DPW Residential Street Paving Program

2008 Comptroller's Audit Report requested by the Common Council

Summary:

The Milwaukee residential streets are on average in fair condition but getting worse

Recommendations:

5 Programmatic recommendations

28 further recommendations

Response:

Ongoing - Update

5 Programmatic Recommendations

1) Establish an accurate total for residential street miles…
2) Expand use of the Pavement Management Analysis (PMA) to develop a Cost-Effective paving strategy…
3) Implement a paving performance monitoring and reporting process…
4) Develop and fund a revised ‘Preserve-First’ pavement management strategy…
5) Establish ongoing paving program oversight…

1) Establish an accurate total for residential street miles.

Totals provided

Total Street Miles

Local	908.9	
Collector	77.6	TOTAL CITY
Minor Arterial	223.3	MAINTAINED
Major Arterial	62.5	1,272.2 MILES
County Trunk Hwy	32.4	
State Hwy	40.6	TOTAL
Freeways	39.7	1,384.9 MILES

RoadLife database

2) Expand use of the Pavement Management Analysis (PMA) to develop a Cost-Effective paving strategy…..

The addition of the RoadMatrix to the PMA will assist in developing a Cost Effective and a PQI Triggered / Need Driven decision analysis.

3) Implement a paving performance monitoring and reporting process.

DPW continues providing comprehensive reporting to the Capitol Improvements Committee. This will be a continuous work in progress. Reports are dynamic and will change with time as needs are identified.

2013 Local Street Replacement Analysis

2013 Service Life Estimate (at $16M)

Existing pavements of Local streets :

Type:	Miles	% of total	Estimated life (years)	Replacement rate (miles/yr)*	Replacement pavement	Cost per mile	Amount needed per year
Composite (asphalt over concrete):	118	13%	50	2.4	reconstruct(45%)	$ 1,450,000	$ 3,426,930
Composite (asphalt over concrete):	136	15%	50	2.7	asphalt (55%)	$ 725,000	$ 1,977,075
Flexible (asphalt)	145	16%	60	2.42	asphalt	$ 725,000	$ 1,757,400
Macadam	82	9%	85	0.96	asphalt	$ 750,000	$ 721,853
Rigid (concrete)	427	47%	65	6.57	asphalt	$ 700,000	$ 4,600,938
Totals	909	100%		**15.05**			**$ 12,484,196**

* = number of miles/assumed life

Rehab cycle 60.40

Existing pavements of collector streets :

Type:	Miles	% of total	Estimated life (years)	Replacement rate (miles/yr)*	Replacement pavement	Cost per mile	Amount needed per year
Composite (asphalt over concrete):	14	18%	47	0.3	concrete (50%)	$ 1,450,000	$ 433,149
Composite (asphalt over concrete):	14	18%	47	0.3	asphalt (50%)	$ 725,000	$ 216,574
Flexible (asphalt)	17	22%	60	0.29	concrete	$ 1,450,000	$ 414,700
Macadam	4	5%	100	0.04	asphalt	$ 750,000	$ 29,250
Rigid (concrete)	29	37%	60	0.48	asphalt	$ 700,000	$ 336,700
Totals	78	100%		**1.40**			**$ 1,430,373**

Total Locals and Collectors — Rehab cycle 55.58 — $ 13,914,570

* = number of miles/assumed life

Rounded	$ 13,800,000
Advan. planning	$ 900,000
Maintenance	$ 1,300,000
total request	$ 16,000,000
LRIP funds	$ -
Capital reques	**$ 16,000,000**

updated 2-21-11 with even newer mileage

(feb 2012 local street replacement analysis updated for 2013 budget)

weighted cost per mile (locals)= $ 781,000.00
weighted cost per mile (collectors)= $ 1,179,750.00

2012 Arterial Street Replacement Analysis

2012 Service Life Estimate

Existing pavements of Minor Arterial streets :

Type:	Miles	% of total	Estimated life (years)	Replacement rate (miles/yr)*	Replacement pavement	Cost per mile	Amount needed per year
Composite (asphalt over concrete):	57.7	26%	30	1.92	reconstruct(80%)	$ 2,200,000	$ 4,231,333
Flexible (asphalt over concrete):	75.7	34%	30	2.52	asphalt (20%)	$ 1,600,000	$ 4,037,333
Rigid (concrete)	89.8	40%	55	1.63	asphalt	$ 1,600,000	$ 2,612,364
Totals	223.2	100%		**6.08**			**$ 10,881,030**

* = number of miles/assumed life

Replacement cycle 36.71

Existing pavements of Principal Arterial streets :

Type:	Miles	% of total	Estimated life (years)	Replacement rate (miles/yr)*	Replacement pavement	Cost per mile	Amount needed per year
Composite (asphalt over concrete):	21.9	35%	30	0.73	concrete (70%)	$ 2,700,000	$ 1,971,000
Composite (asphalt over concrete):	17.3	28%	30	0.58	asphalt (30%)	$ 2,000,000	$ 1,153,333
Rigid (concrete)	23.3	37%	55	0.42	asphalt	$ 2,000,000	$ 847,273
Totals	62.5	100%		**1.73**			**$ 3,971,606**

Total Minor and Principal Arterials — Replacement cycle 36.12 — $ 14,852,636

* = number of miles/assumed life

Rounded $ 15,000,000
Advan. planning $ 800,000

total need $ 15,800,000

2012 Capitol Request

weighted cost per mile (locals)= $ 1,600,000.00
weighted cost per mile (collectors)= $ 2,200,000.00

LCG 3-9-12

4) Develop and fund a revised 'Preserve-First' pavement management strategy.

- Street Maintenance will continue to preserve and extend the life of pavement. Treatments: Crack & joint filling, sealing, patching, and minimal overlays
- RoadMatrix – decision tree process includes street maintenance treatments

5) Establish ongoing paving program oversight.

The Capitol Improvements Committee is in place and is providing oversight.