Analytics and the Bicycle Industry

By Ben Goodwin

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A Brief Introduction

- Founded 2020, Fort Collins, Colorado
    - Good opportunity for entry into the market.
        - Business license filings were very down
        - Bicycle industry thriving during COVID
- Worked in bike shops throughout college
    - Gave perspective into industry
        - Main players, gaps in the market
        - Opportunity to try something outside of my expertise.
        - Opportunity shape a business based on my own decisions

Analytics Project 1: Preventive Maintenance Via Strava

Strava is an American internet service for tracking physical exercise which incorporates social network features. It is mostly used for cycling and running using GPS data – *strava.com*

Key Features:

- Track milage on individual bikes
- Analyze riding patterns
  - Riding style, e.g., lots of climbing, seasonality

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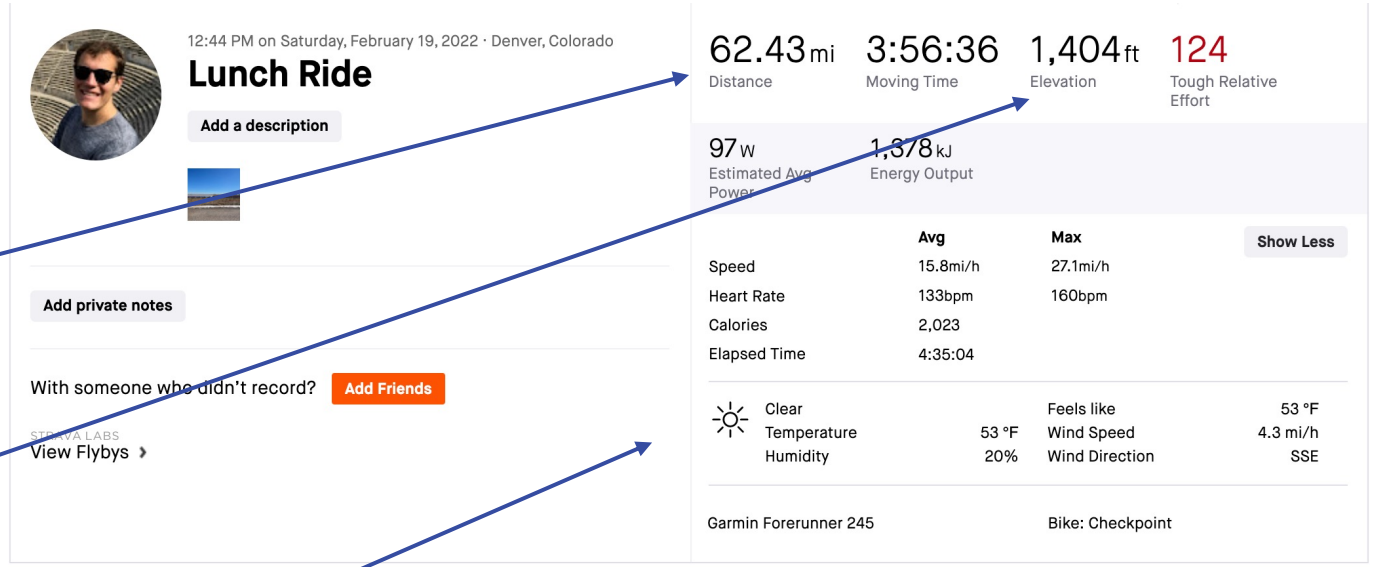
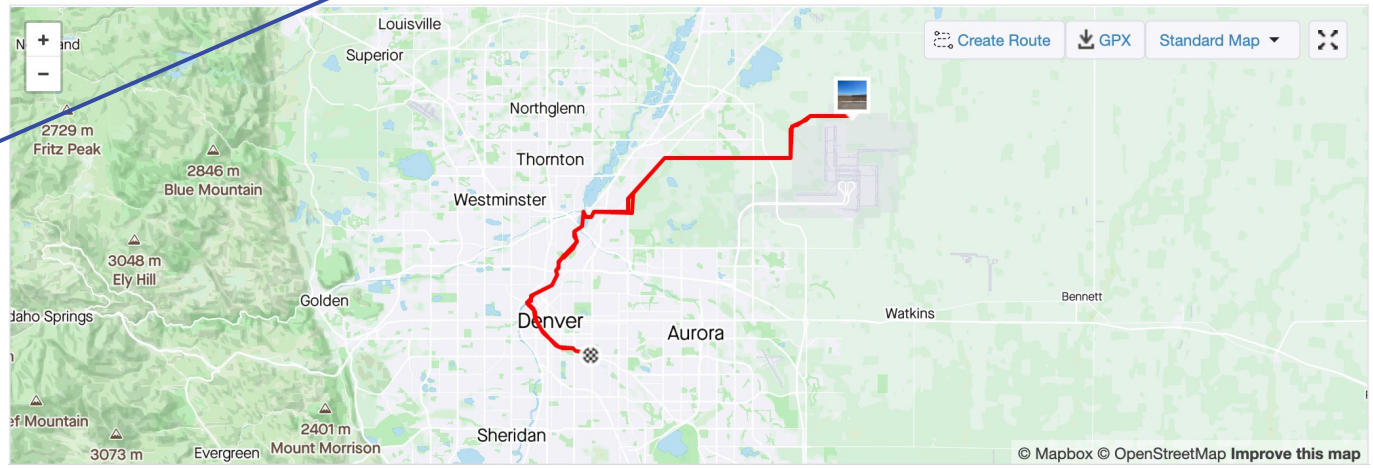
Analytics Project 1: Preventive Maintenance Via Strava

