

# MEMORANDUM

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**TO:** Gary T. Barczak  
Martin J. Weigel  
Michael J. Czaplewski  
Rosalie L. Reinke  
Daniel J. Roadt

**CC:** Dan Devine, Mayor  
Rebecca Grill, City Administrator  
Michael Lewis, Director of Public Works/City Engineer  
Mark Wyss, Director/Comptroller/City Treasurer

**FROM:** Peter C. Daniels, Principal Engineer

**DATE:** September 1, 2015

**RE:** **Communication from Principal Engineer regarding increase in Capital Improvement Program**

The City of West Allis is no longer keeping up with a sustainable program to repave the streets needing repair under our jurisdiction. This can be attributed to:

1. Inflation and a loss of buying power.
2. Dramatic increase in underground utility work now that the City's underground infrastructure is 100 years old.
3. Reduction in engineering staff over the past 13 years.
4. Loss of CDBG funds for these types of projects.

### **Inflation Reduces Buying Power**

The City has not raised our bonding limit for street improvements since 2007 when it was raised from \$2,500,000 to **\$2,750,000** (Charter Ordinance No. 19 passed on April 17, 2007). The previous increase in

bonding occurred in 2004 when it was raised from \$2,000,000 to \$2,500,000 (Charter Ordinance No. 18 passed on September 7, 2004). But Figure 1 shows that the City is now spending less in real dollars on street repairs in 2015 than they did in 2003 when the bonding limit was only \$2,000,000. This is because the current bonding limit of \$2,750,000 only purchases **\$1,881,400 of real work in 2003 dollars**.

Figure 2 shows that in 1999 the City was repaving over 3.5 miles of street per year on average, which was a sustainable level of work in the long term. A simple calculation proves this point by dividing the total 174.76 miles of street under West Allis jurisdiction by 3.5 miles per year which translates into a sustainable 50 year paving cycle. Figure 2 shows that by the year 2020 the average miles of street repaved each year is projected to drop to under 2.5 miles per year. This translates into a 70 year paving cycle for our roads. But it is not practically possible to build a road that will last much beyond 50 years without performing some sort of repair such as a resurfacing or patching. So paving less than 3.5 miles per year is not sustainable and will leave a glut of work for the next generation.

### **Increasing Work and Decreasing Staff**

While the diminished buying power of the City's bonding has contributed to the problem, the dramatic increase in underground utility work has also caused this reduction in miles paved each year. Figure 3 shows the dramatic increases in length of sanitary sewer main and water main that have been replaced in recent years since the City's underground infrastructure has now passed 100 years old. This large amount of underground work also has the unintended side effect of requiring more expensive repairs to the street above them due to all the necessary digging in the road. And this dramatic shift in work from streets to underground utilities at a time when the overall Engineering Department staff has been declining is also a detriment to increasing the miles of street being repaved. Figure 4 shows the decrease in engineering staff from 7 to 5.5 with the consolidation of the City Traffic Engineer and Construction Engineer positions and with the consolidation of the City Engineer and Director of Public Works positions.

According to a survey conducted of comparably sized municipalities, the West Allis Engineering Department already has fewer engineers on average than most comparably sized municipal engineering departments in Wisconsin as shown in Figure 5. Figure 6 shows that West Allis is on the low end for the number of engineers per 10,000 population. Many of the municipalities with smaller staffs on the figure also employ large numbers of engineering consultants to accomplish their work.

State Statute 86.302(2) requires Cities in Wisconsin to rate their pavements on a two year cycle. The pavements are rated on a scale of 1 to 10 with 10 representing a brand new street. The attached graph in Figure 7 shows that 31.55 miles or 18% of the total 174.76 miles of street in West Allis is in need of immediate reconstruction (ratings 1, 2, 3, or 4). There is another 75.92 miles or 43% of the total 174.76 miles that would also benefit from being resurfaced or patched now so as to avoid the need for a more costly reconstruction soon (ratings 5 or 6). Table 1 shows that there is an immediate need for street work totaling \$101,210,000. But West Allis is currently spending only about \$3,267,500 on average per year (3% of the total need) which accounts for only 2.47 miles of road per year on average. Over the next 5 years the City has programmed \$16,000,000 in repairs or 16% of this total.

