LYNNWOOD
WASHINGTON

Livable City Year Program

LYNNWOOD PARKS, RECREATION & CULTURAL ARTS
Park & Trail Usage Analysis

3/3/2021

UNIVERSITY of WASHINGTON

UW Student Team

LYNNWOOD
WASHINGTON

Gauri Patil
Project Manager

Kevin McInerny
System Engineer

Monib Sabet
Assistant Project Manager

Trishali Ranjan
Data Analyst

Project Phases

LYNNWOOD
WASHINGTON

Autumn

- Business Understanding
- Data Understanding
- Data Cleaning

Winter

- Detailed Data Analysis
- Data Visualization Reports
- Data Model Prototype

Spring

- Refine Data Model
- Implement Data Visualization Dashboard
- Report & Maintenance Documentation

Project Overview

LYNNWOOD
WASHINGTON

Problem

New Level of service metric required

- **Acres of parkland per 1,000 residents**
- **Standard - 5 acres per 1,000 residents**
- **Reduced from 10 acres to 3.5 acres in 2016**

Solution

- **Park Usage Data analysis using StreetLight Data.**

Goal

- **Analysis of park utilization, demand, and capacity.**

Project Scope

LYNNWOOD
WASHINGTON

Project Scope

- Analyze location-based park usage data to identify patterns/trends that will help suggest a new LOS

Focus Areas

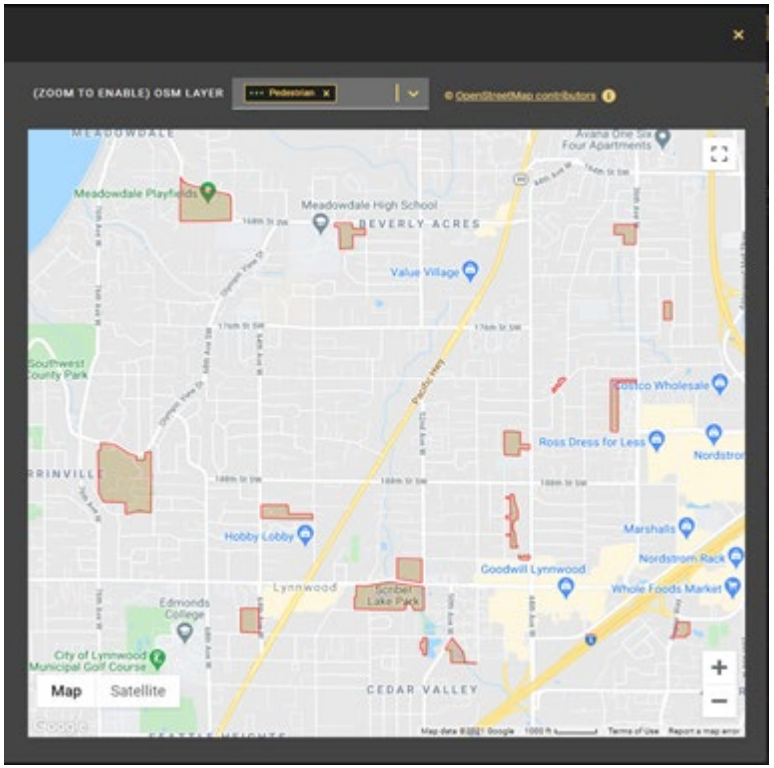
- Number of park/Trail users (segmented)
- Seasonal patterns/trends
- Pre/Post COVID use patterns
- Demographics of park/Trail users
- Key amenity usage

Data Source

LYNNWOOD
WASHINGTON

Ways for Data Collection

- Parking Lot Capacity
- Counters on entry points
- Manual Methods
- Camera/Video Counters
- Limitations



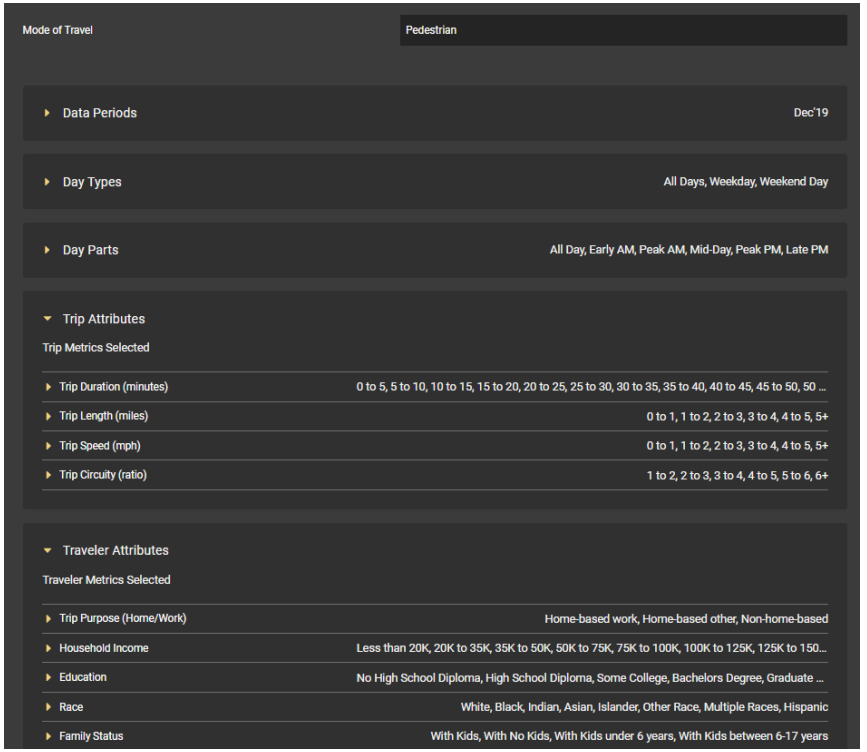
StreetLight Data

- Big Data for Mobility
- Collected via Geospatial points and GPS data
- StreetLight processes ~40 billion pings/month
- Collects data on virtually every road, trail, & park in the US & Canada
- Geo zones for Parks and Trails

Big Data Collection

LYNNWOOD
WASHINGTON

- Analyses using different options
- Streetlight Index - Average Daily Traffic
- Average Daily Trips for each month, weekend/weekday and time of the day
- 3 years of data available
- Ability to distinguish between modes (bikes v. pedestrians)
- Demographic info data collected using census data
- Calibration using Counters
- Limitations



