

**SOUND TRANSIT
STAFF REPORT**

MOTION NO. M2007-76

Contract to Purchase New Flyer Articulated Hybrid Buses

Meeting:	Date:	Type of Action:	Staff Contact:	Phone:
Finance Committee	7/19/07	Discussion/Possible Action	Ellen Gustafson, Acting Director of Transportation Services Timothy Dunn, ST Express Operations Manager	(206) 398-5094 206) 398-5016

Contract/Agreement Type:	✓	Requested Action:	✓
Competitive Procurement		Execute New Contract/Agreement	✓
Sole Source		Amend Existing Contract/Agreement	
Agreement with Other Jurisdiction(s)		Budget Amendment	
Real Estate		Property Acquisition	

PROJECT NAME

ST Express Fleet Program

PROPOSED ACTION

Authorizes the chief executive officer to execute a contract with New Flyer Corporation to purchase two 60-foot New Flyer articulated hybrid buses in the amount of \$1,600,000 with a 10% contingency of \$160,000, for a total authorized contract amount not to exceed \$1,760,000.

KEY FEATURES of PROPOSED ACTION

- The proposed action would authorize procurement of two 60-foot articulated hybrid buses by piggybacking on a contract King County Metro has with New Flyer.
- These buses will provide the ability to implement planned service improvements.
- Articulated hybrid buses provide fleet flexibility for equipment assignment in the King County Metro operated system.

BUDGET IMPACT SUMMARY

There is no action outside of the Board-adopted budget; there are no contingency funds required, no subarea impacts, or funding required from other parties other than what is already assumed in the financial plan.

BUDGET and FINANCIAL PLAN DISCUSSION

The proposed action would authorize Sound Transit to acquire two buses from the New Flyer Corporation, for a total cost of \$1,760,000. These buses will be operated by King County Metro. In keeping with agency practice, the procurement would be funded by subarea in proportion to the amount of service provided by the operator of the bus. For King County Metro, the service

share is divided between South King County (15.4%), East King County (83.0%) and Pierce County (1.6%).

A contingency budget is required due to purchasing buses from another agency's contract. The unit cost per bus is based on the particular agency's specifications for their property. The contingency allows for adjusting the base cost to upgrade the bus to meet Sound Transit specifications.

The Adopted 2007 Budget includes a total ST Express Fleet Program (project #290) budget of \$105.2 million. This budget was amended by Resolution No. R2007-10, which moved \$2.0 million out of the South King County subarea, and by Resolution No. R2007-11, which moved \$2.25 million into the East King County subarea for this project. After the amendments, the program budget is \$105.4 million. Of this amount, \$95.9 million has been spent or committed to date. After the proposed action, there would be a remaining balance of \$7.8 million in the program.

BUDGET TABLE

The ST Express Fleet Program (project #290) was included on Page 67 of the Adopted 2007 Budget in the amount of \$105.2 million. Resolution No. R2007-10 removed \$2,000,000 from the South King County subarea and R2007-11 added \$2,250,000 to the East King County portion of this budget to enable this transaction. The impacts of the proposed action on the program budget are illustrated below:

Summary for Board Action (Year of Expenditure \$000)

Project: 290 - ST Express Fleet Program

	Revised Adopted Lifetime Budget ¹ (A)	Committed To Date ² (D)	This Action (E)	Total Committed & Action (F)	Uncommitted (Shortfall) (G)
1 Agency Administration	\$ 980	\$ 980	\$ -	\$ 980	\$ -
2 Vehicles	\$ 104,427	\$ 94,889	\$ 1,760	\$ 96,649	\$ 7,778
3 Contingency	\$ -	\$ -	\$ -	\$ -	\$ -
4 Total Current Budget	\$ 105,407	\$ 95,869	\$ 1,760	\$ 97,629	\$ 7,778

Phase Budget Detail

5 Remaining Expansion	\$ 2,000	\$ -	\$ 1,760	\$ 1,760	\$ 240
6 Previous purchases	\$ 102,427	\$ 94,889	\$ -	\$ 94,889	\$ 7,538
7 Total Phase	\$ 104,427	\$ 94,889	\$ 1,760	\$ 96,649	\$ 7,778

Notes:

¹ Project budget is located on page 67 of the Adopted 2007 Budget book. The Adopted 2007 Budget was approved by the Board on December 14, 2006, and revised by Resolution No. R2007-10, moving \$2,000,000 out of this project budget in the South King County subarea and by Resolution No. R2007-11, moving \$2,250,000 into the East King County subarea.

