

STAFF REPORT



MEETING DATE:	December 15, 2022
SUBJECT:	Authorize Technical Services Agreement to Prepare Zero-Emission Fleet Transition Rollout Plan
AGENDA ITEM:	5-5
STAFF CONTACT:	Kimi Taguchi, Associate Transportation Planner

SUMMARY:

Federal and state laws now require transit agencies to prepare and adopt plans to identify how public transit providers will transition to zero-emission fleets. The State of California considers SRTA a “small” transit agency because SRTA provides specialized public transit services through a contract with Dignity Health Connected Living (DHCL) under the ShastaConnect brand (<https://www.shastaconnect.org/>) and must develop a zero-emission fleet transition plan for the contracted services. Staff recommends contracting with Energetics to assist SRTA in preparing a Zero-Emission Fleet Transition Rollout Plan.

STAFF RECOMMENDATION:

It is recommended that the board of directors:

1. Authorize the executive director to execute a technical services agreement with Energetics, a division of Akimeka, LLC, to prepare a Zero-Emission Fleet Transition Rollout Plan, for a term ending June 30, 2024, not to exceed \$115,000; and
2. Authorize the executive director to make minor administrative amendments to the contract as appropriate.

DISCUSSION:

For SRTA’s contracted public transit services with DHCL, a state-required, zero-emission bus rollout plan must be prepared, adopted, and submitted to the California Air Resources Board (CARB) by June 30, 2023. Earlier this year, the Federal Transit Administration (FTA) provided guidelines due to new requirements under the Infrastructure Investment and Jobs Act (IIJA) regarding eligibility to apply for and receive federal funds for public transit zero-emission projects. To maximize funding opportunities, staff recommends addressing both state requirements and federal guidelines in one consolidated document, known as a Zero-Emission Fleet Transition Rollout Plan.

A request for proposals (RFP) for consultant assistance was released on November 9, 2022, with proposals due by November 30, 2022. Staff solicited competitive bids through several online distribution lists and to various firms known to have prepared similar plans. Staff also held a pre-proposal meeting to receive and answer consultant questions. Energetics was the only consultant that submitted a proposal.

Staff reviewed Energetics' proposal and determined it to be responsive to the RFP, the consultant is qualified, and the cost proposed is reasonable. The consultant's proposed scope of work (Attachment A) and proposed cost (Attachment B) meets the criteria listed in SRTA's RFP and includes the following elements:

- Analysis and inventory of current and planned regional and intercity transit facilities.
- Review of existing fleets and operational needs, as well as available vehicles and infrastructure technologies, to determine opportunities and challenges that may help or impede the transition to an alternative fuels fleet.
- Development of a ShastaConnect Transit Asset Management Plan, per FTA guidance.
- Development of recommendations and strategies for implementation, including identification of funding opportunities.

Given California Air Resources Board's Innovative Clean Transit (ICT) deadline of June 30, 2023, the one submitted proposal that meets the RFP's criteria, and various consultant feedback that noted their lack of bandwidth for the project and a saturation of RFPs seeking assistance on similar projects, SRTA staff recommends the board of directors consider awarding the contract to Energetics as a sole source contract. While the process followed all open and competitive procurement policies, this agreement is considered a sole source procurement since only one proposal was received.

ALTERNATIVES:

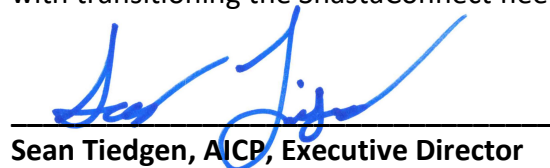
The board of directors may direct staff to reject the proposal and issue a new RFP. There is no guarantee that SRTA would receive any more proposals within the necessary budget. Delaying a decision to the February meeting would condense the project to roughly four months, which would be challenging to deliver.

OTHER AGENCY INVOLVEMENT:

The Technical Advisory Committee was provided a verbal update on November 28, 2022. SRTA will coordinate project activities with Dignity Health Connected Living and Redding Area Bus Authority staff where appropriate.

FISCAL IMPACT:

Consultant services and staff time needed to prepare the plan are budgeted using FY 2020/21 Senate Bill 1 planning formula funds in the FY 2022/23 Overall Work Program. The completion of the plan will allow SRTA to apply for federal and state funding to offset additional costs associated with transitioning the ShastaConnect fleet to zero-emission technologies.