How We Are Using the Data

LYNNWOOD WASHINGTON

StreetLight Data

1) **Average Daily Traffic**
    i) **Pedestrian**
    ii) **Bicycle**

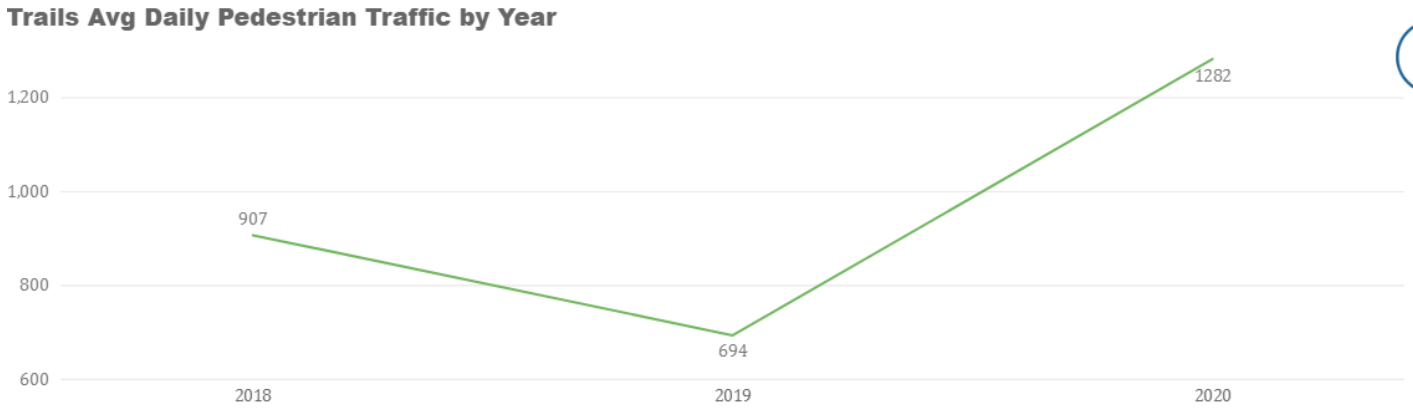
Note to consider - including more location in an analysis will smooth the numbers as it is calculating the average

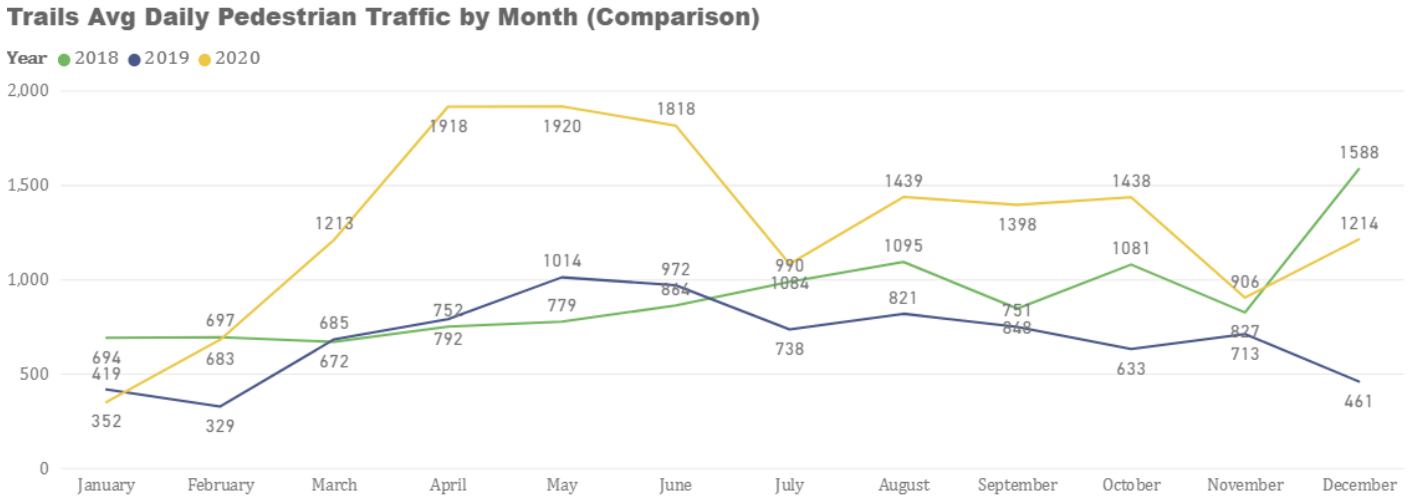
2) **Total Annualized Usage (Total Trips)**
    - **All Days: (365/12) * Avg Daily Traffic**
    - **Weekday: (261/12) * Avg Daily Traffic**
    - **Weekend: (104/12) * Avg Daily Traffic**