## Loss of CDBG Funds for Parking Lots and Bike Trail

There is also an **immediate need to repave many of the parking lots** in the downtown area or at City facilities. For the past 25 years these parking lots were rebuilt with federal CDBG funds. But in recent years these funds have been cut and are not available for this type of project anymore. The parking lot at the Library is the most immediate need requiring an outlay of \$260,000 followed by the following lots:

- 1.) Library Lot = \$260,000 (asphalt resurface)
- 2.) 72nd-73rd; Madison-Greenfield Parking Lot = \$90,000
- 3.) Senior Center Parking Lot = \$100,000
- 4.) 71st-72nd; Greenfield-Orchard Parking Lot = \$50,000
- 5.) 73rd-74th; Greenfield-Orchard Parking Lot = \$75,000
- 6.) 74th-75th; Greenfield-Orchard Parking Lot = \$90,000
- 7.) 75th-76th; Madison-Greenfield Parking Lot = \$100,000

In addition, the City still hopes to complete the final stages of our long awaited **Crosstown Connector Bike and Pedestrian Trail** after the Zoo Interchange work on I-894 is completed in 2018. WisDOT has agreed to build the City a wall to create space for the bike trail under its freeway bridges. But the local match for the bike trail that originally was budgeted with CDBG funds will now need to be funded with bond funds. **The bike bridge over Hwy 100 will require \$250,000 in a local match and the bike trail will require \$175,000 in a local match.**

## Conclusions

So the City of West Allis needs to return to repaving at least 3.5 miles per year to achieve the goal of a sustainable 50 year paving cycle that won't leave a glut of work for the next generation. An increase in the paving work of 1 mile to 3.5 miles per year would achieve our goal of reaching a sustainable 50 year paving cycle. This would cost **\$1,650,000** more per year which also includes funds to replace the City's antiquated and sometimes dangerous street lighting circuits at the same time as the paving work. It is important to note that the City is having increasing difficulty obtaining the electrical transformers, cable and luminaires needed to maintain our antiquated series lighting circuits. Most of the equipment being purchased now is refurbished used equipment from Eastern Europe.

But a 1 mile increase in paving and an increase in parking lot reconstruction would also necessitate an increase in the storm sewer, sanitary sewer, and water main budgets. The Engineering Department is estimating the following increases would be needed to keep up with the new street funding:

**Streets:**                \$2,750,000 (existing bonding)  
  
                              + **\$1,650,000** (including new lighting, parking lots, and bike trail)  
  
                              = \$4,400,000 (proposed total bonding for street improvements)

**Water main:**        \$1,500,000 (existing budget)

+ \$750,000

= \$2,250,000 (proposed total budget for water main)

**Sanitary Sewer:** \$2,750,000 (existing budget)

+ \$975,000

= \$3,725,000 (proposed total budget for sanitary sewer)

