Traditional AI systems are typically designed for specific, narrowly-defined tasks using explicit programming and rules. They excel in environments where the variables are controlled and predictable. For example, traditional AI can effectively manage traffic flow at an intersection by following predefined rules and algorithms, or predict when a vehicle part might fail based on historical data and set thresholds.

Generative AI, often based on foundation models, represents a significant advancement in the AI field. These models are designed to understand and generate responses based on a broad range of inputs, including text, images, and audio, mimicking some aspects of human reasoning and learning. They are trained on large datasets, allowing them to recognize patterns, infer meaning, and generate outputs that are similar to human responses. This enables them to handle a variety of tasks that require a more nuanced understanding of context or creativity, such as writing articles, composing music, or even engaging in conversations that feel more natural and human-like.

In essence, while traditional AI models are highly specialized and limited to their training, generative AI models leverage their expansive training on diverse data to perform tasks across multiple domains, adapting their responses based on the context provided by the inputs. This makes them more flexible and broadly applicable, somewhat akin to how humans apply general intelligence across different situations.