

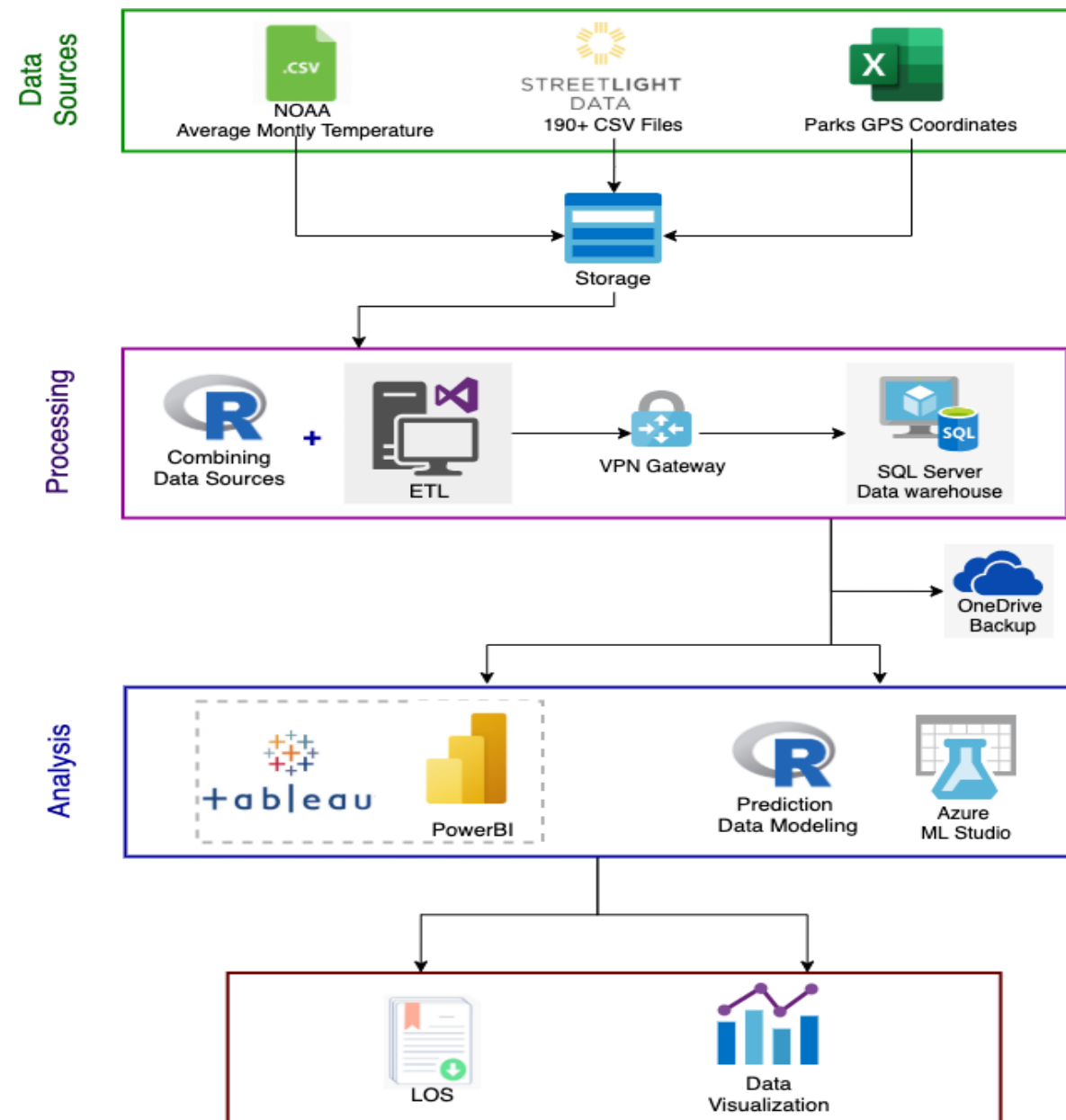
BACKGROUND

The Parks, Recreation & Cultural Arts Department of the City of Lynnwood provides a comprehensive system of facilities and programs meeting the needs of the city of Lynnwood located in Snohomish County that is part of the Seattle metropolitan area. This department plans and develops parks and recreation facilities and maintains parks for community events.

