December, 4th 2023
Lewis Kuhlman
Environmental Planner
City of La Crosse, WI
400 La Crosse Street, La Crosse, WI, 54601

RE: Proposal for XE FEAP: EV Analytics

Dear Mr. Kuhlman:

Sawatch, Inc. (d.b.a. Sawatch Labs) is pleased to have the opportunity to submit a proposal to the City of La Crosse, WI (the Fleet) for an Electric Vehicle (EV) Suitability Assessment for their fleet. Sawatch Labs would analyze the vehicles using Geotab telematics data from the fleet.

This work qualifies for a rebate through Xcel Energy's Fleet Electrification Advisory Program.
This scenario looks at analysis for up to 50 fleet owned vehicles. We plan to study vehicles operating in various departments that have like EV replacements for purchase today or are expected in the next several years.

Sawatch Labs works closely with our customers to understand the needs of all stakeholders (e.g. drivers, fleet managers, sustainability managers) and provides metrics for each vehicle related to operational suitability, financial impact, and sustainability impact for each vehicle analyzed. These metrics are combined into an overall EV Suitability Score for each vehicle.

We have had the opportunity to work with entities of all sizes and have substantial experience working with public sector fleets; please see our references at the conclusion of our proposal. We appreciate your consideration and invite the opportunity to provide clarification or answer any questions you may have about our offering.

Sincerely,

Mary Till
Director of Business Development
720-468-3550
till@sawatchlabs.com

EVSA & EVSE Analysis

1. Process and Timeline

The EVSA requires a minimum of 90 days of telematics data for each vehicle. The FLEET has requested a three-month data collection period. As such, this timeline in Table 1. is based on when that data collection would be complete.

2. Deliverables

Sawatch Labs will provide a summary report of the ezEV Suitability Assessment for the fleet. The ezEV Suitability Assessment will include ezEV results for each individual vehicle and by agency (including EV suitability scores and infrastructure needs) and recommendations for EV procurement. Additionally, a 1-page summary will be provided for each vehicle providing information on the observed driving, estimated energy use, EV recommendation, charging infrastructure needed, estimated cost to charge the vehicle, estimated annual and lifetime savings, and estimated GHG emissions reductions. A sample of the 1-page vehicle summary is provided in Appendix A.

Fleet operations have become more variable, and managers are increasingly concerned about fluctuating gas prices and how these items (in particular) may reduce confidence in analysis such as EVSA. In response, Sawatch Labs can process up to three scenarios, providing results via summary reports and summary tables, at no additional cost. The primary scenario will be made available in the analytics dashboard. Examples of scenarios include differing fuel prices, vehicle lifetimes, and/or EV models.

We will also include a one-time option to re-run the collected data with new EV models, no later than 12 months initial after results delivery. Please note that new EV models are actively added to ezEV during the active project period.

Table 1. Deliverables and Projected Timeline

Task	Deliverable	Schedule
T1. Kickoff webinar meeting with FLEET staff[1]	D1. Webinar	TBD based on FLEET's preference
T2. Installation	D2. FLEET to install Geotab hardware	TBD based on FLEET's preference
T3. Introduction to EV Analytics dashboard and myGeotab (optional)	D3. Webinar training	2 weeks after Task 3
T4. ezEV Suitability Assessment & ezIO EVSE Site Map Analysis Conducted	**D4a.** ezEV scores and summary data for each vehicle made available in a secure online dashboard **D4b.** 1-page PDF vehicle summary provided for each vehicle **D4c.** Fleet summary data table (.csv) and Report (.pdf) **D4d.** Interactive EVSE site map analysis & data table (.csv) **D4e.** Vehicle & fleet-wide anticipated charging needs	3 months after completion of Task 2 3 months after completion of Task 2 3 months after completion of Task 3 months after completion of Task 2 3 months after completion of Task 2
T5. Presentation of Results	**D5a.** Presentation of results via webinar[1] **D5b.** Scenario summaries delivered	Based on FLEET's preference but no sooner than completion of Deliverable D4d.

[1]*It is anticipated that the kickoff and results meetings will occur via webinar. If FLEET would prefer for these meetings to be in person, we are happy to discuss that option in more detail.*

sawatchlabs.com
info@sawatchlabs.com
Tel: 303-578-2465
Denver, Colorado | Petaluma, California

3. Cost

The cost to provide EV Analytics under this project can be found in the corresponding quote 2730 for pricing details. Total cost is estimated at $26,379.00.

