

Wisconsin Department of Transportation

www.wisconsindot.gov

Scott Walker
Governor

Dave Ross
Secretary

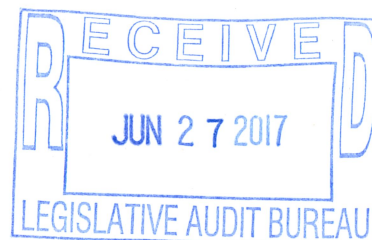
Office of the Secretary
4802 Sheboygan Avenue, Room 120B
P O Box 7910
Madison, WI 53707-7910

June 23, 2017

Telephone: 608-266-1113
FAX: 608-266-9912
E-mail: sec.exec@dot.wi.gov

Senator Robert Cowles, Co-Chair
Joint Legislative Audit Committee
Room 118 South, State Capitol
PO Box 7882
Madison, WI 53707-7882

Representative Samantha Kerkman, Co-Chair
Joint Legislative Audit Committee
Room 315 North, State Capitol
PO Box 8952
Madison, WI 53708-8952



Dear Senator Cowles and Representative Kerkman:

Thank you for the opportunity to present an update regarding the January 2017 Legislative Audit Bureau review of Wisconsin's State Highway Program. The attached document, State Highway Program (17-2) Progress Report, summarizes the ongoing department efforts to ensure compliance with each of the report's recommendations. The department appreciates the valuable information provided by the audit and we have made progress in each area.

As Secretary of Transportation, I take very seriously the department's responsibility to be a steward for the taxpayers and users of the transportation system. A review of our audit response will show that we have diligently incorporated the Legislative Audit Bureau's recommendations. Through this process, we have made improvements to be more transparent and cost-effective as we continue to maximize investments in Wisconsin's transportation infrastructure without increasing the burden on taxpayers.

In addition to work described in the attached briefing, WisDOT continues to refine priorities to better control costs and place a stronger focus on building the right project in the right place at the right time. For example, we are actively reviewing the local program administrative and delivery costs in an effort to put more funding into local projects. The department also made a strategic decision to cancel a major highway study to instead enhance maintenance and preserve resources. We are also reprioritizing project savings to advance additional projects.

I would like to reiterate my gratitude for the comprehensive nature of the audit and for its useful findings. I am also appreciative of the insights and information provided by the Joint Legislative Audit Committee and elected officials throughout Wisconsin. Transportation is vital to Wisconsin and WisDOT is committed to making improvements and continuing to follow through on all recommendations.

Senator Robert Cowles, Co-Chair
Representative Samantha Kerkman, Co-Chair
June 23, 2017
Page Two

The department is committed to both implementing the audit recommendations and improving services. Please do not hesitate to contact me for any follow up or questions regarding the attached progress report.

Sincerely,

A handwritten signature in black ink, appearing to be 'Dave Ross', written over the word 'Sincerely,'.

Dave Ross
Secretary

Attachment

cc: Members of the Joint Legislative Audit Committee



State Highway Program (17-2) Progress Report

Wisconsin Department of Transportation

June 2017

The Wisconsin Department of Transportation is responsible for planning, designing, constructing and maintaining 11,758 miles of state highway. The department is committed to accountability and continuous improvement. The information below is being provided as requested in the January 2017 Legislative Audit Bureau report (17-2) regarding the State Highway Program. This progress report provides individual responses to each of the LAB's recommendations.

Page 34 - We recommend the Department of Transportation comply with administrative rules by taking public opinion into account when numerically evaluating potential major highway projects. (Report due June 30, 2017)

- WisDOT is seeking to change Administrative Rule Trans 210 to eliminate this issue. Changes will first be proposed through the Legislature's Red Tape review process. If this is not successful, the department will seek modifications through the Administrative Rule revision process.
- WisDOT has a robust public involvement processes that extends well beyond the scope of the public meetings required under the Trans 210 guidelines. Federal standards and enumeration requirements have evolved since the development of Trans 210, making the notification requirements identified by LAB functionally obsolete. A review of public input opportunities from recent Majors program projects demonstrates the point that current public involvement processes are more comprehensive than what could have been obtained with just one public meeting under the Trans 210 requirements.
 - For example, for the Verona Road project in Dane County the department held more than 200 meetings with the public and stakeholder groups during the planning and design phase alone.