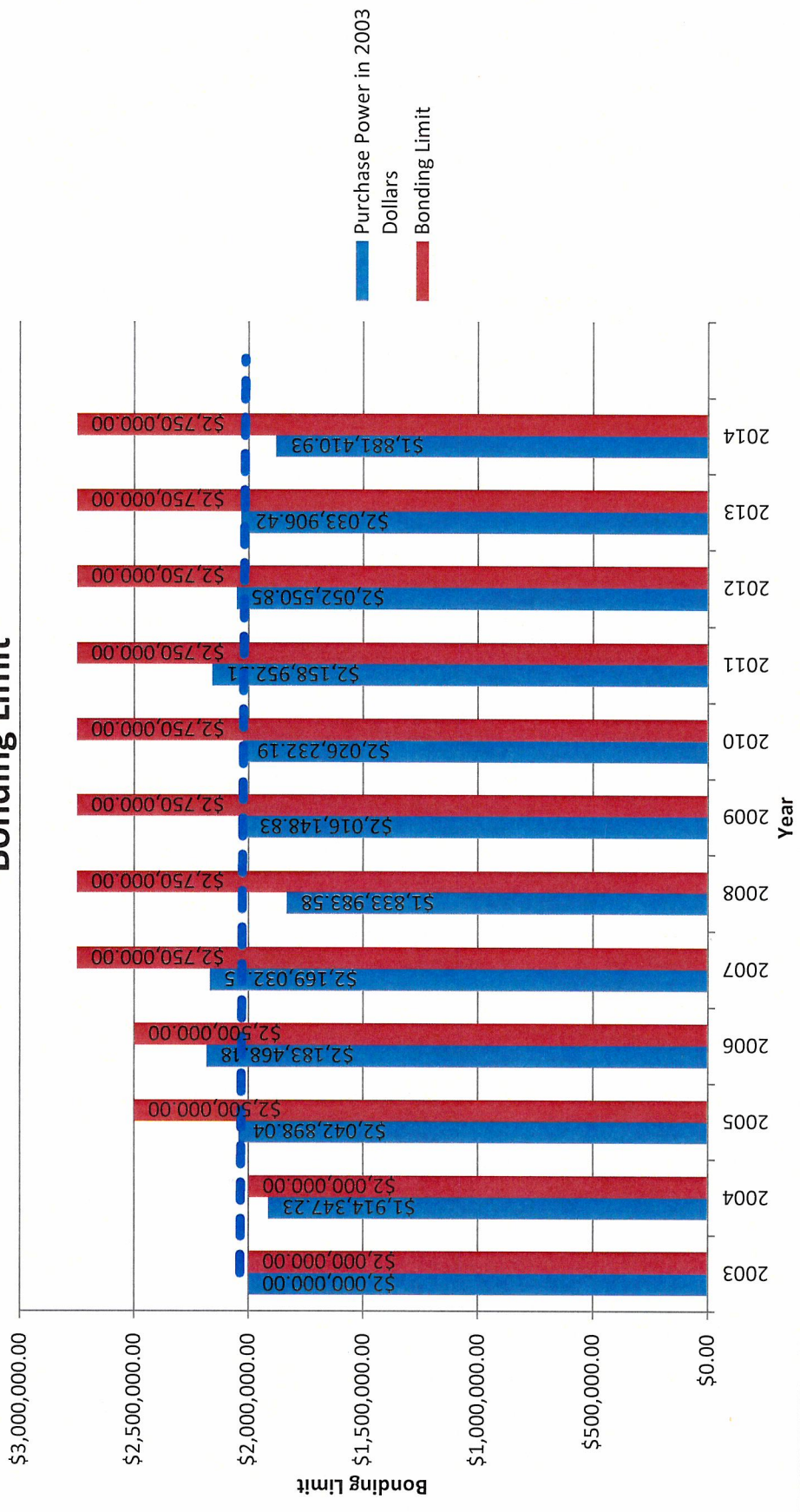
**Storm Sewer:** \$1,500,000 (existing budget)

+ \$900,000

