to prevent snow damage to stored property
Research possible gabion (cut bank back) at Railroad Ave.
Identify best layout for the area

Future 1-5 years
Evaluate and make changes based on previous season's use

Develop implementation plan and timeline
Update Master Plan

Future 6-10 years
Implement as research is completed and plans are developed

Area C Trailer Parking Area

Purpose: To provide summer season trailer parking and winter boat/trailer storage.

Summertime: Trailer Parking 4/2-10/30

Wintertime: Accessible Winter Storage 10/31-4/1
Number of spaces determined by boat sizes

Summer 2013
Provide spaces for boat trailer parking
Organize existing vessels

Future 1-5 years
Evaluate and make changes based on previous season's use

Future 6-10 years
Implement as research is completed and plans are developed

Area D Non Permit Required Vehicle Only Parking
Purpose: Provide 72 hour parking for stand-alone vehicles.

Summertime: Vehicle Parking 4/2-10/30

Wintertime: Accessible Winter Storage 10/31-4/1
Number of spaces determined by boat sizes

Summer 2013
Provide parking spaces for vehicles only..

Future 1-5 years
Evaluate and make changes based on previous season's use

Future 6-10 years
Implement as research is completed and plans are developed

Area E Permitted Trailer Storage Area
SOLD

Area F 72 hour Boat and Trailer Parking Area
*Purpose: Provide 72 hour Non-Permit required parking area for recreational boats and trailers **only**. Ramp Permit must be purchased and displayed.*

Summertime: Boat and Trailer Parking 4/2-11/30

Wintertime: Snow Dump 12/1-4/1

Summer 2013
Provide parking spaces for recreational boats and trailers.

Future 1-5 years
Evaluate and make changes based on previous season's use

Future 6-10 years
Implement as research is completed and plans are developed

Area G 24 hour Boat and Trailer Parking Area

Purpose: Provide 24 hour Non-Permit required staging area for commercial trailer and boats, like area provided across from South Ramp-Baja Taco area. Not to provide stand-alone vehicle parking. Ramp Permit must be purchased and displayed.

Summertime: Trailer Parking 4/2-10/30

Wintertime: Snow Dump 10/31-4/1

Summer 2013
Provide 24 hour staging area for commercial trailers and boats.

Future 1-5 years
Evaluate and make changes based on previous season's use.

Future 6-10 years
Implement as research is completed and plans are developed

Area H Permitted Trailer Storage Area

Purpose: Provide permitted trailer parking for summer season.

Summertime: Trailer Parking 4/2-10/30

Wintertime: Snow Dump 10/31-4/1

Summer 2013
Provide permitted spaces for boat trailer parking

Future 1-5 years
Evaluate and make changes based on previous season's use

Future 6-10 years
Implement as research is completed and plans are developed

Area I Outbuildings

Purpose: Provide restrooms, waste oil / antifreeze collection area and dumpsters.

Summertime Only: 4/2-10/30

Wintertime: Winterized 10/31-4/1

Summer 2013
Provide Port-A-Potty.

Future 1-5 years
Research outbuilding design and feasibility, including steel bollards.
Implement as research is completed and plans are developed
Evaluate and make changes based on previous season's use

Future 6-10 years
Implement as research is completed and plans are developed

Area J Future Use Area
Purpose: Continue development of North Fill Ramp Area

Summertime: Summer Use 4/2-10/30

Wintertime: Snow Dump 10/31-4/1

Summer 2013
Determine the need of future storage or other uses.

