# GTFS to KML

## Introduction

This project is designed to convert the Google Transit File System (GTFS) into usable Key Markup Language (KML) files that can be used in programs such as Google Earth. The GTFS files use multiple txt files that contain Comma-Separated Values (CSV) that contain information based off the route, route colour, coordinates and distance among other things. A KML file is used as part of a Geographical Information System (GIS) that allows a user to plot points that can be used on a map implemented in GIS software that is open-source and developed by Google.

A simple KML file can be created that combines the geographical coordinates, route colour and route name into a series of points linked into a line to show transit routes that can be overlaid onto a map, in this case Google Earth or Google My Maps. A KML must be formatted in a certain way to include tagged data that shows the routes correctly. The GTFS files currently are not formatted in a way that allows for the easy conversion of points to a KML file, which this project will fix. For example, even the latitude and longitude coordinates are reversed.

## Program

The program will use Node.JS as the engine that will run TypeScript code to convert a GTFS file into a usable KML file. This can be combined with a graphical front-end using a framework such as React.JS to allow a browser to be used as a Graphical User Interface (GUI).