

CITY AND BOROUGH OF SITKA

A COAST GUARD CITY

MEMORANDUM

To: Mayor Eisenbeisz & Assembly Members

Thru: John Leach, Municipal Administrator

From: Amy Ainslie, Planning and Community Development Director
Kevin Knox, Parks and Recreation Manager

Date: May 7, 2025

Subject: Procurement of EV Transit Van Procurement for Parks and Recreation Division

Background

During the October 8, 2024, Assembly meeting, members reviewed a Discussion/Direction item concerning the potential purchase of a Ford Transit van for the Parks and Recreation Division. This initiative stemmed from a generous offer by the Sitka Recreation Foundation to contribute up to \$75,000 towards a 12-passenger van with an internal combustion engine. However, discussions with the Sustainability Commission and subsequently the Assembly at the October meeting emphasized prioritizing an electric vehicle (EV) model, if feasible.

Working with the Sustainability Coordinator, the possibility of acquiring an EV model was explored, with one primary manufacturer found in Mukilteo, WA. Initial price quotes for the Model 1, 12-passenger Ford E-Transit were around \$115,000. Since then, the introduction of new Ford EV models and shifts in the national political landscape have significantly reduced prices for the 2023 models. Currently, new (2022/2023) vans are listed at \$65,900, with an additional \$10,000 budgeted for necessary items such as charging infrastructure, a winter wheelset, commercial vehicle requirements, and CBS stickers.

As outlined in previous discussions, addressing transportation barriers is a key priority for the Sitka Recreation Foundation and City of Sitka Parks and Recreation. P&R has conducted surveys and needs assessments with program participants to identify

barriers to program access and expansion. One of the primary challenges/barriers identified is transportation and access to enhanced activities (i.e. at more diverse sites/locations). This gap is impacting a vast array of community members, but is especially felt by low-income households, children whose families have inflexible work commitments and other scheduling issues, and our elders. Acquiring a passenger van would provide P&R with a much more reliable and permanent solution to the transportation-related barriers affecting program access and growth.

Contingent on CBS's participation in the van's purchase, the Sitka Recreation Foundation (SRF) is prepared to make an immediate donation of at least \$45,000. SRF is also seeking a donation of shipping services, which would provide an additional \$3,200 in cost savings.

Analysis

The Sustainability Coordinator has prepared an updated Lifetime Cost Analysis comparing an internal combustion engine (ICE) Transit van with the 2023 E-Transit model, which is included for review. Given that the initial purchase costs of the ICE Transit and the 2023 E-Transit are now nearly the same, the lifetime cost of the EV model is significantly lower than that of a traditional internal combustion engine vehicle. The lifetime cost per mile, with a 10 year/100,000 mile assumption, brings the E-Transit costs to \$0.96 per mile. Comparatively, the ICE Transit is between \$1.10-\$1.19 per mile. This represents a \$1,500-\$2,500 annual savings if the E-Transit is purchased at this price and fuel prices do not change.

The Ford E-Transit is not offered by Ford as a passenger van model in the US, making passenger versions quite unique. At present, there appears to be only one US-based re-manufacturer offering a 12-passenger E-Transit configuration. There is one other company that sells the Model 1 version of the van but it is based in Canada and re-importing the van would substantially add to the cost.

Availability of the 2022 and 2023 model years is critically limited. The substantial cost markdown outlined above is directly tied to this dwindling stock and will not be available once these specific units are sold. Since the operational range requirements in Sitka are fully met by these models, waiting for newer, potentially more expensive versions with extended range offers no practical advantage for our needs.

Fiscal Note

The Sitka Recreation Foundation (SRF) will contribute at least \$45,000 towards the immediate purchase of a Ford Transit Van. The donation of shipping the van is also being solicited by SRF but has not yet been committed by the available shipping companies.

The City and Borough of Sitka (CBS) will be responsible for contributing \$30,900 from the general fund working capital towards the immediate purchase of a Ford Transit Van.

This purchase will result in an addition to the fleet. If this supplemental appropriation is approved and the donation is accepted, the FY27 budget will include a sinking fund for this vehicle so that we can begin saving towards a replacement in the coming years.

Recommendation

It is recommended that CBS accept the donation from the SRF in the minimum amount of \$45,000 and that CBS appropriate \$30,900 from general fund working capital towards the immediate purchase of a Ford Transit Van.