Future 1-5 years
Develop storage areas or other uses as needed.
Evaluate and make changes based on previous season's use

Future 6-10 years
Implement as research is completed and plans are developed

Area K Future Access
Purpose: Continue development of North Fill Ramp Area

Summertime: Summer Access 4/2-10/30

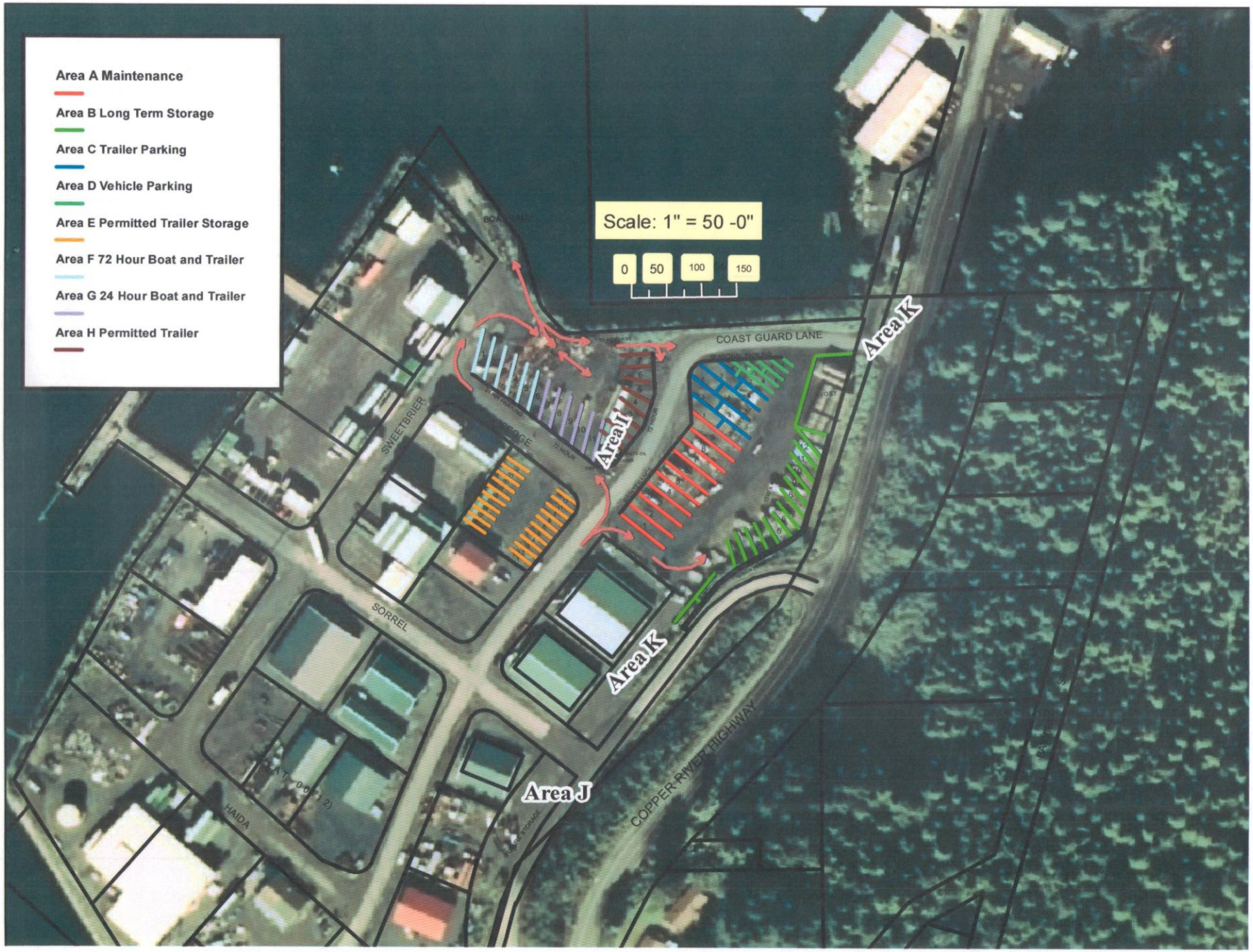
Wintertime: Winter Access 10/31-4/1

Summer 2013
Determine the need of additional or new access.

