Facilities Condition Assessment Program

Parking Operations - Parking Structures

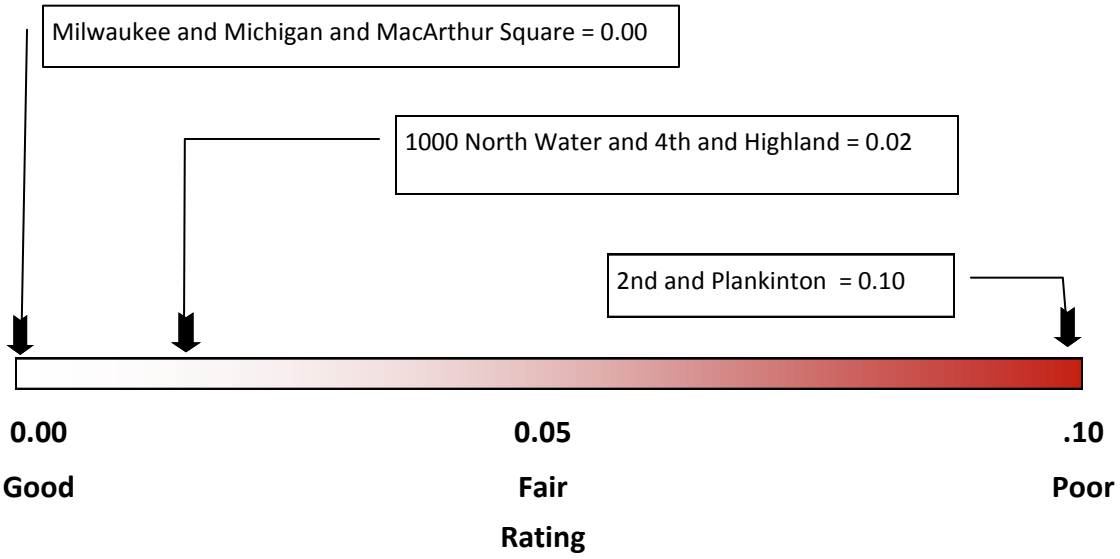
Update

June 2012

Summary

Facilities Development and Management conducted the Facilities Condition Assessment Program (FCAP) update on behalf of the City of Milwaukee owned parking structures controlled by Parking Operations.

FCAP concludes that Milwaukee and Michigan, MacArthur Square, 1000 North Water, and 4th and Highland are in good condition. 2nd and Plankinton is in poor overall condition, though this condition is merely a reflection of the scope repairs currently under construction. 2nd and Plankinton will return to good condition upon construction completion. See below



FCi variation occurs when projects are identified/under construction during the current year, and when past projects were identified but not completed (deferred maintenance). Large one year increases to the FCI occur when a high-cost capital project or multiple capital projects are planned for a facility. The FCI is adjusted downward (towards zero) as projects are completed. Conversely, the FCI adjusts upward (away from zero) when projects are deferred.

Significant Changes

On overall decrease in 20-year expenditures of 9.0% is forecast from the update. The changes significant changes are as follows:

Parking Garage	Change	Reason
2nd and Plankinton	Increased 20-Year Cost by $1.2 Million	Structural - Cyclical application of epoxy overlay, Façade Examination inclusion
1000 North Water	Decreased 20-Year Cost by $2 Million	Services - Sprinkler system paint application reclassifies component to long-lived
MacArthur Square	Decreased 20-Year Cost by $2 Million	Structural - Modified cost estimates Services - Correction to elevator modernization

Graphs

FCAP includes three overview graphs. The pie chart compares the capital improvement project costs at each parking garage over the 20-year span. The first bar graph depicts the annual capital expenditures at all parking garages. The second bar chart indicates the annual capital expenditures at each parking garage.

Special Section

The Civic Center Plaza and related components are included in the update due to the interrelated nature of MacArthur Square and the Civic Center. Some capital improvement projects within these two spaces should be coordinated. The inclusion of the Civic Center is *for informational purposes only, not a statement of ownership or capital expenditure responsibility*.

Conclusions/Recommendations

Parking Operations should continue to follow the capital improvement program for parking garages to maintain the parking garages in good condition. Future updates for Parking Operations will include additional parking garage assets (i.e. outlying surface lots, parking meters, vehicles, etc.).

Parking FCAP

FCAP Summary

	20 Year Total Cost	CRDM 2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Projected Capital Improvements Per Year														
Location														
2nd and Plankinton	$6,660,000	$960,000		$450,000	$19,000	$36,000	$400,000	$351,000	$248,000	$703,000	$241,000	$26,000	$80,000	$342,000
4th and Highland	$6,749,000	$450,000	$128,000	$27,000		$483,000	$91,000	$350,000	$480,000	$347,000	$27,000	$57,000		$470,000
1000 North Water	$8,134,000	$470,000			$156,000	$111,000	$400,000	$217,000	$398,000	$97,000	$460,000		$476,000	
MacArthur Square	$12,506,000		$62,000	$2,664,000	$400,000	$525,000	$37,000		$301,000	$124,000	$267,000	$474,000	$239,000	$240,000
Milwaukee and Michigan	$2,983,900				$319,000	$300,000	$550,000	$100,000	$24,000	$22,000	$251,000		$1,475,000	$80,000
Sub Total Parking	$37,032,900	$1,880,000	$190,000	$3,141,000	$894,000	$1,455,000	$1,478,000	$1,018,000	$1,451,000	$1,293,000	$1,246,000	$557,000	$2,270,000	$1,132,000
Special Section														
Civic Center	$39,317,000						$286,000	$14,419,000	$17,952,000	$6,188,000				
Total Parking and Civic Center	$76,349,900	$1,880,000	$190,000	$3,141,000	$894,000	$1,455,000	$1,764,000	$15,437,000	$19,403,000	$7,481,000	$1,246,000	$557,000	$2,270,000	$1,132,000
CRV		$67,994,005	$69,282,074	$70,604,920	$71,963,483	$73,358,728	$74,791,644	$76,263,249	$77,774,587	$79,326,731	$80,920,783	$82,557,875	$84,239,168	$85,965,856
FCI		0.03	0.00	0.04	0.01	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.03	0.01

Notes

1) FY is Fiscal Year. FY is the calendar year.

2) UL is Useful Life and RUL is Remaining Useful Life

3) The annual building materials inflation rate estimate is estimated at

4) Current Replacement Value (CRV) is the 2012 estimated replacement value for the buildings w/ an annual inflation rate of 2.70%

5) Facility Condition Index (FCI) is the CRDM Building divided by the CRV, or CRDM Building/CRV

5) FCI excludes Civic Center Expenditures and CRV

Parking FCAP

FCAP Summary

	20 Year Total Cost	2025	2026	2027	2028	2029	2030	2031	2032
Projected Capital Improvements Per Year									
Location									
2nd and Plankinton	$6,660,000	$145,000	$781,000	$843,000	$49,000		$461,000		$525,000
4th and Highland	$6,749,000		$30,000		$1,584,000	$598,000	$481,000	$580,000	$566,000
1000 North Water	$8,134,000	$368,000	$210,000	$543,000	$643,000	$740,000	$596,000	$954,000	$1,295,000
MacArthur Square	$12,506,000	$266,000	$85,000	$231,000	$2,154,000	$1,458,000	$1,370,000	$1,199,000	$410,000
Milwaukee and Michigan	$2,983,900	$622,000	$489,000	$78,000		$31,000	$29,000		$772,000
Sub Total Parking	$37,032,900	$1,401,000	$1,595,000	$1,695,000	$4,430,000	$2,827,000	$2,937,000	$2,733,000	$3,568,000
Special Section									
Civic Center	$39,317,000								$472,000
Total Parking and Civic Center	$76,349,900	$1,401,000	$1,595,000	$1,695,000	$4,430,000	$2,827,000	$2,937,000	$2,733,000	$4,040,000
CRV		$87,739,164	$89,560,352	$91,579,712	$93,351,572	$95,324,295	$97,350,281	$99,430,969	$101,567,836
FCI		0.02	0.02	0.02	0.05	0.03	0.03	0.03	0.04

Notes

1) FY is Fiscal Year. FY is the calendar year.

2) UL is Useful Life and RUL is Remaining Useful Life

3) The annual building materials inflation rate estimate is estimated at

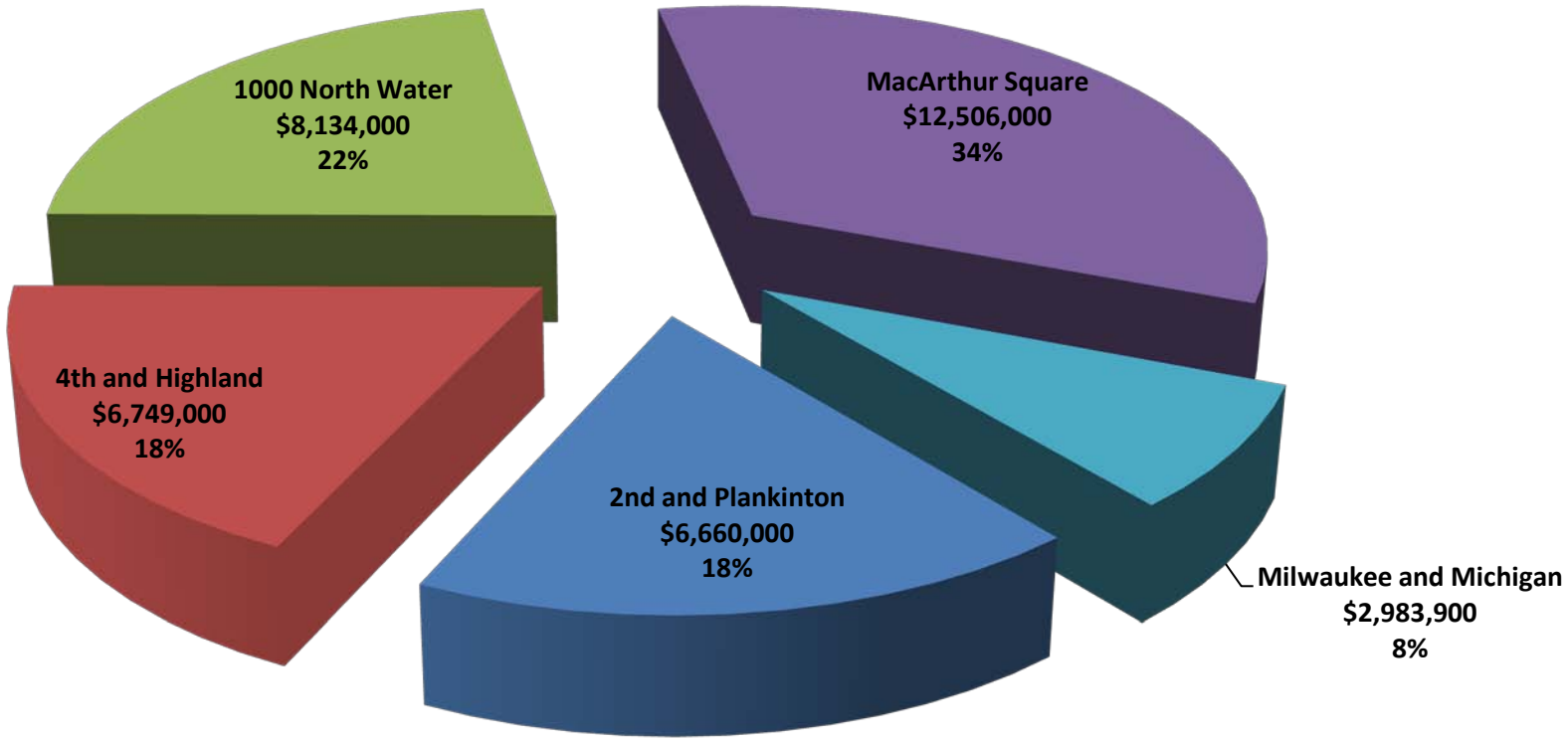
4) Current Replacement Value (CRV) is the 2012 estimated replacement

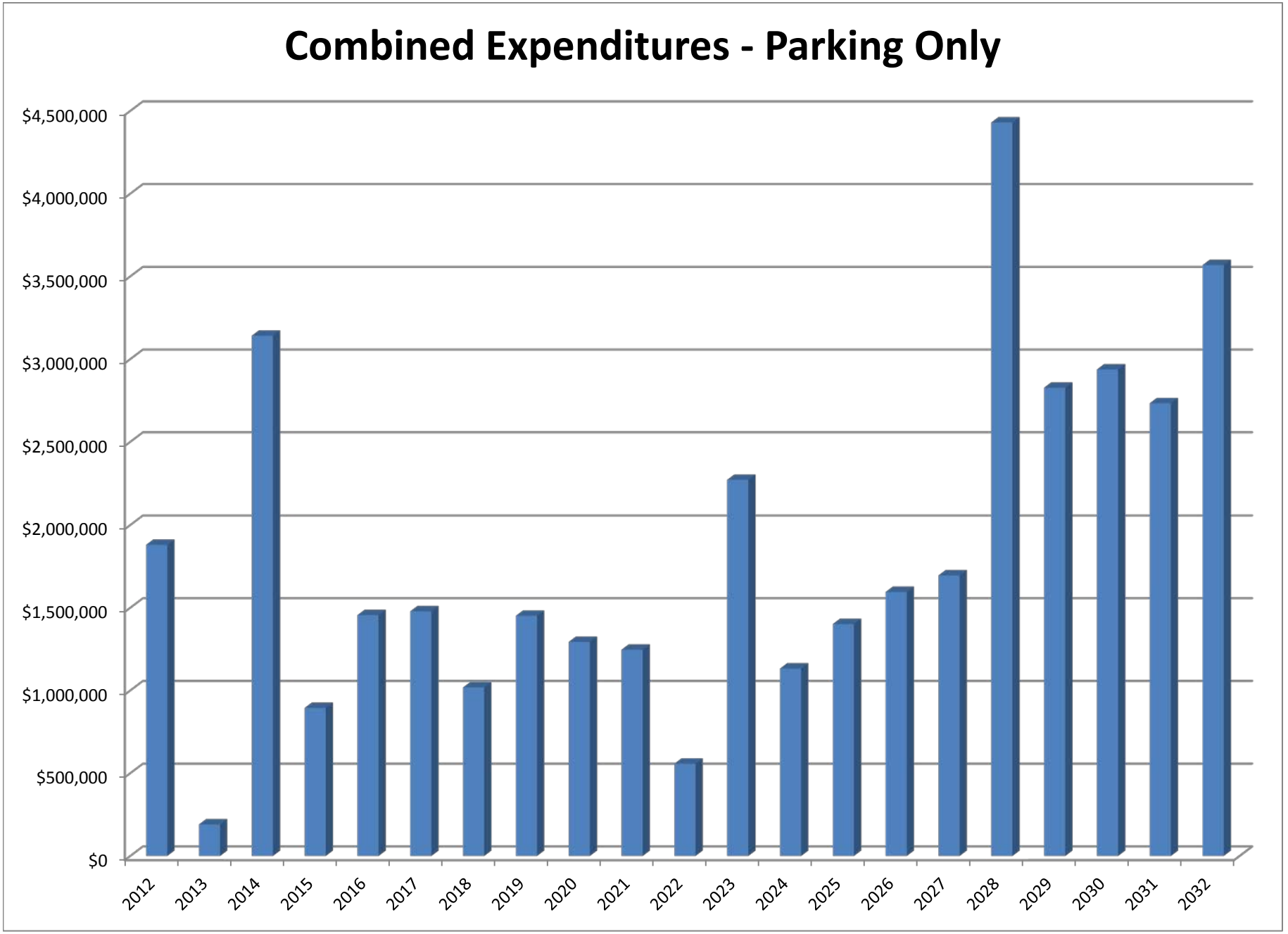
5) Facility Condition Index (FCI) is the CRDM Building divided by the CRV

5) FCI excludes Civic Center Expenditures and CRV

Parking Garages

20 Years Capital Expenditures




Combined Expenditures - Parking Only
$4,500,000
$4,000,000
$3,500,000
$3,000,000
$2,500,000
$2,000,000
$1,500,000
$1,000,000
$500,000
$0
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
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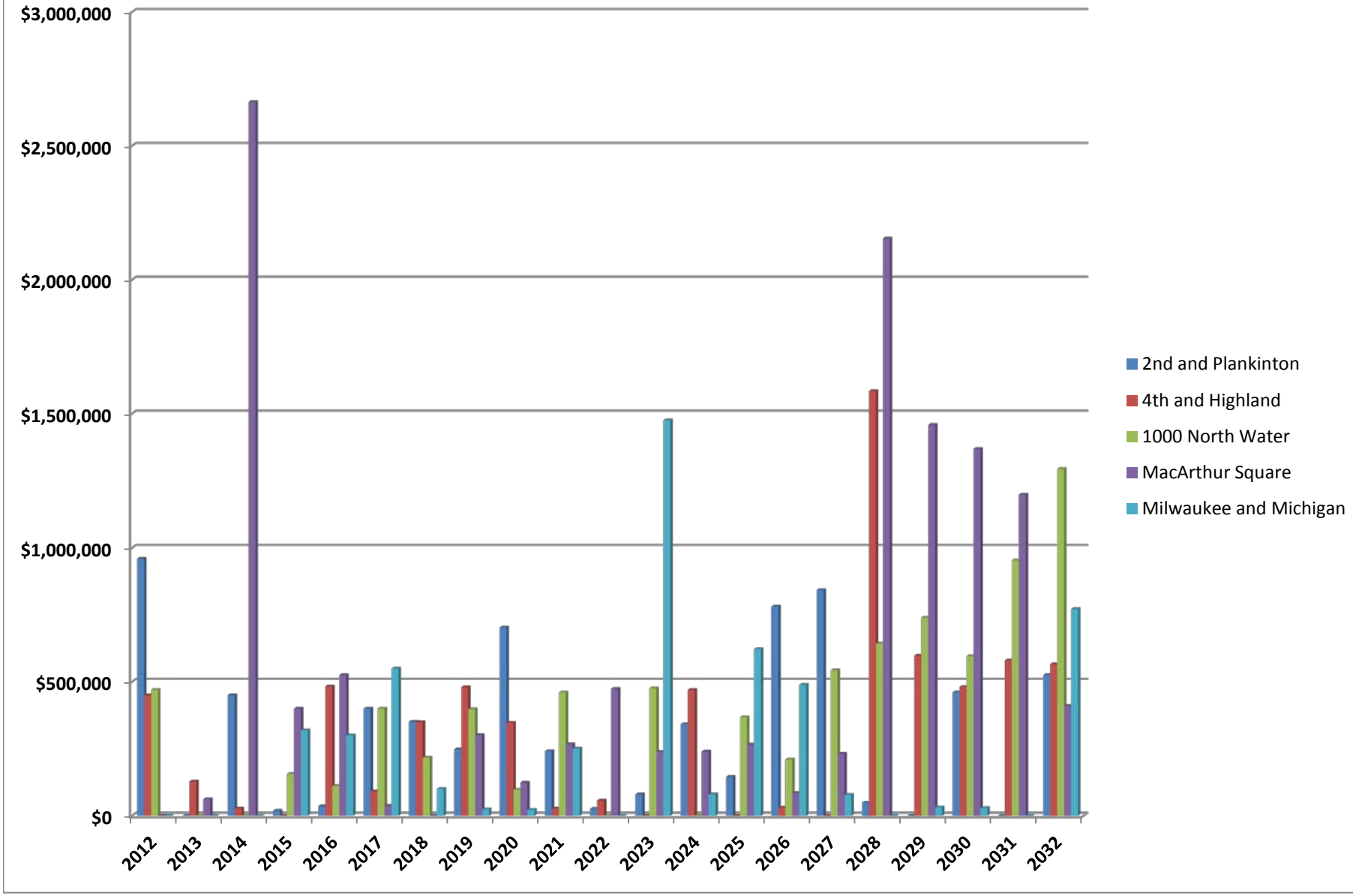
2028
2029
2030
2031
2032

Anticipated Capital Expenditures per Parking Garage



6/29/2012

FACILITIES CONDITION ASSESSMENT PROGRAM

PARKING GARAGE
2ND AND PLANKINTON
UPDATE W/O SITE VISIT

Facilities Development | Management

Contents

Executive Summary

Update Report

The update was conducted without a site visit, per standard operating procedures when onsite inspections occurred within a three-five year window.

2nd and Plankinton update report was generated from:

- Meeting with parking representative
- Review and update costs
- Adjust projects (as needed)
- Modify report format

Property Analysis Summary

2nd and Plankinton parking structure is located at 724 North 2nd Street. The parking structure is bounded by commercial property to the south, Plankinton Street to the east and 2nd Street to the west. It was constructed in 1960.

The parking structure contains eight parking levels made accessible by entrances/exits at Plankinton and 2nd Streets. 2nd and Plankinton parking structure comprises approximately 204,000 square feet of floor area and 473 parking spaces.

