



## Legislative Fiscal Bureau

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December 14, 2016

TO: Representative Gordon Hintz  
Room 109 North, State Capitol

FROM: John Wilson-Tepeli, Fiscal Analyst

SUBJECT: Cost of Delays in the State Highway Improvement Programs

At your request, this memorandum provides information on the potential costs of project delays in the state highway improvement program as a result of the funding provided in 2015-17 and requested by the Department of Transportation (DOT) for 2017-19 for the following three components of that program: (a) the state highway rehabilitation program; (b) the major highway development program; and (c) the southeast Wisconsin freeway megaprojects program.

This estimate looks at the state highway improvement program funding differences under two separate funding comparisons. These funding differences reflect the reductions to the state highway improvement programs that have, or will, result in project delays. The cost of delay estimates are calculated by inflating the annual funding difference under each funding comparison by the average annual change in the construction index.

*Funding Comparison 1.* Compares the actual funding provided in 2015-17 for the above state highway improvement programs with the total program resources requested by the Department in 2017-19 for those programs. The funding difference for 2017-19 under this comparison is shown in Attachment 1.

*Funding Comparison 2.* Compares the funding that would have been provided under the Department's 2015-17 budget request, and on an ongoing basis in 2017-19 for the above state highway improvement programs with the following funding levels: (a) the actual funding provided in 2015-17 for these programs under 2015 Act 55 (the 2015-17 budget); and (b) the funding requested under DOT's 2017-19 budget request for these programs. The funding difference for the four-year period (2015-19) under this comparison is shown in Attachment 2. [This comparison uses DOT's requested 2016-17 base plus bonding doubled as the level of ongoing program funding in 2017-19 because this level of resources was intended to meet the long-term need in these programs.]

## **Background**

The state highway rehabilitation, major highway development, and southeast Wisconsin freeway megaprojects programs were funded in the 2015-17 biennium at a lower level (\$2,798.6 million) than the amount requested by the Department in its biennial budget request. The Department's 2015-17 budget request for these programs (\$3,468.7 million) was intended to provide funding related to particular programming needs in that biennium and to provide an ongoing funding base (including the use of revenue bonds) in 2016-17 that would address the long-term state highway construction needs identified by the Department. This request was submitted in the context of a higher overall level of funding for transportation purposes, which would have been funded through tax and fee increases, bond revenue, and interfund transfers. The Department's 2015-17 request was based on the following considerations: (a) estimates of program need; (b) the recommendations for ongoing levels of program funding established by the Transportation Finance and Policy Commission in 2013; (c) feedback received by DOT during its public outreach efforts during the 2015-17 budget development process; and (d) the Governor's charge to the Department to find a "long-term solution for ensuring that our transportation system continues to support economic development in Wisconsin while also developing a sustainable way to fund it."

As described above, in the 2015-17 biennium, the three state highway improvement programs included in this analysis received less funding than DOT indicated during biennial budget deliberations was needed fully fund construction activities in these programs. As a result, the Zoo Interchange project (funded from the southeast Wisconsin freeway megaproject program) and four major highway development projects were delayed from their projected completion deadlines. This level of funding also delayed construction activities in the state highway rehabilitation program.

The Department indicates that its 2017-19 request is intended to focus on the preservation of the existing transportation system and highway safety by providing a relatively higher level of funding for state highway rehabilitation projects, state highway maintenance, and local road aids than in the prior biennium. However, this request would provide \$2,385.8 million in funding for the three highway improvement program components, which is significantly less funding for these program components than was either requested under DOT's 2015-17 budget request or provided under 2015 Act 55. The 2017-19 request, which would authorize \$695.0 million in bonds for transportation purposes (\$500.0 million for use in the biennium), includes no significant changes to the transportation fund tax and fee structure. As a result, similar to how the actual amounts provided in 2015-17 under Act 55, when compared to DOT's 2015-17 request, led to project delays, the Department's 2017-19 request will lead to additional project delays. The following analysis attempts to quantify the inflationary costs of those delays resulting from the funding levels provided in 2015-17 and requested in 2017-19.

