Infrastructure Report

February 2012

Updated June 10, 2013

What is Infrastructure?

Infrastructure

- 48.3 Miles of Local streets
- 28.3 Miles of Major streets
- 8.7 Miles of M-Dot Trunkline
- 40.2 Miles of Alleys
- 75.9 Miles of Sidewalk
- 5.1 Miles of Trails
- 21 Traffic Signals
- 4,503 Traffic Signs

Infrastructure

- 93 Miles of Water Main
- 980 Fire Hydrants
- 1760 Valves
- 7689 Water Service Connections
- 6942 Meters
- 69 Miles of Sanitary Sewer
- 1844 Manholes

Focus on Streets

Infrastructure Policy

1. Asset Management Plan to ensure a systematic process of preserving, updating, and replacing assets - not a “Worst First” strategy.
2. Balance the needs of all users.
3. Manage infrastructure, including underground components, as a system.

Infrastructure Policy

- Sidewalks/Paths: 10% of annual $$
- Streets: 90% of annual $$
  - Local Streets: 60% of street funds
  - Major Streets: 40% of street funds
- Special Assessments: Streets & Alleys
  - Voluntary method for residents to “move to the head of the line”
  - City provides 50% match

Infrastructure Policy on Sidewalks

- First, repair what is broken
- Second, infill between areas
- Third, new extensions

- When reconstructing the street, include the sidewalk.

Goal on Streets

1. Achieve a “fair” or “good” PASER rating.
2. Repair/replace on a 20 year cycle.

PASER

- PASER = Pavement Surface Evaluation
- Streets evaluated annually
- PASER Scale:

  1-4 = Poor

  5-6 = Fair

  7-10 = Good

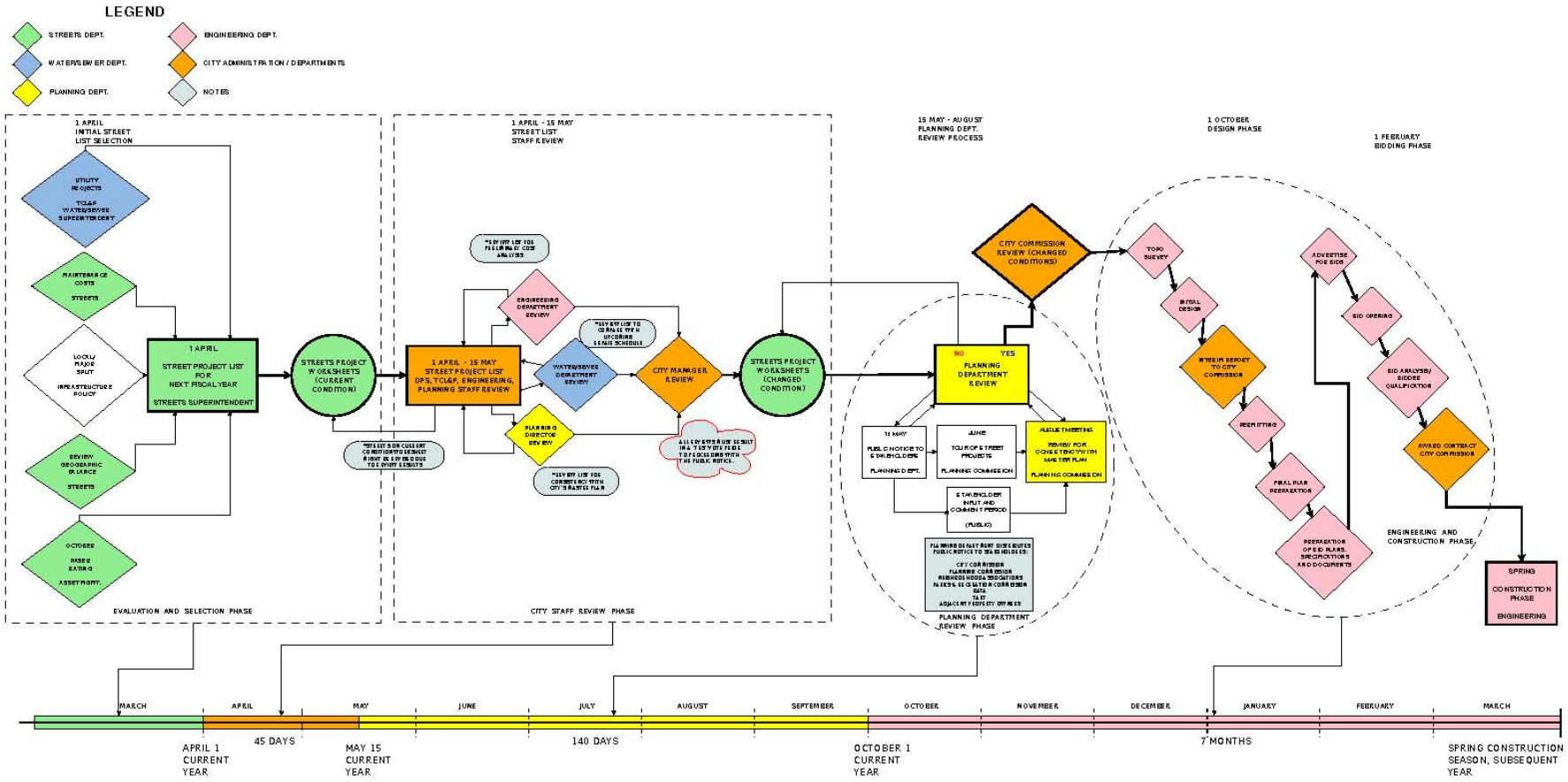
Explanation of Fixes

- Reconstruction
  - Total Replacement
- Rehabilitation
  - Surface Replacement
  - Mill & Fill/Crush & Shape
- Preventive Maintenances
  - Surface Improvement/overlay
  - Cape Seal/Fog Seal and Overlay
- Maintenance
  - Performed by City Crews
  - Crack Seal/Infrared/Skip-patching

Current Funding

1. $1.25 Million General Fund.
2. $450,000 Water and $450,000 Sewer.
3. SID
4. MDOT
5. TIF
6. Grants

GENERAL FUND RESOURCES
STREET PROJECT SELECTION
FLOW CHART 4-05-11



Recent Capital Spending

Green affects PASER rating

Blue is other “infrastructure”

Black is other capital projects.

Capital Spending 2008

Railroad Avenue	$ 338,560
Wayne Street	$ 320,280
Paving	$ 358,020
N. Boardman Lake Trail	$ 986,582
Rec Authority Utilities	$ 312,260
DPS Truck Lift	$ 204,740
Hull Park Boathouse	$ 470,448
Children's Garden	$ 232,471
WTP Roof	$ 12,000
2008 Total	**$3,235,361**

Capital Spending 2009

Paving	$ 514,534
Sidewalks	$ 114,773
Wadsworth Culvert	$ 399,541
Park Place Sewer	$ 36,177
Mausoleum Ramp	$ 59,191
WTP Roof	$ 38,278
Old Town Deck	$7,932,325
2009 Total	**$9,094,819**

Capital Spending 2010

Paving	$ 733,800
8th Street	$ 874,170
Kelley Street Sewer	$ 137,000
SID Woodmere/Barlow Alley	$ 9,200
SID Pine/Locust Alley	$ 12,200
Sidewalks	$ 110,000
Signs and Signals	$ 142,000
Parking Lot H and K	$ 18,200
Fitzhugh Drive Check Valve	$ 18,700
WWTP VFD Pump	$ 32,800
DPS, WWTP, WTP Lighting	$ 73,207
DPS Roof	$ 54,800
2010 Total	**$2,178,777**

Capital Spending 2011

Elmwood Ave	$ 886,565
Randolph Street	$ 434,700
Barlow Street (N&S)	$ 417,550
Kelley Street	$ 174,800
Shawnee Street	$ 33,985
Bay Street Improvement	$ 44,350
Cape Seal Preservation	$ 387,700
Silver Drive	$ 405,000
Sidewalks	$ 113,750
Buffalo Ridge Trail	$ 270,050
SID Alley	$ 42,500
Eastern Ave. Retaining	$ 63,700
Senior Center Roof	$ 21,600
Garage Yard Paving	$ 163,000
2011 Total	**$3,459,250**