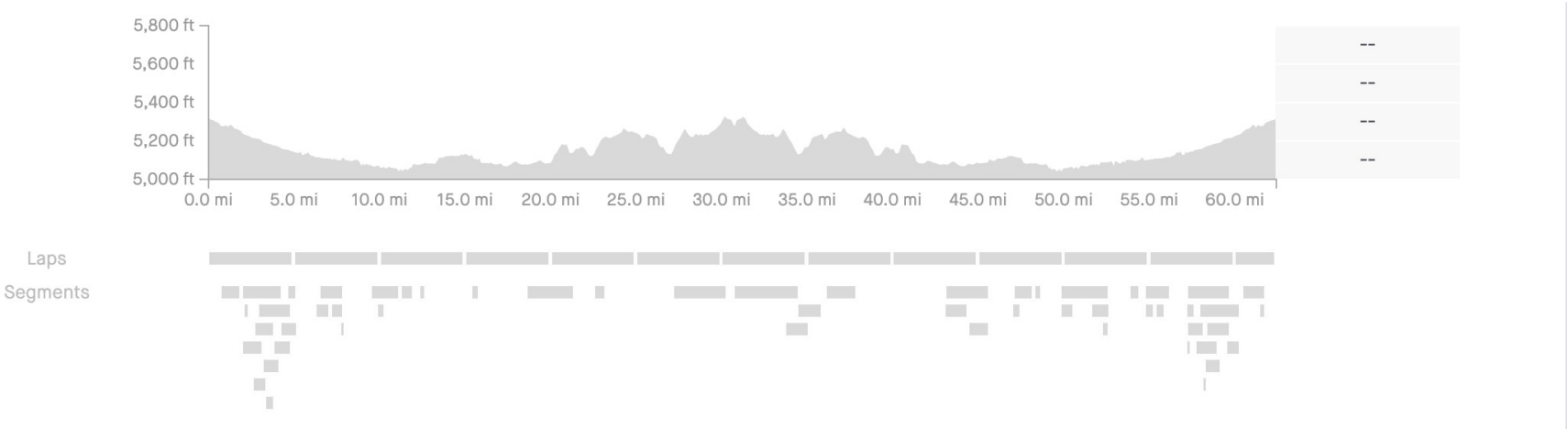
- Each workout captures key health and bicycle milestones. We're concerned with the bike related aspects.
  - Distance
  - Elevation Gain
  - Weather Data