Page 36 – We recommend the Department of Transportation maintain in a central location complete information on all expenditures for each major highway project and the reasons for increases in project expenditures. (Report due June 30, 2017)

- WisDOT is developing a central office repository to store expenditure data for all current and future Majors program projects. This will be implemented by the end of calendar year 2017. This repository will include:
 - All TPC reports
 - Final estimate change request forms submitted by project teams
 - Process documentation of project expenditure change requests
- WisDOT's Regions will also maintain separate project files.

Page 38 – We recommend the Department of Transportation comply with statutes by consistently including all required information in its semiannual reports to the Transportation Projects Commission, including all actual and expected costs of each major highway project enumerated in statutes. (Report due June 30, 2017)

- WisDOT will include the following in the TPC Reports:
 - Year-of-expenditure (YOE) project construction estimates (costs inflated to expenditure year). This will be in addition to current year estimates.
 - Pre-enumeration costs.

- Other costs not born by the Major project but needed for the project.
- This recommendation was partially implemented with the February 2017 TPC report. We expect full implementation for the August 2017 TPC report.

Page 39 – We recommend the Department of Transportation maintain on its website the materials, documents, and minutes for Transportation Projects Commission meetings for at least 15 years after a given meeting, as well as all statutorily required semiannual reports submitted to the Transportation Projects Commission. (Report due June 30, 2017)

- WisDOT will update the existing Transportation Projects Commission (TPC) website to include documents 15 years old or less that fall into the following categories:
 - Meeting minutes from TPC meetings
 - Presentation materials
 - Supporting documents provided to TPC members
- All statutorily required TPC reports will be maintained on the website as well.
- We anticipate full implementation by August 2017.

Page 44 – We recommend the Department of Transportation:

- A. **determine why previously enumerated projects increased in cost after enumeration and assess why its cost estimates did not anticipate the total cost of these projects (Report due June 30, 2017);**
 - WisDOT has determined the following reasons:
 - It wasn't until 2010 that the department developed a protocol to ensure all project construction related costs were in the enumeration estimate.
 - Major project costs have always been reported in current-year-dollars, with the expectation that they would be increased over time to reflect inflation.
 - Improvements to estimating practices were implemented in 2010 and were further improved in 2014.
- B. **use the benefits of this information to help determine more-accurate cost estimates of future major highway projects;**
 - To correct past estimating deficiencies, the department has implemented a cost estimating protocol for both Major and SE-Mega projects to ensure that all costs are included and to ensure that risk and contingency factors are appropriately incorporated.
 - WisDOT has implemented the following:
 - Use of the estimating protocol began in 2010. Additional improvements were incorporated into the protocol in 2014.
 - The protocol now includes more rigorous and regular cost estimate reviews by the project team, an enhanced peer review process, and subject matter experts from WisDOT and Federal Highway Administration to aid in identifying potential deficiencies.
 - The protocol reflects national best practices that are applied to all significant transportation investment projects. We have subject matter experts involved and we use better data. The result is a better process for assessing true risk.
 - WisDOT will continue to use the improved processes and will keep assessing and improving these processes.

- C. **provide the Governor and the Legislature with cost estimates for major highway projects that presume the actual inflation associated with projects will likely be higher than consumer price index-measured inflation and that include more accurate contingency amounts;**
 - The February 2017 TPC Report included inflationary estimates. For TPC reporting, the estimates assumed:
 - Prices will increase at the level projected by Global Insight’s Chained Price Index for State and Local Gross Investment in Highways and Streets.
 - Future budgets will remain the same as that provided in the current Biennium.
 - The improved cost estimating protocol accounts for contingencies when estimating new projects or when updating existing estimates.
 - A cost estimating tool was developed that offers information based on historical Major project allowance factors and contingency amounts.
 - Enhanced peer review in the cost estimate review process also helps ensure contingency and risk are adequately captured.
 - The department will use these improvements (and others identified in this report) to ensure the Governor and Legislature continue to receive timely and accurate information.
- D. **And use these cost estimates to plan future major highway project work that can be completed with program funding that it presumes it will receive in future years.**
 - WisDOT is using the process improvements described previously to ensure future projects and project work can be completed within the estimated program funding.

Page 47 – We recommend the Department of Transportation update its method for annually allocating funds to each region for rehabilitation projects on non-backbone highways and specify this method in its policies. (Report due June 30, 2017)

- WisDOT has changed its allocation policies and is in the process of implementing these improvements. The improvements were developed using a cross-divisional workgroup that included both regional and central office staff. Once implemented, these new policies will be documented and maintained. The department plans to rerun this process every 2-3 years to ensure allocations are consistent with evolving system needs. We anticipate full implementation by end of calendar year 2017.