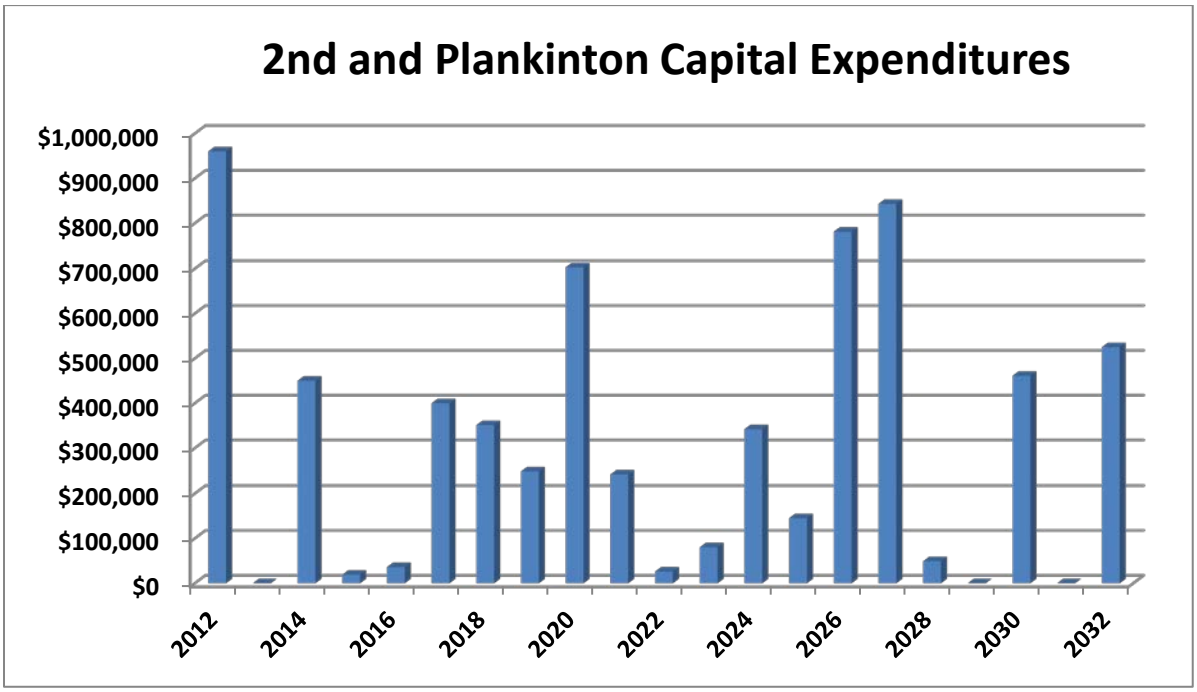
The overall condition of the 2nd and Plankinton parking structure is poor, as indicated by the Facility Condition Index rating of 0.10. This rating is only a reflection of the near term structural repairs and elevator modernization. Upon completion of these projects, the FCI is anticipated to return to the 'good' range.

2nd and Plankinton by the Numbers	
Construction Date/Age	1958/54
Square Feet	204,000
Current Replacement Value (2012)	$9,525,369
Facility Condition Index/Rating	0.10/Poor

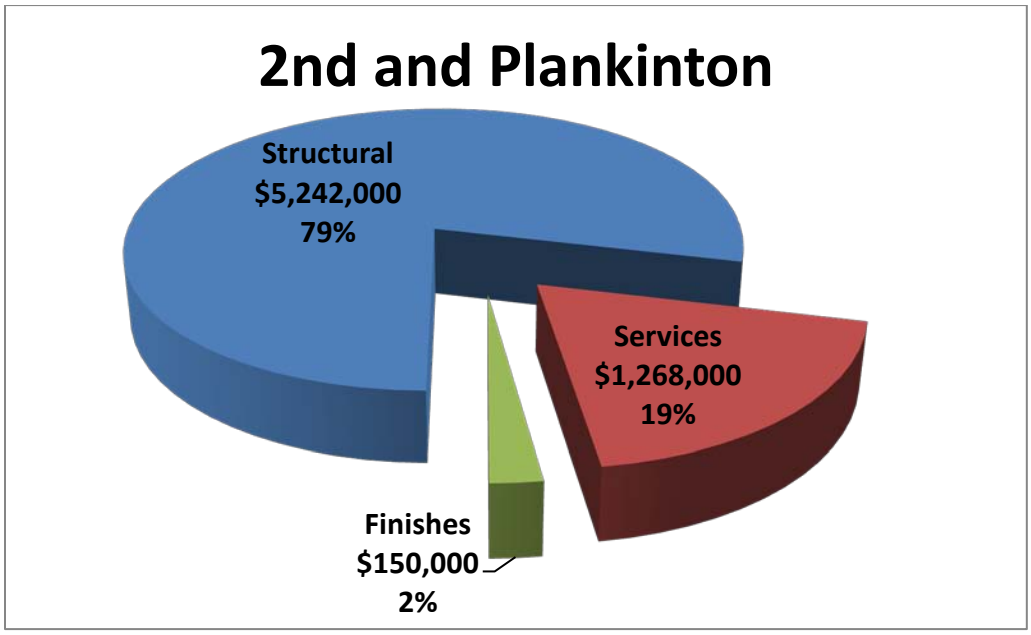
Near term projects are those that are anticipated with the first six years of the funding analysis. These projects are defined by priority. High priority projects are those that require capital expenditures for remediation within two years. Moderate priority projects are those that require capital expenditures from three- to six-years. Low priority projects are those that require capital expenditures beyond six years. Subsequent facility inspections will adjust the anticipated priorities. The following table summarizes the high and medium priority projects at 2nd and Plankinton.

Priority	Year	Near Term Projects
High	1	Structural – Concrete Surface Repairs, Epoxy Overlay, Expansion Joints, Membrane Application, Pavement Markings Services – Elevator
	2	
Moderate	3	Structural – Paint Finish Application
	4	Structural – Façade Inspection Ordinance Examination
	5	Services – Security System
	6	Structural – Concrete and Masonry Façade Repairs, EIFS Paint and Repairs Exterior and Finishes – Roof Replacements

Projected capital expenditures for the 2nd and Plankinton vary from year– to –year as indicated from the graph below.



The most significant category of 2nd and Plankinton expenditures pertains to **structural** repairs as shown below.



Component Inventory

The property components at 2nd and Plankinton are categorized as follows:

Parking Garage Capital Expenditures

Structural Components

- Concrete
  - On-Grade
  - Surface
- Epoxy Overlay, Helical Ramps
- Expansion Joints
- Façade
  - Concrete and Masonry Repairs
  - EIFS Paint and Repairs
  - Examination
- Membrane Application
- Paint Finish Application

- Pavement Markings
- Structural Repairs, 2012

Services Components

- Electrical
    - Secondary Distribution
    - Branch Circuits and Panels
- Elevator, Traction, Modernization
    - Plankinton
    - 2nd Street
- Light Fixtures
    - Helix/Stairwells
    - Parking Ramp (Upgraded in 2011)
- Light Poles and Fixtures, Eighth Floor
- Operators and Pay Stations
- Security System

Exterior and Finishes Components

- Doors
- Lobby/Offices, Renovation
- Roofs

O+M Responsibility

- HVAC Units
- Paint Finishes, Touch-Up
- Pumps, Sump
- Other Items Normally Funded by O+M

Long Lived

- Foundation
- Hand Railings, Metal
- Louvers, Metal
- Pipes, Interior
    - HVAC
    - Waste
- Structural Frame
- Windows

- Curtain Wall
- Glass Block

Structural Components

Concrete

2nd and Plankinton parking garage contains approximately 20,400 square feet of on-grade concrete at the lower level, helical ramp exits, and Plankinton Street entrance. The parking garage also contains 154,700 square feet of elevated one-way joists at the parking ramp, and 22,400 square feet of elevated cantilever slabs at the helical exit ramps.

The concrete is evaluated, condition assessed and recommended for capital repairs by the City of Milwaukee structural engineering department. In 2012, Parking plans repairs to the elevated ramps, helical ramps (top and underside), and other interior surfaces in conjunction with additional capital repairs.

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
On-Grade Concrete	20,400	-	54	0	2012
Elevated Ramp/1-Way Joists	154,700	-	54	0	2012
Helical Ramps/Cantilever Slab	22,400	-	54	0	2012

Epoxy Overlay

2nd and Plankinton helical exit ramps comprise 22,400 square feet of driving surface. These ramps also include concrete parapet walls, metal louvers, concrete curbs, and an interior concrete column.

Capital repairs are planned for the helical ramps in 2012, including application of an epoxy overlay driving surface. The epoxy overlay is intended to prohibit vehicle fluid/precipitation from infiltrating and deteriorating the helical ramps, while providing a durable driving surface.

Structural engineering anticipates a six year useful life for the epoxy overlay.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Epoxy Overlay	22,400	N/A	0	0	2012

Expansion Joints

2nd and Plankinton contains approximately 360 LF of expansion joints between the parking ramp and the helical exit ramp. The useful life of an expansion joints is 15 years.

The expansion joints are evaluated, condition assessed and recommended for capital repairs by the City of Milwaukee structural engineering department. The expansion joints are planned for replacement in 2012 in conjunction with other capital improvements.

Inventory (LF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Expansion Joints	360	-	Unknown	0	2012

Facade

2nd and Plankinton building exterior comprises approximately 12,800 square feet of concrete, 4,000 square feet of brick masonry, and 12,900 square feet of EIFS (Exterior Insulation and Finishing System). Based on the façade materials, three scopes of work are anticipated:

1) Concrete and masonry repairs with the anticipated scope of work
    a. Inspection
    b. Concrete repairs
        i. Surface/partial depth: 200 square feet
        ii. Deep full depth: 30
    c. Crack repairs
        i. Crack fill: 250 linear feet
        ii. Epoxy injections: 100 linear feet
    d. Concrete sealer application
    e. Masonry Repairs
        i. Brick replacement: 60 square feet
        ii. Repointing: 400 square feet
2) EIFS paint and repairs
    a. Power wash
    b. Paint EIFS
    c. Partial EIFS Replacement: 1,000 square feet
    d. Caulk replacement: 1,000 linear feet
3) Façade Inspection Ordinance Examination

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Brick Masonry	4,000	-	54	5	2017
Concrete	12,800	-	54	5	2017
EIFS	12,900	-	12	5	2017
Examination (EA)	1	-	2	3	2017

Membrane Application

2nd and Plankinton comprises a traffic membrane at the elevated concrete floors in the parking ramp (not the exit ramp). The useful life of membranes is up to 15 years. The membrane on the first three floors is planned for replacement in conjunction with the 2012 capital repairs.

The membrane is evaluated, condition assessed and recommended for capital repairs by the City of Milwaukee structural engineering department.

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Membrane, Floors 1-3	26,800	-	Unknown	0	2012
Membrane, Floors 4-8	125,800	-	8	8	2020

Paint Finish Application

2nd and Plankinton includes painted concrete ceilings, walls, stairwells, columns, louvers in helical ramps, and various metal features. The components were last painted in 1999.

The paint finish application is evaluated, condition assessed and recommended for capital repairs by the City of Milwaukee structural engineering department.

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Painted Ceilings	154,700	6	13	2	2014
Painted Walls	44,000	6	13	2	2014
Painted Louvers	15,400	6	13	2	2014

Pavement Markings

The pavement marking applications are evaluated, condition assessed, and recommended for replacement by the City of Milwaukee structural engineering department. The pavement markings scheduled for application in 2012 in conjunction with other capital improvement projects.

Inventory (LS)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Pavement Markings	1	-	Unknown	0	2012

Structural Repairs, 2012

Parking plans structural repairs in 2012 including:

- Membrane Application, Floors 1-3
- Epoxy Overlay, Helical Ramps
- Concrete Surface Repairs
- Expansion Joint Replacements
- Pavement Markings

Parking budget $770,000 for this project with the winning bid for Official Notice 70/2012 at approximately $385,000 (not including construction change orders).

Building Services Components

Electrical

2nd and Plankinton includes secondary distribution and branch circuits/panels to provide electrical power throughout the garage. The useful life of secondary distribution is up to 45 years and the branch circuit panels have a useful life of up to 35 years.

Inventory (LS)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Secondary Distribution	1	7	13	20	2032
Branch Circuits and Panels	1	7	13	13	2025

Elevator, Traction

2nd and Plankinton comprises two traction elevators. One serves the Plankinton Avenue at the east and the other serves 2nd Street at the west. Management reports that the elevator at Plankinton Avenue experiences frequent service interruptions and modernization is imminent. The elevator that serves 2nd Street is reported in satisfactory operational condition and recently received maintenance to achieve this condition.

Based on condition, the Plankinton Avenue elevator is recommended for modernization in 2012. The 2nd Street elevator modernization is anticipated at a later date.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Plankinton Avenue	1	4	45	0	2012
2nd Street	1	6	45	9	2021

Light Fixtures

2nd and Plankinton contains light 345 ceiling and wall mounted light fixtures throughout the structure. The parking ramp light fixtures were replaced in 2011. The remaining light fixtures are at an unknown age. The useful life of the light fixtures is up to 25 years.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Future Replacement					
Helix	84	5	Unknown	6	2018
Stairwell, East	21	5	Unknown	6	2018
Stairwell, West	16	5	Unknown	6	2018
Replaced in 2011					
Garage/Parking Ramp	224	8	1	20	2032

Light Poles and Fixtures

2nd and Plankinton includes 17 light poles and fixture at the 8th level. The useful life of light poles and fixtures is up to 35 years.

Inventory		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Light Poles and Fixtures	17	6	Unknown	11	2023

Operators and Pay Stations

2nd and Plankinton contains four ticket dispensers and readers, one pay station, four gate operators, and two attendant booths. These components are reported in good operational condition. Individual component replacements and maintenance should be funded from the operating budget.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Ticket Dispensers/Readers	4	7	Unknown	7	2019
Pay Station	1	7	Unknown	7	2019
Gate Operators	4	7	Unknown	7	2019
Attendant Booths	2	7	Unknown	7	2019

Security System

2nd and Plankinton security system contains nine cameras, and a recording station/monitor. The system is reported in good operational condition.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Cameras	9	6	Unknown	4	2016
Recording Station/Monitor	1	6	Unknown	4	2016

Finishes Components

Doors

2nd and Plankinton includes 24 metal service doors at the stairwells and offices, and two overhead doors at the 7th and 8th levels. Due to the quantity of doors and varied conditions, phased replacements are likely. Parking should anticipate phased replacement of seven doors every seven years beginning by 2019. The glass doors located at the 2nd Street lobby should be replaced with the glass curtain wall.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Service Doors	24	Varies	Varies	7	2019
Overhead Doors	2	6	Unknown	7	2019

Lobby/Offices, Renovation

2nd and Plankinton 2nd Street lobby includes interior finishes including: tile wall and flooring, painted surfaces, and painted ceilings. Additionally, a restroom includes a sink and toilet. Renovations of these features should be conducted concurrently by 2022.

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Lobby					
Tile Wall	150	6	Unknown	10	2022
Tile Floor	275	6	Unknown	10	2022
Painted Surfaces	400	6	Unknown	10	2022
Light Fixtures	2	6	Unknown	10	2022
Rest Room					
Toilet	1	4	Unknown	10	2022
Sink	1	4	Unknown	10	2022
Paint Surfaces	272	6	Unknown	10	2022
Floor Covering	48	6	Unknown	10	2022

Roofs

2nd and Plankinton garage includes three roof sections: 2nd Street elevator penthouse, Plankinton Avenue penthouse, and helical ramp roof. The next roof replacement is recommended by 2017. Roof replacement should be conducted every 20 years.

Inventory (SQ)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
2nd Street Penthouse	5.5	5	Unknown	5	2017
Plankinton Avenue Penthouse	3.5	5	Unknown	5	2017
Helical Exit Ramps	51	5	Unknown	5	2017

2nd and Plankinton
Parking Structure

	Quantity	Units	2012 Unit Cost	2012 Capital Cost	20 Year Total Cost	UL	RUL	First Year Funds Requested	CRDM 2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Structural Components																			
Concrete, On-Grade, Partial Replacements	1	LS	$20,000	$20,000	$55,000	90+	6	2018							$23,000				
Concrete, Surface Repairs	1	LS	$312,000	$312,000	$453,000	15	14	2026											
Epoxy Overlay, Helical Ramps	1	LS	$228,000	$228,000	$950,000	6	6	2018							$268,000				
Expansion Joints, Replacement	1	LS	$60,000	$60,000	$87,000	15	14	2026											
Façade, Concrete and Masonry Repairs	1	LS	$140,000	$140,000	$399,000	15	5	2017						$160,000					
Façade, EIFS, Paint Finish and Repairs	1	LS	$138,000	$138,000	$364,000	10	5	2017						$158,000					
Façade, Examination	1	LS	$18,000	$18,000	$95,000	5	3	2015				$19,000					$22,000		
Membrane Application, Entrance Ramps 1-3	1	LS	$150,000	$150,000	$218,000	15	14	2026											
Membrane Application, Entrance Ramps 4-8 + Misc.	1	LS	$550,000	$550,000	$681,000	15	8	2020									$681,000		
Paint Finish Application (Interior)	1	LS	$427,000	$427,000	$1,087,000	15	2	2014			$450,000								
Pavement Markings	1	LS	$20,000	$20,000	$83,000	6	6	2018							$23,000				
Structural Repairs, 2012	1	LS	$770,000	$770,000	$770,000	N/A	0	2012	$770,000										
Services Components																			
Electrical, Secondary Distribution	1	LS	$110,000	$110,000	$187,000	45	20	2032											
Electrical, Branch Circuits and Panels	1	LS	$85,000	$85,000	$120,000	25	13	2025											
Elevator, Modernization, Plankinton	1	EA	$190,000	$190,000	$190,000	45	0	2012	$190,000										
Elevator, Modernization, 2nd Street	1	EA	$190,000	$190,000	$241,000	45	9	2021										$241,000	
Light Fixtures, Helix/Stairwells, Replacement	121	EA	$260	$31,460	$37,000	25	6	2018							$37,000				
Light Fixtures, Parking Ramp, Replacement (2011)	224	EA	$260	$58,240	$99,000	25	20	2032											
Light Poles and Fixtures, 8th Floor	17	EA	$3,500	$59,500	$80,000	35	11	2023											
Operators and Pay Stations	1	LS	$190,000	$190,000	$229,000	12	7	2019								$229,000			
Security System	1	LS	$32,000	$32,000	$85,000	12	4	2016					$36,000						
Finishes Components																			
Doors, Replacement, Phased	7	EA	$2,300	$16,100	$42,000	35	7	2019								$19,000			
Lobby/Offices, Renovation	1	LS	$20,000	$20,000	$26,000	30	10	2022											$26,000
Roofs, Replacement	60	SQ	$1,200	$72,000	$82,000	20	5	2017						$82,000					
Total 20 Year Cost			$6,660,000	**Annual Cost**	$960,000	$0		$450,000	$19,000		$36,000		$400,000		$351,000	$248,000	$703,000	$241,000	$26,000
				CRV	$9,525,369	$9,782,554		$10,046,683	$10,317,943		$10,596,528		$10,882,634		$11,176,465	$11,478,230	$11,788,142	$12,106,422	$12,433,295
				FCI	0.10	0.00		0.04	0.00		0.00		0.04		0.03	0.02	0.06	0.02	0.00

Comments
a) UL is Useful Life and RUL is Remaining Useful Life
b) The annual building materials inflation rate estimate is estimated at 2.70%
c) CRV is the Current Replacement Value
d) CRDM is Capital Repair/Deferred Maintenance
e) 2012 Structural repair work categorical costs are only estimates. Actual costs may vary.

2nd and Plankinton
Parking Structure

	Quantity	Units	2012 Unit Cost	2012 Capital Cost	20 Year Total Cost	UL	RUL	First Year Funds Requested	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Structural Components																		
Concrete, On-Grade, Partial Replacements	1	LS	$20,000	$20,000	$55,000	90+	6	2018								$32,000		
Concrete, Surface Repairs	1	LS	$312,000	$312,000	$453,000	15	14	2026				$453,000						
Epoxy Overlay, Helical Ramps	1	LS	$228,000	$228,000	$950,000	6	6	2018		$314,000						$368,000		
Expansion Joints, Replacement	1	LS	$60,000	$60,000	$87,000	15	14	2026				$87,000						
Façade, Concrete and Masonry Repairs	1	LS	$140,000	$140,000	$399,000	15	5	2017										$239,000
Façade, EIFS, Paint Finish and Repairs	1	LS	$138,000	$138,000	$364,000	10	5	2017					$206,000					
Façade, Examination	1	LS	$18,000	$18,000	$95,000	5	3	2015			$25,000					$29,000		
Membrane Application, Entrance Ramps 1-3	1	LS	$150,000	$150,000	$218,000	15	14	2026				$218,000						
Membrane Application, Entrance Ramps 4-8 + Misc.	1	LS	$550,000	$550,000	$681,000	15	8	2020										
Paint Finish Application (Interior)	1	LS	$427,000	$427,000	$1,087,000	15	2	2014					$637,000					
Pavement Markings	1	LS	$20,000	$20,000	$83,000	6	6	2018		$28,000						$32,000		
Structural Repairs, 2012	1	LS	$770,000	$770,000	$770,000	N/A	0	2012										
Services Components																		
Electrical, Secondary Distribution	1	LS	$110,000	$110,000	$187,000	45	20	2032										$187,000
Electrical, Branch Circuits and Panels	1	LS	$85,000	$85,000	$120,000	25	13	2025			$120,000							
Elevator, Modernization, Plankinton	1	EA	$190,000	$190,000	$190,000	45	0	2012										
Elevator, Modernization, 2nd Street	1	EA	$190,000	$190,000	$241,000	45	9	2021										
Light Fixtures, Helix/Stairwells, Replacement	121	EA	$260	$31,460	$37,000	25	6	2018										
Light Fixtures, Parking Ramp, Replacement (2011)	224	EA	$260	$58,240	$99,000	25	20	2032										$99,000
Light Poles and Fixtures, 8th Floor	17	EA	$3,500	$59,500	$80,000	35	11	2023	$80,000									
Operators and Pay Stations	1	LS	$190,000	$190,000	$229,000	12	7	2019										
Security System	1	LS	$32,000	$32,000	$85,000	12	4	2016						$49,000				
Finishes Components																		
Doors, Replacement, Phased	7	EA	$2,300	$16,100	$42,000	35	7	2019				$23,000						
Lobby/Offices, Renovation	1	LS	$20,000	$20,000	$26,000	30	10	2022										
Roofs, Replacement	60	SQ	$1,200	$72,000	$82,000	20	5	2017										
Total 20 Year Cost				$6,660,000	**Annual Cost**				$80,000	$342,000	$145,000	$781,000	$843,000	$49,000	$0	$461,000	$0	$525,000
					CRV				$12,768,994	$13,113,757	$13,467,828	$13,831,460	$14,204,909	$14,588,442	$14,982,330	$15,386,853	$15,802,298	$16,228,960
					FCI				0.01	0.03	0.01	0.06	0.06	0.00	0.00	0.03	0.00	0.03

Comments
a) UL is Useful Life and RUL is Remaining Useful Life
b) The annual building materials inflation rate estimate is estimated at 2.70%
c) CRV is the Current Replacement Value
d) CRDM is Capital Repair/Deferred Maintenance
e) 2012 Structural repair work categorical costs are only estimates. Actual costs may vary.