## **Analysis**

To track inflationary of construction costs within its highway programs, DOT uses a construction cost index to track price changes in highway construction-related bid elements over time. The Department records bid prices for various components of highway construction,

including asphalt, concrete, steel, and earthwork. As prices change over time, DOT uses those changes to calculate an annual construction cost index for this "basket" of construction goods. From 2011-12 through 2015-16, the average annual increase in this index was 3.8%.

*Funding Comparison 1.* In 2015-17, \$2,798.6 million in total program resources were provided for the three components of the state highway improvement program. DOT requested \$2,385.8 million for these programs in 2017-19. The difference between the actual 2015-17 funding and the 2017-19 funding requested is \$412.8 million less in program funds under the request. Assuming the 3.8% rate of inflation referenced above, it is estimated that by 2019-20, the delay of \$412.8 million in state highway construction projects from the 2017-19 biennium would result in additional inflationary costs equal to \$33.3 million over the two-year period.

*Funding Comparison 2.* DOT requested \$3,468.7 million in the 2015-17 biennium for the three components of the state highway improvement program. The actual funds appropriated and authorized for these programs in the 2015-17 biennium (\$2,798.6 million) was \$670.1 million less than the requested amount. For the 2017-19 biennium, DOT requested \$2,385.8 million for these programs, or \$1,120.0 million less than would have been provided under the Department's ongoing 2015-17 request level. [If DOT's 2015-17 request had been adopted, the 2016-17 base year, plus bonding, doubled would have totaled \$3,505.8 million for these programs.] The total program funding under this scenario would be \$1,790.1 million less (\$670.1 million for 2015-17 + \$1,120.0 million for 2017-19) than what DOT, in its 2015-17 budget request for these programs, indicated was needed for 2015-17 and future biennia (assuming the 2016-17 base plus bonding doubled under the Department's 2015-17 request) would be provided to fully fund these programs. Using an annual, 3.8% rate of inflation, it is estimated that by 2019-20, the deferral of \$1,790.1 million in state highway construction projects would result in additional inflationary costs equal to \$147.7 million over the four-year period.

Many interrelated factors may affect highway construction costs over time, such as industry capacity, demand, material costs, and project staging and design considerations as they relate to the availability of funding. These factors would likely be affected by large changes in the size of the state's highway improvement program. This analysis does not address this issue and assumes that future inflation rates in the state highway construction program will be equal to the average rate experienced in recent years.

In addition, bond revenue represents a significant portion of the funding in these programs. It is likely that some mix of bonds and cash financing would be used to provide any large increase in future state highway funding in 2017-19. Because any bonds issued to increase program funding levels would result in interest costs, inflationary estimates indicated earlier may be somewhat overstated. Finally, the estimated cost of delays indicated earlier do not include any estimate of the additional state highway rehabilitation program costs may have to occur in order to provide interim treatments to highway facilities because of delayed reconstruction.

### **Potential Impact of Project Delays on State Highway Rehabilitation Program**

This office also requested information on other potential costs of deferred state highway

construction associated with the funding levels in the Department's 2017-19 request. In response, the Department provided the following statement relating to the impact of project delays in the southeast Wisconsin freeway megaproject program on the state highway rehabilitation program:

"Significant delays to the expansion projects typically brings throw-away costs for interim treatments to maintain serviceability until reconstruction can occur. Typically, at least 50% of the total expansion project cost offsets rehabilitation that would otherwise need to occur over the life of the corridor in the absence of the expansion project.

In the situation of an ongoing severely constrained southeast Wisconsin freeway megaprojects program, an additional \$200 million in costs will need to be absorbed by SHR over the next 10-years [an average of \$20 million per year] to address critical structure and pavement replacement needs on potential southeast corridors that would otherwise have been absorbed by more timely southeast Wisconsin freeway megaprojects. This trend will get significantly worse in 10-years as this work can't be delayed forever..."

As context for this statement, the funding level for southeast Wisconsin freeway megaprojects program under the Department's 2017-19 request would be \$382.6 million less than the total amount of construction costs that DOT reported would be needed to complete planned construction activities on the Zoo Interchange and I-94 North-South freeway projects (enumerated megaprojects) in its August, 2016, transportation project commission report.