Sean Tiedgen, AICP, Executive Director

Attachment:

- A. Energetics' Proposed Scope of Work
- B. Energetics' Proposed Cost

for the northern edge of the state, connecting the Valley to the coast via SR 299, to Oregon via I-5, and to northeastern California via SR-44.

As a whole, Shasta County experiences distinct seasons that vary widely, primarily based on elevation. Redding's climate, representing the urbanized areas of Shasta County, is typified by hot, dry summers and cold, rainy winters. Annual average high temperatures reach approximately 100° F in summer, and average lows reach approximately 37° F in winter. Both long distances and extreme temperatures can affect the range of zero-emissions vehicles and must be carefully factored into the analysis and recommended deployment.

SRTA's relationship with its contract service provider will also influence the zero-emission vehicle (ZEV) rollout. Dignity Health Connected Living (DHCL) is a social-services nonprofit organization based in Redding, which provides on-call transportation services as a Consolidated Transportation Services Agency (CTSA) under contract with SRTA. DHCL's transportation service, commonly referred to as ShastaConnect, covers an approximately 160-square-mile area roughly bounded by Bella Vista and Millville to the east, the Tehama County border to the south, Whiskeytown Lake to the west, and Shasta Lake to the north. Major municipalities served by ShastaConnect include Redding, the City of Shasta Lake, Bella Vista, Palo Cedro, Millville, Anderson, Happy Valley, and Cottonwood. Energetics' extensive experience with electric transportation combined with TMD's transit expertise has thoroughly prepared our team to provide quick access to experts, conduct robust research, and ensure stakeholder voices are integrated into our analysis.

Work Plan and Schedule

Task 1. Project Initiation and Management

Energetics' Certified Project Management Professionals will leverage years of experience managing transportation electrification projects to ensure deliverables are clearly defined, project status is regularly communicated, and outcomes are provided on time. Our team will work with SRTA staff to develop and execute the Project Management Plan deliver timely completion of all scope elements. This will happen through regular meetings, progress reports, and open lines of communication between the core team and other stakeholders. A hybrid onsite/virtual Project Kickoff Meeting will be held to review the project, scope, schedule, connect the Energetics Team to agency staff, and to discuss any questions. Energetics technical writing and graphics staff will support SRTA staff, as-requested, to prepare materials and support and lead discussion meetings with internal and external stakeholders. The Energetics team's past and ongoing evaluations of other fleets' ZEV transitions will ensure that staff are kept up to date with the latest information on state and federal policy, vehicle technology, infrastructure, operational strategies, and financing/procurement approaches.

Task 1 Deliverables:

D1-1 – Project Management Plan

D1-2 – Schedule of meetings

Task 1 Timeline: January 2023 through project closeout

Task 2. Existing Conditions

The Energetics team will work with area stakeholders to review all information pertinent to this project. Our team will speak with key staff and investigate fleet records, reports, maps and visit individual sites as needed to collect necessary information.

An external stakeholder kickoff meeting will introduce key partners to the project and build a common understanding of ShastaConnect's operations and the regional context. Individual interviews will supplement our understanding of key issues that need to be addressed.

The team will discuss with SRTA and DHCL to understand how the current contracted services arrangement works, how bus and fueling infrastructure purchases have been made in the past. Given the contracted arrangement, DHCL owned buses may, or may not, create a challenge for lease/operations costs provided to SRTA. The team will discuss the details of this with SRTA and DHCL to understand the current situation and brainstorm solutions.

Data requests from Task 2 will provide insight to fuel use and cost records, maintenance records, vehicle history, and route assignments which will assist in further assessment of the fleet characteristics. Energetics' team is strongly positioned to assess ZEV feasibility for smaller transit vehicles, given our experience working with paratransit and shuttle fleets who have made early deployment of electric cutaways and vans.

The project team will examine ShastaConnect's current fleet makeup to determine the currently existing vehicle classes and construct a database of vehicle makes, models, ages, and drivetrains.

SRTA will supply metrics from DHCL's monthly reports required as part of the 2017-2022 CTSA contract, summarizing the service hours, operating days, service miles, and origin/destinations of passenger trips. This information will be used to build a detailed and comprehensive picture of how ShastaConnect shuttles are used in the real world.