² Committed to date amount includes actual outlays and commitments through June 14, 2007.

Contract Budget	Current Approved Contract Value (H)	Spent to Date (I)	Proposed Action (J)	Proposed Total Contract Value (K)
1 New Flyer Corp. ¹	\$ -	\$ -	\$ 1,600	\$ 1,600
2 Contingency	\$ -	\$ -	\$ 160	\$ 160
3 Total	\$ -	\$ -	\$ 1,760	\$ 1,760
4 Percent Contingency	0%		10%	10%

Subareas to Be Charged	Revised Lifetime Budget (H)	Committed to Date (I)	Proposed Action (J)	Total Committed & Action (K)	Uncommitted (Shortfall) (L)
8 Snohomish County	\$ 15,970	\$ 12,424		\$ 12,424	\$ 3,546
9 South King County	\$ 6,967	\$ 5,170	\$ 272	\$ 5,442	\$ 1,525
10 East King County	\$ 50,498	\$ 48,860	\$ 1,461	\$ 50,321	\$ 177
11 Pierce County	\$ 31,973	\$ 29,415	\$ 27	\$ 29,442	\$ 2,530
12 Total Budget	\$ 105,407	\$ 95,869	\$ 1,760	\$ 97,629	\$ 7,778

SMALL BUSINESS PARTICIPATION

As a transit vehicle manufacturer, New Flyer Corporation must submit its own DBE program and goal to the FTA. According to the FTA's transit vehicle procurement rules, transit vehicle manufacturers must certify to transit agencies that they have a DBE program in place. New Flyer Corporation has complied with FTA rules for this procurement with a DBE participation goal of 10%.

EEO Commitment

The employees of New Flyer Corporation will perform the construction and assembly of the buses. New Flyer Corporation's workforce demographics are 17% women and 13% minorities.

PROJECT DESCRIPTION and BACKGROUND for PROPOSED ACTION

This contract with New Flyer Corporation is for two 60-foot articulated hybrid-powered buses. These additional buses will be operated by King County Metro and will expand the fleet size to help meet the demand for service. Sound Transit staff has worked with New Flyer Corporation, and King County Metro to acquire the two options.

In selecting the New Flyer articulated hybrid bus, staff considered CNG and diesel technology. The New Flyer hybrid buses were found to be satisfactory in terms of fuel type and engine maintenance, emissions and rider capacity. Sound Transit currently owns 22 New Flyer articulated hybrid buses and one New Flyer 40' hybrid bus. The performance of the New Flyer hybrid articulated bus fleet since 2004 has been superior.

Fuel Type and Engine Maintenance

King County Metro operates a mix of diesel, trolley and hybrid buses. The agency is fully equipped to operate and maintain New Flyer hybrid articulated buses since the agency currently operates this model bus for Metro Transit and Sound Transit services. In addition, King County Metro recently announced intent to order up to 500 New Flyer hybrid articulated buses indicating high satisfaction with this bus type.

King County Metro is not equipped to operate and maintain CNG buses. Multi-million dollar expenditures would be required to provide CNG fueling systems for King County Metro as well as provisions for back-up fueling in the event of failure. In the mid 1990's the King County Executive determined at that time King County Metro will not be pursuing the acquisition and operation of CNG buses but instead invest the resources into service.

Emissions

The New Flyer hybrid articulated bus diesel engine component will run on ultra-low sulfur diesel fuel in accordance with new regulations adopted by the Environmental Protection Agency for 2007. The EPA reports that the new 2007 regulations make buses run cleaner and harmful pollution will be reduced by more than 90%. Sulfur in diesel is lowered with the new EPA regulations requiring a 97% reduction in the sulfur content of diesel fuel from 500ppm to 15ppm. Currently, King County Metro operates with 100% ultra-low sulfur diesel as well as utilizing bio-diesel blend 20.