Encl:

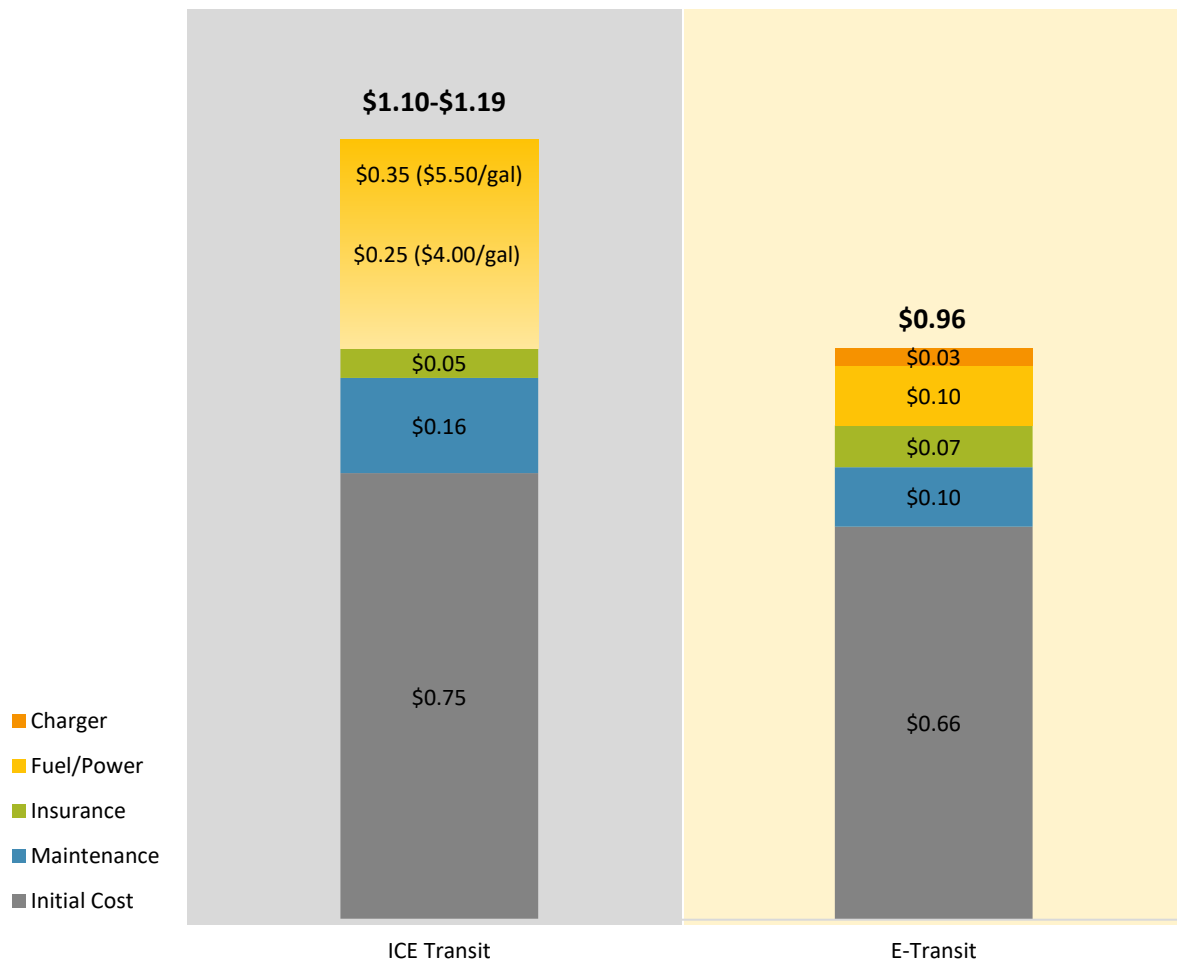
Revised: ICE Transit vs EV Transit Lifetime Cost Analysis
Resource Proposal

