Street Surface Infrastructure Management

- Surface Components include:
- Streets
- Sidewalks
- Curbs

Street Surface Age

- We manage our Streets, Sidewalks, and Curbs based on age and condition of the asset.
- By knowing the age of the asset, such as our streets, we can project its useful lifetime, and use this info to plan our maintenance activities.

2015 Willow Bay- New

2000 Burning Tree

1985 Precision Way

2010 Jackson

1995 Inverness

1980? Pontiac

2005 Bristow

1990 Waterford

Street Surface Age Map

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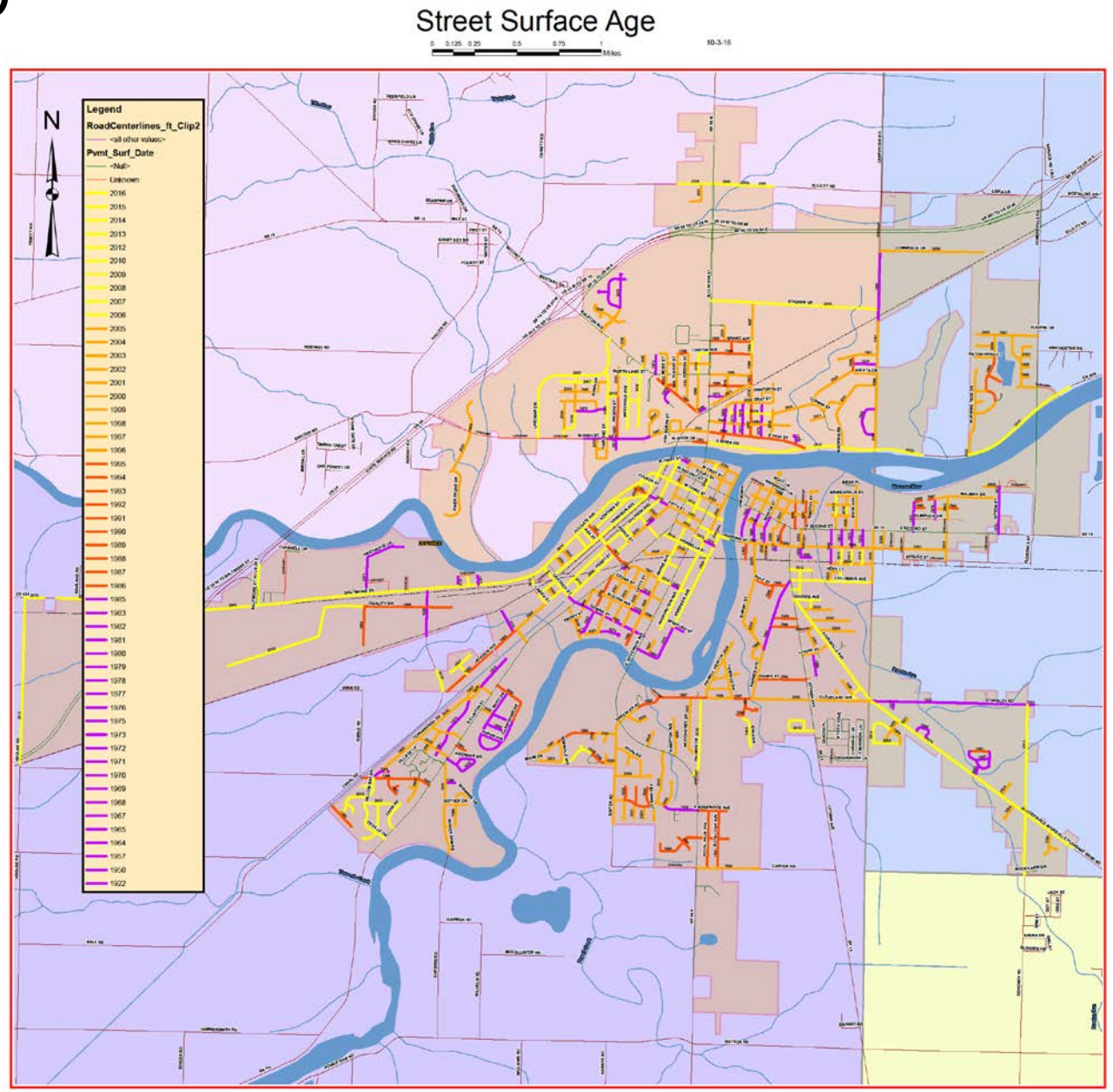
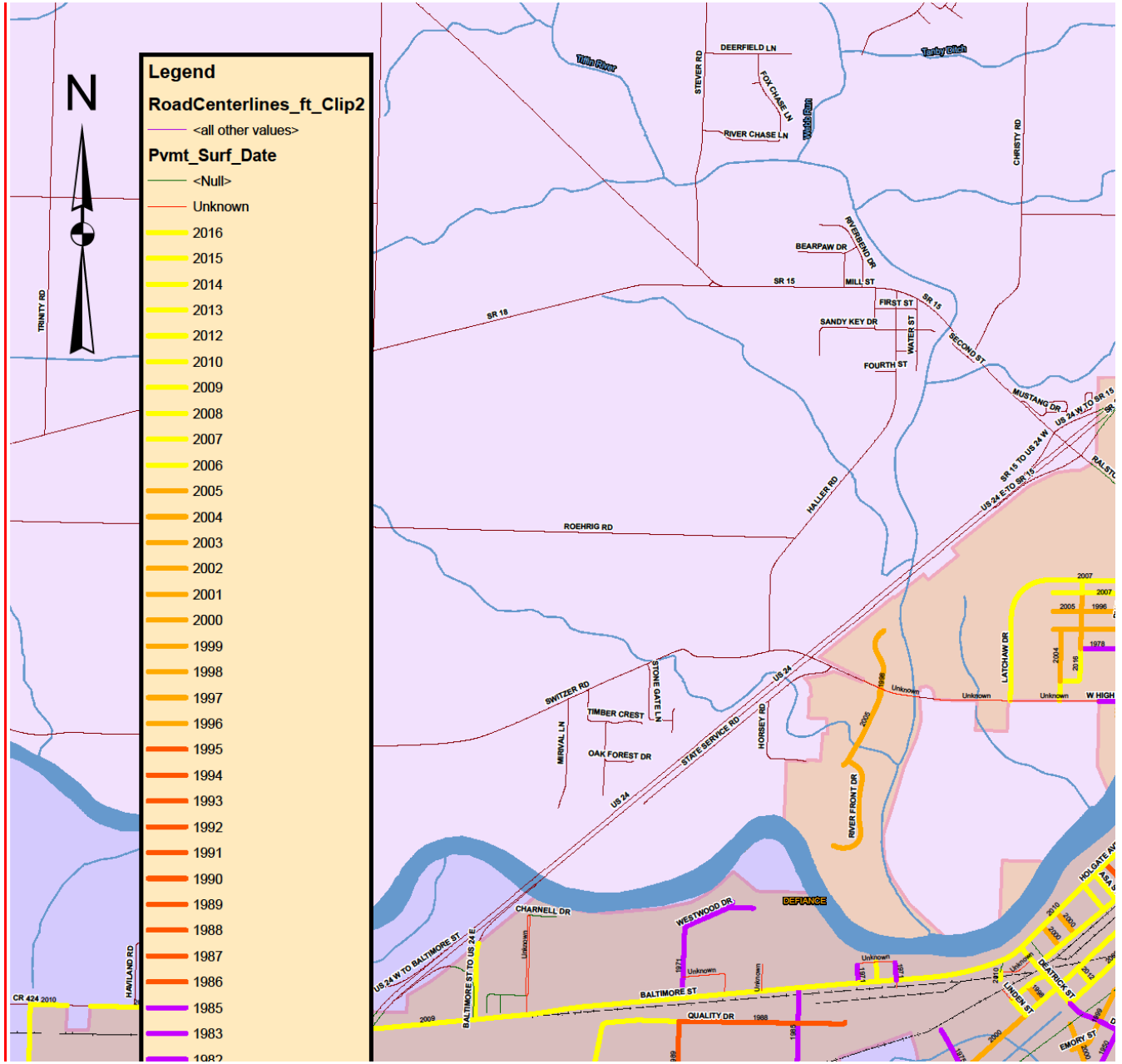


