FINAL

Highway Outlay & Maintenance Program Review

Eau Claire County, Wisconsin

11/6/2014

Transportation Work Group

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ANALYSIS OF COUNTY ROAD & BRIDGE INFRASTRUCTURE

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Executive Summary

Introduction

The adopted 2014 Eau Claire County budget included recommendations for program reviews, including a review and analysis of the County's road and bridge infrastructure. The County Administrator appointed eight (8) members with broad backgrounds and expertise in transportation infrastructure, capital outlay, public finance, and public transportation policy to a Transportation Work Group that had its first meeting on February 26, 2014. The team was requested to conduct a review and analysis of the total long-term costs for the county road and bridge system, review options for decreasing total road mileage, options for reducing maintenance costs, and contracting options for maintenance work. In addition, it was requested that the group analyze funding options including issuance of promissory notes/general obligation bonds and the resultant debt service, county vehicle registration fee and other funding mechanisms.

The Transportation Work Group meetings were facilitated by Lance Gurney, Director of Planning and Development. The group met thirteen (13) times during a seven-month period to complete the analysis, evaluation, and recommendations. The analysis and evaluation required the group to use several criteria and assumptions including a data time base of January 1, 2014 and that it was the desire of the County Board that all roads have an improved surface.

History of County Highway System

In the early 1890's, years before the first gas-powered automobile appeared in Wisconsin, a movement to transform the state's county roads into decent thoroughfares began. An early step in the creation of the county road system occurred as a result of the 1907 County Highway Law. Under the 1907 law, any town could make an appropriation for road improvements and receive a monetary match from the County. Eau Claire County did not participate in the program. A broad coalition known as the "Good Roads Movement" formed to urge a new legislative approach to highway improvements. The citizens of Wisconsin passed a constitutional change in 1908, by a 71.3% vote, to permit the use of state aid for highways. The State Aid Law of 1911 required county boards to lay out an interconnected system of prospective state highways. The first county highway commissioner was appointed by the State Highway Commissioner in 1912 to oversee the county state aid work in the Town of Brunswick and the Town of Drammen.

The state legislature of 1925 enacted a new highway law which had a big impact on the County Trunk Highway (CTH) system. The law was primarily a financing measure to assure income to the meet the state's highway needs through registration fees and gasoline taxes. The law also changed the method for allocating funds to the County. An important feature of the law was a new section that provided for a system of County Trunk Highways. The County Board established the county trunk highway system by resolution on November 18, 1925 consisting of

214 miles. The system was increased by 43 miles, to 257 miles, in March, 1926. The County road system has evolved over the intervening 90 years and currently includes 418 miles of County Trunk Highways (CTH) and 2.7 miles of other roads, not on the CTH system, for a total of 420.7 miles. The CTH mileage has increased 63% since 1926 through petitions from the Towns, actions of the County Board, access to the county park system, jurisdictional transfers with local municipalities, and changes in the state highway system within the county.

The initial improvement to county roads consisted of grading, drainage, and ditching with a gravel/shale surface so that the roads could be "patrolled" and maintained on a regular basis by county personnel and equipment. The asphalt pavements prior to the 1930's were proprietary products, expensive and not long lasting. The equipment and technology to produce and lay down hot mix asphalt was developed between the 1930's and 1940's. It was not until after World War II and into the 1950's that a paved county road became the standard surface.

Highway System Mileage & Functional Classification

The total highway, road and street system in Wisconsin consists of 115,095 miles of which 1,590 miles (1.4%) are located within Eau Claire County. The state highway system consists of 11,766 miles which is an average of 163 miles (10.2%) per County. The state has jurisdiction over 150 miles (9.5%) in Eau Claire County, which is slightly less than the statewide average and surrounding counties (10.8%).

The County highway system in Wisconsin encompasses 19,865 miles, averaging 276 miles (17.3%) per county. Eau Claire County has 421 miles of county roads, which is roughly 50% more county highway mileage when compared to the statewide average. The municipal roadway system in the state covers 81,711 miles which is an average of 71.9% of the mileage per county. The municipal mileage in Eau Claire County is 1,001 miles (62.9%) or approximately 9% lower than the statewide average. In summary, Eau Claire County has a higher percentage of county highways and lower percentage of municipal highways than the average of surrounding counties and the statewide average. Through this analysis, Eau Claire County was also compared to benchmark counties that are similar in size, population and highway miles. This comparison confirmed that Eau Claire County's Highway System is larger than most counties, with approximately 80 additional county highway miles to maintain.

The percentage of County Trunk Highway (CTH) mileage compared to total roadway mileage in each individual jurisdiction ranges from a high of 52.9% in the Town of Otter Creek to a low of 1.6% in the City of Eau Claire. The majority (96.1%) of the County Trunk Highway system is located outside of municipal boundaries in the Towns.

Roadway functional classification is a system by which highways are grouped according to the character of the roadway use and service that they are intended to provide. Eau Claire County has 14.2 miles (3.4%) classified as Arterial, 257.7 miles (61.2%) classified as Collector, and 148.8 miles (35.4%) classified as "Local". In several towns, the percentage of "Local" roads under the responsibility of the County exceeds 20%, which is greater than the percentage classified as

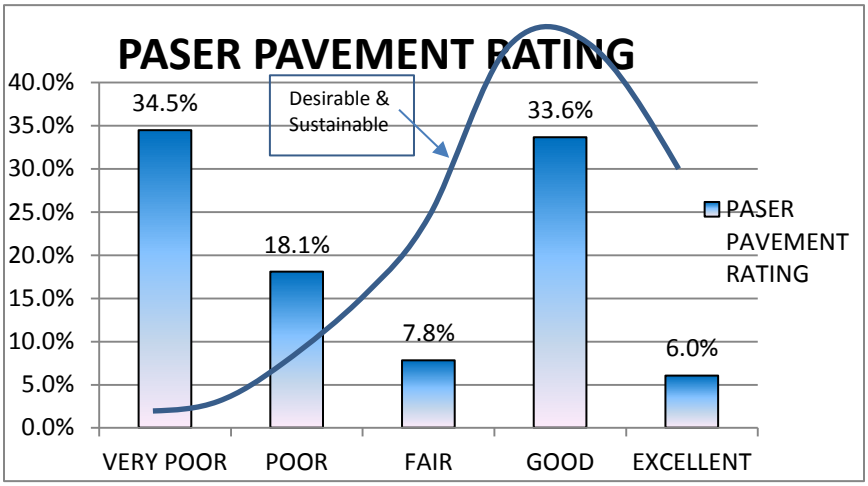
Collector. Eau Claire County has a relatively low number of Arterial miles and a subsequently large number of highways classified as Local when compared to the benchmark counties.

A large majority (70%) of the total mileage owned and maintained by Eau Claire County has an Average Daily Traffic (ADT) of 400 vehicles per day or less, while 18% have an ADT of 1,000 vehicles or more per day. The Eau Claire County highway system consists of a high percentage of Local highways with relatively low daily traffic volumes.

Highway Pavement Conditions (PASER Ratings)

In order to qualify for state transportation aids, local units of government must use some sort of a pavement management system. The most popular system used by many jurisdictions in Wisconsin to define the overall condition of a highway network is the Pavement Surface Evaluation and Rating (PASER) system, which is administered by WisDOT and utilized by 70 out of 72 counties. The PASER system uses a visual inspection with a 10-point scale that rates the condition of the highway pavement, from Very Poor or Failed to Excellent, with 10 being the best and 1 being the worst. Highways are inspected by County personnel every two years (last completed in the fall of 2013) which is the basis for the analysis in this report.

The 2013 ratings indicate that 6% (25 miles) of the County road system are in Excellent (9-10) condition and that 34.5% (141 miles) are in Very Poor to Failed (1-2) condition. More than half (220 miles or 52.6%) of the County road system is rated Poor or worse (4 or less). The Arterial roads are in relatively good condition when compared to highways classified as Collector or Local, which is where the poorest pavement conditions are found.



A pavement generally deteriorates on a curve where a 40% drop in quality may occur during the first 75% of the pavement life. Another 40% drop in quality may occur in the remaining 25% of the pavement life. The critical and most cost effective time to conduct maintenance on a road is when the pavement is rated between 5 and 7, not letting it drop below 4 where possible. Eau Claire County needs to address both the large backlog of work to improve the poor roads and to increase the level of routine maintenance such as crack sealing and sealcoating so that the improved roads do not experience premature deterioration. A common, sustainable, and desirable pavement rating distribution and curve would be similar to that which currently exists for the Arterial roads, where 85% to 90% of the pavements are rated Fair or better (5 or greater).

Bridges and Structures

The County Trunk Highway system currently includes 72 bridges, which are defined as structures carrying vehicular traffic and that are longer than 20 feet in length. The County also has 180 large culverts and bridges less than 20 feet in length under its jurisdiction. The average age of the bridges under County jurisdiction is 54 years with the newest constructed in 2008 and the oldest built in 1918. There are 16 bridges (22.2%) greater than 75 year old.

The Sufficiency Rating of a bridge is a computed numerical value that is used to determine the eligibility of a structure for Federal/State funding. The sufficiency rating formula produces results ranging from 0 to 100 based on an inspection conducted by the Highway Department staff every two years. A bridge with a sufficiency rating of 80 or less is eligible for Federal bridge "rehabilitation" funding. A bridge with a sufficiency rating of 50 or less is eligible for Federal bridge "replacement" funding.

There are 5 bridges (6.9%) in Eau Claire County with a sufficiency rating less than 50 and therefore eligible for Federal/State "replacement" funding. Bridges may also be classified as Structurally Deficient or Functionally Obsolete. A structurally deficient bridge does not imply that the structure is unsafe. Based upon inspections conducted in 2012, Eau Claire County currently has 11 bridges classified as structurally deficient and 1 bridge as functionally obsolete. Three (3) of the bridges that have a sufficiency rating under 50 and rated as structurally deficient are scheduled for replacement in 2014 using Federal/State funding.

The bridge replacement program in Eau Claire County is highly dependent on the Federal/State Local Bridge Improvement Assistance (Local Bridge Program), administered by the Wisconsin Department of Transportation (WisDOT). The local cost (typically 20%) is currently funded by the proceeds from the issuance of long-term debt.

Support Infrastructure

Maintenance and roadway construction on the Eau Claire County highway system requires a support infrastructure including personnel, equipment, buildings, facilities and outside services. The Eau Claire County Highway Department is currently headquartered on a 13 acre site located at 2000 Spooner Avenue (CTH "A"), in the City of Altoona. Two auxiliary facilities are located in the City of Augusta and the Town of Clear Creek, approximately one mile east of the I-94/Foster exit.

The Highway Department currently has 66 trucks used for highway maintenance purposes, of which 11 are primarily assigned to state highway maintenance. The equipment replacement funding in the five year capital improvement plan is currently $700,000 on an annual basis, which may replace up to 3 or 4 major pieces of equipment per year.

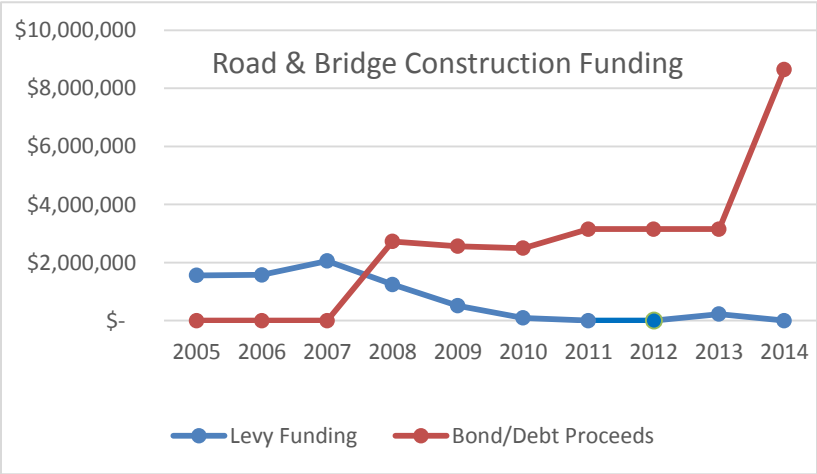
The Highway Department currently has a staffing of 62.65 full time equivalents (FTE's) to conduct highway maintenance and construction. The staffing is shifted to various work areas throughout the calendar year, including snow removal and road maintenance/construction as needed. Based on an average of annual hours worked, approximately one-quarter (1/4) of the personnel are budgeted to each of the major work areas consisting of (1) Equipment Maintenance, Administration & Engineering; (2) General County Road Maintenance; (3) Road & Bridge Construction; and (4) Work for State/Others, although specific duties tend to change depending on departmental priorities throughout the year.

Prior to 2014, engineering design services and contract administration were primarily performed by in-house staff for most reconditioning and resurfacing projects. Outside professional consultants were used for larger road reconstruction projects and bridge replacement improvements. Currently, due to current staffing levels and increased project funding, the Department relies heavily on engineering consultants for the majority of its engineering work.

The majority of construction work is performed by Highway Department staff with the materials and supplies, such as asphalt purchased from private vendors. However, specialized work and major work that is beyond the equipment and staffing abilities of the Highway Department is competitively bid out to private contractors, including all federally-funded work.

Highway Funding – Past, Present, and Future

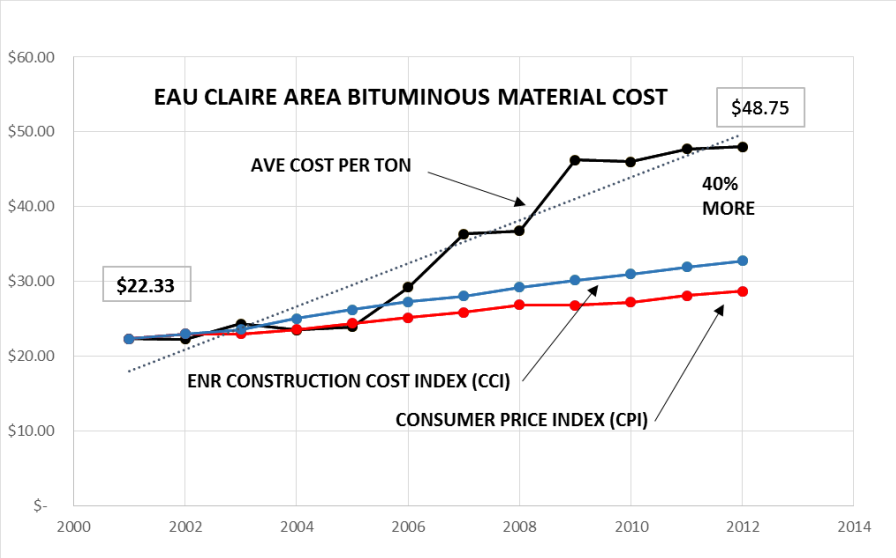
The Eau Claire County Highway Department's total expenditures have averaged just over $15.8 million annually since 2008, with the exception of 2014 when funding for road construction was increased by more than $5.0 million. The 2014 Department budget is funded from a variety of sources with the largest revenue from (a) property tax (7.8%); (b) General Transportation Aid (10.6%); (c) state and local revenue (11.2%); (d) equipment rental charges (18.3%); and (e) proceeds from borrowing (46.2%).



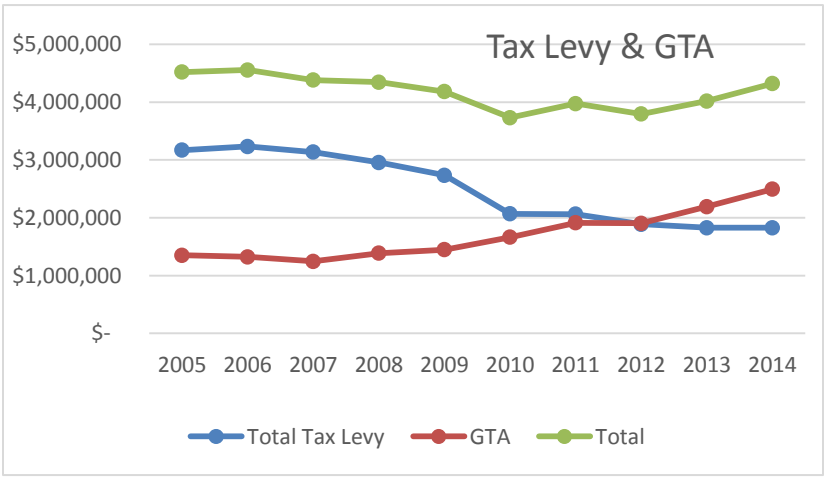
Outlay for highway construction has experienced an increase over the past 20 years, increasing from $1.0 million in 1994 to $9.5 million in 2014. Between 2008 and 2013, highway construction funding held steady at approximately $3.8 million. Of note: the source of the funding has changed in the past 10 years, shifting from the property tax levy to debt service. Since 2011, all local funding for highway and bridge projects has come from debt service, although a small amount of levy funding ($225,000) was allocated to construction in

2013. Long-term debt proceeds account for approximately 80% of the funds available for road and bridge construction now.

The inflation related increase in the cost of labor, materials, and equipment operations for highway construction and maintenance has been significantly impacted by the increase in oil prices since 2006. The cost of asphalt materials typically parallels the rate of inflation, with the exception of the period from 2005 to 2009. During this period the cost of asphalt at local Eau Claire hot mix plants increased by 93%. As a result, the purchasing power for highway construction materials has been cut in half – requiring roughly twice as much funding to do the same amount of work. A large portion of the increased funding in 2008 was offset by the increased cost of asphalt materials and oil related products, such as diesel fuel.



Funding for roadway maintenance has also changed since 2005. Property tax support for road maintenance has decreased by 40% while General Transportation Aids (GTA) have increased by more than 65%. Collectively, the revenue from these two major sources for maintenance activities is approximately 4% less than in 2005, with a low of $3.7 million in 2010. The purchasing power to obtain oil based maintenance materials has also decreased during this same time period as described above. The higher rate of inflation of oil and diesel fuel, along with the redirection of funds to offset the overages in winter maintenance activities the past several years has reduced the available funds to undertake maintenance activities such as crack sealing and sealcoating.



Preventative Maintenance

Preventative maintenance efforts play a vital role in helping an asphalt surface reach its design life, rather than prematurely failing. When asphalt surfaces do fail, they then become candidates for more

expensive construction outlay efforts, including resurfacing, reconditioning, or reconstruction. An effective preventative maintenance program integrates a multitude of strategies and treatments over time. As stated in the above referenced "Best Practices Handbook", "one treatment will improve the quality of the pavement surface and extend the pavement life, but the true benefits are realized when there is a consistent schedule for performing preventative maintenance. Benefits of pavement surface rehabilitation include: sealing pavement surfaces, filling cracks or other imperfections, reducing the effects of oxidation, maintaining surface friction, and improving level of service. The goal of a preventative maintenance program is to extend pavement life and enhance system-wide performance in a cost-effective and efficient way." When done effectively, preventative maintenance can help stabilize a maintenance budget from year to year and balance out capital construction needs.

Alternatives Analysis

Highway Infrastructure

The Wisconsin Information System for Local Roads (WISLR) program, administered by the Wisconsin Department of Transportation (WisDOT), provides tools for use by local units of government to assist in the management of highway surfaces. One output from the WISLR software is a rudimentary needs analysis. Based upon the 2013 PASER pavement ratings the WISLR software projected that Eau Claire County has a $98.7 million backlog in needed roadway improvements and maintenance activities. For the purpose of this report (which also takes into consideration estimates prepared by the Highway Commissioner), it is estimated that the highway infrastructure needs for Eau Claire County range from **$90 to $100 million**. Note: this estimated range does not include additional costs associated with bridge repair or replacement, engineering services, and preventative maintenance efforts.

The WISLR software also is capable of producing a computer generated 5-year plan using various funding levels and predicting the pavement condition and outcome after 5 years. For the purpose of this analysis five (5) annual funding scenarios were considered.

Scenario #1 (28 years)

Anticipates annual roadway construction outlay of approximately $4.0 million, which is slightly more than the funding level between 2008 and 2013. The program at this funding level is estimated to increase the average PASER rating to 5.1 by 2019. New annual debt service is estimated at $4.8 million each year to also cover the costs of engineering. Increase to annual debt levy estimated at $0.61 per $1,000 of value (0.61 mils), for a combined annual debt service of roughly $10 million.

Scenario #2 (20 years)

Anticipates annual roadway construction outlay of approximately $5.0 million, with new annual debt service of $6.1 million to cover engineering services. The program at this funding level is estimated to increase the average PASER rating to 5.3 by 2019. Increase to annual debt levy estimated at $0.71 per $1,000 of value (0.71 mils), with a combined annual debt service of approximately of $11 million.

Scenario #3 (14 years)

Anticipates annual roadway construction outlay of approximately $7.5 million, which is similar to the funding level provided by the Board in the 2014 budget. The program at this funding level is estimated to increase the average PASER rating to 5.9 by 2019. New annual debt service is estimated at $9.4 million each year to also cover the costs of engineering. Increase to the annual debt levy estimated at $0.96 per $1,000 of value (0.96 mils), with a combined annual debt service of roughly $12.5 million.

Scenario #4 (10 years)

Anticipates annual roadway construction outlay of approximately $10.0 million. The program at this funding level is estimated to increase the average PASER rating to 6.4 by 2019. New annual debt service of $12.6 million each year to also cover the costs of engineering. Increase to the annual debt levy is estimated at $1.13 per $1,000 of value (1.13 mils), with a combined annual debt service of roughly $13.7 million.

Scenario #5 (5 years)

Anticipates annual roadway construction outlay of approximately $19.6 million. The program at this funding level is estimated to increase the average PASER rating to 8.1 by 2019. New annual debt service of $25.0 million each year to also cover the costs of engineering. Increase to the annual debt levy is estimated at $1.53 per $1,000 of value (1.53 mils), with a combined annual debt service of roughly $16.4 million.

Bridge Infrastructure

Similar to the PASER rating system within WISLR, Eau Claire County's bridge infrastructure (meaning bridges with a span of greater than 20 feet) is also rated every two years (even years) using a the federal bridge sufficiency rating methodology and reported to WisDOT. This sufficiency rating is used to determine eligibility for federal funding assistance. Bridges with a sufficiency rating of 50 or less are eligible for federal bridge "replacement funding" while bridges rated between 50 and 80 are eligible for federal "rehabilitation funding".

Based on 2012 inspections, Eau Claire County had five bridges rated below a "50" at the beginning of 2014, with another 28 bridges rated between 50 and 80. The 2014 Budget included funding to replace 3 of the bridges rated below 50. Based on the 2012 sufficiency ratings, bridge outlay needs are expected to increase significantly in the near future. This will require an increase in the local level of funding to nearly double what has been spent in recent years, which has ranged $300,000 to $400,000 annually. However, should federal funding or state bridge program funding no longer be available for projects, the funding needs may be closer to quadruple what they have been over the past 5 to 10 years.

Preventative Maintenance

The goal of a preventative maintenance program is to "extend pavement life and enhance system-wide performance in a cost-effective and efficient way" according to the *Best Practices Handbook for Preventative Asphalt Maintenance* (Minnesota). When done effectively, preventative maintenance can help stabilize a maintenance budget from year to year and balance out capital construction needs. An effective preventative maintenance program integrates a multitude of strategies and treatments over time. Benefits of pavement surface rehabilitation include: sealing pavement surfaces, filling cracks or other imperfections, reducing the effects of oxidation, maintaining surface friction, and improving level of service. Based on industry results, the effective life of a new seal coat can

Nearly 54% of the Eau Claire County highway trunk system is rated at or below a rating of "4", meaning that a majority of the highway surface is in need of structural renewal or replacement. Conversely, more than 41% (174 miles) of the highway system currently has a PASER rating between "5-8". This rating indicates that these highway segments are candidates for more cost efficient preventative maintenance efforts that will help extend the pavement surface life. Focusing preventative maintenance efforts on this portion of the highway system can yield cost efficient results aimed at maintaining or improving the overall surface condition of the highway system as recommended by WISLR as follows:

WISLR Highway Surface Management Recommendations

EXCELLENT	9-10	Minimal/No Maintenance required (Crack sealing at year 3-5)
GOOD	7-8	Crack sealing and/or minor patching (Sealcoat at year 8-12)
FAIR	5-6	Preservation treatments (Crack sealing, patching, sealcoating, thin overlays)
POOR	3-4	Structural Renewal (Overlay, Mill and Overlay – evaluate drainage & subgrade)
VERY POOR	1-2	Reconstruction or Recondition (Grading, base, ditches, drainage, pavement)

The life expectancy of most sealcoating practices is estimated at 6 years according to the *Best Practices Handbook for Preventative Asphalt Maintenance* (Minnesota). This is intended to imply that applying a sealcoat treatment every six years should do an effective job of maintaining the pavement surface condition of a roadway, thereby allowing the pavement to reach its design life. In recognition of the current PASER ratings, number of miles of highway with a PASER rating of between 5 and 8, and life expectancy of most treatments; an effective maintenance plan would include a minimum of 25-30 miles of preventative surface treatment activity each year, although this number is expected to increase in future years as more county highway miles are improved through an enhanced outlay program.

Funding

The primary funding option used for the analysis in this report was the use of levy revenues and bond proceeds paid for through the property tax levy. Debt service is currently exempt from general levy limit restrictions, however could change in the future. It was noted that 65% of the property tax in Eau Claire County is derived from the cities of Eau Claire and Altoona although only 2.4% of the County Trunk Highway system lies within these jurisdictions.

Alternatives to debt service funded through levy dollars were evaluated with an eye to establishing a more equitable system where the "*user pays*" for the use of the system. Nine options that are currently available under state statutory authority were evaluated including:
(1) General property tax levy;
(2) Issuance of general obligation debt with resulting tax levy;
(3) Use (designating) a portion of the local sales tax;
(4) Implementation of a county vehicle registration fee;
(5) Grant funding alternatives;
(6) Seek cost sharing with Towns through Intergovernmental Agreements (Wis. Stat. § 66.0301);
(7) Additional park fees to fund CTH's serving county parks;
(8) Impact/road use agreements; and
(9) Exceed levy limit cap through referendum for transportation purposes.

Seven other options that would require changes in the statutes were also reviewed including:
(1) Modify Wisconsin Statutes § 83.03 by removing the $1,000 limitation;
(2) Granting counties special assessment authority for roadway improvements similar to towns, villages and cities;
(3) Consider authority to establish specific excise tax on certain products that place additional burdens on the county transportation system;
(4) Work to reestablish authority to create a Regional Transportation Authority (RTA) and set an additional 0.5% sales tax to be used for transportation purposes;
(5) Seek authority for local tax option on fuel, auto parts, etc;
(6) Consider authorization for public/private partnerships (P3's) for roadway construction; and
(7) Consider authorization for counties to implement a Transportation Utility Fund (TUF).

