

1.1 Senator ..... moves to amend S.F. No. 5142 as follows:

1.2 Delete everything after the enacting clause and insert:

1.3 "Section 1. **AUTONOMOUS MOWERS RESEARCH AND DEVELOPMENT.**

1.4 Subdivision 1. **Definitions.** (a) For purposes of this section, the following terms have  
1.5 the meanings given.

1.6 (b) "Autonomous mower" means a robotic or automated device designed, programmed,  
1.7 and operated to cut grass or vegetation with programming or predefined routes to minimize  
1.8 the need for manual assistance or intervention.

1.9 (c) "Commissioner" means the commissioner of transportation.

1.10 (d) "Project" means the autonomous ditch mowing pilot project authorized by this section.

1.11 Subd. 2. **Research and development authorized.** (a) The commissioner must research  
1.12 the use of robotics and automation for mowing and vegetation management at rest areas,  
1.13 highway rights-of-way including ditches, shoulders, or other varied terrain, or other property  
1.14 owned by the Department of Transportation. The research must explore whether other states  
1.15 or governmental entities utilize autonomous mowing technology for mowing or vegetation  
1.16 management to determine whether such a system could operate in Minnesota for mowing  
1.17 at rest areas, at or alongside roadways or highways, or for other vegetation management  
1.18 activities at property owned by the commissioner. The research conducted under this  
1.19 paragraph may be utilized for any autonomous mowing pilot project established by the  
1.20 commissioner.

1.21 (b) The commissioner must research the current and potential commercial availability  
1.22 of autonomous mowing products used by public or private entities for applications that  
1.23 include but are not limited to rest area mowing, highway right-of-way ditch mowing,  
1.24 vegetation management, or other agricultural applications. The research conducted under  
1.25 this section must analyze different configurations and types of autonomous mowers, including  
1.26 mowers that require different levels of human intervention, to research for future statewide  
1.27 deployment at rest areas, at or along the trunk highway system, or on other property owned  
1.28 by the commissioner. The research must analyze determine whether an autonomous mower  
1.29 can operate safely in varied terrain, including ditches, and navigate obstacles, such as culvert  
1.30 ends, guardrails, signposts, or other barriers, including unexpected debris that may be found  
1.31 on or alongside a highway right-of-way.

1.32 Subd. 3. **Report.** (a) By February 15, 2025, the commissioner must submit a report to  
1.33 the chairs, ranking minority members, and legislative staff of the legislative committees

2.1 with jurisdiction over transportation finance and policy on the results of autonomous mower  
2.2 research authorized in subdivision 2. The report must include:

2.3 (1) information and analysis of other governmental agencies or private entities using  
2.4 autonomous mowing operations;

2.5 (2) the commissioner's detailed plan for conducting a pilot project with autonomous  
2.6 mowing technology once available at rest areas, at or alongside trunk highway rights-of-way  
2.7 including ditches, shoulders, and other terrain, and other properties owned by the Department;

2.8 (3) the timeline and funding needed to conduct the autonomous mowing pilot project  
2.9 established in clause (2);

2.10 (4) a cost benefit analysis of whether autonomous mowing technology can yield  
2.11 productivity or efficiency gains in maintenance of department property compared to  
2.12 traditional methods of mowing;

2.13 (5) an analysis of whether the operation of autonomous mowing technology by the  
2.14 department would yield improvements compared to traditional mowing methods in worker  
2.15 safety, congestion, environmental impact outcomes, cost savings, maintenance scheduling,  
2.16 or any other factor deemed relevant by the commissioner; and

2.17 (6) an analysis of the costs and any other short-term or long-term challenges posed by  
2.18 the pilot project or the future operation of autonomous mowing technology on property  
2.19 owned by the commissioner.

2.20 (b) For purposes of this subdivision, "legislative staff" means those employees who are  
2.21 identified in any of the following roles for the legislative committees: committee  
2.22 administrator, committee legislative assistant, caucus research, fiscal analysis, counsel, or  
2.23 nonpartisan research.

2.24 **EFFECTIVE DATE.** This section is effective the day following final enactment."

2.25 Delete the title and insert:

2.26 "A bill for an act  
2.27 relating to transportation; requiring research on autonomous mower technology  
2.28 at rest areas, highway rights-of-way, and other property owned by the commissioner  
2.29 of transportation; requiring a legislative report;"