Capital Spending 2012

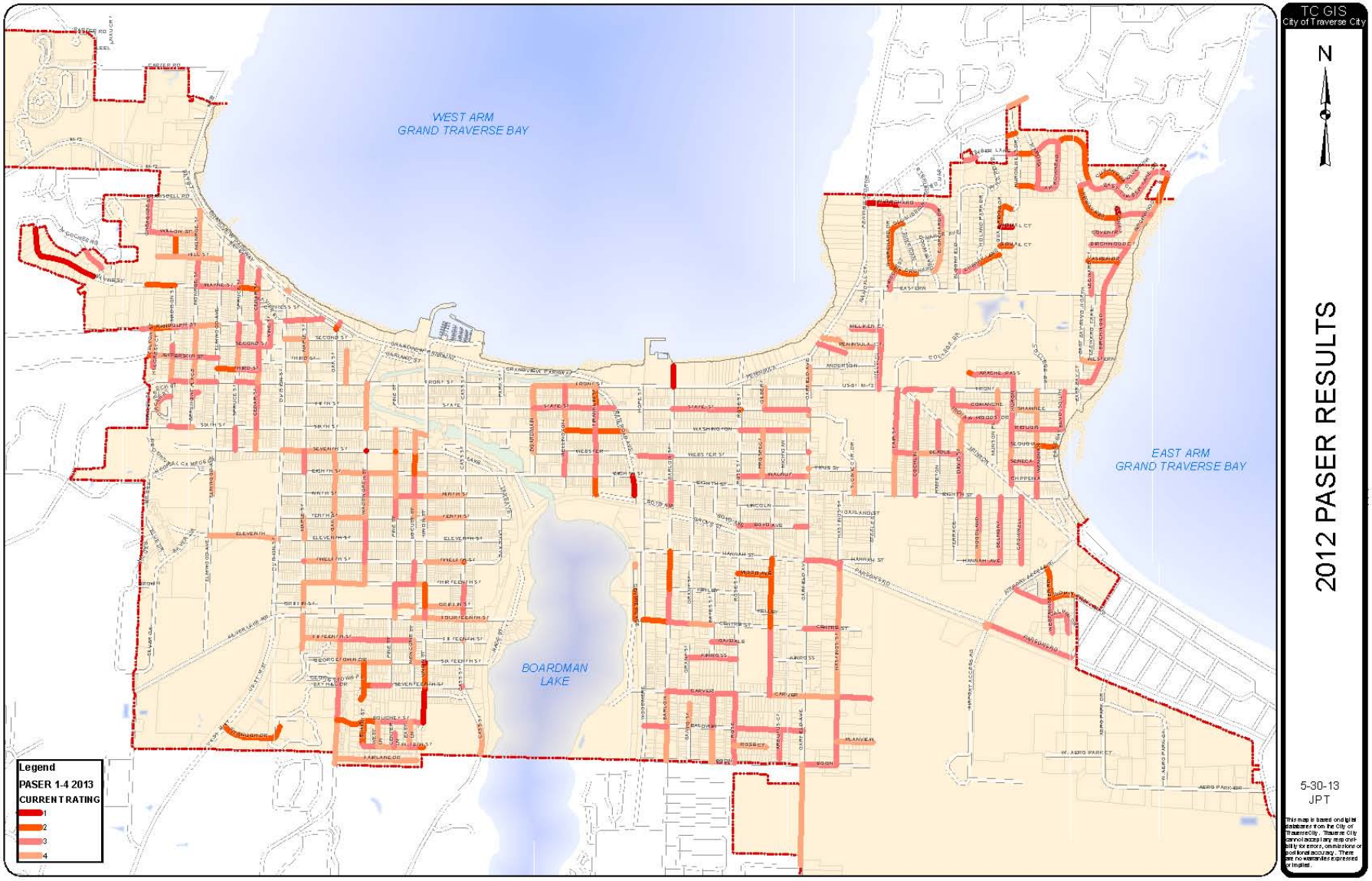
2012200 Block Alley Reconstruction	$131,800
2012400 Block Alley Reconstruction	$54,500
2012Silver Drive Phase 2	$660,000
2012Pine and State Street Reconstruction	$835,000
2012East Bay Boulevard	$340,200
2012N. Barlow Street (State-Front)	$62,100
2012E. Front Alley Drainage	$21,300
2012SID Alley	$22,100
2012Sidewalks, SID, Dog Park (Fall 2012)	$130,000
2012Marina Breakwall Repair	$57,200
2012Clinch Park Phase 1 (thru 12-31-12)	$480,000
2012Clinch Park Phase 2 (thru 12-31-12)	$70,500
2013East Bay Park Stormwater Treatment	$647,000
2012Bryant Park Stormwater Treatment	$213,800
2012Water Plant Pump and Chlorine Feed	$252,000
2012Hardy Parking Deck Maintenance	$165,200
2012Hardy Parking Deck Lighting	$118,700
2012Downtown Tree Replacement	$64,000
2012Opera House Roof	$105,100
2012Brown Bridge Dam Removal	$3,000,000
2013DPS Repair Shop Heating System	$39,000
2013Fire Station #1 Heating System	$48,000
2013Opera House Windows	$10,000
2012 Total	**$7,430,500**

