

Winnetka Village Council
STUDY SESSION
Village Hall
510 Green Bay Road
Tuesday, December 13, 2016
7:00 PM

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AGENDA

- 1) Call to Order
- 2) Water Rate Study2
- 3) Public Comment
- 4) Closed Session
- 5) Adjournment

NOTICE

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Agenda Item Executive Summary

Title: Water Rate Study

Presenter: Brian Keys, Director of Water & Electric

Agenda Date: 12/13/2016

Consent: YES NO

<input type="checkbox"/>	Ordinance
<input type="checkbox"/>	Resolution
<input type="checkbox"/>	Bid Authorization/Award
<input checked="" type="checkbox"/>	Policy Direction
<input type="checkbox"/>	Informational Only

Item History:

The Village's water distribution system is comprised of approximately 72 miles of water main with the majority of the system having been installed in the early 1900's. Given the age of the water distribution system, a long term, comprehensive plan for the asset's replacement and a funding strategy is necessary to ensure the long term viability of the water utility.

The Village contracted with Burns & McDonnell Engineering Company to perform the required study and develop a prioritization plan for the replacement of the water infrastructure. At the September 6, 2016 Village Council meeting, the consultant presented a preliminary report entitled; "Water Main Replacement Plan and Water Rate Study".

Executive Summary:

At the close of the September 6 Village Council Meeting, staff was asked to provide additional information to assist the Council in their consideration of a long term plan. Questions requiring additional follow-up included:

- Replacement plans in other communities
- Terms of the Northfield Water Supply Agreement
- Comparison of the Northfield wholesale rate to other wholesale rates
- Comparison of Operating & Maintenance (O&M) costs for the water utility
- Adding additional communities in the rate comparison
- Comparison of rate multipliers used for unincorporated areas
- Additional financial scenarios

The attached Agenda Report addresses each of these topics. Representatives from Burns & McDonnell and Village staff will be at the December 13 Village Council Study Session to review the information collected. Following the presentation, Village staff and the Consultant will address questions regarding the work completed to date and the next steps.

Recommendation:

Provide policy direction regarding the Water Main Rate Study and financial planning scenarios.

Attachments:

Agenda Report dated December 6, 2016
Attachment A - Northwest Municipal Conference Survey
Attachment B - Summary of Survey Replacement Rates
Attachment C - Rate Comparison

AGENDA REPORT

SUBJECT: Water Rate Study

PREPARED BY: Brian Keys, Director Water & Electric

REF: September 6, 2016 Council Meeting, pp. 32-132

DATE: December 6, 2016

The Village's water distribution system is comprised of approximately 72 miles of water main with the majority of the system having been installed in the early 1900's. Given the age of the water distribution system, a long term, comprehensive plan for the asset's replacement and a funding strategy is necessary to ensure the long term viability of the water utility.

The Village contracted with Burns & McDonnell Engineering Company to perform the required study and develop a prioritization plan for the replacement of the water infrastructure. At the September 6, 2016 Village Council meeting, the consultant presented a preliminary report entitled; "*Water Main Replacement Plan and Water Rate Study*".

During the meeting, representatives from Burns & McDonnell and Village staff addressed several questions from the Council about the report. At the close of the discussion, staff was asked to provide additional information to assist the Council in their consideration of a long term plan. Questions requiring additional follow-up included:

- Replacement plans in other communities
- Terms of the Northfield Water Supply Agreement
- Comparison of the Northfield wholesale rate to other wholesale rates
- Comparison of Operating & Maintenance (O&M) costs for the water utility
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Replacement Plans in Other Communities

The Northwest Municipal Conference (NWMC) is comprised of 44 municipalities. One of the resources available to members is the opportunity to survey members on a variety of topics and policy areas. Participation in NWMC surveys is optional. Village staff requested that NWMC issue a survey on water main replacement programs on behalf of Winnetka to its members. Questions for the survey were developed by Village staff and submitted to NWMC. Twenty-one members responded to the survey (Attachment A). As expected, there was a wide disparity in the responses. Fifteen utilities responded that an established replacement cycle existed with the most common replacement cycle being 100 years. It was noted that in many cases, a disparity exists between the targeted

funding rate and recent water main replacement schedule. The responses are summarized in Attachment B.

Northfield Water Supply Agreement

The Village has been providing water to the Village of Northfield since March 1, 1929, under a series of agreements. The most recent agreement was established on December 9, 2003 and approved by the Winnetka Village Council under Resolution R-33-2003, a *Resolution Approving a Water Supply Agreement with the Village of Northfield*. The agreement extends through April 30, 2033.

