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SFA BILL ANALYSIS

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Senate Bill 563 (Substitute S-1 as reported)
Sponsor: Senator Thaddeus G. McCotter
Committee: Transportation and Tourism

Date Completed: 10-3-01

RATIONALE

Under State law, the Michigan Department of Transportation (MDOT) is required to perform a "life-cycle cost analysis" for each project in which total pavement costs, funded entirely or partly by the State, exceed $1 million. The Department then must design and award paving projects that use material having the lowest life-cycle cost. These requirements were added in 1997 to establish an objective process for MDOT to use in selecting pavement for highway projects. Apparently, however, the life-cycle cost law may interfere with MDOT's ability to try out new types of pavement or methods of paving through demonstration projects. Under the law, life-cycle cost must be based on the history of a design, which is not available for an untested product or technique.

In order to avoid triggering the life-cycle cost requirement, the Department must keep demonstration projects relatively small. According to MDOT, however, the smaller a project is, the less realistic or accurate the results will be. Therefore, it has been suggested that MDOT be permitted to engage in a limited number of demonstration projects without regard to the life-cycle cost law.

CONTENT

The bill would amend Public Act 51 of 1951 (the Michigan Transportation Fund law) to do the following:

-- Permit the Michigan Department of Transportation to conduct up to four pavement demonstration projects each year, notwithstanding any other provision of the Act.
-- Require MDOT to make a final report for each demonstration project following its demonstration life, which could be shorter than the actual pavement life of the material used for the project.
-- Require the MDOT Director to report annually to the legislative transportation committees.

Each demonstration project would have to be at least one mile long and consist, entirely or partly, of new construction or reconstruction or rehabilitation of existing pavement. Each project would have to include measurable goals and objectives for determining its success. Demonstration projects would have to be selected according to any of the following criteria:

-- Pavement designs intended to increase pavement life expectancy.
-- Pavement designs intended to improve performance, including friction, noise reduction, and improvement of ride quality.
-- Comparisons of performance of various types of pavement.

By February 1 each year, the MDOT Director would have to provide an annual report to the Senate and House of Representatives transportation standing committees and Appropriations subcommittees on transportation, regarding the status of each demonstration project.

BACKGROUND

Public Act 51 of 1951 defines "life-cycle cost" as the total of the cost of the initial project plus all anticipated costs for subsequent maintenance, repair, or resurfacing over the life of the pavement. Life-cycle cost must compare equivalent designs and be based

upon Michigan's actual historic project maintenance, repair, and resurfacing schedules and costs as recorded by the pavement management system, as well as include estimates of user costs throughout the entire pavement life. (The pavement management system attempts to ensure that a disproportionate share of pavement does not become due for replacement or major repair at the same time.)

MCL 247.651i

ARGUMENTS

(Please note: The arguments contained in this analysis originate from sources outside the Senate Fiscal Agency. The Senate Fiscal Agency neither supports nor opposes legislation.)

Supporting Argument

This bill would give MDOT the leeway it needs to take innovative approaches to pavement. Currently, if a project will cost over $1 million, the Department must perform a life-cycle cost analysis, which must be based on historical information. Since an experimental technique or untested product has no history, however, the analysis cannot be completed. To avoid this "Catch-22", the Department is limited to demonstration projects that do not cost over $1 million. Due to the expensive nature of highway construction, this means that the projects must be relatively small. A small project, however, will not necessarily produce an accurate result, particularly in terms of measuring the cost-effectiveness of a new paving material or an innovative method of surfacing. By permitting MDOT to conduct up to four demonstration projects each year without implementing a life-cycle cost analysis, the bill would expand the State's ability to experiment with new approaches to highway construction. This could, in turn, lead to safer, quieter, smoother, and less costly roadways.

Response: It has been suggested that the demonstration projects should be equitably divided between the asphalt industry and the concrete industry. According to Committee testimony, concrete now receives only about 30% of the State's paving dollars. The bill at least should hold the industry harmless.

Supporting Argument

The bill would help prevent the type of situation that occurred with respect to a five-mile stretch of I-275 in Livonia and Farmington Hills, which originally was built in 1970 and needed to be resurfaced. When MDOT repaved this section of highway in 1999, it used an experimental technique called random tining. According to the Department, this technique was recommended by a consultant hired by Farmington Hills, due to citizens' concerns about the noise that could result from traditional concrete paving. The random tining left tiny grooves in the concrete that were supposed to improve safety by adding traction, as well as decrease noise. Instead, it increased noise levels to a decibel level of about 83 (said to be similar to a garbage disposal at a close range), which many neighboring residents found to be unbearable. In order to remedy this problem, MDOT recently reground the pavement with a process called diamond cutting, reportedly at a cost to the State of $1.5 million to $2 million.

The random tining used in 1999 evidently had been tested in areas of Wisconsin by researchers from Marquette University and transportation officials from several states, including Michigan. The Department, however, had not conducted a demonstration project with random tining before using it on the five-mile stretch. Under the bill, for future projects, MDOT could first try out an experimental technique and avoid the situation that occurred on I-275. The bill's reporting requirements also would help prevent this type of scenario.

Opposing Argument

As a result of the life-cycle cost law, MDOT now has a state-of-the-art process of making pavement decisions based on cost-effectiveness. The bill would set that aside in order to do something that could result in greater costs. The State presently does not have enough money for all of the projects that are already planned.

Response: Allowing MDOT to test new products would not diminish existing projects. The Department would select demonstration projects from the projects on its five-year plan. According to an MDOT engineer, demonstration projects typically do not increase costs significantly.

Legislative Analyst: S. Lowe

FISCAL IMPACT

The bill would have an indeterminate fiscal impact on the State and local governments associated with the provision allowing the Michigan Department of Transportation to conduct four payment demonstration projects each year. According to MDOT, these projects would be selected from existing road and bridge projects contained in the Department's five-year plan as opposed to being new, previously unidentified projects. The actual costs of the projects chosen as demonstration projects, if any, are unknown at this time and would be contingent on the length, scope, and design of the projects. The selected projects could cost more or less than if they were completed under current law. Currently, State road and bridge projects are funded from the State Trunkline Fund, local funds, and/or Federal funds. It is unknown at this time whether the selected projects would entail funding restrictions, thereby affecting the sources and levels of funding.

The Act requires cities and villages to share in the cost of all State trunkline projects, based on the population of the city or village. Cities and villages of 50,000 or more in population are required to bear 12.5% of the project costs. Cities and villages having a population of between 39,999 and 50,000 are required to bear 11.25% of the project costs. Cities and villages having a population between 24,999 and 40,000 are required to bear 8.75% of the project costs. In cities and villages of less than 25,5000, the State is responsible for the entire project costs. Under the bill, it appears that locals would not be responsible for these match requirements for the selected demonstration projects. Therefore, to the extent that a selected demonstration project would require a local match under current law, the bill could decrease local costs if the selected project were exempted from the local match requirements.

Fiscal Analyst: C. Thiel

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