City of Stevens Point

Department of Public Works

<u>Infrastructure and Planning</u>

Update on…

- Condition and Inventory of City infrastructure
  - Our current methods and tools
  - Recently developed and future methods
- Capital improvement planning process
  - Using the tools we have to make decisions

Streets and Pavement

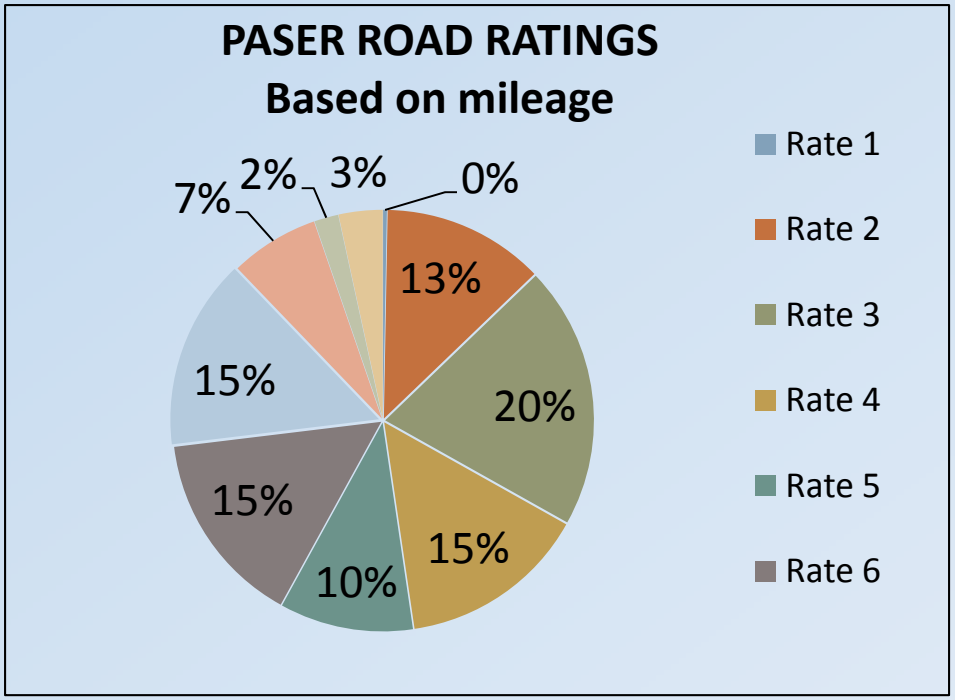
- We use the PASER method of rating our pavement inventory.
  - This is a scale of 1 to 10 (1 is highly degraded, 10 is new)

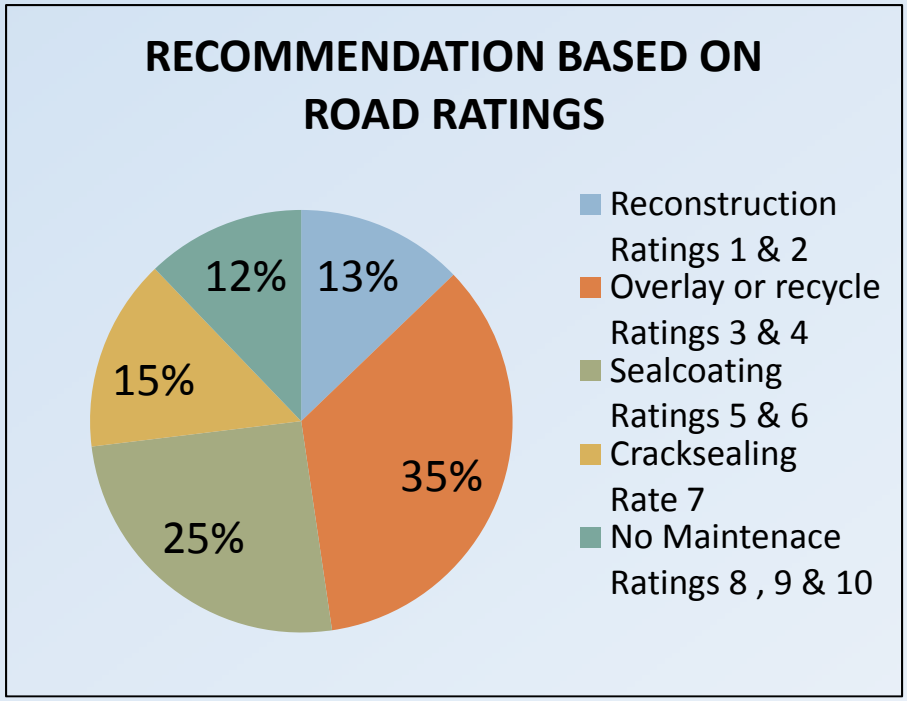
– 10 & 9	Excellent
– 8	Very good
– 7	Good
– 6	Good
– 5	Fair
– 4	Fair
– 3	Poor
– 2	Very Poor
– 1	Failed

Streets and Pavement

- Traditionally, PASER results are kept, maintained and displayed using tables and charts as show here.