Street Surface Age Map

- Streets grouped by 10 year age ranges

- Yellow 0-10
- Orange 10-20
- Red 20-30
- Purple 30+



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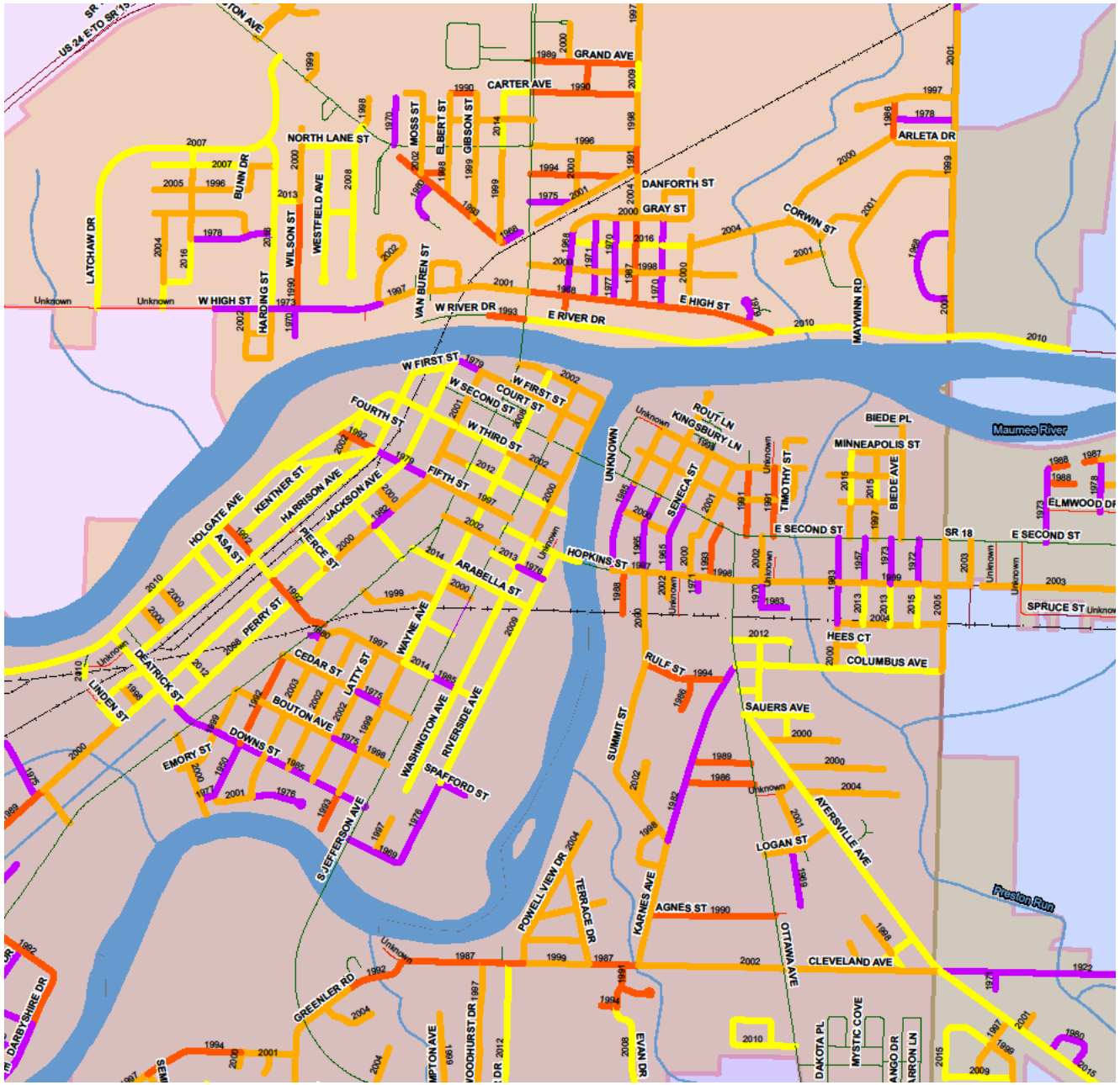


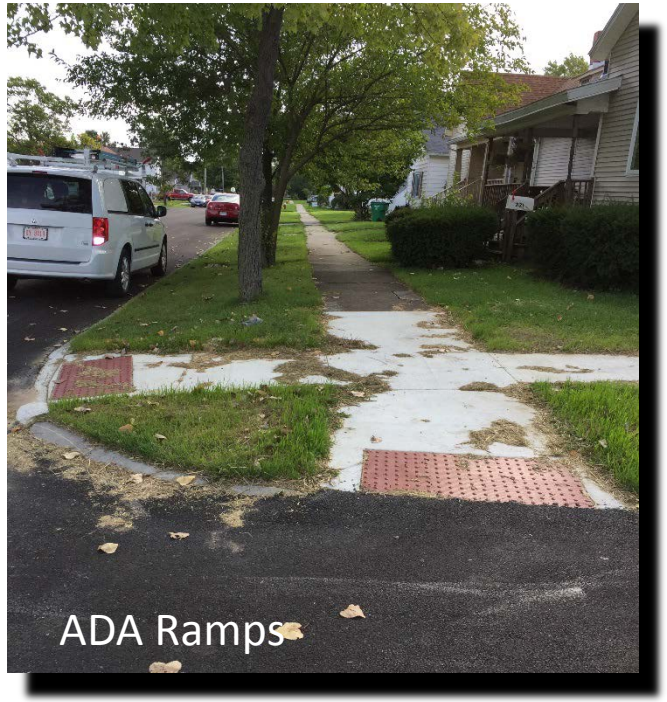
Street Infrastructure Components

- Asphalt and Concrete Streets
- Sidewalks
- Curbs

Pinehurst

Ayersville

Corwin



Meadowbrook

Pavement Preservation Techniques

Treatment Options:

- **Crack Seal ($7,800 / Mi)**
- Mastic Surface Treatment ($21,000 / Mi) 5yr life
- Chip Seal ($23,000 / Mi) 5yr life
- Microsurfacing ($35,000 / Mi) 10yr life
- Cape Seal ($60,000 / Mi)
- Sami (Fiber Mat w/ chip seal: $52,800 / Mi)
- HMA (Hot mix asphalt: 1 1/2” $130,000 / Mi) 20yr life

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Pavement Rehabilitation

Options:

- FDR Full Depth Reclamation ($500,000/Mi.)

Rehabilitation ($1,585,000/Mi.)

Street Resurfacing Requirements

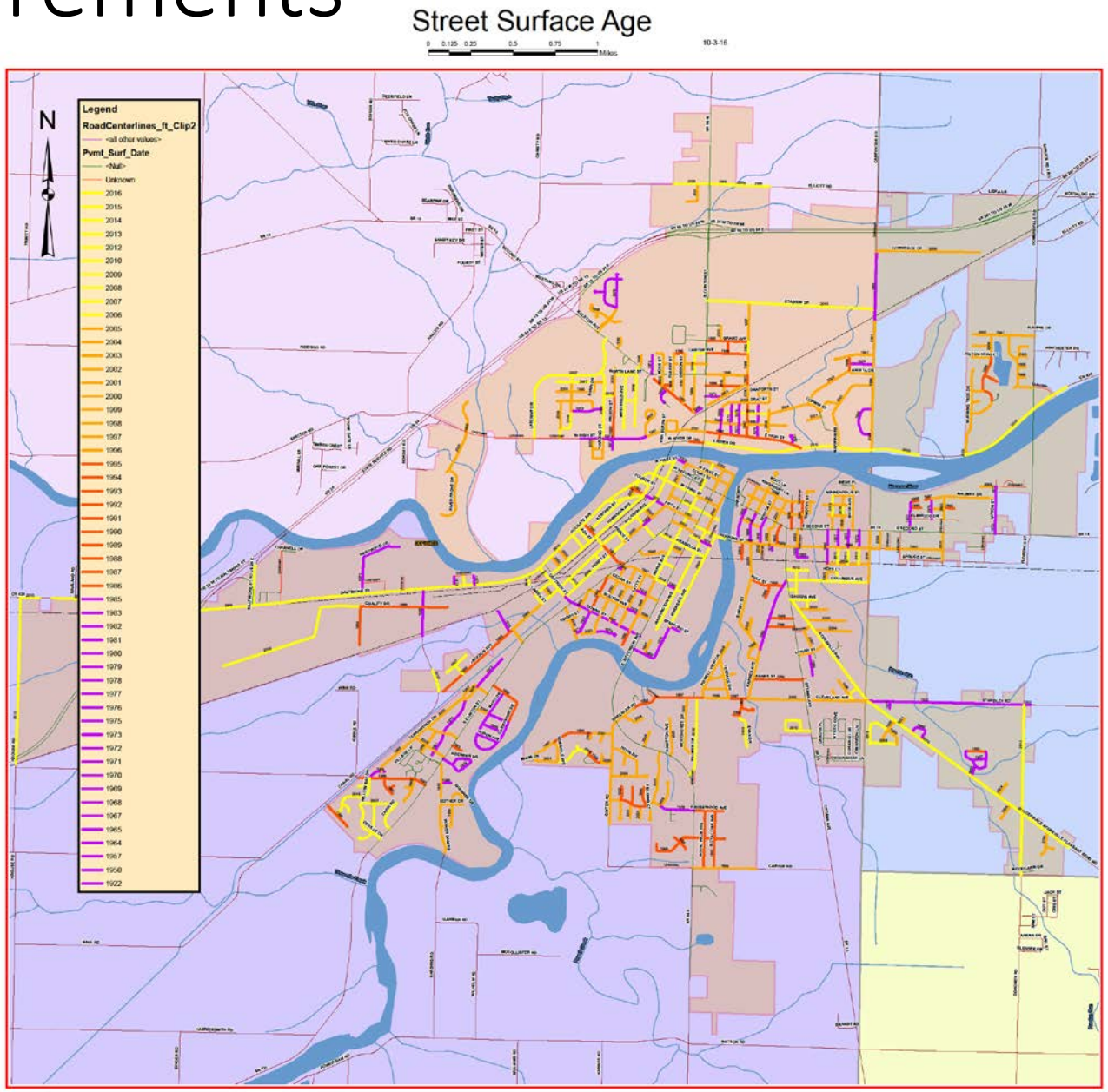
- 127.9 Mi. of city streets
- 95.3 Mi. 100% city responsibility
- 30 Mi. Private or shared responsibility

- Resurfacing Program Requirements:
  (based on 95.3Mi @ 20 yr life, to maintain current status quo)

-Need to resurface 4 Mi. of streets/yr.
-Need to Micro-surf 2.4 Mi. of streets /yr.