GOAL

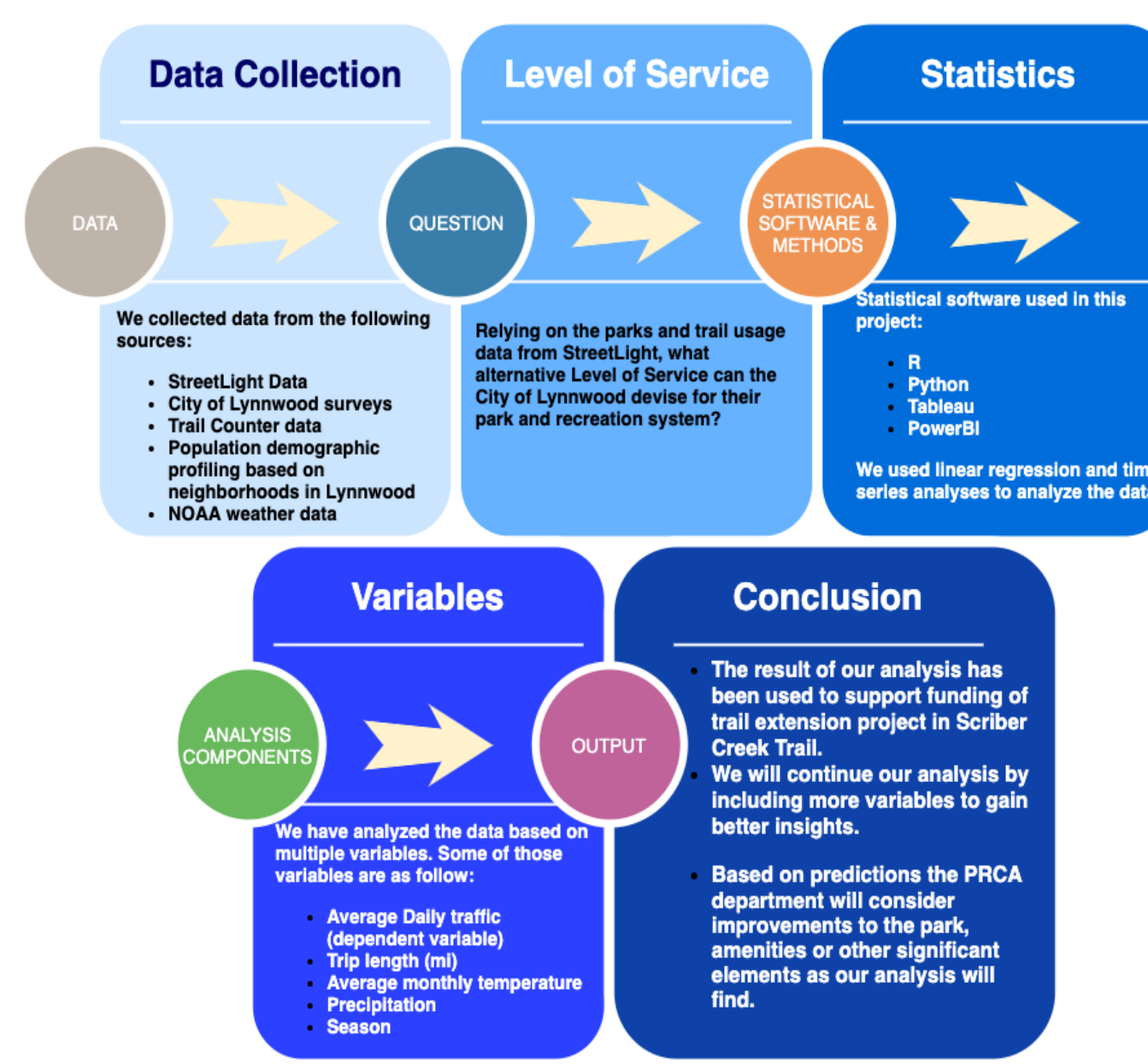
Provide an analysis of park & trail utilization, demand and capacity to help suggest an alternative Level of Service (LOS) methodology for parks in the city of Lynnwood.