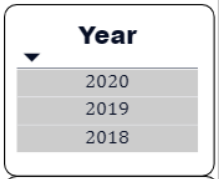
Data Visualizations

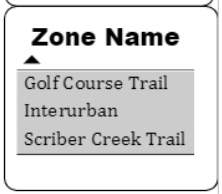
Trails - Pedestrian

LYNNWOOD
WASHINGTON



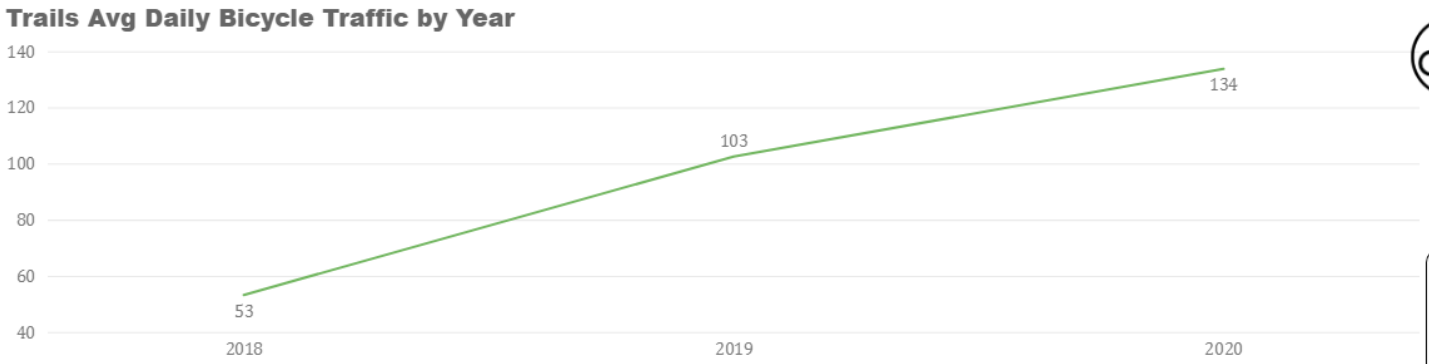


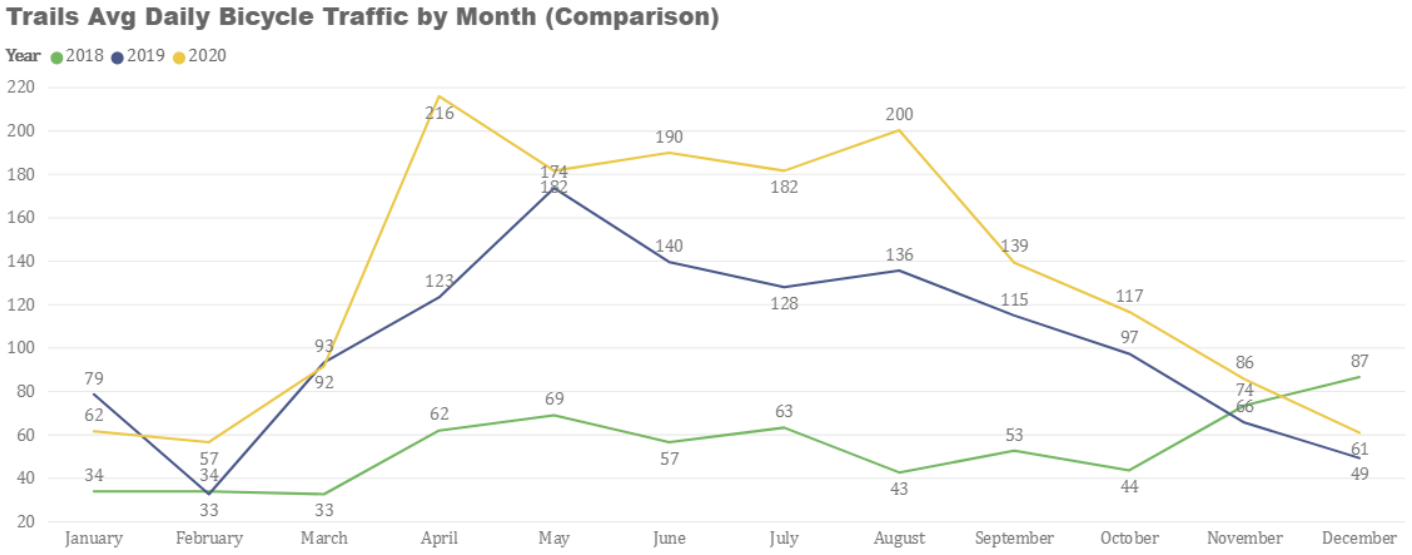


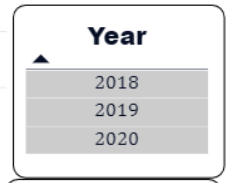


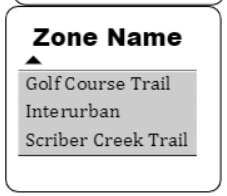
Data Visualizations

Trails - Bicycle



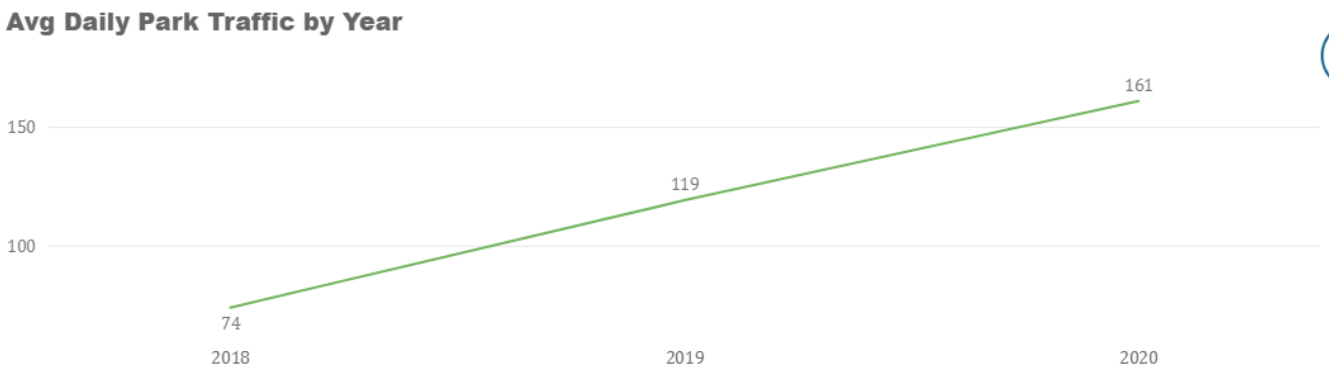