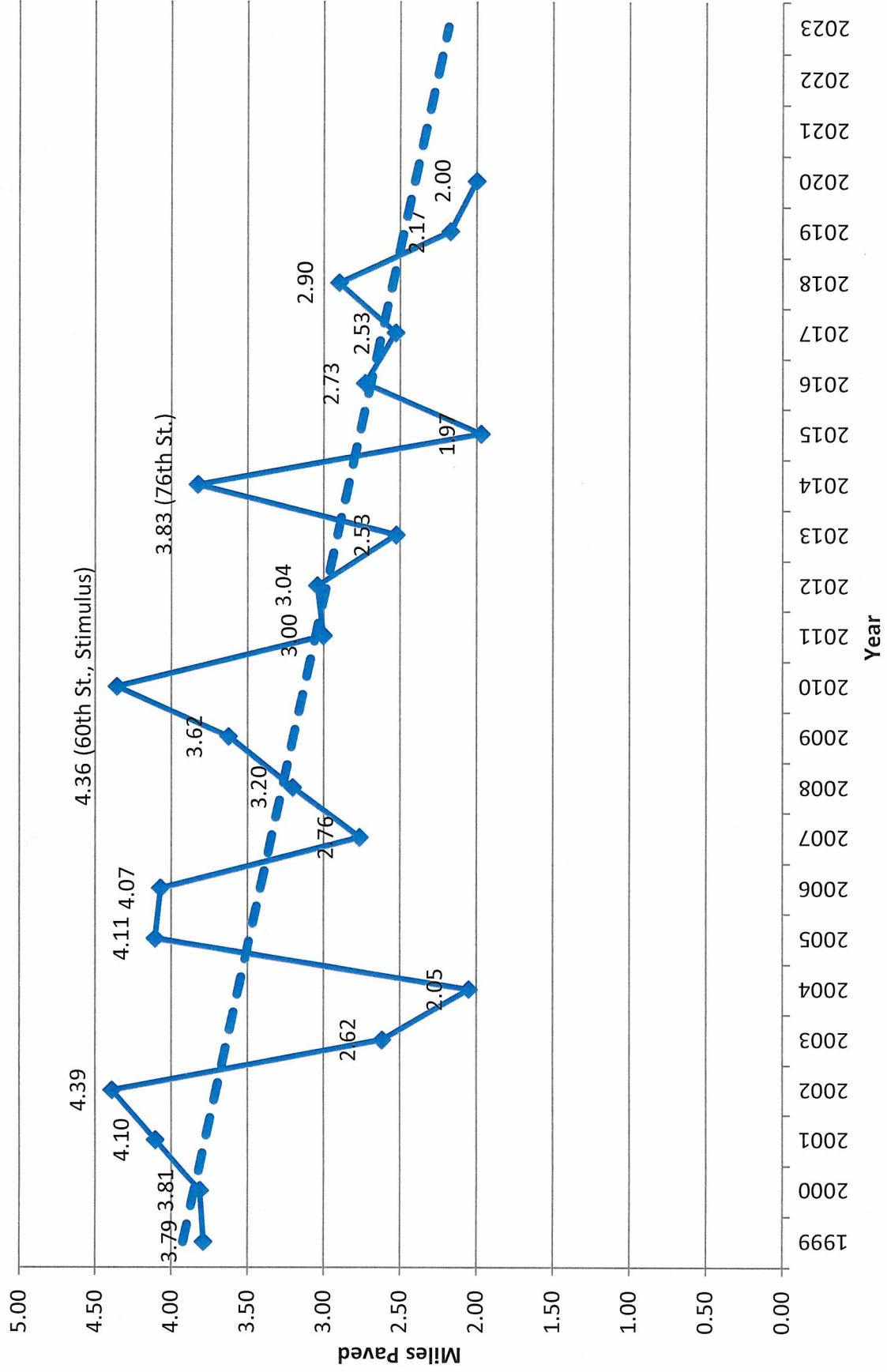
= \$2,400,000 (proposed total budget for storm sewer)