4. Approach and Methodology

Sawatch Labs developed the ezEV analytics platform to determine how an EV would perform following the same drive cycles and driving patterns of an existing vehicle. This allows you to see how an EV would have performed had it driven the same trips that your vehicle drove over the period of observation, providing a clear understanding of whether or not an EV would be successful in the same use case. The analysis uses telematics data and requires a minimum of 90 days of data for each vehicle to ensure that the driving observed is representative of each vehicles' driving patterns.

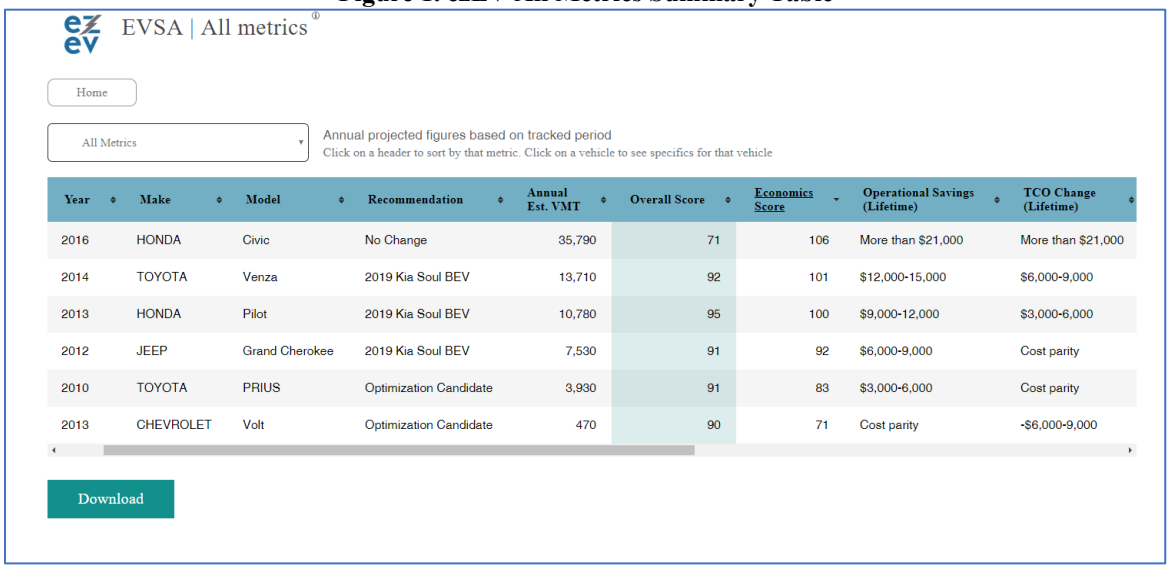
The ezEV fleet assessment scores each vehicle based on its suitability to be replaced with an EV using tens of thousands of data points contributing to 170 different attributes for each vehicle. The overall ezEV Score is a composite score that incorporates energy use, economics, parking (time and location consistency), and confidence that the data collected is a representative sample of overall vehicle activity. The Energy Score helps you easily see how many days a vehicle could do all its driving without needing to charge midday. The Economics Score assesses the financial impact of replacing the vehicle with an EV, including the purchase price and operational costs and savings. The Parking Score and analysis shows you where your vehicle is parking and where charging infrastructure would be needed to support your vehicle.

The higher the overall ezEV score, the better suited a vehicle is for replacement with an EV. A sample of a vehicle summary is provided in Appendix A. The costs of EVs considered in the analysis are based on the vehicle pricing available to the FLEET. The ezEV app will be made available through an online dashboard which updates daily based on driving. Sawatch Labs will set up credentials to access the online dashboard for all staff identified by the FLEET's project manager.

Figure 2. ezEV Single Vehicle Assessment shows the single vehicle ezEV summary. From here, one can access options to change the BEV or PHEV model comparison as well as view suggested locations for charging infrastructure based on the vehicle's driving and parking patterns.

For each vehicle that is identified as a good candidate for replacement with an EV, Sawatch Labs will provide the specific EV model recommended to replace the existing vehicle. Data will be provided on the estimated financial and environmental impact of replacing the vehicle with the specific EV. The current EV models included in the analysis include models that are available on the market today. The specific models included in the analysis will be determined in discussions with the FLEET and based on vehicles that are available for purchase by the FLEET.