Parks and Recreation Transit Van Procurement Analysis

	Ford Transit Van	Ford E-Transit Van
Model	2024 ICE 3.5L V6 Ecoboost	Forest River Van
Drive Train	AWD	FWD
Fuel Economy	City 16/Hwy 19	City 70/Hwy 58
Range	400-475	126-159 miles
Seating	Up to 15	Up to 14
Horsepower	310 @ 5000 RPM	266 HP
Torque	400 @ 5500 RPM	317 lb-ft
Battery		68 kWh
Level II Charging (240V)		15% to 100%
30A		12 hr
48A		8 hr
Starting Price*	\$75,000	\$65,900
Shipping		
Total Cost	\$75,000	\$66,000

*Based on maximum

Lifetime Cost per mile (100,000 miles)



Assumptions and Metrics:

All Calculations were based on the 10 year or 100,000-mile replacement schedule that CBS unofficially follows and for simplicity, 10,000 annual miles was used as the baseline number for future vehicle use. Additionally, this baseline is the most commonly used within studies and allows for simple carryover.

Fuel Consumption for the internal combustion engine (ICE) Ford Transit was only calculated at the city estimate of 16 mpg as there are no substantial highways in Sitka that would allow for the vehicle to consistently reach its 19 mpg highway efficiency rating¹. The E-Transit has the efficiency of 55 kWh/100 miles¹.

Gasoline Price for CBS averaged \$4.05 per gallon in FY24. For simplification, \$4.00 was set as the lowest gas price. To account for volatility in oil prices, \$5.50 per gallon was also included to provide a top end of the range. Likely, these estimates will prove to be too conservative over a ten-year span.

The Electrical Rate was set at 16.45¢/kWh which is the Public Authority rate for FY25.

Maintenance Costs were \$0.16 for the conventional ICE transit van and \$0.10 for the battery electric vehicle (BEV) based on new 2023 data². On average, EVs cost 40% less to maintain.

It should be noted that these do not necessarily reflect the actual cost of maintenance to CBS or any price increases due to its remote location. However, since CBS vehicles are used less than their contiguous U.S. counterparts, it is likely safe to assume that frequency these repairs in which maintenance needs to be conducted is also less, offsetting the increased initial cost with the time interval in between. Any

adjustments made in cost would likely scale with both powertrain types, therefore not significantly changing the overall outcome of the total cost of ownership by comparison.

Annual Insurance Rate was set at \$500 per year for ICE and \$650 for the EV based on estimates given by Alaska Public Entity Insurance, the insurer for CBS. Rates reflect the premium for a new vehicle and do not account for adjustments for vehicle depreciation over time. This reflects similar differences in insuring ICE and EVs in other studies.

Charging Infrastructure was based approximately \$1,000-\$3,000 for installation of a 240 outlet to the exterior of a building after discussion with the Chief Heavy Equipment Mechanic and Buildings Superintendent in the Public Works Department.