The project team will obtain geospatial data from both Shasta County and the City of Redding to better visualize shuttle routes and understand the conditions encountered by the shuttles, including vehicle range from garage, elevation gain, and rural-versus-urban service miles.

The team will perform an impact analysis focusing on legislation/policies and how each may support or hinder the zero-emission bus (ZEB) plan implementation and all aspects of operations. Determine impacts on BEB and HFCEBs separately. For example, does legislation/policies impact choices of location and/or type of charging (BEB) or fueling (hydrogen) that can be used? and how this would impact scheduling (blocking) of vehicles?

The final output of this task will be an existing conditions report that includes a vehicle inventory that meets the Federal Transit Administration (FTA) standards for a Transit Asset Management Plan, as well as a summary of the key takeaways from the outreach. This includes challenges and opportunities as identified by agency staff, stakeholders and the consultant team that will be further developed in the subsequent task.

Task 2 Deliverables: Existing Conditions Report which includes the following, at a minimum:

D2-1 – Analysis and inventory of current and planned regional and intercity transit facilities, detailing zero-emission transit vehicle fueling capacity, needs, and challenges

D2-2 – ShastaConnect Transit Asset Management (TAM) Plan per FTA guidance

D2-3 – Evaluation of past and present zero-emission transit enhancement efforts

D2-4 – Summary of external kick-off meeting, meeting minutes, and key takeaways

D2-5 – Summary of interviews and key takeaways

Task 2 Timeline: January-March 2023

Task 3. Identify and Assess Factors Affecting the Transition to Zero-Emission Public Transit Services

The task will begin with a thorough evaluation and documentation of the requirements the SRTA Zero-Emission Fleet Transition Rollout Plan must include to: 1) meet the requirements to apply for grant funding through the recent Infrastructure Investment and Jobs Act (IIJA) and related upcoming funding, FTA 5339(b) Grants for Buses and Bus Facilities Competitive Program and 5339(c) Low or No Emission Vehicle Program (Low-No), and other identified federal/state/utility/local grant capital purchase programs and 2) to ensure compliance with the California Air Resources Board's (CARB) Innovative Clean Transit (ICT) regulation guidelines. The team will develop the draft requirements document, share with SRTA, seek feedback on, discuss at a meeting with SRTA, and make updates to finalize.

In parallel, the Energetics team will use site visits, partner interviews, and existing plans to forecast current and upcoming challenges that may occur before, during, and after the transition to regional zero-emission public transit.

The team will identify and assess factors affecting SRTA's delivery and performance of zero-emission public transportation in the Shasta Region, including documentation of key assumptions and potential disruptors. The project steps are shown below in Figure 2.

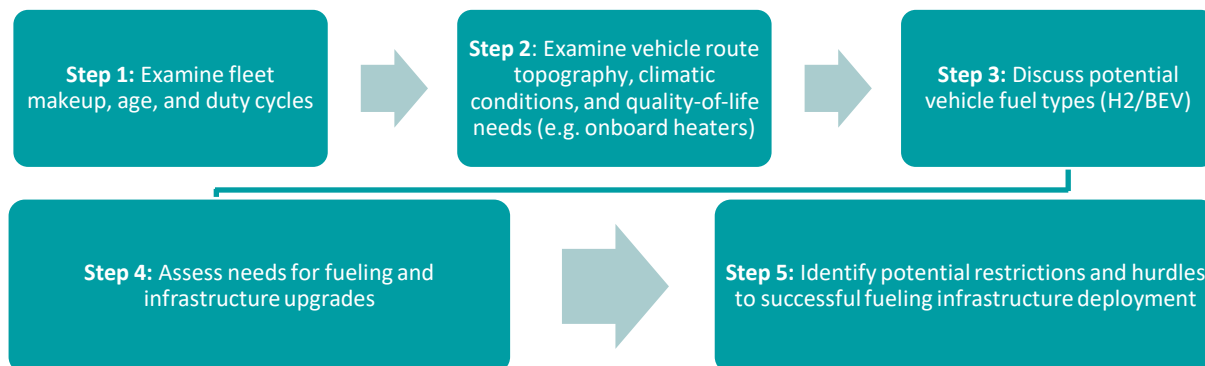


Figure 2. Task 3 evaluation steps and flow

Energetics will begin this analysis by assessing the fleet and its future mileage needs, which will be gathered as part of Task 2. After establishing a thorough understanding of existing fleet operations, our team will determine appropriate vehicle replacements and project the infrastructure needs.