Business Analytics Solution



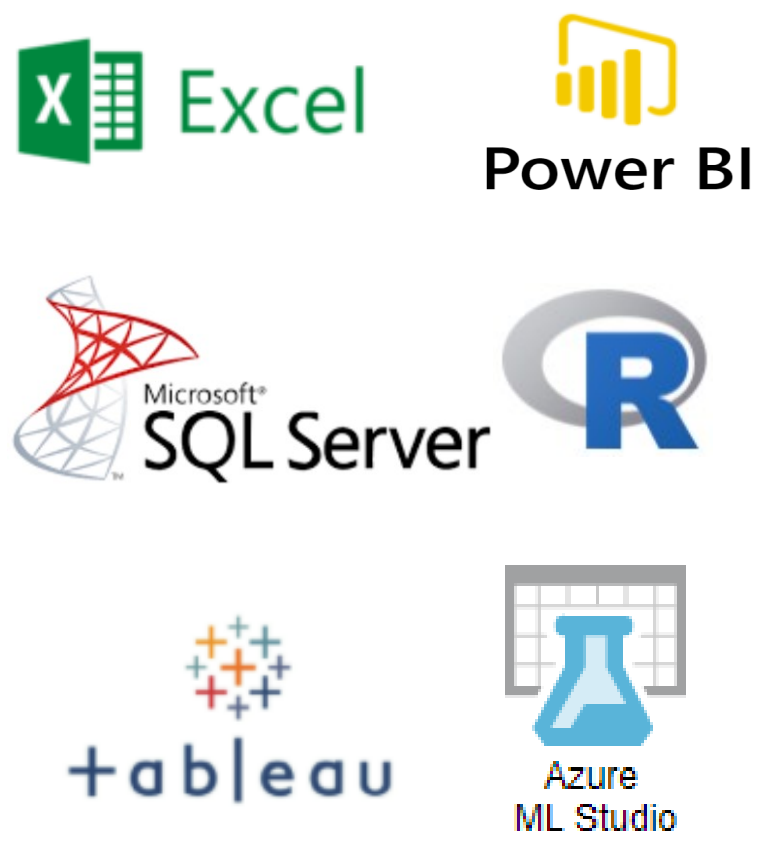
Our Business Analytics Solution consists of four layers – Data Sources, Data Processing, Data Analysis and Application.

Data Analysis Plan



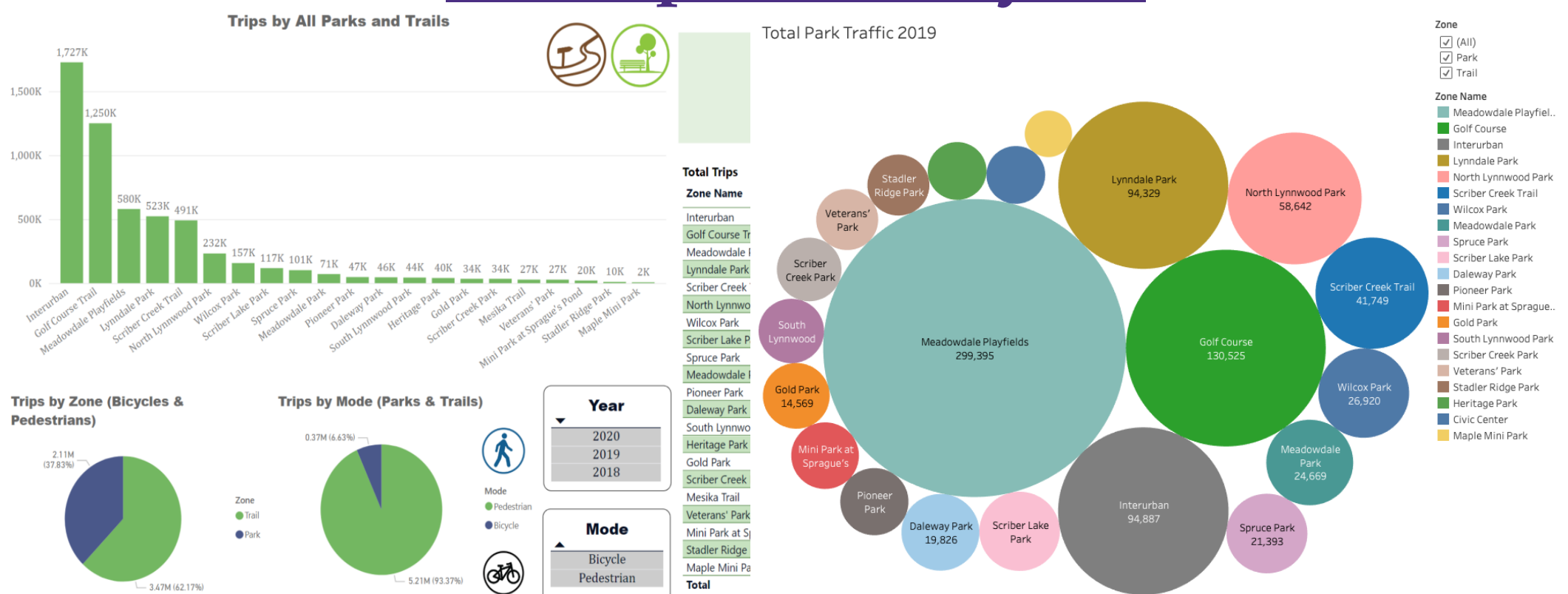
In our Data Analysis Plan, we take data and business question, apply statistics and tools to the analytics components to gain a conclusion.