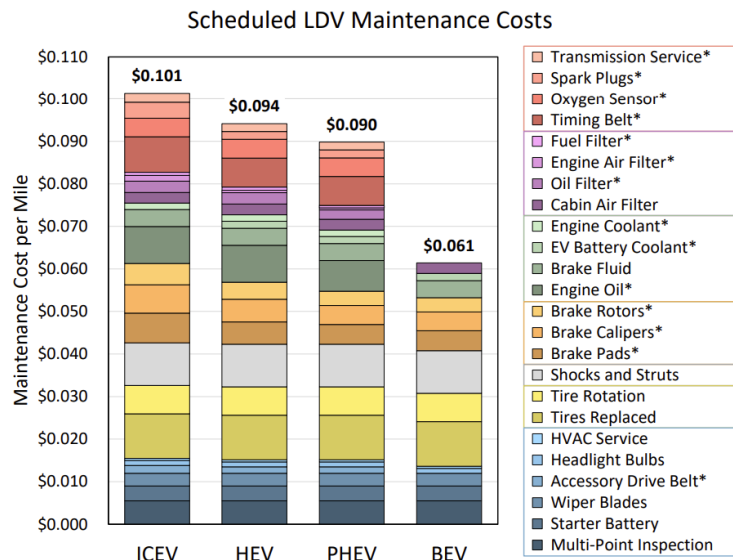


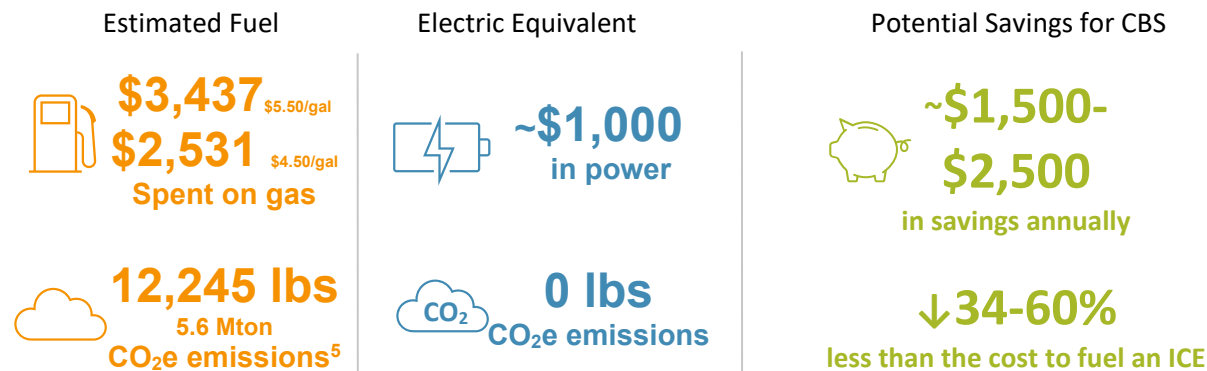
Figure 1: 2021 Per-mile maintenance costs by powertrain³. 2023 numbers are higher but EVs are still approximately 40% lower than ICEs.

(*Service intervals that vary by powertrain)

CBS Parks and Rec Annual Driving Estimations:

Since this vehicle is a new purchase and does not have a fuel history, assumptions shown are based on 10,000 miles per year, which is within range of other analyzed vehicles (#437; 9,062 mi/yr, #503; 12,000 mi/year) Based on fuel purchase data,

Fuel Savings Comparison between Ford ICE Transit vs. E-Transit (10,000 mi in 1 year)



Assuming fuel prices between \$4.00-5.50/gallon, an ICE Transit would require between \$2,531 and \$3,437 to run created 12,245 lbs or 5.6 metric tons of CO₂ emissions equivalent. The electric power equivalent at 18.5¢/kWh would have cost approximately \$1000 or about 1/3 to over 1/2 less than conventional gasoline with no emissions as CBS operates on 100% hydroelectric power. **Since CBS owns and operates the electric utility, all money spent on electric power by CBS represents a net-zero transaction, essentially making electricity “free” and the savings in actuality 100% from the standpoint of the organization overall.**

Charging requirements:

Fuel invoices indicate that most municipal vehicles refueled between one and four times per month. CBS policy is to refuel at the 1/2 mark of the fuel gauge which puts makes the applicable range at approximately 200 miles rather than the anticipated range of 400 miles.

Usage Level	Low	Average	High
Daily Miles	10	25	41
Days between full charges (15-100%)	15	6	4
Days between refills (1/2 tank)	20	8	5

This puts the charging requirements for the E-Transit similar to that of the ICE Transit. However, charging the battery from empty (15%) to full takes 8 to 12 hours, unlike refueling which takes only a few minutes. Therefore, it is in the best interest of the users to attempt to keep the car fully charged and/or charging when not in use (*best practices for EV handling are being developed*). While there is still plenty of room to forget charging occasionally, it should be the operating standard to keep the vehicle charged/charging when not in use.

Battery Concerns (From F150 Lightning Analysis):

A major concern that has been expressed is that of the lifetime of the battery and the cost of a catastrophic failure. At current prices and technology level, a replacement battery from Ford is \$28,556 for the standard range and \$35,960 for the extended range battery. This does not include installation costs or shipping costs. However, Ford states in their user manual that “the battery is covered for 8 years or 100,000 miles, whichever comes first, retaining a minimum of 70% of its original capacity over that period.” This can be compared to Ford’s warranty for ICE engines which have a powertrain warranty with 5 years or 60,000 miles.