- Required Budget $854,000
  (does not include extensive curb or street rehabilitation)

- Currently funding around $350,000



Street Resurfacing Requirements

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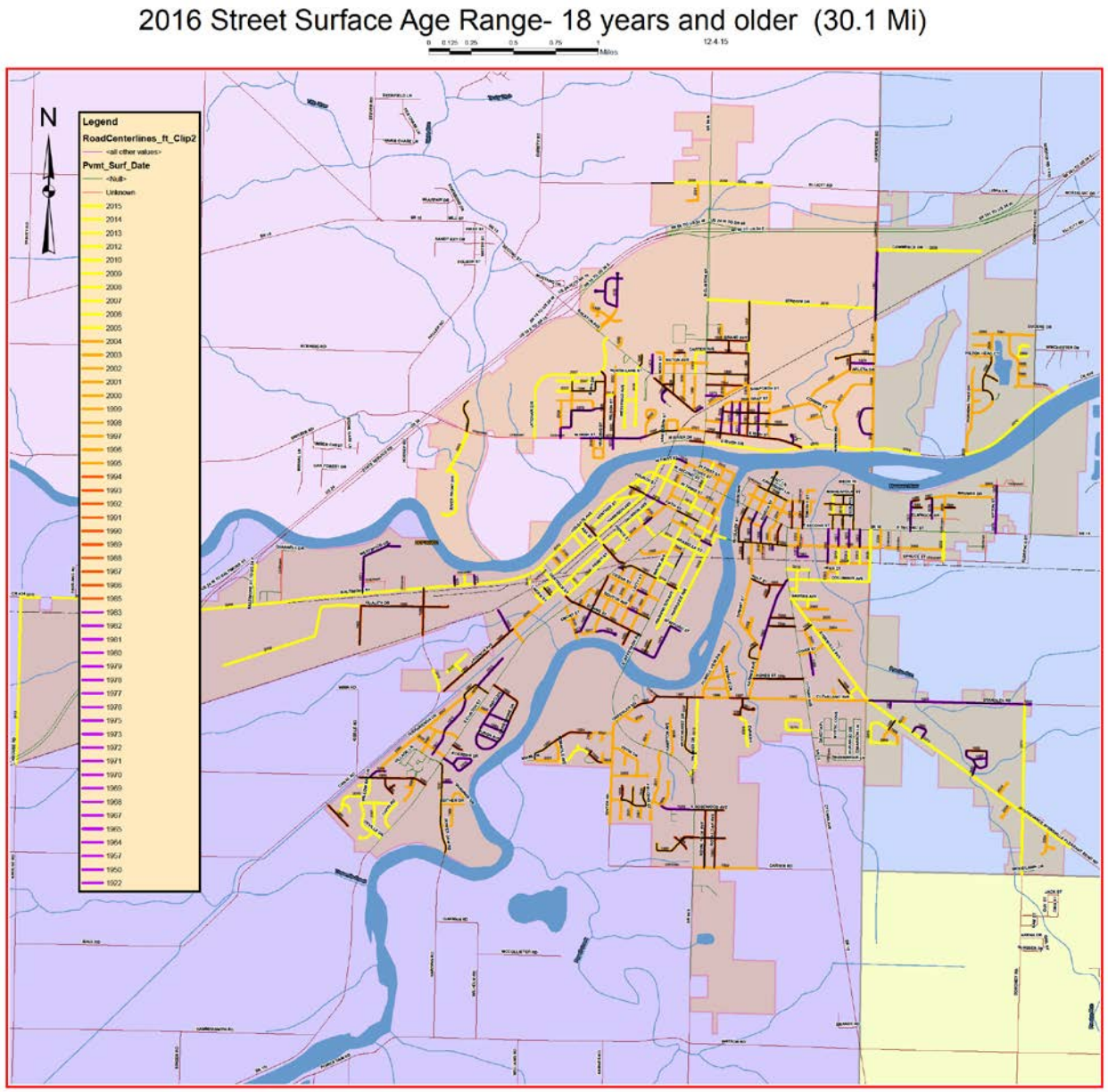
- **Currently 30.1 Mi. backlog** of streets to resurface. (based on approx. 20 yr. paving life)

- Our Backlog is Projected to grow an additional 25.8Mi. over the next 5 years. This growth can be limited to 9.8Mi., or 39.9Mi. total backlog, if we follow our 4Mi./yr. Resurfacing & 2.4Mi./yr. microsurfacing schedule.



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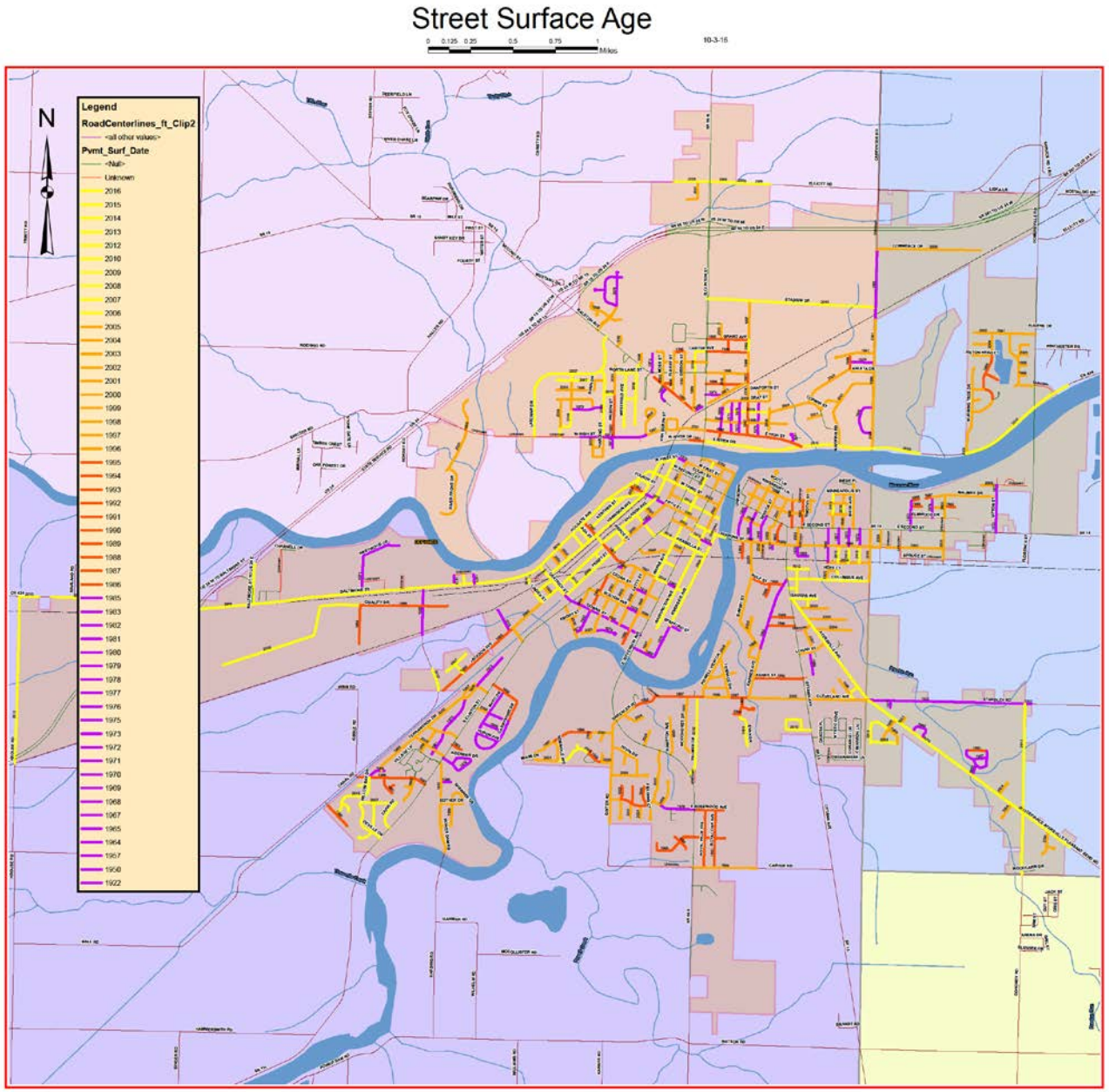
- Current projected rate of rehabilitation 2.7 Mi. of streets per decade (based on decade of 2000-2010)