New Rating			Previous Pavement		Surface				On Route	At Route			Toward Route			
Rating	Year	Code	Rating	Year	Type	Year	Width	Units	Name (Includes Prefix, name, type, suffix & extention	At Location	Name (Includes Prefix, name, type, suffix & extention	At Offset	Toward Location	Name (Includes Prefix, name, type, suffix & extention	Toward Offset	Section Length
		49281	1	2009	57	1967	24	F	Fourth Ave		Michigan Ave (1)	0		Clayton Ave	0	792
		49281	1	2009	57	1967	22	F	Fourth Ave		Clayton Ave	0		Minnesota Ave	0	581
		49281	1	2009	70	1975	18	F	Ridge Ct		Ridge Rd	0		Termini	0	528
		49281	1	2009	70	1991	26	F	Sandy Ln		Sandy Ln	1478		Woodland St	0	159
		49281	10	2009	70	2005	22	F	Beaver Dam Rd		Black Bear Trl	0		Partridge Way	0	1,654
		49281	10	2009	70	2005	22	F	Black Bear Trl		Norway Pine Dr	0		Partridge Way	0	466
		49281	10	2009	70	2005	22	F	Black Bear Trl		Partridge Way	0		Beaver Dam Rd	0	435
		49281	10	2009	70	2005	22	F	Black Bear Trl		Beaver Dam Rd	0		Whitetail Dr	0	450
		49281	10	2009	70	1995	22	F	Black Bear Trl		Hummingbird Ln	0		Chickadee Ln	0	422

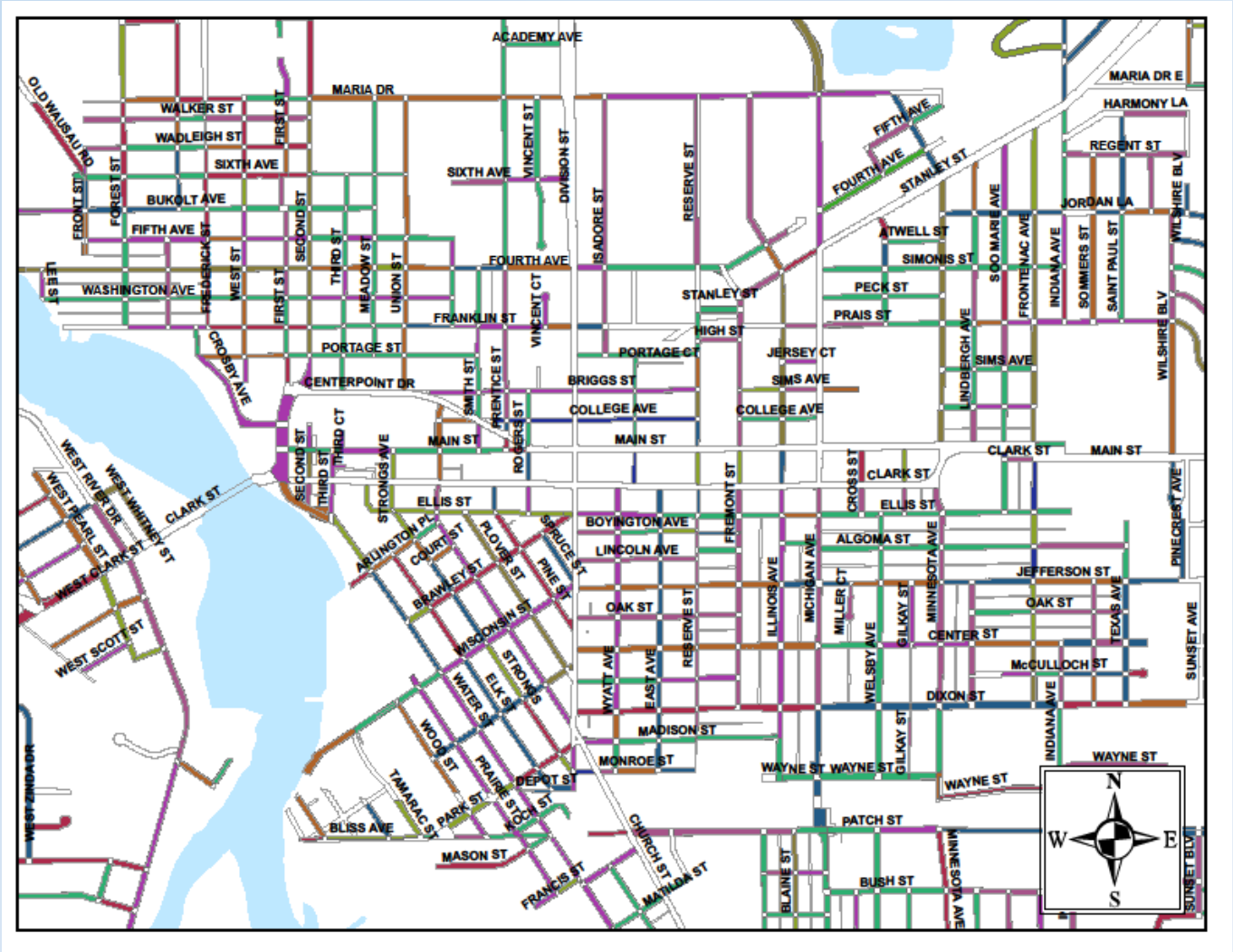




Streets and Pavement

- Combine this data with our GIS system, and you get an actual visual representation of where the different pavement ratings are.