Capital Spending 2013

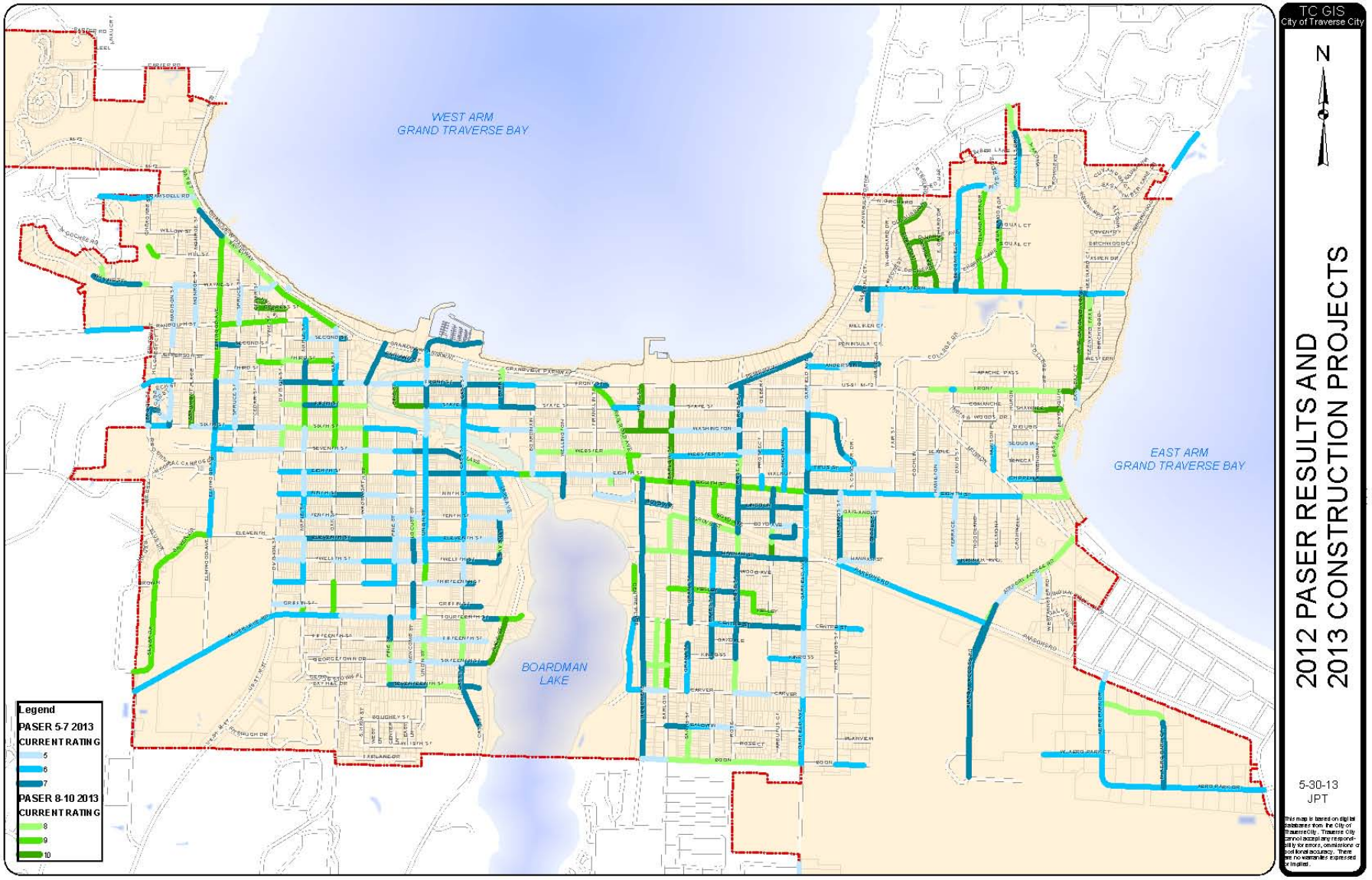
Old Mission	$93,000
Manor	$154,000
Eastwood	$272,000
Sheridan Road	$290,000
Western Street	$30,000
Washington Street	$220,000
Hope Street	$220,000
Fern Street	$16,000
Grove Street	$60,000
Cypress Street	$52,000
Xavier Street	$22,000
Bay Street SID	$220,000 *
Wayne Street SID	$402,000 *
SID Alley	$28,500
Total 2013	$2,079,500