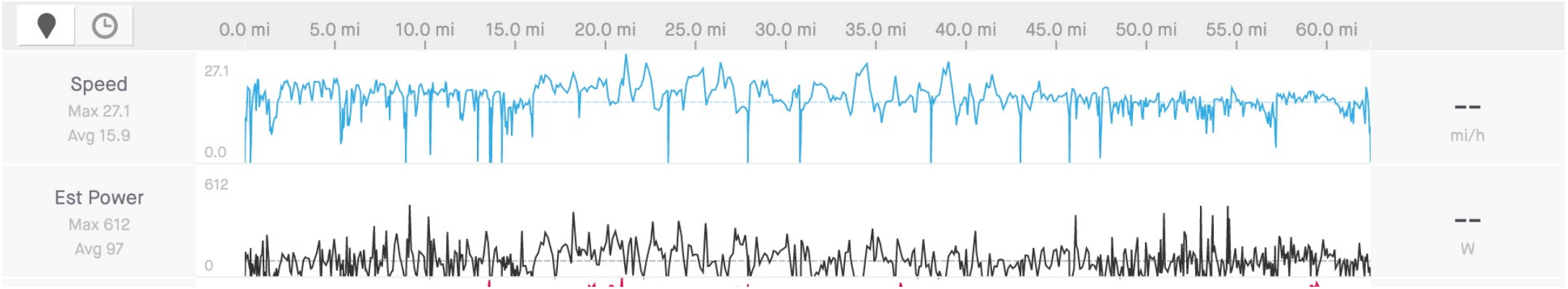


Analytics Project 1: Preventive Maintenance Via Strava

Detailed breakout of statistics from prior slide



High level of granularity in data



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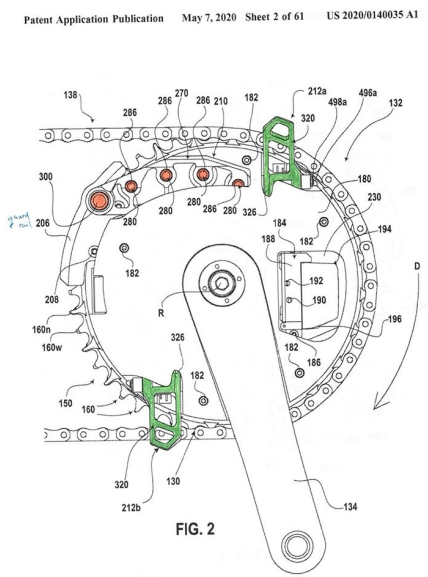
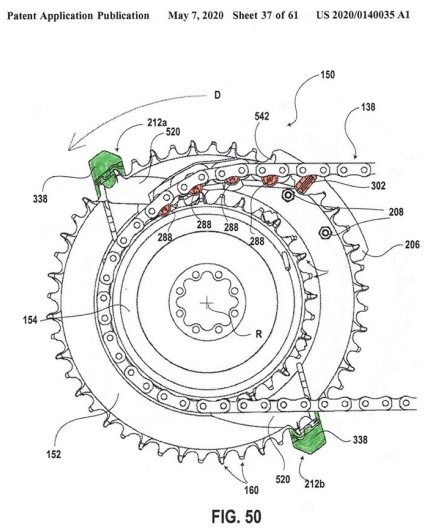
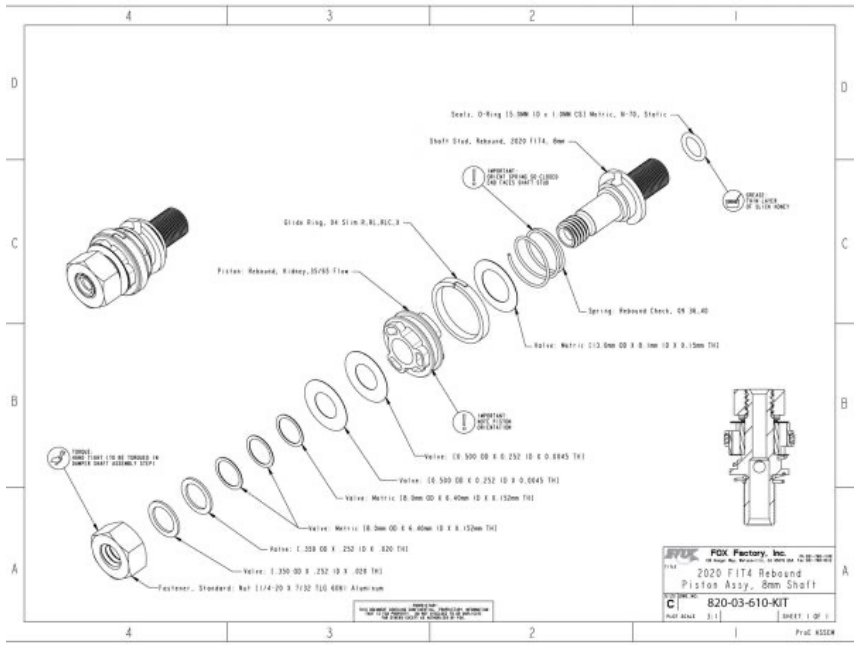
Why?