Figure 1. ezEV All Metrics Summary Table



EVSA | All metrics®

Home

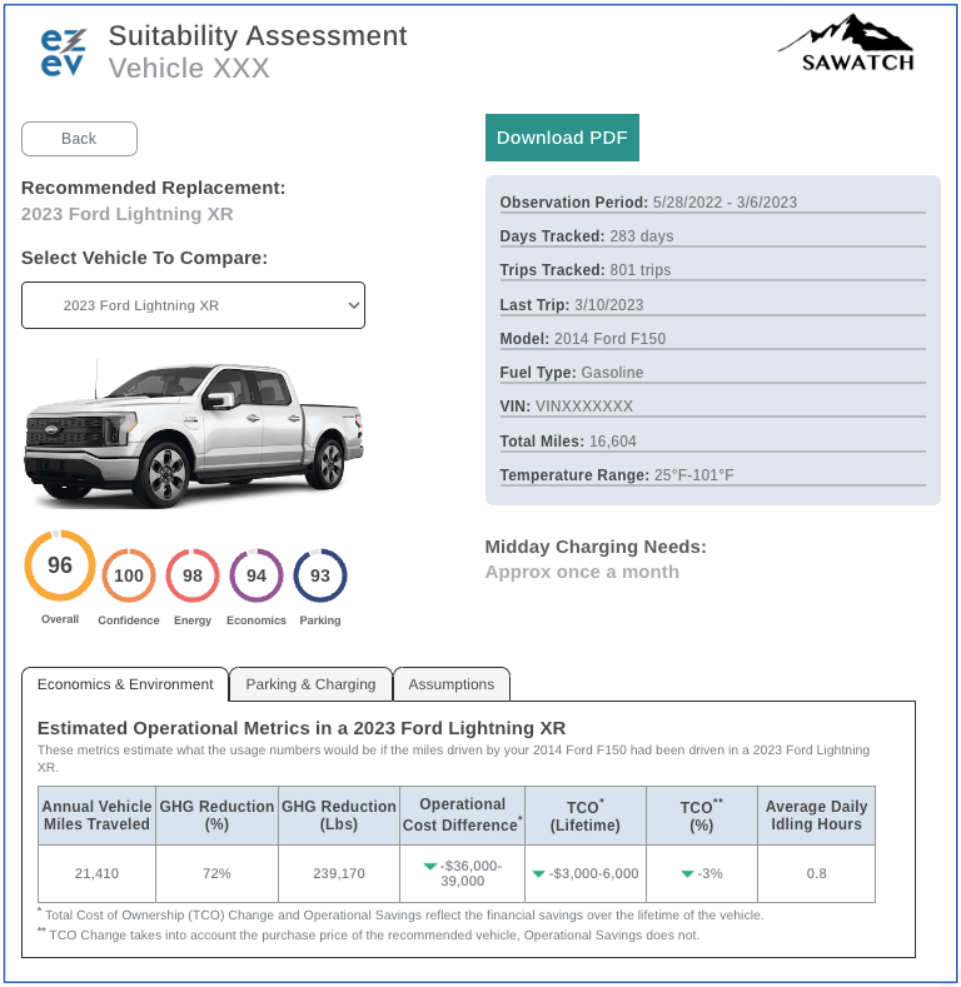
All Metrics

Annual projected figures based on tracked period
Click on a header to sort by that metric. Click on a vehicle to see specifics for that vehicle

Year	Make	Model	Recommendation	Annual Est. VMT	Overall Score	Economics Score	Operational Savings (Lifetime)	TCO Change (Lifetime)
2016	HONDA	Civic	No Change	35,790	71	106	More than $21,000	More than $21,000
2014	TOYOTA	Venza	2019 Kia Soul BEV	13,710	92	101	$12,000-15,000	$6,000-9,000
2013	HONDA	Pilot	2019 Kia Soul BEV	10,780	95	100	$9,000-12,000	$3,000-6,000
2012	JEEP	Grand Cherokee	2019 Kia Soul BEV	7,530	91	92	$6,000-9,000	Cost parity
2010	TOYOTA	PRIUS	Optimization Candidate	3,930	91	83	$3,000-6,000	Cost parity
2013	CHEVROLET	Volt	Optimization Candidate	470	90	71	Cost parity	-$6,000-9,000