- ### Methods
- Descriptive
 - Diagnostic
 - Predictive
 - Prescriptive
 - Cognitive



- ### Key Highlights
- Business Understanding
 - Data Understanding
 - Extract, Transform & Load Data
 - Exploratory Data Analysis
 - Seasonal Data Analysis
 - Annual Park & Trail Usage
 - Data Visualization Reports
 - Predictive Data Model Prototype
 - Demographic Analysis
 - Amenities Analysis
 - Cognitive Analysis
 - Data Validation using counter
 - Data Visualization Dashboard
 - Research & Maintenance Reports

Descriptive Analytics



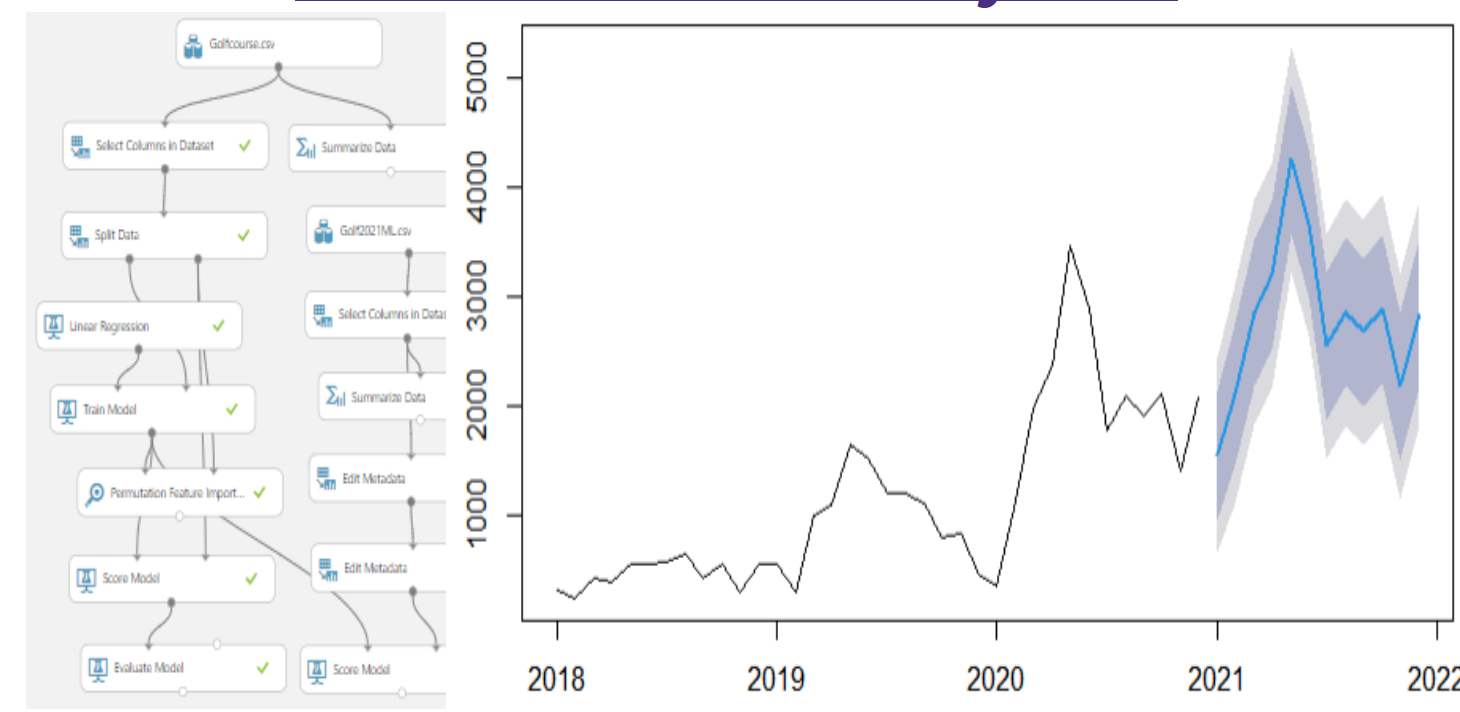
In Descriptive Analytics we looked at Total Park usage and found most and least park or trail sites. We compared total parks to total trail usage and total pedestrians to total bicycle usage.