- Required Budget $429,000

- Current planned funding $0



Streets with Curbs

- 127.9 Mi. of city streets
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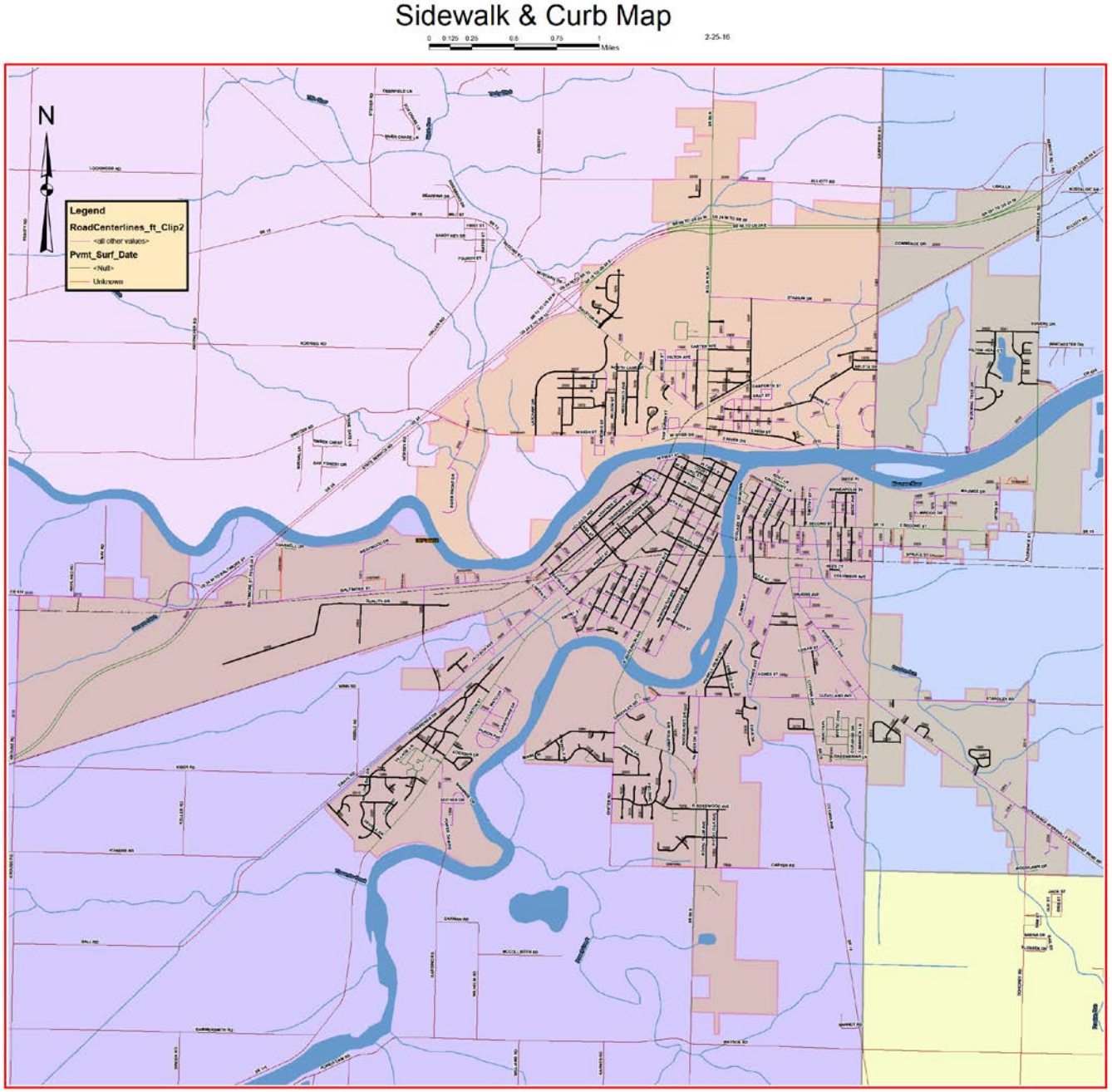
- 44.7 Mi. of streets have curbs

(not including state routes or private streets)

- Total Assets cost: $21,713,472 (50% @ $55/LF and 50% @ $35/LF cost, remove and replace curb on both sides of the street.)



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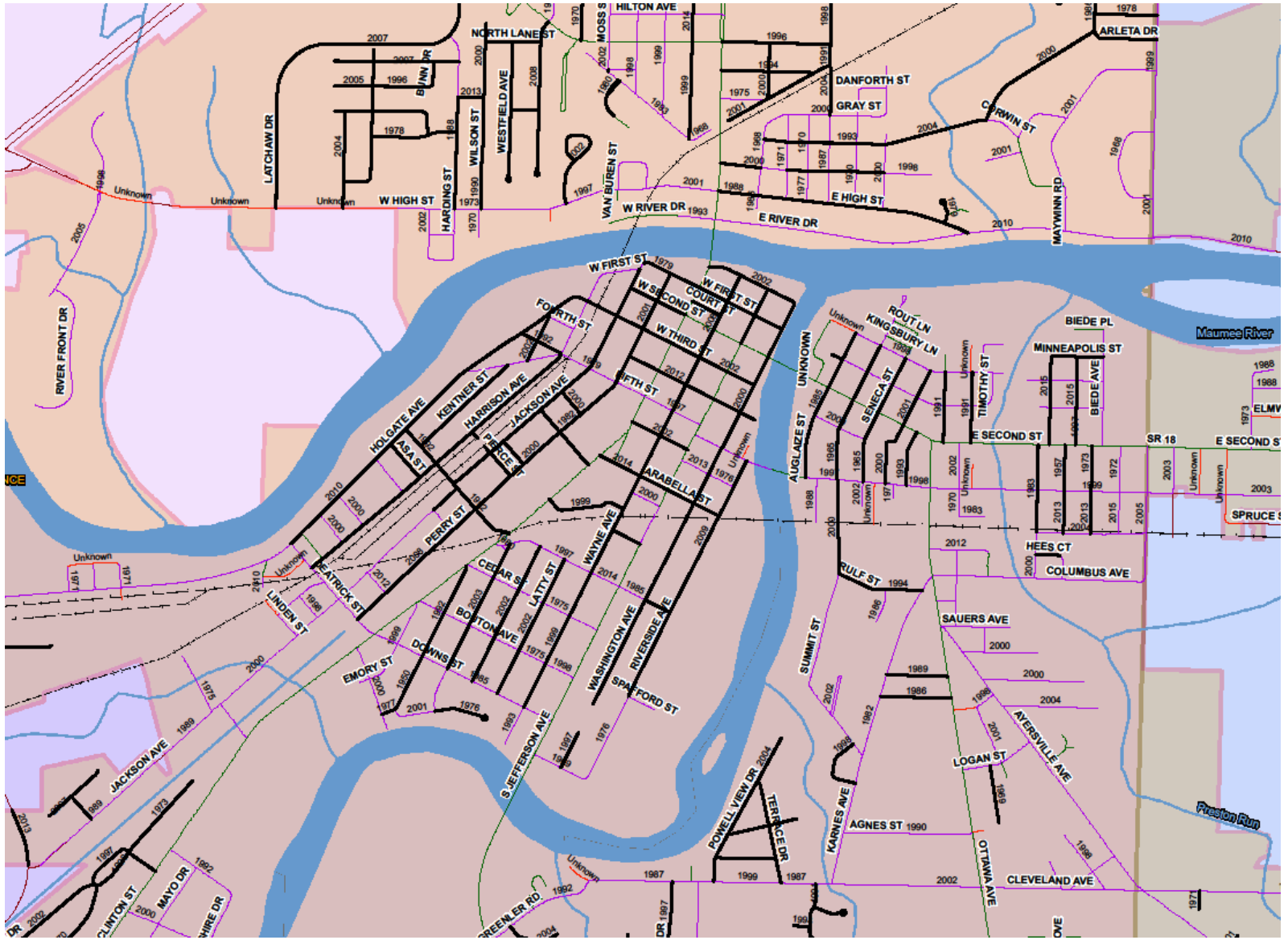

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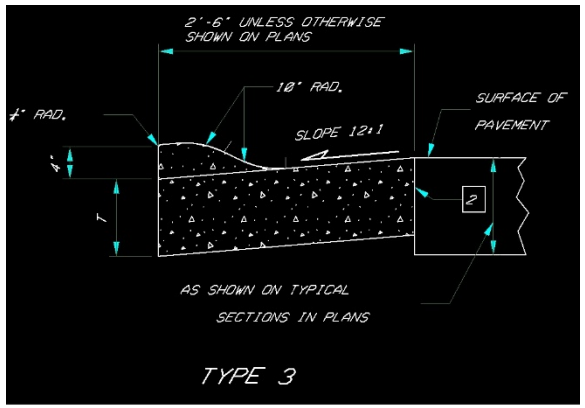
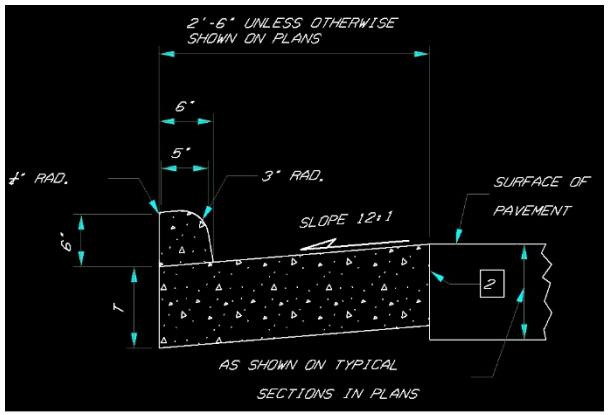
Curb & Gutter removal and replacement- Fairlawn St.

Curb & Sidewalk removal and replacement- Arabella St.

Exist. Curb Types & Failures

Existing Roll Curb & Gutter

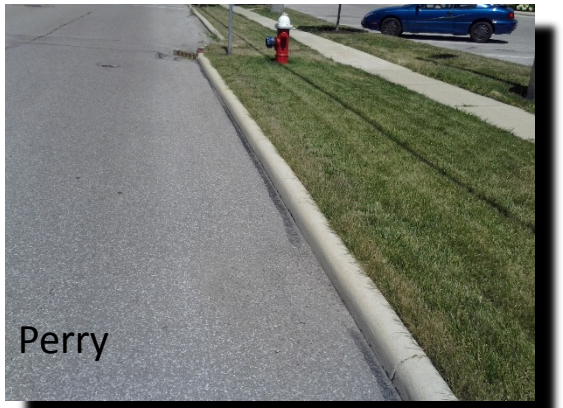


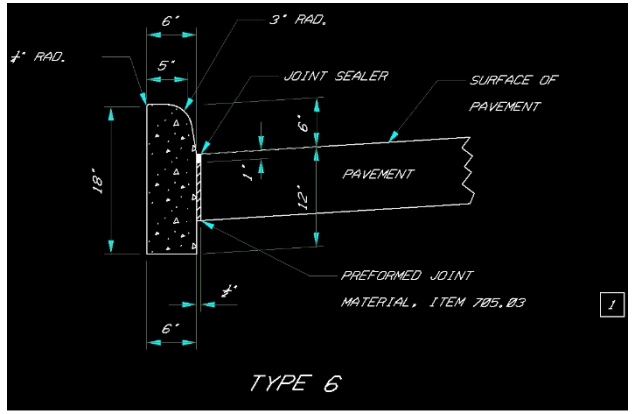


Existing Standing Curb & Gutter

Exist. Curb Types & Failures

Existing Straight Curb





Streets with Curbs

- 127.9 Mi. of city streets
- 95.3 Mi. 100% city responsibility
- 30 Mi. Private or shared responsibility

- Currently in the process of surveying the curb condition for all curbed city streets.