Key Findings

The analysis and evaluation of the current conditions by the Transportation Work Group produced 27 key findings that are summarized in Section 8 of this report. The findings include conclusions on the size and function of the county trunk highway system, the condition of the road pavements and bridges, the estimated backlog of roadway pavement needs, the importance of preventative maintenance efforts to address infrastructure needs, current and potential funding sources, the effect of recent road building cost inflation on the purchasing power of the county, and scenarios for roadway improvements based on various funding levels.

The work group concluded that the County faces a significant problem that will likely take 20 years or more to resolve with increased funding levels. Currently, there are a limited number of options available to the county to fund an increased level of effort to improve the roadways due to state imposed levy limits and the lack of statutory authority for the County to generate other revenue. However, most funding "solutions" or approaches will need to be developed through local sources.

Recommendations

The Transportation Work Group developed twelve (12) recommendations for consideration by the County Highway Commissioner, County Highway Committee, County Board and the citizens of Eau Claire County to improve the condition of the roadway pavements and to create a more sustainable county highway system. While the County has a significant backlog of poor roads (rated 4 or lower) and bridges that must be addressed through increased capital outlay budgets in future years, preventative maintenance efforts (crack sealing and sealcoating) should not be deferred or deprioritized. Collectively, the funding levels for both outlay and preventative maintenance activities should be increased in future years to assure that the overall pavement system does not fall below a composite PASER rating of 5.

It is recommended that Eau Claire County:

(1) Review and establish a purpose statement outlining the criteria as to why & when a roadway should be under county jurisdiction and when it should not be;
(2) Conduct a functional classification study of the County Highway System;
(3) Establish a PASER rating goal;
(4) Fund the road construction program consistent with Scenario #2 at a minimum along with the identified bridge outlay needs contained within the 2015-2020 Highway Improvement Plan;
(5) Increase funding for preventative maintenance as necessary from non-borrowing sources and adjust upward to reflect inflation – funding should be a high priority within future budgets and should not be used to offset other budgetary needs;
(6) Pursue cost sharing agreements with towns (similar to what is currently practiced with cities and villages) for improvements to all roads, especially those with a “Local” classification or with low traffic volumes;
(7) Undertake an analysis of the support infrastructure to determine the building and equipment needs necessary to support the Highway Department operations in the long-term
(8) Evaluate the appropriate mix of in-house and contracted consulting services for design services needed to implement the selected investment alternative program;
(9) evaluate the capacity needs, staff & equipment, maintenance needs, and contract administration to match the selected investment alternative program;
(10) Pursue alternative funding for road improvements that are currently permitted by state statute;
(11) Consider working with area legislators and statewide organizations to enact statutory changes, modifications, and additions to enhance or provide alternative local funding sources for highway construction and maintenance purposes; and,
(12) Monitor the impacts of recent legislation regarding large/heavy users on the county’s highway or bridge infrastructure and take actions necessary to protect the county’s transportation investments.

Section 1: Introduction

The adopted 2014 Eau Claire County budget included recommendations for program reviews, including a review and analysis of the County's road and bridge infrastructure. The County Board authorized general obligation bonds to increase the level of roadway improvements by an additional $5 million in 2014. The County Board is concerned about the long-term road and bridge maintenance needs and has expressed a desire to develop plans and policies for the improvement, maintenance, and funding of a sustainable county highway system.

To conduct the program review, eight (8) members were appointed to a Transportation Work Group with broad backgrounds and expertise in transportation infrastructure, capital outlays, public finance, long-range planning, and public transportation policy. In a memorandum to the Work Group (dated February 14, 2014) the County Administrator requested that the team conduct a review and analysis of the total long-term costs for the county road and bridge system, options for reducing maintenance costs, and contracting options for maintenance work. In addition, it was requested that the group analyze funding options including issuance of promissory notes/general obligation bonds and the resulting debt service, county vehicle registration fee, and other alternative funding mechanisms.

A Charter with a written mission statement was reviewed with the Transportation Work Group at its first meeting on February 26, 2014. The Transportation Work Group meetings were facilitated by Lance Gurney, Director of Planning and Development. The group met eleven (11) times over the course of a five (5) month period to complete the analysis, evaluation, and recommendations for reference and use within the 2015 budget process.

This report is intended to improve the understanding of the existing county highway infrastructure, identify key challenges or issues to maintaining that system, and to develop a sustainable approach for the continued maintenance of the county highway system, inclusive of bridges, culverts and support infrastructure. The report further identifies estimated pavement condition outcomes based on various funding scenarios, and describes alternatives to county levy funding revenue sources. This evaluation required the group to use several base criteria and assumptions, including:

1. Use of data and information available as of January 1, 2014 (inclusive of financial estimates)
   -A highway system has a constantly evolving and changing data base of statistics and information. Therefore, it was determined to use the information available as of January 1, 2014 as the basis for analysis, evaluation and calculations.
2. All County roads would consist of a paved or improved surface.
   -Recent use of temporary gravel surfaces has not been well received and therefore the analysis for this report assumes that all currently designated County Trunk Highways (CTH's) would have an improved surface.
3. The report is not an "efficiency study" of the County Highway Department operations.

Section 2: History of the Eau Claire County Highway System

The first Europeans traveled by land across Wisconsin beginning in the spring of 1829 from Green Bay to Prairie du Chien. Historical records indicate that many of the routes followed were along established Indian trails. The Indian trails established by the Ojibwe (Chippewa) and their regional rivals to the west, the East Dakota (Sioux), typically followed trails earlier created by deer and other animals along easy slopes, around hills, and across rivers and streams at shallow crossings. Early fur traders and explorers, including Jonathan Carver, used the network of Indian trails and waterways for travel.

During the territorial period from 1836 until statehood in 1848, over 240 territorial roads were built in Wisconsin, none of which were located in the Chippewa Valley. The 1836 Territorial legislature specifically directed that no territorial funds should be paid for constructing the territorial road, leaving the expense to be assumed by individual towns and local or private funding. After statehood in 1848, roads authorized by the legislature were designated "State Roads". State roads in the Chippewa Valley were established along the Chippewa River, from Reeds Landing to the Red Cedar River to Menomonie, then east to Eau Claire, then north along the Chippewa River to Cornell. A state road was also established to the northwest from Eau Claire towards Wheeler and the Hay River. The State Legislature enacted 560 separate laws with respect to the opening of state roads between 1848 and 1891, although the responsibility and cost for road care was still delegated to the local units of government.

Loggers would walk into the woods in the fall along trails, spend the winter cutting lumber, and then emerge in the spring to float the logs down river to the sawmills. The waterways were one of the primary modes of early transportation to and from the Chippewa Valley. Eau Claire had a population of only one hundred people in 1855. Even so, Adin Randall had faith in the location and built the large Eau Claire House in 1856. The proprietors of the Eau Claire House announced that *"stage lines leave this house daily for Menomonie, Hudson, Stillwater, Black River Falls, and Sparta."* The stage roads were only in as good a condition as the local governments and land owners chose to make them – some were very poor and not passable in the winter, spring and during wet weather. Stagecoach service remained an important link to the Eau Claire area until the railroads expanded into the Chippewa Valley in 1870, which offered faster and more comfortable travel. As railroad interests grew, less attention was paid to the condition of the roads in the Chippewa Valley.

In recognition of the experiences of other Midwestern states that had overextended internal improvements investments during the booming 1830's, the framers of Wisconsin's constitution in 1848 inserted a clause which prohibited state appropriations or loans for transportation projects. The cause of Wisconsin's poor roads lay not only in the constitutional prohibition against state aid for construction and in the widespread belief that the railroads provided the bulk of the state's transportation needs, but also in ineffective highway practices fostered by state law. Since statehood, the responsibility for road care had been delegated to local governments. The state required that county boards of supervisors lay out a system of roads in

the county, while the individual towns constructed and maintained them. To provide this care town boards levied road taxes on the local taxpayers, with the option of fulfilling the tax by working on the highways. Because of an almost universal aversion among farmers and property owners to paying their road taxes in cash, most farmers chose to "work out" their tax, a system that was notoriously inefficient. The legacy of this antiquated system was that at the start of the twentieth century only 17% of Wisconsin's roads were improved with gravel or other similar surfacings.[(1)]

By 1884, the lumber available for harvest had largely disappeared. The number of "cutover" farms doubled between 1900 and 1920; however, leftover stumps were still a problem for farmers. Rural farmers initially opposed state financed highways, believing that the higher taxes would only benefit cities. Farmers became more dependent on roads to transport milk to cheese factories and creameries as the dairy industry expanded in the Chippewa Valley. Poor roads delayed trips, limited the loads that could be hauled and caused raw materials to go unsold. Subsequently, support for state aid for road construction improved. State aid for counties began in the early 1900's as a way to replace lost local taxes, when automobiles were exempted from local personal property taxes.

In the early 1890's, years before the first gasoline-powered automobile appeared in Wisconsin, a movement to transform the state's county roads into decent thoroughfares began. A broad coalition of urban merchants and businessman; progressive farm leaders; university and other educators; professional engineers; and bicyclists following the cycling craze of 1890, joined hands to urge a new legislative approach to highway improvements.[(1)] And so was born the so called ***"Good Roads Movement"*** which ran from 1890 to 1925. The gasoline powered motor car first appeared regularly in the state in 1899. By 1916 there were 189 automobiles listed in the Eau Claire County property assessment (Table 10), 138 of which were located in the City of Eau Claire. The state of Wisconsin started its highway work through the Highway Division of the Wisconsin Geological and Natural History Survey, created in 1897. The responsibility for the highway division work was that of a civic-minded geology instructor at the state university named William O. Hotchkiss. Mr. Hotchkiss wrote Bulletin No. XVIII, Economic Series No. 11 in 1906 that outlined *"Desirable Changes in the Present Road System."* The paper identified the following major problems:

- Road districts too small – make larger
- Road officers appointed each year
- Cash road taxes – poor road work
- Need for trained men
- Poor Accounting for road work
- Section system – not continuous
- Automobile use will increase
- State aid needed to improve system

An early step in the creation of the county road system occurred as a result of the 1907 county aid highway law. Under the 1907 law, any town could make an appropriation for road improvements and receive a monetary match from the county. The county was required to create a highway system on which improvements were to be made, which was to be administered by an elected highway commissioner. Only 20 counties across the state participated in the improvement program – Eau Claire County chose not to elect a highway commissioner at that time. The 1907 road laws were similar to those adopted by the legislature in 1911 – but without any state aid funding, thus the reluctance for counties to fully fund the program.

The legislature in 1905 and 1907 passed resolutions to amend the constitution and permit internal improvement funding and state aid for highways. The people of Wisconsin passed the constitutional change in 1908 with a 71.3% yes vote. Attempts to pass a state aid highway bill in the 1909 session failed because of disputes over the degree of control that a state highway commission should exercise.

The State Aid Road Law of 1911 required county boards to lay out an interconnected system of prospective state highways, subject to approval of the state highway commission. County highway commissioners, elected by the county boards, from eligible candidates directed the construction of the roads. The state reimbursed the county one-third of highway construction cost if the road satisfied state standards. The remainder of the expense was the responsibility of the towns and counties. The 1911 Road Law established a five member highway commission, to which John S. Owen from Eau Claire was named and on which he served from 1911 to 1921. The original highway appropriation for 1912 was $350,000 from the state general fund that was flush with cash at the time. The counties and towns requested $800,000 in state aid for roadways, $450,000 more than available, demonstrating the widespread need for road and bridge improvements across the state.

Eau Claire County did not initially support the new legislation because of a concern for the loss of local control. The county board deferred to the State Highway Commissioner, who appointed William C. Maher of Augusta as the road commissioner for 1912 to oversee the state aid highway work in the county.

> *The first state aid good roads work to be done in Eau Claire county is in the Town of Brunswick, where the finishing touches are being put on a long stretch of now good road, and a start made on another stretch, as soon as another appropriation is made , which possibly will be next year. When the Brunswick work is done, which will probably be next week, there will be about 4,000 feet of a hard clay and gravel roadway, rolled so that it is hard and smooth as macadam. The highway as far as laid out has given satisfaction to the farmers along the way, the only regret being that there was not more of it completed this year.*
> *(Eau Claire Leader – Saturday, July 13, 1912)*

The county board at its November 22, 1912 meeting elected Thomas Thompson of Fairchild as highway commissioner to succeed William C. Maher who supervised the state aid highway work in the county during 1912.

The "*Third Biennial Report*" by the Wisconsin Highway Commission outlined the status of state aid work in Eau Claire County.

> *The work in this county under the state aid law up to 1916 has been very small in amount, considering the importance and wealth of the county, and the results, due to small sums available, lack of surfacing materials, and scattered work, have been entirely unsatisfactory. The reason this county has developed so much slower than most its neighboring counties is that the results under the state aid law in 1912 were almost totally unsatisfactory to all concerned, and it has been difficult to overcome this first impression. . . . There is already talk of bonding the county for a considerable amount to build an adequate system of highways at once, and while the county has started slowly, the character and present attitude of its people and its county board indicate that it will make rapid progress from now on.*
> *(Third Biennial Report, Wisconsin Highway Commission – 1916)*

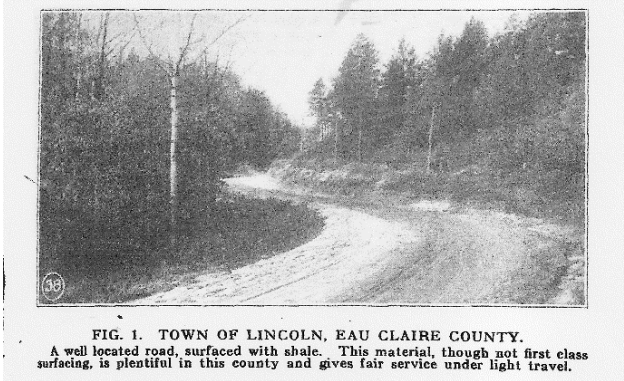


FIG. 1. TOWN OF LINCOLN, EAU CLAIRE COUNTY.
A well located road, surfaced with shale. This material, though not first class surfacing, is plentiful in this county and gives fair service under light travel.

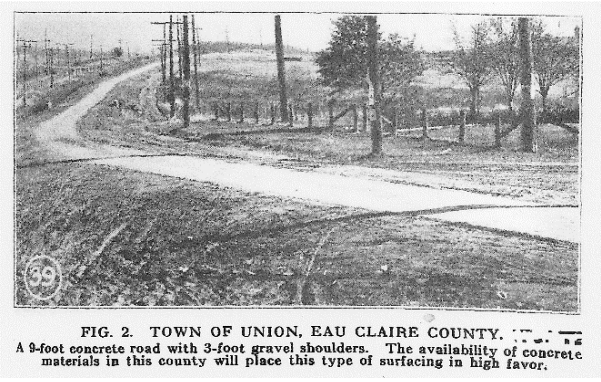


FIG. 2. TOWN OF UNION, EAU CLAIRE COUNTY.
A 9-foot concrete road with 3-foot gravel shoulders. The availability of concrete materials in this county will place this type of surfacing in high favor.

The state legislature of 1925 enacted a new highway law (Chapter 11, Laws of 1925), which was considered the most important advancement in highway legislation since the state trunk highway act of 1917, when the 5,000 mile state trunk highway system was created. A goal of the law was to assure income to meet the state's highway needs through the implementation of motor vehicle registration fees, based on weight, and a gasoline tax. The gasoline tax was set at a rate of two cents per gallon, which became effective on April 1, 1925. The law was first and foremost a financing measure, which changed the method of allocating road funds to the County and local municipalities, including towns, villages, and cities.

An important feature of the law was a new subsection (6) of Section 83.01, providing for a system of County Trunk Highways. Around 1919, the counties began laying out county trunk highway systems which were in effect preferred roads the counties identified to take over the maintenance and on which they made the largest portion of their state aid improvements. There was, however, no provision of law specifically authorizing these county trunk highways.

The new law required that each county board, on or before the annual meeting of November, 1925, select a system of county trunk highways, exclusive of the state trunk highway system, which must be marked, signed, and maintained by the County. A map of the county trunk highway system was to be submitted to the State Highway Commission no later than April 1, 1926. The law set no requirements as to the mileage, and the county boards could make the system as large or small as they desired. The state highway commission in its publication *"Badger Highways"* provided the following guidance:

> *. . . The allotment for local roads does not apply to either the state or the county trunk highway systems, and any county that adopts a large mileage of roads on its county trunk highway system thereby diminishes the allotment made to the local communities of the county for local roads, and at the same time it assumes a large responsibility. It seems, for these reasons, that it will be to the interest of every county to keep its county trunk highway system within reasonable limits. The allowance for local roads and streets, $25 per mile per year, is sufficient to make distinct improvements in the roads that are slightly travelled, and the county will, we believe, be better off if the local unit is allowed to draw this allowance for local roads, leaving the county free to concentrate on those roads that are most important.* (In comparison - the 2014 GTA allocation to Towns is $2,117 per mile)
> *(Badger Highways – 1925)*

The Eau Claire County Board established the county trunk highway system by resolution at the November 18, 1925 meeting as follows:

> *BE IT RESOLVED: That the said county trunk highway system heretofore selected, marked, and maintained by the county board of this county, is discontinued as such system, and a county trunk highway system is selected in lieu thereof, under the provisions of subsection (6) of section 83.01 of the statutes, to include the following described roads:*
>
> *The resolution described 25 road segments consisting of approximately 214 miles (See attached map – green line segments)*

The Board adopted a resolution at the March 10, 1926 meeting indicating that an error had been made in drawing up the original resolution in November, 1925 and four highways which were on the system prior to that time were omitted from the resolution. The board amended the resolution and included one additional road segment, thereby increasing the system with 5 new road segments which added approximately 43 miles for a total of approximately 257 miles by the summer of 1926.

Almost immediately the county board started receiving petitions from the towns requesting that additional roads be added to the county trunk highway system. At the November 18, 1926 meeting, one year after the original adoption of the system, the board approved petitions from Washington, Drammen, Ludington, Seymour, and Union to add road segments to the system. The board included a caveat in approving the resolution.

. . . that the petitions from the following towns be granted and placed on the county trunk system provided the towns appropriate enough money at the next annual meeting according to section 83.14 of the statutes to put these roads in condition for patrolling. (County Board Resolution – November 18, 1926)

The state highway commission assumed full responsibility and expense for the maintenance of the state trunk highway system, including snow removal in 1931. Prior to that time, the state used a combination of federal, state, and local funds to build the roadway – however, the maintenance, including snow removal was still the responsibility of the county and the towns.

The road system under the jurisdiction of Eau Claire County has evolved over the intervening 90 years to currently include 418 miles of county trunk highways (CTH) and 2.7 miles of other county roads, not on the CTH system, for a total of 420.7 miles. The CTH system has increased approximately 63% since it was first established in March, 1926 through petitions from towns, actions of the county board, access to the county park system, jurisdictional transfers with local municipalities, and changes in the state highway system. Notable changes in the system have included the following:

- Hwy 12 was originally routed on Cameron Street and was part of the "Yellowstone Trail" before the state highway numbering system was established in 1918. The state highway commission undertook improvements to Highway 12 in 1926 and the designation of STH 12 was moved from Cameron Street to Truax Blvd, beginning at Third Street in Eau Claire and running west, through Truax to Elk Mound. The County Board, following a public hearing, expressed opposition to this change and recommended against the relocation, however it was ultimately implemented. The westerly section of what was originally CTH "E" was changed to CTH "EE" and the former Highway 12 on Cameron Street was designated as CTH "E" from the Eau Claire city limits to the Dunn County Line.

- Highway 12, east of Fall Creek was realigned and reconstructed closer to the railroad tracks. The USH 12 designation was placed on the new alignment and the old highway was transferred to Eau Claire County, which is currently designated as CTH "AF".

- Highway 12, east of Augusta was rerouted to the south, just to the north of Bridge Creek. The east/west portion of the former route was transferred to Eau Claire County and designated as CTH "M". The north/south section of the former route was transferred to the Town of Fairchild and is known as N. Center Road.

- STH 27 originally ran from Osseo to Augusta and then north to Cadott and Cornell. When I-94 was opened in 1967, STH 27 was routed along the interstate between Black River Falls and Osseo. In 1972, STH 27 was rerouted off the interstate and ran concurrent with USH 12 starting in Black River Falls to Augusta and points north.

The former STH 27, from the Eau Claire county line, north to Augusta was transferred from the Department of Transportation to Eau Claire County and was designated CTH "R" and CTH "NN".

- CTH "Q" was originally routed along Tower Drive, Peterson Drive, and Burnell Drive to CTH "K". Over the years, through jurisdictional transfers with the Town of Seymour, the location was moved south to its current alignment to provide better access to the Seven Mile Creek landfill, which was operated by the county for a period of time. The most recent change to CTH "Q" took place in 2006, when STH 312 (North Crossing) was extended and the HWY 53 Freeway was constructed.

The state statutes establishing the county trunk highway system in 1925 granted the county board the authority to make changes in the county trunk system*…"if it deems that the public good is best served by making such changes…only with the consent of the department."* Sixty (60) years after the initial creation of the county trunk system, at the urging of the Towns Association, the state legislature enacted Wisconsin Act 223 in 1985, which changed the county highways statutes by deleting the above language and inserting that..."*a county board may not make deletions from a county trunk system without the approval of the department, and without the approval of the governing body of the city, village, or town in which the proposed deletion is located…"* As a result*, o*nly a few reductions in mileage and jurisdictional transfers between the county and local jurisdictions have occurred since the law change in 1985.

Road Improvements and Paving

Initially, road improvements on the prospective state highways and county road system consisted of grading, drainage, and ditching, with placement of a compacted gravel or shale surface to a width ranging from 9 to 18 feet. The goal of the early road constructions was to make improvements so that the road could be "patrolled" and maintained on a regular basis by county personnel and equipment. The Eau Claire County highway department had 100 employees in 1925 dedicated to the construction and maintenance of the state and county highway system. Equipment used for road building saw significant changes and improvements between 1920 and 1950 similar and concurrent to what occurred in agriculture. Highway departments found that World War I surplus equipment was adaptable to highway construction equipment and many new adaptations were introduced. The first self-propelled grader was manufactured in 1920 and the Caterpillar Company integrated the tractor and grader into one unit in 1928, also manufacturing the first rubber-tired grader in 1931. Self-propelled asphalt paving machines came into common usage in the 1950's, making laying of asphalt roads more cost effective and efficient.

The asphalt pavements prior to the 1930's were proprietary products and referred to as "bithulithic" pavements. The first patents for "bithulithic" pavement were issued to Frederick Warren in 1900. Many competing brands were developed, peddled, touted, and huckstered with great enthusiasm. Many of these patented mixes were successful and technically

innovative while some were not, as noted at the November 13, 1923 County Board meeting by Supervisor James Cernaghan of the Town of Union.

The patents for “bithulithic” pavements expired in 1920 and subsequent improvements in asphalt pavements by Federal and State engineers forced most of the remaining patented pavements from the market. The State Highway Commission placed the first “bituminous weatherproof surface” on the state trunk highway system in 1937. During World War II, asphalt technology greatly improved, spurred by the need of military aircraft for surfaces that could hold up under heavier loads. It wasn’t until after World War II and in to the 1950’s that a rural county road paved with asphalt became the standard surface. Until 1978, one-seventh (1/7th) of the fuel tax revenue was dedicated to local governments based on mileage. This available funding allowed for the initial paving of county trunk highway system between 1950 and 1975.

Section 3: Highway System Mileage and Functional Classification

The Eau Claire County Highway Trunk System is comprised of nearly 421 miles of highway with an average cumulative 2013 unadjusted PASER rating of 4.6, which is considered "Fair". *(Note: a PASER rating is a subjective visual pavement condition rating from 1 to 10 with 1=very poor to 10=new – See Section 4 below*) The make-up of this transportation system is an important component to analyze and evaluate when considering the development of a sustainable management plan for Eau Claire County. *Total mileage, location, functional classification, pavement condition,* and *traffic volume* are just a few of the system characteristic metrics that can be used to gain additional insight into the overall system's make-up and condition.

A. Mileage

According to WisDOT, the highways, streets, and roads within the State of Wisconsin cover 115,095 miles of which 1.4% (1,589.83 miles) is in Eau Claire County – inclusive of all local jurisdictions. *(Please refer to Figure 1 for more detail on this statistical information.)* The State Highway system, consisting of 11,766 miles averages out to 10.2% of the mileage in each County. The State mileage in Eau Claire County is 150.4 miles (9.5%), slightly less than the state average. The State highway mileage for the Counties surrounding Eau Claire ranges from a low of 7.2% in Clark County to a high of 14.2% in Buffalo County – resulting in an average of 10.8% or roughly 14 more state highway miles than Eau Claire County.

The County Trunk Highway System in the State covers 19,865 miles and averages out to 17.3% of mileage per County. The County mileage in Eau Claire County is 420.71 miles (26.5%), which is roughly 9% higher than the state average. The County highway mileage for the Counties surrounding Eau Claire range from a low of 13.7% in Clark County to a high of 33.1% in Pepin County – with an average of 21.0%, still more than 5% less than Eau Claire County. In contrast, the Municipal (Town, Village, City) roadway system in the State covers 81,711 miles and averages out to 71.0% of the mileage per County. The Municipal mileage in Eau Claire County is 1,000.78 miles (62.9%), which again is roughly 8% lower than the state average. The Municipal highway mileage for the Counties surrounding Eau Claire range from a low of 55.0% in Buffalo County to a high of 76.9% in Clark County – with an average of 67.4%. *In summary, Eau Claire County has a higher percentage of County highways and a lower percentage of Municipal highways than the average of the surrounding Counties and the statewide average*.