The project team's end goal is to understand the operational behaviors that impact the appropriate technology type and vehicle specifications for each vehicle being replaced. These include, but are not limited to:

- How far do the buses travel daily before returning to their garage locations?
- How long do the buses spend daily, on average, at their garage locations between trips?
- How often do the buses encounter steep uphill terrain?
- What are the estimated rural-urban splits for each of the buses' service miles?
- How often are the buses operated on days when the ambient temperature is below 60° F, 30° F, etc.?

Our team provides a consistent resource with multiple perspectives to clients: 1) fleet and regional agency consulting on ZEV feasibility and 2) program evaluation work reporting on vehicles, charging hardware and networks 3) transit route scheduling.

The vehicle and options analysis occurs in Task 4. However, Energetics recently completed a shuttle bus fleet EV transition project that identified the current market options for the medium-duty cutaway type shuttle buses that the ShastaConnect service uses. These are described in more detail in the Task 4 description.

Similarly, Energetics has working connections with most of the relevant charging equipment and network provider vendors (e.g., ChargePoint, Bling, EVgo, Shell Recharge Solutions) to inform the charging station and electrical infrastructure upgrades evaluation. Options exist that meet SRTA's EV charging and hydrogen fueling needs. This is described more in Task 4.

Energetics will use published studies from the National Renewable Energy Laboratory, National Academies of Science, and other references to estimate the fuel and maintenance cost differences between EV and hydrogen buses, and also compared to SRTA's conventional fuels (gasoline and diesel).

The combined analysis of vehicle costs, fueling infrastructure costs, projected fuel costs, and estimated maintenance costs will guide the decision of which option(s) are fiscally feasible for SRTA.

This work pairing creates a constant feedback loop for the team to monitor up-to-date market trend developments (including new vendors and products) and to quickly and thoughtfully identify vehicles which are the best replacements for SRTA. We will leverage our team's in-depth understanding of the combinations of vehicles, charging hardware, and networks which have proven reliable, and which are nearest to achieving market readiness.

The team will use the vehicle and fleet usage information to determine the charging/fueling requirements, e.g., total peak kW for EV buses and hydrogen usage (daily, weekly).

Resiliency is critical to ensure operations during power outages. Each facility will be evaluated. For EV buses the team will determine current backup power generation capacity; spare capacity (kW) in case of a power outage. Determine power deficit to be filled. Provide options for filling deficit (e.g., auxiliary power tap for temporary/rented genset and onsite fuel tank [e.g., diesel]). For hydrogen fuel cell buses the team will determine amount of hydrogen storage volume needed to meet the fleet's demands for a decided upon timeframe.

The team will assess current and current/proposed electricity rates available through Redding Electric Utility to inform recommendations for what categories of charging technologies can be used to provide

charging at the lowest cost. A comparison can be made to PG&E rates to identify if there could be benefits to charging infrastructure under a different rate structure. A similar assessment will be done for potential hydrogen providers.

One additional consideration is the opportunity for other fleets, including long-distance trucking on the I-5 corridor, to use infrastructure when not in use by the transit fleet. This could offer a secondary stream of revenue and help keep the average cost of electricity down by increasing the total throughput.

The team will identify, evaluate, and document grant options for supporting the transition of both the vehicles and charging/fueling infrastructure. Likely options are FTA (IIJA, FTA 5339(b) Grants for Buses and Bus Facilities Competitive Program, and 5339(c) Low or No Emission Vehicle Program (Low-No)), California Energy Commission, the Air Resources Board, Redding Electric Utility, and potentially others.

Similarly, the team will identify, evaluate, and document partnering options for supporting the transition of both the vehicles and charging/fueling infrastructure. Examples could include: 1) partnering with local fleets on shared use charging infrastructure (maximizes utilization to minimize costs and total area-wide charging/fueling points, and reduces costs for partnering fleets), 2) charging/fueling vendors (business models that provide equipment with long-term usage contracts), 3) potential partnering with EV/hydrogen-fueled vehicle manufacturers to use the SRTA fleet as an evaluation fleet given the unique operational characteristics (high/low temperature, flat/mountainous terrain, etc.), and 4) likely others.