In 2003, the wholesale rate for water delivered to Northfield was initially established at \$10.17 per 1,000 cubic feet. Each year thereafter, the wholesale rate increased by the lesser of the increase in the Chicagoland Consumer Price Index for Urban (CPI-U) or 4.5%. The rate in effect for Northfield for the period of May 1, 2016 – April 30, 2017 is \$12.70 per 1,000 cubic feet.

Per the existing water supply agreement, in February of 2018, the wholesale rate will be adjusted. The Village of Winnetka will survey six comparable wholesale suppliers and calculate the average wholesale rate. The six comparable suppliers as specified in the agreement are as follows: Evanston (Skokie), Wilmette (Glenview), Wilmette (American), Chicago, Highland Park, and Central Lake County Joint Action Water Agency. Beginning May 1, 2018, Northfield’s rate will be the average of the six comparable suppliers. For each year thereafter, the wholesale rate will increase by the lesser of the increase in the Chicagoland CPI-U or 4.5%.

Comparison of Operating & Maintenance Costs for the Water Utility

During the discussion of the Water Main Replacement Study, staff was asked to provide information on the operating and maintenance costs for Winnetka as compared to other communities. The Finance Department has examined the approved budgets and comprehensive annual financial reports for five other communities and compared them to the Water Fund’s 2017 proposed annual budget for four metrics. When comparing operating and maintenance costs on a cost per gallon basis or cost per mile of distribution system, the utility is performing slightly better than the average. Another metric examined was operating income. Two utilities reported negative operating income. Operating income for Winnetka is cash positive and slightly higher than the average. A summary of the comparison is contained in Table 1 – O&M Comparison.

Table 1 - O&M COMPARISON

	Glenview	Highland Park	Northbrook	Wilmette	Lake Forest	Winnetka	Average
Operating Income	\$ (157,358)	\$ 2,288,400	\$ (425,247)	\$ 520,470	\$ 1,432,421	\$ 1,185,493	\$ 807,363
Cash Balances	\$ 2,789,056	\$ 169,000	\$ 1,468,421	\$ 2,278,766	\$ 7,307,262	\$ 1,619,552	\$ 2,605,342
O&M per 1,000 gal	\$ 5.41	\$ 1.48	\$ 3.34	\$ 1.26	\$ 3.75	\$ 2.65	2.98
O&M cost per mile	\$ 64,093	\$ 24,198	\$ 31,518	\$ 53,259	\$ 26,330	\$ 37,373	\$ 39,462

Rate Comparison

Data presented in the preliminary report compared Winnetka’s current and proposed water rates for a typical customer to eight neighboring communities. The Council requested additional data on rates being charged across a broader spectrum of communities. Comparison data for eight additional Cook County communities and eleven members of the DuPage Water Commission has been collected. The average rate assessed across the water suppliers is \$85.41 for a typical customer with a 1” meter and consumption of 15 Ccf/month. Winnetka’s 2016 rate for the same customer is \$51.24. The comparison graph is shown in Attachment C.

Rate Multipliers for Unincorporated Areas

Water suppliers, including Winnetka, tend to charge those customers residing outside of their corporate limits a higher rate than for customers located within the municipality. At the September 6th meeting, the Council requested additional information on the rate multipliers being used by other utilities. Table 2, shown below, contains a comparison of the different multipliers used between the incorporated rate and the unincorporated rate for eleven water suppliers including Winnetka.

TABLE 2. – COMPARISON OF MULTIPLIERS FOR UNINCORPORATED AREAS

	Multiplier	\$/1000 CF
Naperville	1.10	\$ 55.22
Downers Grove	1.15	\$ 68.40
Oak Brook	1.18	\$ 75.10
Hinsdale	1.25	\$ 103.14
Woodridge	1.49	\$ 91.24
Elk Grove Village	1.50	\$ 109.40
Glen Ellyn	1.50	\$ 109.51
Lombard	1.50	\$ 90.21
Glenview	1.50	\$ 68.14
Winnetka	1.79	\$ 61.08
Wilmette	2.00	\$ 49.80

The most common multiplier used among the water suppliers is 1.5.

Financial Scenarios

As a follow-up to the first presentation, the Village Council requested alternative financial planning scenarios with lower rates of revenue increases. The Consultant and staff had originally recommended Scenario #1 which incorporates consistent revenue adjustments over time, a loan program assuming a term of 20 years and an interest rate of 2.0 percent, and capping the water utility’s payment in lieu of taxes (PILOT) to maximize funds for capital investment. Burns & McDonnell has provided four additional scenarios for further Council discussion.