- 35-50 yrs expected curb life.

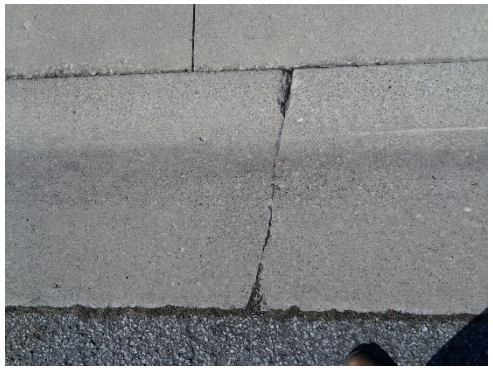
2010 (5yrs) Defiance Crossing

1995 (20yrs) Inverness

1975 (40yrs) Wilson St

2005 (10yrs) Maumee Riv Cross.

1990 (25yrs) Edgewood



1965 (50yrs) Northwood

2000 (15yrs) Burning Tree

1985 (30yrs) Precision Way

Streets with Curbs

- Summary: Age & deterioration percent

Street Name	Pct Def	LF Curb	#Pcs	rplcd	#Def	Cracks	Chips	Jt. Spawl
2010 5 yrs Defiance Crossing	3%	3634	352	0	9	6	3	0
2005 10 yrs Maumee Rvr. Crsg	5%	7100	687	0	33	23	10	0
2000 15 yrs Burning Tree	8%	3572	370	0	30	10	15	5
1995 20 yrs Inverness	8%	1704	170	0	15	1	9	4
1990 25 yrs Edgewood	10%	1274	123	3	9	3	3	3
1985 30 yrs Precision Way	29%	5374	520	32	119	10	36	73
1975 40 yrs Wilson St	49%	4468	447	41	176	24	13	129
1965 50 yrs Northwood	48%	2660	266	46	81	22	16	43

Streets with Curbs

- 127.9 Mi. of city streets
- 95.3 Mi. 100% city responsibility
- 30 Mi. Private or shared responsibility

- Budget Cost:

  75 yr. life expectancy

  50% C&G 44.7 Mi @ $55/LF=$173,078

  50% straight curb 44.7 Mi @ $35/LF= $116,435

  total= **$289, 513/yr.**

- We should be replacing .3 centerline Mi. of street per year.
- Currently asking for $21,000/yr., budgeting $0.

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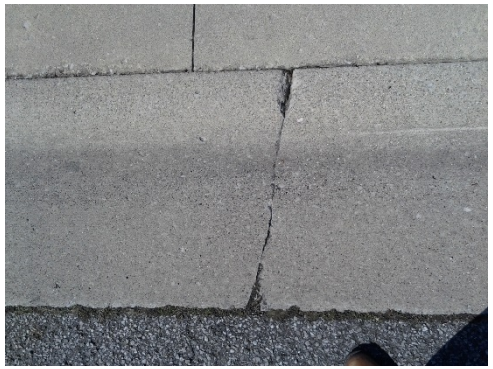

1965 (50yrs) Northwood

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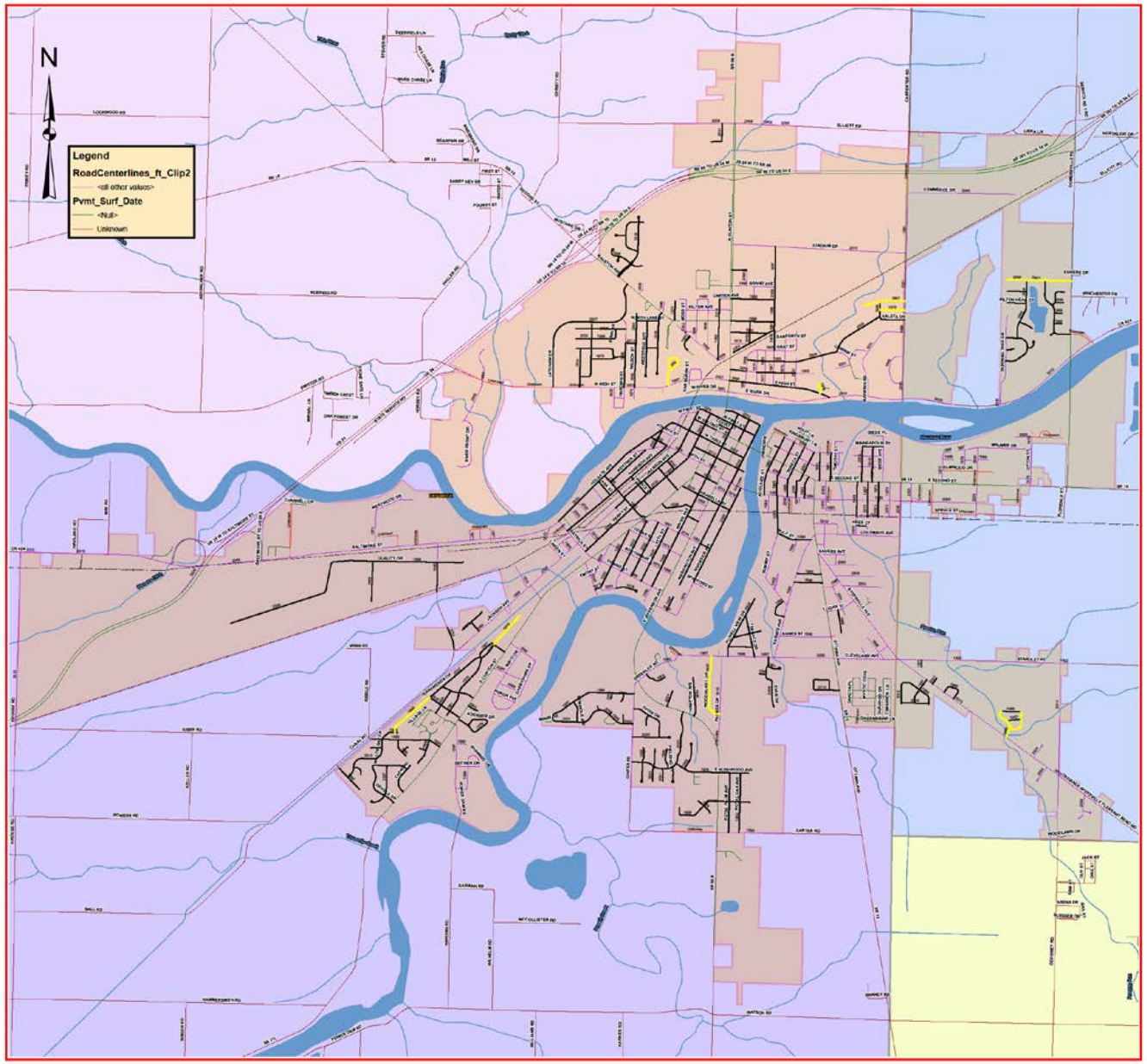
Streets with Deteriorated Curbs

- Streets with Known Curb and Gutter deterioration:

Pinehusrt	1976	40yrs
Woodhurst	1973	43
Ruth Ann	1971	45
Edgewood	1967	49
Sunset	1965	51
Terrawanda Dr. S	1964	52
Terrawanda Dr. N	1956	60
Elliott Lane	1957	59
Northwood	1965	51
Wilson	1975	41
Ralvan	1964	52
Tanglewood	1967	49