Task 3 Deliverable

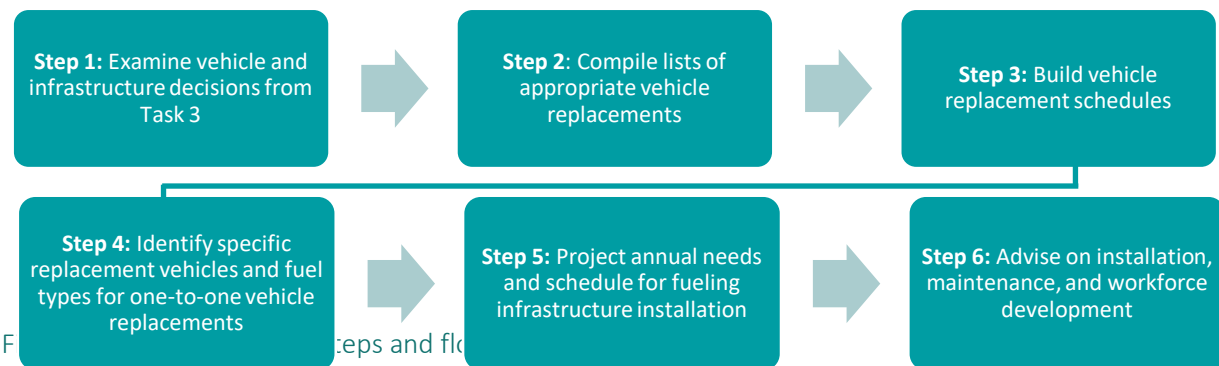
D3 – Report of current and projected opportunities and challenges that may help or impede the transition to a zero-emission public transit fleet

Task 3 Timeline: January-March 2023

Task 4: Develop Draft Implementation Strategies

The overall implementation strategies will be informed by our understanding of regular vehicle operations, infrastructure needed to support these operations, and the funding and staffing need to successfully run a ZEV fleet.

The vehicle analysis (depicted in Figure 3) includes existing vehicle blocking and identify blocks that could exceed the expected daily driving range of current BEB charge based on existing schedules and technology. (Hydrogen fuel cell electric buses, or HFCEBs, are not expected to be affected by daily route length.) This



would be the worst-case scenario as both scheduling is likely to change for reasons unrelated to the transition to ZEBs and ZEB technological changes over the next 13 years.

To develop the Bus Procurement Plan, Energetics will first analyze the bus inventory, operating characteristics, fleet replacement metrics/plan, and long-term funding plans. We will develop a staged bus replacement schedule, by year, indicating the number and type of buses that will be replaced. Using the collected information on ZEB options and capabilities, determine if any routes would need new implementation strategies to enable ZEB replacements.

As mentioned in Task 3, Energetics recently completed a shuttle bus fleet EV transition project that identified the current market options for the medium-duty cutaway type shuttle buses that the ShastaConnect service uses. The vendors are: 1) Lightning eMotors (uses Ford Transit and cutaway chassis [F-450 and F-550] glider vehicles, deep QVM-level relationship with Ford with Lightning's powertrain) and 2) Green Power Motors (uses a proprietary Green Power Motors chassis based on the Chinese-manufactured previous generation Mercedes-Benz Sprinter van and a with a Green Power Motors powertrain). Both have national sales and service networks and fleet maintenance training programs. The available information (and company connections) includes the required information regarding pricing, availability, warranty, charging, service, training, driving range (incl. mountainous terrain), temperature impacts (cold and hot). This EV bus information will be updated if needed. Prices for this type of vehicle were much more reasonable than for full-size (35-40') transit buses. A similar effort will be done for hydrogen fueled buses: fuel cell and hydrogen combustion (if the FTA and ICT programs allow). This effort will inform the cost analysis.

The team will base our primary infrastructure planning recommendations on four factors – the speed at which vehicles need to be charged to meet their duty cycles during normal operating hours; the anticipated deployment schedule for the electric vehicle rollout; SRTA's level of desire to continuously maintain and operate the infrastructure; and SRTA's desired price target for the fueling infrastructure installation(s).

Current fueling needs will be identified by examining the vehicles the team has identified for near-term electrification and comparing their route patterns and behaviors to known replacement vehicle performance specifications. Replacement vehicle specifications will also be used to determine the appropriate charging characteristics to ensure battery longevity and vehicle reliability while minimizing costs to the extent possible.