Scenario 1: Original recommendation from September 6th Meeting
 Loan (3 loans of \$1 million each)
 Fixed PILOT, Annual revenue increases of 8.5%

Scenario 2: Loan (3 loans of \$1 million each)
 Fixed PILOT, Annual revenue increases of 6.5%

Scenario 3: Loan (3 loans of \$1 million each)
 Fixed PILOT, Annual revenue increases of 5%

Scenario 4: No Loan
 Fixed PILOT, Annual revenue increases of 5%

Scenario 5: Loan (3 loans of \$1 million each)
 Fixed PILOT, Annual revenue increases of 4%

A summary of the financial scenarios is as follows.

Summary of Financial Scenarios

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
	8.5% Increases	6.5% Increases	5.0% Increases	5.0% Increases	4.0% Increases
	Loan	Loan	Loan	No Loan	Loan
	Fixed PILOT				
Total Baseline CIP	\$ 4,904,000	\$ 4,904,000	\$ 4,904,000	\$ 4,904,000	\$ 4,904,000
Renewal & Replacement CIP 2016-2020	\$ 4,100,000	\$ 3,500,000	\$ 3,400,000	\$ 600,000	\$ 3,000,000
Renewal & Replacement CIP 2021-2025	\$ 9,000,000	\$ 5,400,000	\$ 2,600,000	\$ 3,800,000	\$ 1,250,000
Total Renewal/Replacement	\$ 13,100,000	\$ 8,900,000	\$ 6,000,000	\$ 4,400,000	\$ 4,250,000
<u>2025 Performance Measures</u>					
Renewal & Replacement Spend	\$ 2,900,000	\$ 1,500,000	\$ 700,000	\$ 1,000,000	\$ 400,000
Estimated Renew/Replace Cycle - Years	100	180	380	270	670
Annual System Replacement Rate - %	1.0%	0.5%	0.3%	0.4%	0.1%
Number of Debt Issues	3	3	3	0	3
Total Debt Issued	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ -	\$ 3,000,000
FY 2017 (Impl Jan 1 of each year)	8.50%	6.50%	5.00%	5.00%	4.00%
FY 2018	8.50%	6.50%	5.00%	5.00%	4.00%
FY 2019	8.50%	6.50%	5.00%	5.00%	4.00%
FY 2020	8.50%	6.50%	5.00%	5.00%	4.00%
FY 2021	8.50%	6.50%	5.00%	5.00%	4.00%
FY 2022	8.50%	6.50%	5.00%	5.00%	4.00%
FY 2023	8.50%	6.50%	5.00%	5.00%	4.00%
FY 2024	8.50%	6.50%	5.00%	5.00%	4.00%
FY 2025	8.50%	6.50%	5.00%	5.00%	4.00%
Cumulative Increase	108.39%	76.26%	55.13%	55.13%	42.33%

The resultant water main replacement cycle for each scenario has also been calculated and shown in the highlight section. As noted in the summary, the replacement cycle varies from 100 years (Scenario 1) to 670 years (Scenario 5).

Next Steps

Representatives from Burns & McDonnell and Village staff will be at the December 13th Village Council Study Session to review the information collected. Following the presentation, Village staff and the Consultant will address questions regarding the work completed to date and the next steps.

Recommendation:

Provide policy direction regarding the Water Main Rate Study and financial planning scenarios.