6/29/2012

FACILITIES CONDITION ASSESSMENT PROGRAM

PARKING GARAGE
4TH AND HIGHLAND
UPDATE W/O SITE VISIT

Facilities Development | Management

Contents

Executive Summary

Update Report

The update was conducted without a site visit, per standard operating procedures when onsite inspections previously conducted within a three-five year window.

4th and Highland update report was generated from:

- Meeting with parking representative
- Review and update costs
- Adjust projects (as needed)
- Modify report format to

Property Analysis Summary

4th and Highland parking structure is located at 324 West Highland Avenue. The parking structure is bounded by Highland Avenue to the south, commercial properties to the east, 4th Street to the west, and Juneau Avenue to the north. It was constructed in 1960.

The parking structure contains eight parking levels made accessible by entrances/exits at highland Avenue, 4th Street, and Juneau Avenue. The structure comprises approximately 338,000 square feet of floor area and 982 parking spaces. The commercial space adjacent to 4th and Highland is leased.

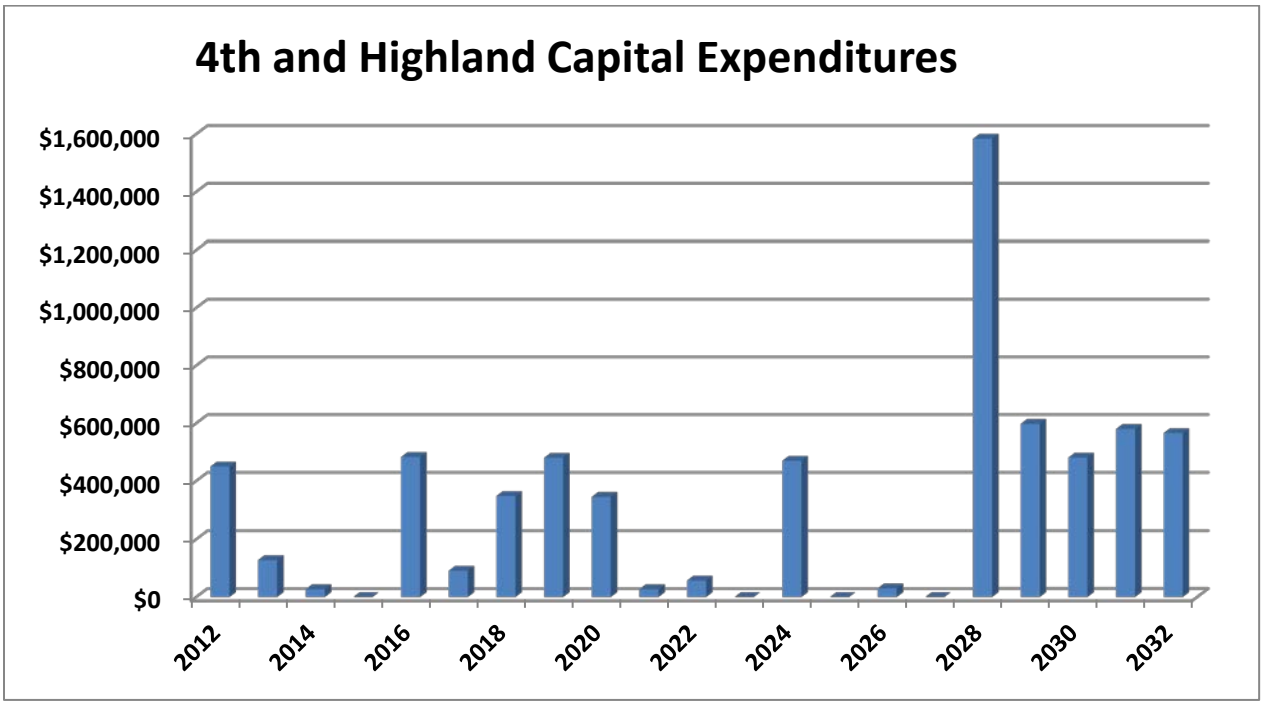
The overall condition of the 4th and Highland parking structure is good, as indicated by the Facility Condition Index rating of 0.02.

4th and Highland by the Numbers	
Construction Date/Age	1988/24
Square Feet	338,000
Current Replacement Value (2012)	$20,287,762
Facility Condition Index/Rating	0.02/Good

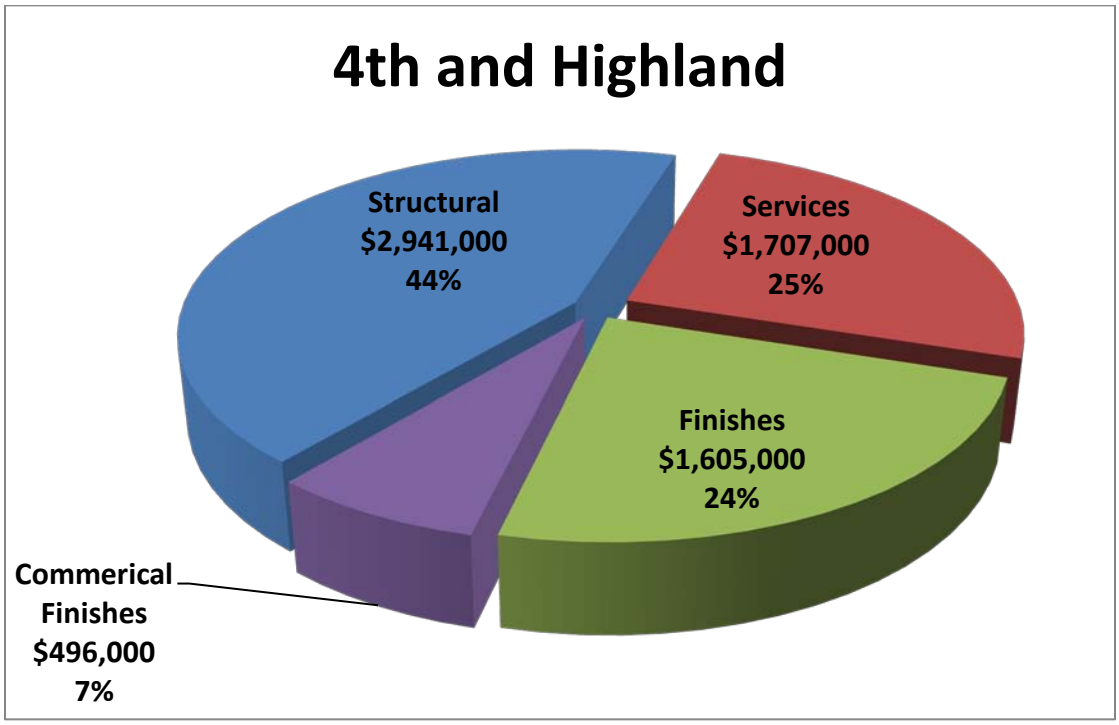
Near term projects are those that are anticipated with the first six years of the funding analysis. These projects are defined by priority. High priority projects are those that require capital expenditures for remediation within two years. Moderate priority projects are those that require capital expenditures from three- to six-years. Low priority projects are those that require capital expenditures beyond six years. Subsequent facility inspections will adjust the anticipated priorities. The following table summarizes the high and medium priority projects at 2nd and Plankinton.

Priority	Year	Near Term Projects
High	1	Structural – Concrete Surface Repairs, Water Repellant Sealer Application, Joint Sealant (Caulk)
	2	Commercial – HVAC Replacement
Moderate	3	Services – Emergency Back Up Batteries
	4	
	5	Structural – Paint Finishes, Concrete Repairs, Expansion Joints
	6	Commercial – Life Safety System, Roof Replacement

Annual expenditures for the 4th and Highland vary from year– to –year as indicated from the graph below.



The most significant category of 4th and Highland expenditures pertains to **structural** repairs as shown below.



Component Inventory

The property components at 4th and Highland are categorized as follows:

Parking Garage Capital Expenditures

Structural Components

- Concrete
  - Elevated
    - Surface Repairs
    - Sealer Application
  - On-grade
- Expansion Joints
- Paint Finish Application
- Pavement Markings
- Sealant, Caulk Joints
- Structural Repairs, 2012

Services Components

- Electrical
    - Secondary Distribution
    - Branch Circuits and Panels
    - Emergency Back-up Units
        - Battery Replacements
        - Unit Replacements
- Elevators, Traction, Modernization
- Light Fixtures
- Light Poles and Fixtures, Eight Floor
- Operators and Pay Stations

Parking Garage Finish Components

- Doors
- Lobby/Offices, Renovation
- Windows and Curtain Walls

Commercial Components

- HVAC
- Life Safety System
- Roof
- Tenant Improvements

O+M Responsibility

- HVAC System, Elevator Penthouse
- Membrane, Roof (3,200 square feet)
- Roof, Flat, Stairwells and Elevator Penthouse
- Other Items Normally Funded by O+M

Long Lived

- Concrete Panels/Facade
- Foundation
- Pipes, Interior

  - HVAC
  - Waste
- Structural Frame

Structural Components

Concrete

4th and Highland parking garage contains approximately 305,000 square feet of elevated floor slabs (precast double tees) and 24,000 square feet of on-grade concrete. Concrete columns and shear walls comprise an additional 20,000 square feet of concrete.

Concrete requires various applications for repair. First, the elevated concrete precast panels, columns, and shear walls will likely experience partial concrete repairs. In addition, the elevated concrete requires sealer applications to prohibit solvents, liquids, etc. from penetrating into the concrete. On-grade concrete requires less frequent replacements/repairs than elevated concrete.

Parking plans periodic concrete repairs in conjunction with capital projects as recommend by Structural Engineering. Parking has implemented a plan from Structural Engineering to apply sealer application every six years beginning in 2012.

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Elevated (Floor)	305,000	-	24	0	2012
Columns and Shear Walls	20,000	-	24	0	2012
On-Grade Concrete	24,000	-	24	4	2016

Expansion Joints

4th and Highland contains approximately 920 LF of expansion joints near the mid section of the structure.

The expansion joints are evaluated, condition assessed and recommended for capital repairs by the City of Milwaukee structural engineering department. The expansion joints are planned for partial replacement by 2016 in conjunction with other capital improvements.

Inventory (LF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Expansion Joints	920	-	Varies	4	2016

Façade Examination

4th and Highland last conducted the façade examination in 2010. The next examination is required by 2015 and every five years thereafter.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Façade Examination	1	-	2	3	2015

Paint Finish Application

4th and Highland includes painted connections throughout the parking structure that fasten concrete panels to columns. Additional painted components include: handrails, doors, railings, and two snow chutes.

The paint finish application is evaluated, condition assessed and recommended for capital repairs by the City of Milwaukee structural engineering department. Parking should conduct vertical sealant replacement in conjunction with paint finish applications.

Inventory (LS)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Paint Finish Application	1	-	-	4	2016

Pavement Markings

The pavement marking applications are evaluated, condition assessed, and recommended for replacement by the City of Milwaukee structural engineering department. The pavement markings should be reapplied in conjunction with water repellant sealer applications every six years beginning in 2012.

Inventory (LS)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Pavement Markings	1	-	-	0	2012

Sealant

The elevated precast floor panels contain 32,000 linear feet of sealant in the joints between successive panels.

The sealant is evaluated, condition assessed and recommended for capital repairs by the City of Milwaukee structural engineering department. Parking should anticipate partial sealant replacement of up to 10,600 linear feet every six years in conjunction beginning in 2012.

Inventory (LF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Sealant, Floor Joints	32,000	-	-	0	2012

Structural Repairs

The City of Milwaukee structural engineering department prepared a 2012 capital improvement project at 4th and Highland that includes:

- Partial sealant (caulk joint) replacement
- Concrete surface repairs
- Water repellant sealer application
- Traffic membrane repairs
- Pavement marking application

The project is budgeted at $450,000.

Building Control Components

Electrical

4th and Highland includes secondary distribution and branch circuits/panels to provide electrical power throughout the garage. The useful life of secondary distribution is up to 45 years and the branch circuit panels have a useful life of up to 30 years.

4th and Highland also includes Emergency Back-up Units. The useful life of the Emergency Back-up Units is 30 years. Parking should anticipate its replacement by 2031. Batteries should be replaced every 10 years beginning by 2014.

Inventory (LS)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Secondary Distribution	1	7	24	20	2032
Branch Circuits and Panels	1	7	24	7	2019
Emergency Back-up Units, Batteries (EA)	2	5	8	2	2014
Emergency Back-up Units, Replace (EA)	2	7	8	20	2032

Elevators, Traction

4th and Highland comprises two traction elevators located at the southwest lobby. The elevators are reported in satisfactory operating condition.

Based on condition, elevator modernization should be anticipated by 2029.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Elevators	2	6	24	17	2029

Light Fixtures

4th and Highland contains light 410 ceiling and wall mounted light fixtures throughout the structure. The parking ramp light fixtures were modified in 2011. Parking should plan for their replacement by 2032.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Light Fixtures	410	7	1	20	2032

Light Poles and Fixtures

4th and Highland includes 4 light poles and fixture at the 8th level. The useful life of light poles and fixtures is up to 35 years.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Light Poles and Fixtures	4	6	24	7	2019

Operators and Pay Stations

4th and Highland contains four ticket dispensers and readers, one pay station, four gate operators, and two attendant booths. These components are reported in good operational condition. Individual component replacements and maintenance should be funded from operating budget.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Ticket Dispensers/Readers	8	7	Unknown	8	2020
Pay Station	2	7	Unknown	8	2020
Gate Operators	8	7	Unknown	8	2020

Finishes Components

Doors

4th and Highland includes is 39 metal service doors, 14 glass service doors, and 2 overhead garage doors throughout the structure Due to the quantity of doors and varied conditions, phased replacements are likely. Parking should anticipate phased replacement of 7 doors every seven years beginning by 2017. Glass doors should be replaced in conjunction with the curtain walls.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Service Doors, Metal	39	Varies	Varies	5	2017
Service Doors, Glass	14	6	Unknown	5	2017
Overhead Doors	2	6	Unknown	5	2017

Lobby/Offices, Renovation

4th and Highland includes elevator lobby finishes and office finishes including: tile wall and flooring, painted surfaces, and painted ceilings. Additionally, a restroom within the office includes a sink and toilet. Renovations of these features should be conducted by 2019.

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Lobby					
Acoustic Tile Ceiling	465	6	24	7	2019
Tile Floor	300	6	24	7	2019
Painted Surfaces	500	6	24	7	2019
Light Fixtures, Recessed (EA)	24	6	24	7	2019
Light Fixtures, Strip (LF)	66	6	24	7	2019
Office/Rest Room					
Acoustic Tile Ceiling	575	6	24	7	2019
Tile Floor	625	6	24	7	2019
Painted Surfaces	225	6	24	7	2019
Light Fixtures, Fluorescent (EA)	5	6	24	7	2019
Toilet	1	6	24	7	2019
Sink	1	6	24	7	2019

Windows and Curtain Walls

4th and Highland contains windows, curtain walls, and skylights at the parking garage and commercial space. These components are in satisfactory condition overall.

In 2010, the commercial space windows exhibited approximately two inches of settlement. Repairs were conducted to mitigate additional settlement and seal exposed gaps.

Parking should conduct window and curtain wall replacement as a single event to minimize the cost and conduct this by 2028.

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Stairwell, Southwest	5,920	6	24	16	2028
Stairwell, Northwest	4,000	6	24	16	2028
Stairwell, East	800	6	24	16	2028
Commercial Space	180	6	24	16	2028
Lobby/Offices	140	6	24	16	2028

Commercial Components

HVAC

4th and Highland commercial space includes four rooftop heating and cooling units. These components are reported in poor operational condition at an age of 24 years. Parking plans to replace the system by 2013.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Rooftop Units	4	3	24	1	2013

Life Safety

4th and Highland includes a life system that is reported in good operating condition. The system should be upgrade with tenant improvements by 2019.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Life Safety System	1	7	Unknown	7	2019

Roof Replacement

4th and Highland includes a flat roof at the commercial property that comprises 45 squares. Additionally, the elevator roof comprises 4 squares and the east stairwell roof comprises 1.5 squares. The roofs are reported in satisfactory condition. Parking should anticipate roof replacement by 2017.

Inventory (SQ)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Commercial	45	6	Unknown	5	2017
Elevator	4	6	Unknown	5	2017
Stairwell, East	1.5	6	Unknown	5	2017

Tenant Improvements

4th and Highland contains approximately 5,000 square feet of commercial space (including rest rooms and kitchen areas). Tenant improvements allow the commercial space to remain competitive, maximize rental rates, and attract a high number of potential lessees. Updates should include rest rooms, kitchen, and dining area finishes. Parking should budget for tenant improvements by 2019.

Inventory (LS)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Tenant Improvement	1	6	24	7	2019

4th and Highland
Parking Structure

	Quantity	Units	2012 Unit Cost	2012 Capital Cost	20 Year Total Cost	UL	RUL	First Year Funds Requested	CRDM 2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Structural Components																			
Concrete, Elevated, Surface Repairs	1	LS	$35,000	$35,000	$185,000	15	4	2016					$39,000		$41,000				
Concrete, Elevated, Sealer Application	313,000	SF	$0.40	$125,200	$521,000	6	6	2018							$147,000				
Concrete, On-Grade Repairs	1	SF	$25,000	$25,000	$66,000	90+	4	2016					$28,000						
Expansion Joints, Partial Replacement	300	LF	$145	$43,500	$172,000	15	4	2016					$48,000						$57,000
Façade Examination	1	EA	$21,000	$21,000	$115,000	35	4	2016					$23,000					$27,000	
Paint Finish Application	1	LS	$310,000	$310,000	$859,000	15	4	2016					$345,000						
Pavement Markings	1	LS	$50,000	$50,000	$209,000	8	6	2018							$59,000				
Sealant, Caulk Joints, Partial Replacement	10,600	LF	$8.25	$87,450	$364,000	15	6	2018							$103,000				
Structural Repairs, 2012	1	LS	$450,000	$450,000	$450,000	N/A	0	2012	$450,000										
Services Components																			
Electrical, Secondary Distribution	1	LS	$150,000	$150,000	$256,000	45	20	2032											
Electrical, Branch Circuits and Panels	1	LS	$90,000	$90,000	$108,000	30	7	2019								$108,000			
Electrical, Emergency Back-up Units, Batteries	1	LS	$25,500	$25,500	$62,000	10	2	2014			$27,000								
Electrical, Emergency Back-up Units, Replacement	1	LS	$75,000	$75,000	$128,000	30	20	2032											
Elevators, Modernization	2	EA	$190,000	$380,000	$598,000	45	17	2029											
Light Fixtures, Replacement	410	EA	$260	$106,600	$182,000	25	20	2032											
Light Poles and Fixtures, 8th Floor	4	EA	$5,400	$21,600	$26,000	35	7	2019								$26,000			
Operators and Pay Stations	1	EA	$280,000	$280,000	$347,000	12	8	2020									$347,000		
Finishes Components																			
Doors, Replacement, Phased	7	EA	$2,700	$18,900	$79,000	35	5	2017						$22,000					
Lobby/Offices, Renovation	1	LS	$39,000	$39,000	$47,000	30	7	2019								$47,000			
Windows and Curtain Walls	13,800	SF	$70	$966,000	$1,479,000	45	16	2028											
Commerical Components																			
HVAC, Upgrades	1	LS	$125,000	$125,000	$128,000	26	1	2013		$128,000									
Life Safety System	1	LS	$75,000	$75,000	$88,000	25	7	2019								$88,000			
Roof, Replacement	50	SQ	$1,200	$60,000	$69,000	20	5	2017						$69,000					
Tenant Improvements	5,000	SF	$35.00	$175,000	$211,000	20	7	2019								$211,000			
		Total 20 Year Cost		$6,749,000				**Annual Cost**	$450,000	$128,000	$27,000	$0	$483,000	$91,000	$350,000	$480,000	$347,000	$27,000	$57,000
Comments								**CRV**	$20,287,762	$20,287,762	$20,287,762	$20,287,762	$20,287,762	$20,287,762	$20,287,762	$20,287,762	$20,287,762	$20,287,762	$20,287,762
a) UL is Useful Life and RUL is Remaining Useful Life								**FCI**	0.02	0.01	0.00	0.00	0.02	0.00	0.02	0.02	0.02	0.00	0.00

b) The annual building materials inflation rate estimate is estimated at 2.70%
c) CRV is the Current Replacement Value
d) CRDM is Capital Repair/Deferred Maintenance
e) Structural Engineering provided information