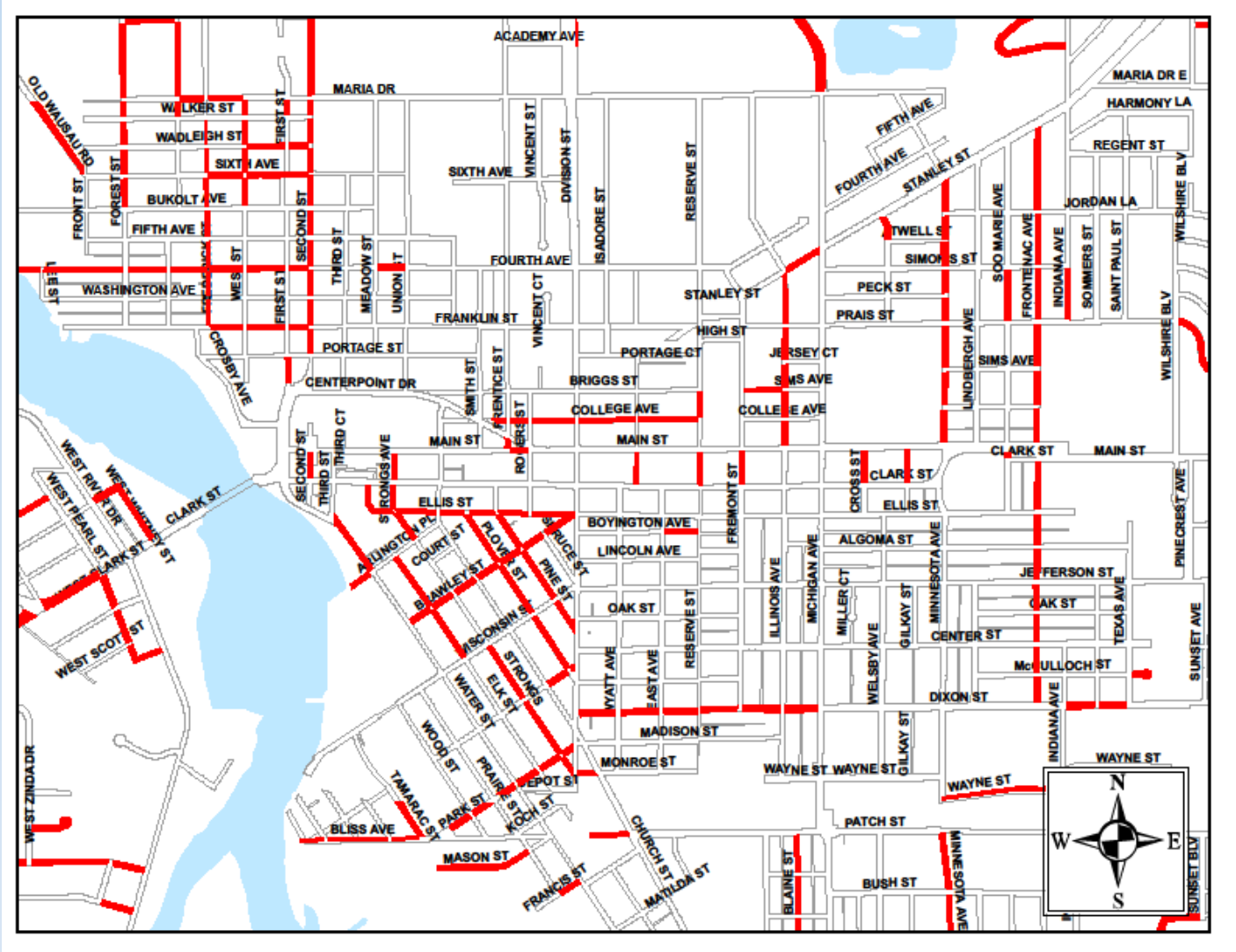
Shown here are pavement ratings from 1 to 10 using a color gradient for symbology.



Streets and Pavement

- Or, more simply, you can just display items of specific interest.

Shown here are pavement ratings from 7 to 10 symbolized in red.



Utilities

- Just like streets data, there is plenty of information available in tabular form to evaluate the condition of the different City-owned utilities.