Figure 1

HIGHWAY MILEAGE , BY COUNTY SYSTEM										
	TOTAL All Systems	%	STATE TRUNK System	%	COUNTY TRUNK System	%	MUNICIPAL (City, Village & Town)	%	OTHER ROADS Parks, Forests	%
Buffalo	1,041.61	0.9%	148.02	14.2%	317.95	30.5%	572.54	55.0%	3.10	0.3%
Chippewa	2,141.19	1.9%	210.27	9.8%	489.30	22.9%	1,420.18	66.3%	21.44	1.0%
Clark	2,188.83	1.9%	157.37	7.2%	300.89	13.7%	1,683.59	76.9%	46.98	2.1%
Dunn	1,755.47	1.5%	205.75	11.7%	425.29	24.2%	1,124.43	64.1%	17.94	1.0%
Jackson	1,475.36	1.3%	185.97	12.6%	231.24	15.7%	1,035.37	70.2%	8.68	0.6%
Pepin	467.47	0.4%	48.52	10.4%	154.72	33.1%	259.23	55.5%	5.00	1.1%
Pierce	1,316.38	1.1%	164.19	12.5%	248.65	18.9%	892.55	67.8%	10.99	0.8%
St. Croix	1,936.41	1.7%	204.14	10.5%	337.83	17.4%	1,389.44	71.8%	5.00	0.3%
Trempeleau	1,357.59	1.2%	176.31	13.0%	292.08	21.5%	888.20	65.4%	1.00	0.1%
Ave - N.W. Counties	1,520.03	1.3%	166.73	11.0%	310.88	20.5%	1,029.50	67.7%	13.35	0.9%
Ave - Benchmark Co.	1,587.38	1.4%	182.17	11.5%	343.07	21.6%	1,058.49	66.7%	4.47	0.3%
Eau Claire	1,589.83	1.4%	150.40	9.5%	420.71	26.5%	1,000.78	62.9%	17.94	1.1%
State Wide	115,094.57		11,765.84	10.2%	19,865.03	17.3%	81,710.65	71.0%	1,753.05	1.5%
Statewide Average	1,598.54	1.4%	163.41		275.90					

Another way to compare the mileage composition of the County Trunk Highway System is to consider the metrics/statistics of similar counties through analytical benchmarking. Counties with comparable total mileage, population, land area, and equalized value were reviewed to gauge infrastructure composition. *Figure 2* shows that several counties have a total mileage that is very similar to Eau Claire County. *(Note: total miles refers to all highway miles within a county, including federal, state, county and municipal miles)* Averages were then derived to determine how the Eau Claire County highway system measures up to the comparable counties. Based on those results, the averages referenced above for neighboring counties tend to hold true, with the county highway system having roughly 5% more total miles in Eau Claire County than other comparable counties. *Based on an approximate total mileage of 1,580 total miles, this would equate to 80 additional miles of county highway in Eau Claire County in comparison to benchmark group.*

Figure 2

Comparison Based on Benchmark Counties						
County	**Population**	**Sq. Miles**	**Eq. Value**	**Total Miles**	**County Hwys**	**% of Total**
Eau Claire	101,438	637.98	$6.9 bil	1589.93	420.71	26.46%
Fond du Lac	101,798	719.55	$6.8 bil	1786.48	384.41	21.52%
Jefferson	84,509	556.47	$5.8 bil	1439.51	257.31	17.87%
La Crosse	116,713	451.69	$8.1 bil	1195.35	285.33	23.87%
St. Croix	85,930	722.33	$7.2 bil	1936.41	337.83	17.45%
Sheboygan	114,922	511.27	$8.5 bil	1578.94	450.54	28.53%
					Incl. ECC	22.62%
					W/O ECC	21.85%

B. Location

The percentage of County Trunk Highway (CTH) mileage compared to the total roadway mileage for each individual municipal jurisdiction ranges from a high of 52.9% in the Town of Otter Creek to a low of 1.6% in the City of Eau Claire as is evident in *Figure 3* below. The percentage of CTH system that makes up the municipal system is highest in the outlying Towns (40% to 52.4%) and decreases in the suburban Towns (25.4% to 38.0%) located near the Cities of Eau Claire and Altoona, with the exception of the Town of Fairchild. Conversely, roads under municipal jurisdiction account for 97.0% of the total road system within Cities, 73.7% within Villages and 59.3% on average within the Towns (Range 47.1% - Otter Creek to 74.6% - Brunswick). *Almost all (96.1%) of the County Trunk Highway system is located outside of municipalities in the Towns.*

Figure 3

HIGHWAY MILEAGE , BY LOCAL JURISDICTION IN EAU CLAIRE COUNTY (EXCLUDING STATE HIGHWAYS & COUNTY FOREST ROADS)

MUNICIPAL JURISDICTION (JUR)	TOTAL Mileage (1)	%	COUNTY TRUNK HIGHWAYS	% OF JUR SYSTEM	% OF CTH SYSTEM	% OF TOTAL SYSTEM (1)	OTHER COUNTY ROADS	% OF JUR SYSTEM	MUNICIPAL ROADS	% OF JUR SYSTEM	% OF MUNICIPAL SYSTEM	% OF TOTAL SYSTEM (1)
Bridge Creek	129.45	9.0%	51.75	40.0%	12.4%	3.6%	2.55	2.0%	67.74	52.3%	6.8%	4.7%
Brunswick	63.82	4.4%	16.24	25.4%	3.9%	1.1%	-	0.0%	47.58	74.6%	4.8%	3.3%
Clear Creek	56.40	3.9%	24.16	42.8%	5.8%	1.7%	0.18	0.3%	32.06	56.8%	3.2%	2.2%
Drammen	59.06	4.1%	28.88	48.9%	6.9%	2.0%	-	0.0%	30.18	51.1%	3.0%	2.1%
Fairchild	48.61	3.4%	12.57	25.9%	3.0%	0.9%	-	0.0%	28.39	58.4%	2.8%	2.0%
Lincoln	92.71	6.4%	44.11	47.6%	10.6%	3.1%	-	0.0%	47.97	51.7%	4.8%	3.3%
Luddington	72.85	5.1%	38.20	52.4%	9.1%	2.7%	-	0.0%	34.65	47.6%	3.5%	2.4%
Otter Creek	60.74	4.2%	32.13	52.9%	7.7%	2.2%	-	0.0%	28.61	47.1%	2.9%	2.0%
Pleasant Valley	106.24	7.4%	40.33	38.0%	9.6%	2.8%	-	0.0%	65.91	62.0%	6.6%	4.6%
Seymour	84.43	5.9%	30.46	36.1%	7.3%	2.1%	-	0.0%	53.17	63.0%	5.3%	3.7%
Union	70.55	4.9%	24.56	34.8%	5.9%	1.7%	-	0.0%	45.99	65.2%	4.6%	3.2%
Washington	132.41	9.2%	34.66	26.2%	8.3%	2.4%	-	0.0%	97.75	73.8%	9.8%	6.8%
Wilson	60.25	4.2%	23.47	39.0%	5.6%	1.6%	-	0.0%	35.33	58.6%	3.5%	2.5%
TOWNS	1,037.52	72.1%	401.52	38.7%	**96.1%**	27.9%	2.73	0.3%	615.33	59.3%	61.5%	42.7%
Fairchild	8.16	0.6%	2.27	27.8%	0.5%	0.2%	-	0.0%	5.89	72.2%	0.6%	0.4%
Fall Creek	10.94	0.8%	2.76	25.2%	0.7%	0.2%	-	0.0%	8.18	74.8%	0.8%	0.6%
VILLAGES	19.10	1.3%	5.03	26.3%	**1.2%**	0.3%	-	0.0%	14.07	73.7%	1.4%	1.0%
Altoona	40.82	2.8%	4.56	11.2%	1.1%	0.3%	-	0.0%	36.26	88.8%	3.6%	2.5%
Augusta	13.36	0.9%	1.48	11.1%	0.4%	0.1%	-	0.0%	11.88	88.9%	1.2%	0.8%
Eau Claire	328.63	22.8%	5.39	1.6%	1.3%	0.4%	-	0.0%	323.24	98.4%	32.3%	22.5%
CITIES	382.81	26.6%	11.43	3.0%	**2.7%**	0.8%	-	0.0%	371.38	97.0%	37.1%	25.8%
EAU CLAIRE COUNTY	**1,439.43**	**100.0%**	**417.98**	**29.0%**	**100.0%**	**29.0%**	**2.73**	**0.2%**	**1,000.78**	**69.5%**	**100.0%**	**69.5%**

C. ***Highway Classification***

Roadway functional classification is a system by which highways are grouped according to the character of the roadway use and service that they are intended to provide. Streets and highways within urbanized areas are classified under the urban functional classification system. Rural roads and highways outside of urban areas are classified under the rural functional classification system.

> ***Rural Arterials***: Principal Arterials are intended to serve corridor movements having trip lengths and travel density characteristic of an interstate or inter-regional nature, generally serving places with a population of 5,000+. Principal Arterials in Eau Claire County are I-94 and portions of STH 93. Minor Arterials serve moderate to large-sized places (cities, villages, towns and clusters of communities), and other traffic generators providing intra-regional and inter-area traffic movements, generally with populations of 1,000+. Minor Arterials that are part of the County Highway System in Eau Claire County include all or portions of: CTH "R", CTH "A", STH "AA", CTH "F", CTH "S", CTH "Q", and CTH "T".
>
> ***Rural Collectors***: Major Collectors provide service to small-to-moderate sized places and other intra-area traffic generators, and link those generators to nearby larger population centers (cities, villages, and towns) or higher functionally classified routes (i.e. arterials), and generally serve places with a population of 100+. Rural Major Collectors in Eau Claire County are roads such as: CTH "HH", CTH "D", CTH "I", CTH "II", CTH "K", CTH "H", CTH "E", CTH "C" CTH "SS", and CTH "EE", including all or portions thereof. Minor Collectors provide service to all remaining smaller places, link the locally important traffic generators with their rural hinterland, and are spaced consistent with population density so as to collect traffic from local roads and bring all developed areas within a reasonable distance of a collector road, and generally serve places with a population of 50+. Representatives of Rural Minor Collectors in Eau Claire County include all or portions of: CTH "TT", CTH "W", CTH "AF", CTH "N", and CTH "G".
>
> ***Local***: A Local road functional classification is applied to those roads that provide access to adjacent land and provide for travel over relatively short distances on an inter-township or intra-township basis. All rural roads not functionally classified as an Arterial or Collector is considered a Local road for functional classification purposes – regardless of the jurisdictional responsibility.

There are 1,421 roadway miles (excluding the state highways and forest roads) under the jurisdiction of the County, Towns, Villages and Cities, within Eau Claire County. Of this overall system, 4.3% are classified as Arterials, 23.8% as Collectors, and 71.9% as Local (see *Figure 4*). Eau Claire County has 14.24 miles (3.4%) of its highways classified as Arterials, 257.66 miles (61.2%) classified as Collectors, and 148.81 miles (35.4%) of its highways classified as Local. In comparison, Municipalities (inclusive of Towns, Villages and Cities) have 47.04 miles (4.7%) of highways/roads classified as Arterials, 81.1 miles (8.1%) of highways/roads classified as Collectors, and 872.64 miles (87.2%) of highways/roads classified as Local. From this data, one

could conclude that the primary use or purpose of the County Trunk Highway system is to serve as higher functional class roadways, such as collector and arterial roads, that generally serve county and region-wide users, while the primary purpose of the Municipal system is to serve as lower functional class roadways, such as local roads, that generally serve local users. However, this data indicates that this general understanding of the overall transportation network does not hold true universally. In several Towns, the percentage of Local highways that are owned by the County exceed 20%, outpacing the percentage of highways that are classified as Collectors, including the Towns of Drammen, Lincoln, Otter Creek, and Pleasant Valley. In cases such as these, the function of the county highway system is changed from a Collector system providing a link from developments to population centers, to one that instead provides access to adjacent land for short travel distances as a Local system.

Figure 4

HIGHWAY FUNCTIONAL CLASSIFICATION, BY LOCAL JURISDICTION IN EAU CLAIRE COUNTY (EXCLUDING STATE HIGHWAYS AND FOREST ROADS)

	TOTAL Mileage (1)	COUNTY MILES	MUNICIPAL MILES	COUNTY ARTERIAL	% ARTERIAL	COUNTY COLLECTOR	% COLLECTOR	COUNTY LOCAL	% LOCAL	MUNICIPAL ARTERIAL	% ARTERIAL	MUNICIPAL COLLECTOR	% COLLECTOR	MUNICIPAL LOCAL	% LOCAL
Bridge Creek	122.04	54.30	67.74	1.26	2.0%	37.31	30.6%	15.73	12.9%	-	0.0%	2.00	1.6%	65.74	53.9%
Brunswick	63.82	16.24	47.58	-	0.0%	8.70	13.6%	7.54	11.8%	-	0.0%	3.91	6.1%	43.67	68.4%
Clear Creek	56.40	24.34	32.06	-	0.0%	17.03	30.2%	7.31	13.0%	-	0.0%	0.00	0.0%	32.06	56.8%
Drammen	59.06	28.88	30.18	-	0.0%	7.95	13.5%	20.93	35.4%	-	0.0%	0.92	1.6%	29.26	49.5%
Fairchild	40.96	12.57	28.39	-	0.0%	9.13	22.3%	3.44	8.4%	-	0.0%	0.00	0.0%	28.39	69.3%
Lincoln	92.08	44.11	47.97	-	0.0%	22.02	23.9%	22.09	24.0%	-	0.0%	0.00	0.0%	47.97	52.1%
Luddington	72.85	38.20	34.65	-	0.0%	23.40	32.1%	14.80	20.3%	-	0.0%	0.35	0.5%	34.30	47.1%
Otter Creek	60.74	32.13	28.61	5.41	8.9%	12.02	19.8%	14.70	24.2%	-	0.0%	0.00	0.0%	28.61	47.1%
Pleasant Valley	106.24	40.33	65.91	-	0.0%	14.88	14.0%	25.45	24.0%	-	0.0%	5.92	5.6%	59.99	56.5%
Seymour	83.63	30.46	53.17	0.74	0.9%	26.66	31.9%	3.06	3.7%	-	0.0%	4.06	4.9%	49.11	58.7%
Union	70.55	24.56	45.99	0.51	0.7%	23.05	32.7%	1.00	1.4%	-	0.0%	9.67	13.7%	36.32	51.5%
Washington	132.41	34.66	97.75	1.86	1.4%	24.99	18.9%	7.81	5.9%	0.67	0.5%	6.66	5.0%	90.42	68.3%
Wilson	58.80	23.47	35.33	-	0.0%	21.49	36.5%	1.98	3.4%	-	0.0%	0.00	0.0%	35.33	60.1%
TOWNS	1,019.58	404.25	615.33	9.78	1.0%	248.63	24.4%	145.84	14.3%	0.67	0.1%	33.49	3.3%	581.17	57.0%
Fairchild	8.16	2.27	5.89	-	0.0%	1.52	18.6%	0.75	9.2%	-	0.0%	0.03	0.4%	5.86	71.8%
Fall Creek	10.94	2.76	8.18	-	0.0%	1.99	18.2%	0.77	7.0%	-	0.0%	0.00	0.0%	8.18	74.8%
VILLAGES	19.10	5.03	14.07	-	0.0%	3.51	0.0%	1.52	8.0%	-	0.0%	0.03	0.2%	14.04	73.5%
Altoona	40.82	4.56	36.26	2.83	6.9%	1.42	3.5%	0.31	0.8%	2.61	6.4%	3.43	8.4%	30.22	74.0%
Augusta	13.36	1.48	11.88	-	0.0%	0.83	6.2%	0.65	4.9%	-	0.0%	0.58	4.3%	11.30	84.6%
Eau Claire	328.63	5.39	323.24	1.63	0.5%	3.27	1.0%	0.49	0.1%	43.76	13.3%	43.57	13.3%	235.91	71.8%
CITIES	382.81	11.43	371.38	4.46	1.2%	5.52	31.3%	1.45	0.4%	46.37	12.1%	47.58	12.4%	277.43	72.5%
TOTAL COUNTY	**1,421.49**	**420.71**	**1,000.78**	**14.24**	**1.0%**	**257.66**	**18.1%**	**148.81**	**10.5%**	**47.04**	**3.3%**	**81.10**	**5.7%**	**872.64**	**61.4%**

Figure 5 compares the composition of the functional classification of the Eau Claire County highway system to the benchmark counties. Based on this information, Eau Claire County has a relatively low number of arterial miles and fairly large number of highways classified as "local" highways.

Figure 5

Comparison Based on Benchmark Counties						
County	Total Miles	County Miles	Municipal Miles	County Arterial	County Collector	County Local
Eau Claire	1,589.93	420.71	1000.78	14.24	257.66	148.81
Fond du Lac	1,786.48	384.33	1202.9	33.32	338.38	12.63
Jefferson	1,439.51	257.31	1003.36	22.8	217.62	16.89
La Crosse	1,195.35	285.33	751.36	19.03	168.27	98.03
St. Croix	1,936.41	337.83	1390.51	22.7	239.21	75.92
Sheboygan	1,578.94	450.54	944.3	34.74	237.69	178.14
					County Miles	356.01
					Local Function	88.40

State functional classification criteria and guidance - State Department of Transportation (WisDOT) for functional roadway classification on a Statewide and Countywide basis:

Arterial: systems should account for 1.0% to 8% of the system on a "statewide basis".
Eau Claire County – 1.8% on a statewide basis

Collector system is recommended to range from 5.0% to 28% on a "countywide basis".
Eau Claire County – 23.8% on a countywide basis

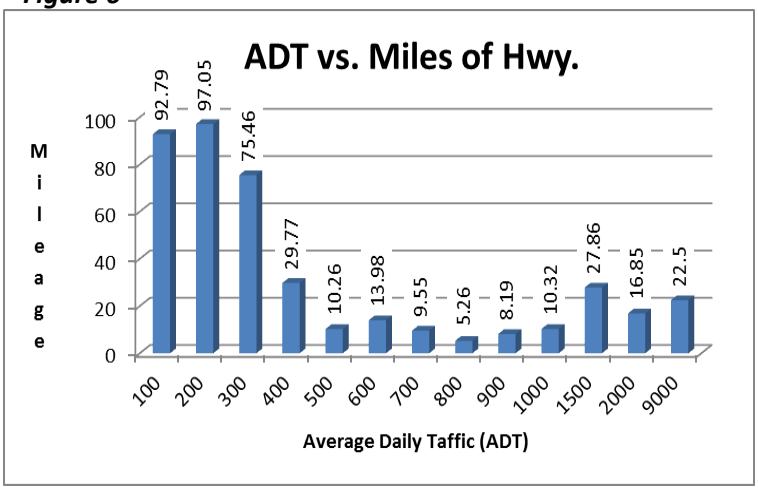
Local functional classification is recommended to account for 65% to 75% of the system on a "countywide basis".
Eau Claire County – 71.9% on a countywide basis.

Although Eau Claire County appears to be within the statewide guidelines, overall the system is on the higher end of the recommended percentages for Collectors (23.8%) and Local (71.9%) highways while being on the low end for Arterials (1.8%).

D. County Highway Traffic Volumes

WisDOT provides estimated Average Daily Traffic (ADT) volumes for most highways throughout the state, including Eau Claire County. Traffic counts are conducted approximately every six years by WisDOT, with the most recent being in 2008. ADT is broken down into increments of 100 for illustration and discussion purposes. *Figure 6* correlates the number of miles of highway by ADT category. Based on the data obtained by WisDOT, a large majority (70%) of the total mileage owned and maintained by Eau Claire County has an ADT of 400 vehicles per day or less, while 18% has an ADT of 1,000 vehicles per day or more. This information coincides with the classification system above, meaning that a large majority of the Eau Claire County Trunk Highway System is comprised of "local highways" with relatively low daily traffic volumes largely serving rural areas. This illustrates the challenge faced by Eau Claire County. With limited financial resources, maintenance efforts have been logically focused on maintaining highways with higher traffic volumes, while work on highways with lower volumes has been deferred due to financial constraints. *Figure 6* illustrates the volume of low-volume highway miles that comprise the county's highway system.

Figure 6



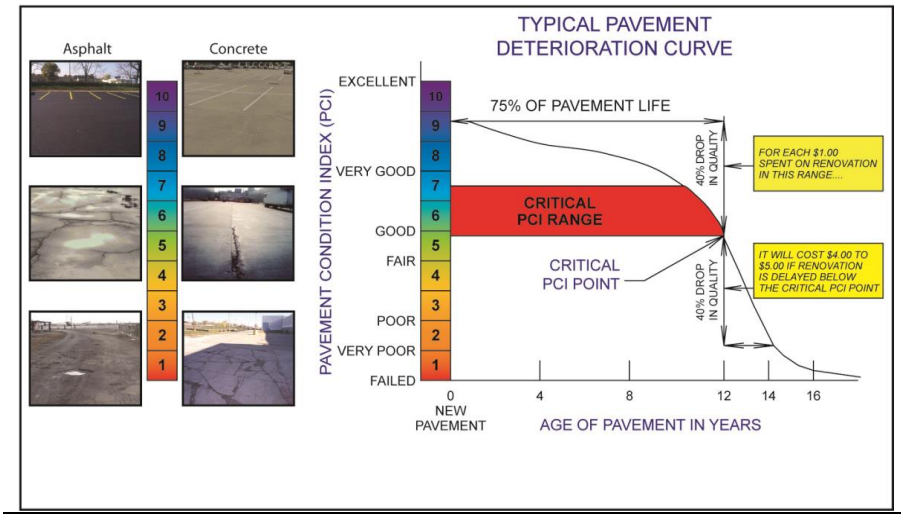
Section 4: Highway Pavement Conditions (PASER Ratings)

In order to qualify for state transportation aids, local units of government must use some sort of a pavement management system. The most popular system used by many jurisdictions in Wisconsin to define the overall condition of a highway network is the Pavement Surface Evaluation and Rating (PASER) system, which is administered by WisDOT and utilized by 70 out of 72 counties. The PASER system uses a 10-point scale that rates the condition of the surface of highway pavement, from Very Poor or Failed to Excellent with 10 being the best and 1 being the worst. The PASER Scale for roads paved with bituminous pavement at least 1-inch thick is broken down as follows:

EXCELLENT	9-10	Minimal/No Maintenance required (Crack sealing at year 3-5)
GOOD	7-8	Crack sealing and/or minor patching (Sealcoat at year 8-12)
FAIR	5-6	Preservation treatments (Crack sealing, patching, sealcoating, thin overlays)
POOR	3-4	Structural Renewal (Overlay, Mill and Overlay – evaluate drainage & subgrade)
VERY POOR	1-2	Reconstruction or Recondition (Grading, base, ditches, drainage, pavement)

Highways are visually inspected every two years in Eau Claire County (fall of odd numbered years) to evaluate the surface condition of the County Trunk Highway System. Based on observations, a numerical rating is assigned to each segment of county highway. The surface condition rating is useful in determining future maintenance and outlay needs in order to maintain good travel surfaces and therefore a healthy highway system. A system with a lower cumulative rating is somewhat indicative of the need for significant future outlay expenditures. A higher cumulative rating would suggest that a community could concentrate more on maintenance rather than outlay expenditures, which is more cost effective in the long run. *Figure 7* is an illustration of how the PASER rating system can be used as a tool to develop a maintenance and outlay plan for highway networks. As depicted, bituminous pavement will generally retain a rating of 5 or more for roughly 75% of its overall life, with routine preventative maintenance measures. In contrast, the pavement tends to deteriorate rather quickly once the rating drops below a “5” or “Good” rating, accounting for roughly 25% of its overall life span.

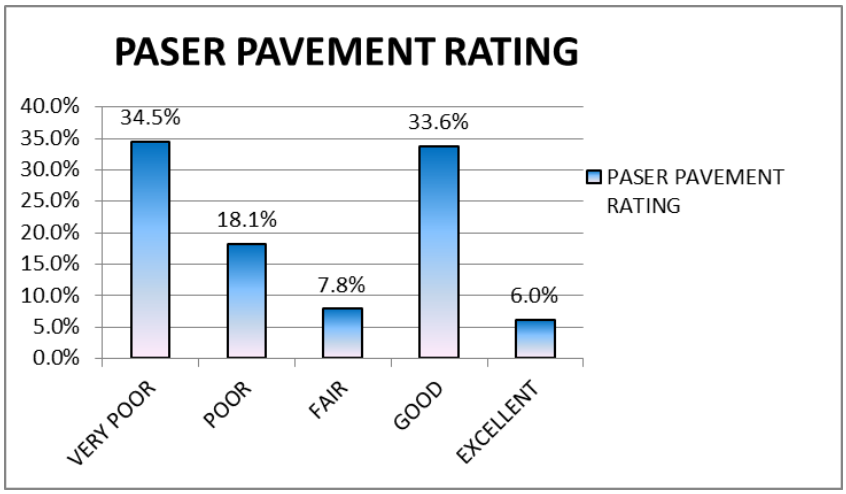
Figure 7



A key to developing a sustainable plan for maintenance and capital outlay begins with understanding that extent of the problem and the financial resources available to address that problem. The ratings help to provide insight into the overall system condition as well as a breakdown by highway classification type to better understand the extent of the problem.

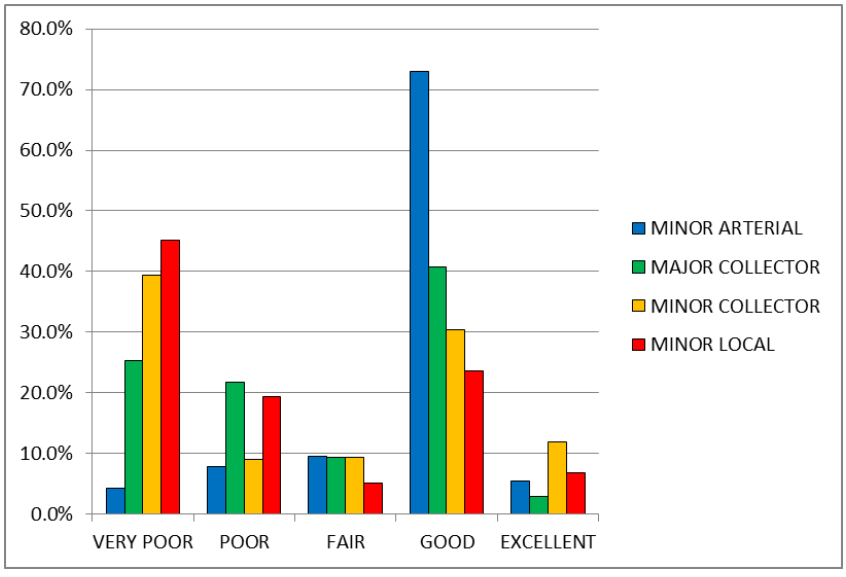
Figures 8 thru *10* depict the 2013 PASER ratings of the Eau Claire County Highway network. *Figure 8* breaks down the 421 miles of the county highway system by PASER rating. Highways rated as "Excellent" have a rating of either 10 or 9; constitute roughly 6% (25 miles) of the overall system. 33.6% (141 miles) of the county highway network is considered in "Good" condition, meaning it has a rating of either 8 or 7. Highways with a rating of either 6 or 5 are considered in "Fair" condition; make up roughly 33 miles (7.8%) of the county highway system. Poor (76 miles or 18.1%) and Very Poor (145 miles or 34.5%) round out the cumulative ratings for Eau Claire County.