4th and Highland
Parking Structure

	Quantity	Units	2012 Unit Cost	2012 Capital Cost	20 Year Total Cost	UL	RUL	First Year Funds Requested	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Structural Components																		
Concrete, Elevated, Surface Repairs	1	LS	$35,000	$35,000	$185,000	15	4	2016		$48,000						$57,000		
Concrete, Elevated, Sealer Application	313,000	SF	$0.40	$125,200	$521,000	6	6	2018		$172,000						$202,000		
Concrete, On-Grade Repairs	1	SF	$25,000	$25,000	$66,000	90+	4	2016						$38,000				
Expansion Joints, Partial Replacement	300	LF	$145	$43,500	$172,000	15	4	2016						$67,000				
Façade Examination	1	EA	$21,000	$21,000	$115,000	35	4	2016				$30,000					$35,000	
Paint Finish Application	1	LS	$310,000	$310,000	$859,000	15	4	2016									$514,000	
Pavement Markings	1	LS	$50,000	$50,000	$209,000	8	6	2018		$69,000						$81,000		
Sealant, Caulk Joints, Partial Replacement	10,600	LF	$8.25	$87,450	$364,000	15	6	2018		$120,000						$141,000		
Structural Repairs, 2012	1	LS	$450,000	$450,000	$450,000	N/A	0	2012										
Services Components																		
Electrical, Secondary Distribution	1	LS	$150,000	$150,000	$256,000	45	20	2032										$256,000
Electrical, Branch Circuits and Panels	1	LS	$90,000	$90,000	$108,000	30	7	2019										
Electrical, Emergency Back-up Units, Batteries	1	LS	$25,500	$25,500	$62,000	10	2	2014		$35,000								
Electrical, Emergency Back-up Units, Replacement	1	LS	$75,000	$75,000	$128,000	30	20	2032										$128,000
Elevators, Modernization	2	EA	$190,000	$380,000	$598,000	45	17	2029							$598,000			
Light Fixtures, Replacement	410	EA	$260	$106,600	$182,000	25	20	2032										$182,000
Light Poles and Fixtures, 8th Floor	4	EA	$5,400	$21,600	$26,000	35	7	2019										
Operators and Pay Stations	1	EA	$280,000	$280,000	$347,000	12	8	2020										
Finishes Components																		
Doors, Replacement, Phased	7	EA	$2,700	$18,900	$79,000	35	5	2017		$26,000							$31,000	
Lobby/Offices, Renovation	1	LS	$39,000	$39,000	$47,000	30	7	2019										
Windows and Curtain Walls	13,800	SF	$70	$966,000	$1,479,000	45	16	2028						$1,479,000				
Commerical Components																		
HVAC, Upgrades	1	LS	$125,000	$125,000	$128,000	26	1	2013										
Life Safety System	1	LS	$75,000	$75,000	$88,000	25	7	2019										
Roof, Replacement	50	SQ	$1,200	$60,000	$69,000	20	5	2017										
Tenant Improvements	5,000	SF	$35.00	$175,000	$211,000	20	7	2019										
		Total 20 Year Cost		$6,749,000				**Annual Cost**	$0	$470,000	$0	$30,000	$0	$1,584,000	$598,000	$481,000	$580,000	$566,000
								CRV	$20,287,762	$20,287,762	$20,287,762	$20,287,762	$20,287,762	$20,287,762	$20,287,762	$20,287,762	$20,287,762	$20,287,762
								FCI	0.00	0.02	0.00	0.00	0.00	0.08	0.03	0.02	0.03	0.03

Comments
a) UL is Useful Life and RUL is Remaining Useful Life
b) The annual building materials inflation rate estimate is estimated at 2.70%
c) CRV is the Current Replacement Value
d) CRDM is Capital Repair/Deferred Maintenance
e) Structural Engineering provided information

6/29/2012

FACILITIES CONDITION ASSESSMENT PROGRAM

PARKING GARAGE
1000 NORTH WATER
UPDATE W/O SITE VISIT

Facilities Development | Management

Contents

Executive Summary

Update Report

The update was conducted without a site visit, per standard operating procedures when onsite inspections occurred within a three-five year window.

1000 North Water update report was generated from:

- Meeting with parking representative
- Review and update costs
- Adjust projects (as needed)
- Modify report format

Property Analysis Summary

1000 North Water parking structure is located at 1000 North Water Street. The parking structure is bounded by State Street to the south, Water Street to the west, and Market Street to the east. The structure was developed in 1991.

The parking structure contains eight parking levels made accessible by entrances/exits at Market Street. 1000 North Water parking structure comprises approximately 613,000 square feet of floor area and 1,493 parking spaces. The building atop 1000 North Water is privately owned. Therefore, capital expenditure collaboration is required for certain components.

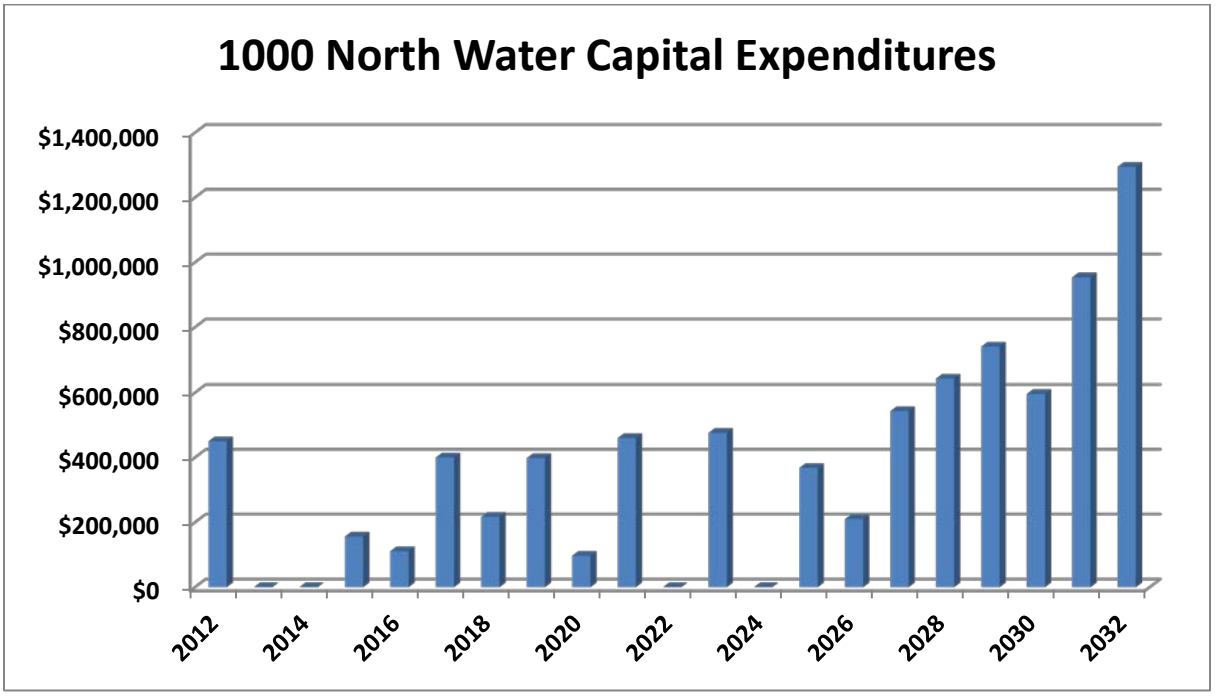
The overall condition of the 1000 North Water parking structure is good, as indicated by the Facility Condition Index rating of 0.02.

1000 North Water by the Numbers	
Construction Date/Age	1991/21
Square Feet	613,000
Current Replacement Value (2012 Estimate)	$30,867,783
Facility Condition Index/Rating	0.02/Good

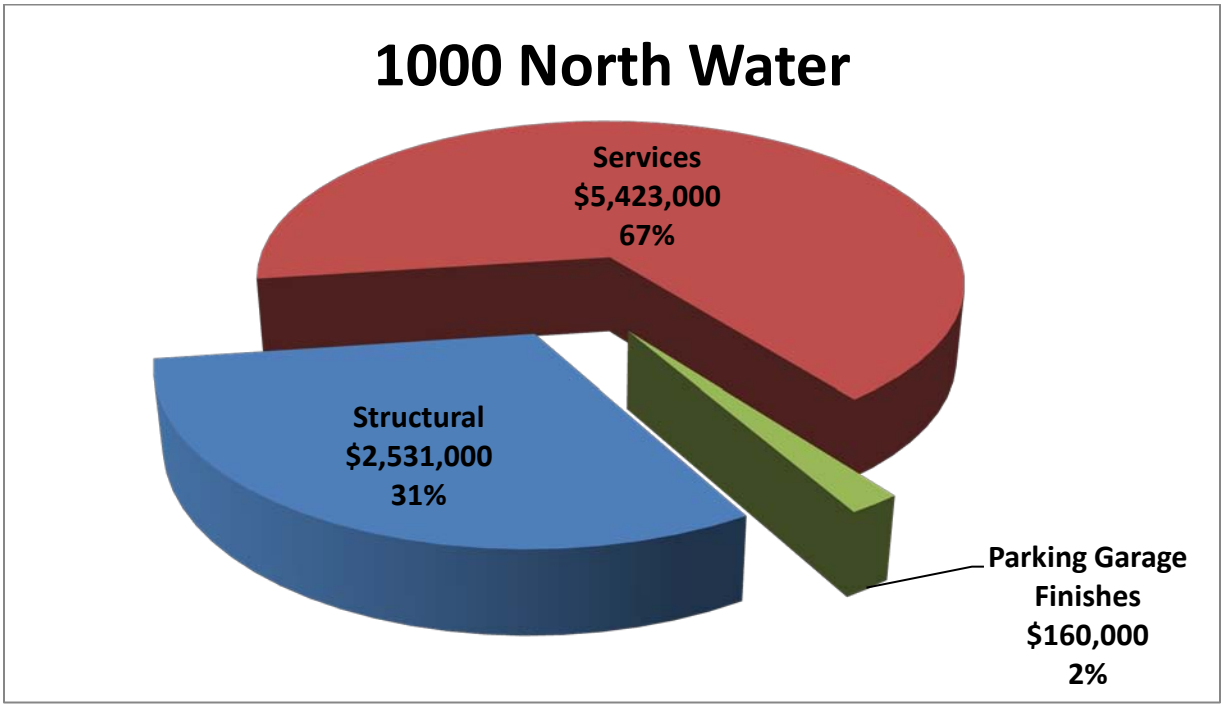
Near term projects are those that are anticipated with the first six years of the funding analysis. These projects are defined by priority. High priority projects are those that require capital expenditures for remediation within two years. Moderate priority projects are those that require capital expenditures from three- to six-years. Low priority projects are those that require capital expenditures beyond six years. Subsequent facility inspections will adjust the anticipated priorities. The following table summarizes the high and medium priority projects at 1000 North Water.

Priority	Year	Near Term Projects
High	1	Structural – Expansion Joints, Paint Finish Application
	2	Commercial – HVAC Replacement
Moderate	3	Services – Security System
	4	Structural – Façade Examination Services – Carbon Monoxide System Upgrades
	5	Structural – Sealer Applications, Expansion Joints, Pavement Markings
	6	Services – Life Safety System

Annual expenditures for the 1000 North Water vary from year– to –year as indicated from the graph below.



The most significant category of 1000 North Water expenditures pertain to **services components** as shown below.



Component Inventory

The property components at 1000 North Water are categorized as follows:

Parking Garage Capital Expenditures

Structural Components

- Concrete
  - Elevated
    - Surface Repairs
    - Sealer Application
  - On-grade
- Expansion Joints
- Façade
  - Examinations
  - Sealant
- Paint Finish Application
- Pavement Markings

- Structural Repairs, 2012

Services Components

- Carbon Monoxide Detection System
  - Replacement
  - Upgrades
- Electrical
  - Primary Distribution
  - Secondary Distribution
  - Branch Circuits and Panels
- Elevators, Modernization
- Exhaust Fans
- Generator, Emergency
- Life Safety System
- Light Fixtures, Replacement
- Operators and Pay Stations
- Security System, Cameras Only

Parking Garage Finish Components

- Doors
- Hallways, Market Street

O+M Responsibility

- HVAC
  - Elevator Penthouse
  - Hallways
  - Stairwells
- Paint Finishes, Touch-up
- Routine Diagnostics/Maintenance
- Pipes, Partial Replacements
- Other Items Normally Funded by O+M

Long Lived

- Concrete Panels/Façade
- Fire Pump
- Foundation

- Pipes, Interior
    - Fire Suppression
    - HVAC
    - Waste
- Structural Frame

Others

- Office Tower
- Security System, Recording Devices and Monitors

Structural Components

Concrete

1000 North Water parking garage contains approximately 520,000 square feet of elevated floor slabs (post tensioned slabs) and 70,500 square feet of on-grade concrete. The façade panels will be quantified during subsequent evaluations.

Concrete requires various applications for repair. The elevated concrete will likely experience partial concrete repairs in conjunction with sealer applications. On-grade concrete requires less frequent replacements/repairs than elevated concrete.

Concrete is evaluated, condition assessed and recommended for capital repairs by the City of Milwaukee structural engineering department. Parking should plan for concrete repairs in 2012 by 2023.

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Elevated (Floor)	520,000	-	21	11	2023
Façade Panels	-	-	21	11	2023
On-Grade Concrete	70,500	-	21	11	2023

Expansion Joints

1000 North Water contains approximately 1,600 LF of horizontal expansion joints near the mid section of the structure. Additionally, the parking structure contains vertical expansion joints (the quantity will be verified during subsequent evaluations).

The expansion joints are evaluated, condition assessed and recommended for capital repairs by the City of Milwaukee structural engineering department. The expansion joints are planned for partial replacement in 2012 in conjunction with other capital improvements.

Inventory (LF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Expansion Joints, Horizontal	920	-	Varies	0	2012
Expansion Joints, Vertical	-	-	Varies	0	2012

Façade

1000 North Water requires façade examinations per city ordinance. The last façade examination occurred in 2011, and the façade examination is required by 2011 and every five years thereafter.

Additionally, 1000 N. Water contains a modular façade. Where module units come together, sealant (caulk) bridges the threshold. Sealant is also located at the perimeters of the windows. The sealant quantity will be determined during subsequent evaluations.

The useful life of sealant if up to 15 years. The useful life is dependent greatly on exposure to UV-radiation. Therefore, isolated locations of accelerated sealant deterioration are likely. Similarly, prolonged useful life to locations unexposed to UV-radiation is likely. Based on variable useful lives, partial sealant replacement is recommended.

Parking should conduct partial replacement of up to 5,000 linear feet every six years beginning by 2023 in conjunction with other capital repair projects.

Sealant replacement is next condition assessed and recommended for capital repairs by the City of Milwaukee structural engineering department.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Façade Examination	1	N/A	1	4	2016
Sealant (LF)	-	-	-	5	2017

Paint Finish Application

1000 North Water includes painted connections throughout the parking structure including: fasteners (for concrete façade panels), handrails, doors, and fire suppression sprinklers.

The paint finish application is evaluated, condition assessed and recommended for capital repairs by the City of Milwaukee structural engineering department. Parking plans the next paint finish application in 2012.

Inventory (LS)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Paint Finish Application	1	-	-	0	2012

Pavement Markings

The pavement marking applications are evaluated, condition assessed, and recommended for replacement by the City of Milwaukee structural engineering department. The pavement markings should be reapplied in conjunction with water repellant sealer applications. The next pavement marking application is scheduled for 2017 and every six years thereafter.

Inventory (LS)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Pavement Markings	1	-	Unknown	5	2017

Structural Repairs

The City of Milwaukee structural engineering department prepared a 2012 capital improvement project at 1000 North Water that includes:

- Partial sealant (caulk joint) replacement
- Concrete surface repairs
- Water repellant sealer application
- Traffic membrane repairs
- Pavement marking application

The project is budgeted at $450,000.

Building Control Components

Carbon Monoxide Detection System

The carbon monoxide detection system is in good condition at an age of eight years. Parking should anticipate system upgrades due to routine maintenance and technological upgrades by 2016. Replacement of the system is anticipated by 2026.

Inventory (LS)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Carbon Monoxide System, Replacement	1	7	8	14	2026
Carbon Monoxide System, Upgrades	1	7	8	4	2016

Electrical

1000 N. Water comprises three levels of electrical distribution: Primary, Secondary, and Branch Circuits/Panels. The condition of the branch circuit panels is reported as fair. The other components are reported in good condition.

The useful lives for the electrical systems are as follows: Primary = 45 years, Secondary = 45 years, Branch Circuits/Panels = 25. The useful life is dependent upon function and environment.

Based on condition, parking should anticipate replacement of the Primary and Secondary distributions by 2031. Replacement of the Branch Circuits/Panels is anticipated by 2021.

Inventory (LS)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Primary Distribution	1	7	21	19	2031
Secondary Distribution	1	7	21	19	2031
Branch Circuits and Panels	1	5	21	9	2021

Elevators, Modernization

1000 North Water comprises four traction elevators that serve the parking garage. The elevators are reported in satisfactory operating condition.

Based on condition, elevator modernization should be anticipated by 2032.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Elevators	4	6	21	20	2032

Exhaust Fans

Eighteen exhaust fans serve the parking garage. The motors are 5HP have a useful life of up to 30 years. Parking should anticipate motor replacement by 2021. The housing unit and interim repairs are considered O+M expenditures.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Exhaust Fans, Motors	18	6	21	9	2021

Generator, Emergency

1000 N. Water Parking and Commercial space share a 750kVA emergency generator. The useful life of this component is up to 35 years. Parking should anticipate its replacement by 2028.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Generator	1	7	21	16	2028

Life Safety System

The fire warning system is comprised of a central alarm panel and various detection alarm devices. The useful life for this system is up to 25 years. Parking should anticipate its replacement by 2018. Components will be quantified/evaluated during subsequent updates.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Life Safety System	1	7	21	6	2018

Light Fixtures

1000 North Water contains light approximately 1,000 light fixtures throughout the structure. Parking should plan for their replacement by 2025.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Light Fixtures	1,000	7	21	13	2025

Operators and Pay Stations

1000 North Water contains 11 ticket dispensers and readers, two pay stations, and 11 gate operators. These components are reported in good operational condition. Individual component replacements and maintenance should be funded from operating budget.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Ticket Dispensers/Readers	11	7	Unknown	7	2019
Pay Station	2	7	Unknown	7	2019
Gate Operators	11	7	Unknown	7	2019

Security System, Cameras

1000 N. Water 60 security cameras. Video recording devices and monitors are the property of the Commercial entity. The useful life of security cameras is up to 12 years. Parking should plan for security camera replacement by 2015 and 2027.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Cameras	60	6	Unknown	3	2015

Finishes Components

Doors

1000 North Water includes is 36 metal service door and 14 glass service doors. Due to the quantity of doors and varied conditions, phased replacements are likely. Parking should anticipate phased replacement of 14 doors every ten years beginning by 2017. The glass doors located at the 2nd Street lobby should be replaced with the glass curtain wall.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Service Doors, Metal	36	7	21	8	2020
Service Doors, Glass	16	7	21	8	2020

Hallways, Market Street, Renovation

1000 N. Water contains two finished hallways off Market Street. Parking should budget for hallway renovation every 30 years beginning by 2020. Interim repairs, including partial ceiling tile replacement, touch-up painting, unit heater replacements, are considered operating budget expenditures.