The same process will be undertaken for projecting fueling or charging needs – by identifying the fueling infrastructure required by both the fully electrified fleet and the near-term electrification candidates, the required intermediate infrastructure deployments can be filled in based on vehicle rollout. The team will identify and make recommendations for infrastructure make-ready as appropriate, depending on the identified technology and the anticipated vehicle acquisition timeline.

As mentioned in Task 3, Energetics has working connections with most of the relevant charging equipment and network provider vendors (e.g., ChargePoint, Bling, EVgo, Shell Recharge Solutions) to inform the charging station and electrical infrastructure upgrades evaluation. Options exist that meet SRTA's EV charging and hydrogen fueling needs. Energetics has connections with hydrogen fuel and fueling station providers that will be used to inform the hydrogen options analysis. EV charging and hydrogen fueling vendors have multiple business model options for fleet customer that range from the fleet owning, operating, and maintaining the equipment to options where the vendors own the equipment and provide

the equipment/energy under a long-term contract with the fleet. The latter option can be useful for fleets that have a low capital budget but can more easily absorb the costs in the operating budget. The latter option also reduces the fleets' staffing needs for operation and maintenance.

The fueling needs, cost analysis, and partnering potential analyses will be used to provide guidance and options for whether SRTA's investments should be directed at the: 1) identified contractor(s), 2) transit facility, 3) should SRTA purchase their own property for the identified contractor(s) use, or 4) to leverage private investment in a shared use (with other fleets) charging/fueling depot.

The team will provide planning and implementation guidance for SRTA and DHCL to consider for their sites. This will include a walkthrough of the processes for infrastructure planning, permitting, siting, and installation, and general timelines for when stakeholders should be involved at each stage of the process. If EV charging is chosen, advice on managing charging will also be provided to the responsible party to help ensure that chargers are able to adequately support vehicles without posing increased costs to the vehicle host. The team will supplement their recommendations for infrastructure with annotated aerial imagery and site sketches, similar to formal electrical site plans, for easy visualizing of the proposed installation. Figure 4 provides an example four (4) charging station installation.

Through the course of the project, the team will work with both DHCL and SRTA fleet managers to identify and propose solutions to challenges that may arise in the transition to zero-emission technologies.

Given the unique structure of the SRTA-DHCL contract/partnership and the existence of additional transit agencies in the region, there may be opportunities for partnerships around infrastructure sharing and vehicle acquisition with these and other local agencies. The team will work to identify and illustrate how ShastaConnect may be able to work in collaboration with regional partners to both develop ShastaConnect's zero-emission public transit network and continue improving zero-emission readiness throughout greater Shasta County.