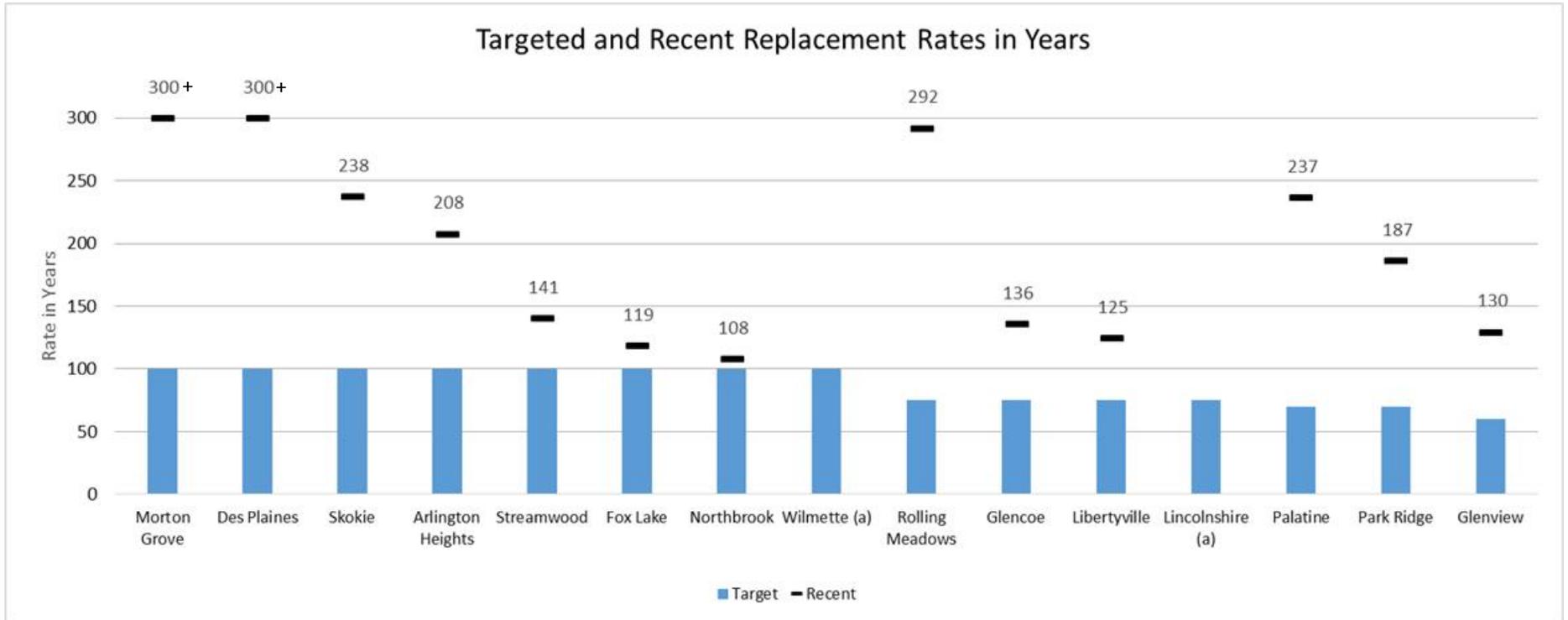
Attachment A - NWMC Survey

Municipality	1. What is the size of your water distribution system (miles)?	2. Have you established a renewal (i.e. lining) and replacement program for your water mains?	3. What is the replacement cycle that your plan is based upon (i.e. 75 year cycle, 100 year cycle, 150 year cycle)?	4. How much water main is being replaced on an annual basis (feet)?	5. How much water main is being lined on an annual basis (feet)?	6. What is the amount of annual funding for replacement?	7. What is the amount of annual funding for lining?	8. How is the water main renewal and replacement funded (i.e. loans, rate increases, combination of both, etc.)?	9. If you do not have a replacement program for water mains, are you currently working to develop one?
Arlington Heights	260 miles	Yes.	100 years.	Currently 1.25 miles increasing to 2.6 miles/year in 2022.	None yet, replacement only.	\$1.5M increasing to \$4.5M in 2022.	N/A.	Water Rates.	We have a program.
Bartlett	290 miles.	Replacement.	We prioritize our worst main segments that have frequent failures and put them into our 5-year capital budget.	2,000 - 3,000 feet.	None.	\$350,000 - \$450,000/year.	None.	These costs come out of the general Water Fund, which is ultimately funded by periodic rate increases.	N/A.
Crystal Lake	230 miles.	Replacements are completed in conjunction with roadway reconstruction projects if required and identified in our water master plan.	We do not have a planned replacement cycle for all water mains.	Less than 5,000 feet per year.	None.	There is not a fixed amount budgeted.	N/A.	Combination of bonds, loans and rate increases.	We have discussed the future need of a replacement program, but we have not begun to develop one at this time.
Des Plaines	221	Yes, primarily replacement.	100 years.	2,500	None.	\$1,000,000	None.	Water/Sewer Fund supplemented by General Fund and Casino Revenue.	N/A.
Fox Lake	45 miles.	Yes for replacement. At this time we do not do water main lining.	100 years.	2,000	0	\$300,000	0	Rate increases	N/A.
Glencoe	58 miles consisting of 4" to 16" main.	Replacement program currently being developed based on Water Distribution Study completed in 2016. This study forms the basis for the future replacement program.	The plan is determined by water main reliability, performance and age. We use an estimated life cycle for water main of 75 years.	What is being replaced currently varies considerably on annual basis; the Water Distribution Study recommends an average of 2,250 LF annually.	Other than a main segment under a rail crossing that was lined several years ago the Village has not lined much water main.	In the past 5 years we have budgeted an average of \$100K annually; The current long range plan is recommending \$400 - \$700K annually.	N/A.	Combination of both, depends on size of project.	Water Distribution Study completed in 2016, replacement program being developed based on recommendations.
Glenview	270 miles.	Approximately \$4 to \$4.5 million is budgeted annually for water main replacement. To date, only a pilot test on water main lining has been completed within the Village.	Approximately every 60 years.	Approximately 10,000 to 12,000 feet.	0	Approximately \$4 to \$4.5 million.	0	Almost entirely with a water enterprise fund, which is supported with water usage fees.	N/A.
Hoffman Estates	257 miles.	Identified water mains that need repair, replacement/ rehabilitation, which includes cathodic protection. Work is done as needed annually.	Staff is working to establish a cycle (Village has less than 60 years' history).	200 feet in many small sections.	None.	\$40,000	None.	Water & Sewer enterprise fund (proper user rate to support the revenue.	Yes.