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
North and South Hallways					
Acoustic Tile Ceiling	1,000	5	21	8	2020
Tile Floor	1,000	6	21	8	2020
Painted Surfaces	2,400	5	21	8	2020
Light Fixtures	12	6	21	8	2020
Unit Heaters	2	6	21	8	2020

1000 North Water
Parking Structure

	Quantity	Units	2012 Unit Cost	2012 Capital Cost	20 Year Total Cost	UL	RUL	First Year Funds Requested	CRDM 2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Structural Components																			
Concrete, Elevated, Surface Repairs (incld. panels)	1	LS	$50,000	$50,000	$146,000	15	11	2023											
Concrete, Elevated, Sealer Application	1	LS	$200,000	$200,000	$811,000	6	5	2017						$228,000					
Concrete, On-Grade Repairs	1	LS	$25,000	$25,000	$73,000	90+	11	2023											
Expansion Joints, Partial Replacement	795	LF	$145	$115,275	$313,000	15	5	2017						$132,000					
Façade Examination	1	EA	$25,000	$25,000	$137,000	5	4	2016					$28,000					$32,000	
Façade, Sealant (Caulk Joints), Partial Replacement	5,000	LF	$9	$45,000	$131,000	15	11	2023											
Paint Finish Application	1	LS	$220,000	$220,000	$328,000	15	15	2027											
Pavement Markings	1	LS	$35,000	$35,000	$142,000	8	5	2017						$40,000					
Structural Repairs, 2012	1	LS	$450,000	$450,000	$470,000	N/A	0	2012	$470,000										
Services Components																			
Carbon Monoxide Detection System, Replacement	1	LS	$120,000	$120,000	$174,000	20	14	2026											
Carbon Monoxide Detection System, Upgrades	1	LS	$75,000	$75,000	$83,000	10	4	2016					$83,000						
Electrical, Primary Distribution	1	LS	$100,000	$100,000	$166,000	45	19	2031											
Electrical, Secondary Distribution	1	LS	$450,000	$450,000	$747,000	45	19	2031											
Electrical, Branch Circuits and Panels	1	LS	$120,000	$120,000	$337,000	25	9	2021										$153,000	
Elevators, Modernization	4	EA	$190,000	$760,000	$1,295,000	45	20	2032											
Exhaust Fans	18	EA	$12,000	$216,000	$275,000	30	9	2021										$275,000	
Generator, Emergency	1	EA	$300,000	$300,000	$459,000	35	16	2028											
Life Safety System	1	LS	$185,000	$185,000	$217,000	25	6	2018							$217,000				
Light Fixtures, Replacement	1,000	EA	$260	$260,000	$368,000	35	13	2025											
Operators and Pay Stations	1	LS	$330,000	$330,000	$931,000	12	7	2019								$398,000			
Security System, Cameras Only	60	EA	$2,400	$144,000	$371,000	12	3	2015				$156,000							
Finishes Components																			
Doors, Replacement, Phased	14	EA	$2,800	$39,200	$112,000	35	8	2020									$49,000		
Hallways, Market Street, Renovation	1	LS	$39,000	$39,000	$48,000	30	8	2020									$48,000		
		Total 20 Year Cost		$8,134,000				**Annual Cost**	$470,000	$0	$0	$156,000	$111,000	$400,000	$217,000	$398,000	$97,000	$460,000	$0
CRV									$30,867,783	$31,701,213	$32,557,146	$33,436,189	$34,338,966	$35,266,118	$36,218,303	$37,196,198	$38,200,495	$39,231,908	$40,291,170
FCI									0.02	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.00

Comments
a) UL is Useful Life and RUL is Remaining Useful Life
b) The annual building materials inflation rate estimate is estimated at 2.70%
c) CRV is the Current Replacement Value. 2011 Value of $30,056,264 is used as 2012 base CRV.
d) CRDM is Capital Repair/Deferred Maintenance
e) Structural Engineering provided information

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1000 North Water
Parking Structure

	Quantity	Units	2012 Unit Cost	2012 Capital Cost	20 Year Total Cost	UL	RUL	First Year Funds Requested	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Structural Components																		
Concrete, Elevated, Surface Repairs (incld. panels)	1	LS	$50,000	$50,000	$146,000	15	11	2023	$67,000						$79,000			
Concrete, Elevated, Sealer Application	1	LS	$200,000	$200,000	$811,000	6	5	2017	$268,000						$315,000			
Concrete, On-Grade Repairs	1	LS	$25,000	$25,000	$73,000	90+	11	2023	$34,000						$39,000			
Expansion Joints, Partial Replacement	795	LF	$145	$115,275	$313,000	15	5	2017							$181,000			
Façade Examination	1	EA	$25,000	$25,000	$137,000	5	4	2016				$36,000					$41,000	
Façade, Sealant (Caulk Joints), Partial Replacement	5,000	LF	$9	$45,000	$131,000	15	11	2023	$60,000						$71,000			
Paint Finish Application	1	LS	$220,000	$220,000	$328,000	15	15	2027					$328,000					
Pavement Markings	1	LS	$35,000	$35,000	$142,000	8	5	2017	$47,000						$55,000			
Structural Repairs, 2012	1	LS	$450,000	$450,000	$470,000	N/A	0	2012										
Services Components																		
Carbon Monoxide Detection System, Replacement	1	LS	$120,000	$120,000	$174,000	20	14	2026				$174,000						
Carbon Monoxide Detection System, Upgrades	1	LS	$75,000	$75,000	$83,000	10	4	2016										
Electrical, Primary Distribution	1	LS	$100,000	$100,000	$166,000	45	19	2031									$166,000	
Electrical, Secondary Distribution	1	LS	$450,000	$450,000	$747,000	45	19	2031									$747,000	
Electrical, Branch Circuits and Panels	1	LS	$120,000	$120,000	$337,000	25	9	2021						$184,000				
Elevators, Modernization	4	EA	$190,000	$760,000	$1,295,000	45	20	2032										$1,295,000
Exhaust Fans	18	EA	$12,000	$216,000	$275,000	30	9	2021										
Generator, Emergency	1	EA	$300,000	$300,000	$459,000	35	16	2028						$459,000				
Life Safety System	1	LS	$185,000	$185,000	$217,000	25	6	2018										
Light Fixtures, Replacement	1,000	EA	$260	$260,000	$368,000	35	13	2025			$368,000							
Operators and Pay Stations	1	LS	$330,000	$330,000	$931,000	12	7	2019								$533,000		
Security System, Cameras Only	60	EA	$2,400	$144,000	$371,000	12	3	2015					$215,000					
Finishes Components																		
Doors, Replacement, Phased	14	EA	$2,800	$39,200	$112,000	35	8	2020								$63,000		
Hallways, Market Street, Renovation	1	LS	$39,000	$39,000	$48,000	30	8	2020										
		Total 20 Year Cost		$8,134,000				**Annual Cost**	$476,000	$0	$368,000	$210,000	$543,000	$643,000	$740,000	$596,000	$954,000	$1,295,000
								CRV	$41,379,031	$42,496,265	$43,643,664	$44,822,043	$46,032,238	$47,275,109	$48,551,537	$49,862,428	$51,208,714	$52,591,349
								FCI	0.01	0.00	0.01	0.00	0.01	0.01	0.02	0.01	0.02	0.02

Comments
a) UL is Useful Life and RUL is Remaining Useful Life
b) The annual building materials inflation rate estimate is estimated at 2.70%
c) CRV is the Current Replacement Value. 2011 Value of $30,056,264 is used as 2012 base CRV.
d) CRDM is Capital Repair/Deferred Maintenance
e) Structural Engineering provided information

6/29/2012

FACILITIES CONDITION ASSESSMENT PROGRAM

PARKING GARAGE MACARTHUR SQUARE UPDATE W/O SITE VISIT

Facilities Development | Management

Contents

Executive Summary

Update Report

The update was conducted without a site visit, per standard operating procedures when onsite inspections previously occurred within a three-five year window.

MacArthur Square update report was generated from:

- Meeting with parking representative
- Review and update costs
- Adjust projects (as needed)
- Modify report format

Property Analysis Summary

MacArthur Square parking structure is located at 841 North James Lovell Street. It is centrally located between the Milwaukee Public Museum, Milwaukee County Courthouse, Police Administration Building, and Safety Building. The parking structure is bounded by State Street to the north, 9th Street to the west and Wells Street to the south.

The parking structure contains three parking levels made accessible by entrances/exits at North James Lovell Street, 9th Street, and the 1-43 Kilbourn Tunnel exit ramp. MacArthur Square parking structure comprises approximately 644,000 square feet of floor area and 1,437 parking spaces. The Civic Center atop MacArthur Square is a landscaped area that includes green space, concrete sidewalks, a reflecting pool (abandoned), and masonry retaining walls.

The overall condition of MacArthur Square parking structure is good, as indicated by the Facility Condition Index rating of 0.00.

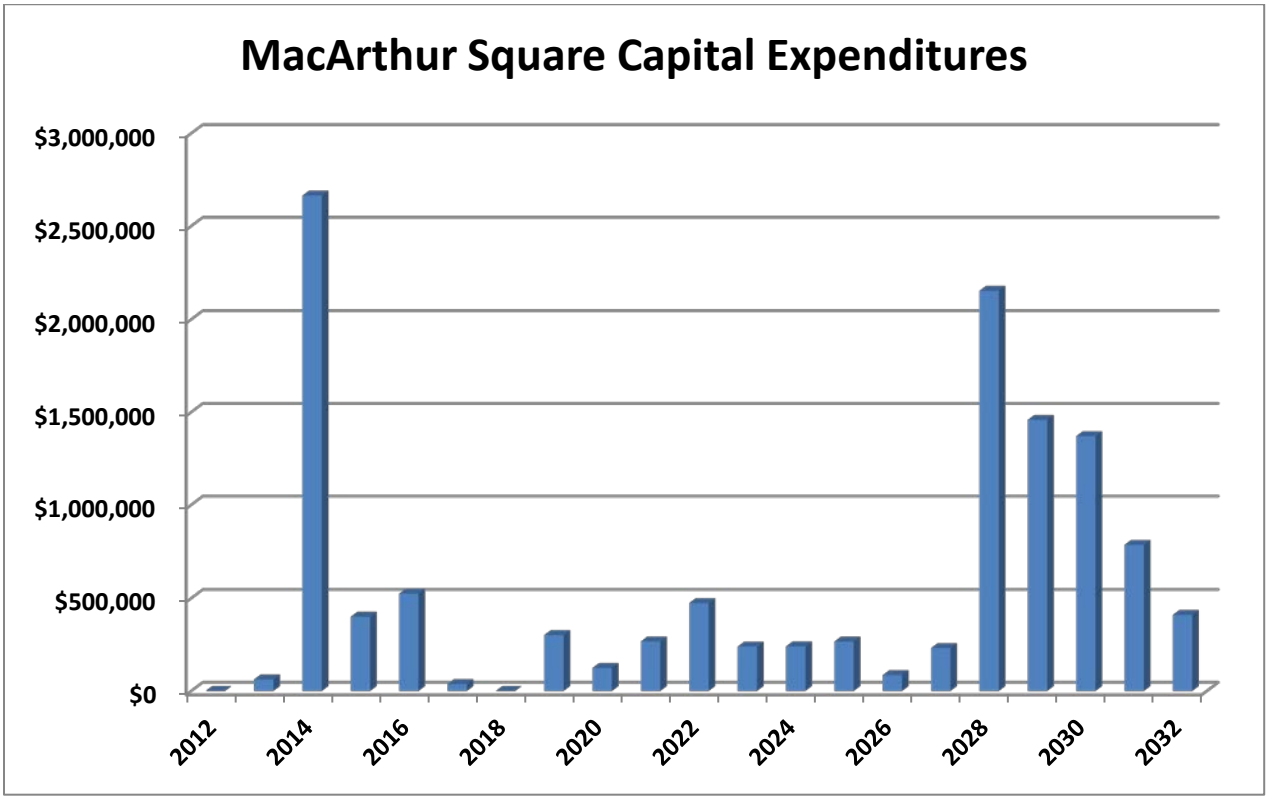
MacArthur Square by the Numbers	
Construction Date/Age	1965/47
Square Feet	644,000
Current Replacement Value (2012 Estimate)	$29,960,578
Facility Condition Index/Rating	0.00/Good

Near term projects are those that are anticipated with the first six years of the funding analysis. These projects are defined by priority. High priority projects are those that require capital expenditures for remediation within two years. Moderate priority projects are those that require capital expenditures from three- to six-years. Low priority projects are those that require capital expenditures beyond six years. Subsequent facility inspections will adjust the anticipated priorities. The following table summarizes the high and medium priority projects at

MacArthur Square.

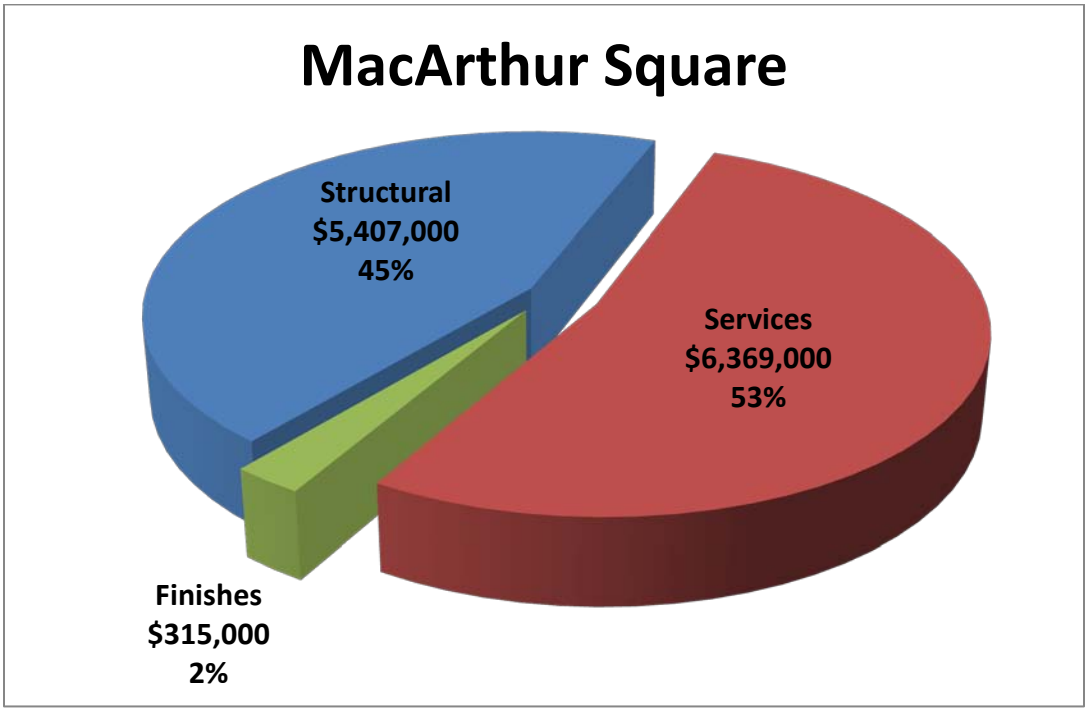
Priority	Year	Near Term Projects
High	1	
	2	Services – Electrical Evaluation and Design
Moderate	3	Structural – 7th Street Level and Ramps: Membrane Application, Concrete Repairs, Pavement Markings Services – Electrical Upgrade
	4	Structural – Lower Level: Paint Finish, Concrete Repairs, Pavement Markings 7th Street Level: Expansion Joint Replacement
	5	Structural – 9th Street Level: Membrane Application, Concrete Repairs, Pavement Markings, Expansion Joint Replacement
	6	Finishes – Door Replacements

Annual expenditures for the MacArthur Square vary from year– to –year as indicated from the graph below.



The most significant category of MacArthur Square expenditures pertains to **services**

components repairs as shown below.



Component Inventory

The property components at MacArthur Square are categorized as follows:

Parking Garage Capital Expenditures

Structural Components

	Lower Level		7th Street Level		9th Street Level
	East and Ramps	West	East	West	
Concrete					
Membrane Application	X		X	X	X
On-Grade Repairs	X	X			
Surface Repairs	X	X	X	X	X
Expansion Joints				X	X
Paint Finish Application	X	X	X	X	X
Pavement Markings	X	X	X	X	X

Services Components

- Carbon Monoxide Detection System
    - Replacement
    - Upgrades
- Electrical
    - Facility Evaluation and Engineering Design
    - Primary Distribution
    - Secondary Distribution
    - Branch Circuits and Panels
- Elevators, Modernization
- Exhaust Fans
- Generator, Emergency (Proposed)
- Light Fixtures, Replacement
- Operators and Pay Stations
- Pipes, Sprinkler System
- Pumps

Parking Garage Finish Components

- Doors
- Offices/Rest Rooms
- Wall, Wood

O+M Responsibility

- Elevator Pump Rooms
    - Exhaust Fans
    - Unit Heaters
- HVAC, Offices, Lovell Street (7^{th} Street East)
- Paint Finishes, Touch-up and Stairwells
- Routine Diagnostics/Maintenance
- Pipes, Partial Replacements
- Other Items Normally Funded by O+M

Long Lived

- Elevator, Hydraulic Cylinders
- Foundation

- Structural Frame

Others

- Civic Center (Facilities Development and Management)
- Windows and Doors, Museum Entrance at 7th Level East

Structural Components

Structural components at MacArthur Square are organized into five locations (floor area, square feet):

1. Lower Level, East and Ramps (110,000/7,800)
2. Lower Level, West (113,000)
3. 7th Street Level, East (110,000)
4. 7th Street Level, West (113,000)
5. 9th Street Level (113,000)

The locations relate to distinctive areas within the garage that, based on parking garage configuration, can be and have historically been isolated for repair work. When undergoing work, the locations are completely closed for public use to conduct a wide variety of repairs.

The following structural sections identify the location and the anticipated scope of work.

Lower Level, East and Ramps

The Lower Level East comprises 110,000 square feet of on-grade concrete, and the ramps comprise approximately 7,800 square feet of elevated concrete. Additionally, the ceiling, walls, and columns comprise approximately 160,000 square feet of surface area.

Paint finish applications constitute the major work conducted in these locations and govern the capital improvement schedule. Painting and related repairs were last conducted in 2005. Parking should schedule concrete on-grade, concrete surface repairs, and pavement markings in conjunction with paint finish applications.

The painting is evaluated, condition assessed and recommended for capital repairs by the City of Milwaukee structural engineering department. Membrane application at the ramp should be applied in conjunction with 7th Street (or 9th Street) membrane application.

Lower Level East and Ramps Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Concrete, Ramps, Membrane	7,800	-	20	2	2014
Concrete, On-grade Repairs	110,000	-	47	3	2015
Concrete, Paint Application	160,000	-	7	3	2015
Pavement Markings (LS)	1	-	Unknown	3	2015

Lower Level, West

The Lower Level West comprises 113,000 square feet of on-grade concrete, and the ceiling, walls, and columns comprise approximately 140,000 square feet of surface area.

Paint finish applications constitute the major work conducted in these locations and govern the capital improvement schedule. Painting and related repairs were last conducted in 2006. Parking should schedule concrete on-grade, concrete surface repairs, and pavement markings in conjunction with paint finish applications.

The painting is evaluated, condition assessed and recommended for capital repairs by the City of Milwaukee structural engineering department.

Lower Level West Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Concrete, On-grade Repairs	113,000	-	47	3	2015
Concrete, Paint Application	140,000	-	7	3	2015
Pavement Markings (LS)	1	-	Unknown	3	2015

7th Street Level, East

The 7th Street Level East comprises 110,000 square feet of elevated (cast in place) concrete, and the ceiling, walls, and columns comprise approximately 160,000 square feet of surface area.

Paint finish applications and membrane applications constitute the major work conducted in these locations and govern the capital improvement schedules. Painting and related repairs were last conducted in 2009. The membrane is approximately 20 years old. Parking should schedule paint finish applications and membrane applications as separate events, and conduct concrete surface repairs and pavement markings in conjunction with these events.

The painting is evaluated, condition assessed and recommended for capital repairs by the City of Milwaukee structural engineering department.

7th Street Level East Inventory (SF)		**Condition Rating**	**Age (Years)**	**RUL (Years)**	**1st Year of Capital Expenditure**
Concrete, Membrane Application	110,000	-	20	2	2014
Concrete, Paint Application	160,000	-	3	12	2024
Pavement Markings (LS)	1	-	3	3	2014

7th Street Level, West

The 7th Street Level West comprises 113,000 square feet of elevated (cast in place) concrete, and the ceiling, walls, and columns comprise approximately 165,000 square feet of surface area.

Paint finish applications and membrane applications constitute the major work conducted in these locations and govern the capital improvement schedules. Painting and related repairs were last conducted in 2009. The membrane is approximately 20 years old. Parking should schedule paint finish applications and membrane applications as separate events, and conduct concrete surface repairs and pavement markings in conjunction with each event.

The painting is evaluated, condition assessed and recommended for capital repairs by the City of Milwaukee structural engineering department.

7th Street Level West Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Concrete, Membrane Application	113,000	-	20	2	2014
Expansion Joint (LS)	1	-	Unknown	3	2015
Concrete, Paint Application	165,000	-	47	11	2023
Pavement Markings (LS)	1	-	4	2	2014

9th Street Level

The 9th Street Level comprises 113,000 square feet of elevated (cast in place) concrete, and the ceiling, walls, and columns comprise approximately 165,000 square feet of surface area.

Paint finish applications and membrane applications constitute the major work conducted in these locations and govern the capital improvement schedules. Painting and related repairs were last conducted in 2010. The membrane is approximately 20 years old. Parking should schedule paint finish applications and membrane applications as separate events, and conduct concrete surface repairs and pavement markings in conjunction with each event.

The painting is evaluated, condition assessed and recommended for capital repairs by the City of Milwaukee structural engineering department.

9th Street Level Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Concrete, Membrane Application	113,000	-	20	4	2016
Expansion Joint (LS)	1	-	Unknown	4	2016
Concrete, Paint Application	165,000	-	47	12	2025
Pavement Markings (LS)	1	-	2	4	2016

Building Services Components

Carbon Monoxide Detection System

The carbon monoxide detection system is in good condition at an age of two years. Parking should anticipate system upgrades by 2020 and system replacement by 2030.

Inventory (LS)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Carbon Monoxide System, Replacement	1	7	2	18	2030
Carbon Monoxide System, Upgrades	1	7	2	8	2020

Electrical

MacArthur Square comprises three levels of electrical distribution: Primary, Secondary, and Branch Circuits/Panels. All levels are original to the construction of the parking structure and Civic Center. The primary electrical equipment is reported in fair overall condition, and both the secondary and branch circuits are reported in critical condition. These conditions are based on water infiltration, corrosion, and repair frequency.