The increased budget would also necessitate an increase in engineering staff as the staff is currently overwhelmed with the Zoo Interchange work, I-94 East West Corridor work and Hwy 100 WisDOT projects which generate an enormous amount of work for our City staff. As a result the City is increasingly relying on consultant staffs to accomplish other tasks like bridge inspection and construction inspection when no City staff is available. A return to **7 engineers** on staff would bring the city in line with the average number of engineers in other communities.

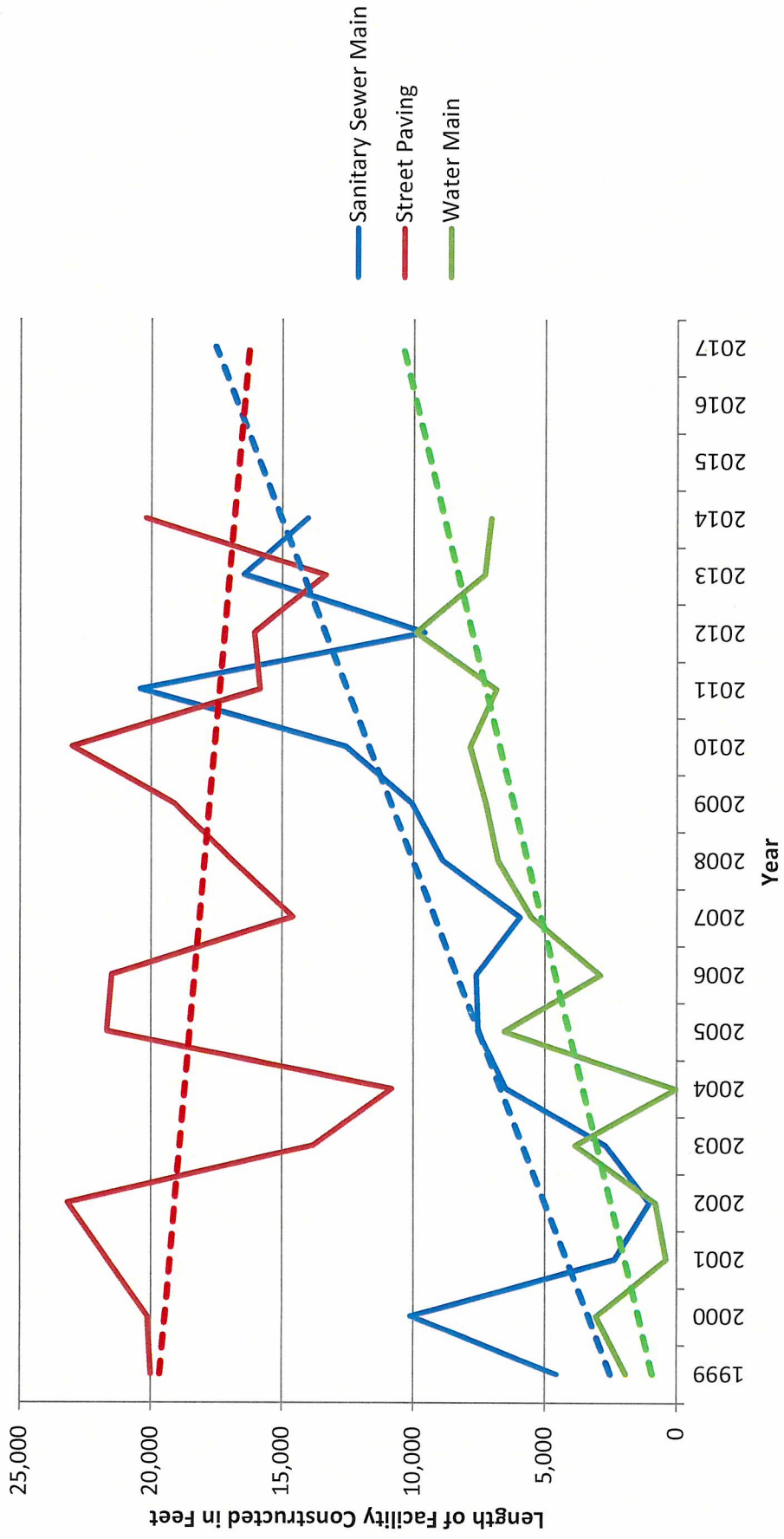
**Figure 1**  
**Bonding Limit**



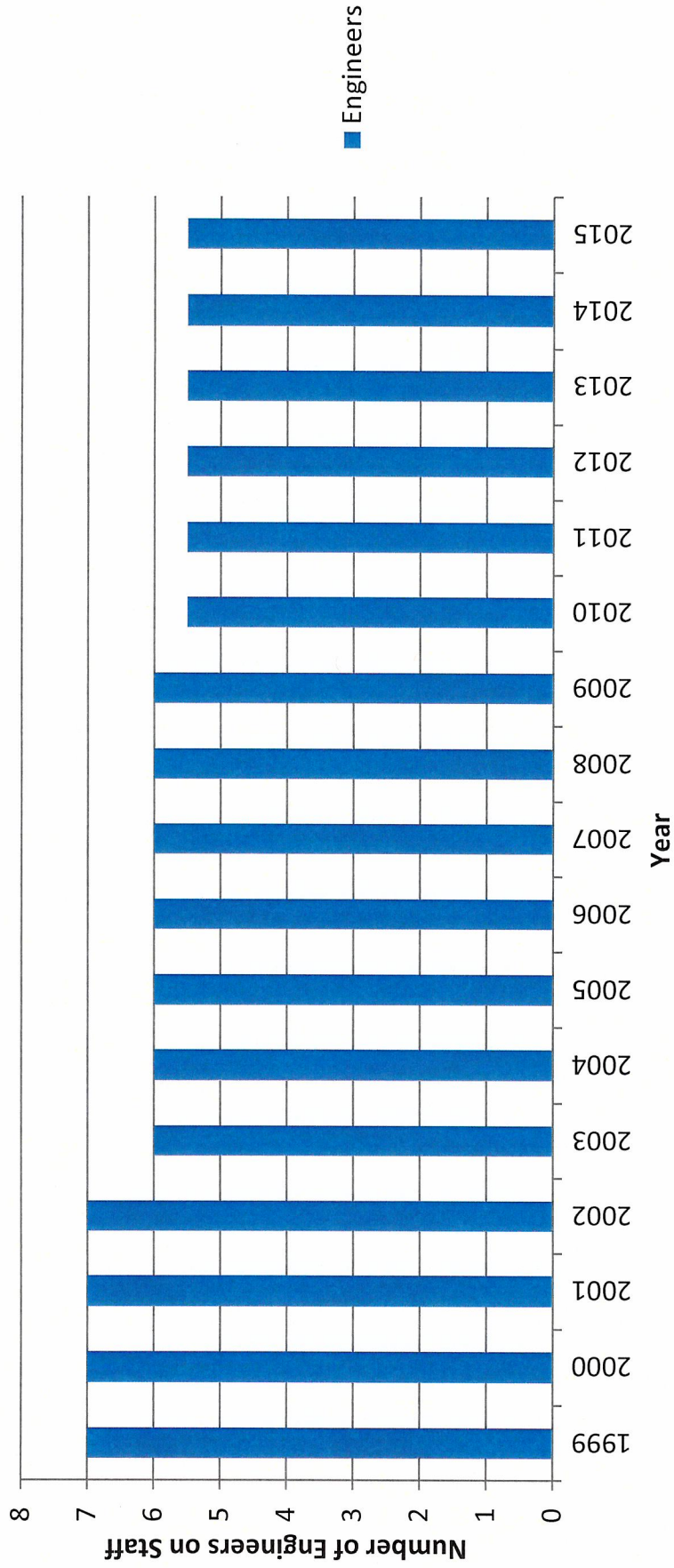
# Figure 2 Miles Paved by Year



**Figure 3**  
**Length of Streets, Sewer Main and Water Main Constructed**

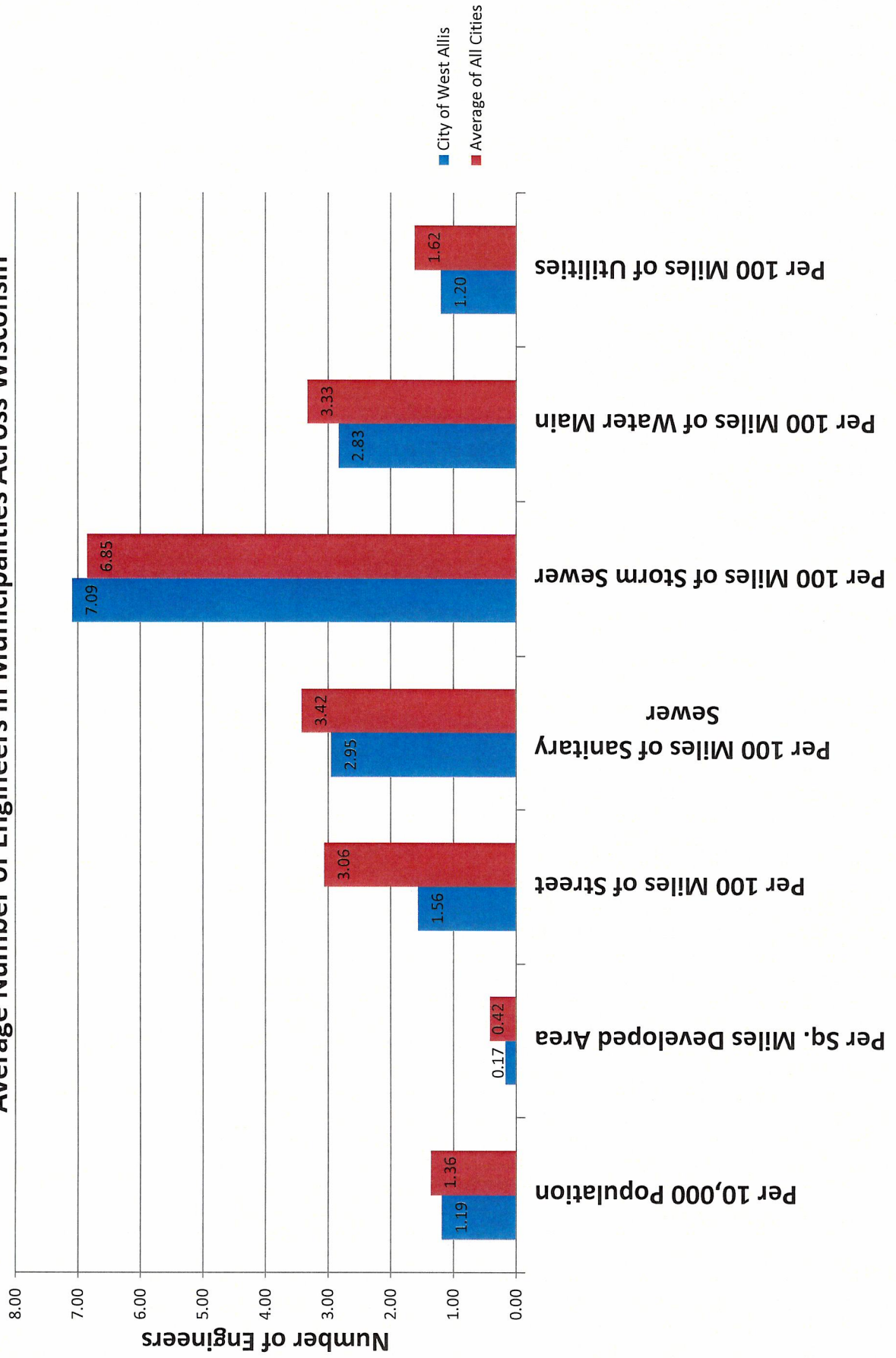


**Figure 4**  
**Number of Engineers on Staff**

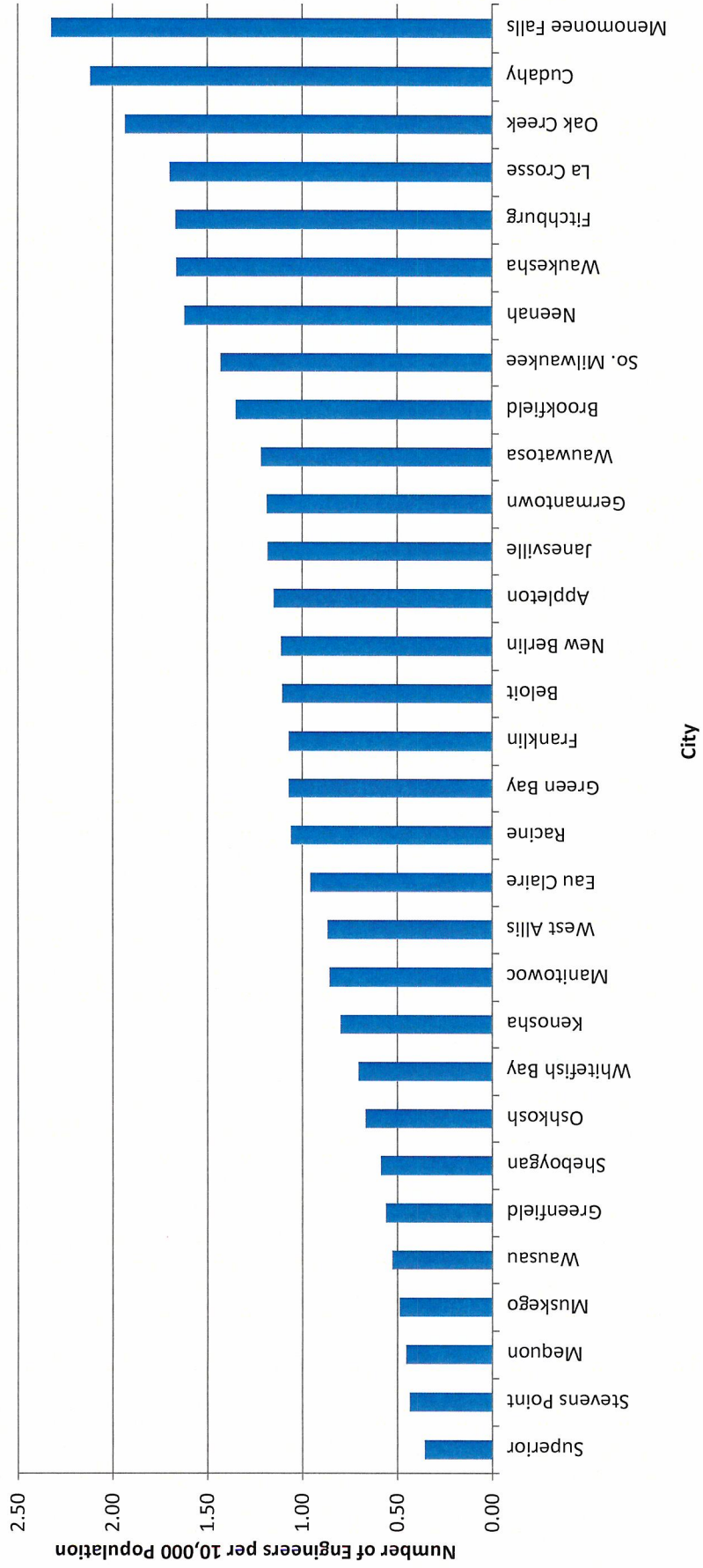