Download

Figure 2. ezEV Single Vehicle Assessment



Suitability Assessment
Vehicle XXX

SAWATCH

Back

Download PDF

Recommended Replacement:
2023 Ford Lightning XR

Select Vehicle To Compare:

2023 Ford Lightning XR

Observation Period: 5/28/2022 - 3/6/2023
Days Tracked: 283 days
Trips Tracked: 801 trips
Last Trip: 3/10/2023
Model: 2014 Ford F150
Fuel Type: Gasoline
VIN: VINXXXXXXX
Total Miles: 16,604
Temperature Range: 25°F-101°F

96 Overall | 100 Confidence | 98 Energy | 94 Economics | 93 Parking

Midday Charging Needs:
Approx once a month

Economics & Environment | Parking & Charging | Assumptions

Estimated Operational Metrics in a 2023 Ford Lightning XR

These metrics estimate what the usage numbers would be if the miles driven by your 2014 Ford F150 had been driven in a 2023 Ford Lightning XR.

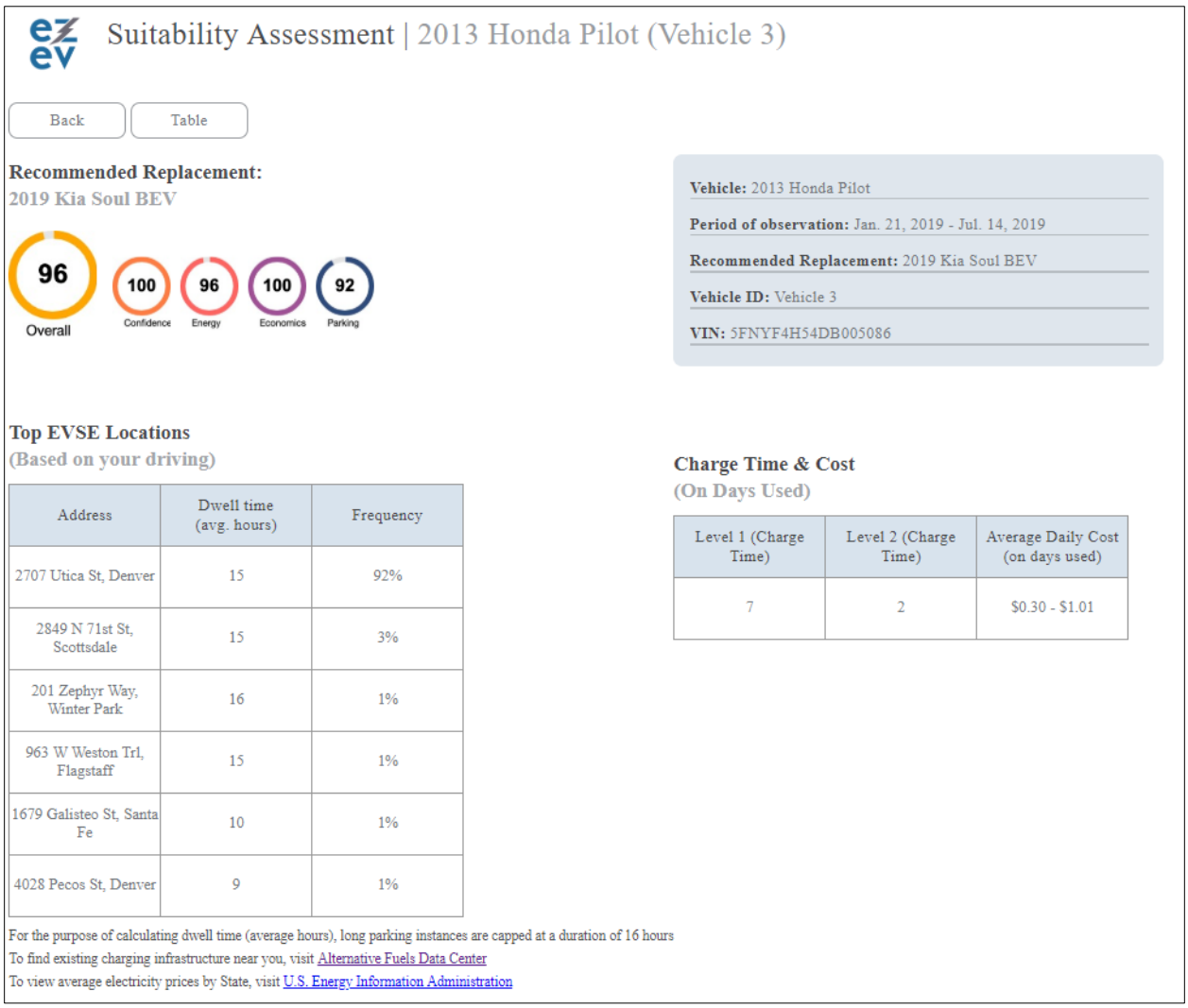
Annual Vehicle Miles Traveled	GHG Reduction (%)	GHG Reduction (Lbs)	Operational Cost Difference*	TCO* (Lifetime)	TCO** (%)	Average Daily Idling Hours
21,410	72%	239,170	▼-$36,000-39,000	▼-$3,000-6,000	▼-3%	0.8