The Department also provided the following statement with regard to an inquiry as to whether or not as a result of project delays in the major highway development program could be expected to result in additional costs to the state highway rehabilitation program at the level of funding DOT requested for 2017-19:

"Anticipated delays to the major highway development program from the current transportation project commission schedule with a budget of \$281.4 million per year [the annual average of DOT's biennial request for this program] are not significant enough that the state highway rehabilitation program would have to absorb significant extra costs above what was already anticipated for those corridors."

As a point of comparison, the funding level for major highway development program under the Department's 2017-19 request would be \$161.4 million less than the total amount of construction costs that DOT reported would be needed to complete planned construction activities on enumerated major projects in its August, 2016, transportation project commission report.

I hope this information is helpful. Please let me know if you have any questions.

JWT/sas  
Attachments

ATTACHMENT 1

Funding Comparison 1: Actual 2015-17 Funding for Selected State  
Highway Improvement Programs and DOT's 2017-19 Budget Request  
(\$ in Millions)

	Appropriated/Authorized in 2015-17			2017-19 Request		Biennial Total	Difference in Resources
	2015-16	2016-17*	Biennial Total	2017-18	2018-19		
State Highway Rehabilitation	\$865.8	\$832.3	\$1,698.1	\$849.3	\$852.6	\$1,701.9	\$3.8
Major Highway Development	368.5	317.4	685.9	267.3	294.7	562.0	-123.9
SE Wis. Freeway Megaprojects	399.6	15.0	414.6	71.2	50.7	121.9	-292.7
Total -- Selected State Highway Improvement Programs	\$1,633.9	\$1,164.7	\$2,798.6	\$1,187.8	\$1,198.0	\$2,385.8	-\$412.8
Funding Difference				-\$446.1	\$33.3	-\$412.8	-\$412.8

\*Under Section 91.45(1v) of 2015 Act 55, as affected by the Joint Committee on Finance's action in November, 2015, a \$44.8 million reduction in transportation fund-supported, general obligation bonding provided to the major highway development program is required. DOT may submit a request in 2016-17 to replace the bonding reduction with the available transportation fund revenue. This table shows 2015-17 bonding levels for that program prior to any such adjustment.

ATTACHMENT 2

Funding Comparison 2: DOT's 2015-17 Budget Request for Selected State Highway Improvement Programs and Various Funding Levels  
(\$ in Millions)

	2015-17 Request		Biennial Total	Appropriated/Authorized in 2015-17		Biennial Total	Difference in Resources
	2015-16	2016-17		2015-16	2016-17*		
2015-17 Funding Comparison							
State Highway Rehabilitation	\$856.1	\$984.9	\$1,841.0	\$865.8	\$832.3	\$1,698.1	-\$142.9
Major Highway Development	418.0	418.0	836.0	368.5	317.4	685.9	-150.1
SE Wis. Freeway Megaprojects	441.7	350.0	791.7	399.6	15.0	414.6	-377.1
Total -- Selected State Highway Improvement Programs	\$1,715.8	\$1,752.9	\$3,468.7	\$1,633.9	\$1,164.7	\$2,798.6	-\$670.1
Funding Difference				-\$81.9	-\$588.2	-\$670.1	-\$670.1
	2015-17 Request Ongoing (2016-17 Base Plus Bonding Doubled)						
	2016-17	2016-17	Biennial Total	2017-18	2018-19	Biennial Total	Difference in Resources
State Highway Rehabilitation	\$984.9	\$984.9	\$1,969.8	\$849.3	\$852.6	\$1,701.9	-\$267.9
Major Highway Development	418.0	418.0	836.0	267.3	294.7	562.0	-274.0
SE Wis. Freeway Megaprojects	350.0	350.0	700.0	71.2	50.7	121.9	-578.1
Total -- Selected State Highway Improvement Programs	\$1,752.9	\$1,752.9	\$3,505.8	\$1,187.8	\$1,198.0	\$2,385.8	-\$1,120.0
Funding Difference				-\$565.1	-\$554.9	-\$1,120.0	-\$1,120.0

\*Under Section 9145(1v) of 2015 Act 55, as affected by the Joint Committee on Finance's action in November, 2015, a \$44.8 million reduction in transportation fund-supported, general obligation bonding provided to the major highway development program is required. DOT may submit a request in 2016-17 to replace the bonding reduction with the available transportation fund revenue. This table shows 2015-17 bonding levels for that program prior to any such adjustment.