Future 1-5 years
Evaluate and make changes based on previous season's use
Develop access as needed.

Future 6-10 years
Implement as research is completed and plans are developed

- 5 Years- Completion of maintenance area including vessel spaces with water and electricity available at each space. Continue monitoring by harbor staff to ensure proper use.
- 10 years- Maintenance to utilities as needed. Continued monitoring by harbor staff to ensure proper use.
- 20 Years- Maintenance to utilities as needed. Continued monitoring by harbor staff to ensure proper use.


Area A Maintenance
Area B Long Term Storage
Area C Trailer Parking
Area D Vehicle Parking
Area E Permitted Trailer Storage
Area F 72 Hour Boat and Trailer
Area G 24 Hour Boat and Trailer
Area H Permitted Trailer
Scale: 1" = 50 -0"
0
50
100
150
COAST GUARD LANE
SWEETBRIER
SORREL
HAIDA
COPPER RIVER HIGHWAY
Area I
Area J
Area K
Area K

CITY DOCK- Constructed in 1965, this facility was the moorage facility for the USCG buoy tenders until 2002 when the USCG relocated to the North Fill T-Dock. This dock was completely re-decked in 1998 and then underwent a 4 million dollar renovation in 2005. This renovation included piling replacement, decking and bullrail replacement, installation of fenders and camels, installation of dolphins, upgraded lighting and replacement of all sway-bracing. Since the renovation only minor maintenance has been required to the camels and lighting. **Current condition: good**

Future Needs Within:

- 5 Years - Monitoring of facility for needed repairs and maintenance.
- 10 Years- Continued monitoring of facility for repairs. Decking will most likely need replacement. Camel anchoring system should be evaluated and replaced as needed.
- 20 Years- Continued monitoring of facility. Replacement of all decking and bullrails. Replacement of sway-bracing where needed. Replacement of camels and anchoring system. Upgrade/replacement of lighting system.

NORTH CONTAINMENT T-DOCK- This facility was constructed in 1989 and was initially used for loading and unloading of fishing gear and light freight. In 2002, extensive upgrades were completed as part of an agreement with the USCG to relocate their new buoy tender to this facility. This is a secure facility and is leased to the USCG for buoy tender moorage. This facility is a concrete dock supported by steel piles. It has a timber fender system as well as a series of camel logs which keeps the buoy tender off the face of the dock. Since the upgrade, little maintenance has been required at this facility. One fender was replaced due to a vessel strike and there have been some waterline problems during the winter months. The abutment between the dock approach and the road was replaced with a concrete one in 2011. **Current condition: Excellent**

Future Needs Within:

- 5 Years- Monitor fenders, camels and lighting for needed maintenance.
- 10 Years- Evaluation of steel piles for corrosion and installation of cathodic protection if necessary. Monitor fenders, camels and lighting for needed maintenance.
- 20 Years- Continued monitoring of all facility components for repairs.

MUNICIPAL DOCK(Ocean Dock)- This is Cordova's primary facility for the reception of the community's fuel and waterborne freight. This dock, constructed in 1968, is a concrete facility supported by steel piles. A brief history of maintenance at this facility is as follows: 1982- Replacement of all fenders on the face of the dock. 1994- Installation of heat shrink wraps to all piling to enhance corrosion protection. 1997- Bullrail repair/replacement at the face of the dock. 2001- Piling cluster re-securement at dock corners. There is a small building of the dock which houses the Cathodic Protection system which provides a steady current to all piling to prevent corrosion. This system is inspected and serviced every year and is in good operating condition. This facility, for its age, is generally in good condition. I credit the condition of the dock to less use over recent years. Samson Tug & Barge, Trident and Shoreside Petroleum are the only regular users. In the past other users included Sealand, and the Alaska Marine Highway. Sealand no longer comes into Cordova and the Marine Highway constructed their own facility in 2005. Some of the ocean side fendering system is starting to break lose from the dock face. Upgrades to components of the dock need to be considered to extend the life of the facility. **Current condition: Fair**