* Total Cost of Ownership (TCO) Change and Operational Savings reflect the financial savings over the lifetime of the vehicle.
** TCO Change takes into account the purchase price of the recommended vehicle, Operational Savings does not.

sawatchlabs.com
info@sawatchlabs.com
Tel: 303-578-2465
Denver, Colorado | Petaluma, California

Additionally, each vehicles' overnight parking patterns will be assessed to identify optimal locations to install EV charging infrastructure to support that vehicle. The amount of time that a vehicle parks overnight and the hours needed to fully charge based on driving will also be provided to determine the level of charging infrastructure required for each vehicle. See Figure 3 for an example of this output.

Figure 3. Sample ezEV Charging Infrastructure Analysis



Suitability Assessment | 2013 Honda Pilot (Vehicle 3)

Back | Table

Recommended Replacement:
2019 Kia Soul BEV

96 Overall | 100 Confidence | 96 Energy | 100 Economics | 92 Parking

Vehicle: 2013 Honda Pilot
Period of observation: Jan. 21, 2019 - Jul. 14, 2019
Recommended Replacement: 2019 Kia Soul BEV
Vehicle ID: Vehicle 3
VIN: 5FNYF4H54DB005086

Top EVSE Locations
(Based on your driving)

Address	Dwell time (avg. hours)	Frequency
2707 Utica St, Denver	15	92%
2849 N 71st St, Scottsdale	15	3%
201 Zephyr Way, Winter Park	16	1%
963 W Weston Trl, Flagstaff	15	1%
1679 Galisteo St, Santa Fe	10	1%
4028 Pecos St, Denver	9	1%

Charge Time & Cost
(On Days Used)

Level 1 (Charge Time)	Level 2 (Charge Time)	Average Daily Cost (on days used)
7	2	$0.30 - $1.01

For the purpose of calculating dwell time (average hours), long parking instances are capped at a duration of 16 hours
To find existing charging infrastructure near you, visit Alternative Fuels Data Center
To view average electricity prices by State, visit U.S. Energy Information Administration

This per-vehicle parking analysis will then be aggregated using our Infrastructure Optimization (ezIO) application. ezIO provides insight into where, when, and for how long you can expect vehicles to charge based on their actual daily operations. This provides powerful insight into what you can expect for your charging peak demand at each parking location used by your fleet, allowing you to determine when and where managed charging solutions will be integral.

The application will highlight the months and days with greatest demand per location so fleets can:

- Plan charging infrastructure based on charging needs
- Predict when charging will coincide with a facility's existing peak demand and plan strategies to mitigate an overall increase in facility peak demand
- Identify opportunities to charge efficiently and economically by implementing smart charging programs

