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Joint Committee on Finance

Paper #789

State Highway Maintenance (Transportation -- State Highway Program)

[LFB 2023-25 Budget Summary: Page 647, #6 and #7]

CURRENT LAW

The Department of Transportation (DOT) state highway maintenance and traffic operations program is responsible for a variety of activities related to the upkeep of state highways and highway rights-of-way, including minor repair of pavements and bridges, winter maintenance (such as snow plowing and ice removal), mowing and vegetation management, and the maintenance of highway rest areas and waysides. Most routine maintenance work is performed by counties under contract with the state, who are later reimbursed by DOT. The Department funds the program from three sets of appropriations: (a) highway system management and operations; (b) routine maintenance activities; and (c) intelligent transportation systems and traffic control signals. Each set of appropriations include individual SEG, FED, and SEG-L appropriations.

DISCUSSION POINTS

1. This paper discusses two provisions included in Assembly Bill 43/Senate Bill 70 (AB 43/SB 70) to provide additional ongoing funds to the state highway maintenance and traffic operations program: (a) funding to the highway system management and operations appropriations for pavement marking and steel bridge spot painting; and (b) funding for routine maintenance activities to cover inflationary costs in the program. Table 1 shows the total state and federal funds provided to the state highway maintenance and traffic operations program in each biennium since 2015-17, as well as the funding recommended for 2023-25 under the bill.

TABLE 1

Biennial State Highway Maintenance and Traffic Operations Program State and Federal Funding, 2015-17 through 2021-23 (\$ in Millions)

	<u>2015-17</u>	<u>2017-19</u>	<u>2019-21</u>	<u>2021-23</u>	<u>2023-25</u>
Hwy. Sys. Mgt. and Ops.	\$175.0	\$201.4	\$199.2	\$201.7*	\$236.3**
Routine Maintenance	340.0	373.7	376.7	376.7	388.1**
Intel. Trans. Systems	<u>20.0</u>	<u>20.0</u>	<u>19.9</u>	<u>19.5</u>	<u>19.6</u>
Total	\$535.0	\$595.1	\$595.8	\$597.9	\$644.0
% Change		11.2%	0.1%	0.4%	7.7%

*\$8.8 million SEG was provided to the highway system management and operations appropriation in 2021-23 for purchasing highway de-icing salt.

**Amounts shown for the 2023-25 biennium reflect recommendations under AB 43/SB 70.

A. Highway System Management and Operations

2. The Department's highway system management and operations appropriations fund a wide range of activities to support the maintenance and functioning of the state highway system, including certain non-routine road and bridge maintenance activities such as bridge maintenance and repairs, emergency and corrective repairs from weather events and other incidents, and pavement marking. In addition, the appropriations fund salt purchases for de-icing state highways, maintenance of roadside facilities such as rest areas, and oversize and overweight vehicle routing and permitting, as well as various other activities. AB 43/SB 70 would provide \$2,372,200 SEG and \$12,350,000 FED annually to DOT's highway system management and operations appropriations to fund pavement marking and steel bridge spot painting activities in the 2023-25 biennium.

3. The Department anticipates that the Federal Highway Administration (FHWA) will release a new manual on uniform traffic control devices (MUTCD) in 2023, which is expected to require states to increase the width of longitudinal lines, such as lane stripes, to six inches for freeways, expressways, ramps, and all other roadways with speed limits greater than 40 miles per hour. Currently, all Wisconsin roadways are striped with four inch-wide pavement markings. This requirement would make traffic lines easier to see for human drivers, as well as autonomous vehicles. Studies have shown that this change may lead to improvement of highway safety outcomes, such as reducing personal injuries and property damage from vehicle crashes. The MUTCD was originally scheduled to be published on May 15, 2023, but FHWA has not yet released the manual. The manual is also expected to include a compliance deadline for the new pavement marking standards. The Department indicates that if it does not convert all of its eligible pavement markings to six-inch width by the anticipated federal deadline, it could cause the federal government to penalize the amount of federal transportation aid that is provided to the state in future years.