Page 49 – We recommend the Department of Transportation:

- A. **comply with its administrative rules for selecting rehabilitation projects on backbone and non-backbone highways (Report due June 30, 2017);**
 - WisDOT is seeking to change Administrative Rule Trans 209 to address out of date language in the code. Changes will first be proposed through the Department’s Red Tape review process. If this is not successful, the department will seek modifications through the Administrative Rule revision process.
 - Proposed changes will reflect today’s improved data-driven processes for asset management. They will also reflect the numerous opportunities for public involvement that did not exist under prior project outreach efforts

- B. document why it selects particular rehabilitation projects on non-backbone highways over other potential rehabilitation projects.**
- WisDOT will document the asset management strategy that guides these decisions. The department uses a strategic combination of best-value and low-cost fixes to maintain acceptable service and to achieve the best long-term system health that can be achieved with available funding.

Page 50 – We recommend the Department of Transportation use the results of the program effectiveness performance measure to improve how it selects rehabilitation projects on non-backbone highways. (Report due June 30, 2017)

- WisDOT Regions consistently use asset management data to assist in programming the right projects with the right scope or treatment at the right time. By strictly using these data, we will ensure compliance with the Program Effectiveness performance measure.
- The goal of the process is to understand and document reasons for model deviations to determine if deviations are valid, identify areas for improvement, and make necessary model adjustments to achieve better reliability.
- The program effectiveness measure helps to ensure chosen program treatments are timely and in accordance with the current scoping theme. Program effectiveness, as a performance measure, is critical to ensure consistency across the state.

Page 53 – We recommend the Department of Transportation consistently document the procedures and assumptions used to determine traffic forecasts and use this information to improve its traffic forecasts. (Report due June 30, 2017)

- WisDOT uses several methods that are identified in the Department's Transportation Planning Manual (TPM) to document forecast procedures. It is standard forecast practice to collect data, process data and, assess assumptions that are unique to each traffic forecast. Specific documentation exists in numerous memos and notes in traffic forecast worksheets, traffic forecast reports, and within the individual project records. While processes are in place and are ongoing, WisDOT will continue to document its processes and assumptions sufficiently.
- WisDOT is currently participating on a National Cooperative Highway Research Program (NCHRP) expert panel to assess and guide a research study titled, Traffic Forecasting Accuracy Assessment Research (NCHRP 08-110). WisDOT will continue to investigate procedures and assumptions to improve new traffic forecasts.

Page 55 – We recommend the Department of Transportation ensure it thoroughly reviews forecasts of traffic counts performed under contract by other entities in order to determine the accuracy of those forecasts. (Report due June 30, 2017)

- WisDOT will continue to thoroughly review traffic count forecasts performed under contract by others to ensure traffic forecast adherence to department policies, protocols, and procedures.
- The checklist mentioned by LAB has been drafted and is undergoing review by department leadership. Documented traffic forecast reviews continue to occur to verify the accuracy of data used to complete forecasts. In addition, traffic forecast policies, protocols, and procedures will continue to be documented in the WisDOT TPM—a publically available resource.

Page 68 – We recommend the Department of Transportation:

- A. modify its engineering delivery cost index performance measure, such as by establishing separate annual goals for the costs of design engineering work and construction engineering work (Report due June 30, 2017);**
 - The department has completed analysis of past projects to determine average design and construction delivery curves, basing on work type and construction cost.
 - Design and construction delivery will be measured separately with this new method of performance measurement.
- B. annually calculate whether each region met its goals;**
 - Region analysis of data will continue to be reviewed each year.
 - The department will use this analysis to determine whether each region met its goals based on work type in both design and construction.
- C. use the results of these calculations to control engineering costs.**
 - We are well down the path of conducting additional analysis to identify outlier projects that exceed a certain threshold for delivery costs based on work type and construction. This will allow us to identify trends where delivery costs exceed expectations. This information will be used to improve delivery costs in the future.
 - We are also creating a more proactive reporting process for project managers and supervisors to manage design delivery throughout the life of the project. This will be accomplished by routinely reporting anticipated closeout delivery costs based on the percentage of design work that is complete and comparing that to the percentage of engineering costs that have been accumulated to date.