Figure 8



Another way to evaluate pavement condition is by highway functional classification, see *Figure 9.* The arterial highway system (with very few miles) is in relatively good condition when compared to the highways classified as either collector or local. While a majority (greater than 50%) of the highways classified as major collectors are rated "Fair" or above, the same cannot be said for the highways classified as either minor collectors or minor locals. Highways rated as either a 1 or 2 through the PASER rating system indicate that the roadway system is in "Very Poor" condition or has failed and is therefore in need of full pavement replacement. Highways that are rated as "Poor" may still be able to be improved in a more cost effective manner, often consisting of minor maintenance along with an

Figure 9



overlay. Overlaying roads that have reached a "Poor" rating may extend the life of the pavement for an average of 8-18 years, with some lasting even longer based on factors such as traffic loading, type of traffic, weather, etc. However, some roads with a "Poor" rating that exhibit significant subgrade failures may need to be fully reconstructed rather than a less-costly overlay treatment. The reality is that roadway pavement is a significant investment regardless of location, and continual pavement maintenance and replacement (as necessary) is the most cost-effective approach to protecting this investment.

A. Breakdown of County Highway Miles by PASER Rating

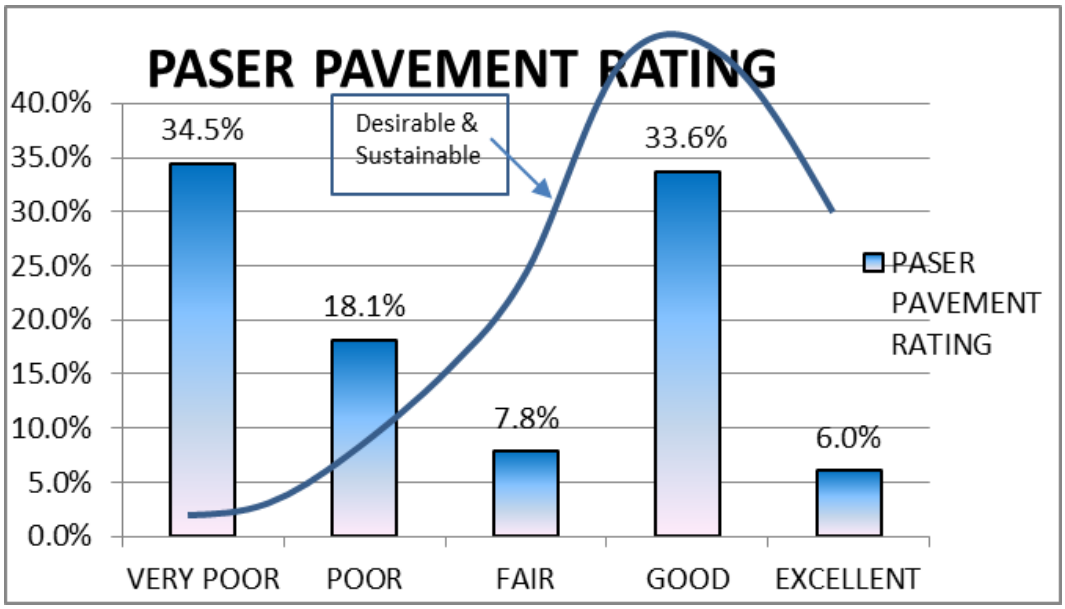
Figure 10

PASER Rating Breakdown by Mileage		
PASER Rating	**Hwy Miles**	**% of Total Miles**
1	71.61	17.1%
2	73.06	17.4%
3	54.18	12.9%
4	21.69	5.2%
5	22.3	5.3%
6	10.45	2.5%
7	78.38	18.7%
8	62.85	15.0%
9	9.68	2.3%
10	15.64	3.7%
	419.84	100.0%

Figure 10 correlates the County Trunk Highway System mileage and PASER pavement ratings. There are roughly 145 miles of highway rated as "Very Poor" compared to only 25 miles of highway rated as "Excellent". This information corresponds to the data contained in Figure 7. Highways that receive a PASER rating of 1 or 2 suggests that the surface and/or subgrade are beyond the state of repair, and must be either reconditioned or reconstructed. Highways that receive a PASER rating of 3 or 4 are indicative of surfaces that may be resurfaced, allowing the life of the road to be extended by eight to twelve years. Highways that are rated as a 5 to 8 are highways that maintenance efforts are focused, primarily on crack sealing, patching and sealcoating. Performing routine maintenance efforts on highway surfaces will allow the surface condition to last longer, thereby assuring the pavement will perform for its intended design life.

The next step is to examine what a preferred or more desirable composition of ratings for a highway system would look like. *Figure 11* compares Eau Claire County's current cumulative PASER ratings with a more desirable curve based on other county ratings. While the percentage of miles that are rated as "Good" appear to be in line with the desirable matrix, the percentage of miles rated as either "Very Poor" or "Poor" are in clear contrast. A majority of the highways rated as either "Poor" or "Very Poor" are most likely classified as minor collectors or minor local. Therefore, the challenge to Eau Claire County might be how best to keep the highways rated as "fair" or better from deteriorating while systematically addressing the minor collector or local highways that are rated as "poor" or "very poor". Clear policy indicating what a desirable curve may look like for Eau Claire County will play a major part in responding to these challenges.

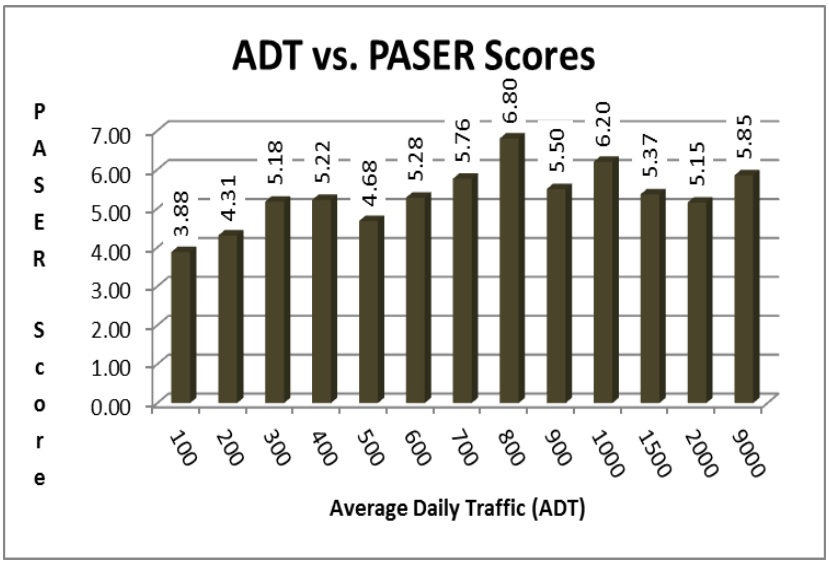
Figure 11



B. Correlating PASER with Average Daily Traffic (ADT) Volumes

Figure 12 provides a correlation between the ADT categories utilized in *Figure 6* and average PASER rating discussed above. There are roughly 190 miles of county highway with an ADT of 200 or lower, or roughly 45% of the entire highway system for Eau Claire County. This portion of the infrastructure is in the most significant state of disrepair, with average PASER scores of 3.9 for ADT of 100 or less, and 4.3 for ADT of 200 or less, with a *cumulative PASER average of approximately 4.1 for highways with an ADT of 200 vehicles per day or less*. In comparison, *the remaining 230 miles of county highway with an ADT above 200 vehicles per day has a cumulative PASER rating of 5.4,* meaning that these highways are considered to be in "Fair" to "Good" condition according to *Figure 7*.

Figure 12



Section 5: Bridges and Structures

The Eau Claire County Trunk Highway System includes many components in addition to roadways, pavements and ditches. In order to have a continuous highway system, the roadways must pass over natural drainage ways or over other modes of transportation such as a railroad.

The County Trunk Highway System currently includes 72 bridges. A bridge, as included in the National Bridge Inventory (NBI), is defined as carrying vehicular traffic and is longer than 20 feet in length. The County also has 180 large culverts and bridges under its jurisdiction that are less than 20 feet in length and therefore not included in the National Bridge Inventory. The newest bridge on the CTH system was constructed in 2008 on CTH "D" over Beaver Creek in the Town of Washington, although three bridges are slated for replacement in 2014. The oldest bridge was originally constructed in 1918 on CTH "HH" over Pine Creek in the Town of Pleasant Valley. Age of the bridges under the jurisdiction of Eau Claire County is summarized as follows:

Age - Years	NO.	%
Less than 25 years old	9	12.5 %
26 to 50 years old	24	33.3 %
51 to 75 years old	23	31.9 %
More than 75 years old	16	22.2 %

The Federal bridge inspection program regulations were developed as a result of the Federal Aid Highway Act of 1968, following the collapse of the Silver Bridge in Point Pleasant, West Virginia. The 1968 Act directed the states to maintain an inventory of all Federal Aid highway system bridges. A federal program for local bridge replacement was initiated in 1979, which included a requirement that all "non-state" maintained bridges be inspected once every two years. Bridges are rated based on the federal bridge sufficiency rating methodology. Eau Claire County conducts the bridge inspections with in-house personnel and submits the inspection reports to the Wisconsin Department of Transportation (WisDOT).

Sufficiency Rating: is a computed numerical value that is used to determine eligibility of a bridge for Federal funding. The sufficiency rating formula produces results ranging from 0 to 100. The formula includes factors for not only structural adequacy and safety (55%), but also bridge geometry and clearance adequacy (30%); traffic volumes and essentiality for public use (15%); and special reductions, such as the length of the detour if the bridge is out of service (up to 13%). A bridge with a sufficiency rating of 80 or less is eligible for Federal bridge "rehabilitation" funding. A bridge with a sufficiency rating of 50 or less is eligible for Federal bridge "replacement" funding.

The sufficiency ratings, based upon the most recent inspections conducted in 2012, for the bridges under the jurisdiction of Eau Claire County is summarized as follows:

Sufficiency Rating	NO.	%	
Greater than 80	39	54.2 %	
Less than 80 Greater than 50	28	38.9 %	Eligible for Federal "Rehabilitation"
Less than 50	5	6.9 %	Eligible for Federal "Replacement"

Structurally Deficient: is a bridge classification used to determine eligibility for federal bridge replacement and rehabilitation funding. Bridges are classified as "structurally deficient" if they have a general condition rating for deck, superstructure, or substructure that is 4 or less, or if the road approaches regularly overtop due to flooding. A general condition rating of 4 means that the component rating is described as poor. Examples of poor condition include corrosion, movement of the substructure, or advanced cracking of a concrete deck. This classification is an indication that the bridge may need further analysis which may result in load posting, maintenance, rehabilitation, replacement or closure.

A bridge classified as structurally deficient ***does not*** imply that it is unsafe. A bridge in this classification typically needs maintenance and repair, with eventual rehabilitation or replacement to address the deficiencies.

Eau Claire County currently has eleven (11) bridges classified as structurally deficient, of which four (4) have a sufficiency rating under 50 and are therefore eligible for federal funding to replace the structure. (Yellow highlights in *Figure 13*)

Functionally Obsolete: is a bridge classification also used to determine eligibility for federal bridge replacement or rehabilitation. A "functionally obsolete" bridge is one that was built to standards that do not meet the current minimum Federal clearance requirements for a new bridge. These bridges are not automatically rated as structurally deficient, nor are they unsafe. Functionally obsolete bridges include those that have sub-standard geometric features such as narrow lanes, narrow shoulders, poor approach alignment or inadequate vertical under clearance.

Eau Claire County currently has one (1) bridge classified as functionally obsolete, which has a sufficiency rating of 50.5. It is currently eligible for federal rehabilitation funding, however it will be eligible for replacement funding within a few years. (Orange highlights in *Figure 13*)

The number of deficient bridges has increased from eight (8) in 2008 to twelve (12) in 2012. This increase is due primarily to the components on several bridges dropping from a rating of 5 (Fair) to a rating of 4 (Poor) in the past four years, which is not unusual as a bridge ages. Three (3) of the bridges rated as structurally deficient are scheduled for replacement in 2014.

A. Bridge Funding

The bridge replacement program in Eau Claire County is highly dependent on Federal/State Local Bridge Improvement funding assistance (Local Bridge Program), administered by the Wisconsin Department of Transportation (WisDOT). When a bridge is replaced using funding from the state Local Bridge Program, 80% of the cost is paid for through the Federal/State program. The remaining 20% is typically funded through bond proceeds in Eau Claire County. The annual appropriation in the current state 2013-2015 Wisconsin budget is $32.9 million, of which $24.4 million is Federal and $8.5 million is state appropriated. Note: the future of this funding is in doubt due to financial stability and sustainability issues at both the state and federal levels. This is an issue that all local units of government must keep a close eye on. Should funding be reduced or eliminated, Eau Claire County will be responsible for a greater portion of the costs to repair or replace this infrastructure.

Local bridge applications are typically received by the WisDOT regional offices in the spring of odd-numbered years, with final program approval occurring in the fall of the same year. The 2011-2014 program is currently in effect, and the three bridges scheduled for replacement in 2014 are being funded under the current program. Applications were submitted in the spring of 2013 for the 2013-2018 local bridge program. The 2013-2018 approved project list for the Local Bridge Program included replacement of the CTH "AA" bridge over Otter Creek (P180032). The 2014-2018 Highway Improvement Plan, dated June 26, 2013 may need to be adjusted and the planned bridge replacement in future years deferred until such time as Federal/State funding is available. Project planning should continue on those projects not currently funded for reconstruction.

The projects currently approved under the Local Bridge Program will replace all of the bridges under the jurisdiction of Eau Claire County with a sufficiency rating less than 50, with the exception of CTH "D" over the Eau Claire River (B180001). It should be noted that this bridge, while having a sufficiency rating less than 50, is ***not*** classified as structurally deficient.

The 180 culverts and structures less than 20 feet in length are inspected every two years by the County Highway Department Staff as well. Replacement and upgrading of these structures is typically funded from the local annual capital program as needed.

Figure 13

TOWN,VILLAGE,CITY	CUSTODIAN	FEATURE_ON	FEATURE_UNDER	BUILT	SUFFICENCY	NO.	%	FO/SD	5-YR PLAN
WASHINGTON	COUNTY(30)	D	BEAVER CREEK	2008	99.5				
BRIDGE CREEK	COUNTY(30)	CF	COON FORK CREEK	1990	98.9				
BRIDGE CREEK	COUNTY(30)	H	HORSE CREEK	1993	98.7				
WILSON	COUNTY(30)	DD	MUSKRAT CREEK	1981	98.3				
WASHINGTON	COUNTY(30)	II	LOWES CREEK	1990	98.0				
BRIDGE CREEK	COUNTY(30)	COUNTY RUSTIC RD R45	PEA CREEK	1994	98.0				
LUDINGTON	COUNTY(30)	D	BEAVER CREEK	1974	97.7				
PLEASANT VALLEY	COUNTY(30)	HH	CLEAR CREEK	1956	97.6				
FAIRCHILD	COUNTY(30)	H	BLACK CREEK	1994	97.4				
CLEAR CREEK	COUNTY(30)	V	OTTER CREEK	1945	96.9				
BRUNSWICK	COUNTY(30)	Z	WEST CREEK	1979	96.8				
UNION	COUNTY(30)	E	SHERMAN CREEK	2008	96.8				
PLEASANT VALLEY	COUNTY(30)	HH	CLEAR CREEK	1994	96.8				
OTTER CREEK	COUNTY(30)	HH	BR BEARGRASS CREEK	1965	96.5				
WASHINGTON	COUNTY(30)	I	OTTER CREEK	1977	96.4				
LINCOLN	COUNTY(30)	V	BEARGRASS CREEK	1925	94.4				
BRUNSWICK	COUNTY(30)	B	WEST CREEK	1987	94.2				
LINCOLN	COUNTY(30)	V	BEARGRASS CREEK	1925	93.5				
BRIDGE CREEK	COUNTY(30)	G	EAU CLAIRE RIVER	1971	93.2				
CLEAR CREEK	COUNTY(30)	D	BEAVER CREEK	2003	93.0				
LINCOLN	COUNTY(30)	KK	FALL CREEK	1986	92.2				
LUDINGTON	COUNTY(30)	NL	HAY CREEK	1981	91.3				
DRAMMEN	COUNTY(30)	Z	HOYTS CREEK	1964	89.5				
PLEASANT VALLEY	COUNTY(30)	I	CLEAR CREEK	1974	89.4				
PLEASANT VALLEY	COUNTY(30)	U	BIG CREEK	1964	89.4				
LUDINGTON	COUNTY(30)	XX	PINE CREEK	1981	89.4				
V-FAIRCHILD	COUNTY(30)	YY	SCHOOLHOUSE CREEK	1930	89.3				
LINCOLN	COUNTY(30)	JJ	FALL CREEK	1960	89.2				
PLEASANT VALLEY	COUNTY(30)	F	LOWES CREEK	1955	87.4				
LINCOLN	COUNTY(30)	D	RUSH CREEK	1919	86.1				
FAIRCHILD	COUNTY(30)	M	BLACK CREEK	1963	86.0				
LINCOLN	COUNTY(30)	V	BR BEARGRASS CREEK	1985	85.9				
C-AUGUSTA	COUNTY(30)	G	BRIDGE CREEK	1959	85.5				
LINCOLN	COUNTY(30)	JJ	BEAR GRASS CREEK	1956	85.4				
WASHIGTON	COUNTY(30)	D	OTTER CREEK	1968	84.9				
CLEAR CREEK	COUNTY(30)	KK	OTTER CREEK	1919	83.9				
V-FALL CREEK	COUNTY(30)	J	FALL CREEK	1940	81.5				
ALTOONA	COUNTY(30)	A	OTTER CREEK	1962	81.3				
PLEASANT VALLEY	COUNTY(30)	HH	PINE CREEK	1926	81.1				
						39	54.2%		
OTTER CREEK	COUNTY(30)	K	BR OTTER CREEK	1981	79.4				
OTTER CREEK	COUNTY(30)	K	OTTER CREEK	1965	75.7				
OTTER CREEK	COUNTY(30)	V	BEARGRASS CREEK	1964	75.1				
BRIDGE CREEK	COUNTY(30)	H	S FK EAU CLAIRE RIVER	1959	74.1				
PLEASANT VALLEY	COUNTY(30)	I	PINE CREEK	1966	73.9				
CLEAR CREEK	COUNTY(30)	D	BEAVER CREEK	1966	73.2				
V-FAIRCHILD	COUNTY(30)	H	SCHOOLHOUSE CREEK	1929	72.8				
WASHINGTON	COUNTY(30)	KB	CNW RR	1963	72.7				
BRIDGE CREEK	COUNTY(30)	ND	BR EAU CLAIRE RIVER	1925	72.6				
OTTER CREEK	COUNTY(30)	O	BEARGRASS CREEK	1953	69.5				
WILSON	COUNTY(30)	H	N EAU CLAIRE RIVER	1954	68.7			SD	2017
LINCOLN	COUNTY(30)	AF	BEARGRASS CREEK	1955	67.9			SD	
LUDINGTON	COUNTY(30)	D	HAY CREEK	1974	67.8			SD	
OTTER CREEK	COUNTY(30)	VV	BEARGRASS CREEK	1924	65.7				
LUDINGTON	COUNTY(30)	X	ALDER CREEK	1930	64.4				
V-FALL CREEK	COUNTY(30)	K	FALL CREEK	1971	63.9			SD	2018
BRIDGE CREEK	COUNTY(30)	R	THOMPSON VALLEY CREEK	1924	63.2				
WILSON	COUNTY(30)	H	WOLF RIVER	1975	62.0			SD	
LINCOLN	COUNTY(30)	K	EAU CLAIRE RIVER	1951	60.4				
OTTER CREEK	COUNTY(30)	R	THOMPSON VALLEY CREEK	1937	59.7			SD	
WASHINGTON	COUNTY(30)	J	OTTER CREEK	1939	59.1				
CLEAR CREEK	COUNTY(30)	HH	OTTER CREEK	1920	59.1				
PLEASANT VALLEY	COUNTY(30)	HH	LOWES CREEK	1954	58.4				
FAIRCHILD	COUNTY(30)	H	SCHOOLHOUSE CREEK	1955	58.2				
BRIDGE CREEK	COUNTY(30)	V	BRIDGE CREEK	1948	57.3				
WASHINGTON	COUNTY(30)	D	BEAVER CREEK	1936	52.9			SD	
WILSON	COUNTY(30)	MM	WOLF RIVER	1953	50.6				
WASHINGTON	COUNTY(30)	F	LOWES CREEK	1956	50.5			FO	
						28	38.9%		
WASHINGTON	COUNTY(30)	AA	OTTER CREEK	1965	47.8			SD	2016
LUDINGTON	COUNTY(30)	D	EAU CLAIRE RIVER	1948	45.8				2018
OTTER CREEK	COUNTY(30)	V	BEARGRASS CREEK	1940	42.2			SD	2014
WASHINGTON	COUNTY(30)	D	BEAVER CREEK	1936	36.4			SD	2014
PLEASANT VALLEY	COUNTY(30)	HH	PINE CREEK	1918	31.2			SD	2014

Section 6: Support Infrastructure

The maintenance and roadway construction of the Eau Claire County Trunk Highway System requires a support infrastructure, which includes personnel, equipment, buildings, facilities, and outside services.

A. Headquarters - Highway Office/Shop

The Eau Claire County Highway Department is currently headquartered at the Office/Shop located at 2000 Spooner Avenue (CTH "A") in the City of Altoona. The site is approximately 13 acres in size and houses the headquarter offices for the Highway Commissioner and support staff. The site also contains four (4) main buildings that collectively account for approximately 46,000 square feet of space (more than 2/3 of the Department's 61,624 square feet of total space). These buildings are used for vehicle and equipment storage, housing of supplies and inventory, a portion of which is for the repair and maintenance of vehicles and related support staff. Fueling facilities are operated on site, along with material storage for salt and other road materials. The buildings range in age from 17 to 77 years. The equipment maintenance and office areas are in need of renovations.

Figure 14

B. Auxiliary Facilities:

Two (2) auxiliary facilities are located in the outlying eastern and southern area of the county to reduce response time and improve the efficiency of highway maintenance and snow removal.

Augusta Shop:

The Augusta Highway shop site is approximately 3.5 acres located at 513 E. Grant Street on the southeast side of the City of Augusta. The site contains 2 buildings and a storage yard for road construction/maintenance materials. The main building is approximately 8,000 square feet in size and was constructed in 1986. The primary service area for the Augusta shop is the eastern and northern parts of Eau Claire County.

Figure 15

Foster Shop:

The Foster Highway shop site is approximately 2.6 acres located at S12785 Wren Road, approximately one (1) mile east on CTH "HH" from the Foster/I-94 exit. The site contains 2 buildings and a storage yard for road maintenance materials. The main building is approximately 7,000 square feet in size and was constructed in 1968. The primary service area for the Augusta shop is the southern and western parts of Eau Claire County.

Figure 16

C. Equipment:

The Highway Department currently has 66 trucks which are used for highway construction/maintenance work, with 11 trucks used primarily for State highway maintenance. The age of the trucks ranges from 0 to 23 years. The equipment replacement funding in the five year capital improvement plan is currently $700,000 on an annual basis, which replaces approximately 3 to 4 major pieces of equipment per year.

D. Personnel:

The Highway Department currently has a staffing of 62.65 full time equivalents (FTE's) to conduct highway maintenance and construction. The staffing is shifted to the various work areas throughout the calendar year, such as snow removal and road construction as needed. An estimate of the work area to which employees are primarily assigned is as follows (based on approximate hours worked):

Administration & Engineering	5.65	9.0 %
General County Road Maintenance	15.35	24.5 %
Road & Bridge Construction	13.60	21.7 %
Work for State & Others	17.05	27.2 %
Equipment & Related	11.00	17.6 %
Total	62.65	

E. Engineering:

The Highway Department generally uses outside engineering consultants to assist with the design of bridge replacement projects and on larger federally-funded road reconstruction projects. Prior to the influx of additional funding for capital projects, in-house engineering staff undertook the design and construction engineering for most of the reconditioning and resurfacing projects that were constructed with county staff and resources. With the 2014 budget increase and associated additional engineering workload, the Department engaged the services of engineering consultants. The engineering staff time, including Highway Commissioner, is spent performing in-house engineering design as well as managing engineering service contracts.

F. Contractors:

The majority of construction work is performed by Highway Department staff with the materials and supplies, such as asphalt purchased from private vendors. However, specialized work and major work that is beyond the equipment and staffing abilities of the Highway Department is competitively bid out to private contractors, including all federally-funded work.

Section 7: Funding – Past, Present & Future

The Eau Claire County Highway Department undertakes a variety of tasks associated with the County's highway infrastructure. That work is outlined in the Program and Services contained in the annual budget.

