

1           **CONCURRENT RESOLUTION REGARDING IMPROVING AIR**  
2           **QUALITY THROUGH ENHANCED ZERO EMISSION RAIL**

3                                   2022 GENERAL SESSION

4                                   STATE OF UTAH

5                                   **Chief Sponsor: Melissa G. Ballard**

6                                   Senate Sponsor: David P. Hinkins

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8   **LONG TITLE**

9   **General Description:**

10           This concurrent resolution addresses improving air quality through encouraging rail  
11   development and zero emission technology deployment.

12   **Highlighted Provisions:**

13           This resolution:

- 14           ▶ addresses air quality and its impacts in the state;
- 15           ▶ describes solutions to reduce air pollution;
- 16           ▶ describes the rail transportation impact on air quality;
- 17           ▶ acknowledges the role of certain governmental agencies in the shift of freight traffic  
18   to rail;
- 19           ▶ highlights that technology solutions, including information and communications  
20   technology and zero emission locomotives, can further reduce rail emission  
21   impacts;
- 22           ▶ provides that a hydrogen fuel cell-electric system is an example of a zero emission  
23   engine technology;
- 24           ▶ addresses funding and innovative procurement solutions;
- 25           ▶ encourages the phased replacement of existing locomotives used in railroad and  
26   industrial plant switching services in nonattainment areas in the state with zero  
27   emission locomotives; and



28           ▶ encourages the transition of rail transportation in general to zero emission  
29 locomotives.

30 **Special Clauses:**

31           None

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*Be it resolved by the Legislature of the state of Utah, the Governor concurring therein:*

33           WHEREAS, Utah continuously demonstrates the state's commitment to and interest in  
34 the state's air quality;

35           WHEREAS, good air quality is a vital component of the economy and human health in  
36 Utah and research conducted by Utah universities shows the harmful impacts of air pollution  
37 on human health, with the greatest negative impact on the health of children, the elderly, and  
38 those with compromised immune systems;

39           WHEREAS, for example, exposure to direct small particulate matter exacerbates  
40 asthma, increases the risk of cancer, and leads to acute respiratory symptoms, bronchitis,  
41 chronic obstructive pulmonary disease, heart attacks, nervous system effects, lost work days,  
42 and premature death;

43           WHEREAS, there is now a broad range of technologically and economically viable  
44 solutions to significantly reduce air pollution and ensure that future economic and population  
45 growth does not compromise air quality;

46           WHEREAS, embracing zero emission technologies will help grow our state's robust  
47 clean technology sector;

48           WHEREAS, as of 2017, railroad transportation contributed 9.2% of NOx and 1.4% of  
49 the PM2.5 along the Wasatch Front;

50           WHEREAS, while comparable data is not available for the trucking sector or all freight  
51 railroad operations in the state, as of 2017 the Division of Air Quality found that locomotives  
52 used for short line and industrial plant operations contributed 3.4% of NOx and 0.16% of  
53 PM2.5 of the total Wasatch Front inventory of emissions, equivalent to approximately 1,828  
54 tons of NOx and 19 tons of PM2.5;

55           WHEREAS, in addition to significant numbers of heavy haul freight locomotives  
56 operating in and through the state, as of 2017 there were approximately 63 short line and  
57 industrial plant locomotives operating in Utah;

59 WHEREAS, the majority of the short line and industrial plant locomotives operating in  
60 Utah are legacy platforms certified to the United States Environmental Protection Agency as  
61 meeting Tier 0 or Tier 0+ emission standards, and almost all emissions from these locomotives  
62 occur within two of Utah's PM2.5 nonattainment areas based on the United States National  
63 Ambient Air Quality Standards;

64 WHEREAS, under the federal Clean Air Act, an area where air pollution levels  
65 persistently exceed a National Ambient Air Quality Standard may be designated as a  
66 "nonattainment" area by the United States Environmental Protection Agency;

67 WHEREAS, designation as a nonattainment area requires the development of a State  
68 Implementation Plan with increasing mandatory requirements if the area does not return to  
69 attainment within prescribed timelines, and may result in the imposition of a Federal  
70 Implementation Plan and sanctions that could impact the availability and use of federal  
71 highway funds;

72 WHEREAS, the Utah Department of Transportation, other agencies of the state, and the  
73 Utah Inland Port Authority, a political subdivision of the state, can play a vital role in  
74 accelerating the modal shift of freight traffic to rail, helping to meet health and air quality  
75 goals;

76 WHEREAS, the Utah Inland Port Authority anticipates assisting in the reduction of  
77 trucks from the road and the modal shift to rail, while using the regulatory sandbox to test new  
78 freight movement and cargo handling equipment at the inland port to increase use of zero  
79 emission vehicles;

80 WHEREAS, to complement accelerating this modal shift to rail, a broad spectrum of  
81 technologies, including information and communications technologies that enable more  
82 efficient rail operation reducing fuel use and emissions, and entirely new locomotive power  
83 technologies such as hydrogen fuel cell-electric and battery-electric, must be encouraged and  
84 supported to further decrease total freight section emissions, including freight rail emissions;

85 WHEREAS, hydrogen especially is an attractive alternative fuel as hydrogen does not  
86 contain carbon and when used in fuel cells produces zero emissions;

87 WHEREAS, hydrogen either for onboard energy storage or as part of a hybrid  
88 propulsion system provides a viable option in the future for zero emission engines in short line  
89 and industrial plant locomotives operated in the state, and in the future, also for heavy-haul

90 freight locomotives operating in and through the state;

91 WHEREAS, infrastructure for hydrogen is continuing to expand in the state;

92 WHEREAS, funding support and innovative procurement solutions made available  
93 through the Utah Department of Transportation and the Utah Inland Port Authority can assist  
94 private sector operators of short line and industrial plant locomotives with transitioning to zero  
95 emission technologies, including for freight rail, that can materially increase the state's air  
96 quality; and

97 WHEREAS, substantial federal funding is expected to be available to support this  
98 transition, and the Utah Department of Transportation and the Utah Inland Port Authority  
99 should maximize their efforts to secure the federal funding to facilitate deployment of zero  
100 emission technologies, including freight rail, that can materially increase the state's air quality:

101 THEREFORE, BE IT RESOLVED that the Legislature of the state of Utah, the  
102 Governor concurring therein, encourages the introduction of new zero emission locomotives  
103 operated by short lines and industrial plant railroads in nonattainment areas, a continued shift  
104 of freight transportation growth to rail to help meet the state's air quality goals, phasing out  
105 legacy locomotive engines in short line and industrial plant rail service in nonattainment areas  
106 in the state, and phasing in the use of zero emission engines, including hydrogen fuel  
107 cell-electric systems as follows:

- 108 • at least one demonstration project of a short line or industrial plant  
109 locomotive using a zero emission engine by 2025;
- 110 • 25% of short line and industrial plant locomotives use a zero emission  
111 engine by 2030;
- 112 • 40% of short line and industrial plant locomotives use a zero emission  
113 engine by 2035;
- 114 • 80% of short line and industrial plant locomotives use a zero emission  
115 engine by 2040; and
- 116 • 100% of short line and industrial plant locomotives use a zero emission  
117 engine by 2050.

118 BE IT FURTHER RESOLVED that the Legislature and the Governor encourage, in  
119 addition to short line and industrial plant locomotives, all rail transition to zero emission  
120 technologies, including commuter rail, passenger rail, and long haul freight rail.