- Cost

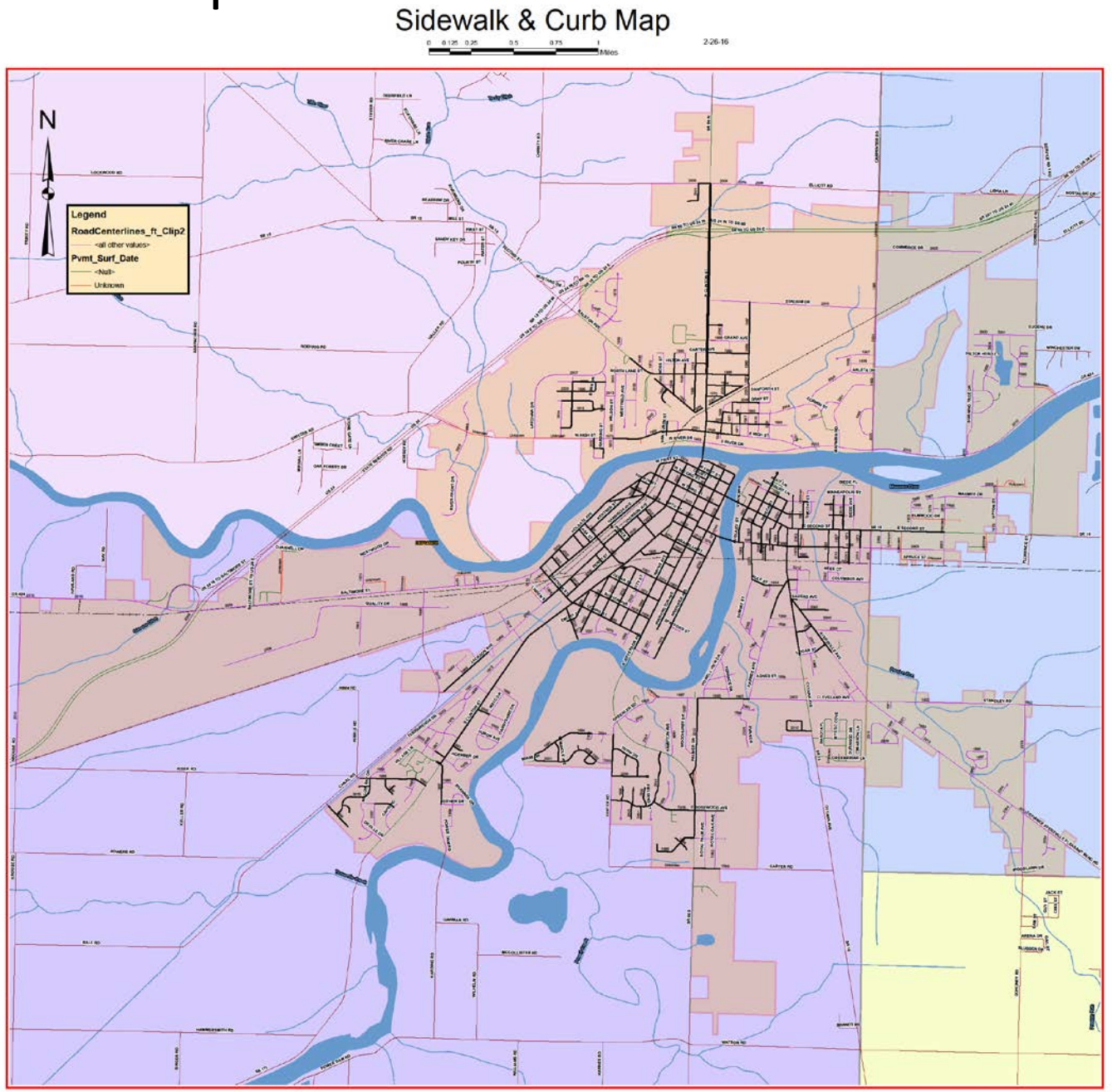
2.9Mi x 2= 5.9Mi @ $55/LF= $1,713,360



Sidewalks & ADA Curb Ramps

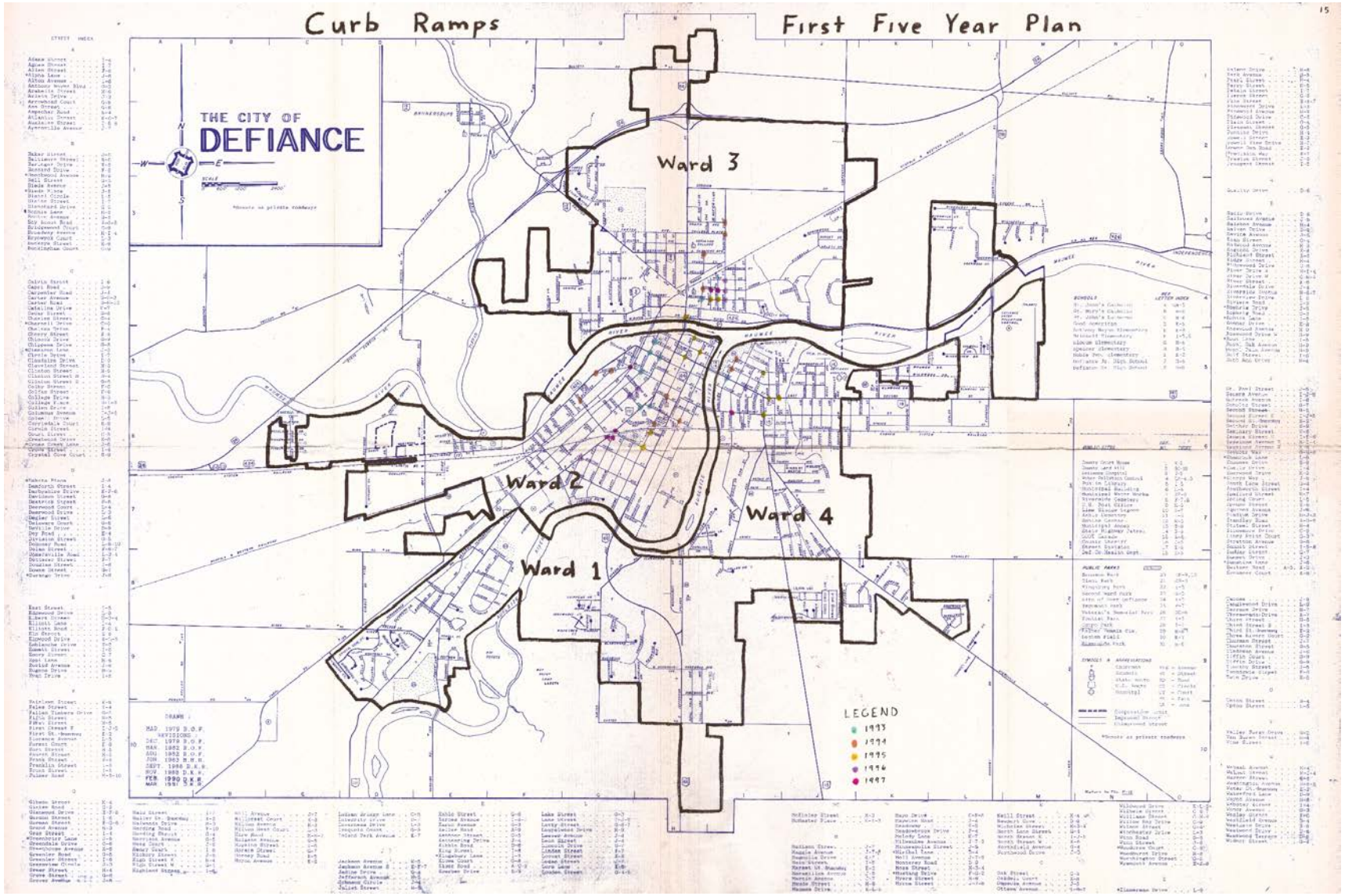
- 44.2 Mi. of streets have sidewalks (approx. 35% of 127 mi. of city streets) Includes State Routes but not Private Streets.

- Total Assets cost: $28,005,120 ($12/SF cost, remove and replace, 5’ wide walk on both sides of the street.)



ADA Curb Ramps

- Ordinance 2174, 12-15-92, established the Curb Ramp Transition Plan.
- Plan covered 15 years worth of ramp installations, 1992-2007, 26 ramps/yr, at $15,000/yr. with first 5 yrs located on the map, for a total of 390 ramps to be installed.
- No Ramps locations were identified for Ward 1.



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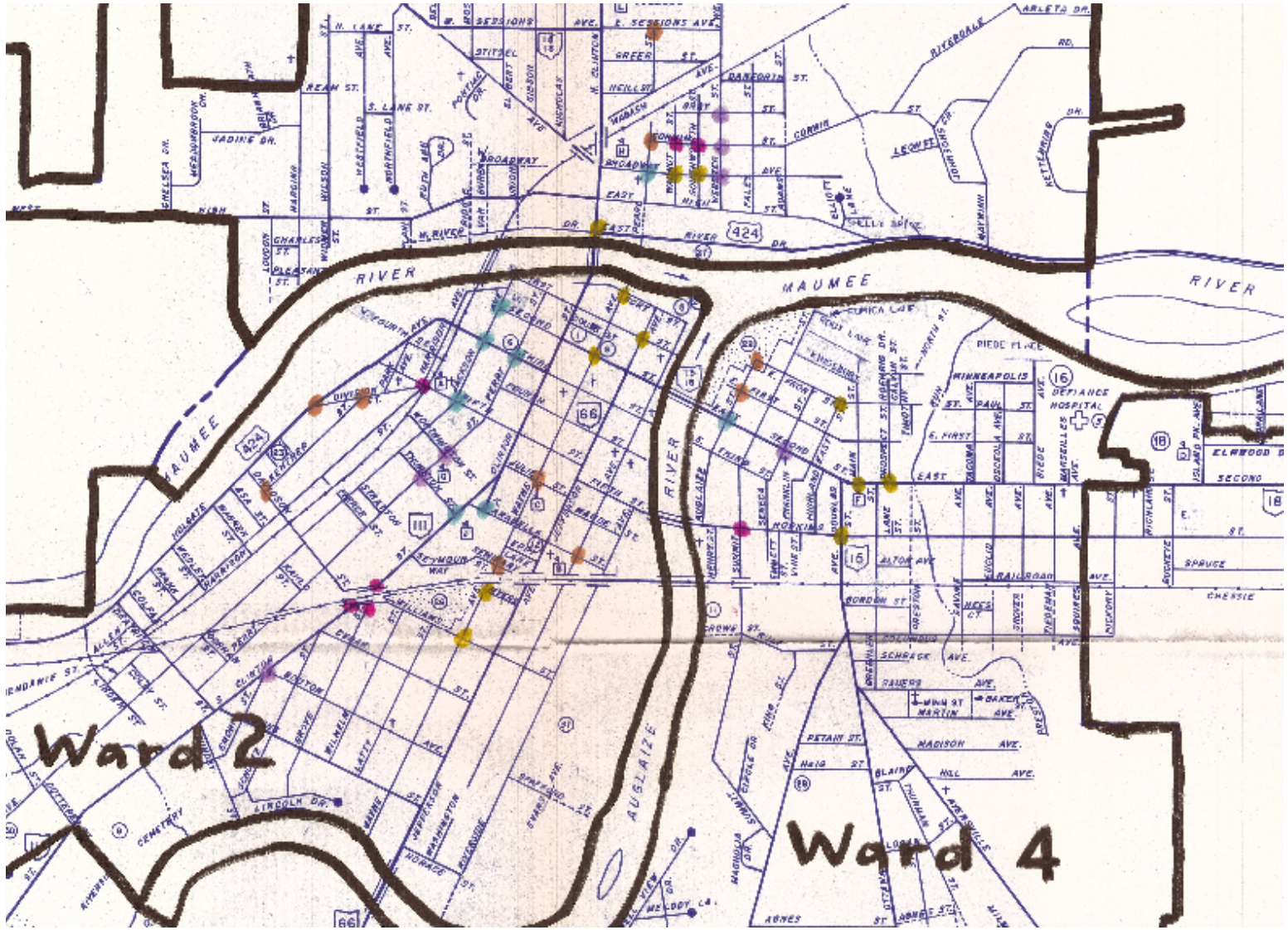