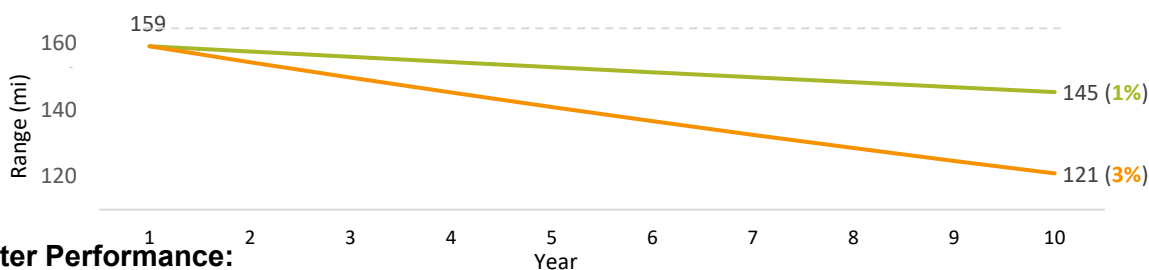
It should also be noted that Lightning batteries are modular which can be replaced at \$4,400 per module.

Battery Degradation and Health:

Another concern is battery degradation over time. Estimates indicate that with extreme wear on the battery through consistent, complete battery drainage, long stretches of highway, and fast charging can degrade the battery up to 3% year-over-year. Fortunately, with the conditions in Sitka, many of these factors are inconsequential, and a more realistic degradation is likely between 1-2% annually.

To maintain optimal battery health, minimizing complete battery drains and multiday charges will minimize the degradation of the battery. EVs are recommended to be charged at 30% and maintained at 80% for periods of nonuse. For example, if an EV is not anticipated to be used for a week, it is ideal to charge to between 80% and 90% and unplug, rather than keep it plugged in. It should be noted that many newer models of EVs have programable charging to help minimize unnecessary overcharging.