- Bicycle Repair constitutes largest revenue driver for all bike shops
  - Old model was to sell complete bicycles
  - As bikes increase in complexity and cost, service is ever expanding – No longer user serviceable
  - Examples include electronic shifting/drivetrain and suspension componentry







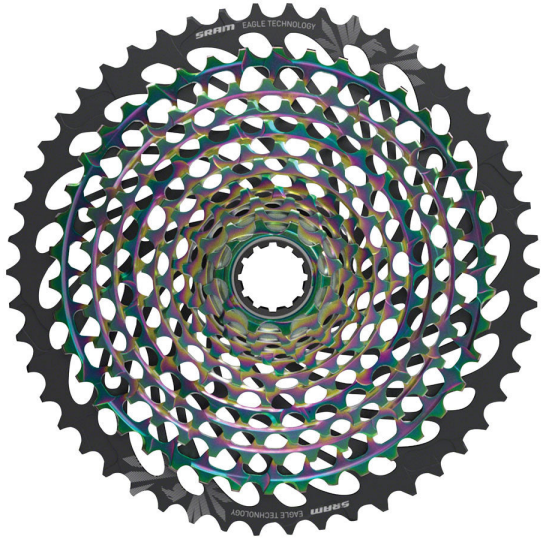
Idea

- Using Strava data alongside customer data, we can build a model that monitors and predicts component wear.

How:

- With customer permission, each time a part is replaced, or routine maintenance is performed data is added to proprietary database to manage and track lifetime and part wear.

- Let's take an example of a cassette



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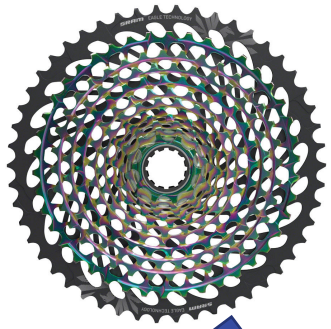
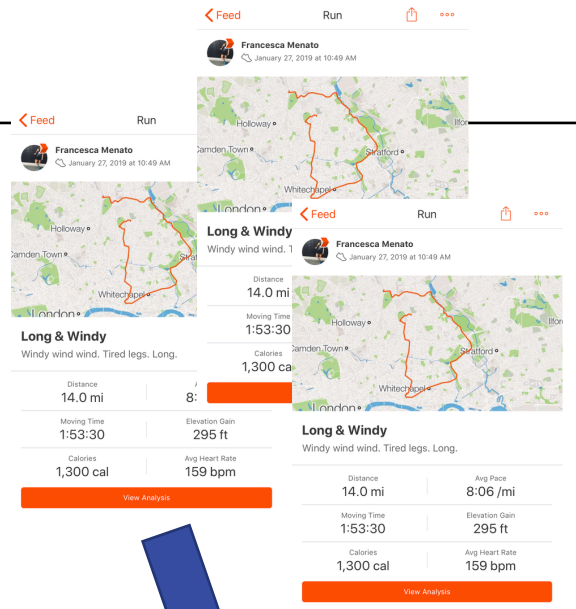
How continued...

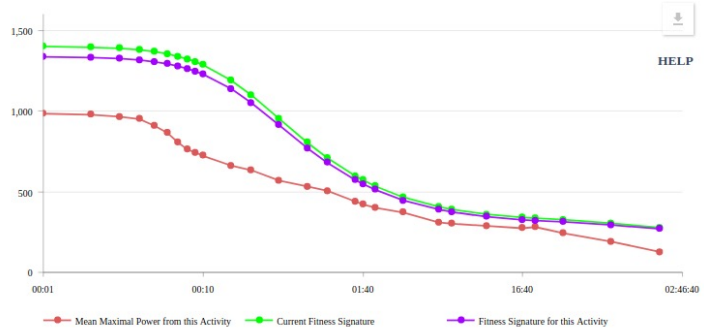
Manufacturer expected lifespan:
2500 miles



Component added to shop database
Includes owner, date, bike

Milage, Elevation gain, and other trackers queried via Strava API. Plotted against expected lifetime. Alerts shop at 10% life.





Power curves are plotted against input parameters; elevation gain, weather, power

Outcomes

- Develop a data driven maintenance schedule. Benefits include:
  - Decreased wear on other components
  - Improved bicycle performance
  - Helps shop forecast demand for specific parts
    - Supply chain constrains are decimating cycling industry

  - Proactive with customers
    - Can simply send an email reminding of upcoming service
    - Provide link to schedule service and get part fulfillment underway