The Eau Claire County Highway Department is funded through various sources including: general property taxes, bond proceeds, general transportation aids (GTA), and other private industry sources (Seven Mile landfill) through road use agreements. The recent budget revenue for highway purposes is as follows:

Figure 17

EXPENSES		2013 BUDGET	%	2014 BUDGET	%	% Change
PM #						
1	Administration & Engineering	$ 519,050	3.2%	$ 501,180	2.1%	-3.4%
2	County Aid - Bridges	$ 50,000	0.3%	$ 50,000	0.2%	0.0%
3	General County Road Maint.	$ 3,566,200	21.9%	$ 3,522,000	15.0%	-1.2%
	General Maintenance	$ 2,902,200	81.4%	$ 2,782,000	79.0%	-4.1%
	Winter Maintenance	$ 813,000	22.8%	$ 740,000	21.0%	-9.0%
4	Road & Bridge Construction	$ 4,230,000	26.0%	$ 10,833,857	46.2%	156.1%
5	Work for State & Others	$ 2,390,958	14.7%	$ 2,627,830	11.2%	9.9%
6	Incidental Labor	$ 1,545,900	9.5%	$ 1,635,575	7.0%	5.8%
7	Equipment & Related	$ 3,973,230	24.4%	$ 4,280,675	18.3%	7.7%
	TOTAL	$ 16,275,338	100.0%	$ 23,451,117	100.0%	44.1%

Figure 18

REVENUE		2013 BUDGET	%	2014 BUDGET	%	% Change
	Property Tax	$ 1,827,895	11.2%	$ 1,827,895	7.8%	0.0%
	State Fuel Tax (GTA)	$ 2,191,163	13.5%	$ 2,493,857	10.6%	13.8%
	State & Local Revenue	$ 2,390,958	14.7%	$ 2,627,830	11.2%	9.9%
	Other Revenues	$ 869,100	5.3%	$ 2,007,870	8.6%	131.0%
	Employee Incidental Labor	$ 1,350,000	8.3%	$ 1,517,000	6.5%	12.4%
	Depreciation	$ 500,000	3.1%	$ 460,000	2.0%	-8.0%
	Equipment Rent	$ 2,725,000	16.7%	$ 2,850,000	12.2%	4.6%
	Equipment Storage	$ 220,374	1.4%	$ 256,760	1.1%	16.5%
	Records & Reports	$ 126,000	0.8%	$ 131,000	0.6%	4.0%
	Proceeds of Borrowing	$ 3,150,000	19.4%	$ 9,310,000	39.7%	195.6%
	Landfill Revenue	$ 175,000	1.1%	$ 175,000	0.7%	0.0%
	Fund Balance	$ 749,848	4.6%	$ (206,095)	-0.9%	-127.5%
		$ 16,275,338	100.0%	$ 23,451,117	100.0%	44.1%

Since 2008, the Department's total expenditures averaged just over $15.8 million annually, excluding the current 2014 calendar year where funding was increased by more than $7 million (due to a $5.5 million increase in debt proceeds to fund additional construction activities along with anticipated revenues associated with a silica sand highway agreement) as depicted in *Figures 17* and *18*. Of the total departmental funding, approximately 7.8% is attributed to general property tax levy. Nearly 40% (39.7%) of total revenue within the 2014 Eau Claire County Highway Budget is derived from the issuance of bonds. The 2014 Budget also anticipated receipt of more than $1.4 million in revenue through Road Use Agreements with silica sand mine operations.

Figure 19

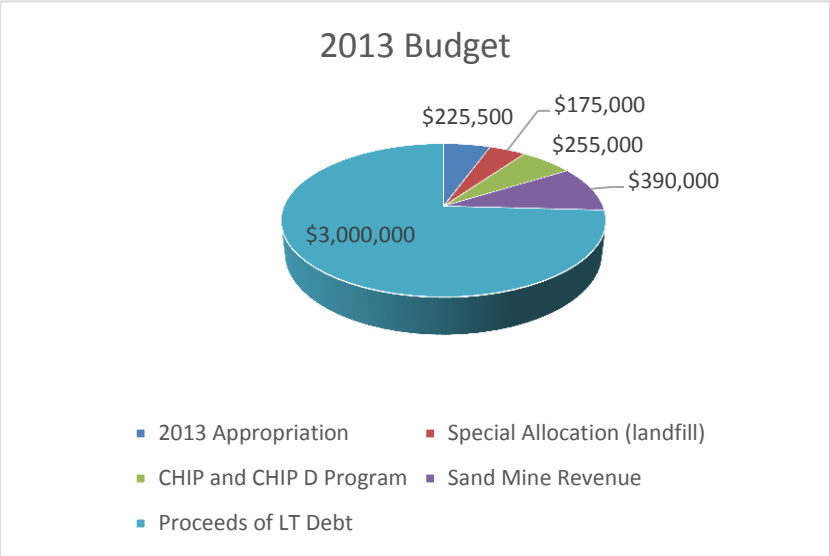


Figure 20

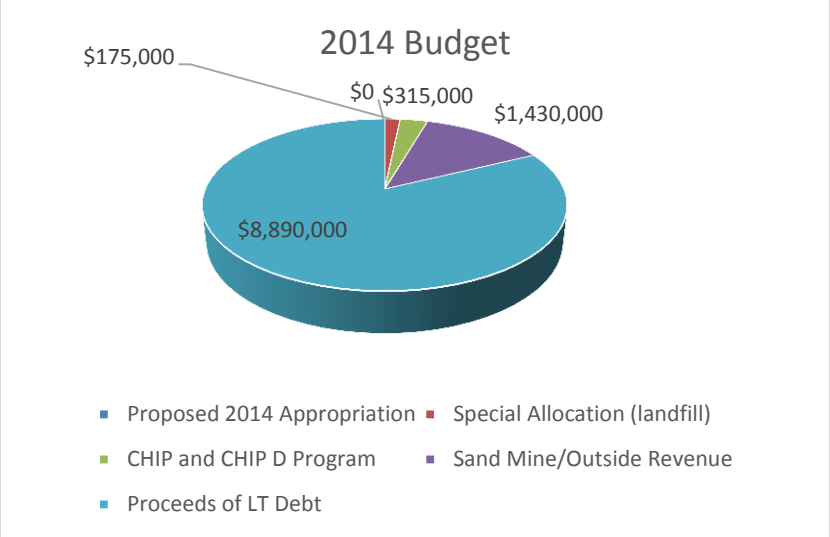


Figure 21

ROAD CONSTRUCTION					ROAD CONSTRUCTION	
2013					2014	
FUNDS	2013 BUDGET		EST TOTAL		FUNDS	
Balance From 2012	$245,329.00		$170,751.15		Estimated Balance From 2013	$181,251.15
2013 Appropriation	225,500.00		225,500.00		Proposed 2014 Appropriation	0.00
Special Allocation (landfill)	175,000.00		175,000.00		Special Allocation (landfill)	175,000.00
CHIP and CHIP D Program	255,000.00		225,000.00		CHIP and CHIP D Program	315,000.00
Sand Mine Revenue	390,000.00		200,000.00		Sand Mine/Outside Revenue	1,430,000.00
Proceeds of LT Debt	3,000,000.00		2,970,000.00		Proceeds of LT Debt	8,890,000.00
ESTIMATED REVENUE	$4,045,500.00		$3,795,500.00		ESTIMATED REVENUE	$10,810,000.00
TOTAL AVAILABLE	$4,290,829.00		$3,966,251.15		TOTAL AVAILABLE	$10,991,251.15

A. Construction Outlay

Funding for highway construction has seen a significant increase over the last twenty years, increasing from roughly $1 million dollars in 1994 to approximately $9.5 million in the current 2014 budget (as represented by the light blue statistical data in Figure 22 below). In 2008, highway funding was nearly doubled from previous average annual levels of $1.5 million by the County Board of Supervisors to accelerate road and bridge construction activities in direct response to Eau Claire County's average PASER rating falling from a "good" condition to a "fair" condition. This accelerated funding effort also marked a significant switch in policy, whereby debt service issuance became the primary funding source for construction activities as opposed to levy sourcing. Between 2008 and 2013, highway construction funding held steady at approximately $3.5 million annually, inclusive of approximately $400,000 in funding from non-levy funding sources including federal and state resources along with the Seven Mile land fill. However, the source of funding for highway improvements has changed dramatically in the past ten years. In 2005, all local funding of capital outlay projects was accomplished through direct property tax levy dollars. In 2008 (in response to additional levy limit restrictions), funding began to move away from direct levy allocations to bond proceeds. Since 2011, nearly all local funding of capital outlay projects has come through borrowing, paid through additional property tax levy. A summary of the roadway funding trend for the past ten (10) years is presented in *Figures 22* and *23*. The long-term debt/bond proceeds used for road construction the past two years range from 78.3% to 82.2% of the total revenue for construction according to *Figure 21*.

Figure 22

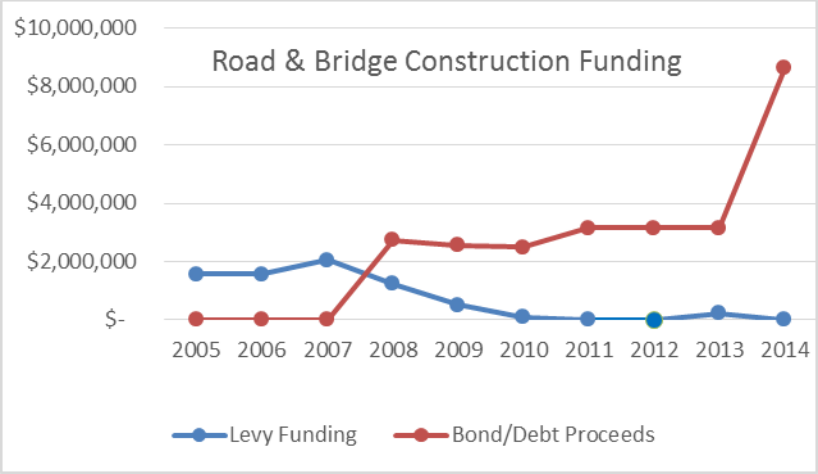


Figure 23

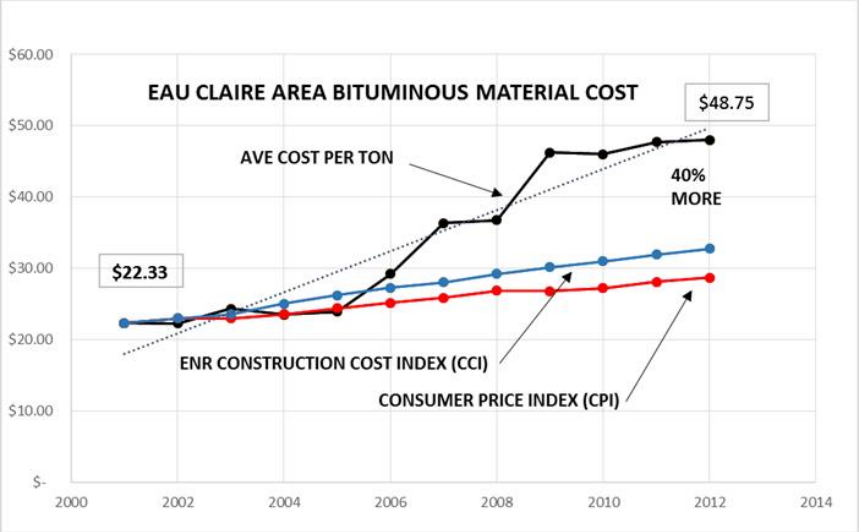
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Levy Funding	$ 1,556,924	$1,575,850	$2,053,000	$1,245,820	$ 507,949	$ 90,000	$ -	$ -	$ 225,000	$ -
Bond/Debt Proceeds	$ -	$ -	$ -	$2,725,090	$2,560,000	$2,495,000	$3,150,000	$3,150,000	$3,150,000	$8,650,000

B. Impacts of Inflation on Construction Activity

Increases in funding should be measured in context with inflation to understand the significance of that increase as it relates to improvements of the county's highway infrastructure. Although funding more than doubled between 2005 and 2011, the cost of bituminous asphalt also saw a significant jump in pricing in the Eau Claire area during that same time frame. According to data obtained from the City of Eau Claire (*Figure 24*), the price per

ton of asphalt more than doubled in this region to a rate of $48.75 in 2013. Although the level of capital outlay funding more than doubled between 2006 and 2011, a large portion of this increase was necessary to offset the increased costs of bituminous asphalt and petroleum related materials. Therefore, the net impact of increased construction funding indicated in *Figures 22* and *23* above has been diminished in terms of addressing deferred construction needs for Eau Claire County in light of bituminous cost, oil and diesel fuel costs.

Figure 24



C. Highway Maintenance

Similar to construction, funding for roadway maintenance has also changed since 2006. While tax levy support has decreased by more than 40%, General Transportation Aids (GTA) has increased by more than 65% during the same eight-year period ((2006-2013). *Figures 25* and *26* depict the tax levy and GTA trend since 2005. The level of funding for maintenance purposes is slightly less (approximately 4%) in 2014 when compared to 2005. However, much like construction outlay, the increases in asphalt prices (primarily due to oil costs) has had a significant impact in terms of purchasing power for maintenance purposes. In addition, roadway surface maintenance dollars have also been redirected to offset cost overages in winter maintenance the last few years. When taken into account collectively, the Highway Department has elected to defer or forego several important aspects of pavement maintenance in recent years, including chip-sealing efforts.

Figure 25

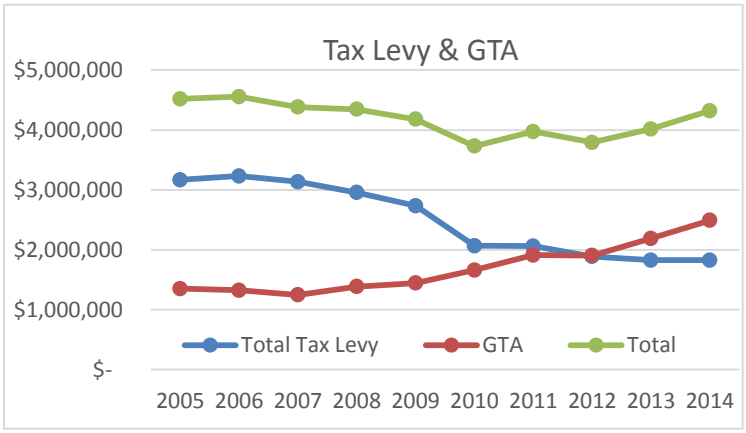
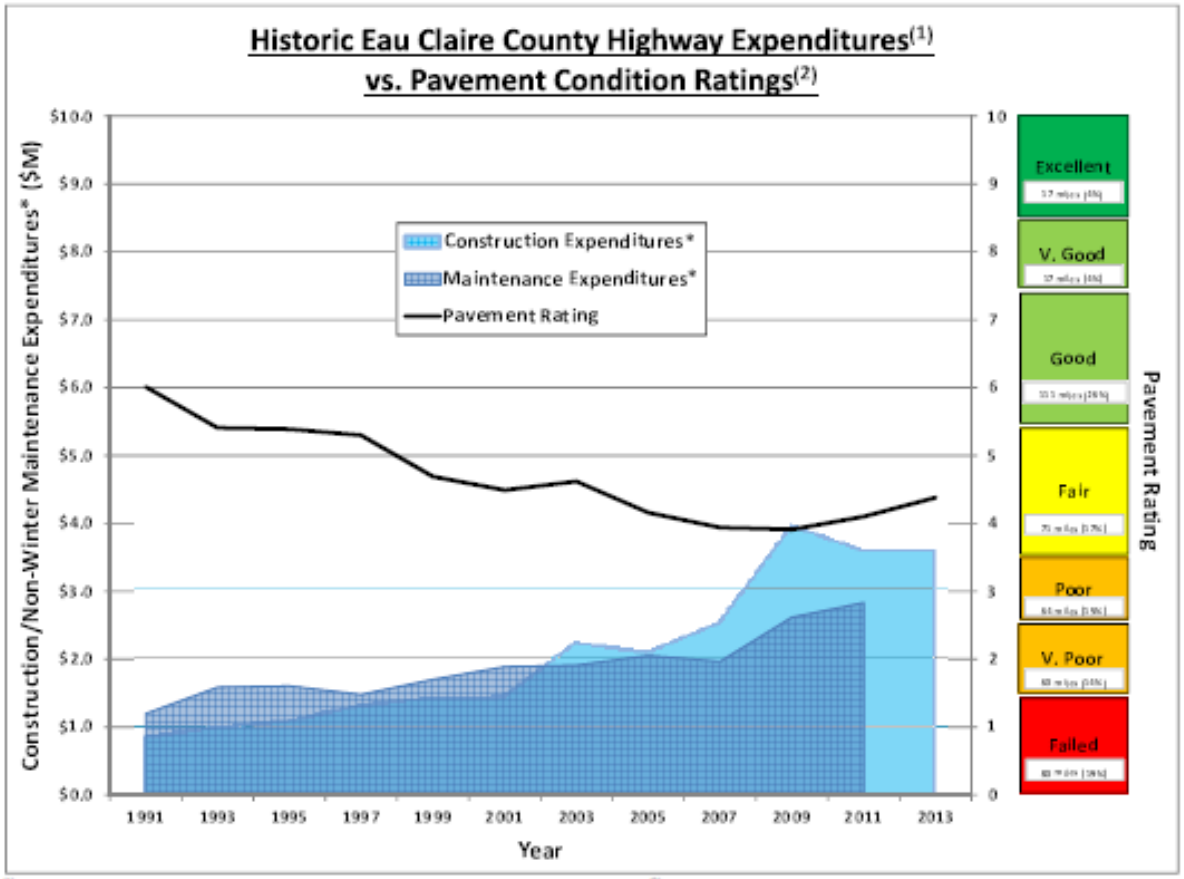


Figure 26

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total Tax Levy	$ 3,168,454	$3,232,950	$3,135,820	$2,957,200	$2,735,200	$2,068,200	$2,063,200	$1,888,200	$1,827,895	$1,827,895
GTA	$ 1,351,260	$1,324,235	$1,246,712	$1,388,079	$1,446,736	$1,663,197	$1,912,597	$1,905,358	$2,191,162	$2,493,857
Total	$ 4,519,714	$4,557,185	$4,382,532	$4,345,279	$4,181,936	$3,731,397	$3,975,797	$3,793,558	$4,019,057	$4,321,752

Figure 27

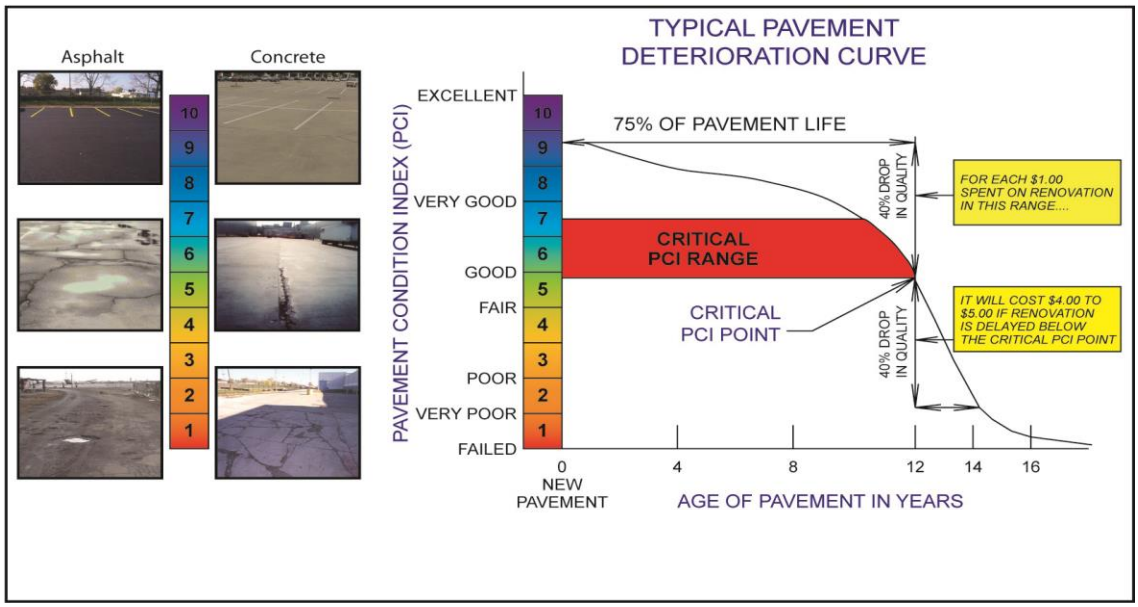


D. Preventative Maintenance

As previously discussed in **Section 4**, the PASER rating system is a tool that could be used to develop a capital outlay plan. In addition, this rating system can also be used to develop a maintenance plan for the County Trunk Highway System. Generally speaking, there are three types of maintenance efforts to a highway system; emergency, corrective and preventative. Emergency efforts are performed very quickly in response to a situation, such as a washout, sinkhole or severe pothole. This is often a temporary approach until a more permanent repair can be performed. Corrective (or reactionary) efforts are generally in response to a pavement deficiency, such as severe rutting, extensive cracking, or a loss of friction. Reactionary maintenance can be more difficult to predict, although highways with a lower PASER rating are generally indicative of surface pavement failure and therefore correlate with an increased need for reactionary maintenance efforts. In either case, these maintenance efforts are performed after-the-fact to repair a deficiency or failure. In contrast, preventative maintenance efforts are generally planned at certain intervals or pavement conditions with the intent of improving or extending the functional life of a surface pavement. Crack sealing, patching and sealcoating are some of the more common preventative treatments used. All three types of maintenance are needed to effectively manage for both outlay and maintenance efforts. However, prioritizing preventative

maintenance may prevent a pavement from requiring more expensive corrective maintenance prematurely. Preventative maintenance will be the focal point of this analysis due to the fact that it can be anticipated (predicated on typical surface pavement conditions at general intervals), are the most cost-effective, and can be effective at extending the life of a pavement surface. Generally speaking, preventative maintenance efforts are directed to highways with a PASER rating above "5" according to the graphic below while corrective efforts are for highways below a "5" rating.

Figure 7



It is important to note here that although the PASER rating system is intended to represent the condition of a highway surface, the numerical system is somewhat general in nature and the actual maintenance needs may differ from what may be typically associated with a pavement surface rating. According to Figure 7, each dollar spent on preventative maintenance can save $4 to $5 dollars on corrective maintenance later. (The "Best Practices Handbook for Preventative Asphalt Maintenance" (Minnesota) cites several other studies which conclude that "preventative maintenance is six to ten times more cost-effective than a "do-nothing" maintenance strategy.")

This is not intended to imply that more expensive pavement surface renovation can be avoided. Bituminous asphalt has a certain design life. Preventative maintenance efforts play a vital role in helping an asphalt surface reach its design life, rather than prematurely failing. When asphalt surfaces do fail, they then become candidates for more expensive construction outlay efforts, including resurfacing, reconditioning, or reconstruction. With this in mind, it is important to develop a cost-effective preventative maintenance program that will help to ensure that the pavement surface meets its designed life, or perhaps even exceed it.

E. Developing a Maintenance Program

An effective preventative maintenance program integrates a multitude of strategies and treatments over time. As stated in the above referenced "Best Practices Handbook", "one treatment will improve

the quality of the pavement surface and extend the pavement life, but the true benefits are realized when there is a consistent schedule for performing preventative maintenance. Benefits of pavement surface rehabilitation include: sealing pavement surfaces, filling cracks or other imperfections, reducing the effects of oxidation, maintaining surface friction, and improving level of service. The goal of a preventative maintenance program is to extend pavement life and enhance system-wide performance in a cost-effective and efficient way." When done effectively, preventative maintenance can help stabilize a maintenance budget from year to year and balance out capital construction needs.

F. Keys to Successful Preventative Maintenance Program

Preventative maintenance has been around for a long time, but there is still some reluctance for implementing a successful program. One reason often cited is based on public perception. When limited financial resources are used to apply preventative treatments on pavement surfaces in good condition while there is a backlog of pavements in poor condition within the system, the public expectation is that the potholes will get fixed first. This can cause preventative maintenance to be downgraded or neglected. Also, preventative maintenance funding is typically included within the same line-item budget as winter maintenance. Therefore, preventative maintenance efforts are often implemented through leftover maintenance funds, which may not be sufficient to adequately fund a successful preventative maintenance program.

The "Best Practices Handbook" suggests several keys to a successful preventative maintenance program, including:

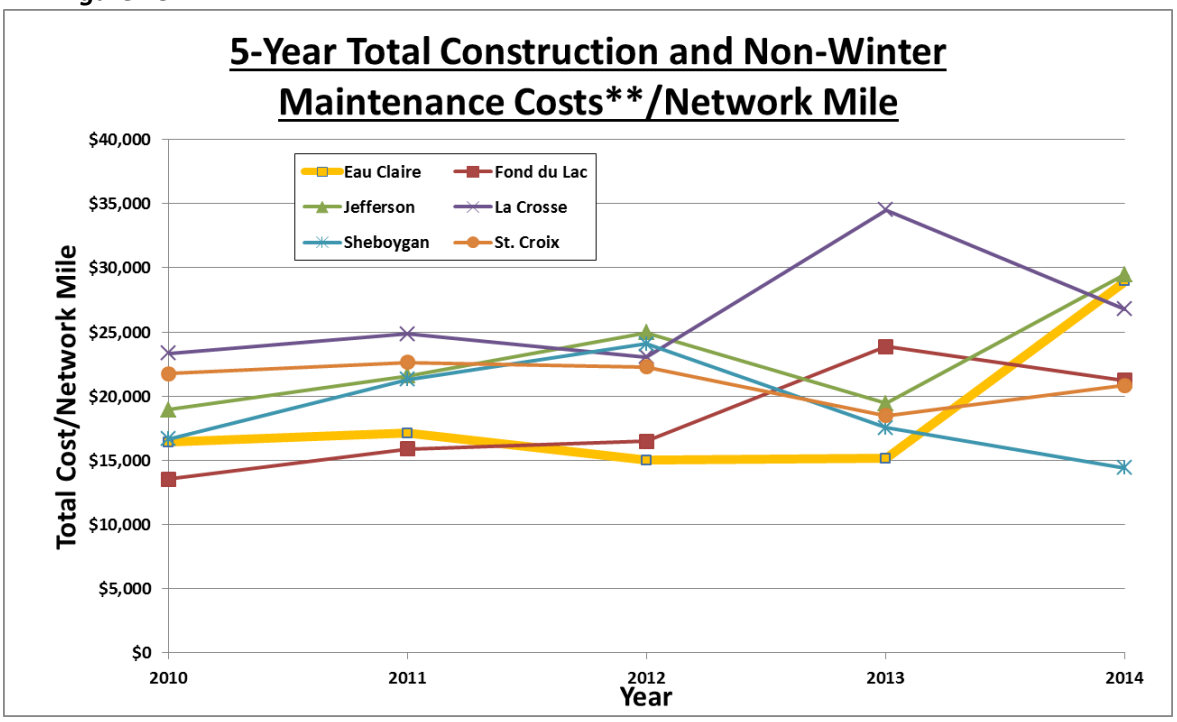
- Education: including elected officials, top management, maintenance staff and the general public – provide information relating to the benefits of a preventative maintenance program and its overall cost effectiveness
- Philosophy: This is often a shift in thinking or focus from rehabilitation and reconstruction
- Timing: Preventative treatments must be applied at specific times or intervals to preserve the structure of the pavement
- Funding: Adequate and consistent funding is necessary to allow for the creation of an effective program based on specific criteria and a schedule

G. Outlay/Maintenance Comparisons

As part of this analysis, Eau Claire County's recent funding was compared to the benchmark counties for both construction and non-winter maintenance expenses. (See Figure 28) In spite of the large increase in funding in 2014, Eau Claire County still ranks near the bottom in average spending ($18,530/mile each year) over the five-year period, second lowest only to Fond du Lac County ($18,204 per mile). The average annual spending per mile for the five other counties in this comparison is $21,018 per mile, nearly 13% more than what Eau Claire County has funded annually during the five-year period. This difference equates to roughly $1 million in additional funding each year. If 2014 funding levels were removed from the comparison, the difference in funding between Eau Claire County and the other comparable counties would be more than double with an average annual expense of $15,922 per mile for Eau Claire County compared to an average for all comparable counties of $21,257/per mile each year. Prior to 2014, Eau Claire County was funding construction and

maintenance of highway infrastructure at a rate roughly $5,335.00 less per mile than that of our comparable counties, for a total annual difference of roughly $2.24 million. It should be noted that the existing conditions of the benchmark counties highways is much better than that of Eau Claire County, with PASER ratings ranging from 5.8 to 7.1 compared to Eau Claire County's cumulative PASER rating of 4.6. It is interesting to note that construction/maintenance funding saw a decrease in several of the comparable counties in 2014, while Eau Claire County's funding nearly doubled due to the actions of the board during the adoption of the final budget. It is unknown as to the cause or reasoning for those decreases in the other benchmark counties.