* Fall 2013 Planned Construction

Paser Rating 1-4



Paser Rating 5-10



Explanation of Fixes

- Reconstruction
  - Total Replacement
- Rehabilitation
  - Surface Replacement
  - Mill & Fill/Crush & Shape
- *Preventive Maintenance*
  - *Surface Improvement*
  - *Cape Seal/Fog Seal and Overlay*

  (Think "pothole prevention")
- Maintenance
  - Performed by City Crews
  - Crack Seal/Infrared/Skip-patching

Thin and Ultra Thin Asphalt Overlays for Pavement Preservation

NW Pavement Management Conference

October, 2009

By Jim Huddleston, P.E.

Executive Director

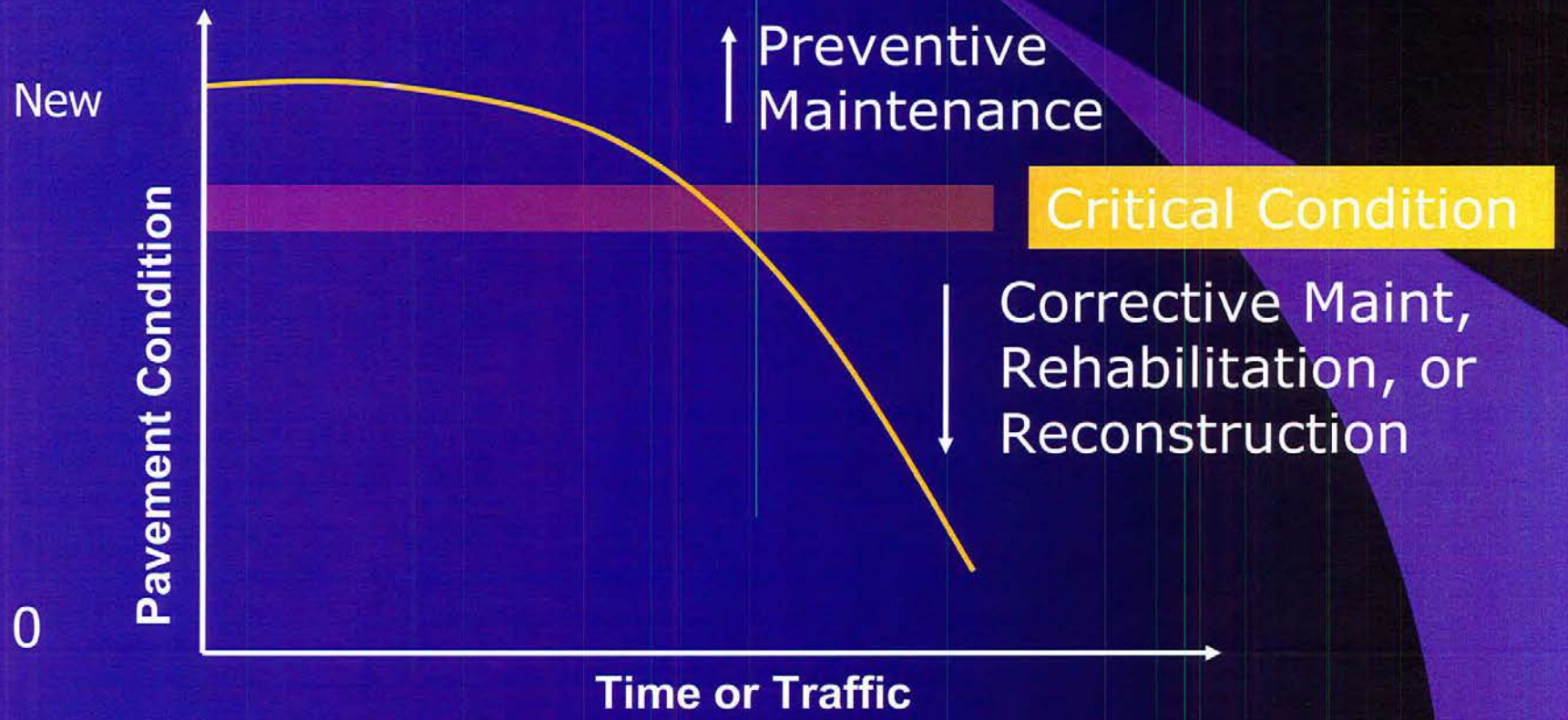
APAO

ASPHALT PAVEMENT ASSOCIATION OF OREGON

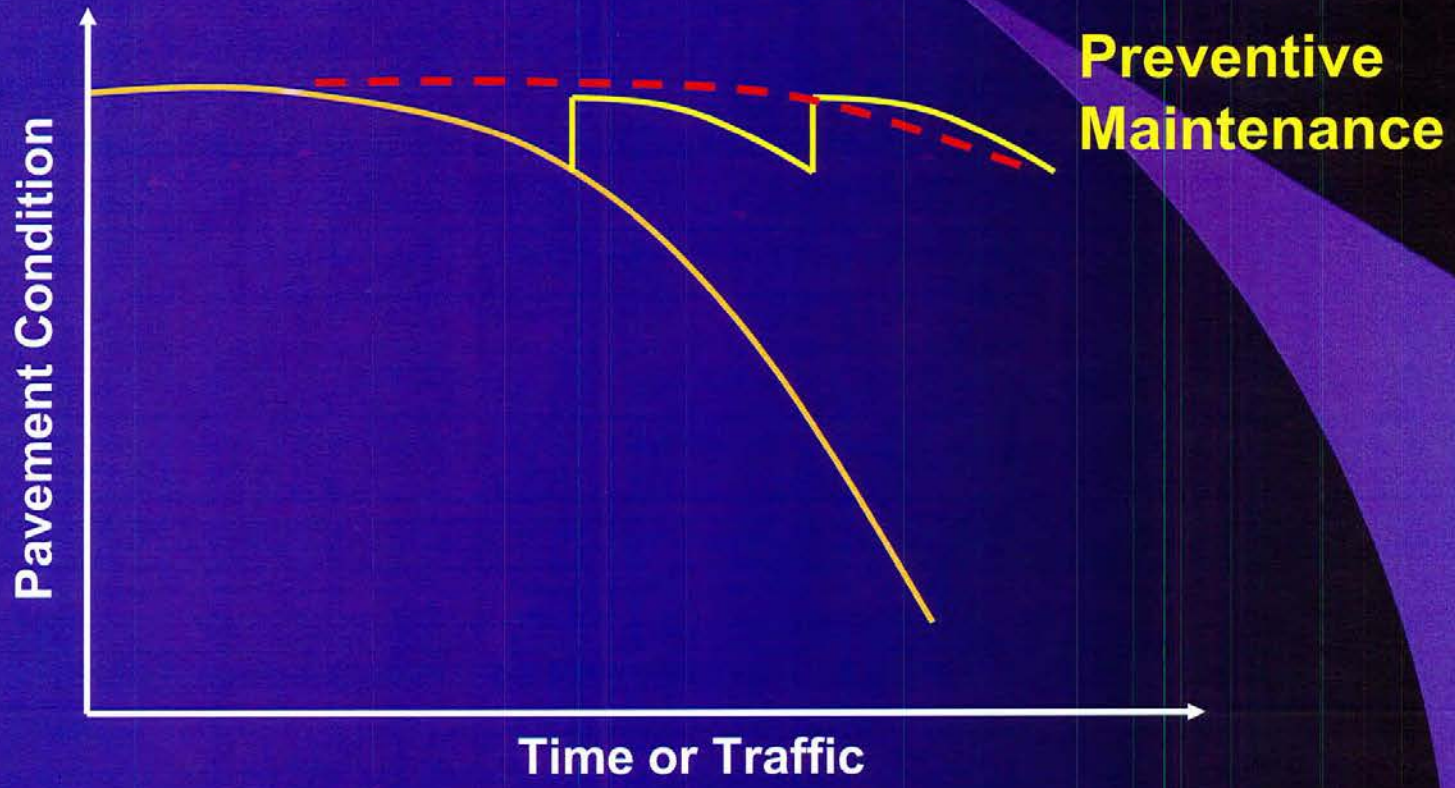
Preventive Maintenance

- Planned
- Performed on good pavements
- Contributes to long-term performance
- Examples: Fog Seal, Chip Seal, Thin HMA Overlay

Critical Condition



Preventive Maintenance



Ultra-Thin Overlay
Michigan Experience

Purpose:

- Protect the pavement structure
- Slow rate of deterioration
- Correct surface deficiencies
- Improve skid - resistance
- Improve ride quality (restores crown)