Figure 4. Example ezIO Total Demand per Month

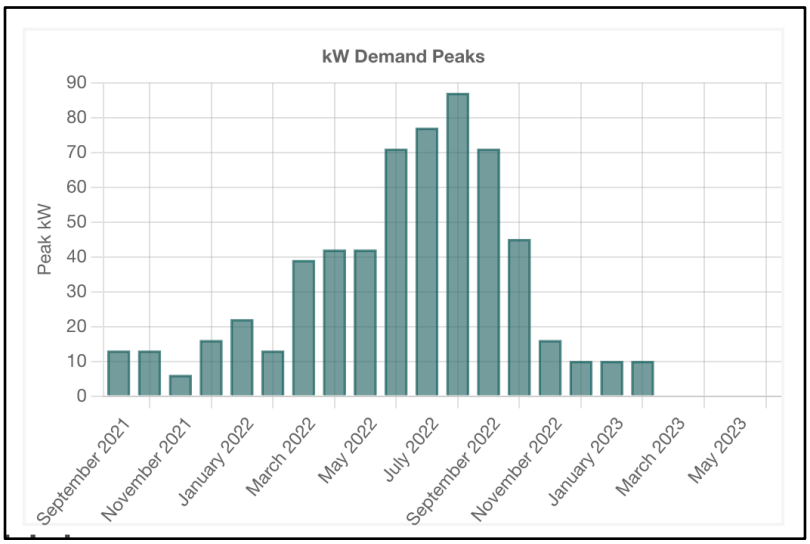
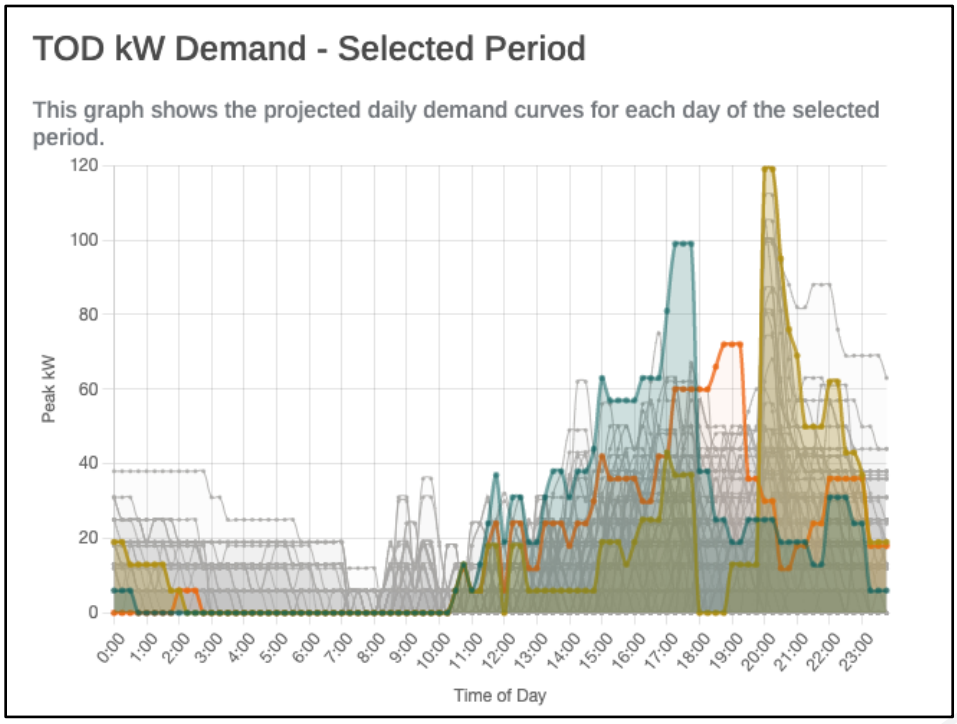


Figure 5. Example ezIO Daily Demand Per Month



sawatchlabs.com
info@sawatchlabs.com
Tel: 303-578-2465
Denver, Colorado | Petaluma, California

5. Related Project Experience

Sawatch Labs has conducted analyses of fleets for multiple clients around the country, including for vehicles from many different use cases (e.g., light duty passenger carry, law enforcement, parks and recreation, off-road, campus, shuttles, etc.) operating in both urban and rural environments. The following provides high level summaries of a few related projects.