The useful lives for the electrical systems are as follows: Primary = 45 years, Secondary = 45 years, Branch Circuits/Panels = 25. The useful life is dependent upon function and environment.

Electrical distribution at MacArthur Square supplies power, in some form, to all facilities throughout the Civic Center complex. Overtime, modifications made to the electrical distribution systems have altered the intended use and design of the original system. The aged system includes many components that are obsolete making otherwise routine (yet frequent) repairs more laborious and costly.

The upkeep needed at the electrical system at MacArthur Square is exacerbated by the garage environment. The garage is beneath 223,000 square feet of the landscaped Civic Center. Plaza construction includes a landscaped surface with water impenetrable membrane to deter water infiltration into the garage. Over time, the membrane deteriorates leading to water infiltration.

Water infiltration is observed to have affected a majority of electrical components at MacArthur Square. Primary distribution systems are exposed to atmospheric conditions which strains electrical components and adversely affect their operational condition. Secondary systems, generally power transferring conduit, transports infiltrated water throughout the electrical system and into branch circuit panels. Electrical components attached to wall surfaces (mainly branch circuits) are affected by water infiltration from the Civic Center. On-going electrical repair maintenance at MacArthur Square is estimated at approximately $51,000/year.

In order to address the long-term cost affect of electrical maintenance at MacArthur Square, two economic analyses were performed. The first is based on an estimated replacement cost of $1,660,000 inclusive of design, demolition, and installation of a new electrical system (cost estimated from inventory of electrical components – not actual design). The second analysis provides a cost at one-half the estimated price for benchmarking purposes. The analysis reveals that the pay-back for electrical system replacement is expected between 15 and 27 years. It should be noted that the current system is not expected to function under current operating procedures for the next 20 years and replacement is inevitable within that time.

	Replace			Demand Maintenance	
Year	Annual Cost	Maintenance	Total Cost	Annual Cost	Total Cost
1	**$1,660,000**		$1,660,000	$51,000	$51,000
2		$8,000	$1,668,000	$52,377	$103,377
3		$8,216	$1,676,216	$53,791	$157,168
4		$8,438	$1,684,654	$55,244	$212,412
5		$8,666	$1,693,319	$56,735	$269,147
6		$8,900	$1,702,219	$58,267	$327,414
7		$9,140	$1,711,359	$59,840	$387,254
8		$9,387	$1,720,746	$61,456	$448,710
9		$9,640	$1,730,386	$63,115	$511,825
10		$9,900	$1,740,286	$64,819	$576,644
11		$10,168	$1,750,454	$66,569	$643,214
12		$10,442	$1,760,896	$68,367	$711,580
13		$10,724	$1,771,620	$70,213	$781,793
14		$11,014	$1,782,634	$72,108	$853,902
15		$11,311	$1,793,945	$74,055	$927,957
16		$11,617	$1,805,562	$76,055	$1,004,012
17		$11,930	$1,817,492	$78,108	$1,082,120
18		$12,252	$1,829,744	$80,217	$1,162,337
19		$12,583	$1,842,327	$82,383	$1,244,720
20		$12,923	$1,855,250	$84,607	$1,329,328
21		$13,272	$1,868,522	$86,892	$1,416,220
22		$13,630	$1,882,152	$89,238	$1,505,458
23		$13,998	$1,896,150	$91,647	$1,597,105
24		$14,376	$1,910,526	$94,122	$1,691,227
25		$14,764	$1,925,290	$96,663	$1,787,890
26		$15,163	$1,940,453	$99,273	$1,887,163
27		$15,572	$1,956,026	$101,953	$1,989,116

	Replace			Demand Maintenance	
Year	Annual Cost	Maintenance	Total Cost	Annual Cost	Total Cost
1	**$830,000**		$830,000	$51,000	$51,000
2		$8,000	$838,000	$52,377	$103,377
3		$8,216	$846,216	$53,791	$157,168
4		$8,438	$854,654	$55,244	$212,412
5		$8,666	$863,319	$56,735	$269,147
6		$8,900	$872,219	$58,267	$327,414
7		$9,140	$881,359	$59,840	$387,254

8		$9,387	$890,746	$61,456	$448,710
9		$9,640	$900,386	$63,115	$511,825
10		$9,900	$910,286	$64,819	$576,644
11		$10,168	$920,454	$66,569	$643,214
12		$10,442	$930,896	$68,367	$711,580
13		$10,724	$941,620	$70,213	$781,793
14		$11,014	$952,634	$72,108	$853,902
15		$11,311	$963,945	$74,055	$927,957
16		$11,617	$975,562	$76,055	$1,004,012

Electrical inspection/evaluation/design should be conducted to provide an accurate design and cost for facility electrical upgrades. Furthermore, installation of an emergency generator may be required and is reflected in the replacement cost even though one does not exist at this time. The actual need for emergency generator installation will be determined from design.

Any decision to invest in electrical infrastructure should be coordinated with the long-term strategy/planning of the Civic Center complex, Kilbourn Tunnels, and adjacent facilities. Special section Civic Center briefly details the integrated nature between MacArthur Parking Garage and these features. A larger, more comprehensive analysis for the complex will be conducted as needed at a later date. However, the near term need for electrical distribution upgrades within MacArthur Square is a considered a near term project.

Based on condition, parking should anticipate partial replacement of the Primary and Secondary distributions by 2014. Replacement of the Branch Circuits/Panels is anticipated by 2021.

Inventory (LS)		**Condition Rating**	**Age (Years)**	**RUL (Years)**	**1st Year of Capital Expenditure**
Facility Evaluation/Engineering Design	1	4	47	1	2013
Primary Distribution	1	4	47	2	2014
Secondary Distribution	1	2	47	2	2014
Branch Circuits and Panels	1	2	47	2	2014

Elevators, Modernization

MacArthur Square contains three hydraulic elevators. The useful life of the pumps and controls is up to 35 years. Parking should plan for elevator modernization by 2022.

The hydraulic cylinders were replaced in 2009 and have a useful life of up to 45 years. Therefore, subsequent expenditures are not anticipated within the 20 year scope of this analysis.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Elevators, Modernization	3	6	Unknown	10	2022
Elevators, Cylinders	3	8	3	42	-

Exhaust Fans

Twenty-one exhaust fans ranging from 30,000- to- 82,000 cfm provide air circulation throughout the parking garage. Parking should plan for motor replacement as a single event by 2021. Interim motor repairs and housing replacements should be funded from the operating budget.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Exhaust Fans, Motors	21	Unknown	Unknown	9	2021

Generator, Emergency (Proposed)

MacArthur Square does not currently include an emergency generator. However, an emergency generator should be installed with electrical modernization.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Generator	1	-	-	-	2014

Light Fixtures

MacArthur Square contains light approximately 1,000 light fixtures throughout the structure. They were updated/retrofitted in 2010 with Department of Energy grant. Parking should plan for their replacement by 2032.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Light Fixtures	926	7	2	20	2032

Operators and Pay Stations

MacArthur Square contains nine ticket dispensers and readers, one pay station, and nine gate operators. These components are reported in good operational condition. Individual component replacements and maintenance should be funded from operating budget.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Ticket Dispensers/Readers	9	7	Unknown	7	2019
Pay Station	1	7	Unknown	7	2019
Gate Operators	9	7	Unknown	7	2019

Pipes, Sprinkler System

The fire suppression sprinkler system covers approximately 644,000 square feet of floor area. These systems require routine maintenance to achieve a long useful life of 65+ years. The sprinkler system receives paint finish applications in conjunction with the regularly schedule program. These applications, in addition to partial replacements funded for operating budget, affect the anticipated useful life of the system.

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Sprinkler System	644,000	6	47	16	2028

Pumps, Replacement

MacArthur Square contains four sump pumps at the Lower Level southeast corner. The submersible pumps have a useful life of up to 15 years. Two pumps were replaced in 2011 and are in good condition, and the remaining two pumps are reported in poor condition with replacement recommended by 2014. Subsequent pump replacements should be anticipated every 15 years.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Pumps, Replaced 2011	2	8	1	14	2026
Pumps, Remaining	2	4	Unknown	2	2014

Finishes Components

Doors

MacArthur Square comprises 79 steel doors, 8 glass doors, and two overhead garage doors. The useful life of metal doors is up to 35 years. Based on the varied conditions, Parking should anticipated phased replacement of 12 doors every five years beginning by 2014.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Service Doors, Metal	79	Varies	Varies	5	2017

Offices/Rest Rooms, Renovation

MacArthur Square 7th Street Level East comprises parking operation offices and rest rooms. Interior renovations should be conducted every 30 years. Paint finish applications were conducted in 2020. Parking should budget for the next interior renovation by 2027.

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Acoustic Tile Ceiling	1,200	5	21	15	2017
Tile Floor	1,200	6	21	15	2017
Painted Surfaces	-	5	21	15	2017
Light Fixtures (EA)	-	6	21	15	2017
Toilets/Urinals (EA)	10	6	21	15	2017
Partitions (EA)	10	6	21	15	2017
Sinks (EA)	8	6	21	15	2017

Wall, Wood

MacArthur Square Lovell Street Level contains a 2,500 square foot wood block wall. This wall is in fair overall condition. It is likely original and at an age of 45 years. Parking should anticipate replacement of this wall by 2026.

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Wall, Wood	2,500	5	15	XX	20XX

MacArthur Square and Center Civic	Quantity	Units	2012 Unit Cost	2012 Capital Cost	20 Year Total Cost	UL	RUL	First Year Funds Requested	CRDM 2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Structural Components																		
Lower Level, East and Ramps																		
Concrete, Elevated, Membrane Application (Ramps)	7,800	SF	$3.50	$27,300	$72,000	15	2	2014			$29,000							
Concrete, On-Grade, Partial Replacements	1	LS	$22,000	$22,000	$60,000	90+	3	2015				$24,000						
Concrete, Surface Repairs	190	SF	$125	$23,750	$64,000	15	3	2015				$26,000						
Paint Finish Application (including Ramps)	160,000	SF	$0.80	$128,000	$346,000	6	3	2015				$139,000						
Pavement Markings	1	LS	$9,000	$9,000	$37,000	6	3	2015				$10,000						
Lower Level, West																		
Concrete, On-Grade, Partial Replacements	1	LS	$22,000	$22,000	$60,000	15	3	2015				$24,000						
Concrete, Surface Repairs	170	SF	$125	$21,250	$57,000	90+	3	2015				$23,000						
Paint Finish Application	140,000	SF	$0.80	$112,000	$302,000	15	3	2015				$121,000						
Pavement Markings	1	LS	$9,000	$9,000	$37,000	6	3	2015				$10,000						
7th Street Level, East																		
Concrete, Elevated, Membrane Application	110,000	SF	$3.50	$385,000	$1,012,000	15	2	2014			$406,000							
Concrete, Surface Repairs	300	SF	$125	$37,500	$151,000	15	2	2014			$40,000							
Paint Finish Application	160,000	SF	$0.80	$128,000	$176,000	15	12	2024										
Pavement Markings	1	LS	$9,000	$9,000	$35,000	6	2	2014			$9,000							
7th Street Level, West																		
Concrete, Elevated, Membrane Application	113,000	SF	$3.50	$395,500	$1,039,000	15	2	2014			$417,000							
Concrete, Surface Repairs	300	SF	$125	$37,500	$149,000	15	2	2014			$40,000							
Expansion Joint, Replacement	1	LS	$21,000	$21,000	$23,000	15	3	2015				$23,000						
Paint Finish Application	165,000	SF	$0.80	$132,000	$177,000	15	11	2023										
Pavement Markings	1	LS	$9,000	$9,000	$35,000	6	2	2014			$9,000							
9th Street Level																		
Concrete, Elevated, Membrane Application	113,000	SF	$3.50	$395,500	$1,096,000	15	4	2016					$440,000					
Concrete, Surface Repairs	375	SF	$125	$46,875	$196,000	15	4	2016					$52,000					
Expansion Joint, Replacement	1	LS	$21,000	$21,000	$58,000	15	4	2016					$23,000					
Paint Finish Application	165,000	SF	$0.80	$132,000	$187,000	15	13	2025										
Pavement Markings	1	LS	$9,000	$9,000	$38,000	6	4	2016					$10,000					
Services Components																		
Carbon Monoxide Detection System, Replacement	1	LS	$500,000	$500,000	$808,000	20	18	2030										
Carbon Monoxide Detection System, Upgrades	1	LS	$100,000	$100,000	$124,000	10	8	2020									$124,000	
Electrical, Facility Evaluation and Engineering Design	1	LS	$60,000	$60,000	$62,000	10	1	2013		$62,000								
Electrical, Primary Distribution	1	LS	$700,000	$700,000	$738,000	45	2	2014			$738,000							
Electrical, Secondary Distribution	1	LS	$600,000	$600,000	$633,000	45	2	2014			$633,000							
Electrical, Branch Circuits and Panels	1	LS	$75,000	$75,000	$79,000	25	2	2014			$79,000							
Elevators, Modernization	3	EA	$115,000	$345,000	$450,000	35	10	2022										
Exhaust Fans	21	EA	$10,000	$210,000	$267,000	30	9	2021										$267,000
Generator, Emergency (proposed)	1	EA	$225,000	$225,000	$237,000	30	2	2014			$237,000							
Light Fixtures, Replacement	926	EA	$260.00	$240,760	$410,000	25	20	2032										
Operators and Pay Stations	1	LS	$250,000	$250,000	$716,000	12	7	2019								$301,000		
Pipes, Sprinkler System, Replacement	625,000	SF	$2.25	$1,406,250	$2,154,000	65+	16	2028										
Pumps, Replacement, Phased	2	EA	$13,000	$26,000	$106,000	15	2	2014			$27,000							
Finishes Components																		
Doors, Replacement, Phased	12	EA	$2,700	$32,400	$84,000	35	5	2017						$37,000				
Offices/Rest Rooms, Renovation	1	LS	$55,000	$55,000	$82,000	30	15	2027										
Wall, Wood (7th Street East)	2,500	SF	$40	$100,000	$149,000	60	15	2027										
		Total 20 Year Cost			$12,506,000			**Annual Cost**	$0	$62,000	$2,664,000	$400,000	$525,000	$37,000	$0	$301,000	$124,000	$267,000
								CRV	$29,960,578	$30,769,514	$31,600,290	$32,453,498	$33,329,743	$34,229,646	$35,153,846	$36,103,000	$37,077,781	$38,078,881
								FCI	0.00	0.00	0.08	0.01	0.02	0.00	0.00	0.01	0.00	0.01

Comments
a) UL is Useful Life and RUL is Remaining Useful Life
b) The annual building materials inflation rate estimate is estimated at 2.70%
c) CRV is the Current Replacement Value
d) CRDM is Capital Repair/Deferred Maintenance
e) Structural Engineering provided information

MacArthur Square and Center Civic	Quantity	Units	2012 Unit Cost	2012 Capital Cost	20 Year Total Cost	UL	RUL	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Structural Components																		
Lower Level, East and Ramps																		
Concrete, Elevated, Membrane Application (Ramps)	7,800	SF	$3.50	$27,300	$72,000	15	2								$43,000			
Concrete, On-Grade, Partial Replacements	1	LS	$22,000	$22,000	$60,000	90+	3									$36,000		
Concrete, Surface Repairs	190	SF	$125	$23,750	$64,000	15	3									$38,000		
Paint Finish Application (including Ramps)	160,000	SF	$0.80	$128,000	$346,000	6	3									$207,000		
Pavement Markings	1	LS	$9,000	$9,000	$37,000	6	3	$12,000								$15,000		
Lower Level, West																		
Concrete, On-Grade, Partial Replacements	1	LS	$22,000	$22,000	$60,000	15	3									$36,000		
Concrete, Surface Repairs	170	SF	$125	$21,250	$57,000	90+	3									$34,000		
Paint Finish Application	140,000	SF	$0.80	$112,000	$302,000	15	3									$181,000		
Pavement Markings	1	LS	$9,000	$9,000	$37,000	6	3	$12,000								$15,000		
7th Street Level, East																		
Concrete, Elevated, Membrane Application	110,000	SF	$3.50	$385,000	$1,012,000	15	2								$606,000			
Concrete, Surface Repairs	300	SF	$125	$37,500	$151,000	15	2			$52,000					$59,000			
Paint Finish Application	160,000	SF	$0.80	$128,000	$176,000	15	12			$176,000								
Pavement Markings	1	LS	$9,000	$9,000	$35,000	6	2			$12,000					$14,000			
7th Street Level, West																		
Concrete, Elevated, Membrane Application	113,000	SF	$3.50	$395,500	$1,039,000	15	2								$622,000			
Concrete, Surface Repairs	300	SF	$125	$37,500	$149,000	15	2		$50,000						$59,000			
Expansion Joint, Replacement	1	LS	$21,000	$21,000	$23,000	15	3											
Paint Finish Application	165,000	SF	$0.80	$132,000	$177,000	15	11		$177,000									
Pavement Markings	1	LS	$9,000	$9,000	$35,000	6	2		$12,000						$14,000			
9th Street Level																		
Concrete, Elevated, Membrane Application	113,000	SF	$3.50	$395,500	$1,096,000	15	4										$656,000	
Concrete, Surface Repairs	375	SF	$125	$46,875	$196,000	15	4				$66,000						$78,000	
Expansion Joint, Replacement	1	LS	$21,000	$21,000	$58,000	15	4										$35,000	
Paint Finish Application	165,000	SF	$0.80	$132,000	$187,000	15	13				$187,000							
Pavement Markings	1	LS	$9,000	$9,000	$38,000	6	4				$13,000						$15,000	
Services Components																		
Carbon Monoxide Detection System, Replacement	1	LS	$500,000	$500,000	$808,000	20	18									$808,000		
Carbon Monoxide Detection System, Upgrades	1	LS	$100,000	$100,000	$124,000	10	8											
Electrical, Facility Evaluation and Engineering Design	1	LS	$60,000	$60,000	$62,000	10	1											
Electrical, Primary Distribution	1	LS	$700,000	$700,000	$738,000	45	2											
Electrical, Secondary Distribution	1	LS	$600,000	$600,000	$633,000	45	2											
Electrical, Branch Circuits and Panels	1	LS	$75,000	$75,000	$79,000	25	2											
Elevators, Modernization	3	EA	$115,000	$345,000	$450,000	35	10	$450,000										
Exhaust Fans	21	EA	$10,000	$210,000	$267,000	30	9											
Generator, Emergency (proposed)	1	EA	$225,000	$225,000	$237,000	30	2											
Light Fixtures, Replacement	926	EA	$260.00	$240,760	$410,000	25	20											$410,000
Operators and Pay Stations	1	LS	$250,000	$250,000	$716,000	12	7										$415,000	
Pipes, Sprinkler System, Replacement	625,000	SF	$2.25	$1,406,250	$2,154,000	65+	16							$2,154,000				
Pumps, Replacement, Phased	2	EA	$13,000	$26,000	$106,000	15	2					$38,000			$41,000			
Finishes Components																		
Doors, Replacement, Phased	12	EA	$2,700	$32,400	$84,000	35	5					$47,000						
Offices/Rest Rooms, Renovation	1	LS	$55,000	$55,000	$82,000	30	15						$82,000					
Wall, Wood (7th Street East)	2,500	SF	$40	$100,000	$149,000	60	15						$149,000					
Total 20 Year Cost					$12,506,000			$474,000	$239,000	$240,000	$266,000	$85,000	$231,000	$2,154,000	$1,458,000	$1,370,000	$1,199,000	$410,000
Comments								$39,107,011	$40,162,900	$41,247,299	$42,360,976	$43,504,722	$44,679,350	$45,885,692	$47,124,606	$48,396,970	$49,703,688	$51,045,688
a) UL is Useful Life and RUL is Remaining Useful Life								0.01	0.01	0.01	0.01	0.00	0.01	0.05	0.03	0.03	0.02	0.01

b) The annual building materials inflation rate estimate is estimated at 2.70%
c) CRV is the Current Replacement Value
d) CRDM is Capital Repair/Deferred Maintenance
e) Structural Engineering provided information

6/29/2012

FACILITIES CONDITION ASSESSMENT PROGRAM

PARKING GARAGE
MILWAUKEE AND MICHIGAN
UPDATE W/O SITE VISIT

Facilities Development | Management

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Update Report

The update was conducted without a site visit, which is in compliance with standard operating procedures when onsite inspections occurred within a three-five year window.

Milwaukee and Michigan update report was generated from:

- Meeting with parking representative
- Review and update costs
- Adjust projects (as needed)
- Modify report format to new standard

Property Analysis Summary

Milwaukee and Michigan parking structure is located at 535 North Milwaukee Street. The parking structure is bounded by Michigan Avenue to the north, Milwaukee Street to the east and Clybourn Street to the south. It was constructed in 1956

The parking structure contains six parking levels made accessible by an entrance/exit at Milwaukee Street. Milwaukee/Michigan parking structure comprises approximately 178,000 square feet of floor area and 500 parking spaces.