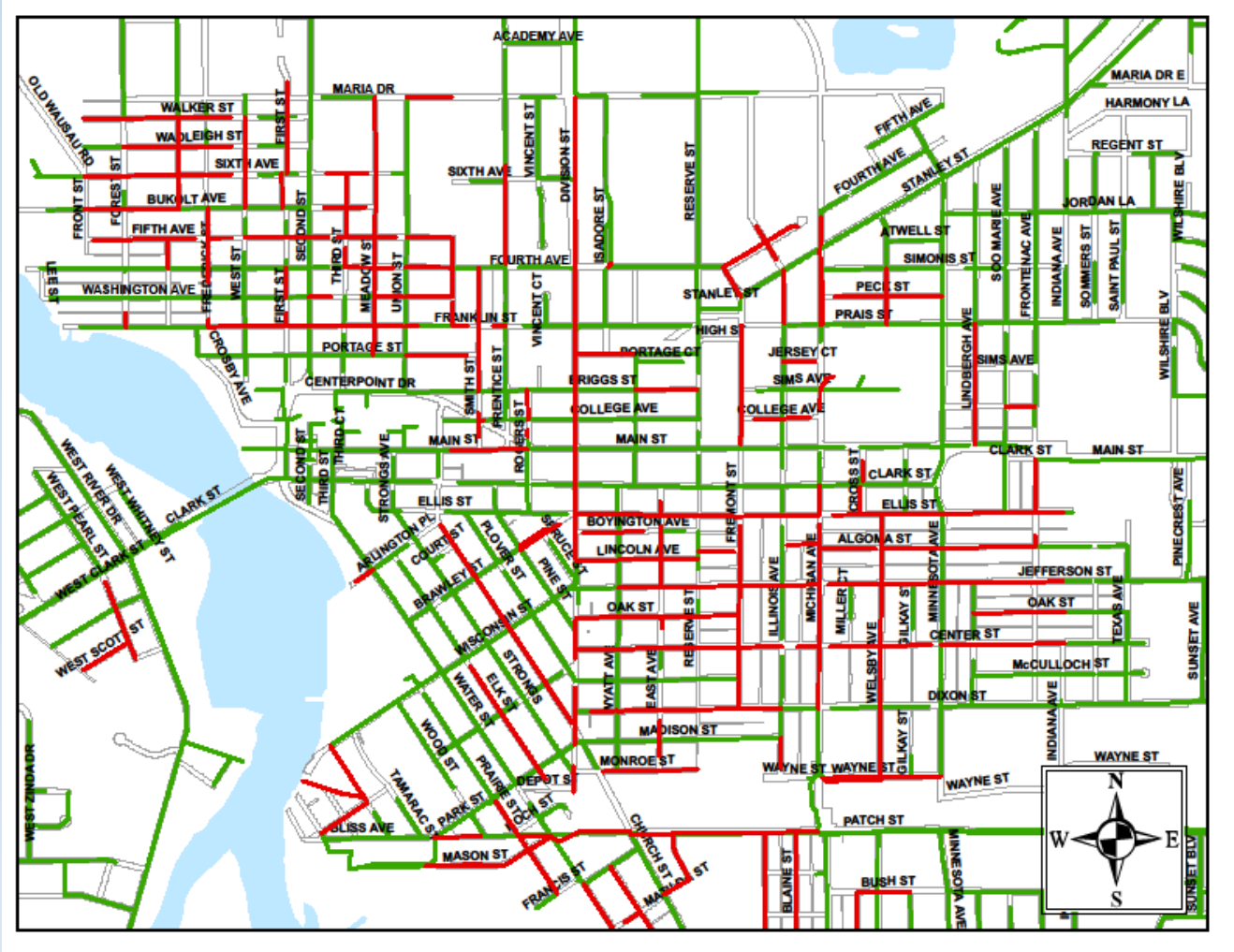
Shown here is some data from the sheet used to record the value of the sanitary sewer collection system

DIAMETER	PIPETYPE	YEAR_INSTA	PIPE_LENGT	Cost Year	Unit Cost in Cost Year	Cost at Installation	Est. Cost at Installation	Act. Useful Life	Depreciated Value
6		1930	125.00	1988	$14.75	$1.92	$239.69	85	$22.56
	1930-1939 Total		**125.00**						
6		1950	111.00	1988	$14.75	$2.66	$294.71	85	$97.08
6		1950	31.00	1988	$14.75	$2.66	$82.31	85	$27.11
	1950-1959 Total		**142.00**						
8	PVC	1926	0.00						
8	CLAY	1926	142.00	1988	$18.75	$2.25	$319.50	85	$15.04
8	PVC	1926	40.00	1988	$18.75	$2.25	$90.00	85	$4.24
8	CLAY	1927	463.00	1988	$18.75	$2.25	$1,041.75	85	$61.28
8		1929	299.00	1988	$18.75	$2.44	$728.81	85	$60.02
8		1929	269.00	1988	$18.75	$2.44	$655.69	85	$54.00
8	CLAY	1929	402.00	1988	$18.75	$2.44	$979.88	85	$80.70
	Pre 1930 Total		**1615.00**						
8	CLAY	1930	310.00	1988	$18.75	$2.44	$755.63	85	$71.12
8	CLAY	1930	314.00	1988	$18.75	$2.44	$765.38	85	$72.04
8	CLAY	1930	295.00	1988	$18.75	$2.44	$719.06	85	$67.68

Utilities

- Displaying some of the same attributes of the sanitary system by way of a GIS allows us to better visualize the data.