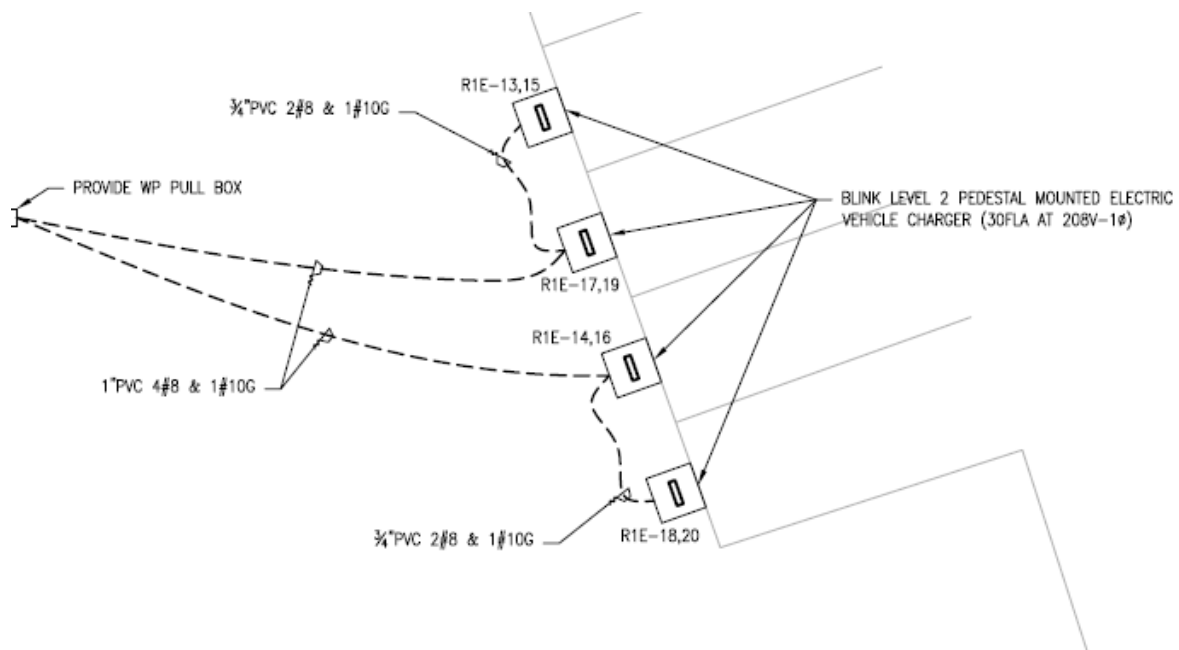


Figure 4. Sample formalized electrical site plan

Zero-emission mobility is expected to grow substantially as California approaches its phase-out of internal-combustion vehicles in 2030. As part of this project, the team will identify the crucial components of operating and maintaining zero-emissions vehicles and associated fueling infrastructure. Energetics will then ensure that fleet staff are trained on appropriate procedures by certified technicians and provide recommendations on existing training programs to ensure that staff has continued access to the most contemporary knowledge and practices relating to zero-emission vehicle operations and maintenance.

This team has knowledge of historical and anticipated funding sources and a track record of obtaining public funding for our clients to excel in their alternative fuel endeavors. Throughout this project, our team will highlight what funding SRTA may leverage and when it will be needed.

The above items will address all required elements in the FTA guidance to ensure ShastaConnect's eligibility for federal funds. The Plan will also address CARB's requirements.

Energetics' team will review sub-items with SRTA to confirm completeness and acceptance of methodology and findings through the development process. This review will ensure all parties are up to date to facilitate the report draft process. Parallel to completing and reviewing each sub-task, the team will build out a presentation for overall SRTA staff and Board.

Task 4 Deliverables:

D4-1 – Draft SRTA *Zero-Emission Fleet Transition Rollout Plan*

D4-2 – Presentation of Draft SRTA *Zero-Emission Fleet Transition Rollout Plan* for SRTA Board of Directors

Task 4 Timeline: March-April 2023

Task 5: Prepare Final Report with Outcome-Oriented Timeline

Energetics will finalize the *Zero-Emission Fleet Transition Rollout Plan* following comments received at the April 2023 SRTA Board meeting.

This final plan will build on staff, partner, and SRTA Board of Director feedback and include a transition timeline with realistic funding opportunities to support the implementation of the identified zero-emission transition strategy.

The plan will clearly lay out SRTA and partner roles for the purpose of financing and administering zero-emission transit operations.

The Energetics team can provide additional detail on implementation strategies or other recommended next steps after the board adoption of the plan.

Task 5 Deliverables:

D5-1 – Final SRTA Zero-Emission Fleet Transition Rollout Plan

D5-2 – Presentation of final findings to SRTA Board of Directors at June 2023 meeting

Task 5 Timeline: April-June 2023

Project Schedule

The project schedule is shown in Figure 5.

	Month	January				February				March					April				May					June			
	Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
TASK 1: Project Initiation and Management		Kickoff MTG		SRTA MTG		SRTA MTG		SRTA MTG		SRTA MTG		SRTA MTG		SRTA MTG		SRTA MTG		SRTA MTG		SRTA MTG		SRTA MTG		SRTA MTG		SRTA MTG	
TASK 2- Existing Conditions														D2-1 D2-5													
TASK 3 -Identify and Assess Factors Affecting the Transition to Zero-Emission Public Transit Services														D3													
TASK 4 -Develop Draft Implementation Strategies																	D4-1	D4-2									
TASK 5 - Prepare Final Report with Outcome-Oriented Timeline																											D5-1 D5-2

Figure 5. Project schedule

Project Team

Energetics has assembled a consultant team with staff who have directly relevant experience, and organized the team to ensure high quality work products for a successful project for SRTA. Our proposed team structure (Figure 6 and Table 1) is designed to ensure clarity of roles and to facilitate efficient communications among team members, with clients, and with other stakeholders contributing to the project. We are well poised to quickly address client needs as they arise and proactively identify and respond to potential issues