Water Main Replacement Programs and Funding Survey

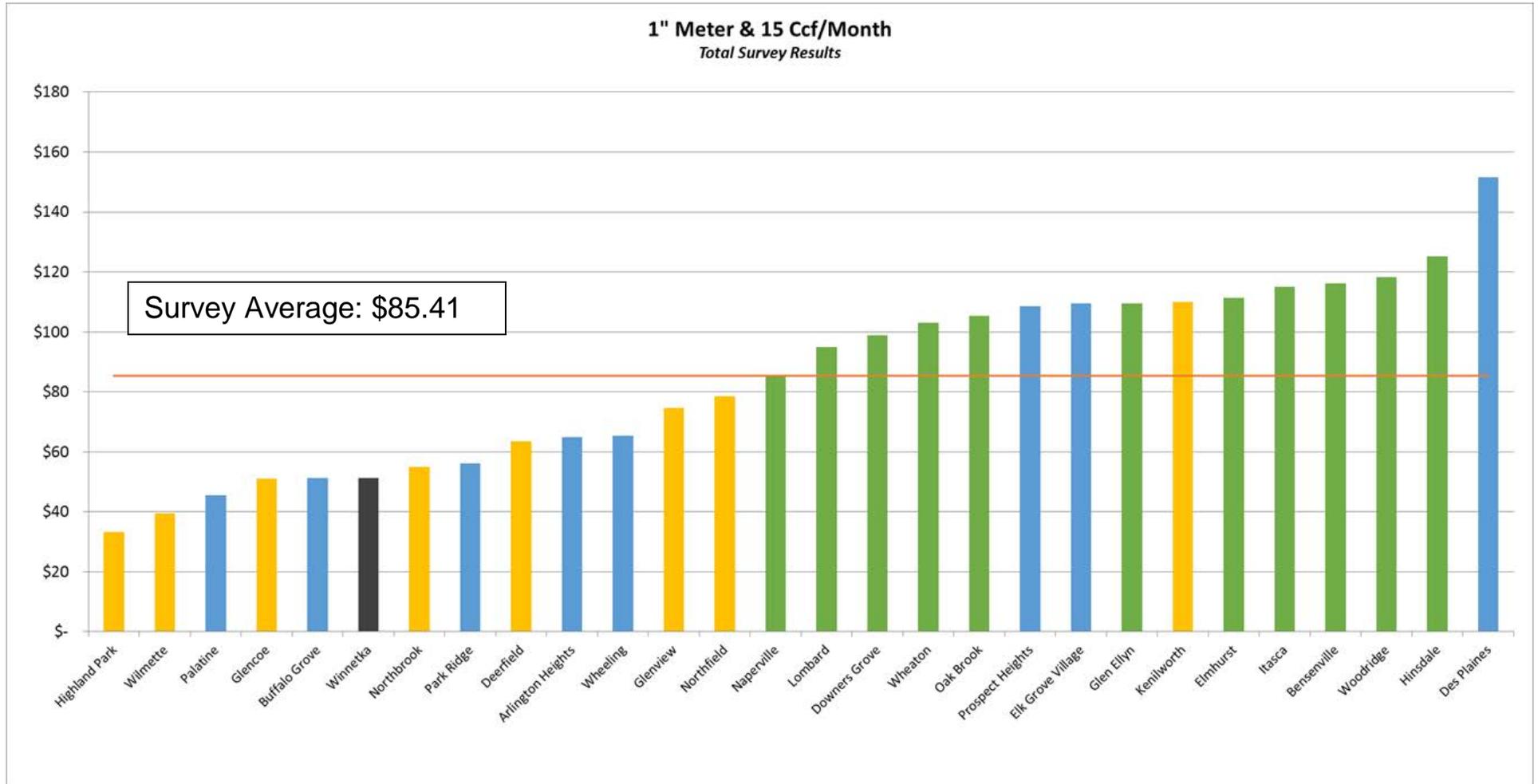
Municipality	1. What is the size of your water distribution system (miles)?	2. Have you established a renewal (i.e. lining) and replacement program for your water mains?	3. What is the replacement cycle that your plan is based upon (i.e. 75 year cycle, 100 year cycle, 150 year cycle)?	4. How much water main is being replaced on an annual basis (feet)?	5. How much water main is being lined on an annual basis (feet)?	6. What is the amount of annual funding for replacement?	7. What is the amount of annual funding for lining?	8. How is the water main renewal and replacement funded (i.e. loans, rate increases, combination of both, etc.)?	9. If you do not have a replacement program for water mains, are you currently working to develop one?
Lake Zurich	113.5 miles.	As part of our capital replacement budget, area of water main are scheduled to be replaced.	No set cycle - based on age and integrity of main.	No set amount - based on need in area.	None.	Varies based on amount of main replaced.	Zero.	User fees.	
Libertyville	125 miles.	Yes.	The target is 75-years.	One mile (5,280 LF).	N/A.	Varies, but usually around \$1,000,000.	N/A.	Proceeds from the sale of water.	N/A.
Lincolnshire	67 miles.	No.	75 years.	N/A.	N/A.	N/A.	N/A.	N/A.	Yes.
Morton Grove	99.5 miles of total water main.	No not a formally funded annual program.	The replacement cycle would be a100 year cycle with a formal annual program.	On average between 0 to 600 lineal feet, as needed.	No water main lining to date.	No consistent annual funding at this time.	0	Certain projects have been funded through a combination of both.	Always working towards replacing as much older water main as funds will provide.