Figure 28



County	2010	2011	2012	2013	2014	Average	PASER*
Eau Claire	$16,401	$17,104	$15,022	$15,163	$28,964	$18,531	4.6
Fond du Lac	$13,535	$15,891	$16,479	$23,877	$21,238	$18,204	6.4
Jefferson	$18,958	$21,580	$24,940	$19,442	$29,482	$22,880	7.1
La Crosse	$23,351	$24,830	$23,051	$34,500	$26,781	$26,503	5.8
Sheboygan	$16,652	$21,312	$24,071	$17,543	$14,422	$18,800	6.4
St. Croix	$21,738	$22,619	$22,291	$18,477	$20,831	$21,191	7.0
** unadjusted*							
*** 2014 dollars adjusted using combined consumer cost index, consumer price index, and producer price index*							

Section 8: Highway Outlay Alternatives:

The PASER pavement rating system is used by many local units of government throughout Wisconsin to determine the condition of their roadway pavements. This rating system is just one of the tools incorporated into the Wisconsin Information System for Local Roads (WISLR) program to assist with management of the transportation infrastructure for each community.

One output of the transportation management software is its ability to project what the future improvement and correlating funding needs are for a particular county. By using this function, it was calculated that the Eau Claire County backlog of highway needs ranges from **$90 to $110 million dollars** based on the information discussed above including but not limited to: highway mileage, current PASER ratings, and past funding levels. (Note: this figure closely resembles the funding needs identified by County Staff as well – estimated at between $98 and $118 million.) This is the expected level of funding (in today's dollars) that it would take to address the current surface condition of county highways to bring the system up to a "Good" level collectively, meaning an average PASER rating of between 6 and 7 respectively.

Another function of the transportation management software is its ability to associate various funding levels with timeframes to determine approximate projections for capital improvement planning purposes to address the infrastructure funding needs of the County. For the purposes of this analysis, five annual capital outlay funding scenarios were considered, including: 1) $4 million, 2) $5 million, 3) $7.5 million, 4) $10 million, and 5) 19.6 million, exclusive of other related capital costs, including design/construction inspection services and bridge repair/replacement costs. Preventative maintenance costs are also not included within these figures.

A. Highway Outlay Funding & Timing Alternatives

Included within each alternative construction funding scenario is the following information:

1. Funding scenario (annual funding level and period of years)
2. Estimated funding needs at end of 5-year capital outlay plan implementation
3. Estimated PASER rating of system after 5-year expenditure period
4. Comparison with Desirable Curve
5. Spreadsheet with anticipated PASER ratings at two-year intervals

Note: this information is being provided for illustration purposes and may not necessarily reflect the actual impacts to the estimated funding backlog or PASER rating for Eau Claire County. PASER ratings and resulting percentages are largely impacted by the approach taken to address the estimated backlog including placing on funding emphasis on construction or maintenance needs. Both will affect the cumulative PASER ratings, in different manners. In addition, the "Desirable and Sustainable" curve utilized in each scenario is for illustration purposes and should not be considered a specific target. Eau Claire County may wish to establish its own "desirable" curve for which to monitor progress.

Scenario #1: 28-Year Approach

This scenario would provide funding for capital outlay purposes similar to the funding provided between 2008 and 2013, at a rate of approximately $4 million annually. *Figure 29* compares the existing PASER rating conditions (blue) to what the estimated PASER ratings may be after a five-year implementation period (green). Based on the projected estimates, the percentage of highways rated as "Very Poor" or "Poor" would decrease from 53% to roughly 40% at this funding level if the outlay plan portrayed in *Figure 30* was followed. In recognition of the funding needs identified by WISLR, this level of funding would mean that there is still a backlog of approximately $80 million in infrastructure needs (based on 2014 dollars), which could take an additional 20-23 years to adequately address.

Figure 29

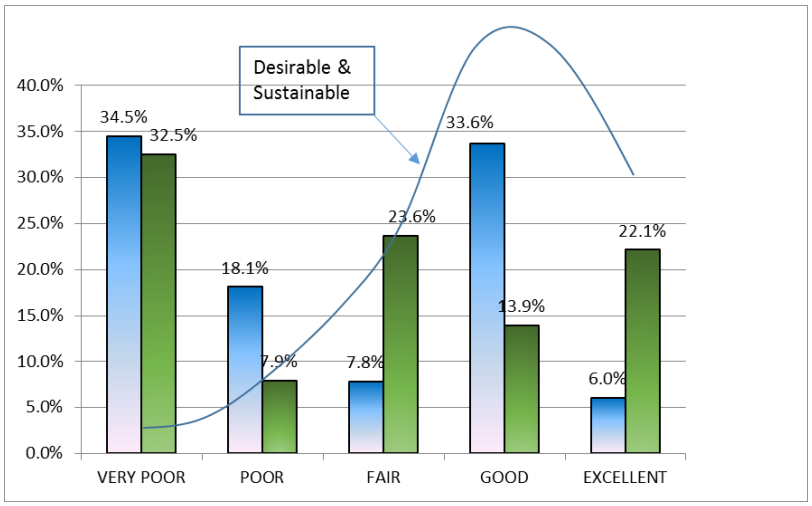


Figure 30

Paser Rating Analysis for Eau Claire County													
Paser Rating	Hwy Miles	% of Total	Cumm Score	2014 CIP Miles	Est. 2015 CIP	Resulting Hwy Miles	Impact on PASER[1]	2016-17 CIP Miles	Resulting Hwy Miles	Impact on PASER[2]	2018-19 CIP Miles	Resulting Hwy Miles	Impact on Paser[3]
1	71.6	17.06%	71.61	10.16	4	94.0	93.98	8	114.0	114.02	12	118.7	118.67
2	73.1	17.40%	146.12	5.55	2	56.1	112.14	4	33.3	66.64	4	17.8	35.60
3	54.2	12.90%	162.54	13.37	6	18.6	55.70	10	10.3	30.84	6	8.7	26.20
4	21.7	5.17%	86.76			22.0	87.98		19.2	76.74		24.8	99.16
5	22.3	5.31%	111.50			16.4	81.88		30.4	151.98		43.9	219.36
6	10.5	2.49%	62.70			44.4	266.49		57.4	344.10		55.3	331.58
7	78.4	18.67%	548.66	0.33		70.3	492.00		53.2	372.23		37.8	264.54
8	62.9	14.97%	502.80	0.2		36.1	288.52		22.4	179.26		20.1	160.47
9	9.7	2.31%	87.12			8.8	78.75		17.7	159.39		24.4	219.21
10	15.6	3.73%	156.40	0.6		53.3	533.40		62.0	620.05		68.5	685.04
	419.8	100.00%	1936.21	30.21	12	419.8	2090.83	22	419.8	2115.23	22	419.8	2159.82
Avg Paser Score			**4.61**				**4.98**			**5.04**			**5.14**

Based on this funding level and construction approach, a projected PASER rating by the year 2019 of 5.1 was estimated. (See *Figure 30*) Note: the figures represented in each "CIP" column indicate the number of miles that could be addressed in that year(s) CIP in the following order: the first number listed on top represents the number of miles of highway to be reconditioned, the second figure represents the number of miles to be reconstructed, and the third figure moving down the column represents the number of miles to be repaved (associated with a PASER rating of "3"). Providing the mileage in this manner is for illustration purposes only and is not intended to imply a correlation between the PASER rating and construction method. Note: ½ of the highway miles are adjusted down one PASER rating level every two years to account for normal pavement deterioration during implementation of this approach.

***Scenario #2*: 20-Year Approach**

This scenario would provide funding for capital outlay purposes at a rate of approximately $5 million annually. *Figure 31* compares the existing PASER rating conditions (blue) to what the estimated PASER ratings may be after a five-year implementation period (gray). Based on the projected estimates, the percentage of highways rated as "Very Poor" or "Poor" would decrease from 53% to roughly 38% at this funding level if the outlay plan portrayed in *Figure 30* was followed. In recognition of the funding needs identified by WISLR, this level of funding would mean that there is still a backlog of approximately $75 million in infrastructure needs (based on 2014 dollars), which could take an additional 15-20 years to adequately address.

Figure 31

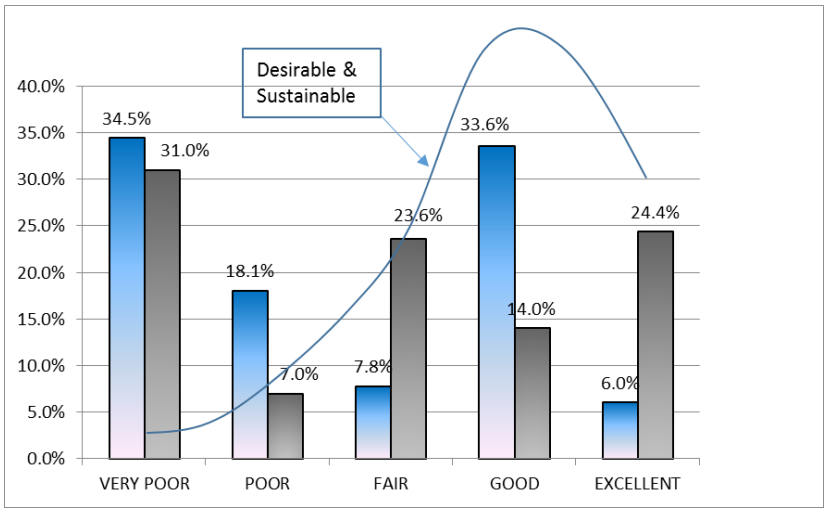


Figure 32

Paser Rating Analysis for Eau Claire County													
Paser Rating	Hwy Miles	% of Total Miles	Cumm Score	2014 CIP Miles	Est. 2015 CIP Miles	Resulting Hwy Miles	Impact on PASER[1]	2016-17 CIP Miles	Resulting Hwy Miles	Impact on PASER[2]	2018-19 CIP Miles	Resulting Hwy Miles	Impact on Paser[3]
1	71.6	17.06%	71.61	10.16	6	92.0	91.98	12	108.0	108.02	12	112.7	112.67
2	73.1	17.40%	146.12	5.55	2	56.1	112.14	4	33.3	66.64	4	17.8	35.60
3	54.2	12.90%	162.54	13.37	6	18.6	55.70	10	10.3	30.84	10	4.7	14.20
4	21.7	5.17%	86.76			22.0	87.98		19.2	76.74		24.8	99.16
5	22.3	5.31%	111.50			16.4	81.88		30.4	151.98		43.9	219.36
6	10.5	2.49%	62.70			44.4	266.49		57.4	344.10		55.3	331.58
7	78.4	18.67%	548.66	0.33		70.3	492.00		53.2	372.23		37.8	264.54
8	62.9	14.97%	502.80	0.2		36.1	288.52		22.4	179.26		20.3	162.47
9	9.7	2.31%	87.12			8.8	78.75		18.2	163.89		26.0	233.83
10	15.6	3.73%	156.40	0.6		55.3	553.40		67.5	675.05		76.6	766.29
	419.8	100.00%	1936.21	30.21	14	419.8	2108.83	26	419.8	2168.73	26	419.8	2239.69
Avg Paser Score			**4.61**				**5.02**			**5.17**			**5.33**

Based on this funding level and construction approach, a projected PASER rating by the year 2019 of 5.3 was estimated. (See *Figure 32*) Note: the figures represented in each "CIP" column indicate the number of miles that could be addressed in that year(s) CIP in the following order: the first number listed on top represents the number of miles of highway that may be reconditioned, the second figure represents the number of miles that may be reconstructed, and the third figure represents the number of miles to be repaved (associated with a PASER rating of "3"). Providing the mileage in this manner is for illustration purposes only and is not intended to imply a correlation between the PASER rating and construction method. Note: ½ of the highway miles are adjusted down one PASER rating level every two years to account for normal pavement deterioration during implementation of this approach.

***Scenario #3*: 14-Year Approach (Continue funding similar to 2014 levels)**

This scenario would provide funding for capital outlay purposes at a rate of approximately $7.5 million annually. *Figure 33* compares the existing PASER rating conditions (blue) to what the estimated PASER ratings may be after a five-year implementation period (orange). Based on the projected estimates, the percentage of highways rated as "Very Poor" or "Poor" would decrease from 53% to roughly 32% at this funding level if the outlay plan portrayed in *Figure 34* was followed. In recognition of the funding needs identified by WISLR, this level of funding would mean that there is still a backlog of approximately $62 million in infrastructure needs (based on 2014 dollars), which could take an additional 8-10 years to adequately address.

Figure 33

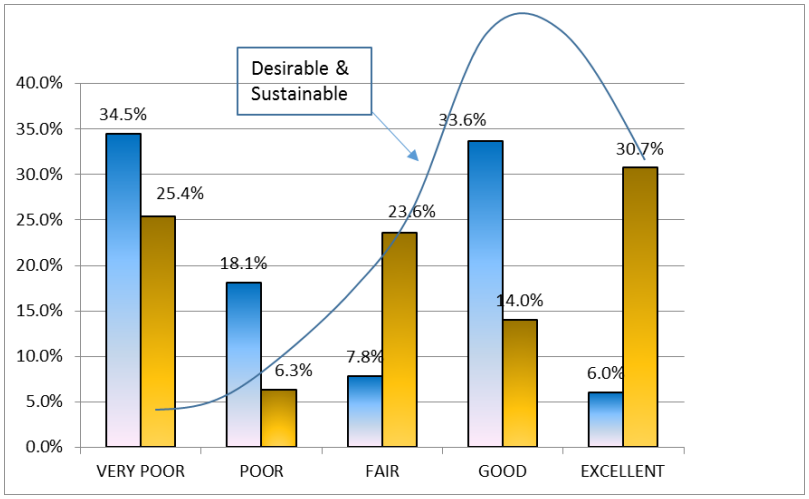


Figure 34

Paser Rating Analysis for Eau Claire County													
Paser Rating	Hwy Miles	% of Total	Cumm Score	2014 CIP Miles	Est. 2015 CIP	Resulting Hwy Miles	Impact on PASER[1]	2016-17 CIP	Resulting Hwy Miles	Impact on PASER[2]	2018-19 CIP	Resulting Hwy Miles	Impact on Paser[3]
1	71.6	17.06%	71.61	10.16	8	90.0	89.98	16	101.0	101.02	20	94.9	94.92
2	73.1	17.40%	146.12	5.55	4	54.1	108.14	8	27.8	55.64	6	11.8	23.60
3	54.2	12.90%	162.54	13.37	7	17.6	52.70	12	7.8	23.34	12	1.5	4.45
4	21.7	5.17%	86.76			22.0	87.98		19.2	76.74		24.8	99.16
5	22.3	5.31%	111.50			16.4	81.88		30.4	151.98		43.9	219.36
6	10.5	2.49%	62.70			44.4	266.49		57.4	344.10		55.3	331.58
7	78.4	18.67%	548.66	0.33		70.3	492.00		53.2	372.23		37.8	264.54
8	62.9	14.97%	502.80	0.2		36.1	288.52		22.4	179.26		20.9	167.47
9	9.7	2.31%	87.12			8.8	78.75		19.5	175.14		30.0	270.39
10	15.6	3.73%	156.40	0.6		60.3	603.40		81.3	812.55		98.9	989.41
	419.8	100.00%	1936.21	30.21	19	419.8	2149.83	36	419.8	2291.98	38	419.8	2464.88
Avg Paser Score			**4.61**				**5.12**			**5.46**			**5.87**

Based on this funding level and construction approach, a projected PASER rating by the year 2019 of nearly 5.9 was estimated. (See *Figure 34*) Note: the figures represented in each "CIP" column indicate the number of miles that could be addressed in that year(s) CIP in the following order: the first number listed on top represents the number of miles of highway to be reconditioned, the second figure represents the number of miles to be reconstructed, and the third figure moving down the column represents the number of miles to be repaved (associated with a PASER rating of "3"). Providing the mileage in this manner is for illustration purposes only and is not intended to imply a correlation between the PASER rating and construction method. Note: ½ of the highway miles are adjusted down one PASER rating level every two years to account for normal pavement deterioration during implementation of this approach.

Scenario #4: 10-Year Approach

This scenario would provide funding for capital outlay purposes at a rate of approximately $10 million annually. *Figure 35* compares the existing PASER rating conditions (blue) to what the estimated PASER ratings may be after a five-year implementation period (orange). Based on the projected estimates, the percentage of highways rated as "Very Poor" or "Poor" would decrease from 53% to roughly 24% at this funding level if the outlay plan portrayed in *Figure 36* was followed. In recognition of the funding needs identified by WISLR, this level of funding would mean that there is still a backlog of approximately $50 million in infrastructure needs (based on 2014 dollars), which could take an additional 5-6 years to adequately address.

Figure 35

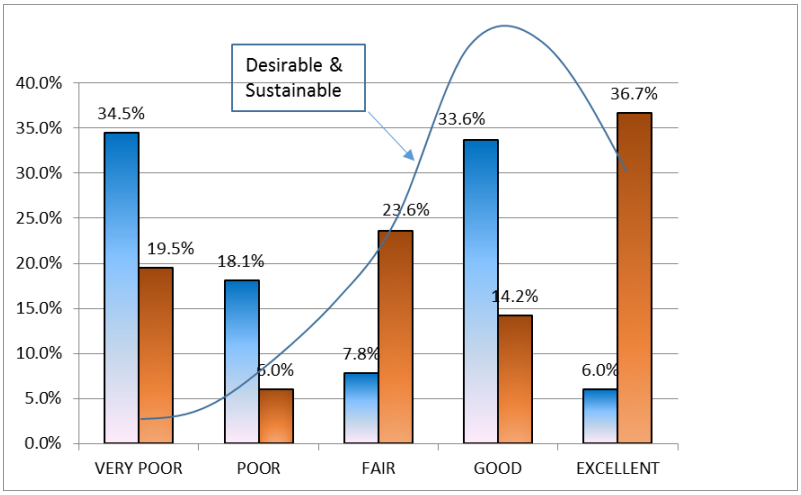


Figure 36

Paser Rating Analysis for Eau Claire County													
Paser Rating	Hwy Miles	% of Total	Cumm Score	2014 CIP Miles	Est. 2015 CIP	Resulting Hwy Miles	Impact on PASER[1]	2016-17 CIP	Resulting Hwy Miles	Impact on PASER[2]	2018-19 CIP	Resulting Hwy Miles	Impact on Paser[3]
1	71.6	17.06%	71.61	10.16	12	86.0	85.98	24	89.0	89.02	24	76.9	76.92
2	73.1	17.40%	146.12	5.55	4	54.1	108.14	10	23.8	47.64	10	4.8	9.60
3	54.2	12.90%	162.54	13.37	11	13.6	40.70	12	5.8	17.34	12	0.5	1.45
4	21.7	5.17%	86.76			22.0	87.98		19.2	76.74		24.8	99.16
5	22.3	5.31%	111.50			16.4	81.88		30.4	151.98		43.9	219.36
6	10.5	2.49%	62.70			44.4	266.49		57.4	344.10		55.3	331.58
7	78.4	18.67%	548.66	0.33		70.3	492.00		53.2	372.23		37.8	264.54
8	62.9	14.97%	502.80	0.2		36.1	288.52		22.4	179.26		21.9	175.47
9	9.7	2.31%	87.12			8.8	78.75		21.5	193.14		35.0	315.39
10	15.6	3.73%	156.40	0.6		68.3	683.40		97.3	972.55		118.9	1189.41
	419.8	100.00%	1936.21	30.21	27	419.8	2213.83	46	419.8	2443.98	46	419.8	2682.88
Avg Paser Score			**4.61**				**5.27**			**5.82**			**6.39**

Based on funding level and construction approach, a projected PASER rating by the year 2019 of 6.4 was estimated. (See *Figure 34*) The figures represented in each "CIP" column indicate the number of miles that could be addressed in that year(s) CIP in the following order: the first number listed on top represents the number of miles of highway to be reconditioned, the second figure represents the number of miles to be reconstructed, and the third figure moving down the column represents the number of miles to be repaved (associated with a PASER rating of "3"). Providing the mileage in this manner is for illustration purposes only and is not intended to imply a correlation between the PASER rating and construction method. Note: ½ of the highway miles are adjusted down one PASER rating level every two years to account for normal pavement deterioration during implementation of this approach.

Scenario #5: 5-Year Approach

This scenario would provide funding for capital outlay purposes at a rate of approximately $19.6 million annually. *Figure 37* compares the existing PASER rating conditions (light blue) to what the estimated PASER ratings may be after a five-year implementation period (dark blue). Based on the projected estimates, the percentage of highways rated as "Very Poor" or "Poor" would decrease from 53% to roughly 5% at this funding level if the outlay plan portrayed in *Figure 38* was followed. In recognition of the funding needs identified by WISLR, this level of funding would result in the elimination of the aforementioned backlog of infrastructure needs and reflects the desired distribution of PASER ratings described in Figure 11.

Figure 37

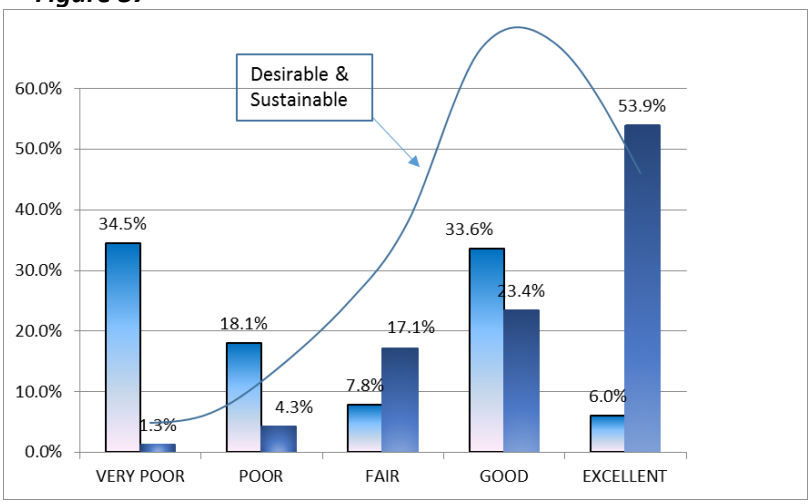


Figure 38

Paser Rating Analysis for Eau Claire County													
Paser Rating	Hwy Miles	% of Total	Cumm Score	2014 CIP Miles	Est. 2015 CIP	Resulting Hwy Miles	Impact on PASER[1]	2016-17 CIP	Resulting Hwy Miles	Impact on PASER[2]	2018-19 CIP	Resulting Hwy Miles	Impact on Paser[3]
1	71.6	17.06%	71.61	10.16	20	59.7	59.72	30	41.7	41.66	40	4.5	4.48
2	73.1	17.40%	146.12	5.55	15	47.8	95.58	30	11.3	22.53	8	0.9	1.76
3	54.2	12.90%	162.54	13.37	11	21.7	65.06	20	1.7	5.18	10	-3.4	-10.20
4	21.7	5.17%	86.76			21.8	87.37		21.2	84.87		21.3	85.01
5	22.3	5.31%	111.50			19.3	96.69		21.4	106.81		25.8	129.00
6	10.5	2.49%	62.70			27.4	164.60		39.1	234.70		46.3	277.97
7	78.4	18.67%	548.66	0.33		74.2	519.17		68.0	475.76		60.9	426.48
8	62.9	14.97%	502.80	0.2		49.4	394.86		39.8	318.49		37.4	299.29
9	9.7	2.31%	87.12			11.2	100.53		30.2	271.91		59.0	531.32
10	15.6	3.73%	156.40	0.6		87.3	873.40		145.5	1455.05		167.1	1671.29
	419.8	100.00%	1936.21	30.21	46	419.8	2456.97	80	419.8	3016.94	58	419.8	3416.40
Avg Paser Score			**4.61**				**5.85**			**7.19**			**8.14**

Based on this funding level and construction approach, a projected PASER rating by the year 2019 of 8.1 was estimated. (See *Figure 38*) Note: the figures represented in each "CIP" column indicate the number of miles that could be addressed in that year(s) CIP in the following order: the first number listed on top represents the number of miles of highway to be reconditioned, the second figure represents the number of miles to be reconstructed, and the third figure moving down the column represents the number of miles to be repaved (associated with a PASER rating of "3"). Providing the mileage in this manner is for illustration purposes only and is not intended to imply a correlation between the PASER rating and construction method. Note: ½ of the highway miles are adjusted down one PASER rating level every two years to account for normal pavement deterioration during implementation of this approach.

Section 9: Analysis of Highway Outlay Scenarios

The next step to consider in assessing future highway capital outlay and maintenance needs is to evaluate the data developed for each of the funding scenarios. Figure 39 provides a breakdown of each capital outlay scenario by including the following items: construction budget, engineering/design/inspection costs, deduct for non-levy revenues (including CHIP and landfill revenues), resulting anticipated debt for highway surface purposes, amount of debt service increase for highways purposes based on each scenario, estimated amount of levy increase to offset debt service payments, estimated increase in taxes for $150K home for highway construction funding only, and the estimated cumulative PASER rating at the conclusion of 2019 following each scenarios 5-year capital improvement plan implementation. Note: Other Revenue Sources referenced in Figure 39 do not include federal sources. Should federal funds become available for specific projects, spending may increase for said projects.