At this time no CNG engines are 2007 EPA certified unlike diesel engines. In terms of emissions, it is a trade-off between CNG and ultra-low sulfur diesel as each produces more or

less of certain pollutants. The new 2007 EPA standards for diesel engines provide a 90% cleaner engine than produced prior to 2007.

In general hybrid buses use less fuel, are more efficient, produce fewer emissions, and are quieter than conventional buses (results vary significantly per transit property and operational characteristics)*. The Sound Transit Express bus system operated by King County Metro is a mix of highway and stop and go operation. The advantages of current hybrid technology are best realized with stop and go operation.

Rider Capacity

A New Flyer Articulated bus has more seating capacity than a 40' bus. Sound Transit can maximize ridership per bus by purchasing high capacity buses.

Cost Comparisons

The costs for CNG and hybrid buses are much higher than diesel buses. CNG buses are about \$50,000 more per bus and hybrids are about \$175,000 more per bus.

CNG

- The operation cost per mile is equal to a diesel bus (this is not including the fueling system infrastructure costs). However, there is a temporary IRS provision providing a tax rebate for CNG that lowers the cost per mile by about \$0.07.
- The purchase cost per bus is moderately higher
- It requires a multi-million dollar infrastructure investment for a specialized fueling system and provisions for a back-up fueling facility in the event of failure.
- CNG buses cost more to maintain than diesel buses.
- There are additional issues that include tank and fueling safety and maintenance
- CNG buses are available only in low floor models reducing seating capacity and increasing the cost per seat mile.

Hybrid

- For King County Metro, hybrid articulated buses are about 15% lower in cost to operate than diesel articulated buses (this is before factoring in the battery replacement costs)*.
- The purchase cost per bus is significantly higher
- Approximately every six years the batteries need to be replaced at about \$20,000 per bus.
- Hybrid buses are available only in low floor models reducing seating capacity and increasing the cost per seat mile.

*King County Metro Transit Hybrid Articulated Buses: Final Evaluation Results; December 2006; National Renewable Energy Laboratory Technical Report NREL/TP-540-40585.

Prior Board/Committee Actions on this Project

Motion/Resolution Number and Date	Summary of Action
R2007-11 6/28/07	Amending the 2007 Budget for the East King County portion of the ST Express Fleet Program.
R2007-10 6/28/07	Amending the 2007 Budget for the South King County portion of the ST Express Fleet Program.

CONSEQUENCES of DELAY

The procurement of two additional buses for King County Metro operation is contained in the 2007 SIP and SIPs of subsequent years. The final analysis providing the substantiation for the need for these two buses was recently completed. Coincidentally, the analysis was completed at an opportune time to piggyback on a King County Metro fleet order placed in May.

There is a very small window of opportunity to add the Sound Transit order to this production and receive the buses during the early part of 2008. Otherwise, Sound Transit would need to either wait for King County Metro's next fleet order later in 2008 or undertake a stand-alone procurement process. Either option would push delivery out to 2009 and increase procurement costs.

ENVIRONMENTAL COMPLIANCE

SSK 7/13/07

LEGAL REVIEW

JW 7/12/07

SOUND TRANSIT

MOTION NO. M2007-76

A motion of the Finance Committee of the Central Puget Sound Regional Transit Authority authorizing the chief executive officer to execute a contract with New Flyer Corporation to purchase two 60-foot New Flyer articulated hybrid buses in the amount of \$1,600,000 with a 10% contingency of \$160,000, for a total authorized contract amount not to exceed \$1,760,000.

Background:

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Motion:


It is hereby moved by the Finance Committee of the Central Puget Sound Regional Transit Authority that the chief executive officer is authorized to execute a contract with New Flyer Corporation to purchase two 60-foot New Flyer articulated hybrid buses in the amount of \$1,600,000 with a 10% contingency of \$160,000, for a total authorized contract amount not to exceed \$1,760,000.

APPROVED by the Finance Committee of the Central Puget Sound Regional Transit Authority at a regular meeting thereof held on July 19, 2007.



Fred Butler
Finance Committee Chair

ATTEST:



Marcia Walker
Board Administrator