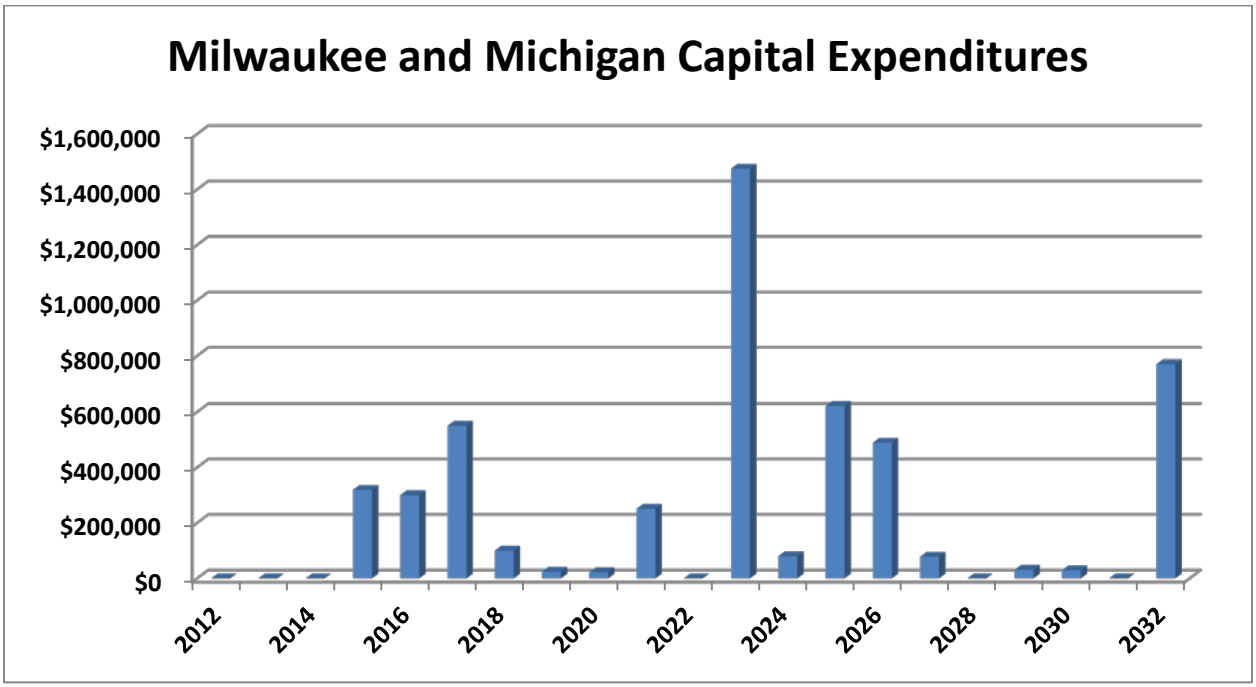
The overall condition of the Milwaukee/Michigan parking structure is good overall, as indicated by the Facility Condition Index rating of 0.00.

Milwaukee and Michigan by the Numbers	
Construction Date/Age	1956/66
Square Feet	178,000
Current Replacement Value (2012)	$7,313,091
Facility Condition Index/Rating	0.00/Good

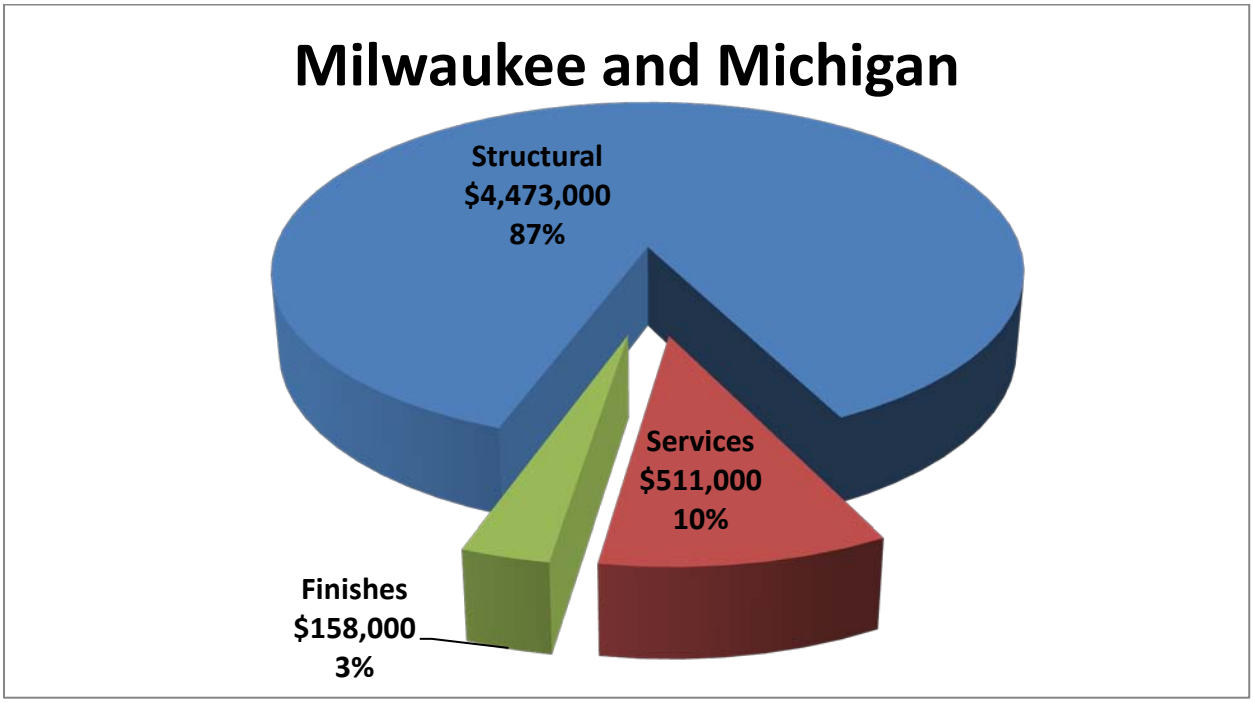
Near term projects are those that are anticipated with the first six years of the funding analysis. These projects are defined by priority. High priority projects are those that require capital expenditures for remediation within two years. Moderate priority projects are those that require capital expenditures from three- to six-years. Low priority projects are those that require capital expenditures beyond six years. Subsequent facility inspections will adjust the anticipated priorities. The following table summarizes the high and medium priority projects at Milwaukee and Michigan.

Priority	Year	Near Term Projects
High	1	
	2	
Moderate	3	
	4	Structural – Paint EIFS and Concrete, Façade Examination
	5	Structural – On-Grade Concrete Repairs
	6	Structural - Membrane Application, Concrete Repairs, Pavement Markings

Annual expenditures for the Milwaukee and Michigan vary from year– to –year as indicated from the graph below.



The most significant category of Milwaukee and Michigan expenditures pertains to **structural** repairs as shown below.



Component Inventory

The property components at Milwaukee and Michigan are categorized as follows:

Parking Garage Capital Expenditures

Structural Components

- Concrete
  - Elevated
    - Membrane Application
    - Surface Repairs
  - On-grade
- Façade Examination
- Paint Finish Application
  - Steel
  - EIFS/Concrete
- Pavement Markings

Services Components

- Electrical
    - Secondary Distribution
    - Branch Circuits and Panels
- Elevators, Modernization
- Light Fixtures
- Light Poles and Fixtures, Sixth Floor
- Operators

Parking Garage Finish Components

- Doors
- Offices/Rest Rooms
- Ramp, Overhead Structures, 6th

O+M Responsibility

- Routine Diagnostics/Maintenance
- HVAC Units
- Boiler, Interim Repairs and Maintenance
- Paint Finishes
    - Touch-up
    - Stairwells
- Roof, Flat, Stairwell and Elevator Penthouse
- Other Items Normally Funded by O+M

Long Lived

- Concrete Panels/Façade
- Foundation
- Guard Rails
- Pipes, Interior
    - HVAC
    - Waste
- Railings, Metal
- Structural Frame
- Ticket Booth

Others

- Fence

- Security System
- Annual Preventative Maintenance
- Split System, Security Office
- Paint Finishes, Touch-Up and Stairwells

Structural Components

Concrete

Milwaukee and Michigan parking garage contains approximately 144,000 square feet of elevated floor slabs (precast double tees) and 28,800 square feet of on-grade concrete.

Parking plans periodic concrete repairs in conjunction with capital projects as recommend by Structural Engineering. Parking has implemented a plan from Structural Engineering to apply membrane application every 15 years at:

- Floors 2-4 beginning by 2017
- Floors 5-6 by 2026 (Last replaced in 2011)
- Ramps should receive sealer application in conjunction with membrane application

At the time of membrane application, parking should budget for concrete surface repairs and pavement marking due to the related nature of these components.

Structural Engineering recommends on-grade concrete repairs by 2016.

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Elevated (Membrane)	135,600	-	66	5	2017
On-Grade Concrete	27,400	-	66	4	2016

Façade Examination

Milwaukee and Michigan parking structure height of six stories requires façade examinations per city ordinance. The last façade examination occurred in 2010, and the next façade examination is required by 2015 and every five years thereafter.

Inventory (LF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Façade Examination	1	N/A	2	3	2015
Concrete	3,200	5	Unknown	3	2017
EIFS	2,250	5	Unknown	3	2017

Paint Finish Application, Steel

Milwaukee and Michigan contains various painted materials includes approximately 37,500 square feet of steel structural frame and other metal components.

The steel paint finish exhibited isolated locations of rust and is in fair condition overall. The parking garage lessee conducts annual touch-up paint finish applications. The original/existing paint finish (not touch-up paint finished) contains lead. Therefore, complete paint finish application will require significant abatement procedures.

The existing paint finish application requires lead abatement at the time of repainting the structure. Interim paint finish applications are conducted as needed.

Structural Engineering provided recommendations and condition assessments for this work.

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Steel	37,500	5	Unknown	5	2017

Pavement Markings

The pavement marking applications are evaluated, condition assessed, and recommended for replacement by the City of Milwaukee structural engineering department. The pavement markings should be reapplied in conjunction with water repellant sealer applications in conjunction with membrane applications.

Inventory (LS)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Pavement Markings	1	-	-	4	2017

Building Services Components

Electrical

Milwaukee and Michigan includes secondary distribution and branch circuits/panels to provide electrical power throughout the garage. The useful life of secondary distribution is up to 45 years and the branch circuit panels have a useful life of up to 30 years.

Inventory (LS)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Secondary Distribution	1	6	Unknown	9	2021
Branch Circuits and Panels	1	6	Unknown	9	2021

Elevator

Milwaukee and Michigan comprises a traction elevator. The elevator is reported in satisfactory operating condition. Based on condition, elevator modernization should be anticipated by 2029.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Elevator	1	6	Unknown	13	2025

Light Fixtures

Milwaukee and Michigan contains light 155 ceiling mounted light fixtures throughout the structure. Parking should plan for their replacement by 2021.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Light Fixtures	155	6	Unknown	9	2021

Light Poles and Fixtures

Milwaukee and Michigan includes 4 light poles and fixtures at the 6th level. The useful life of light poles and fixtures is up to 35 years.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Light Poles and Fixtures	4	6	Unknown	9	2021

Operators

Milwaukee and Michigan contains two gate operators at the exit/entrance to the parking structure. These components are reported in good operational condition. Parking should anticipate their replacement by 2019.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Gate Operators	2	7	Unknown	7	2019

Finishes Components

Doors

Milwaukee and Michigan includes is 16 metal service doors at the central stairway. Parking should anticipate their replacement by 2024.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Service Doors, Metal	16	Varies	Varies	12	2024

Offices/Rest Rooms, Renovation

Milwaukee and Michigan includes two rest rooms and two offices. Parking should budget updates for these spaces every 35 years beginning by 2024. Quantities are estimated from plans and will be verified during subsequent field condition assessments.

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Rest Rooms					
Painted Surfaces	480	6	Unknown	12	2024
Tile Walls	300	6	Unknown	12	2024
Light Fixtures	3	6	Unknown	12	2024
Toilet (EA)	3	6	Unknown	12	2024
Sink (EA)	2	6	Unknown	12	2024
Partitions (EA)	3	6	Unknown	12	2024
Offices					
Painted Surfaces	860	6	Unknown	12	2024
Light Fixtures	4	6	Unknown	12	2024

Ramps, Overhead Structures, 6th Floor

Milwaukee/Michigan comprises four metal framed, fiber-glass roofed structures at the 6th floor (roof level). The useful life of these structures is up to 40 years. Parking should budget for their replacement by 2027. Interim repairs should be funded from O+M.

Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Roof Structures	4	6	Unknown	15	2027

Milwaukee Michigan
Parking Structure

	Quantity	Units	2012 Unit Cost	2012 Capital Cost	20 Year Total Cost	UL	RUL	First Year Funds Requested	CRDM 2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Structural Components																			
Concrete, Elevated, Membrane, 2nd-4th Floors	1	LS	$425,000	$425,000	$1,210,000	15	5	2017						$486,000					
Concrete, Elevated, Membrane, 5th-6th Floors	1	LS	$280,000	$280,000	$407,000	15	14	2026											
Concrete, Elevated, Surface Repairs	1	LS	$28,000	$28,000	$73,000	15	5	2017						$32,000					
Concrete, On-Grade Repairs	1	LS	$270,000	$270,000	$300,000	90+	4	2016					$300,000						
Façade Examination	1	LS	$18,000	$18,000	$95,000	5	3	2015				$19,000					$22,000		
Façade, Paint Finish Application, EIFS/Concrete	1	LS	$277,000	$277,000	$692,000	10	3	2015				$300,000							
Paint Finish Application, Steel, Lead Abatement	1	LS	$1,100,000	$1,100,000	$1,475,000	N/A	11	2023											
Paint Finish Application, Steel	1	LS	$85,000	$85,000	$100,000	15	6	2018							$100,000				
Pavement Markings	1	LS	$28,000	$28,000	$121,000	8	5	2017						$32,000					
Services Components																			
Electrical, Secondary Distribution	1	LS	$85,000	$85,000	$108,000	45	9	2021										$108,000	
Electrical, Branch Circuits and Panels	1	LS	$50,000	$50,000	$64,000	30	9	2021										$64,000	
Elevator, Modernization	1	EA	$145,000	$145,000	$205,000	45	13	2025											
Light Fixtures, Replacement	155	EA	$260	$40,300	$51,000	25	9	2021										$51,000	
Light Poles and Fixtures, 6th Floor	4	EA	$5,500	$22,000	$28,000	35	9	2021										$28,000	
Operators	1	EA	$20,000	$20,000	$55,000	12	7	2019								$24,000			
Finishes Components																			
Doors, Replacement	16	EA	$2,100	$33,600	$46,000	35	12	2024											
Offices/Rest Rooms, Renovation	1	LS	$25,000	$25,000	$34,000	35	12	2024											
Ramp, Overhead Structures, 6th Floor	4	EA	$13,000	$52,000	$78,000	45	15	2027											
		Total 20 Year Cost		$2,983,900				**Annual Cost**	$0	$0	$0	$319,000	$300,000	$550,000	$100,000	$24,000	$22,000	$251,000	$0
								CRV	$7,313,091	$7,510,544	$7,713,329	$7,921,589	$8,135,472	$8,355,130	$8,580,718	$8,812,398	$9,050,332	$9,294,691	$9,545,648
								FCI	0.00	0.00	0.00	0.04	0.04	0.07	0.01	0.00	0.00	0.03	0.00

Comments
a) UL is Useful Life and RUL is Remaining Useful Life
b) The annual building materials inflation rate estimate is estimated at 2.70%
c) CRV is the Current Replacement Value
d) CRDM is Capital Repair/Deferred Maintenance
e) Structural Engineering provided information

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Milwaukee Michigan Parking Structure	Quantity	Units	2012 Unit Cost	2012 Capital Cost	20 Year Total Cost	UL	RUL	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Structural Components																	
Concrete, Elevated, Membrane, 2nd-4th Floors	1	LS	$425,000	$425,000	$1,210,000	15	5										$724,000
Concrete, Elevated, Membrane, 5th-6th Floors	1	LS	$280,000	$280,000	$407,000	15	14				$407,000						
Concrete, Elevated, Surface Repairs	1	LS	$28,000	$28,000	$73,000	15	5				$41,000						
Concrete, On-Grade Repairs	1	LS	$270,000	$270,000	$300,000	90+	4										
Façade Examination	1	LS	$18,000	$18,000	$95,000	5	3			$25,000					$29,000		
Façade, Paint Finish Application, EIFS/Concrete	1	LS	$277,000	$277,000	$692,000	10	3			$392,000							
Paint Finish Application, Steel, Lead Abatement	1	LS	$1,100,000	$1,100,000	$1,475,000	N/A	11	$1,475,000									
Paint Finish Application, Steel	1	LS	$85,000	$85,000	$100,000	15	6										
Pavement Markings	1	LS	$28,000	$28,000	$121,000	8	5				$41,000						$48,000
Services Components																	
Electrical, Secondary Distribution	1	LS	$85,000	$85,000	$108,000	45	9										
Electrical, Branch Circuits and Panels	1	LS	$50,000	$50,000	$64,000	30	9										
Elevator, Modernization	1	EA	$145,000	$145,000	$205,000	45	13			$205,000							
Light Fixtures, Replacement	155	EA	$260	$40,300	$51,000	25	9										
Light Poles and Fixtures, 6th Floor	4	EA	$5,500	$22,000	$28,000	35	9										
Operators	1	EA	$20,000	$20,000	$55,000	12	7							$31,000			
Finishes Components																	
Doors, Replacement	16	EA	$2,100	$33,600	$46,000	35	12		$46,000								
Offices/Rest Rooms, Renovation	1	LS	$25,000	$25,000	$34,000	35	12		$34,000								
Ramp, Overhead Structures, 6th Floor	4	EA	$13,000	$52,000	$78,000	45	15					$78,000					
		Total 20 Year Cost		$2,983,900				$1,475,000	$80,000	$622,000	$489,000	$78,000	$0	$31,000	$29,000	$0	$772,000
Comments								$9,803,380	$10,068,072	$10,339,910	$10,619,087	$10,905,803	$11,200,259	$11,502,666	$11,813,238	$12,132,196	$12,459,765
a) UL is Useful Life and RUL is Remaining Useful Life								0.15	0.01	0.06	0.05	0.01	0.00	0.00	0.00	0.00	0.06

b) The annual building materials inflation rate estimate is estimated at 2.70%
c) CRV is the Current Replacement Value
d) CRDM is Capital Repair/Deferred Maintenance
e) Structural Engineering provided information

6/29/2012

FACILITIES CONDITION ASSESSMENT PROGRAM

CIVIC CENTER

Facilities Development | Management

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Executive Summary

Property Analysis Summary

The Civic Center is a 325,000 square foot plaza atop the MacArthur Square parking structure and Kilbourn Avenue Tunnels connecting to I-43. It is divided into three plaza sections: Lower (East), Median, and Upper (West). The open-air Civic Center Plaza connects the parking structure to the Milwaukee County Courthouse, Milwaukee County Sheriff offices, City of Milwaukee Police Administration Building, and Milwaukee Public Museum.

Civic Center by the Numbers	
Construction Date/Age	1965/47
Square Feet	325,000*
Current Replacement Value	Unknown

At one time the Civic Center served as prominent location for City and County events. However, aging infrastructure, deferred maintenance, and escalating costs have resulted in the Civic Center abandonment and deteriorated condition.

Today, funds are expended on reactive repairs such as replacement of sidewalks, resetting stone stairs, and fixing railings. In 2010, architectural concrete panels were removed from 7th Street Level and corrugated concrete panels at the 9th Street level were repaired. Many locations of disrepair still exist including damaged concrete sidewalks, deteriorated stairs, and loose railings. The reflecting pool, once a focal point, is drained and abandoned. The areas around the reflecting pool (and the East section in general) have transitioned into a vehicle parking lot.

The Civic Center is the presumed and likely source of water infiltration into MacArthur Square parking garage and, to some extent, the Kilbourn Tunnels. Leaks are located throughout the parking garage and tunnel despite a history of internal repairs of urethane injections, epoxy injections, and concrete replacements. These internal repairs usually delay the reoccurrence of water infiltration as opposed to solving the problem. In addition to structural deterioration, the leaks have resulted in accelerated deterioration to electrical components including the primary and secondary distribution, and branch circuit panels. See MacArthur Square report, Section 'Electrical' for more details.