Figure 39

Fiscal Comparison of Alternative Construction Scenarios

Alternative Scenarios	Construction Budget	Eng/Design/Insp. (30%)	Subtotal of Costs	Other Revs. (Indfl & CHIP)	Anticipated Debt (subtotal)	Avg. Annual Debt Service Pymt.	Total Years	Est. Total Debt Pymts.	Est. Addtl. Levy Rate	Est. Addtl. Tax on $150K Res.	Est. 2019 PASER
#1 - 28 yrs	$4,000,000	$1,200,000	$5,200,000	-$400,000	$4,800,000	$4,150,400	37	$153,564,800	$0.61	$91	5.1
#2 - 20 yrs	$5,000,000	$1,500,000	$6,500,000	-$400,000	$6,100,000	$4,806,700	29	$139,394,300	$0.71	$106	5.3
#3 - 14 yrs	$7,500,000	$2,250,000	$9,750,000	-$400,000	$9,350,000	$6,502,800	23	$149,564,400	$0.96	$143	5.9
#4 - 10 yrs	$10,000,000	$3,000,000	$13,000,000	-$400,000	$12,600,000	$7,695,100	19	$146,206,900	$1.13	$169	6.4
#5 - 5 yrs	$19,600,000	$5,880,000	$25,480,000	-$400,000	$25,080,000	$10,393,600	14	$145,510,400	$1.53	$229	8.1

A. Discussion of Capital Outlay Alternatives for Pavement Surfaces

Scenario #1 – Is slightly more than the level of funding provided between 2008 and 2013. According to the WISLR modeling, funding outlay needs at this level would take approximately 28 years or more to address the current backlog before consideration could be given to a long-term sustainable approach to system upkeep and maintenance. According to financial projections provided by the County Finance Department, the resulting annual debt service for Eau Claire County would increase from an estimated $6 million per year in 2015 to roughly $10 million per year by 2020 before leveling off into the future. The anticipated increase to the levy rate based on this funding level would be roughly $0.61 per $1,000 of value, or an additional $91 per year for a $150K home. The cumulative PASER rating may improve to 5.1 by the end of 2019 under this scenario (up from a 4.6 in 2013), with a significant amount of the improvement related to the funding provided in 2014 as depicted in Figure 30.

Scenario #2 – Was developed as an alternative or average of Scenarios #1 and #3. According to the WISLR modeling, funding at this level would take approximately 20 years or more to address the current backlog before consideration could be given to developing a sustainable plan for future system upkeep and maintenance. Based on financial projections provided by the County Finance Department, annual debt service would increase from roughly $6 million per

year in 2015 to approximately $10.8 million by 2020. The anticipated increase to the levy rate based on this funding level would be roughly $0.71 per $1,000 of value, or an additional $106 per year for a $150K home. Under this scenario, the cumulative PASER rating may improve to a 5.3 by the end of 2019 (up from a 4.6 in 2013).

Scenario #3 – Is based on a level of funding that is fairly similar to the funding provided in 2014, with approximately $7.5 million devoted to actual construction projects and the remaining portion of the annual borrowing attributed to related project costs (including design, permitting and inspection services) for a total cost of $9.35 million. According to the WISLR modeling, it would take approximately 14 years of funding at this level to address the backlog of needs in Eau Claire County. Based on financial projections provided by the County Finance Department, annual debt service would increase from roughly $6 million per year in 2015 to approximately $12.5 million by 2020 due to highway debt service, resulting in an increase to the levy rate of $0.96 per $1,000 of value, or an increase of roughly $143 per year based on a $150K home. The anticipated impacts on the county's PASER rating could result in a cumulative rating of 5.9 by the end of 2019. (Up from a 4.6 in 2013).

Scenario #4 – Strives to address the backlog of infrastructure needs identified by the WISLR modeling in a relatively short time frame -10 years. Funding for construction would cost roughly $10 million each year, with annual borrowing estimated at $12.5 million to cover the aforementioned related project costs. Based on the financial projections, annual debt service would increase from $6 million annually in 2015 to approximately $13.7 million by 2018. The resulting levy rate would increase by $1.13 for each $1,000 in valuation, or roughly $169 for a $150K home. The projected cumulative PASER rating would increase to 6.4 by 2019. (Up from a 4.6 in 2013).

Scenario #5 – Strives to address the backlog of infrastructure needs identified by the WISLR modeling in a short five-year window, with nearly $20 million attributed to infrastructure improvements each year or annual borrowing of $26 million to cover the aforementioned related project costs. Based on financial projections provided by the Finance Department, this level of funding would increase the annual debt service from $6 million annually in 2015 to more than $16 million by 2017. The resulting levy rate would increase by $1.53 per $1,000 in valuation, or roughly $229 for a $150K home. The projected cumulative PASER rating would increase to 8.1 by 2019. (Up from a 4.6 in 2013).

B. Limitations of Cost Projections

The projections of construction costs and resulting PASER ratings can be difficult to predict, are somewhat subjective, and affected by many variables. The Transportation Work Group identified and discussed a number of the challenges to accurately projecting costs and impacts including:

- Cost of asphalt can fluctuate dramatically, as identified in Figure 24
- Inflation can greatly alter the purchasing power and therefore implementation of a plan, even within a five-year timeframe
- When projecting future PASER ratings, several assumptions have been made, including:

- Construction funds were distributed in a similar manner as was done in 2014, with approximately 1/3 of funding directed initially to resurfacing activities
- Inflation is estimated at approximately 2.5% per year
- Roughly 50% of highway miles are downgraded by one PASER rating level every two years (or all highway segments would drop one level every four years) (thereby recognizing that highways with a rating above 7 may deteriorate slower, and highways with a rating below 6 may deteriorate at a faster pace)

Section 10: Additional Funding Needs & Analysis

A. Bridge Repair/Replacement Funding

The current condition of Eau Claire County's bridge infrastructure is discussed in Section 5 of this report. Of note, Eau Claire County owns and is responsible for maintaining 72 bridge structures that are in excess of 20 feet in length. Figure 13 on page 33 provides a breakdown of all 72 bridges, including their respective age, sufficiency rating, and structural classification. Eau Claire County has 11 bridges that are considered structurally deficient and one bridge that is considered functionally obsolete. The table also indicates that seven bridge structures are scheduled for repair or replacement within the 2014-18 Capital Outlay Plan, including six that are classified as being structurally deficient. It should be noted that this is a significant increase in outlay efforts for bridge repair or replacement when compared to the previous five-years when only one bridge was replaced.

As previously discussed on Page 43 of this Section, the WISLR analysis utilized in the Capital Outlay Scenarios discussed above does not include an analysis or funding scenario breakdown for bridge repair or replacement. Therefore, any costs associated with repair or replacement should be considered as additional funding needs for subsequent budgets. According to the Highway Department Budget, the local share for funding bridge repair or replacement has been averaging around $300,000-400,000 per year, including $410,000 in 2014. However, the 2015-2020 Highway Improvement Plan calls for this funding to nearly double for the next five years to account for an increase in capital outlay bridge projects. In recognition of this significant proposed increase in local funding for bridge outlay within the 2015-2020 Highway Improvement Plan, it is important to reiterate that this level of funding is heavily dependent on continued state/federal funding sources. The 2015-2020 Highway Improvement Plan anticipates more than $3 million in state and federal funding during this same 5-year period. Reductions in funding or changes to funding policy could jeopardize future funding amounts, thereby increasing local costs to address bridge infrastructure needs.

B. Preventative Maintenance Needs

Understanding Need

A key to developing a sustainable plan for maintenance and capital outlay begins with understanding the extent of the problem, that is, the condition of the pavement. PASER ratings help to provide insight into the overall highway system to help determine condition of the pavement surfaces.

Figure 10

PASER Rating Breakdown by Mileage		
PASER Rating	**Hwy Miles**	**% of Total Miles**
1	71.61	17.1%
2	73.06	17.4%
3	54.18	12.9%
4	21.69	5.2%
5	22.3	5.3%
6	10.45	2.5%
7	78.38	18.7%
8	62.85	15.0%
9	9.68	2.3%
10	15.64	3.7%
	419.84	100.0%

As presented in **Section 4**, *Figure 10* provides a breakdown of the number of highway miles per 2013 PASER rating. This surface condition rating is useful in determining future maintenance and outlay needs in order to maintain good travel surfaces. Nearly 54% of the Eau Claire County highway trunk system is rated at or below a rating of "4", meaning that a majority of the highway surface is in need of structural renewal or replacement according to the highway surface management approach recommended by the WISLR program and included below. Conversely, more than 41% of the highway system has a rating between "5-8". This rating indicates that these highway segments are candidates for more cost efficient preventative maintenance efforts that will help extend the pavement surface life. Focusing preventative maintenance efforts on this portion of the highway system can yield cost efficient results aimed at maintaining or improving the overall surface condition of the highway system as represented through the PASER rating system.

WISLR Highway Surface Management Recommendations

EXCELLENT	9-10	Minimal/No Maintenance required (Crack sealing at year 3-5)
GOOD	7-8	Crack sealing and/or minor patching (Sealcoat at year 8-12)
FAIR	5-6	Preservation treatments (Crack sealing, patching, sealcoating, thin overlays)
POOR	3-4	Structural Renewal (Overlay, Mill and Overlay – evaluate drainage & subgrade)
VERY POOR	1-2	Reconstruction or Recondition (Grading, base, ditches, drainage, pavement)

While use of PASER ratings may assist in determining what roads are in need of preventative maintenance, the actual analysis is much more complex in determining what process to use on what road at the right time. When a segment of highway is identified for consideration, additional questions to consider may include:

- What is the cause of the problem? (Is the deficiency based on normal pavement surface deterioration or is it due to another issue, i.e. structural)
- Is the preventative maintenance treatment cost-beneficial? This should be based on the pavement itself along with anticipated use, with the treatment acting as a component cost of the surface.
- What is the best maintenance treatment to use? Different pavement surface conditions require different preventative maintenance approaches. This may begin by assessing

crack conditions, but will also take into consideration weatherization or oxidation, rutting, raveling, traffic volumes, etc.

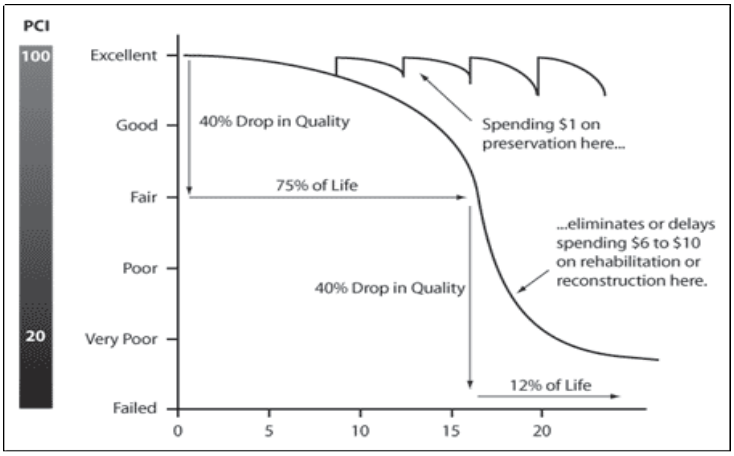
Asking additional questions and matching the specific treatment to the highway can help ensure that the preventative maintenance program will be the most effective and cost-beneficial approach to use.

Based on the breakdown of highway miles in ***Figure 10***, Eau Claire County currently has between 170-180 miles of highway that are candidates for preventative maintenance (represented by the green cells). Highways with a rating of less than 5 (represented by the purple cells) are generally not considered candidates for preventative maintenance due to the fact that the pavement surface has deteriorated beyond a cost/benefit point and attempting to repair the pavement surface at this stage could actually further accelerate deterioration. As efforts are made to reduce the number of miles rated as "Poor" or "Very Poor" in future years through the implementation of a capital outlay plan, the number of highway miles included within the Eau Claire County preventative maintenance program will increase.

Timing

As previously mentioned, preventative maintenance can be planned based on the fact that pavement surface deterioration often is caused by the environment. Environmental conditions tend to be fairly consistent over time for specific climates, so the effects on various surface pavements can be predicted. Preferred preventative measures should be based on time primarily, but should also consider other factors, such as traffic loads. To determine when a highway may be in need of a surface treatment, a surface condition survey is needed. Eau Claire County conducts PASER surveys every two years (odd numbered years) as part of the WISLR program. Highway surfaces in need of preventative maintenance treatments can be identified and incorporated into a preventative maintenance program based on the results of the PASER rating for Eau Claire County. According to the "Best Practices Handbook", most preventative maintenance treatments have a life expectancy of between three years for crack sealing to six years for most surface treatments, and can be repeated multiple times on a roadway surface (See *Figure 40*). Based on this information, a general approach for preventative maintenance may include a plan to address the 175 miles of Eau Claire County Trunk Highway currently rated between a "5" and "8" over the course of six years (roughly 30 miles per year) with a surface treatment, which may include crack repair and sealcoating treatments. As a reminder, the number of highway miles included within Eau Claire County's preventative maintenance program will increase over time as the capital outlay plan is implemented.

Figure 40



Estimating Preventative Maintenance Impacts

Development and implementation of a Preventative Maintenance Program may be considered equally important to improving the overall conditions of the Eau Claire County Trunk Highway System as the capital outlay efforts discussed above. The two programs (capital outlay and preventative maintenance) must work together in unison to maximize the efforts to establish and sustain a healthy highway system in the most cost-efficient manner possible. Therefore, a good starting point may be to consider the funding scenarios discussed above.

According to the PASER Manual for Asphalt Roads developed by the Transportation Information Center at the University of Wisconsin-Madison, highway segments that are newly constructed can be rated as a "10", highways that are newly resurfaced (aka overlays) can be rated as a "9", and highways that are newly seal coated can be rated as high as an "8" (depending on the prior condition of the highway and the type of treatment applied). Highway construction (including both reconstruction and reconditioning) along with resurfacing is incorporated into the Capital Outlay discussions above. Therefore, the focus of this exercise will be on surface treatments, or more specifically crack filling and sealcoating practices. The following analysis integrates preventative maintenance efforts into the estimated PASER Rating Analysis from Outlay Scenarios #2 and #3 to estimate the effects of preventative maintenance on the overall pavement surface conditions.

Figure 41 revises the outcomes from Scenario #2 (20-year) of the Capital Outlay alternatives analysis by integrating preventative maintenance measures into the outcome spreadsheet. The columns titled as "Prev. Mnt. Miles" represent the estimated number of miles that could be addressed by a preventative maintenance program, with the "Impact on Paser" column representing an estimated outcome or rating based on the PASER manual recommendations referenced above.

Figure 41: Scenario #2 with Preventative Maintenance Revisions

Paser Rating Analysis for Eau Claire County W/Preventative Maintenance																
Paser Rating	Hwy Miles	% of Total Miles	Cumm Score	2014 CIP Miles	Est. 2015 CIP Miles	2015 Prev. Mnt.	Resulting Hwy Miles	Impact on PASER[1]	2016-17 CIP Miles	2016-17 Prev. Mnt.	Resulting Hwy Miles	Impact on PASER[2]	2018-19 CIP Miles	2018-19 Prev. Mnt.	Resulting Hwy Miles	Impact on Paser[3]
1	71.6	17.06%	71.61	10.16	6		92.0	91.98	12		108.0	108.02	12		112.7	112.67
2	73.1	17.40%	146.12	5.55	2		56.1	112.14	4		33.3	66.64	4		17.8	35.60
3	54.2	12.90%	162.54	13.37	6		18.6	55.70	10		10.3	30.84	10		2.2	6.70
4	21.7	5.17%	86.76				22.0	87.98			14.2	56.74			11.0	44.16
5	22.3	5.31%	111.50			10	6.4	31.88		10	7.9	39.48		10	3.9	19.36
6	10.5	2.49%	62.70			15	29.4	176.49		30	19.9	119.10		30	12.8	76.58
7	78.4	18.67%	548.66	0.33		5	70.3	492.00		10	65.7	459.73		10	70.3	492.04
8	62.9	14.97%	502.80	0.2			61.1	488.52			74.9	599.26			86.6	692.47
9	9.7	2.31%	87.12				8.8	78.75			18.2	163.89			26.0	233.83
10	15.6	3.73%	156.40	0.6			55.3	553.40			67.5	675.05			76.6	766.29
	419.8	100.00%	1936.21	30.21	14	30	419.8	2168.83	26	50	419.8	2318.73	26	50	419.8	2479.69
Avg Paser Score			4.61					5.17				5.52				5.91

Figure 42 revises the outcomes from Scenario #3 (14-year) of the Capital Outlay alternatives analysis in the same manner. When compared to *Figures 32* and *34* respectively, the impacts of an effective preventative maintenance program used in conjunction with an accelerated capital outlay plan can be projected.

Figure 42: Scenario #3 with Preventative Maintenance Revisions

Paser Rating Analysis for Eau Claire County																
Paser Rating	Hwy Miles	% of Total	Cumm Score	2014 CIP Miles	Est. 2015 CIP	2015 Prev. Mnt.	Resulting Hwy Miles	Impact on PASER[1]	2016-17 CIP Miles	2016-17 Prev. Mnt.	Resulting Hwy Miles	Impact on PASER[2]	2018-19 CIP Miles	2018-19 Prev. Mnt.	Resulting Hwy Miles	Impact on Paser[3]
1	71.6	17.06%	71.61	10.16	8		90.0	89.98	16		101.0	101.02	20		94.9	94.92
2	73.1	17.40%	146.12	5.55	4		54.1	108.14	8		27.8	55.64	6		11.8	23.60
3	54.2	12.90%	162.54	13.37	7		17.6	52.70	12		7.8	23.34	10		1.0	2.95
4	21.7	5.17%	86.76				22.0	87.98			14.2	56.74			11.0	44.16
5	22.3	5.31%	111.50			10	6.4	31.88		10	7.9	39.48		10	3.9	19.36
6	10.5	2.49%	62.70			15	29.4	176.49		30	19.9	119.10		30	12.8	76.58
7	78.4	18.67%	548.66	0.33		5	70.3	492.00		10	65.7	459.73		10	70.3	492.04
8	62.9	14.97%	502.80	0.2			61.1	488.52			74.9	599.26			87.2	697.47
9	9.7	2.31%	87.12				8.8	78.75			19.5	175.14			30.0	270.39
10	15.6	3.73%	156.40	0.6			60.3	603.40			81.3	812.55			96.9	969.41
	419.8	100.00%	1936.21	30.21	19	30	419.8	2209.83	36	50	419.8	2441.98	36	50	419.8	2690.88
Avg Paser Score			4.61					5.26				5.82				6.41

It is important to reiterate that the estimates and projections are again for illustration purposes and may not accurately reflect the actual outcomes. As stated, PASER ratings are only one measurable of a highway's overall condition (i.e. the pavement surface). Environmental conditions, subgrade composition, drainage, construction methods, pavement thickness, maintenance frequency and history, age, pavement quality, traffic volume, functionality, and many other factors also must be taken into account when determining the appropriate construction or maintenance approaches and timing to consider for each segment of highway.

Estimating Preventative Maintenance Costs

According to *Figure 10*, the number of highway miles in need of preventative surface treatments was estimated at 170-180 miles within the next five to six years or roughly 25-30 miles each year. Although there are many variations of crack filling and sealcoating options that could be applied, this analysis will be based off of a standard crack repair with seal and a typical seal coat application. According to figures obtained from the Eau Claire County Highway Department, combined seal coat and crack seal maintenance cost averaged approximately $27,000 per mile based on a competitive bid process in 2014. Allowing for inflation, we can thereby estimate the costs of preventative surface treatments to be approximately $675,000 to $810,000 annually for the next few years.

C. Summary of Analysis

The majority of this analysis has focused on the "surface condition" of the Eau Claire County Trunk Highway System. A more complex analysis may be necessary to truly understand the overall current system conditions, including but not limited to: drainage, subgrade composition, construction methods, recent maintenance efforts, functionality, pavement thickness, and

funding to adequately predict the needs of the overall system. With this understanding, there are several key components of the pavement surface analysis that are worth summarizing here.

- Regardless of the alternative scenario chosen, Eau Claire County has a significant number of highway miles (53%) that have the surface pavement in very poor or failed condition (meaning they have a PASER rating of 4 or less). In light of this backlog, it will most likely take a significant amount of time and investment to fully address the infrastructure needs of the Eau Claire County Highway Trunk System.
- Funding should be increased and made more consistent in future years to adequately address the needs of the system.
- Highway outlay needs for Eau Claire County range between $6.5 and $9.35 million annually depending on implementation of either Scenarios 2 or 3. Although this funding level may be fairly consistent with 2014 levels, it is 70%-250% more than the funding provided between 2008 through 2013 (approximately $3.8 million annually).
- Bridge outlay needs for Eau Claire County will be increasing in future years. The anticipated local costs of bridge outlay on an annual basis is $600,000 to $800,000 per year according to the 2015-2020 Highway Improvement Plan, assuming federal funding sources remain in place. Should federal funding or state funding no longer be available for bridge projects, the funding needs would be closer to quadruple what they have been in the past 5-10 years.
- Preventative maintenance is an essential component to an effective and efficient highway improvement plan. Funding for preventative maintenance should be a high priority within future budgets and should not be used to offset other budgetary needs.
- Preventative maintenance (crack filling and seal coating) needs are estimated at $675,000 to $810,000 annually. Historically, highway maintenance projects have been funded through a combination of local levy dollars, fees, and transportation aids.
- When considered collectively, the funding needs (inclusive of highway outlay, bridge outlay and preventative maintenance) for Eau Claire County could range between $7.8 and $12 million annually depending on implementation of either Scenarios 2 or 3 for the foreseeable future.
- Projections and estimates provided within this report are for illustration purposes. The Work Group has repeatedly noted that predicting outcomes of infrastructure investment and maintenance is difficult and subjective. With that being said, the PASER estimates and projections are a useful tool in which to measure progress against every few years when PASER ratings are updated. We recommend these cost estimates be updated every five years at a minimum to account for increases in costs and PASER outcomes.
- Facility needs were not analyzed as part of this report. There may be additional investments needs to address operations needs in the future.

Section 11: Funding Options

The following are options explored by the Transportation Work Group that are currently available within the statutory authority of the County for road and bridge improvements.

1. General Property Tax Levy

The County historically paid for road and bridge improvements on a "pay as you go" basis using general property tax revenue, General Transportation Aids, Local Roads Improvement Funds (LRIP), and landfill revenues. Operating levy limits were originally imposed on Counties in 1993. The 1993 operating levy limits were repealed in 2005 and replaced with a new levy cap imposed by the state legislature with provisions to sunset on January 1, 2007. The limits were re-imposed by the legislature in 2007 and again in 2009 – then made permanent in 2011 by Wisconsin Act 32. The provisions of Act 32 prohibit any county from increasing its "base" levy in any year by more than the percentage change in the county's equalized value due to new construction between the previous year and the current year, but not less than zero. Consequently the County Board gradually reduced the general tax levy for construction from $2.05 million in 2007 to $0 in 2011 (See Figure 21). The tax levy for road maintenance purposes was also reduced from a high of $3.2 million in 2006 to $1.83 million in 2014 (see Figure 25). The available tax levy dollars under the levy limit cap which were contained within the Highway Department Budget have been reallocated for other county purposes in recent years.

The current operating levy limit cap makes increasing general property funding for road construction capital outlay difficult to accomplish without making significant cuts in other property tax supported county operations and reprioritizing where property tax funds are to be appropriated. Continued reduction in county road maintenance levy may limit the ability of the county to undertake maintenance activities at the most cost effective time.

Approximately 65% of the county property taxes are collected from property located within the corporate limits of Altoona and Eau Claire. The use of property taxes to fund improvements to the current county road system places a higher proportion of the cost on those with indirect benefits of the system and would be disproportionate to actual use and direct local benefit of the roads.

2. General Obligation Bonds – Debt Service from Property Tax Levy

As in the past, the levy limit does not apply to any municipality's debt service on general obligation authorized on or after July 1, 2005. Therefore, Eau Claire County can continue to issue general obligation debt for highway purposes and have all future debt repayments placed on the levy, exempt from limitations. However, counties are also subject to an operating and debt levy rate limit beginning in 1993. While the operating levy rate limit was repealed last year, it appears that the debt levy rate limit remains in effect. Eau Claire County's debt levy rate is just under $1. This would mean that any annual debt service amount greater than $6.74 million (using 2013 equalized values) would need to be approved by a ¾ vote of the County Board. Each of the scenarios presented would likely exceed this limit.

3. Use of Local County Sales Tax (Portion of 0.5% tax)

Allocate a portion of the County's sales tax collection specifically for highway purposes. Currently, County Code 4.100.020 requires that:

> *100% of the revenue from the county sales and use tax shall be applied to property tax relief by reducing dollar-for-dollar the amount of the property tax as established annually by the County Board.*

Therefore, any specific allocation to highway would require a change in county code. Furthermore, since 100% of the sales tax revenue is used to directly offset the property tax levy used to fund other departments, any specific allocation to highway would create a general fund gap elsewhere that would need to be addressed.

4. County Vehicle Registration Fee

Wisconsin law allows a town, village, city or county to collect an annual municipal or county vehicle registration fee (wheel tax) in addition to the regular annual registration fee paid for a vehicle. All vehicles with automobile registration or truck registration at 8,000 lbs. or less (except dual purpose farm registration) kept in the municipality or county are subject to the wheel tax. This includes most special license plates with automobile or truck registration. State law does not specify the amount of the wheel tax. However, the municipality or county must use all revenue from the registration fee for transportation related purposes. The Wisconsin Department of Transportation (WisDOT) collects registration fees for the municipality or county, keeps an administrative fee of 10 cents per vehicle application and sends the rest to the municipality or county. WisDOT collects the registration fee at the time of first registration and at each registration renewal.

WisDOT currently collects a local vehicle registration fee for:

- City of Beloit ($10)
- City of Janesville ($10)
- City of Mayville ($10)
- City of Milwaukee ($20)
- St. Croix County ($10)
- Chippewa County ($10) – new for 2015

In 2012 there were 94,409 vehicles registered in Eau Claire County. It is estimated that 70,000 of the vehicles are automobiles or trucks of less than 8,000 lbs. At a rate of $10.00 per vehicle a county-wide registration fee is estimated to generate approximately $700,000 annually. This annual revenue could be used to cover additional operational efforts pertaining to highway maintenance (e.g. sealcoating) or could be used to offset additional debt service.

The registration fee places the cost of constructing and operating the county road system closer to a "user pays" method than the property tax. However, similar to the property tax, the

registration fee would be disproportionate to actual use as it is estimated that 70% to 75% of the registered vehicles are located within the corporate limits of Altoona and Eau Claire. The County Registration Fee exempts the heavy vehicles and implements of husbandry (IoH) from the charges because of their weight and therefore does not address those vehicles that can create the most damage to a highway.