Michigan
Ultra-Thin Overlay

Close-up .75 in

Michigan DOT Reasons for use

Advantages:

- Improved ride quality
- Quiet
- Very smooth riding surface
- No excess stone buildups
- No broken windshields from loose aggregate

Michigan DOT Reasons for use

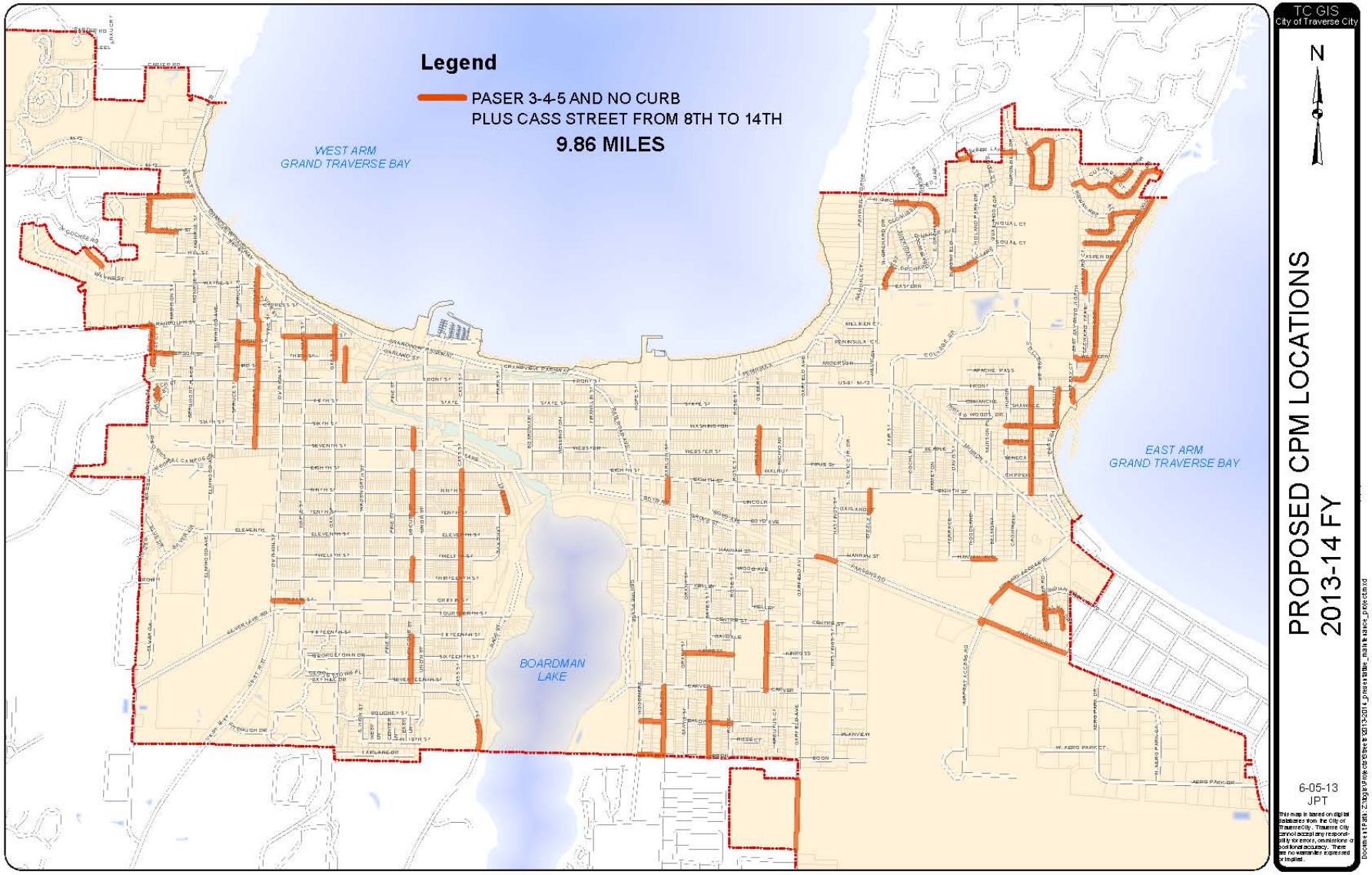
Advantages:

- Ease of construction, use standard paver
- Minimal construction time
- Don't have to adjust structures