Select Clients	Project Type
Energetics	EVWATTS is a DOE-funded, nation-wide data collection effort to track how EVs are operating in fleet and individual consumer applications. Sawatch Labs is providing data collection and analytics for 1,800 vehicles for 12-18 months. The resulting dataset will be anonymized and provided to researchers and the public to further EV technology, policy, and adoption.
National Renewable Energy Laboratory (NREL)	For more than three years, Sawatch Labs has worked on multiple projects for NREL, supporting research and development to further the adoption of EV technologies and to address market barriers. These projects include conducting ezEV analyses for multiple EPAct-covered fleets, providing telematics for NREL's internal fleets, and conducting assessments to identify the impacts of EV charging at various levels of EV adoption across entire state fleets.
Breckenridge, CO	XE FEAP ezEV electric vehicle suitability assessment and ezIO infrastructure planning analysis supported by Geotab telematics deployment.
City of Rochester, MN	ezEV electric vehicle suitability assessment supported by Geotab telematics deployment and using historic Verizon NetworkFleet data.
Electrification Coalition	10+ ezEV electric vehicle suitability assessments provided to cities across the United States, supported by Geotab telematics deployment and existing third-party(multiple vendors) telematics data. Client of three years with ongoing projects.
Minneapolis Department of Transportation	XE FEAP ezEV electric vehicle suitability assessment and ezIO infrastructure planning analysis using existing telemetry from Verizon NetworkFleet

6. Project Team Qualifications

Matthew Helm is the Co-Founder and CEO at Sawatch Labs. For more than 15 years he has worked with large, complex datasets to glean valuable insights for clients, working specifically with connected car software and hardware for the previous six years. He's worked extensively with the OBDII protocol, including having written popular backend OBD tools for development of connected car mobile applications and consumer facing mobile applications in deployment worldwide. He is fluent in Python, Node, Postgres, Objective C, Swift, and C++. Of particular relevance to this project is his experience working with datasets for large public fleets, analyzing the data and presenting it concisely in an interactive online platform. Mr. Helm received his B.A. in English from the University of Colorado.

Sarah Booth, the Chief Operating Officer, has more than 10 years of experience working in the clean energy sector, focusing on analyzing energy data and making that data more accessible to governmental decision makers. Ms. Booth has supported local, national, and international governments as well as non-profit organizations including the World Bank and United Nations. She has led stakeholder engagement processes for the State of Hawaii and the City of Boulder to improve the understanding of the needs and priorities for community members and businesses in relation to their energy use. She has led the development of multiple online tools and resources designed to increase access to energy and policy data, improving stakeholders' ability to incorporate this data into their decision-making processes. Ms. Booth holds an M.A. in International Relations and Environmental Policy from Boston University.

Mary Till is the Director of business Development at Sawatch Labs. Mary has been leveraging the power of driving data for more than 10 years to change driver behavior, increase safety and reduce fuel consumption & emissions. With her extensive knowledge of embedded telematics systems she led deployments in over 20 countries. She is excited to use her expertise to drive smart, economical fleet electrification and optimization. Ms. Till holds a B.S. in Marketing from Pennsylvania State University and is serving as Secretary for Drive Clean Colorado, a Clean Cities Coalition.

Jared Walker, Director of Fleet Optimization, has 14+ years of experience in the automotive fleet industry. He has worked across all vehicle segments in both the private and public sectors. Jared is passionate about leveraging data to help fleets reduce cost and emissions. He has worked with several hundred fleets across the country to improve operational efficiency through electrification.

Appendix A: Sample ezEV Summary report

Please find the sample report attached.

Appendix B: Electric Vehicle Suitability Assessment: North Carolina

Please find the ezEV Suitability Assessment provided to the North Carolina Motor Fleet at:
https://files.nc.gov/ncdoa/Comm/Other/Zero-Emission-Vehicles-Suitability-Assessment-2019.pdf.

Appendix C: Electric Vehicle Suitability Assessment: Cincinnati, OH

https://www.electrificationcoalition.org/wp-content/uploads/2021/01/Cincinnati-New-Case-Study-Final-1.5.2021.pdf

sawatchlabs.com
info@sawatchlabs.com
Tel: 303-578-2465
Denver, Colorado | Petaluma, California

QUOTE

City of La Crosse, WI
Attention: Lewis Kuhlman
400 La Crosse Street
LA CROSSE WI 54601
USA

Date
4 Dec 2023

Expiry
31 Dec 2023

Quote Number
QU-2730

Reference
La Crosse, WI, City of | XE FEAP: 50 w/ GO9

Sawatch Labs
Please remit payment to:
4045 Pecos Street Suite
190 Denver, CO 80211
(303) 578-2465

EV Analytics for XE FEAP for La Crosse, WI, City of

This work qualifies for a rebate through Xcel Energy's Fleet Electrification Advisory Program.
This scenario looks at analysis for up to 50 fleet owned vehicles. We plan to focus on vehicle types that have available, like EV replacements for purchase today or are expected in the next several years. These vehicles operate in several different departments.