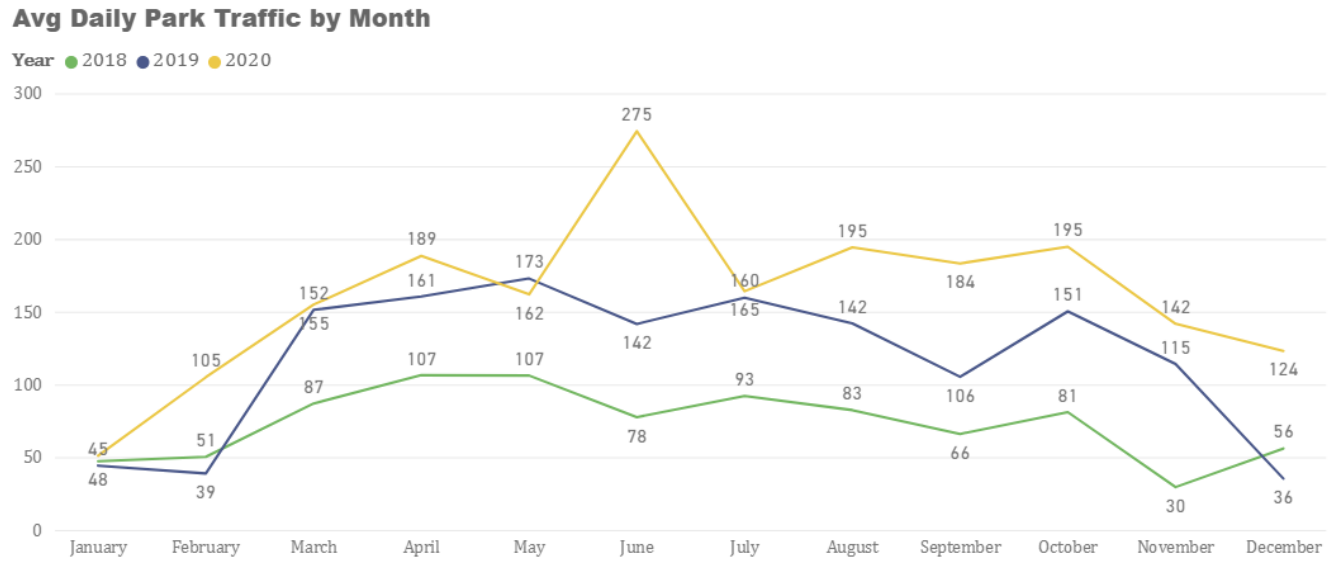




Data Visualizations

Park Usage by Month/Year





LYNNWOOD
WASHINGTON

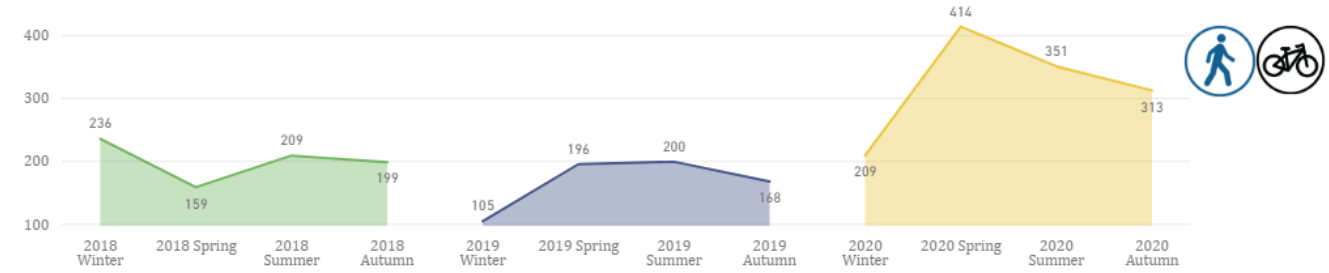
Data Visualizations

Trails Seasonal Use Pattern

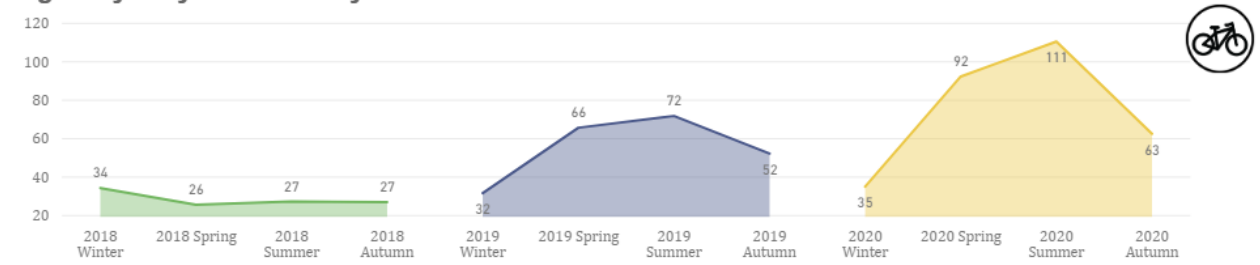
Bicycles and Pedestrian

LYNNWOOD
WASHINGTON

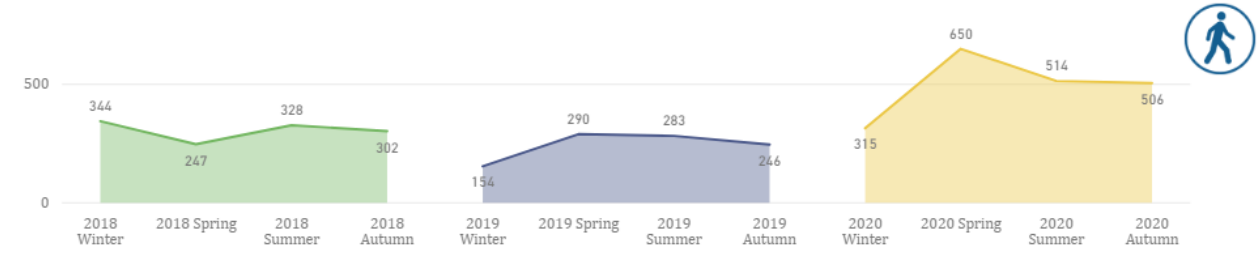
Avg Daily Traffic (Bicycles & Pedestrians) by Season