Page 69 – We recommend the Department of Transportation modify its policies to require its staff to annually update the hourly rates used to complete cost-benefit analyses. (Report due June 30, 2017)

- In January 2017, the department updated hourly rates used to complete cost-benefit analyses.
- The May update to the Facilities Development Manual (FDM) includes language specifying that that cost-benefit analyses are updated annually, at a minimum.
- Updates to the rates will happen on an annual basis as recommended.
- The department is in the process of implementing an automated consultant e-contracting system that will include scoping, soliciting, selection, negotiation and execution of the consultant contract. When fully implemented, this e-contracting system will automatically update the cost-benefit hourly rates of consultants as contracts are being executed.

Page 72 – We recommend the Department of Transportation provide design engineers with guidance on how and when to incorporate value engineering recommendations into future projects in order to reduce costs and improve design quality. (Report due June 30, 2017)

- WisDOT will continue performing VE studies in the interest of realizing project-specific efficiencies, but also will broaden the discussion about individual studies in an effort to create best practices elsewhere.
- Starting with the July 2017 project development chiefs meetings, VE will be a standing topic to review studies, determine trends and explore opportunities in other projects. This will be a collective effort of statewide design oversight engineers, regional designers and standards development engineers.
- VE files are stored on WisDOT's internal network and will remain accessible for designers and project managers. These files also include a list of individual VE recommendations summarized on a standard WisDOT form (DT1342) for each VE project, for easy review.

Page 74 – We recommend the Department of Transportation continue its efforts to improve the accuracy of the estimated amounts of state highway construction contracts and meet its performance measure goal. (Report due June 30, 2017)

- There are regular meetings among staff who produce engineering estimates, and a number of checkpoints have been created.
- We're looking at bids and providing feedback to quality assurance engineers to help understand how bids could be different from estimates.
- We use tools for common items such as asphalt, concrete and mobilization to facilitate better cost estimating. We're also working on a system to better classify uncommon bid items.
- Results of estimate accuracy are tracked after each letting and annual results are discussed among project chiefs. If near term trends (spike in fuel or other commodity prices, e.g.) indicate a need to discuss more frequently, the department will adjust as needed.

Page 75 – We recommend the Department of Transportation consistently use the results of the design quality index performance measure to improve the quality of design plans for state highway projects. (Report due June 30, 2017)

- The Design Quality Index analysis team is developing a draft revision to the Construction and Materials Manual (CMM) 1-70.3 to provide additional information on how to effectively complete the review and provide feedback to the design team and the consultant as part of the contracts evaluation process. This revised guidance will be reviewed and concurred upon by the functional area chiefs and then included in the November CMM update. Once the revisions have been approved the guidance will be discussed at the monthly construction conference call regarding the proposed changes.
- The data will be summarized at statewide, program and region levels, and provided to quality assurance engineers to facilitate process improvement.

Page 82 – We recommend the Department of Transportation continue its efforts to meet its quarterly goals for soliciting bids on state highway construction contracts. (Report due June 30, 2017)

- WisDOT has developed a charter regarding various Project Letting Plan (PLP) goals and targets looking at issues such as appropriate monthly distribution of projects by schedule, program type and project type.
- A WisDOT PLP steering committee meets quarterly to look at recent results and expected outcomes in the future.
- Performance measure results are shared and discussed at region and statewide level to create awareness and generate comprehensive feedback to assist in meeting the quarterly goals for soliciting bids.
- It should be noted that unusual or unforeseen circumstances or factors such as let savings or significant commodity price increases can influence the scheduled program. Adding or removing projects due to these external factors may influence the Department's ability to meet this goal, but would not necessarily result in an overall negative outcome. For example, adding projects in the second half of the fiscal year due to let savings from the first half of the year would skew the results of the goal, yet could be seen as a positive result because more system needs would be addressed while taking advantage of favorable construction costs.

Page 85 – We recommend the Department of Transportation continue its efforts to increase the number of bids it receives for state highway construction contracts. (Report due June 30, 2017)

- WisDOT has taken steps to boost competitiveness.
 - There's an automated question/answer process to help supply timely information related to bidding.
 - Plans are posted early in order to give contractors a feel for what's upcoming, increasing opportunities for bid participation.
 - The confidential bidder pilot (launched 12/15) gives an option to keep contractor identity private until letting day. Bidders can no longer assume they're bidding alone.
- WisDOT has seen average number of bidders per proposal increase more than 25% over the past three fiscal years, from 2.96 in FY15 to 3.35 in FY16 to 4.24 so far in FY17.