4. The Department contracts with counties to complete most state highway maintenance work, including pavement marking. The Department indicates that it would use all of the recommended \$12.4 million FED annually, and \$1.4 million SEG annually to compensate counties

to re-mark pavement for eligible highways in the state, in order to comply with the new federal rules. The specific costs that would be required for this work include purchasing pavement marking material and widening the road grooves that contain pavement markings. The recommended SEG would be needed to meet the federal requirements for state matching funds of at least 10% of the FED provided for pavement marking activities. Thus, the Department indicates that it would be unable to fund these contract activities with federal funds without the recommended SEG funding. The Department indicates that work would begin on roads that would experience the greatest safety benefit, which are primarily rural two-lane highways, and estimates that the recommended funding, which would be established as base level funding for the program for future years, would allow it to complete the pavement re-marking process over a seven-year period.

5. The remaining \$1.0 million SEG annually in recommended highway system management and operations funding would be used to complete additional spot painting (repainting portions of a structure, rather than the entire structure) for steel bridges located on state highways. This work can prolong the useful life of steel bridges, as the paint acts a protective coating that can defend steel from corrosion. If bridges are not painted timely basis, these structures can deteriorate more quickly and accelerate the need for costly repair or replacement projects, which can be particularly expensive for more complicated structures such as lift bridges and multi-level interchanges. The state highway system currently includes over 1,200 steel bridges with an average age of approximately 50 years. While bridge painting can result in cost savings for DOT, the Department indicates that it currently has a backlog of 300 bridges that have been identified with spot painting needs. The recommended funding would be used to address this backlog at an estimated cost of approximately \$12 per square foot of bridge surface.

6. Funding for pavement marking in 2023-25 will allow the Department to progress towards the expected federal pavement marking deadline, and also avoid inflationary costs and a larger volume of work that would be needed in future years if the funding were not provided. The federal aid received by DOT may be also penalized if the federal deadline is not met. The recommended funding for bridge spot painting could create long-term cost savings for the Department, as it could extend the life of state highway bridges and postpone more costly bridge repair and replacement projects. The bill would provide ongoing funding of \$2,372,200 SEG and \$12,350,000 FED annually for DOT's highway system management and operations appropriations, which could allow the Department to complete its pavement marking work over a seven-year period, and also fund continuing work to complete spot painting on older steel bridges located on state highways. [Alternative A1]

7. The majority of the funding recommended for DOT's highway system management and operations appropriations would be used for pavement marking activities. However, the federal government has yet to release the new MUTCD, so the specific rules and compliance deadline for pavement markings are not yet known. Given the current uncertainty around the federal standards for pavement marking, the Committee could provide DOT with the recommended \$1,000,000 SEG annually for spot painting, and provide half of the recommended funding for pavement marking (\$6,175,000 FED and \$686,100 SEG annually). This would allow DOT to complete the recommended spot painting work and begin some pavement marking work, while also freeing up some SEG and FED revenues in 2023-25 for other purposes. [Alternative A2]

8. The majority of recommended funding is federal Highway Safety Improvement Program (HSIP) funding for needed safety and structural maintenance activities. Other uses of federal HSIP funds exist, such as correcting or improving a hazardous road location or feature, or addressing other highway safety concerns, including enforcement of state laws for intoxicated, distracted, and aggressive driving. Federal HSIP funding is also used in the state highway program, particularly the state highway rehabilitation program, as well as on local highway projects. Approving the recommended SEG funding for steel bridge spot painting, while denying the recommendation for highway marking activities, would reduce the need for \$1.4 million SEG annually and free up \$24.7 million FED in the biennium for these other purposes. [Alternative A3]