Avg Daily Bicycle Traffic by Season



Avg Daily Pedestrian Traffic by Seasons



Year

- 2020
- 2019
- 2018

Zone Name

- Scriber Creek Trail
- Interurban
- Golf Course Trail

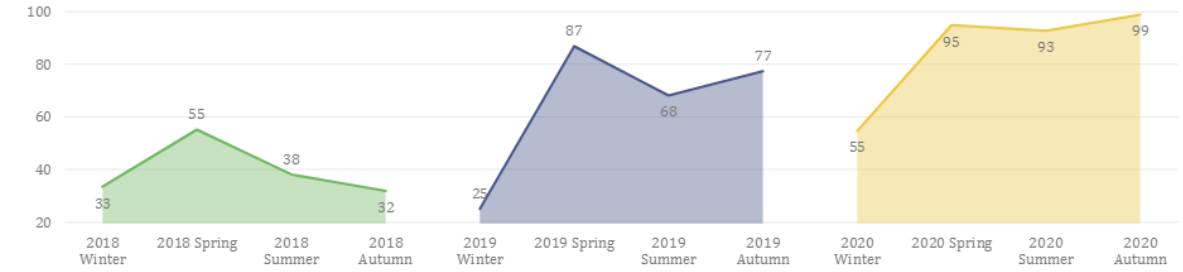
Data Visualizations

Parks Seasonal Use Pattern

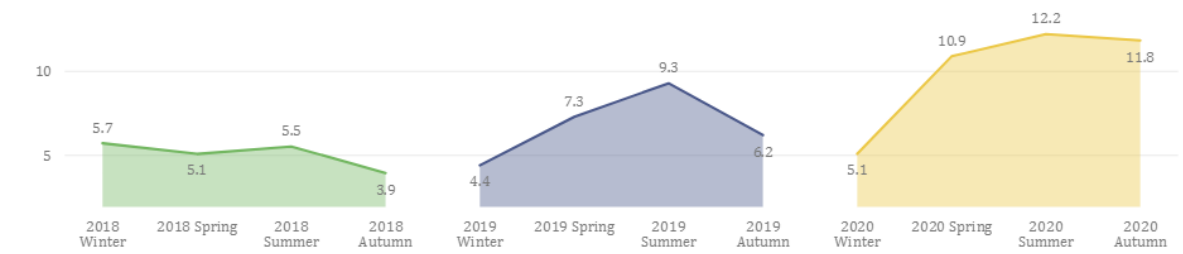
Bicycles and Pedestrian

LYNNWOOD
WASHINGTON

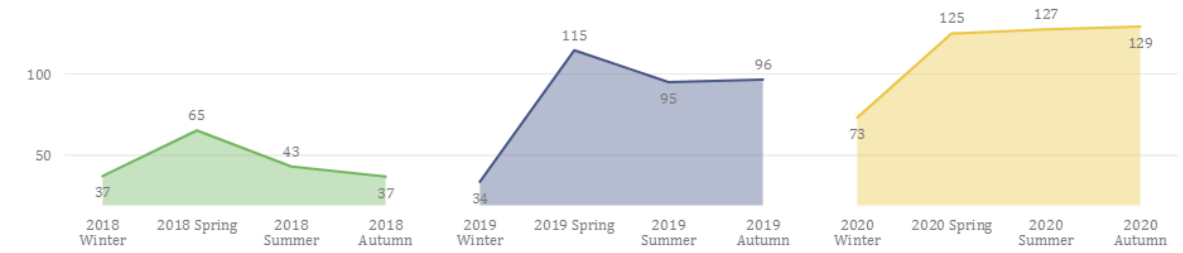
Avg Daily Traffic (Bicycles & Pedestrians) by Season



Avg Daily Bicycle Traffic by Season



Avg Daily Pedestrian Traffic by Seasons



Year

- 2020
- 2019
- 2018

Zone Name

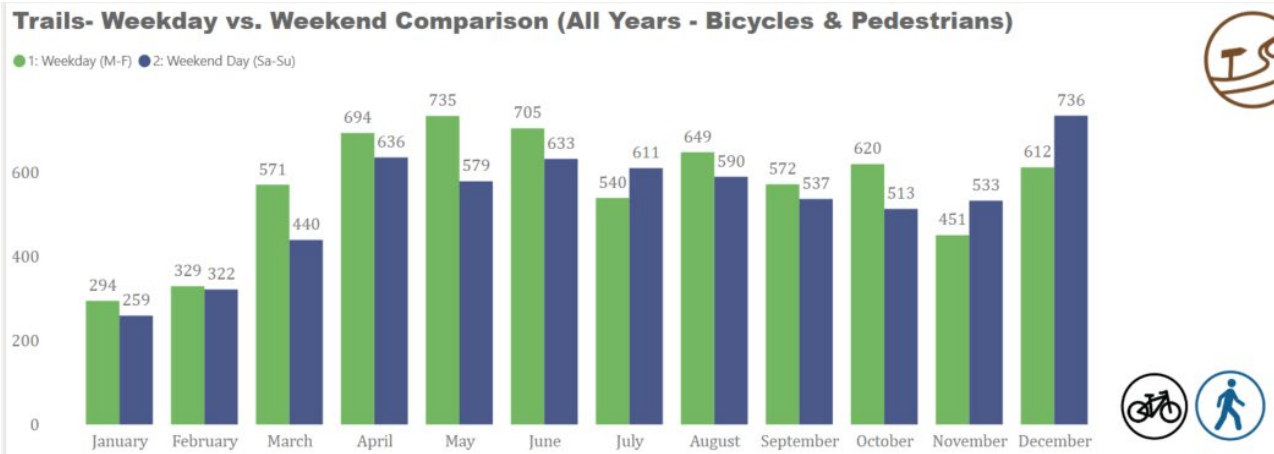
- Daleway Park
- Gold Park
- Heritage Park
- Lynndale Park
- Maple Mini Park
- Meadowdale Park
- Meadowdale Playfields
- Mesika Trail
- Mini Park at Sprague's Pond
- North Lynnwood Park
- Pioneer Park
- Scriber Creek Park
- Scriber Lake Park
- South Lynnwood Park
- Spruce Park
- Stadler Ridge Park
- Veterans' Park
- Wilcox Park