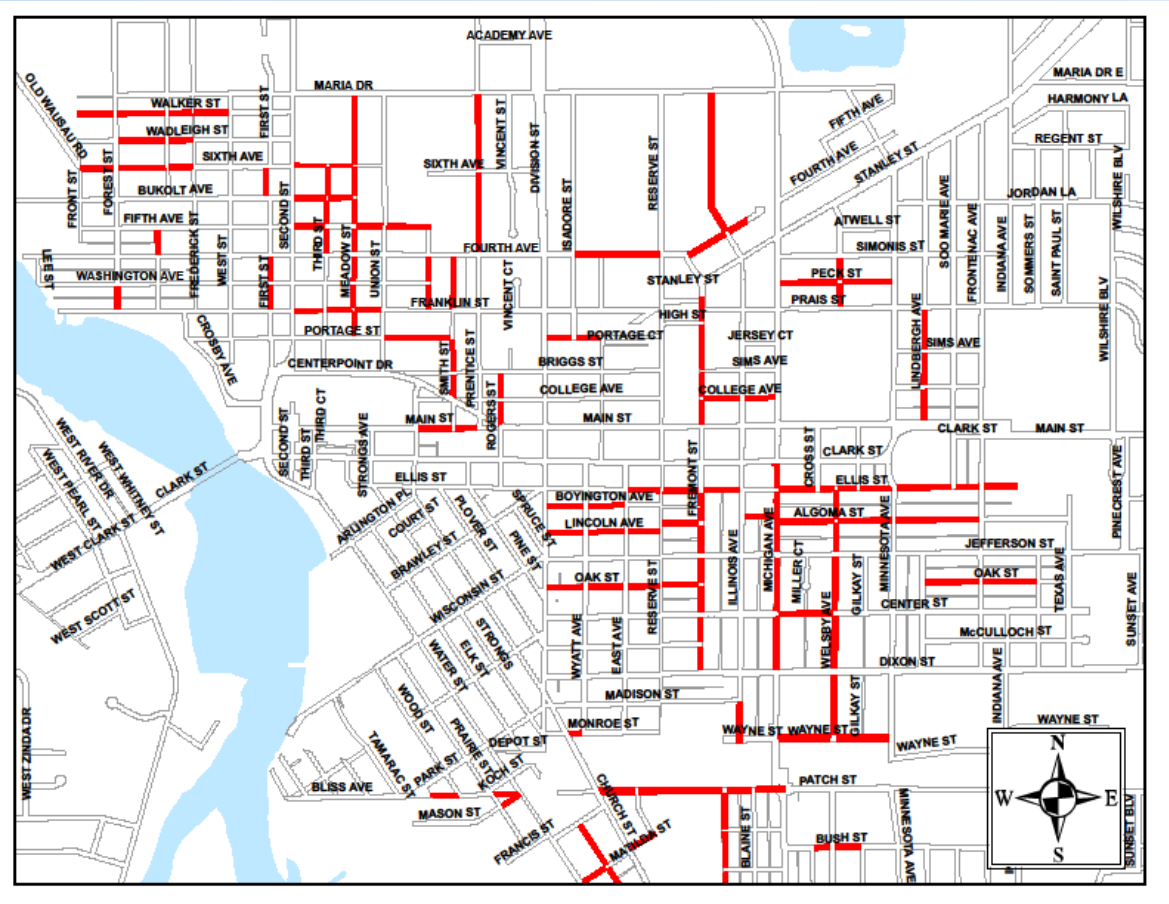
Shown here in red are sewers installed pre-1950.



Streets and Utilities

- Combining of the two sets of data(and eventually many more) is what gives us the real value. Being able to easily query multiple data sets means we have the ability to generate a starting point for capital improvement planning.

Shown here in red are roads with a paser rating of 3 or less that also have sewers installed prior to 1950.



How do we use this information?

