NEW MEXICO GOVERNOR'S
STEM CHALLENGE

In today's world, transportation encompasses physical movement of people, goods, and vehicles. Beyond the physical transportation of people, goods and vehicles, information technology such as the Internet provides the movement of data through networks; allowing for the cultural exchange between communities; historical exploration; futuristic speculation; and emotional conveyance. Identify a transportation or information technology need in your home, school, community or state, and use STEM to develop an innovative solution to meet that need.

Proposal Packet Scoresheet **(out of 12 possible points)**

Industry Partner Name	
Judge Name(s)	
School Name	
Team Name	
Team Members	

Directions:

- When using this rubric, select the score that you think best aligns with the showcase demonstration you are judging.
- Scores for each section should always be a whole number (e.g. a team cannot score a "3.5").
- Tally the total score at the end of the rubric.
- Add any additional notes in the section following the rubric for reference when completing the judging process.
- For support with use of the rubric please reach out to the NMGSC team at the Showcase.

Section/Score	4-Exemplary	3-Proficient	2-Emerging	1-Developing	0-Not Met
1 - Design	An exemplary design achieves 5/5 of the following: (1) is innovative or creative in response to the question, (2) is soundly crafted, (3) has all components cleanly integrated, (4) durable over multiple tests, and (5) reliable through consistent results. If a computer program, the following are also met: (1) easy-to-read programming, (2) clear programming strategy (2) clear programming management process.	A proficient design achieves 4/5 of the following: (1) is innovative or creative in response to the question, (2) is soundly crafted, (3) has all components cleanly integrated, (4) durable over multiple tests, and (5) reliable through consistent results. If a computer program, 2/3 of the following are also met: (1) easy-to-read programming, (2) clear programming strategy (2) clear programming management process.	An emerging design achieves 3/5 of the following: (1) is innovative or creative in response to the question, (2) is soundly crafted, (3) has all components cleanly integrated, (4) durable over multiple tests, and (5) reliable through consistent results. If a computer program, 1/3 of the following are also met: (1) easy-to-read programming, (2) clear programming strategy (2) clear programming management process.	A developing design achieves 2 or fewer of the following: (1) is innovative or creative through the use of materials, (2) is soundly crafted, (3) has all components cleanly integrated, (4) durable over multiple tests, and (5) reliable through consistent results. If a computer program, 1/3 of the following are also met: (1) easy-to-read programming, (2) clear programming strategy (2) clear programming management process.	The design does not respond to the STEM Challenge question in a substantive way.

Section/Score	4-Exemplary	3-Proficient	2-Emerging	1-Developing	0-Not Met
2- Demonstration	An exemplary demonstration (1) takes no longer than 5 minutes, (2) includes all students from the team, (3) explains the team's response to the challenge including (4) how the team's model or prototype works with no errors. Additionally, an exemplary demonstration (1) highlights how the team was innovative and (2) highlights the team's passion for their project in a compelling way.	A proficient demonstration (1) takes no longer than 5 minutes, (2) includes all students from the team, (3) explains the team's response to the challenge including (4) how the team's model or prototype works with few errors. Additionally, a proficient demonstration might (1) highlight how the team was innovative and (2) highlight the team's passion for their project.	An emerging demonstration (1) might take longer than 5 minutes, (2) includes at least half of the team members present, (3) partially explains the team's response to the challenge including (4) how the team's model works with few errors. Additionally, an emerging demonstration might (1) highlight how the team was innovative or (2) highlight the team's passion for their project.	A developing demonstration (1) takes longer than 5 minutes, (2) includes at least half of the team members present, (3) minimally explains the team's response to the challenge including (4) how the team's model works, possibly with several errors. Additionally, a developing demonstration might (1) highlight how the team was innovative or (2) highlight the team's passion for their project.	The demonstration does not clearly respond to the STEM Challenge question.
3 - Interview	An exemplary interview (1) includes contributions from all members of a team, (2) demonstrates the team's comfort in discussing all elements of the project, and (3) team members clearly show their passion for their project in their responses. Additionally, in an exemplary interview, (4) the team's innovative and creative thinking are highlighted in their responses.	A proficient interview (1) includes contributions from all members of a team, (2) demonstrates the team's comfort discussing all elements of the project, and (3) team members clearly show their passion for their project in their responses.	An emerging interview (1) includes contributions from some but not all members of a team, (2) shows a level of comfort as well as uncertainty from the team when discussing elements of the project and (3) team members may not have a demonstrable passion for their project.	A developing interview (1) includes contributions from only a few members of the team, (2) shows rudimentary understanding of the project, and (3) team members might not have a demonstrable passion for their project.	In the interview, students do not clearly respond to the STEM Challenge question.

Total Score: ___/12

Additional Notes:

Related Next Generation Science Standards Science & Engineering Practices

Ask Questions and Define Problems
A practice of science is to ask and refine questions that lead to descriptions and explanations of how the natural and designed world works and which can be empirically tested.

Construct Explanations and Design Solutions
The products of science are explanations and the products of engineering are solutions.

Develop and Use Models
A practice of both science and engineering is to use and construct models as helpful tools for representing ideas and explanations. These tools include diagrams, drawings, physical replicas, mathematical representations, analogies, and computer simulations.

Plan and Carry Out Investigations
Scientists and engineers plan and carry out investigations in the field or laboratory, working collaboratively as well as individually. Their investigations are systematic and require clarifying what counts as data and identifying variables or parameters.

Using Mathematics and Computational Thinking
In both science and engineering, mathematics and computation are fundamental tools for representing physical variables and their relationships. They are used for a range of tasks such as constructing simulations; statistically analyzing data; and recognizing, expressing, and applying quantitative relationships.

Analyzing and Interpreting Data
Scientific investigations produce data that must be analyzed in order to derive meaning. Because data patterns and trends are not always obvious, scientists use a range of tools—including tabulation, graphical interpretation, visualization, and statistical analysis—to identify the significant features and patterns in the data. Scientists identify sources of error in the investigations and calculate the degree of certainty in the results. Modern technology makes the collection of large data sets much easier, providing secondary sources for analysis.

Obtaining, Evaluating, and Communicating Information
Scientists and engineers must be able to communicate clearly and persuasively the ideas and methods they generate. Critiquing and communicating ideas individually and in groups is a critical professional activity.