Energetics is a **clean energy consultancy** that collaboratively works with state and local entities to help smartly and cost-effectively integrate clean energy technologies and strategies into their real-world operations. Energetics' Sustainable Transportation Solutions division's staff of engineers, scientists, planners, and data analysts have extensive experience in vehicle efficiency and alternative fuel technologies with expertise backgrounds of utilities, universities, and technology developers/manufacturers. Energetics works with lead investors, innovators, and stakeholders to inform and expedite the development and market success of novel energy technologies, strategies, and practices that deliver a sustainable future. Energetics conducts fleet assessments for municipalities and other organizations throughout North America where staff develop recommendations that support the fleet's path toward reducing its fuel expenditures and carbon footprint.

Energetics' Sustainable Transportation Solutions division includes engineers and scientists with extensive experience in vehicle efficiency and alternative fuel technologies with project experience supporting municipalities, states, utilities, universities, Original Equipment Manufacturers, and others. Energetics has conducted fleet assessments for municipalities and other organizations throughout North America. Energetics' comprehensive fleet assessment service leverages our staff's (professional engineers, scientists, data analysts, planners, and project management professionals) broad and extensive experience with advanced transportation technologies, alternative fuels, fueling, and strategic planning to develop and implement sustainable, logical, and cost-effective fleet transition plans.

In addition to fleet evaluation and strategic planning project experience, Energetics has provided Transportation Electrification (TE) Evaluation, Measurement, & Verification (EM&V) supporting utility deployment evaluations since 2018. The first of its kind California TEP Priority Review Projects (PRP)

OFFEROR: Energetics

Proposal Number P3944
Time & Materials Cost Estimate
30-Nov-22

Shasta Regional Transportation Agency

Zero-Emission Fleet Transition- Roll-out Plan

		Task 1: PROJECT INITIATION & MANAGEMENT		Task 2: EXISTING CONDITIONS		Task 3: IDENTIFY AND ASSESS FACTORINGS AFFECTING TRANSITION TO ZE TRANSIT SERVICES		Task 4: Draft Implementation Strategies		Task 5: Final Report with Outcome Oriented Timeline		Task 6: AS-NEEDED SERVICES		TOTAL	
		Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars
Energetics Labor	Rate														
Senior Subject Matter Expert	\$284.75	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Executive Consultant	\$255.00	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Senior Principal Consultant	\$199.75	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Principal Consultant	\$161.50	2	\$323	5	\$808	12	\$1,938	10	\$1,615	10	\$1,615	0	\$0	39	\$6,299
Senior Consultant	\$136.00	23	\$3,128	65	\$8,840	70	\$9,520	53	\$7,208	21	\$2,856	0	\$0	232	\$31,552
Consultant	\$114.75	6	\$689	66	\$7,574	139	\$15,950	115	\$13,196	52	\$5,967	0	\$0	378	\$43,376
Project Specialist	\$89.25	0	\$0	4	\$357	2	\$179	4	\$357	4	\$357	0	\$0	14	\$1,250
Associate Project Specialist	\$76.50	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Junior Project Specialist	\$59.50	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
ENERGETICS LABOR TOTAL		31	\$4,140	140	\$17,579	223	\$27,587	182	\$22,376	87	\$10,795	0	\$0	663	\$82,477
Other Energetics Costs															
Travel			\$532		\$1,935		\$0		\$478		\$478		\$0		\$3,423
Other Direct Costs			\$0		\$0		\$0		\$0		\$0		\$0		\$0
OTHER ENERGETICS COSTS TOTAL			\$532		\$1,935		\$0		\$478		\$478		\$0		\$3,423
Subcontractors															
TMD		27	\$5,101	35	\$6,887	31	\$5,653	57	\$9,443	10	\$1,926	0	\$0	160	\$29,011
SUBCONTRACTORS TOTAL		27	\$5,101	35	\$6,887	31	\$5,653	57	\$9,443	10	\$1,926	0	\$0	160	\$29,011
TOTAL HOURS & DOLLARS		58	\$9,773	175	\$26,401	254	\$33,240	239	\$32,297	97	\$13,199	0	\$0	823	\$114,911