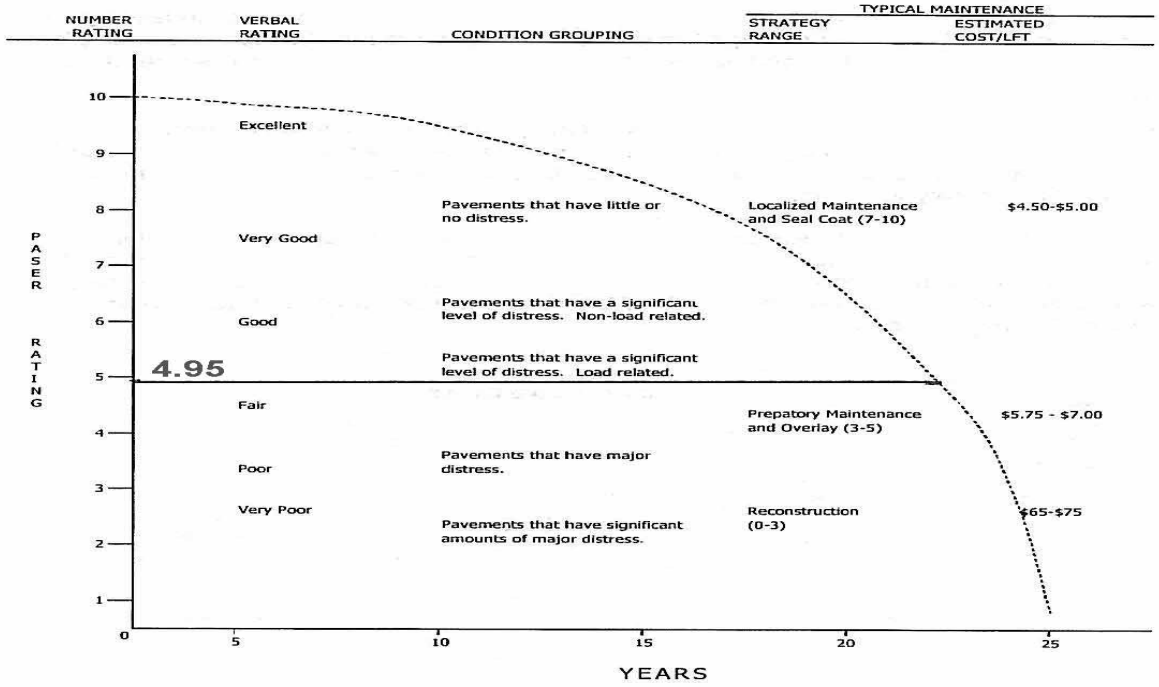
- To make the best use of this data, its is also important to understand the costs associated with road and utility construction.