Future Needs Within:

- 1-5 Years- Make repairs to ocean side fendering system.
- Continued maintenance fenders, overhead lighting and cathodic protection. Although these components are starting to show their age, with proper repairs should last at least five more years.
- 10 years- Funding should be secured to begin replacement of all bullrails, fenders (especially at dock face) and lighting. The cathodic protection system should be evaluated for life expectancy and either be updated or replaced.
- 20 years- A thorough evaluation of this facility should be completed to Determine remaining useful life.

TRAVEL LIFT FACILITY- Construction to this facility was completed in 2010. It includes the Marine Travel lift, piers, wash down pad, water treatment unit, maintenance area including overhead lighting and utilities. The facility operates on approximately 2 acres of the Ocean Dock Subdivision. The Marine Travel Lift was purchased in 2009. In 2013 the City completed a land swap with Samson Tug & Barge, making the travel lift facility and operating area more efficient**. Current condition: Excellent**

Future Needs Within:

- 1-5 Years- Replacement of travel lift straps and tires. Explore options and secure funding to expand existing fill to provide for additional space for vessel maintenance/storage and to provide space to erect a large maintenance building.
- 10 Years- Expand fill and erect maintenance building. Monitor facility, equipment and systems for continued maintenance and repairs.
- 20 Years- Continued maintenance to all facilities, equipment and systems.

UPLANDS

SOUTH CONTAINMENT FILL- Since its construction during the early 80's harbor expansion project, this area has reached its capacity for future development. The possibility of expansion of this area needs to be discussed. Other discussion should include parking, sidewalks and use and direction of future expansion.

Future Needs:

1. All current parking areas should be designated and maintained as permanent harbor parking and those areas should never be considered as available for sale.

2. Sidewalks with proper curbs and drainage should be established throughout this area.

3. Designate and maintain a short-term trailer parking area for recreational users.

4. Explore the installation of sheet piles on the harbor side of Nicholoff Way to provide additional space for sidewalks, parking or businesses.

NORTH CONTAINMENT FILL- Since its construction during the early 80's harbor expansion project, this area has reached its capacity for future development. The possibility of expansion of this area needs to be discussed. Other discussion should include parking, sidewalks and use and direction of future expansion.

Future Needs

1. Designate and maintain Lot 1&2, Block 6 as a staging, turnaround and parking area for trailer use at the North Fill Launch Ramp.

2. Designate Lots 1&2, Block 6 and Lot 3, Block 5 as snow dumps during winter months.

HARBOR EXPANSION

The future expansion of the harbor is a topic that has been discussed recently since slips for boats larger than 40' have been in demand for approximately the last year. Since the last expansion in the early 80's, winter storms have caused the loss of 10-50' finger floats(20 slips), 2-40' finger floats(4 slips) 2-30' finger floats(4 slips) and 1-26' finger float(2 slips). The loss of the smaller slips is insignificant, however, the loss of the 50' slips has proven to put a demand for large boat moorage on the harbor. Although discussion of expansion is certainly a valid topic, there may be ways to avoid this expensive endeavor.
At some point in the next 10-15 years, the New Harbor will have to be renovated as it will be approaching the end of its useful life. With thoughtful design and engineering, the New Harbor renovation should provide adequate moorage for years to come. With input from city staff, Harbor Commission and the public, engineers should be able to design a more efficient, user friendly harbor layout that will sufficiently provide moorage for the fleet. Since about 1990, the annual stall rental capacity has fluctuated anywhere from 70% to as high as 98%. With a more efficiently designed harbor, the ability to accommodate all users should not be an issue. Possible future expansion into the area that is now occupied by the Old Grid and the Prince William Sound Science Center could also provide for additional slips as well. This area could provide for several large boat slips or as many as twenty small boat slips.