**Figure 5**  
**Average Number of Engineers in Municipalities Across Wisconsin**



**Figure 6**  
**Number of Engineers per 10,000 Population**



# Figure 7 Pavement Rating Distribution

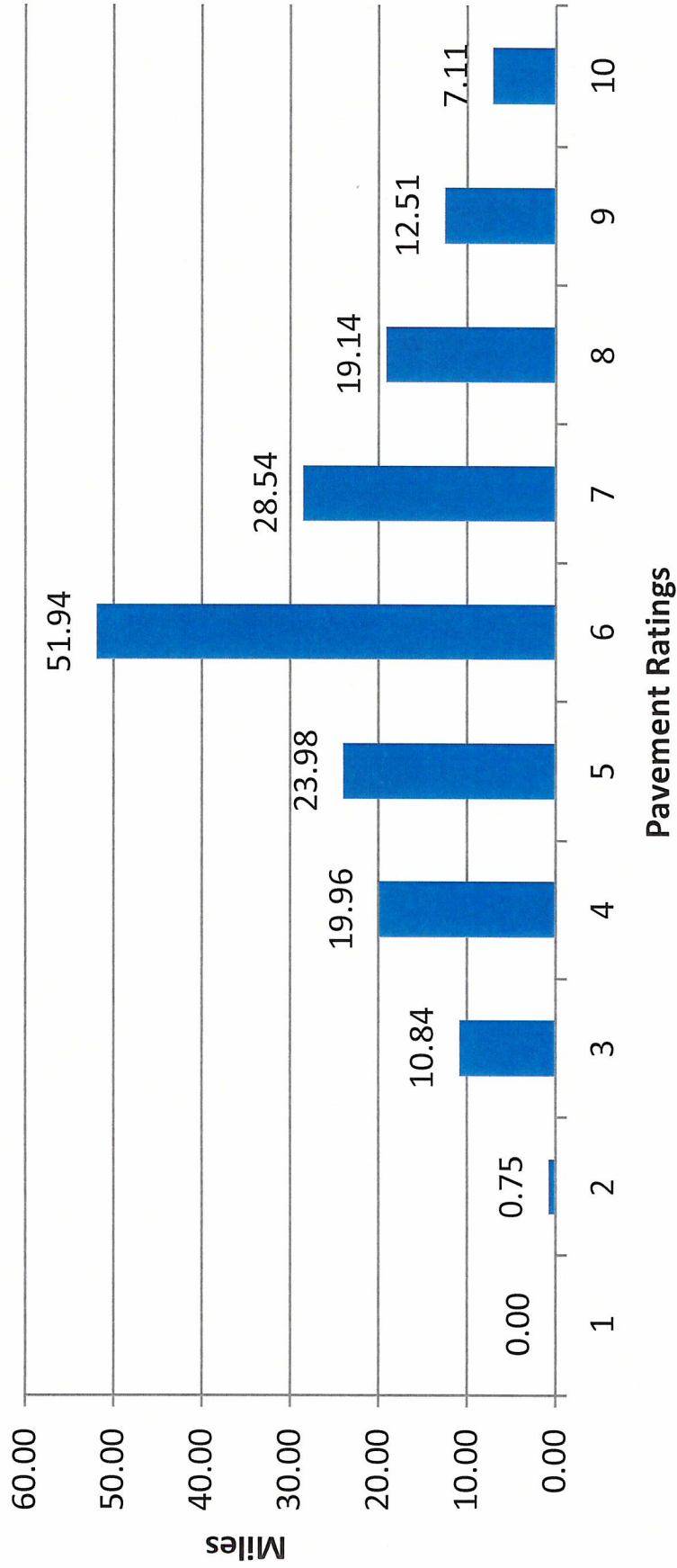


Table 1  
Total Cost of Street Repairs Needed Immediately

Pavement Rating	Percent of Total Miles	Miles by Rating	Treatment by Rating	Cost/Mile	Total Capital Street Needs
1	0.00%	0.00	Reconstruct	\$1,636,800	\$0
2	0.43%	0.75	Reconstruct	\$1,636,800	\$1,230,003
3	6.20%	10.84	Reconstruct	\$1,636,800	\$17,734,924
4	11.42%	19.96	Reconstruct	\$1,636,800	\$32,666,587
5	13.72%	23.98	Resurface	\$924,000	\$22,154,815
6	29.72%	51.94	Patching	\$528,000	\$27,423,619
7	16.33%	28.54	None Needed	\$0	\$0
8	10.95%	19.14	None Needed	\$0	\$0
9	7.16%	12.51	None Needed	\$0	\$0
10	4.07%	7.11	None Needed	\$0	\$0
<b>Total</b>		<b>174.76</b>			<b>\$101,209,947</b>