9. Limited transportation fund revenues may be available in 2023-25. Transportation fund revenues have been revised downward in the biennium from the amounts recommended in AB 43/SB 70, as revenue collections in 2022-23 are lower than expected and the economic outlook for 2023-25 has worsened since the bill was introduced. Meanwhile, demands for the expenditure of transportation fund revenues may increase in 2023-25 and beyond due to large upcoming projects such as the I-41 reconstruction between Appleton and De Pere, the I-94 East-West reconstruction project in Milwaukee County, the reconstruction of the John A. Blatnik Bridge in Superior, and the southern bridge construction project in Brown County, as well as inflationary demands across transportation programs. Approving the recommended funding for pavement marking activities, while denying funding for spot painting would reduce the SEG funding impact on the transportation fund by \$1.0 million annually. [Alternative A4]

10. The Committee could also deny the recommendation. Base level funding would still be provided to DOT's highway system management and operations appropriations, which DOT could still use to complete some of the recommended work, although it would likely need to reduce expenditures for other state highway maintenance activities to do so. [Alternative A5]

B. Routine Maintenance Activities

11. DOT's routine maintenance activities appropriations fund most of the Department's routine, corrective, and preventative maintenance work on state highways, which is performed with the goal of maintaining existing highway system infrastructure in satisfactory condition. The specific activities funded under the routine maintenance category include interim repair of highway surfaces, repair of bridges and culverts, pavement crack and pothole filling, debris removal, and winter maintenance activities such as plowing and de-icing. The Department indicates that, like the steel bridge spot painting discussed earlier, many routine maintenance activities provide long-term cost savings for the Department. As with the highway system management and operations appropriations, most of these activities are performed by counties, who are later reimbursed by DOT.

12. DOT employs an asset management strategy that utilizes performance-based analysis to determine how to most effectively invest funding in the state highway system to keep it safe, efficient, and in a state of good repair, given limited funding levels. Asset management analysis is used to determine whether particular portions of deteriorating state highways could be better addressed with more minor maintenance projects, which are less costly but may create less impact in addressing issues (i.e. safety, congestion), and may only provide temporary solutions, versus larger reconstruction or rehabilitation projects, which are more costly but can create larger, more long-term

impact. Thus, state highway maintenance is an integral component of DOT's asset management strategy for the state highway system, playing a key role in maintaining the condition of state highways and maximizing the cost-effectiveness of DOT's overall state highway improvement program. As one example, the Department's asset management strategy designates early crack filling as a required activity for preserving the condition of the state highway system.

13. In the five years from 2018-19 to 2022-23, no funding increases have been provided to DOT's routine maintenance appropriations. However, the Department indicates that inflationary costs in the program have risen over this period, resulting in reduced purchasing power for the program and a backlog of maintenance needs for the state highway system. For example, the Department indicates that over the past two years the Department has increased its machinery reimbursement rate to counties by 18% to ensure that county machinery does not deteriorate and fail. This required the Department to reallocate funding from other routine maintenance activities. Without additional funding in 2023-25 to maintain the program's purchasing power, the Department indicates that it would need to continue prioritizing funding for certain, essential activities in this manner, which could lead to the long-term deterioration of facilities and equipment, and could ultimately cause more costly maintenance work to be needed in the long term. For example, if the costs need for winter maintenance activities rise in 2023-25, the Department may be forced to allocate additional routine maintenance funds to keep state highways plowed and de-iced, while cutting funding for repairing highway surfaces, which could lead to the long-term deterioration of highway pavement conditions.

14. To cover inflationary costs in the state highway maintenance and traffic operations program, AB 43/SB 70 would provide \$3,497,200 SEG in 2023-24 and \$7,897,200 SEG in 2024-25 to DOT's routine maintenance activities appropriation. This would provide an ongoing funding increase of \$7.9 million for the program, which is 4.2% higher than the funding level that has been provided to the program in each of the past five years. The Department indicates that these additional funds would increase routine maintenance payments to each county by an average of approximately \$100,000 annually. The Department notes that SEG funding is recommended for the program, as the program can receive limited FED since federal funding cannot be used for payments to reimburse counties. [Alternative B1]

15. DOT's asset management strategy utilizes analysis to determine the amounts of funding that should be invested into state highway reconstruction and rehabilitation activities, versus the amounts that should be used for state highway maintenance. Under DOT's asset management principles, funding provided for one category of activities may reduce the need for other activities, while reductions in funding for one category may increase funding needs for the other. This is a funding balance dilemma, for example, if an aging bridge cannot be replaced due to the limited availability of funding, which could result in additional maintenance expenditures being required to keep the bridge open.

