

SOUTH DAKOTA LEGISLATIVE RESEARCH COUNCIL

2020 South Dakota Legislature

FISCAL NOTE 2020-FN21A

SB21 authorizes the Department of Transportation (DOT) to establish temporary variable speed limits on state highways based upon monitored traffic, weather, or road surface conditions to ensure safe travel.

SB21 requires a Variable Speed Limit System (VSL) to accommodate changing speed limits and to monitor traffic, weather, and road surface to detect conditions that warrant a reduced speed limit. DOT plans to deploy a VSL at two locations across the state.

Based on information provided by DOT, the one-time cost to deploy the VSL is expected to be \$1,500,000. In addition, maintenance and ongoing costs of the system over the 15-year life of the project are estimated to be \$661,200, which equates to an average annual maintenance and operations cost of \$44,100. The total increase in expenditures is \$2,161,200. These costs are shown in Table 1.

Table 1: VSL Costs

Item	Deployment	Operations & Maintenance
LED Speed Limit Signs w/Posts	\$264,000	\$135,000
Static Section Entry/Exit Signs w/Posts	\$48,000	-
Weather Sensors	\$36,000	\$27,000
Traffic Sensors	\$24,000	\$18,000
Pavement Surface Sensors	\$104,000	\$104,000
Visibility Sensors	\$64,000	\$48,000
Cameras	\$24,000	\$60,000
Modems & Switches	\$8,000	\$10,000
Sensor Towers, Cabinets, Foundations	\$96,000	-
Power & Communication	\$56,000	\$115,200
Conduit, Fiber Optic Cable, Wiring, Trenching	\$224,000	-
Cable Guardrails	\$372,000	-
Control Software	\$155,000	-
Formal System Evaluation	\$25,000	-
Service Calls	-	\$144,000
TOTAL	\$1,500,000	\$661,200

Further analysis, based on information provided by DOT on Wyoming's temporary variable speed limits, indicates that VSL will also result in a decrease in expenditures. This decrease in expenditures, or cost savings, is due to a reduction of crashes requiring incident response and guardrail repair along with a reduction of collisions with snowplows. The reduction in expenditures for state agencies is estimated to be \$693,900 over the 15-year life of the

project, which equates to an average annual savings of \$46,260. These cost savings are shown in Table 2.

Item	Reduction in Expenditures
Snowplow Collision Damage	(\$187,500)
Snowplow Collision Workman's Compensation	(\$82,500)
Incident Response (Department of Transportation)	(\$112,500)
Incident Response (Highway Patrol)	(\$11,400)
Guardrail Collision Repair	(\$300,000)
TOTAL	(\$693,900)

Under current law, it is a Class 2 Misdemeanor to violate speed limits on state highways. To the extent that more violations of speeding occur in variable speed limit areas, revenue would increase from traffic violations. This increase is anticipated to be minimal over the 15-year period of the project.

The net total fiscal impact of SB21 is estimated to be a cost \$1,467,300 over 15 years. DOT expects to utilize the Accelerated Improvement Deployment (AID) federal grant program, the federal Highway Safety and Improvement Program (HSIP), and the State Highway Fund to cover these costs.

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