Potential Range Degradation Over 10 Years

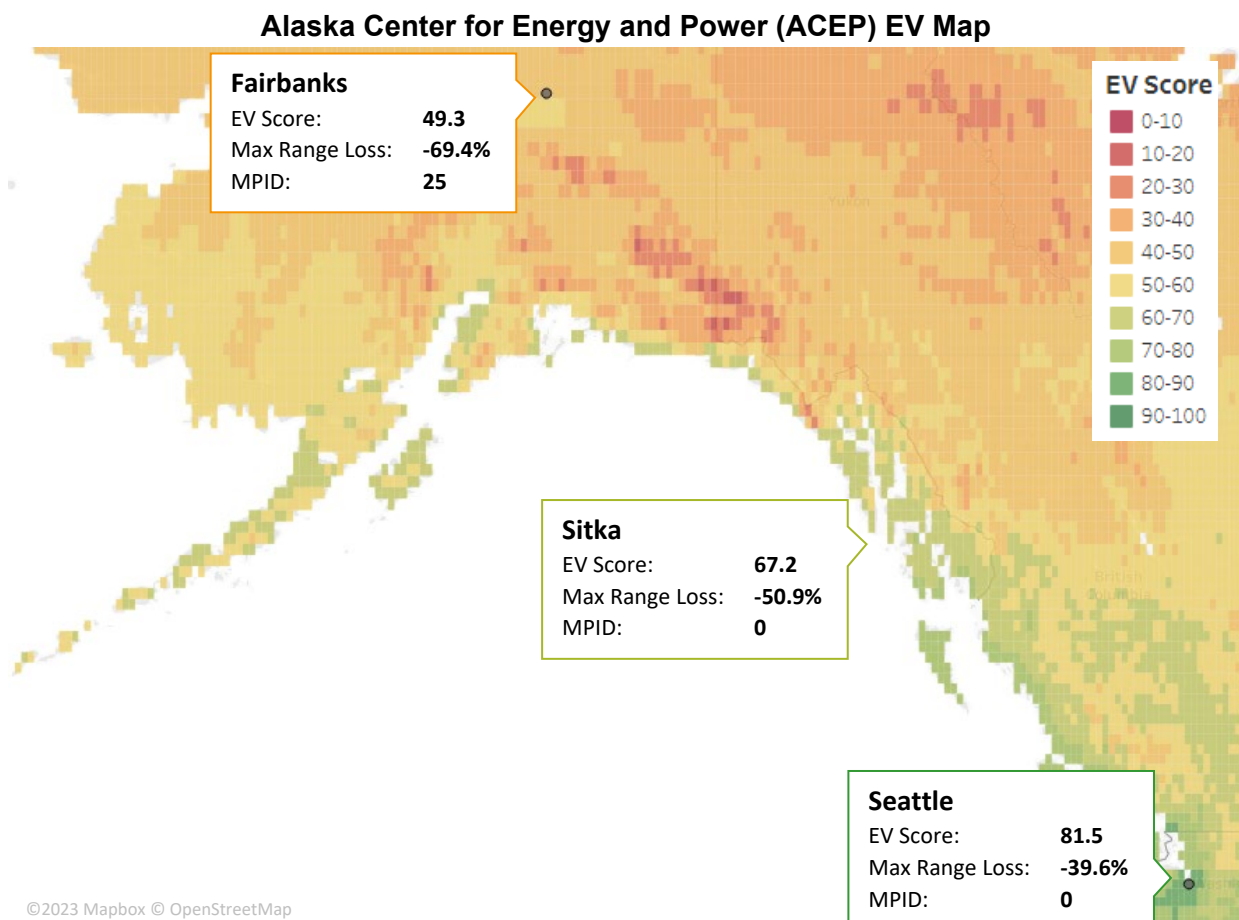


Winter Performance:

In cold weather, more power is needed to keep occupants and the battery warm for comfort, driving, and charging, thus reducing its overall range. In extreme low temperatures, this can require the vehicle to use up to 2.5 times as much energy than in an “ideal” temperature of 70° F.

In response to concerns about EV performance in cold weather, the Alaska Center for Energy and Power (ACEP) constructed a map outlining the effects of temperature on battery performance⁶. The **EV Score** is a 0-100 scale that indicates relative temperature-related range reductions. The Expected **Max Range Loss** is the maximum range loss expected for an EV based on the lowest average daily temperature from the last 10 years. The **Must-Plug-In Days (MPID)** are the number of consecutive days a location may experience temperatures lower than -4° F. This temperature is the threshold that is most cited at which permanent damage to the battery

can occur if left unheated. A battery management system can keep the battery warm enough to avoid damage but only if it is connected to a source of power.



Sitka's EV Score:

Based on the ACEP EV Score Map above, Sitka's EV Score is 67.2 with a max range loss of 50.9% and an MPID of 0, similar to that of Oslo, Norway. Although less than ideal, Oslo has one of the highest rates of EV adoption in the world and lessons from their experience may be applicable in Sitka. During the peak of winter, more frequent charging and diligence to ensure an EV is plugged in to avoid battery damage may be occasionally required. However, compared to the rest of Alaska, this should be minimal disruption to daily operations.

Total Cost of Ownership

**Ford Transit
ICE XL 3.3L V6**
\$100,000 - \$120,000
 \$25-35,000 on gas
 ~1/3 is the cost of fuel

**Ford E-Transit
Standard Pro**
\$96,000
↓15-22%
Less than an ICE

References:

¹2023 F150 Fuel Economy, Department of Energy

²2023 AFLEET Tool, Argonne National Lab

³2021 Comprehensive Total Cost of Ownership Quantification for Vehicles with Different Size Classes and Powertrains, Argonne National Lab

⁴2019 Highway Statistics, Federal Highway Administration

⁵2023 Greenhouse Gas Equivalencies Calculator, United States Environmental Protection Agency

⁶2020 ACEP EV Map, Alaska Center for Energy and Power



RESOURCE PROPOSAL

Requestor/Department	Kevin Knox/ Parks and Recreation - Planning and Community Development
Proposed resource type	New Vehicle/Equipment (Addition to Fleet)
Cost of base asset	\$65,900
Cost of accessories-add ons	\$10,000

1. Brief description of resource(type, make, model, year), and where funding will come from?

2022-2023 Model 1 E-Transit 12 passenger van (Ford Transit conversion from E Transit Cargo to passenger). The Sitka Recreation Foundation is donating a minimum of \$45,000 (potential shipping costs as well), maximum difference of \$30,900 would be funded by CBS General Fund.