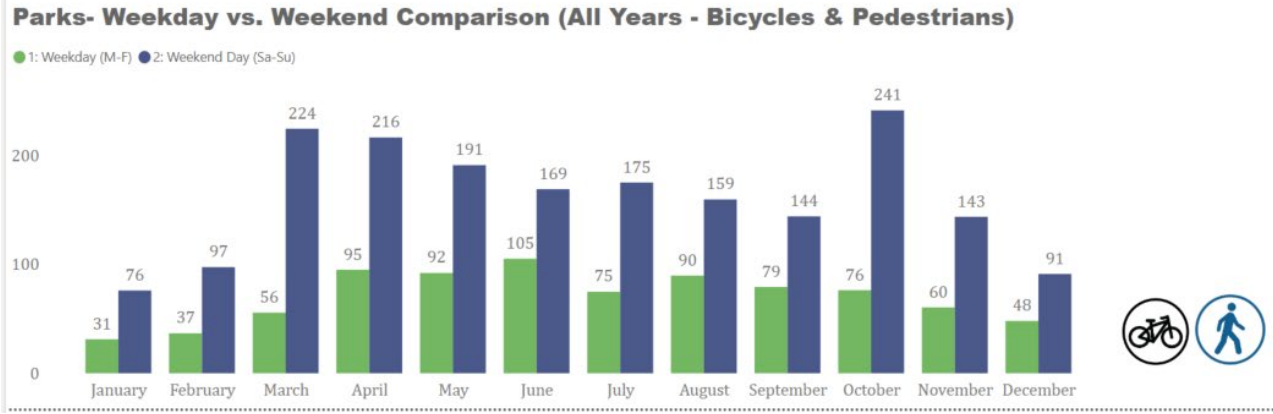
Data Visualizations

Weekday/Weekend Trails/Parks

Bicycles and Pedestrian

LYNNWOOD
WASHINGTON



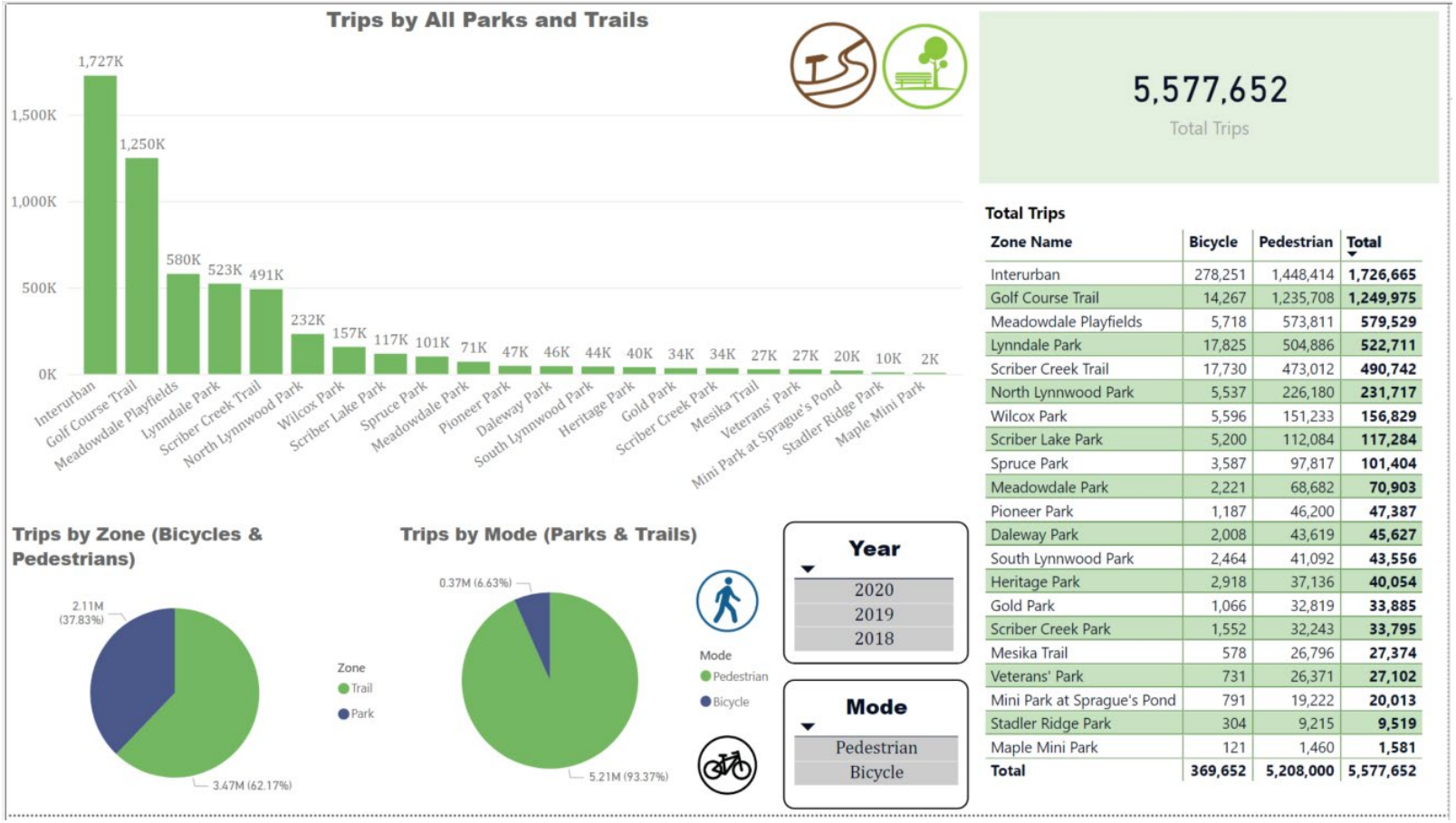


Data Visualizations

Total Annualized Trips

2018, 2019 & 2020

LYNNWOOD
WASHINGTON



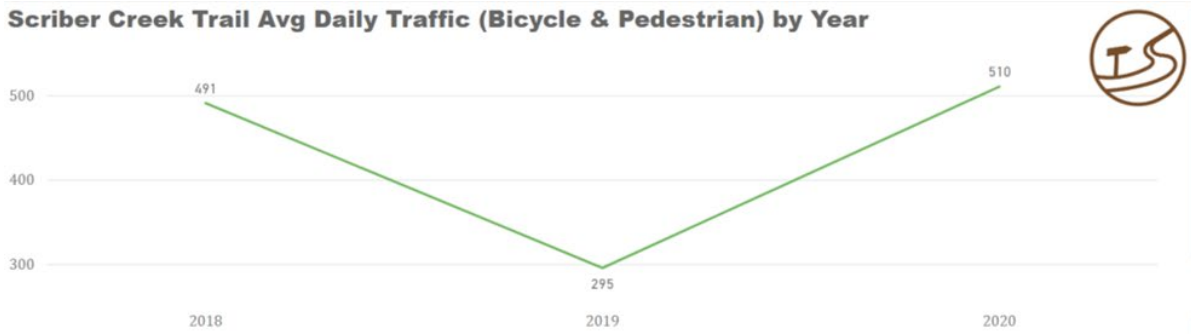
Total Trips

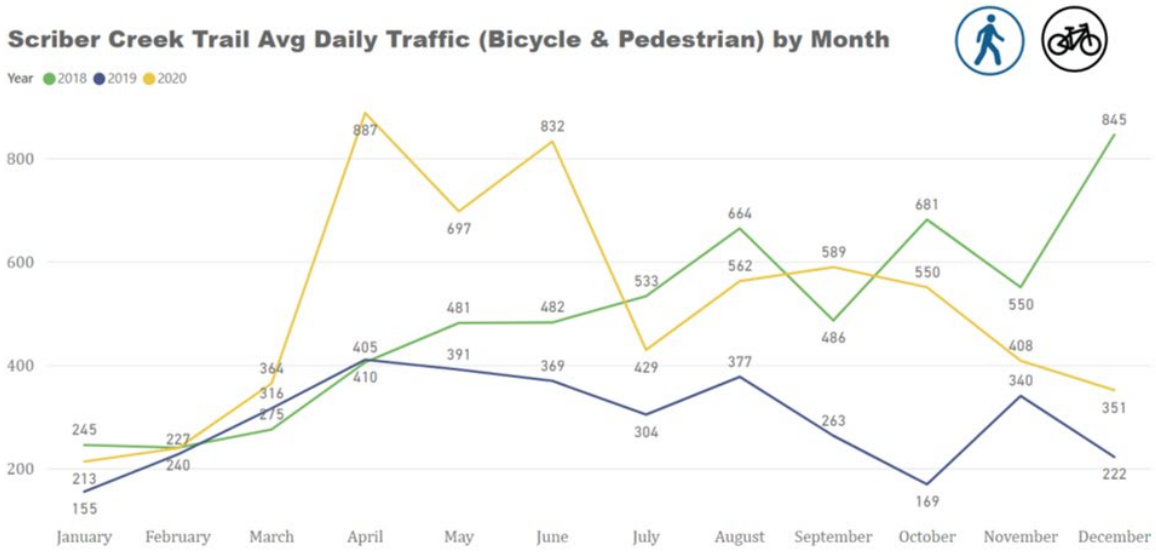
Zone Name	Bicycle	Pedestrian	Total
Interurban	278,251	1,448,414	**1,726,665**
Golf Course Trail	14,267	1,235,708	**1,249,975**
Meadowdale Playfields	5,718	573,811	**579,529**
Lynndale Park	17,825	504,886	**522,711**
Scriber Creek Trail	17,730	473,012	**490,742**
North Lynnwood Park	5,537	226,180	**231,717**
Wilcox Park	5,596	151,233	**156,829**
Scriber Lake Park	5,200	112,084	**117,284**