16. AB 43/SB 70 would appropriate an additional \$377.2 million in SEG, FED, and bonding authority for DOT's state highway program reconstruction and rehabilitation programs (state highway rehabilitation, major highway development, southeast Wisconsin freeway megaprojects, and major interstate bridge improvement). Some of this funding would be used to begin large projects such as the I-94 East-West freeway construction project in Milwaukee County, and the Minnesota-Wisconsin

John A. Blatnik Bridge reconstruction project in Superior. Other funding would be used to increase activities in the state highway rehabilitation program. Thus, there may be less need for additional state highway maintenance funding in the biennium, as the additional funding recommended for DOT's state highway reconstruction and rehabilitation programs could already fund the repair of some of the most significant deteriorating portions of the state highway system.

17. Given the potential increase in funding for DOT's other state highway improvement programs, as well as the limited availability of transportation fund revenues in the 2023-25 biennium, the Committee could choose to provide half of the recommended funding for routine maintenance activities [Alternative B2] or deny the recommendation [Alternative B3]. As a result, less funding would be available for counties to maintain state highway infrastructure in the biennium.

ALTERNATIVES

A. Highway System Management and Operations

1. Provide \$12,350,000 FED and \$2,372,200 SEG annually to DOT's highway system management and operations appropriations. This would establish ongoing increases of \$12,350,000 FED and \$2,372,200 SEG annually to base level funding for the appropriations for future years. The Department indicates that the funding would be used to widen pavement markings on state highways over a seven-year period, and provide ongoing support for spot painting on steel bridges located on state highways.

ALT A1	Change to Base
FED	\$24,700,000
SEG	<u>4,744,400</u>
Total	\$29,444,400

2. Provide \$6,175,000 FED and \$1,686,100 SEG annually to DOT's highway system management and operations appropriations. Approximately \$1,000,000 SEG annually would be used for spot painting steel bridges located on state highways, while the federal funds and \$686,100 SEG annually would be used for pavement marking activities. This would establish ongoing increases of \$6,175,000 FED and \$1,686,100 SEG annually to base level funding for the appropriations for future years.

ALT A2	Change to Base
FED	\$12,350,000
SEG	<u>3,372,200</u>
Total	\$15,722,200

3. Provide \$1,000,000 SEG annually to DOT's highway system management and operations appropriations for spot painting for steel bridges located on state highways. This would

establish an ongoing increase of \$1,000,000 SEG annually to base level funding for the appropriations to continue funding this work in future years.

ALT A3	Change to Base
SEG	\$2,000,000

4. Provide \$12,350,000 FED and \$1,372,200 SEG annually to DOT's highway system management and operations appropriations for pavement marking activities. This would establish ongoing increases of \$12,350,000 FED and \$1,372,200 SEG annually to base level funding for the appropriations, which could be used to widen pavement markings on state highways over a seven-year period.

ALT A4	Change to Base
FED	\$24,700,000
SEG	<u>2,744,400</u>
Total	\$27,444,400

5. Take no action.

B. Routine Maintenance Activities

1. Provide \$3,497,200 SEG in 2023-24 and \$7,897,200 SEG in 2024-25 to DOT's routine maintenance activities appropriation to cover inflationary costs in the program. This would establish an ongoing increase of \$7,897,200 SEG annually to base level funding for the appropriation for future years.

ALT B1	Change to Base
SEG	\$11,394,400

2. Provide \$1,748,600 SEG in 2023-24 and \$3,948,600 SEG in 2024-25 to DOT's routine maintenance activities appropriation to cover inflationary costs in the program. This would establish an ongoing increase of \$3,948,600 SEG annually to base level funding for the appropriation for future years.

ALT B2	Change to Base
SEG	\$5,697,200

3. Take no action.

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