In 2009/2010, the west section the Civic Center, located above the 9th Street Level parking location, underwent expansion joint replacement for leak mitigation at a cost of approximately

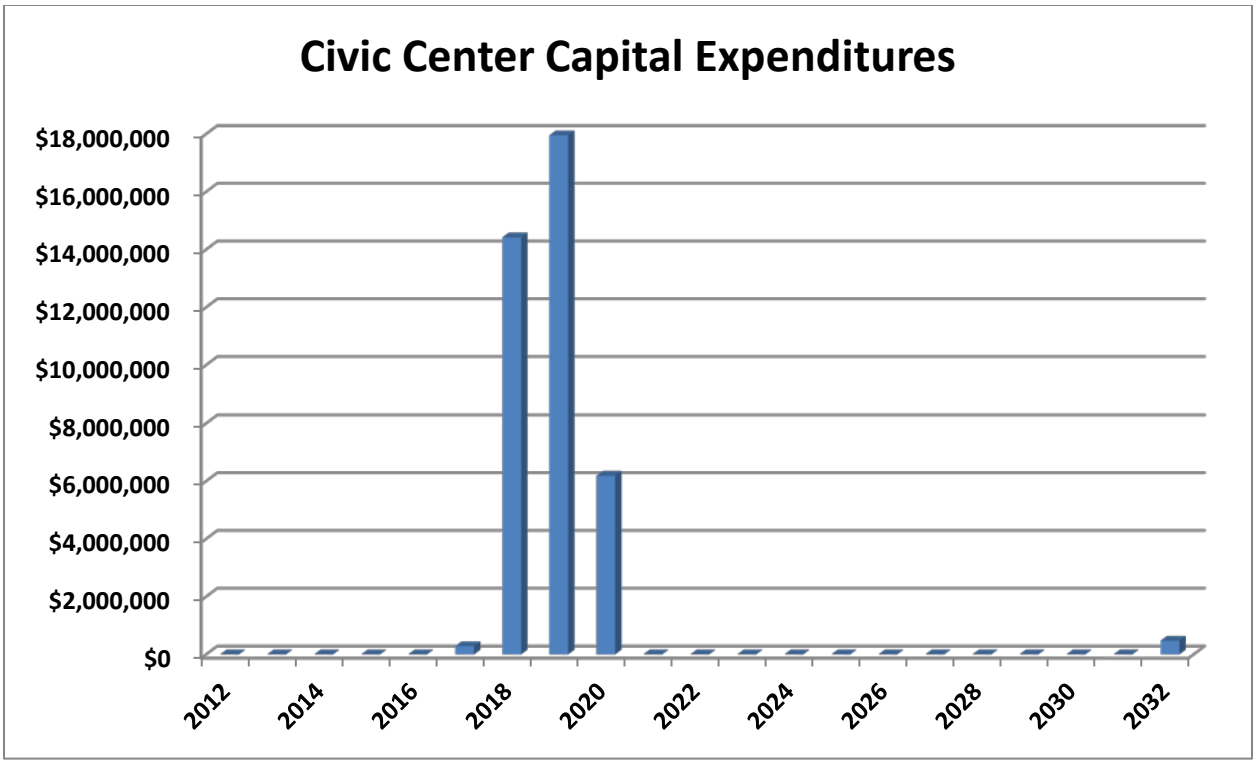
$850,000 for 300 linear feet of replacement. Topside repairs address the source of water infiltration and serve as a long term solutions.

As a currently occupied facility, in is the responsibility for the City of Milwaukee to maintain and protect the asset in functional condition. A long-term plan for MacArthur Square, the Civic Center, and surrounding facilities is recommended prior to capital expenditure approval.

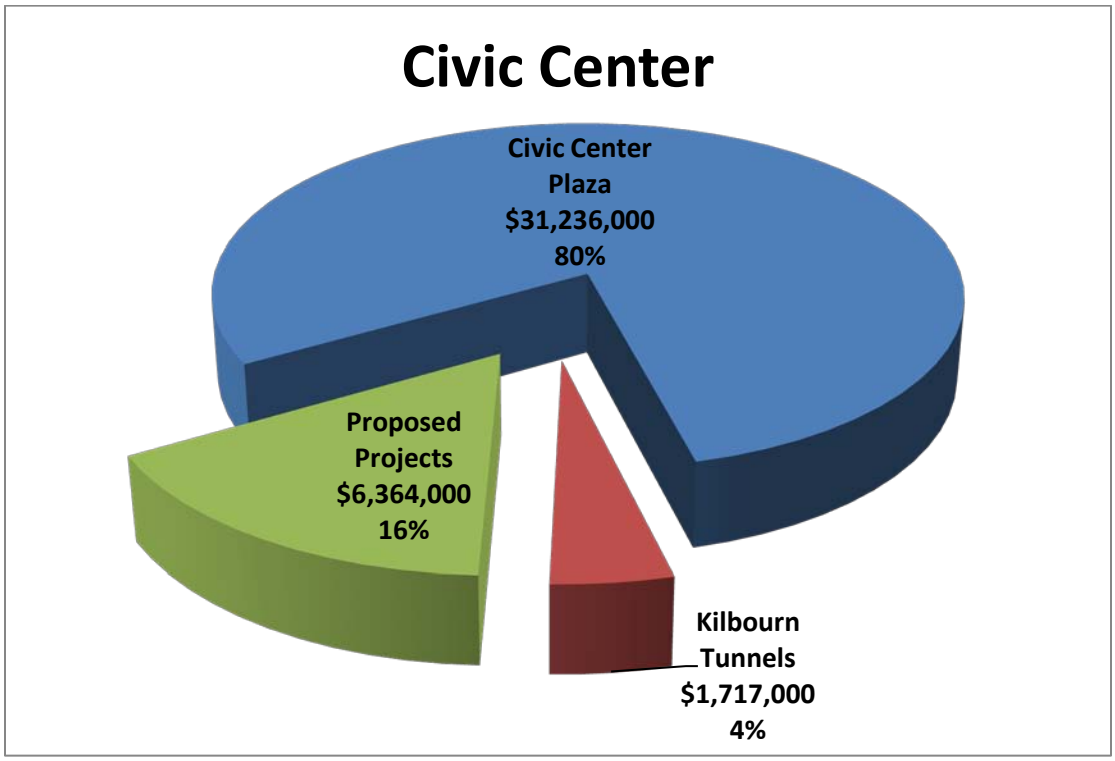
Near term projects are those that are anticipated with the first six years of the funding analysis. These projects are defined by priority. High priority projects are those that require capital expenditures for remediation within two years. Moderate priority projects are those that require capital expenditures from three- to six-years. Low priority projects are those that require capital expenditures beyond six years. Subsequent facility inspections will adjust the anticipated priorities. The following table summarizes the high and medium priority projects at the Civic Center.

Priority	Year	Near Term Projects
High	**1**	
	2	
Moderate	**3**	
	4	
	5	
	6	Civic Center Plaza – Roof Design

Annual expenditures for the Civic Center vary from year– to –year as indicated from the graph below.



The most significant category of Civic Center expenditures pertains to **plaza** repairs as shown below.



Component Inventory

The property components at Civic Center are categorized as follows:

Civic Center Capital Expenditures

Civic Center Plaza

- Concrete
  - Sidewalks
  - Corrugated
- Railings
- Reflecting Pool
  - Reconstruction
  - Bridge
- Roof
  - Membrane Replacement
    - Lower
    - Median
    - Upper
  - Design

Kilbourn Tunnels

- Expansion Joints
- Concrete, Walls/Ceiling
- Paint Finish

Proposed Projects

- 7th Street Exterior, Architectural Feature
- Pioneer Village, Reconfiguration

O+M Responsibility

- Landscape Maintenance
- Other Items Normally Funded by O+M

Civic Center Components

Concrete

Civic Center comprises approximately 97,000 square feet of concrete sidewalks. Complete replacement of the sidewalks is anticipated at the time the Civic Center roof membrane is reinstalled.

Partial replacements should be conducted by 2032, in conjunction with Kilbourn Tunnels expansion joint replacements.

The 9th Street façade includes corrugated concrete panels. In 2010, these panels were examined and repaired were conducted as needed. Funds should be allocated for additional corrugated concrete repair work in conjunction with replacement of the Civic Center roof membrane.

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Concrete Sidewalks	97,000	Varies	47	20	2032
Corrugated Concrete Panels (LS)	1	Varies	47	7	2019

Railings

Civic Center comprises approximately 1,100 linear feet of railings. The railings should be replaced in conjunction with Civic Center roof membrane replacement by 2018 and 2019.

Inventory (LF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Railings	1,100	Varies	47	6	2018

Reflecting Pool

The reflecting pool at the East section of the Civic Center comprises approximately 25,000 square feet and the corresponding bridge comprises 4,000 square feet.

The reflecting pool has been abandoned for approximately 10 years due the increasing cost of repairs for maintenance.

Replacement of the reflecting pool should be conducted in conjunction with Civic Center roof membrane replacement.

Inventory (SF)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Reflecting Pool	25,000	1	47	6	2018
Reflecting Pool Bridge	4,000	-	47	6	2018

Roof, Membrane Application

The Civic Center comprises 325,000 square feet of landscaped surface area. In order to ensure a dry and functional parking structure, the membrane requires replacement every 50 years. Due to the capital intensive cost, the decision to replace the membrane should include many factors including:

- Long-term plan for Civic Center
- Economic impact of repairs related to failed membrane/landscape
    - Electrical
    - Structural
    - Etc.
- Available funding

Upon initiation of construction, access to the membrane requires significant construction procedures including excavation of up to three feet of landscape soil atop a weight restricted surface. Once excavated, the exposed surface must be cleaned and examined for structural repairs. Afterward, waterproof membrane system and drainage is installed and the landscape is reconstituted.

For initial budgetary purposes, the cost estimate for this project is based on replacement of the Civic Center in like-kind. It is understood that when this project is approved, a detailed design and specific design plan, inclusive of code compliance construction, will modify/specify the actual scope of work. The design costs for this project will require significant professional resources from in-house and consulting firms. Therefore, *initial* design costs are identified as a separate line item.

The cost estimate within this analysis includes funds for:

- Demolition/Removal of:
    - 97,000 square feet of concrete/granite sidewalks
    - 100 trees and shrubs
    - 36,100 cubic yards (39,000 tons) of landscape soil and materials
    - 325,000 waterproof membrane
- Construction/Installation of:
    - 16,275 square feet concrete (structural) surface repairs
    - 3,500 linear feet of epoxy injection crack repairs
    - 325,000 square feet of waterproof and roof barrier membrane application
    - 2 concrete stairs
    - 4 granite stairs
    - 3,800 linear feet of drain pipe
    - 36,100 cubic yards of landscape fill material
    - 97,000 square feet of concrete sidewalks
    - 228,000 square feet of landscaping (grass)

- 32,500 square feet of landscaping (plantings)

A review of the cost estimate for the Civic Center and related components replaced in like-kind reveals potential cost savings from:

- Concrete surface (structural) repairs are less than anticipated
  - An unknown until construction commences
- Landscape soil
  - Reuse existing soil
  - Landscape soil depth is reduced
    - Initial estimates indicate that each one-foot depth of landscape soil is approximately $1,450,000
- Reflecting pool and bridge options
  - Rehabilitation instead of replacement
  - Do not replace these features
- Plaza
  - Reuse granite for stairs
  - Install less concrete sidewalks and more green space
- Additional options made available by design.

The Civic Center components of railings, reflecting pool, and reflecting pool bridge are noted as separate line items within the related funding plan. They should be scheduled for capital repairs in conjunction with the membrane application due to the interrelated nature of these components. Finally, Kilbourn Tunnel projects and proposed projects should be coordinated with membrane application for the same reason.

Kilbourn Tunnels

Kilbourn Tunnels allow I-43 traffic to exit or enter the interstate. The two tunnels, North and South, are beneath the Civic Center and service buildings within the multi-facility complex. Therefore, any repairs require multijurisdictional coordination between City, County, and State.

Each tunnel comprises approximately 90,000 square feet of wall and ceiling surface area and about seven expansion joints per tunnel. The expansion joints at the tunnels are in poor condition based on water infiltration from landscaped areas above. Concrete adjacent to the expansion joints is delaminated, spalled, and rusted reinforcement is exposed.

In July 2010, the tunnels were closed for three days to conduct the following repairs:

- Removal of loose/delaminated concrete throughout the garage
- Installation of expansion joint covers/pans to divert leaks to tunnel walls
- Installation of netting at areas that exhibit deteriorated ceiling concrete

The South Tunnel ceiling beneath Pioneer Village was cross-referenced with historical evaluations and examined for exacerbated deterioration. Also, the tunnels were examined for delaminated/loose concrete at the City of Milwaukee owned walls. This information is documented in a 2010 – Kilbourn Tunnel Repairs report, developed by City of Milwaukee Structural Engineering Department.

The 2010 repairs were reactive and limited in scope, so comprehensive capital repairs are projected. These repairs include:

- Expansion joint replacement
- Paint finish application
- Concrete surface repairs

Expansion joint replacements should be conducted in conjunction with the Civic Center roof membrane application due the related nature of these components. Combining these projects reduces the cost from conducting expansion joint replacement as individual projects.

Tunnel paint finish applications and concrete repairs should be conducted with expansion joint replacements and Civic Center replacements. It is presumed that the tunnels will be closed for expansion joint repairs, thereby making painting and concrete repairs more feasible.

Kilbourn Tunnels Inventory (EA)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
Expansion Joints	14	3	47	6	2018
Concrete, Walls/Ceiling (SF)	180,000	5	47	6	2018

Proposed Projects

Proposed projects are those that are considered for installation/development. The first is an exterior architectural feature at the 7th Street Level East exterior (James Lovell Street). This exterior underwent removal of concrete panels and concrete repairs in 2010. After completion, the surface received a paint finish application. The proposal to install an aesthetic fixture/feature to this area is open.

The next project is reconfiguring Pioneer Village into a bus depot for the museum. The project will involve removal of the adjacent pedestrian ramp, structural modifications to the deck, and installation of driveways. This project should be designed in conjunction with Civic Center roof design to ensure congruous constructability.

Inventory (LS)		Condition Rating	Age (Years)	RUL (Years)	1st Year of Capital Expenditure
7th Street Exterior	1	-	47	6	2018
Pioneer Village Reconfigure	1	-	47	8	2020

Civic Center and Related Amentities

	Quantity	Units	2012 Unit Cost	2012 Capital Cost	20 Year Total Cost	UL	RUL	First Year Funds Requested	CRDM 2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Civic Center Plaza																			
Concrete, Sidewalks, Partial Replacements	2,500	SF	$8.00	$20,000	$34,000	50	20	2032											
Concrete, Corrugated, 9th Street	1	LS	$50,000.00	$50,000	$60,000	N/A	7	2019								$60,000			
Railings, Replacement, Phased	550	LF	$255	$140,250	$334,000	50	6	2018							$165,000	$169,000			
Reflecting Pool, Reconstruction	25,000	EA	$75	$1,875,000	$2,200,000	50	6	2018							$2,200,000				
Reflecting Pool, Bridge, Replacement	4,000	SF	$170	$680,000	$798,000	50	6	2018							$798,000				
Roof, Membrane Replacement, Lower	137,000	SF	$65	$8,905,000	$10,449,000	50	6	2018							$10,449,000				
Roof, Membrane Replacement, Median	164,000	SF	$65	$10,660,000	$12,845,000	50	7	2019								$12,845,000			
Roof, Membrane Replacement, Upper	54,000	SF	$65	$3,510,000	$4,230,000	50	7	2019								$4,230,000			
Roof, Design	1	LS	$250,000	$250,000	$286,000	N/A	5	2017						$286,000					
Kilbourn Tunnels																			
Expansion Joints, Replacements, Phased	7	EA	$40,000	$280,000	$666,000	35	6	2018							$329,000	$337,000			
Concrete, Walls/Ceiling, Surface Repairs, Phased	800	SF	$125	$100,000	$408,000	15	6	2018							$117,000	$121,000			
Paint Finish Application, Phased	90,000	SF	$1.75	$157,500	$643,000	15	6	2018							$185,000	$190,000			
Proposed Projects																			
7th Street Exterior, Architectural Feature	1	LS	$150,000	$150,000	$176,000	N/A	6	2018							$176,000				
Pioneer Village, Reconfiguration	1	LS	$5,000,000	$5,000,000	$6,188,000	N/A	8	2020									$6,188,000		
		Total 20 Year Cost			$39,317,000			**Annual Cost**	$0	$0	$0	$0	$0	$286,000	$14,419,000	$17,952,000	$6,188,000	$0	$0
								CRV	N/A										

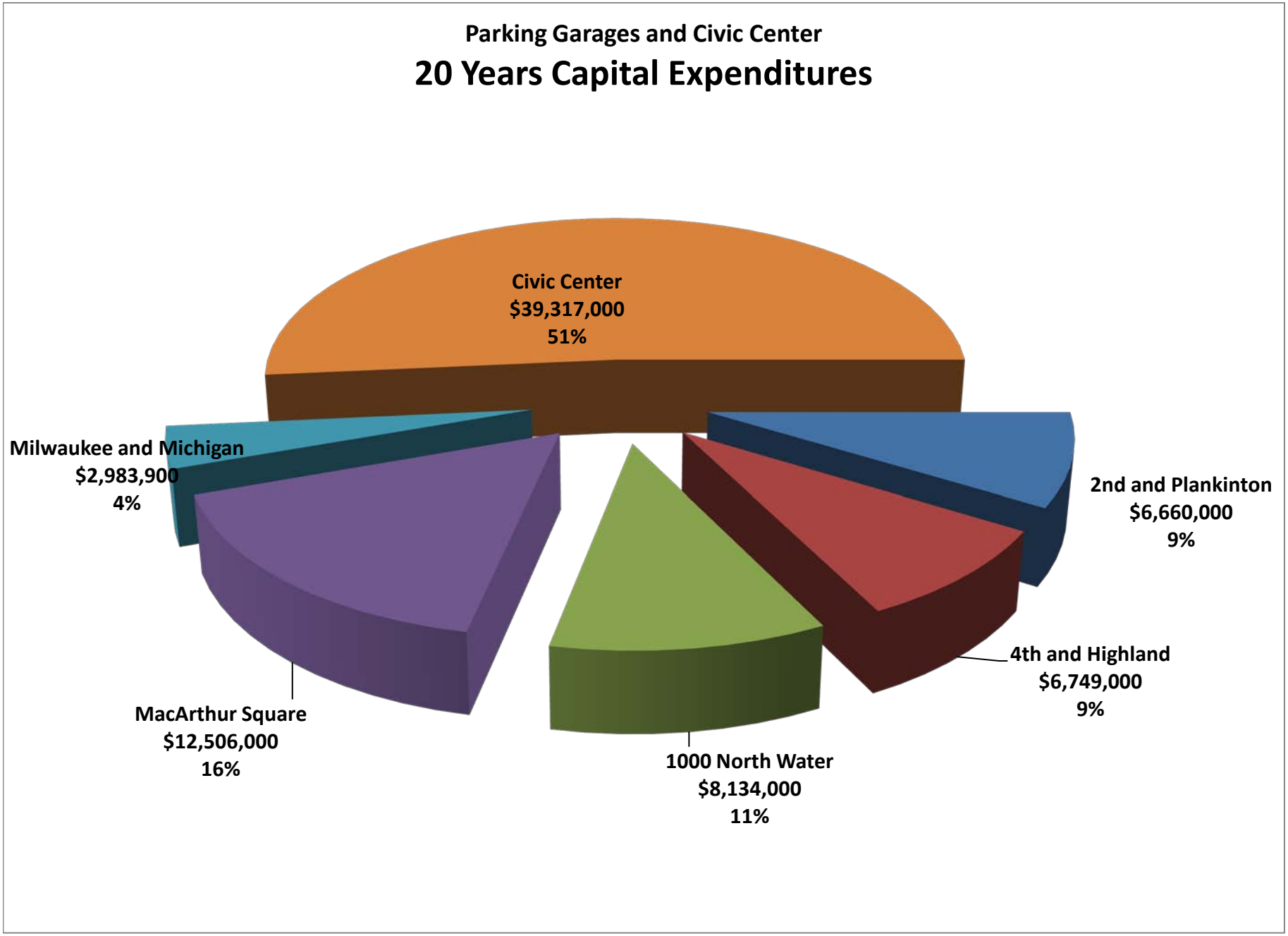
Comments
a) UL is Useful Life and RUL is Remaining Useful Life
b) The annual building materials inflation rate estimate is estimated at 2.70%
c) CRV is the Current Replacement Value
d) CRDM is Capital Repair/Deferred Maintenance

Civic Center and Related Amentities	Quantity	Units	2012 Unit Cost	2012 Capital Cost	20 Year Total Cost	UL	RUL	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Civic Center Plaza																	
Concrete, Sidewalks, Partial Replacements	2,500	SF	$8.00	$20,000	$34,000	50	20										$34,000
Concrete, Corrugated, 9th Street	1	LS	$50,000.00	$50,000	$60,000	N/A	7										
Railings, Replacement, Phased	550	LF	$255	$140,250	$334,000	50	6										
Reflecting Pool, Reconstruction	25,000	EA	$75	$1,875,000	$2,200,000	50	6										
Reflecting Pool, Bridge, Replacement	4,000	SF	$170	$680,000	$798,000	50	6										
Roof, Membrane Replacement, Lower	137,000	SF	$65	$8,905,000	$10,449,000	50	6										
Roof, Membrane Replacement, Median	164,000	SF	$65	$10,660,000	$12,845,000	50	7										
Roof, Membrane Replacement, Upper	54,000	SF	$65	$3,510,000	$4,230,000	50	7										
Roof, Design	1	LS	$250,000	$250,000	$286,000	N/A	5										
Kilbourn Tunnels																	
Expansion Joints, Replacements, Phased	7	EA	$40,000	$280,000	$666,000	35	6										
Concrete, Walls/Ceiling, Surface Repairs, Phased	800	SF	$125	$100,000	$408,000	15	6										$170,000
Paint Finish Application, Phased	90,000	SF	$1.75	$157,500	$643,000	15	6										$268,000
Proposed Projects																	
7th Street Exterior, Architectural Feature	1	LS	$150,000	$150,000	$176,000	N/A	6										
Pioneer Village, Reconfiguration	1	LS	$5,000,000	$5,000,000	$6,188,000	N/A	8										
		Total 20 Year Cost			$39,317,000			$0	$0	$0	$0	$0	$0	$0	$0	$0	$472,000

Comments
a) UL is Useful Life and RUL is Remaining Useful Life
b) The annual building materials inflation rate estimate is estimated at 2.70%
c) CRV is the Current Replacement Value
d) CRDM is Capital Repair/Deferred Maintenance

Parking Garages and Civic Center

20 Years Capital Expenditures



Anticipated Capital Expenditures Per Parking Garage w/ Civic Center