Diagnostic Analytics



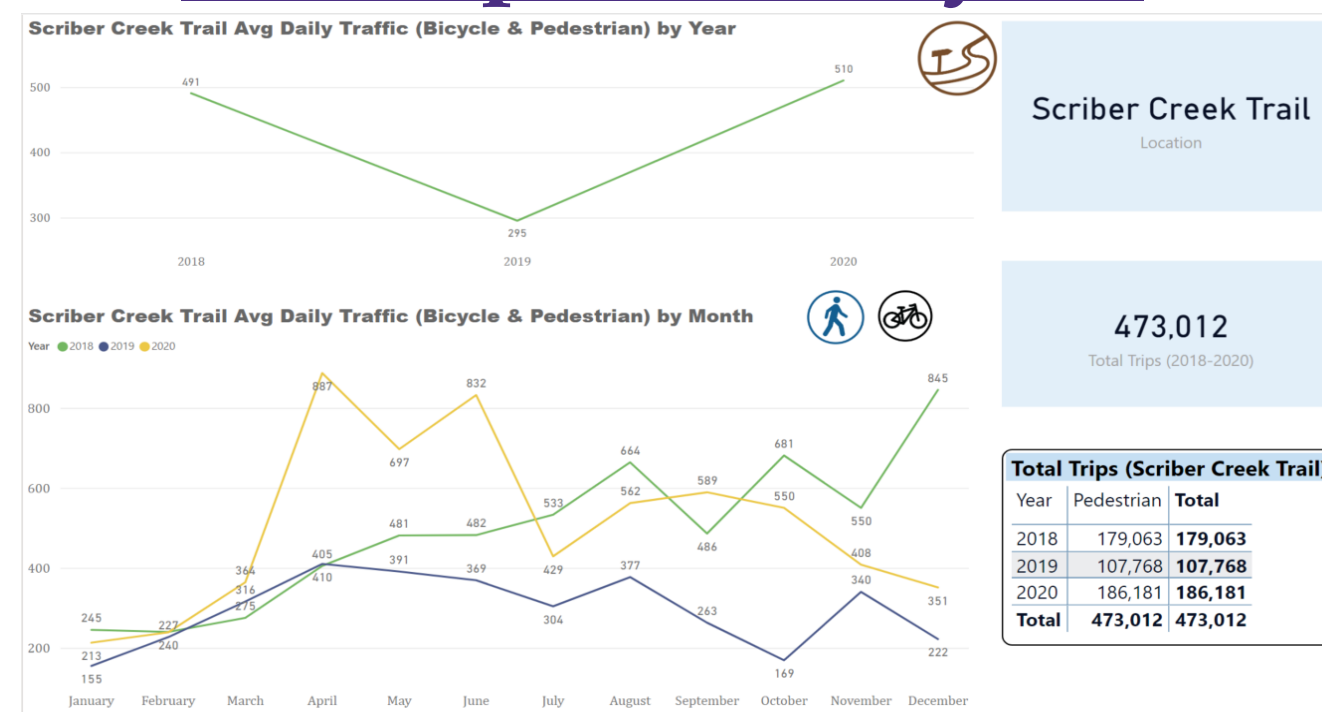
In Diagnostic Analytics, we explored the reasons for total usage and most or least used sites by examining the average daily traffic trend by year, month, seasons and weekday or weekend usage.

