



SACOG Board of Directors

August 13, 2008

Approve Fiscal Year 2008 FTA Section 5308 Clean Fuels Program Grant Application

Issue: SACOG is the designated recipient for Federal Transit Administration (FTA) funds for the Davis urbanized area. In order to meet a July 21, 2008, deadline for applications, SACOG staff submitted a grant for buses for Unitrans under the FTA Clean Fuels Program. Should the SACOG Board approve submittal of the grant application and authorize the Executive Director to either execute the grant and/or assign it to Unitrans (City of Davis)?

Recommendation: The Transportation Committee recommends that the Board authorize the Executive Director to submit the Unitrans grant application (proposal) for the FY 2008 FTA Section 5308 Clean Fuels Program to replace 15 CNG buses. In the event the application is awarded, the Transportation Committee recommends the Board authorize the Executive Director to either execute the grant and/or assign it to Unitrans (City of Davis).

Committee Action/Discussion: On May 22, 2008, FTA published Solicitation of Project Proposals for the FY 2008 Clean Fuels Program. On June 30, 2008, Unitrans staff requested that SACOG, as the designated recipient for the Davis urbanized area, submit a proposal (grant application) for CNG bus replacement. The proposal had to be submitted (and received) by July 21, 2008, which was well before the next SACOG Board meeting on August 21, 2008.

SACOG staff consulted with Board Chair Cosgrove and worked with Unitrans staff to submit a grant application for the replacement of 15 CNG buses. Unitrans made a convincing argument that this bus replacement project fits with the experimental work they are doing with blended Hydrogen / Compressed Natural Gas Technologies with funding Unitrans received under a previous grant. This current grant application, which has already been submitted, needs Board approval. The Board may decide to withdraw the application or not accept funding if the application is approved.

To be eligible, the project agency cannot have received funding in a SAFETEA-LU earmark (for vehicles), must be part of a non-attainment or maintenance area for air quality, must have a project ready to implement for which funding has not been identified, and the project must support emerging clean fuel and advanced propulsion technologies for transit buses. In addition, the project agency must prepare a project proposal that addresses each of the evaluation criteria and have the proposal ready on extremely short notice. Unitrans has prepared an excellent proposal and generally meets all the requirements.

Approved by:

Mike McKeever
Executive Director

MM:JB:gg
Attachment

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**Unitrans Bus Replacement Project Proposal
FY08 FTA Section 5308 Clean Fuels Program Funds**

July 8, 2007

Applicant Information

Applicant name and FTA recipient ID number:

City of Davis, FTA recipient number 2085

Contact information (including contact name, e-mail, fax and phone number):

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Brief description of services provided by the agency, including areas served:

Unitrans provides high-intensity fixed route service to the Davis Urbanized Area, including service to the University of California at Davis campus. Unitrans operates approximately 750,000 annual revenue miles and provides over 3 million annual passenger boardings. Approximately 90 percent of all Unitrans vehicle miles traveled are completed using compressed natural gas (CNG).

Typical weekday service (when UC Davis is in session) consists of 15 routes providing 3,800 daily revenue miles and 350 daily revenue hours, providing almost 20,000 passenger boardings while UCD is in full session. Reduced service levels are provided on weekends and days when UCD is not in session.

Fleet, facility and employee information

Unitrans currently has 49 revenue vehicles, including fifteen 1995 Orion V buses with natural gas-powered engines. These buses were originally funded with FTA Section 5309 (formerly Section 3) funds. Our on-site fast-fill CNG fueling facility was completed in early 1996, and the maintenance facility was recently expanded in 2004. All Unitrans services are directly-operated using University of California employees.

Technical, legal and financial capacity

As depicted in the June 2008 FTA Triennial Review, Unitrans has a long record of meeting federal (as well as local and state) requirements. We recently worked with Omnitrans in San Bernadino, California, to include Unitrans' bus needs as options in a vehicle procurement joint effort, including the fifteen replacement buses identified in this project proposal. As such, this project could be quickly implemented.

Project Information

1. Project Description

This project will provide fifteen new replacement heavy-duty compressed natural gas-powered transit buses and related equipment. The buses being replaced were originally funded through the FTA Section 5309 (formerly FTA Section 3) program in 1995 and have surpassed their economically useful lives. Unitrans provides cost-effective fixed route services in the Davis Urbanized Area, providing over 3 million boardings in a high-intensity university / small-urban setting.

Due to the very high passenger loads on Unitrans buses and its effect on running time, we are seeking to replace these high-floor buses with low-floor units. Low-floor buses speed the passenger boarding and alighting process, which experience has shown to improve on-time performance. In addition, modern low-floor buses facilitate boarding and alighting by persons with transportation disabilities. These fifteen buses are identified as options in a recent procurement partnership with Omnitrans, and this project could be quickly implemented.

2. How This Project Proposal Addresses the Evaluation Criteria

This project will address the six FTA evaluation criteria, as follows:

i. Demonstrated Need

- **Periodic Need – As mentioned above, this project represents a periodic need that could not be reasonably funded with existing funding streams. These fifteen 1995 buses were originally funded with discretionary FTA Section 5309 (formerly Section 3) funds. It should be noted that the roof-mounted CNG tanks have a life of 15 years, and these tanks must be retired before October 1, 2010. It would not be economically feasible to only replace the CNG tanks (approximately \$60,000 per bus) without also rehabilitating the entire vehicle, which would require another \$125,000 to \$150,000 per bus.**
- **Inability to Secure SAFETEA-LU Earmark – Unitrans has been unable to secure FTA Section 5309 funds for this needed vehicle replacement project, through either the SAFETEA-LU authorization process or in annual earmark requests.**
- **Positive Impact on Air Quality – The model year 1995 Cummins phase 2 L10 natural gas-fueled engines (which are no longer manufactured) are relatively high-polluting in comparison to modern clean-diesel or natural gas engines. We are proposing to replace them with EPA 2010 engines, which are rated at 1.2 grams per brake horsepower and represent a vast emissions improvement over the engines being replaced.**

- **State Implementation Plan** – As mentioned above, we are proposing to utilize EPA 2010 engines in order to meet stringent California Air Resources Board requirements. This bus replacement project is included in the Sacramento Area Regional Council of Government’s (SACOG) Metropolitan Transportation Plan, which is included in the SIP.

