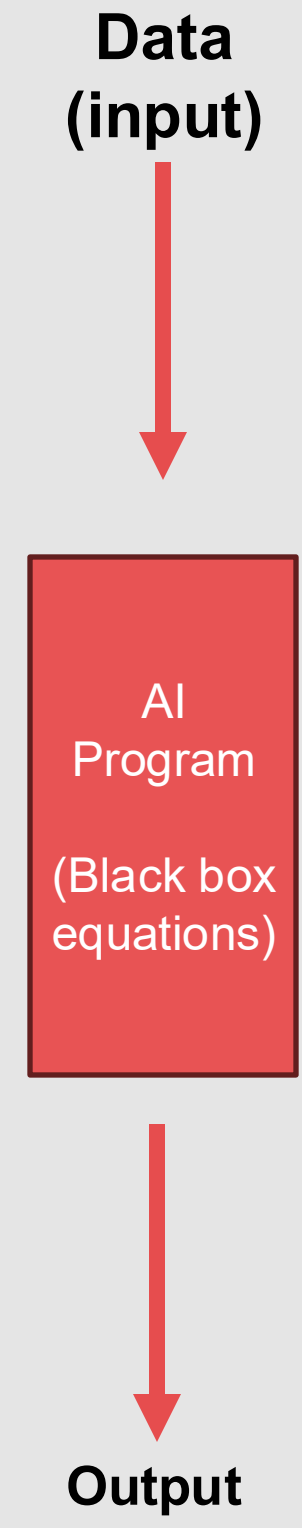
The State of AI in Transit

Artificial Intelligence (AI) uses large datasets to learn patterns and generate outputs, such as text or optimized routes. It predicts the best response to a user request based on probability models built from training data. More and better data lead to more accurate and reliable results.

Uses for AI in Transit

AI has a few potential uses in transit. Generative AI, like ChatGPT, can always help with writing public messaging or outlines for reports. The United States Department of Transportation (USDOT) has examined various AI applications and highlights 9 of the ways that AI can improve management and operations[1]:

- Data Fusion: Using AI to bring together all of the data sources that transit agencies have from historical to real-time. This helps with using data for decision-making
- Short-term Traffic Prediction: Using machine learning to help predict traffic flows, and vehicle arrivals by looking at the current situation
- Short-term Travel behavior Prediction: this is currently in R&D and will use GPS and historical data to predict destinations
- Adaptive ramp Metering: This is AI predicting freeway congestion and updating vehicle arrival information
- Multimodal Intelligent Traffic Signal Management: Machine learning allowing for signal management to benefit different modes including Transit and Pedestrians
- Proactive Incident Management: Detecting weather, traffic, and rider issues using sensors, videos, and images
- Video Analytics for Planning and Maintenance: AI assessing vehicle, traffic signal, road surface, and weather conditions to alert to any issues that can arise
- Chatbots for Natural Language Q&A: Use chatbots to help answer questions including wayfinding for passengers or for help with data and other questions on the operations side of the organization
- Multimodal Decision Support: Using all of the forms of AI to make decisions and analyze data



1: https://rosap.ntl.bts.gov/view/dot/50651

How you could use AI

Do any of your current software vendors offer AI features?

Do you use them?

What processes take you the longest to manually preform?

Which of the processes use a disproportionate amount of staff time?

Do you see ways, such as the DOT applications described above, that AI could help with those processes? What are they?

What would your staff spend time differently if you improved time spent on these processes?

How to Prompt Generative AI:

Generative AI, like ChatGPT, works better with stronger prompting. A strong prompt gives the computer parameters to understand the role it is generating information for. The more specifics you give it, the better of a result you will get.

Here is an example: **You are a *Transit Planner for a rural county* working on *a report on new route plans. Please create three outlines for a ten-page report.***

An easy formula to follow is to tell the AI its exact role, the final product, and its task. In this case a Transit Planner for a rural county. Then you tell it what it is working on and give it a specific task - in this case, the report on new routes and the three outlines. You can then select an outline and get a draft with a specific word length

NOW it's your turn!

You are a (role) _____

working on (final product) _____

Please create (task) _____