ADA Curb Ramps- Existing Access Conditions- **non compliant**

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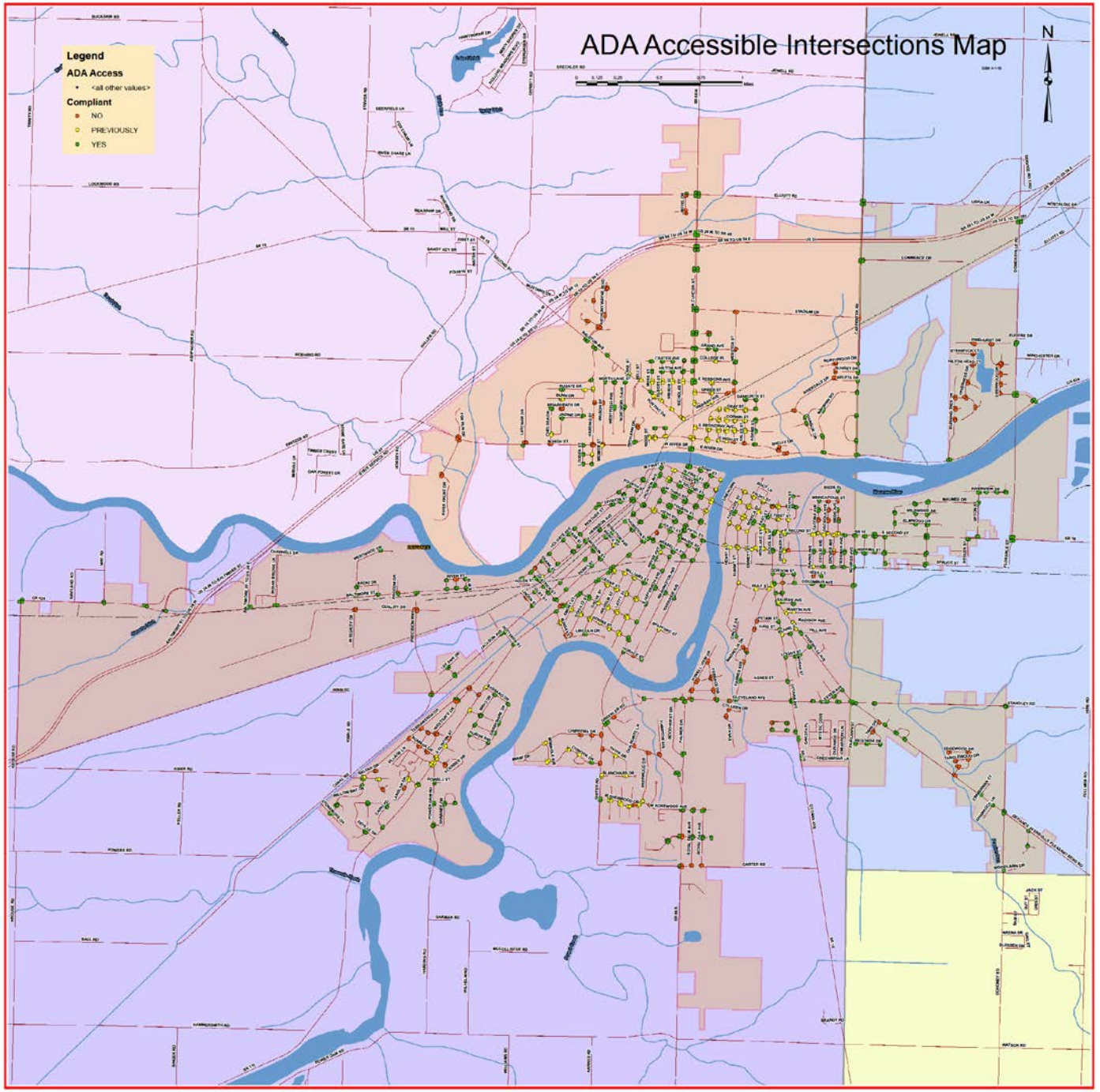
ADA Curb Ramps

- 2017 is the 25th year anniversary for the ADA Accessibility Law. The Federal Gov. is making a push to have local agencies re-evaluate where they are with implementation of ADA Access requirements, via the Transition Plans.

- Transition Plans mandated for all agencies with more than 50 employees.

- Plan should identify all intersections needing accessible upgrades, via a survey assessment.

- Plan needs to include a schedule of the upgrades along with budgeted cost.



ADA Curb Ramps

- Current Status: 606 intersections, 1670 access points, potentially 3340 access ramps. (estimate +/- 900).

- 1670 access points:

  295 non compliant

  470 previously compliant

  905 compliant

- Projected Cost:

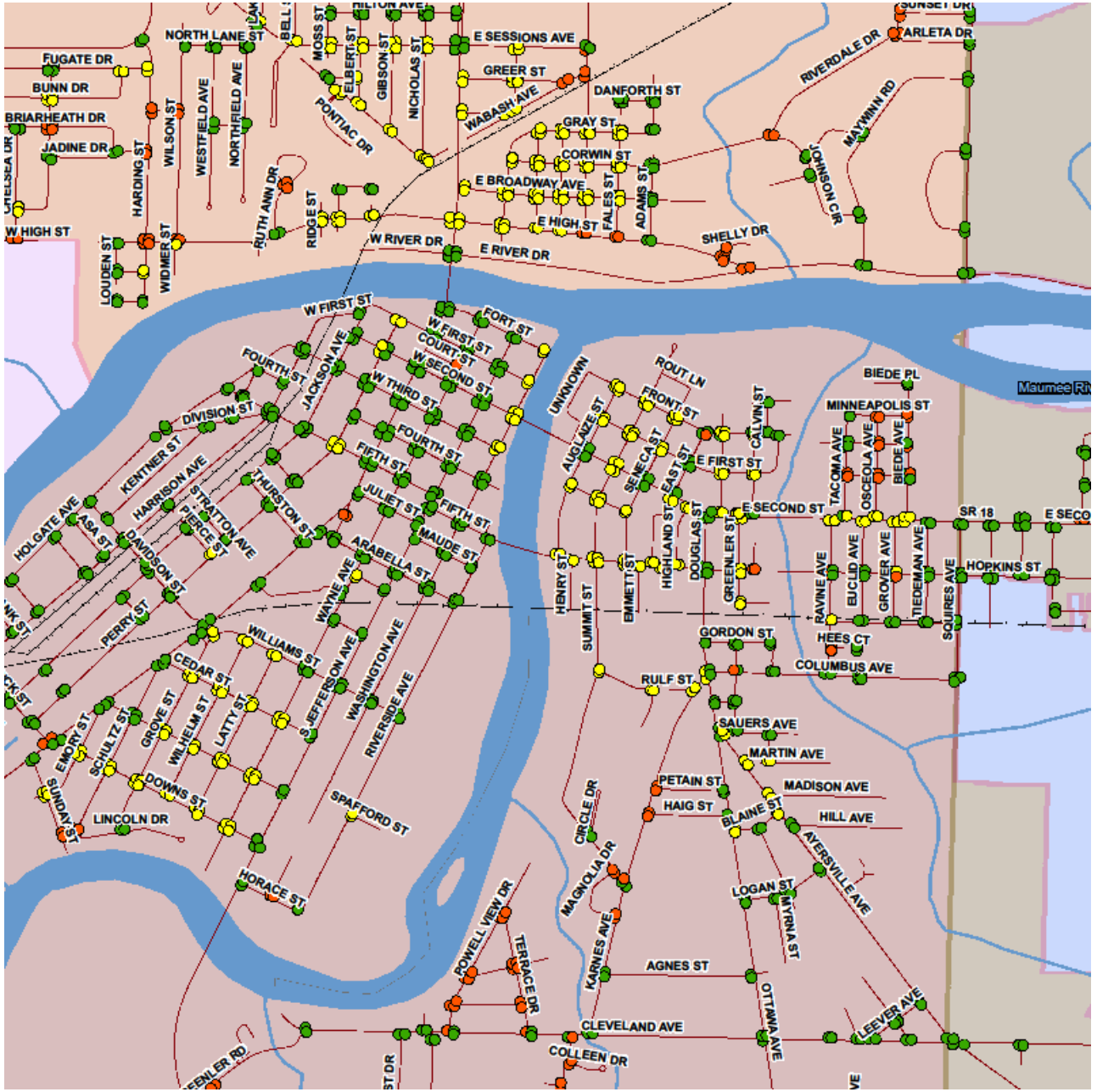
  295 @$600/each=$177,000

  470 x .75=353@ $1500/ea=$529,500

  total= **$706,500**

- Propose 25yr. Program: 2017-2042

  353 points/25yrs. = 14 Access point nstallations/yr. = **$21,000/yr.**



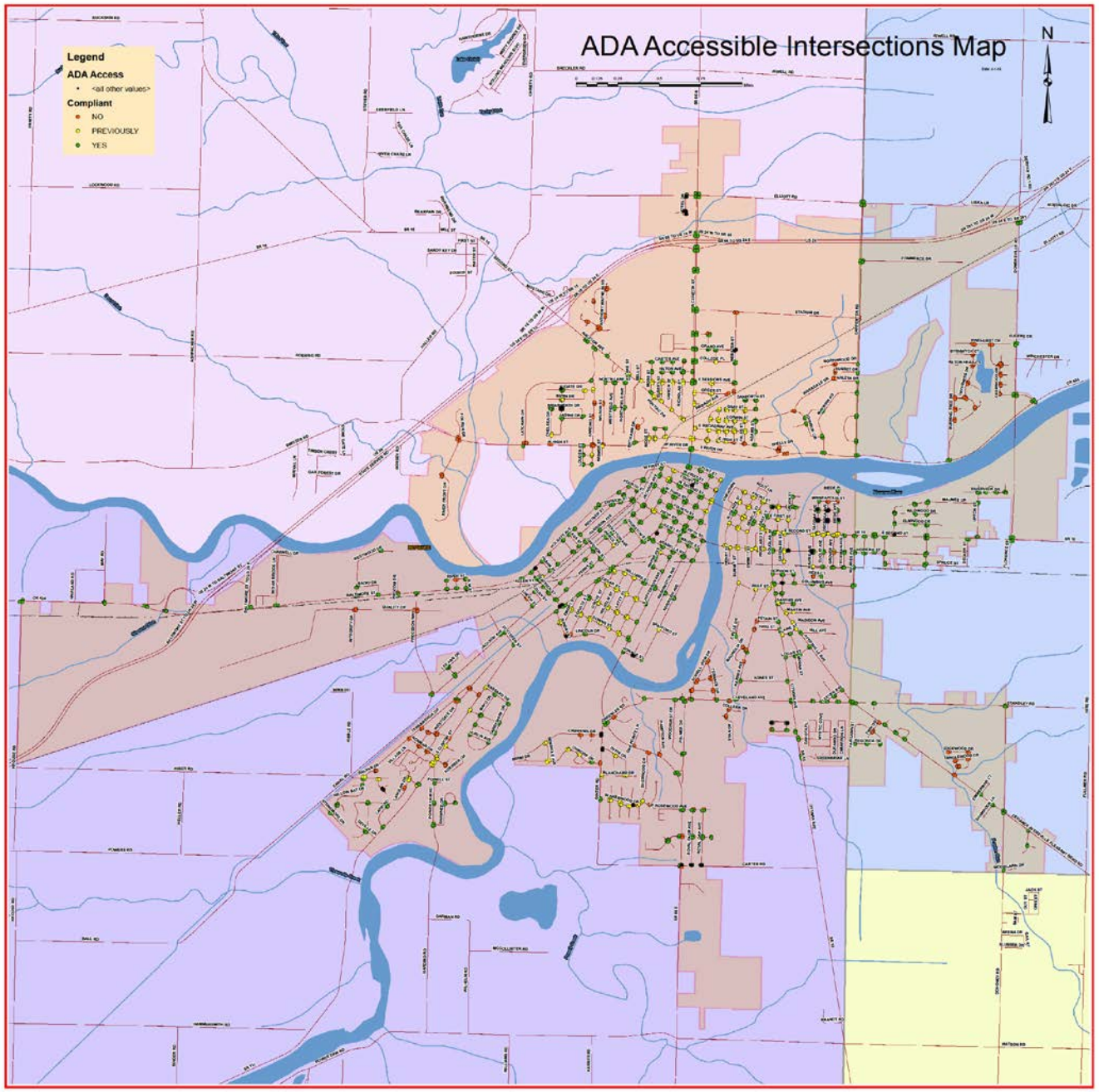
ADA Curb Ramps

- Strategy for 2017: Use CDBG money ($120,000) to update 40 access points, approx. 80 (80 @ $1500/ea= $120,000) ramps to be installed.
- Prioritize by:

  1) Areas that have sidewalks but are not currently compliant. (Red Points)

  2) Areas that have sidewalks and were previously compliant, but are no longer compliant. (Yellow Points)

- This would take care of 17% of our current deficiencies, or 5.7 years worth of our proposed 25 year program.



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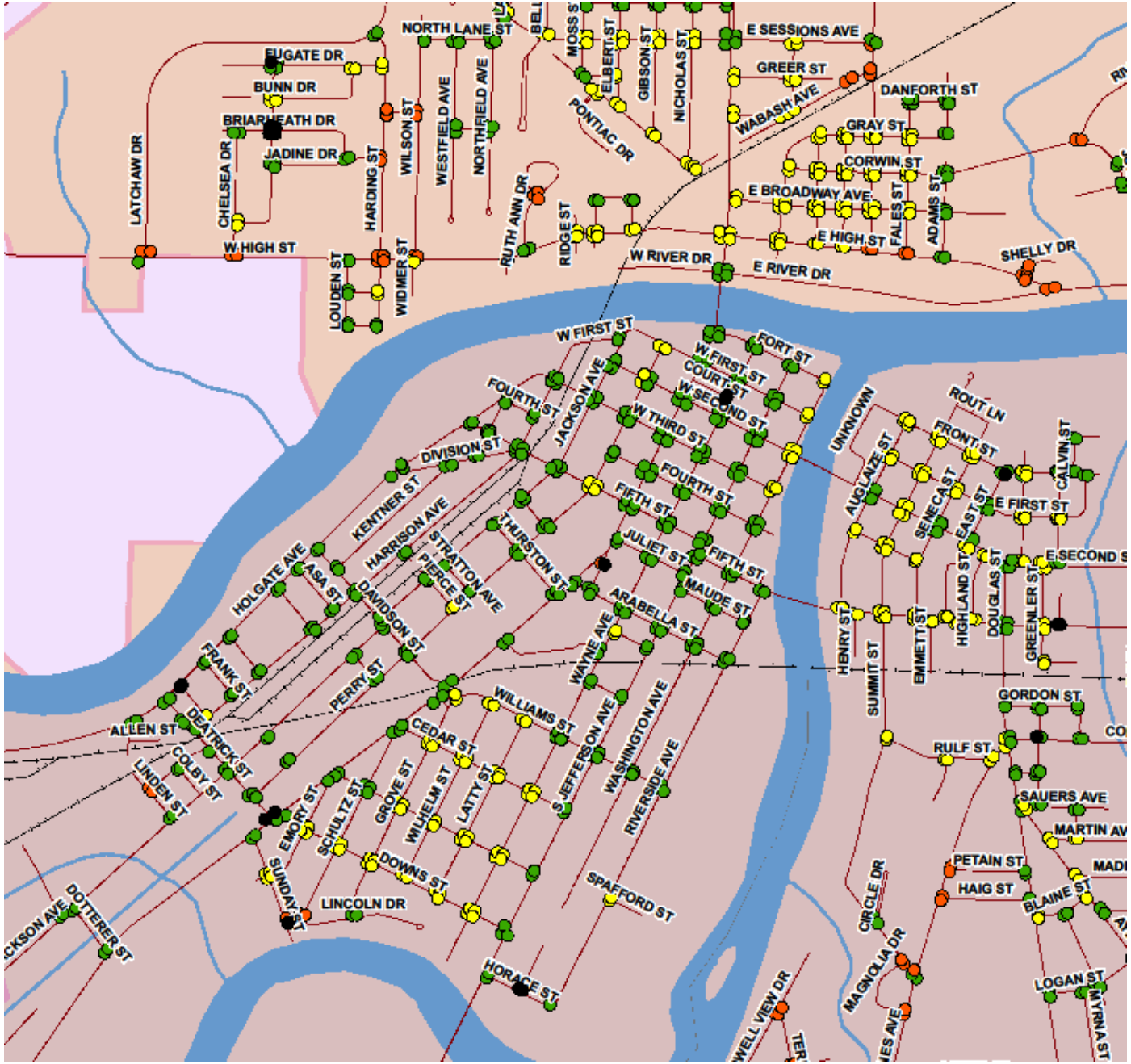

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- Budget Cost: **$854,000/yr.**
  (does not include extensive curb or street rehabilitation)

- Currently funding around $350,000

Street Rehabilitation

- Current projected rate of rehabilitation 2.7 Mi. of streets per decade (based on decade of 2000-2010)

- Projected Cost: **$429,000/yr.**

- Current planned funding $0

Curbs

- Projected Cost:

  75 yr. life expectancy

  50% C&G 44.7 Mi @ $55/LF=$173,078

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  total= **$706,500**

- Propose 25yr. Program: 2017-2042

  353 points/25yrs. = 14 Access point install/yr. = **$21,000/yr.**

Street Surface Infrastructure Management Questions?

- Surface Components include:
- Streets
- Sidewalks
- Curbs