Item	Description	Quantity	Unit Price	Amount USD
XE FEAP EVSA 50	EVSA using ezEV and ezIO for up to 50 vehicles. This program qualifies for reimbursement through Xcel Energy's Fleet Electrification Advisory Program	1.00	17,250.00	17,250.00
GV - G09	GO9 Geotab GPS Hardware, one-time fee	50.00	88.50	4,425.00
GV - HRN-GS16K22	GO9 OBDII Universal Harness, one-time fee	50.00	28.06	1,403.00
GV - PRO Plan	PRO Plan, monthly data fees (50 vehicles x 7 months = 350)	350.00	16.33	5,715.50
Shipping	Shipping, Standard	1.00	35.00	35.00
XE FEAP Instant Rebate	XE FEAP Instant Rebate for the Fleet Electrification Advisory Program	1.00	(28,828.50)	(28,828.50)

Subtotal	0.00
TOTAL TAX	0.00
TOTAL USD	**0.00**

Terms

"The provided information is not an invoice and is only an estimate of goods/services described above.

Please confirm your acceptance of this quote electronically or by signing this document and returning it to Sawatch Labs.

An invoice for all charges will be delivered after analysis results have been completed. Terms: Net 30

Termination by Either Party. Either party may terminate this contract at any time, with or without cause, by giving the other party thirty (30) days written notice to terminate. In the event of such termination, Client's sole obligation and liability to Sawatch Labs, if any, shall be to pay Sawatch Labs that portion of the Fixed Price Amount earned by Sawatch Labs for the performance of the Services through the date of termination only, in accordance with the Schedule of Values plus any authorized reimbursable expenses incurred to date of termination and any verifiable and documented non-cancelable commitments made by Sawatch Labs through the date of termination; provided, however, that Sawatch Labs shall exercise best efforts to mitigate the cost of same. Under no circumstances shall Client be liable to Sawatch Labs for any lost profits, lost revenue, or any other losses of any kind whatsoever associated with any Services not performed.

Data collection devices, such as the Geotab GO9, must be installed within 30 days of receipt. Data collection will end 120 days after devices are received by the client unless otherwise indicated in the contract terms. If devices are installed after 30 days, there may not be sufficient data on those vehicles.

Delivery of Results: Sawatch Labs will notify the client when results are available and *request to schedule a meeting (in-person or web call). If client does not participate in a results delivery meeting within thirty (30) days, Sawatch Labs has the right to deliver results via email and invoice in full. Results will remain available in the online dashboard for six (6) months.

Client Participants Limitations & Potential Conflicts of Interest. The Client participants in the Xcel Energy Fleet Electrification Advisory Program (FEAP) shall be limited to client staff that are involved in fleet electrification activities, including fleet, sustainability, facilities, and management staff. The participation in dashboard demos, results reviews, and user access to Sawatch Labs' dashboard will be limited to the staff identified by the Client that are supporting fleet electrification activities. No additional Client staff nor third-party entities (e.g. consultants) shall be permitted to participate in the FEAP program calls nor access the Sawatch Labs' dashboard. The Client may submit a written request to Sawatch Labs for review to extend participation to other staff or entities. The Client is responsible for identifying potential conflicts of interest by participating staff, including but not limited to identifying staff that are involved in ventures outside of Client operations that are related to fleet electrification and transportation analysis. If a potential conflict of interest is identified, Client must provide a written notification to Sawatch Labs within 24 hours.

Attribution. The results from the Sawatch Labs' Dashboard and Analytics, including but not limited to summary results, downloaded material, and screenshots, are permitted to be shared by the Client. If the Client shares the results and output from Sawatch Labs' analysis, including in modified form, the Client must attribute the material and analysis to Sawatch Labs and comply with the following requirements:

a. Provide clear attribution to Sawatch Labs in each instance in close proximity to the location of the material.
b. The attribution must in every case include a hyperlink to https://www.sawatchlabs.com/.
c. Include an indication if the Client modified the results and output from Sawatch Labs.

Signature: _____

Printed Name: _____