Predictive Analytics



In Predictive Analytics, we forecasted the pedestrian monthly usage for Golf course trail using combination of time series and linear regression.

Prescriptive Analytics



In Prescriptive Analytics, our analysis supported the expansion of Scriber Creek Trail, a project that city of Lynnwood is undertaking in coming years.

Cognitive Analytics



In Cognitive Analytics, we built a Word Cloud from the results of the multiple question survey taken by the park users

Summary of Findings

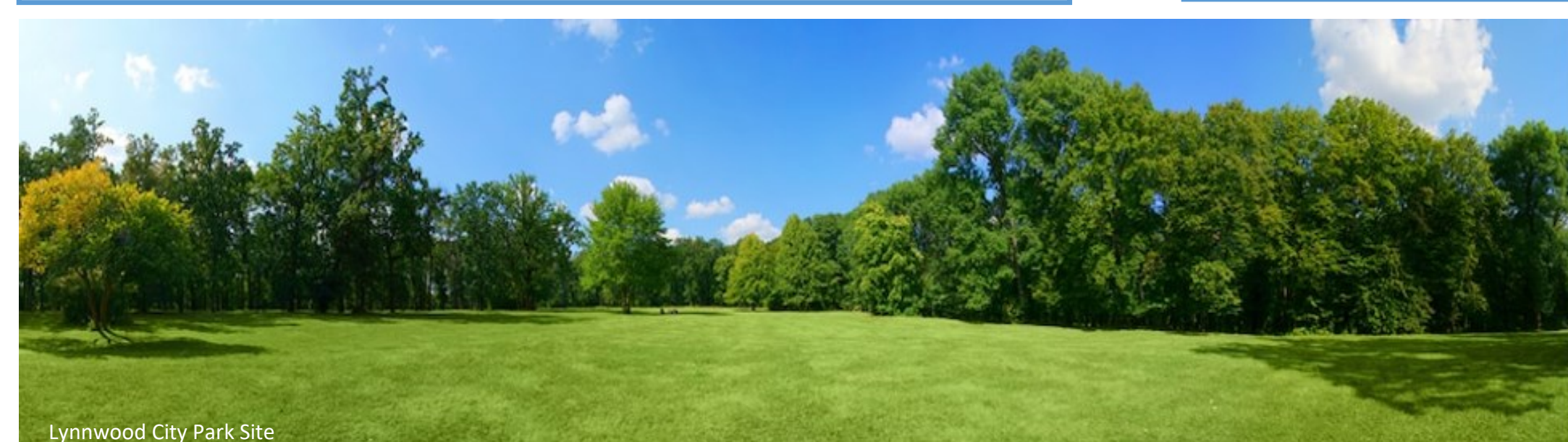
- Total Usage across the park and trail system was estimated to be more than 5.5 million for the 3 years
- Seasonal trends were evident in the usage across the system
- Park and Trails Usage went up significantly in the year 2020
- Covid Patterns we identified across the system in 2020
- Influence of weather on park and trail usage was found
- Renovations have significant effect on the usage

Recommendations

- Predictions with good accuracy are possible and can be used to ramp up the quality and number of amenities depending on the usage
- Trail sites are being used more and we recommend renovating and adding extra resources
- Large park sites helped people be in the outdoors with social distancing and keeping them open with safety measure is advised
- Further analysis required to make sites more inclusive for different demographic groups

Future Scope

- Additional data analysis and calibration using the counter data
- Deeper analysis of demographic data to correlate with the population
- Origin and Destination analysis to further explore the half mile park access metric
- Analysis of the amenities for identifying their contribution to the total usage
- Implementation of counters to keep track of increasing usage at least on few major sites



LIVABLE CITY YEAR PROGRAM – PROJECT CONSULTANT TEAM