- Basically…
  - Maintenance is “cheap”
  - Reconstruction is <u>expensive</u>

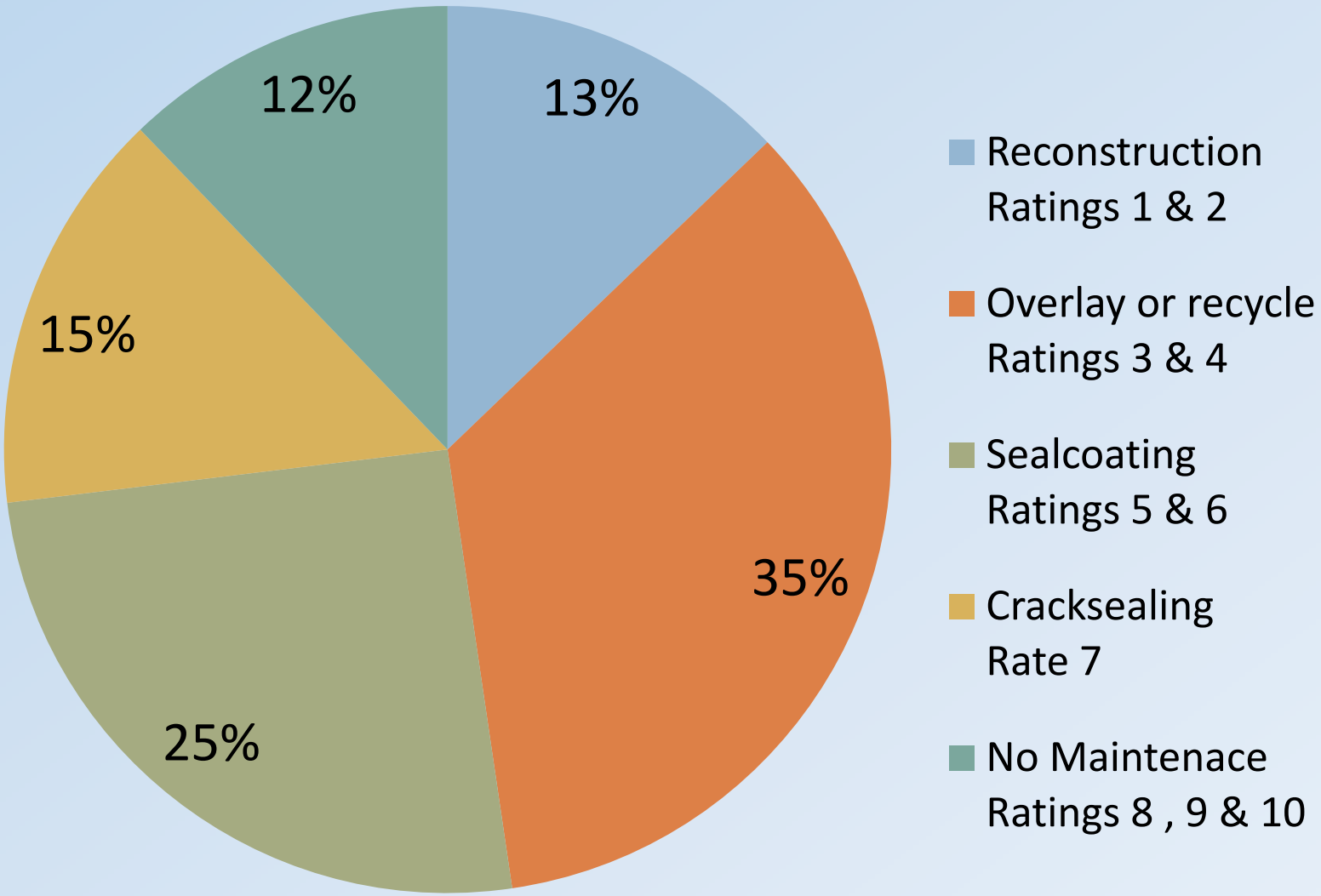
COST SAVINGS

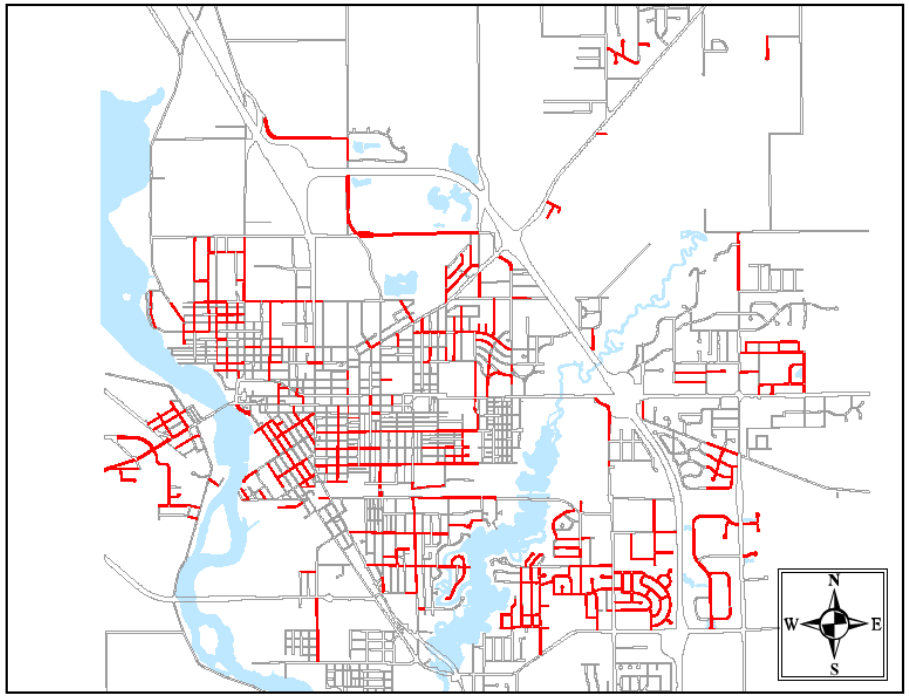
Routine maintenance can save the **city** -a significant amount of money. The annual cost of routine maintenance is significantly less than that of performing a complete reconstruction (graphically displayed below).

STREET LIFE CYCLE



RECOMMENDATION BASED ON ROAD RATINGS

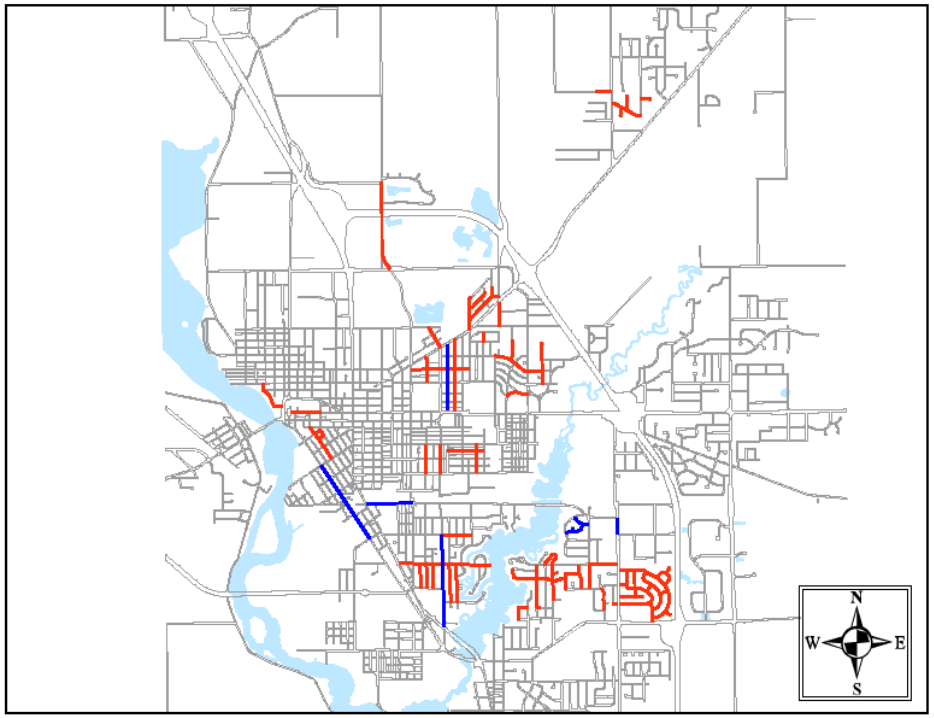




Roads that need only maintenance to maintain or improve their rating (as of 2009):

Chipsealed roads in red.
Reconstructed roads in blue

Totaling 18.75 miles (11.7% of City) in 2010.