Spruce Park	3,587	97,817	**101,404**
Meadowdale Park	2,221	68,682	**70,903**
Pioneer Park	1,187	46,200	**47,387**
Daleway Park	2,008	43,619	**45,627**
South Lynnwood Park	2,464	41,092	**43,556**
Heritage Park	2,918	37,136	**40,054**
Gold Park	1,066	32,819	**33,885**
Scriber Creek Park	1,552	32,243	**33,795**
Mesika Trail	578	26,796	**27,374**
Veterans' Park	731	26,371	**27,102**
Mini Park at Sprague's Pond	791	19,222	**20,013**
Stadler Ridge Park	304	9,215	**9,519**
Maple Mini Park	121	1,460	**1,581**
Total	**369,652**	**5,208,000**	**5,577,652**

Data Visualizations

Scriber Creek Trail

LYNNWOOD
WASHINGTON





Scriber Creek Trail

Location

473,012

Total Trips (2018-2020)

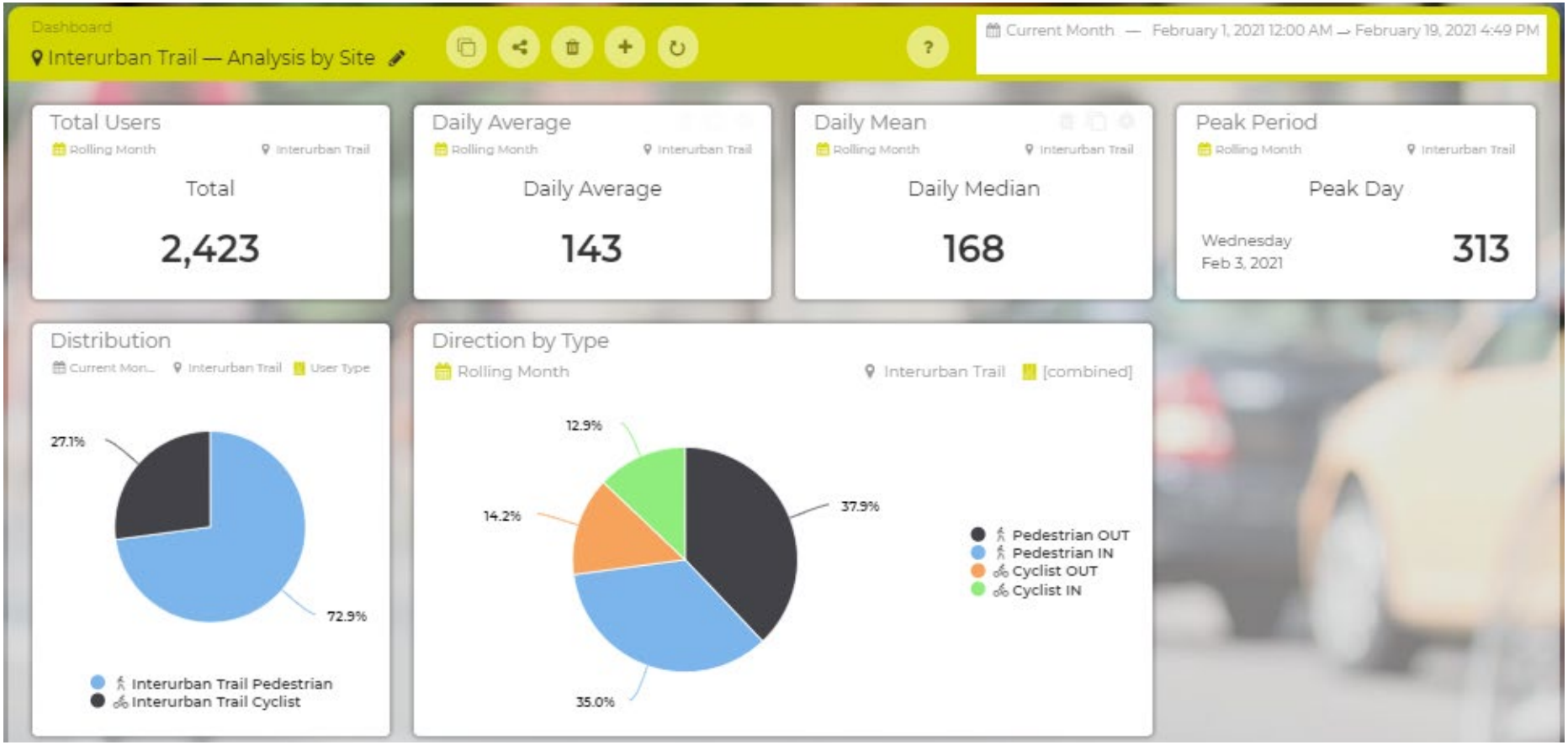
Total Trips (Scriber Creek Trail)