Page 87 – We recommend the Department of Transportation revise its policies to more clearly specify in which circumstances a cost reduction incentive for innovation should be awarded to contractors. (Report due June 30, 2017)

- In February 2017, WisDOT worked with FHWA on policy revisions related to the elimination and substitution of construction items within a cost reduction concept.
- The workgroup also drafted language to better define the process for approving a cost reduction incentive, better involving region and statewide resources in the interest of consistency.
- Updates were made to the Construction and Materials Manual in May 2017 with FHWA approval.
- This topic was addressed during March/April trainings for 700 department, consultant and contractor staff.

Page 90 – We recommend the Department of Transportation continue its efforts to control costs during the construction phase of state highway projects and meet its performance measure goal. (Report due June 30, 2017)

- Despite industry norms of 105-106%, WisDOT will continue to use a stretch goal of 103% in an effort to drive down costs. For clarification, that is 3% above the let project costs to account for unforeseen or unanticipated construction-related costs.
- The plans to refine Design Quality Index and Cost Reduction Incentives (above) will be beneficial to this area. The department will continue to work on developing tools, processes and training that support good construction management and cost control.
- We're working on providing more granular construction on-budget goal setting targets that better reflect and categorize project complexity and performance risk.

Page 97 – We recommend the Department of Transportation report to the Joint Legislative Audit Committee by June 30, 2017, on the results of its pilot program to optimize snowplow routes, including the estimated savings, its methodology for calculating those estimated savings, and whether it plans to expand the program. (Report due June 30, 2017)

- Route optimization was completed and partially implemented in Dane and Green counties with positive results.
 - Dane County reduced its plow area by four sections.
 - Brown County continues to operate with 36 sections despite adding 165 lane miles and 26 multi-lane roundabouts.
 - We estimate that these moves saved \$686,400, which can be applied to other critical maintenance needs

- The department's methodology for route optimization ROI: It costs about \$10K total to perform the analysis. This cost is balanced against savings, including:
 - Each avoidance/removal of truck/plow from fleet saves roughly \$40K/year.
 - Driver/fringe for year is roughly \$45,800
- We've started route optimization for six additional counties. In total, there are 30 counties working toward route optimization. We continue to explore how to best balance these opportunities with available resources.
- While WisDOT remains optimistic that savings will be significant, the data set on which to evaluate the potential is still relatively small. We will continue to evaluate as more data and experience become available through this pilot program.

Page 98 – We recommend the Department of Transportation establish policies specifying actions that should be taken when a county does not submit an invoice for completed routine maintenance work in a timely manner. (Report due June 30, 2017)

- WisDOT is updating policy language in Highway Maintenance Manual to ensure timely billing and payment of invoices. The update will also include guidance to create billing estimates if there are legitimate reasons for billing delay.
- The Bureau of Highway Maintenance collected information in earlier this year with regard to which counties are falling outside the statutory 30-day requirement, and what issues may be causing delays. That information is being analyzed for inclusion in formal policy language.
- The department has developed policies defining actions when a county does not submit timely invoices for routine maintenance work.
- WisDOT has communicated with the Wisconsin County Highways Association in order to set expectations.

Page 99 – We recommend the Department of Transportation establish policies specifying how its regional office staff are to review invoices submitted by counties for routine maintenance work. (Report due June 30, 2017)

- The department has developed policies and practices on how the regions will review routine maintenance work invoices submitted by the Counties.
- WisDOT will use a checklist for monthly invoice review that will be incorporated into the Highway Maintenance Manual.
- The checklist will become a tool used uniformly from region to region and county to county. We will conduct annual training to ensure new people understand the invoice review process. The checklist will be developed by June 30, 2017.

Page 102 – We recommend the Department of Transportation report to the Joint Legislative Audit Committee by March 30, 2018, on the results of its pilot program for performance-based maintenance contracts, including the estimated savings, its methodology for calculating those estimated savings, and whether it plans to continue the program. (Report due March 30, 2018)

- The Department will report on the results of the performance-based maintenance pilot program to the Joint Legislative Audit Committee as requested by March 30, 2018.

Page 103 – We recommend the Department of Transportation clarify in writing to its regions how the memorandum of understanding affects the completion of routine maintenance work. (Report due June 30, 2017)

- WisDOT regions have received additional written guidance regarding approved paving options as they relate to the 500 foot and \$100,000 limitations referenced in the MOU. This was the primary point of confusion for region staff in regards to the MOU.
- An update was completed and published in May in the Highway Maintenance Manual.
- Now there are additional discussions ongoing to clarify how routine maintenance paving work over \$100,000 is best delivered within the spirit of the MOU.
- Discussions have taken place with key stakeholders including the Wisconsin County Highways Association Executive Board.