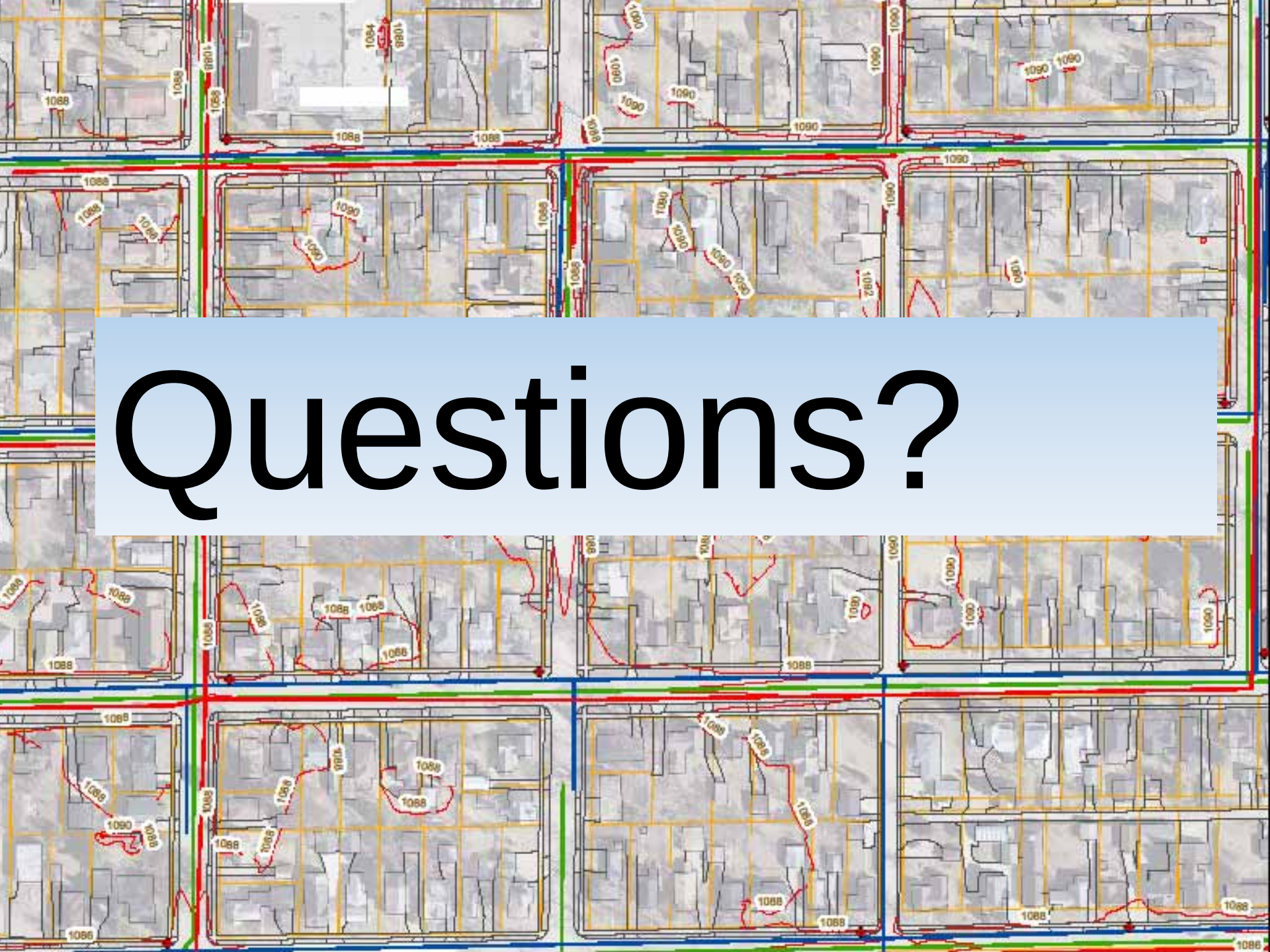


Continuation of Efforts…

•We continue to use and update our PASER tables and tables relevant to other key city infrastructure.

•We continue to create new, and maintain existing GIS data to aid in the decision making and planning process.

•We hold on to the importance of preventative maintenance to make the best investment in our infrastructure that we are able with the money available.



Questions?