Northbrook	205 miles.	We have a water main replacement program. We only line our sanitary and storm sewers.	100 year.	10,000	0 feet.	Approximately \$2.5 million.	We do not budget for water main lining.	The water main replacement program is bonded and the bonds are paid by the water rate which will include increases.	We developed one last fiscal year that is now in place.
Palatine	269 miles.	Yes.	The worst mains are replaced first, based on historical breaks. The replacement cycle is about 65-75 years.	Approximately 6,000 feet. This quantity is increasing each year.	None.	2015 - \$900,000; 2016 - \$1,000,000; 2017 proposed \$1,200,000.	None.	Rate increases	N/A.
Park Ridge	140 miles.	Yes.	70 years.	3/4 mile.	None.	\$1,350,000 a year.	None.	Through water usage fees (water fund).	N/A.
Prospect Heights	7 miles.	No.	Our system is only 30 years old.	0	0	0	0	0	Yes.
Rolling Meadows	83 miles.	Remove & replace ie, ductile from pipe or C900 pvc water main pipe.	75 year cycle or number of failures on a specific segment.	500 to 2,000 feet.	None as of yet.	200 to 500k.	0	All of the above.	
Skokie	180 miles.	Yes.	100 year cycle.	Approx. 3,000 LF to 5,000 LF.	We only had one lining project approx. 300 LF of 12" water main under railroad tracks.	Approx. \$2,000,000 per year.	Included in replacement funding.	Water Fund.	
Streamwood	120 miles.	Yes.	100 years.	4,500'	0	\$850,000	0	Water rates.	
Wheeling	162 miles.	Yes, a biennial watermain replacement program.	The areas for replacement are evaluated by condition, age, etc.	Approximately 3,000 to 5,000 feet every two years.	0	Approximately \$1.2 M to \$2.5 M every two years depending on the length and size of WM being replaced.	0	Rate increases	
Wilmette	100 miles.	Planning for it in 2020.	Goal is 1% of system per year.	N/A.	N/A.	N/A.	N/A.	To be determined.	Yes, in 2020

Attachment B



Note (a): Recent replacement rate not available.

Attachment C



Note:

- Yellow – Regional
- Blue – Cook County
- Green – DuPage Water Commission