Year	Pedestrian	Total
2018	179,063	**179,063**
2019	107,768	**107,768**
2020	186,181	**186,181**
Total	**473,012**	**473,012**

Counter Data

Interurban Trail

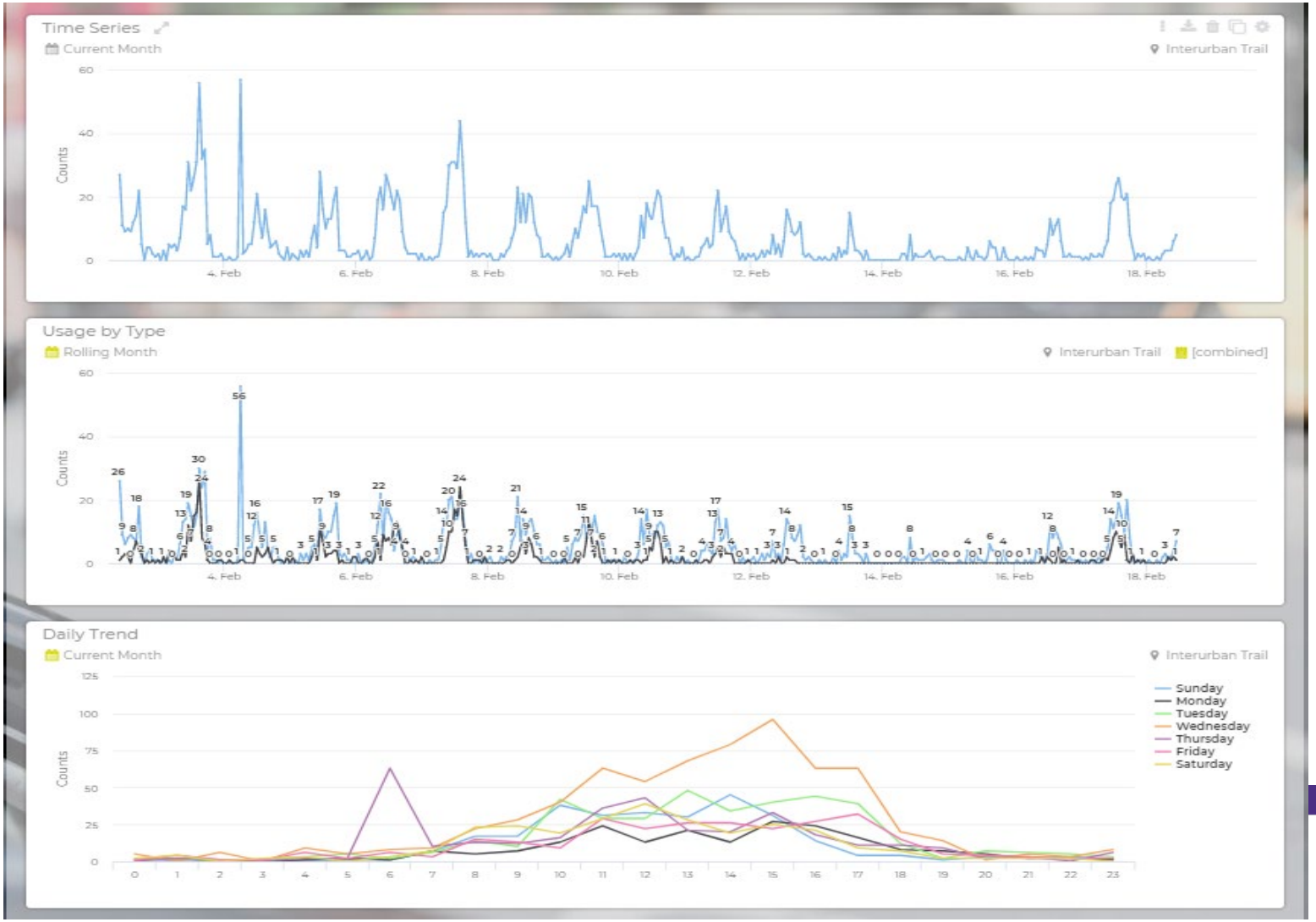
LYNNWOOD
WASHINGTON



Counter Data

Interurban Trail

LYNNWOOD
WASHINGTON



Next Steps

Interurban Trail - Counter Data

LYNNWOOD WASHINGTON

Key Figures Summary

Current Month

Interurban Trail | Total User Type

Site	Total	Average	Median	Peak Count	Peak Period
Interurban Trail	2,423	143	168	313	Wed Feb 3, 2021
Interurban Trail Pedestrian	1,766	104	121	199	Wed Feb 3, 2021
Interurban Trail Cyclist	657	39	30	114	Wed Feb 3, 2021

Moving forward...

- **Calibration using data from the counter at Interurban Trail**
- **Prototype Predictive Model for Lynndale park to forecast future traffic**
- **Analysis of the Amenities to observe their contribution to park traffic**
- **Demographic Analysis of the park traffic**

Thank You

LYNNWOOD
WASHINGTON

Questions ?