Michigan
Ultra-Thin Overlay

US-127 - Ultra-Thin - 2005

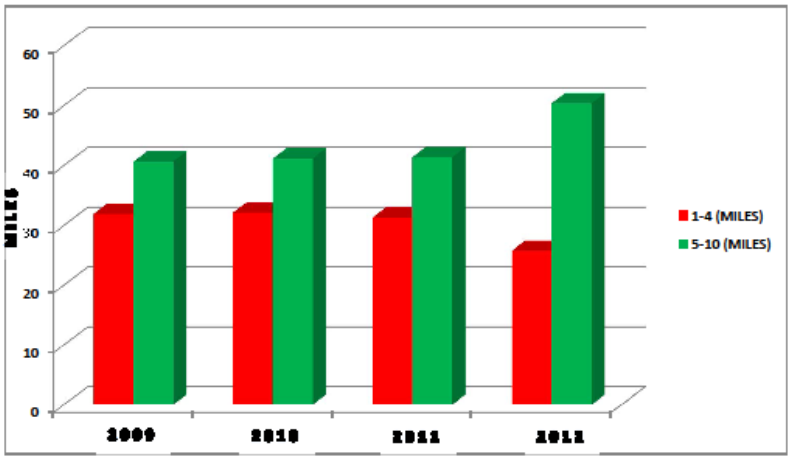
2013/14 Capital Preventative Maintenance (CPM)Projects



Condition Rating with Current Projects and CPM

6/5/2013

	PASER RATING	2009	YEAR 2010	2011	2012	
			MILES			
	1	0.695	0.695	0.695	0.634	STRUCTURAL
	2	4.427	4.530	4.463	3.422	REPAIRS
	3	15.409	14.999	14.696	12.038	REQUIRED
	4	11.380	11.902	11.436	9.674	
	5	8.603	8.619	8.915	9.041	PREVENTIVE
	6	11.116	10.965	10.831	11.025	MAINTENANCE
	7	10.490	10.346	10.464	10.966	OR NO
	8	5.175	5.603	5.885	6.216	TREATMENT
	9	4.129	4.493	4.026	5.269	REQUIRED
	10	1.151	1.151	1.251	7.869	
RATING	1-4 (MILES)	31.911	32.126	31.290	25.768	
RATING	5-10 (MILES)	40.664	41.177	41.372	50.386	
RATING	1-4 (PERCENT)	43.97	43.83	43.06	33.84	
RATING	5-10 (PERCENT)	56.03	56.17	56.94	66.16	
	TOTAL MILES IN TRAVERSE CITY ROAD NETWORK	72.575	73.303	72.662	76.154	



Utility Considerations

- Aged utilities often lie beneath street project site.
- Essential to maintain healthy utility funds so water and sewer repairs can keep pace with street construction
- Current annual utility budgeting is $900,000 for underground work

Stormwater

- Stormwater system is an orphan, there is no dedicated revenue stream.
- Stormwater contributes excessive sediment, nutrients, pathogens and toxins to the Bay and tributaries
- Costs are expensive

Stormwater

- The Watershed Center and City are working together to reduce stormwater impacts to the watershed.

- Grants from DEQ and EPA are helping to fund Best Management Practices.

Stormwater

- Stormwater, Asset Management and Wastewater (SAW) Grant this fall.

- Explore feasibility of passing a stormwater utility or other financial tool to fund stormwater improvements

- Research existing stormwater utilities in Michigan

Factors Impacting the Plan

- MDOT Small Urban Funds ($375,000 biennially)

- Governor's Transportation Fund Proposal

  $1.2 Billion + (distribution unknown)

Factors Impacting the Plan

- County Millage Proposal
  $700,000 +
- TIF Downtown and Corridor Projects
- Inflation
- MPO – 2020?

Bond Considerations

- Low bond rates are expected to stay until 2015 based on FED policy
- Bonding can accelerate the pace of street improvements using the current GF investment for debt payment.
- This would reduce GF flexibility.

Bond Considerations

- Bonding would add an estimated 10-15% to the cost of projects (interest and consultants for engineering, design, construction).
- The “input” process from the Planning Commission to the adjacent neighbors would need to stay on the bonding schedule.

Bond Considerations

- Would require similar water and sewer bonds.
- Would require a longer construction season to include July/August
- Would compound traffic detour issues

Bond Considerations

- Would enhance “user pay”.
- Have been under current process for a few years and have increased fair or better streets from 51% to 66%.

- Recommendation: revisit in spring of 2015