5. Federal/State Grant and State Transportation Aids

The county currently takes full advantage of the Federal/State bridge replacement program and the Federal Surface Transportation Program (STP) – both Urban and Rural. The revenue from the County Highway Improvement Program (CHIP) and the state General Transportation Aids (GTA) are maximized wherever possible. The GTA has historically been used for county road maintenance while the other funds for specific road construction improvement projects.

6. Cost Sharing Agreements with Local Municipal Jurisdictions (66.0301)

Wisconsin Statutes § 66.0301 grants general authority for any county, city, town, or village to enter into agreements for intergovernmental cooperation. Eau Claire County has historically exercised this authority with municipalities for highway projects. However, Intergovernmental Cooperative agreements could also be used for cost sharing between the county and a town in light of the fact that 96% of the County Highway System is located outside of municipal boundaries within Towns.

7. Additional Park Fees

County roads that primarily serve part of the county park system would be funded partially or wholly by parks revenues, including park fees. Note: this would require fees to increase significantly and may still only generate a small portion of the revenue necessary to keep access highway up to desirable levels.

8. Impact/Road Use Fees

This would be accomplished through the use of User Agreements, similar to what already exists for the Sevenmile Landfill. The County Highway Department would negotiate an agreement with the owner or operator of a vehicle being operated on a county highway, providing that the county will be reimbursed for any damage done to the highway by said vehicle. The Agreement could provide for either annual payments (like the landfill) or a one-time payment to make certain improvements or upgrades to a specific portion of the County Highway System meant to address a particular need. This authority is contained within Wisconsin Statutes 83.015 and 349.16(1)(c) respectively.

9. Exceed Levy Limit Cap

A county tax levy can be increased above the cap limits imposed through statute if the amount is approved by referendum.

The following options that would require changes in the state statutes were also evaluated and explored by the Transportation Work Group.

1. Cost Assessed to Local Municipal Jurisdiction - Amend Section § 83.03(2)

Wisconsin Statutes § 83.03(2) authorizes the county board to improve any portion of a county trunk highway with county funds and to assess not more than 40% of the cost of the improvements but not more than $1,000 in any year against the town, village or city in which the improvements is located as a special tax. The $1,000 amount was part of the original highway laws adopted in 1925 and does not accurately reflect the current cost of road construction. It is recommended that legislation be sought to remove the dollar limitation from the statutes to allow counties more flexibility in funding road and bridge improvements.

Cost sharing with municipal jurisdiction where roads are functionally classified as "Local" would place a portion of the cost closer to the user of the system and better reflect that 96.1% of the CTH system is located in the towns and rural area of the County, 148.8 miles (35.4%) of the CTH system is functionally classified as "Local", and that 70% of the total CTH mileage has an ADT of 400 vehicles or less per day. The cost sharing would reduce the impact on the property tax to other local jurisdictions for county road improvements – but would have a corresponding direct impact on the property taxes within the local jurisdiction in which the improvements occur.

2. Grant Counties Special Assessment Authority

Wisconsin Statutes § 66.0703 grants authority to any city, town, or village to levy and collect special assessments upon property in a limited and determinable area for special benefits conferred upon the property by any municipal work or improvements; and may provide for the payment of all or any part of the cost for the work or improvements out of the proceeds of the special assessments. Counties in Wisconsin do not currently have the same statutory authority to levy special assessments for road improvements.

The property owner abutting an improved roadway would pay a special assessment which would help to more equitably distribute the cost of constructing "local" roads rather than solely through the use of the property tax in terms of the relationship between payments made and benefits received. The implementation of special assessments would increase the burden on the county to administer the program and increase the level of controversy during the design of road improvements. Cities, Towns, and Villages already have statutory authority to levy special assessments for road improvements and this may be an appropriate method for the municipal jurisdictions to recover a portion of the special charges that could be made in accordance with Wisconsin Statutes §66.0301 – Intergovernmental Agreements and Wisconsin Statutes § 83.03(2) – County Aid; Local Levy.

3. Authority to Establish Excise Tax on Products That Burden Highways

In most instances, authority to enact a local tax is prohibited by statute. In some instances, the Wisconsin Legislature has granted authority to enact specific taxes to certain local units of government, including more common forms like hotel or sales taxes. This proposed tax would be applied to various raw products that are transported from places of origin to processing facilities or markets utilizing county highways. The primary difference between this proposed tax and revenues received through a Road Use Agreement is that the proceeds could be utilized throughout the highway system rather than limited to a specific highway segment.

4. Authority to Create Regional Transportation Authority (RTA)

The 2009 State Legislature under Act 28 authorized the creation of the Chippewa Valley regional transit authority (RTA) subject to approval of the Eau Claire County Board. Once formed, the RTA would have the general duty to provide or contract for the provision of transit services within the RTA's jurisdictional area. The RTA was also authorized to impose a sales tax, if authorized by county board resolution creating the RTA, to a maximum rate of 0.5%. The authority to create an RTA in the Chippewa Valley was rescinded by the state legislature in 2011.

The statues previously approved were written to provide a source of local revenue for transit systems in selected urban areas of the state. If new legislation is introduced and approved it should broaden the scope of an RTA to include all modes of transportation. The proposed funding source would be collected primarily in the urban areas and could be used to assist in funding transit systems and road improvements to include bicycle and pedestrian facilities in both the urban and rural areas. A sales tax is viewed as regressive by some, but would remove a portion of the cost of transportation needs from the residential property tax burden. Creation and use of Regional Transit Authorities was recommended in the Wisconsin Transportation Finance and Policy Commission Report.

5. Legislative Authority for Local Tax Option on Fuel and Auto Parts

Similar to an excise tax on products covered under #3 above, this funding option would be specific to vehicle-related sales or supplies. In essence, this would expand upon the state fuel tax provisions and provide a local option to generate revenues much like sales tax. Again, proceeds could be utilized throughout the highway system.

6. Public Private Partnerships (P3's)

Public Private Partnerships (P3s) are contractual agreements between public agencies and private sector entities that are intended to enable greater private sector participation in project finance and delivery. The degree to which the private sector assumes responsibility and financial risk varies by project. Typically, P3s are considered an alternate project delivery and procurement system that involves the private sector assuming the responsibility for design, finance, construction, long-term operation and user fees. The majority of P3s that have been undertaken across the country have a revenue source for operation and maintenance of the roadway, with the roadway segment providing a "return on investment" to the private sector. P3s return to investors is generally through toll collection or availability payments. Although P3s can offer access to capital, they would not provide the county with new revenue, and would generally need a public sector revenue contribution – which is limited in the case of Eau Claire County.

Legislative authority does not currently exist in Wisconsin to implement a P3 project, as Wisconsin is considered a Design-Bid-Build (DBB) state. Changes in state statues that would allow Design-Build (DB) procurement projects for highway improvements may be beneficial to reducing the delivery cost and time to complete roadway projects.

7. Transportation Utility Fees (TUF)

Transportation Utility Fees (TUF's) are an alternative approach to financing transportation infrastructure. Under a TUF, the local unit of government treats access to the infrastructure as a utility service and assigns fees to the properties based upon infrastructure usage. The validity of a TUF is contingent on choosing a method of fees and charges that ensures a reasonable relation between the actual usage and the fee charged. The most commonly used method of determining usage of the highway system is trip generation rates established by the Institute of Transportation Engineers (ITE) – Trip Generation Manual.

Because a property owner pays fees according to their use of the road the TUF charges are more equitable than the property tax in terms of the relationship between payments made and benefits received. The method for determining the charges, based on trip generation are well documented and could be implemented with current GIS mapping and land use capabilities. The challenge with implementing a Transportation Utility in Eau Claire County is two-fold. The first would be creating and assuring the statutory authority for the county to establish a transportation utility. The second would be creating a method for billing rural properties that do not currently receive utility bills for services from the county.

Section 12: Key Findings – Issues and Challenges

The analysis of current conditions of the Eau Claire County Highway system by the Transportation Work Group produced the following key findings.

1. The County highway system has evolved over the years since it was established by Board resolution in 1925 from 214 miles to the current 420.7 miles.

2. The Eau Claire County Highway Trunk system has a higher percentage of County Trunk Highways (CTH's) mileage and a lower percentage of Municipal highway mileage than the statewide average. Almost all (96.1%) of the County mileage is located in the Towns. (See Figure #3)

3. The County Trunk Highway (CTH) mileage is more than 50% of the total individual municipal mileage in several of the Towns located in the outlying areas of the County.

4. The arterial system in Eau Claire County is primarily under the jurisdiction of WisDOT and the municipalities, with Eau Claire County having jurisdiction over just 14.24 miles (6.7%) of the existing 211.7 miles of arterial highways located in the county.

5. The roadways under the jurisdiction of the County serve primarily as Rural Collectors – 257.7 miles (61.2%)

6. 144.8 miles (35.4%) of roadway under the jurisdiction of the County have a functional classification of "Local". This is significantly higher than other comparable counties. (See Figure #5)

7. The average PASER rating of pavement condition in Eau Claire County was 4.6 (Fair) in 2013, up from a cumulative rating of 3.8 (Fair) in 2007. According to information obtained from WisDOT, the average PASER rating for all counties in the State of Wisconsin is closer to 6.6 for the 70 counties which utilize the PASER rating system.

8. Highways classified as Rural Collector and Rural Local with very low traffic volumes (ADT less than 200) account for a significant portion (57%) of the 145 miles rated as "Very Poor."

9. More than half of the Eau Claire County Highway System is rated "Very Poor" (34.5%) and "Poor" (18.1%) requiring resurfacing, reconditioning or reconstruction. As indicated in Figure #11, the current PASER rating distribution for the Eau Claire County Trunk Highway System is not desirable.

10. There are approximately 190 miles of county trunk highway located in Eau Claire County with an average daily traffic (ADT) of less than 200, meaning that approximately 45% of the county's highway network is lightly traveled.

11. The Wisconsin Information System for Local Roads (WISLR) modeling estimated at a minimum $98.7 million backlog of needs on the Eau Claire County Trunk Highway System based on 2013 data. Note: the estimated backlog is for roadways only and does not include estimated costs for engineering and bridge rehabilitation or replacement.

12. The bridges under the jurisdiction of Eau Claire County are aging but in good condition with an average rating of roughly "80" for all 72 structures, with 6.9 % (5 of 72 structures) having a sufficiency rating less than 50 as of December 31, 2013. However, 38.9% (28 of 72 structures) have a sufficiency rating less than 80, meaning that these structures are aging and will need significant improvements in the future.

13. The current bridge replacement program is highly dependent on the Federal/State bridge replacement program for funding. (80% Federal/State – 20% County)

14. The modeling performed using WISLR indicates that the current level of total funding for maintenance purposes may be adequate to meet the needs of Eau Claire County. <u>However, funds have been diverted from preventative maintenance to balance the budget to offset winter maintenance cost overruns for more than five years</u>.

15. According to multiple studies, each dollar invested in preventative maintenance (inclusive of crack sealing, seal coating and resurfacing) can save $4-10 dollars in maintenance, repair and reconstruction in the future. (See Figure #7)

16. The infrastructure (i.e. buildings and equipment) that supports the county highway maintenance and road construction operations is aging. This will require investment in addition to the funding needs identified in #11 above to renovate and upgrade facilities along with replacing vehicles and equipment in the future.

17. Federal assistance through the Surface Transportation Program (STP) – Rural program and State assistance through the Local Roads Improvement Program (LRIP) are relatively limited and insufficient to address the entire backlog of needs identified in this analysis, providing support to a relatively small portion of the highway system needs.

18. The County has transitioned from operational tax levy (pay as you go) to borrowing and subsequent debt service tax levy funding for road construction since 2008.

19. The bonding for road construction has increased from $0 in 2007 to $8.6 million in 2014.

20. General Transportation Aid (GTA) gas tax assistance from the State has increased from $1.35 million in 2005 to $2.49 million in 2014.

21. The costs for asphalt and petroleum related materials such as diesel fuel rose dramatically between 2005 and 2010 (more than doubled), reducing the purchasing power of Eau Claire County to conduct maintenance and construction when historic funding levels are taken into consideration.

22. According to WISLR computer simulations, all five funding scenarios utilized in this analysis could address the backlog of infrastructure needs for Eau Claire County, in a range of 5 to 30 years. (Note that the WISLR budget analysis is limited to a computer simulation analysis for a five year plan and may not accurately predict the effects of a specific approach beyond the 5-year plan.)

23. There are currently a limited number of options available to the County to fund an increased level of effort to improve the roadways due to state imposed levy limits and the lack of statutory authority for the County to generate revenue.

24. Highway outlay needs for Eau Claire County range between $6.5 and $9.35 million annually depending on implementation of either Scenarios 2 or 3. Although this funding level may be fairly consistent with 2014 levels, it is 70%-250% more than the funding provided between 2008 through 2013 (approximately $3.8 million annually).

25. Bridge outlay needs for Eau Claire County will be increasing in future years. The anticipated local costs of bridge outlay on an annual basis is $600,000 to $800,000 per year according to the 2015-2020 Highway Improvement Plan, assuming federal funding sources remain in place. Should federal funding or state funding no longer be available for bridge projects, the funding needs would be closer to quadruple what they have been in the past 5-10 years.

26. Preventative maintenance (crack filling and seal coating) needs are estimated at $675,000 to $810,000 annually. Historically, highway maintenance projects have been funded through a combination of local levy dollars, fees, and transportation aids.

27. When considered collectively, the funding needs (inclusive of highway outlay, bridge outlay and preventative maintenance) for Eau Claire County could range between $7.8 and $12 million annually depending on implementation of either Scenarios 2 or 3 for the foreseeable future.

Section 13: Recommendations

The Transportation Work Group recommends that the following actions and alternatives be considered by the Highway Commissioner, Highway Committee, County Board and/or citizens to improve the condition of the roadway pavements and to create a sustainable County highway system.

1. Review and establish a purpose statement of the County Highway system to determine why a roadway should be the responsibility of Eau Claire County (and when should it not be). A reasonable assumption and expectation is that if property owners are taxed for costs incurred on the County's road and bridge system, that the County Trunk Highway System be primarily of "county-wide" or "regional" significance.

2. Conduct a Functional Classification study in the near future. Review the highway system to determine which roadways could be better operated and maintained by the local municipal jurisdictions for roads that primarily serve a local purpose. Engage in discussions with the local municipal jurisdictions on the conditions and actions that would be necessary in order to undertake a jurisdictional transfer, including determining when a highway serves a county interest, or primarily a local interest. Note: this discussion and analysis may also result in Eau Claire County acquiring highway mileage from local municipal jurisdictions when that highway serves a greater county interest.

3. Establish a PASER pavement rating goal. A goal that 85% of the road pavements be rated as Fair (5 &6) or better with 5% or less rated as Very Poor (1 & 2) is recommended, largely consistent with the "Recommended" distribution in Figure #11 suggested for consideration. In conjunction with this goal, the County may want to consider a two-tiered system. Highways with an ADT of greater than 200 per day would have a PASER goal of 7 or greater while highways with an ADT of less than 200 per day would have a PASER goal of not less than 6 consistent with the "Desirable and Sustainable Distribution Curve" discussed throughout this document (See Figure 11)

4. Fund the Road and Bridge construction program at a minimum consistent with the funding outlined in Scenario #2 for road outlay in addition to the identified bridge outlay needs contained in the 2015-2020 Highway Improvement Plan. Note: This level of funding is consistent with the funding levels provided in our comparable counties, as discussed on Page 41. In conjunction with this recommendation, the following should also be considered:
    a. The effectiveness of the program should be evaluated biannually with updated PASER ratings (odd numbered years) and adjusted as needed to assure that the pavement rating is improving and trending toward the pavement rating goal.
    b. The financial figures used in this report are based on 2014 values, and should be adjusted to account for fluctuations in inflation of road construction and material costs.

c. This funding level is dependent on general transportation and bridge aids being provided at the current state and federal levels. Should this funding support change in the future, the funding for Road and Bridge construction should be adjusted accordingly.
d. This recommended funding level is also dependent on the continued funding for preventative maintenance (maintenance of effort) at or above the current level.

5. Preventative maintenance (crack filling & seal coating) is an essential component to an effective and efficient highway improvement plan. As such, funding should be increased as necessary and adjusted based on inflation in the upcoming years to assure that the overall pavement maintains a "Good" rating. Funding for preventative maintenance should be a high priority within future budgets and should not be used to offset other budgetary needs. Funding for preventative maintenance should be accomplished through levy dollars, and not through the issuance of additional debt if possible. For the purposes of this report and recommendation, resurfacing (overlays) should be considered an outlay expense (historically consistent) and not a preventative maintenance expense.

6. While this may prove difficult or unlikely, Eau Claire County should pursue cost sharing agreements with towns (similar to what is currently practiced with cities and villages) for improvements to all roads, especially those with a "Local" classification or with low traffic volumes. County funding of 60% and local participation of 40% is recommended, consistent with Wis. Stats. 83.03.

7. Undertake an analysis of the Eau Claire County support infrastructure to determine the building and equipment needs required to support the Highway Department operations in the long-term.

8. Evaluate the appropriate mix of contracted consulting services and in-house design for engineering services and contract administration to implement the selected investment alternative program.

9. Evaluate the capacity needs (staff and equipment) for road construction, maintenance activities, and contract administration to match the selected investment alternative program.

10. Consider pursuing funding alternatives that do not require state/federal legislative changes in the following order including but not limited to:
    a. Increased bonding supported by the property tax levy
    b. County Vehicle Registration Fee
    c. Cost sharing with local units of government (i.e. Towns)
    d. Direct Impact Agreements (i.e. landfill agreement)

11. Consider working with the local legislators and organizations similar to the Wisconsin Counties Association or Wisconsin County Highway Association on various statutory changes ranked by order of impact, included but not limited to:
    a. Regional Transportation Authority.
    b. Additional local sales tax enabling legislation from fuel and vehicle and service related sales to local transportation funding purposes.
    c. Modifications to Wisconsin Statutes § 83.03 on cost sharing by eliminating the $1,000 limitation.
    d. Public/Private Partnerships (P3's)

12. Eau Claire County should carefully monitor the impact of new legislation affecting large/heavy users on county highways or bridges and act as necessary to reasonably protect the county's transportation investment.

Attachments

Map #1 – Historical Eau Claire County Highway Map

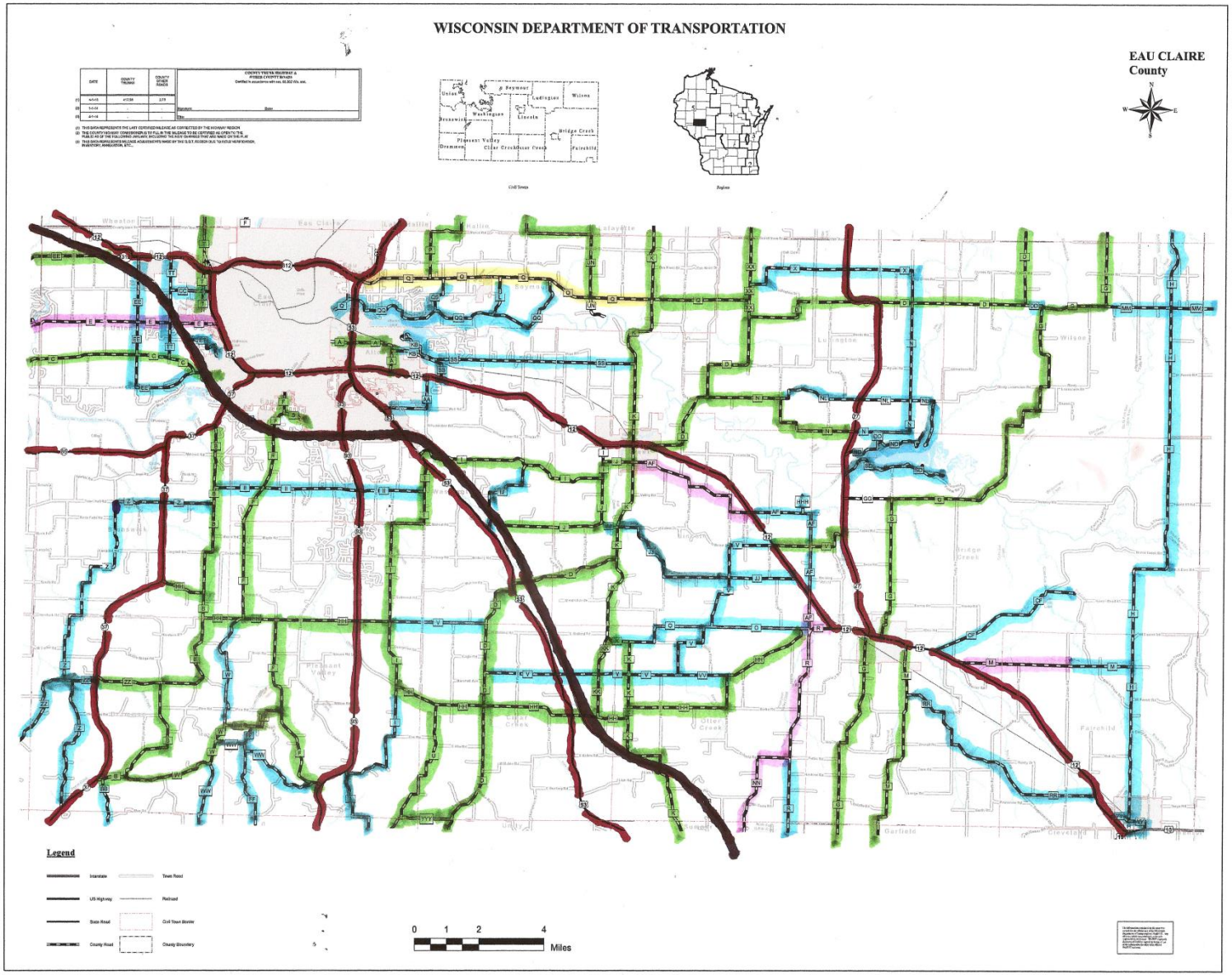
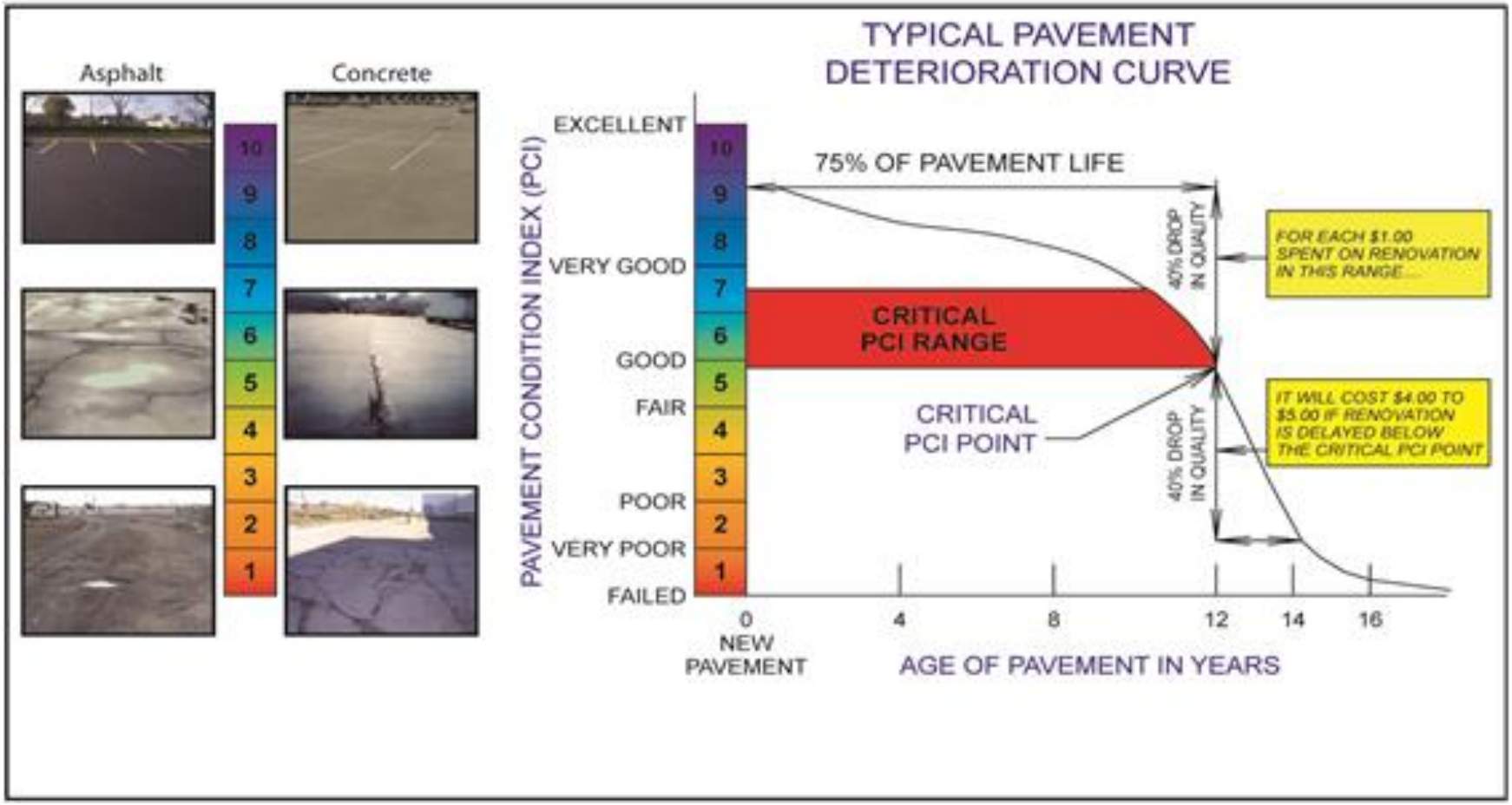


Figure 7


Asphalt
Concrete
10
9
8
7
6
5
4
3
2
1
TYPICAL PAVEMENT
DETERIORATION CURVE
PAVEMENT CONDITION INDEX (PCI)
EXCELLENT
VERY GOOD
GOOD
FAIR
POOR
VERY POOR
FAILED
75% OF PAVEMENT LIFE
CRITICAL
PCI RANGE
CRITICAL
PCI POINT
40% DROP
IN QUALITY
40% DROP
IN QUALITY
FOR EACH $1.00
SPENT ON RENOVATION
IN THIS RANGE...
IT WILL COST $4.00 TO
$5.00 IF RENOVATION
IS DELAYED BELOW
THE CRITICAL PCI POINT
0
NEW
PAVEMENT
4
8
12
14
16
AGE OF PAVEMENT IN YEARS