2. What goal does will this resource help you achieve?

Goal 5: CBS is recognized as being a great place to work and excellent service provider to the community

3. Is there a specific action that this resource is related to (under selected goal)?

5.3 Improve customer service levels and evaluate process improvements for service delivery

4. How will adding this vehicle or piece of equipment contribute to achieving the above strategic goals and actions?

Transportation is a key barrier preventing many community members—especially low-income households, children with busy families, and seniors—from accessing P&R's enhanced activities. Our current reliance on borrowing vehicles or using transport partners is unreliable and administratively complex due to their own priorities. Acquiring a dedicated P&R passenger van offers a reliable, permanent solution to overcome these transportation hurdles, improving program access and supporting expansion.

5. What would happen if this resource request is not approved? What might be options to scale this request down, but still achieve the goal? How might the addition of this vehicle/equipment reduce costs?

P&R will have to continue to utilize other outside transportation partners/businesses to address transportation demands which to date has not been very effective. Dedicating budget to transportation rentals/for hire could meet some demand but is again dependant on resource availability and scheduling. Of note in this request the acquasition of this model van from proposed supplier has significantly dropped in price from \$115,000 to \$65,900 as outlined in accompanying memo.

6. Detailed new asset information (type, make, model, year)

2022 or 2023 Model 1 Forest River E-Transit, Full Passenger Van

7. List all accessories necessary for vehicle/equipment to go into service (stickers, lights, safety equipment, etc.)

Stickers- CBS General (\$200), Winter wheelset and studded tires (\$2,000), shipping (\$3,200), Charging unit (\$4,500)

8. How long will this asset last? (estimated years and miles before replacement will be required)

10 years/100,000 miles



RESOURCE PROPOSAL



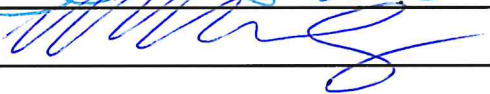
9. What are future costs associated with this vehicle/equipment? (sinking fund, annual maintenance, training)

Sinking fund. As outlined in the included Lifetime Cost Analysis annual maintenance and fuel costs are significantly less with the E-Transit than traditional Transit models. Annual fuel costs are estimated less than \$1,000 and approximately \$.10/mile for maintenance.

Department Head

Central Garage

Public Works Director

CITY AND BOROUGH OF SITKA

ORDINANCE NO. 2025-11
AN ORDINANCE OF THE CITY AND BOROUGH OF SITKA MAKING SUPPLEMENTAL
APPROPRIATIONS FOR FISCAL YEAR 2025
(Procurement of EV Transit Van for Parks and Recreation Division)

BE IT ENACTED by the Assembly of the City and Borough of Sitka, Alaska as follows:

1. **CLASSIFICATION.** This ordinance is not of a permanent nature and is not intended to be a part of the Sitka General Code of the City and Borough of Sitka, Alaska.

2. **SEVERABILITY.** If any provision of this ordinance or any application thereof to any person or circumstance is held invalid, the remainder of this ordinance and application thereof to any person and circumstances shall not be affected thereby.

3. **PURPOSE.** The purpose of this ordinance is to make a supplemental Operations appropriation for FY2025.

4. **ENACTMENT.** In accordance with Section 11.10 (a) of the Charter of the City and Borough of Sitka, Alaska, the Assembly hereby makes the following supplemental appropriation for the budget period beginning July 1, 2024 and ending June 30, 2025.

:

<u>FISCAL YEAR 2025 EXPENDITURE BUDGETS</u>
GENERAL FUND AND INTERNAL SERVICE FUNDS
General Fund – Transfers: Increase appropriations by \$30,900 to be transferred to the Central Garage Fund for the procurement of the EV Transit Van for Parks and Recreation.
Central Garage Fund – Fixed Assets: Increase appropriations in the amount of \$75,900 for the Parks and Recreation vehicle.

EXPLANATION

The Sitka Recreation Foundation will donate at least \$45,000. In addition, the General Fund will transfer \$30,900 for the purchase of an EV Transit Van for Parks and Recreation.

5. **EFFECTIVE DATE.** This ordinance shall become effective on the day after the date of its passage.

PASSED, APPROVED, AND ADOPTED by the Assembly of the City and Borough of Sitka, Alaska this 29th day of May 2025.

ATTEST:

Steven Eisenbeisz, Mayor

Sara Peterson, MMC
Municipal Clerk

1st reading: 5/13/2025
2nd and final reading: 5/29/2025

Sponsor: Administrator