- ii. **Planning and Prioritization at Local/Regional Level**
 - **Regional Planning** – This bus replacement project is included in the SACOG Metropolitan Transportation Plan, although financial constraints have not permitted the project to be included in the SACOG Metropolitan Transportation Improvement Plan. According to discussions with SACOG officials, this bus replacement project could be quickly amended into the MTIP if this project proposal is identified for full or partial funding.

 - **Local Support** – Besides FTA Section 5307 funding, Unitrans is also funded with California Transportation Development Act and University funds. In fact, the Associated Students of the University of California at Davis recently elected to increase student fees in order to improve Unitrans services. Those funds are earmarked for projects such as this bus replacement project.

 - **Coordination with Other Operators** – This project is fully supported by the Yolo County Transportation District, which provides regional transit services in our county and into downtown Sacramento.

- iii. **Readiness of Project** – As mentioned above, this bus replacement project is identified in a recent Omnitrans procurement. Unitrans worked closely with Omnitrans staff to ensure that the successful bidder’s bus will meet our needs and the Omnitrans Board of Directors is expected to formally award the contract in August 2008. As a replacement bus project, it is a Class II(c) Categorical Exclusion and would not require any additional Environmental Assessment evaluation. In short, this project could be quickly implemented.

- iv. **Demonstrated Benefits in Reducing Pollutants** – As mentioned above, we are seeking the cleanest natural gas-powered technologies available. It should be noted that Unitrans is currently experimenting with blended Hydrogen / Compressed Natural Gas technologies, and we have the first operating Hydrogen station on the California Governor’s Hydrogen Highway. If this demonstration is successful, we expect that this blended fuel could be used to operate the proposed replacement buses. If that blended fuel could be reliably used for these replacement buses, it would represent the cleanest fleet of natural gas-powered buses in the country.

- v. **Support of Emerging Clean Fuel Technologies** – As mentioned above, we will replace the relatively high-polluting 1995 Cummins L10G-powered buses with modern buses that use the Cummins 8.9G engine (the only engine that currently meets EPA 2010 emissions standards). One concern with this next generation of

stoichiometric-catalyst CNG engines is the higher operating temperature required to help meet the more stringent emissions requirements. Since Unitrans operates in an environment of very high passenger loads and high ambient summer temperatures, we will be able to demonstrate the viability of this new technology for the transit industry.

- vi. **Technical, Legal and Financial Capacity** – This bus replacement project is clearly identified in our 2005 Short Range Transit Plan and the SACOG 2035 Metropolitan Transportation Plan as a high-priority project. As mentioned above, Unitrans has demonstrated its technical, legal and financial capacity in each of the FTA Triennial Reviews successfully completed since Davis was designated as an urbanized area following the 1990 US Census. We fully expect to maintain this capacity throughout the 12-year life of the replacement buses and beyond. The source of the 17 percent local match would come from locally-generated student activity fees, capital replacement reserve funds, and state funds.

3. Importance of Project to the Area

This bus replacement project will ensure continued operation of existing public transit service levels. In a time of increasing fuel prices, traffic congestion and climate change, travelers are relying more and more on alternatives to the single occupant vehicle. Unitrans is recognized regionally and nationally for its cost-effective and efficient services. However, failure to obtain funding to replace these vehicles would result in service cuts and/or an ineffective use of existing resources to replace the CNG engines and fuel tanks that would result in a poor investment choice.

4. Total Project Budget

Each replacement bus would cost on the order of \$460,000. As such, this bus replacement project will require a total of \$6,900,000 (including local match).

5. Federal Share

The FTA share would be \$5,727,000, or 83 percent of the project total.

6. Matching Funds Detail

Local matching funds would be derived from existing Unitrans reserve funds, comprised primarily of undergraduate UC Davis student fees collected expressly for Unitrans services and capital projects. In addition, California Transportation Development Act funds and other non-Federal University funds may be utilized as part of the 20 percent local match requirement.

7. Project Time-Line

Award of Funds by FTA	October 2008
Work with SACOG to amend TIP/STIP	October 2008
Begin negotiations with manufacturer for available bus options	November 2008
Execute contract with bus manufacturer	December 2008
Delivery of first bus	December 2009
Delivery of fifteenth bus	February 2010

8. Supplementary Information

Please see attached Unitrans Performance Measures, Fleet List and current service map.

Supplementary Information, Unitrans Performance Measures

Audited Fiscal Year 2006-07 Figures

1. Number of Bus Lines Operated: 15 Regular All-Day Lines, and 2 Peak Period Lines
2. Number of Heavy-Duty Buses in Fleet:
 - a. Single-Deck: 43 (39 CNG and 4 Diesel)
 - b. Double-Deck: 6 (1 CNG and 5 Diesel)
3. Number of Buses in Peak Service: 35 (32 Single-Deck & 3 Double-Deck)
4. Annual One-Way Passenger-Trips: 3,173,916
5. Annual Vehicle Revenue Hours: 69,000
6. Annual Vehicle Revenue Miles: 736,798
7. Annual Operating Expenses: \$3,477,770¹
8. Farebox Revenues: \$1,027,694
9. Passengers/VRH: 46.0
10. Passenger/VRM: 4.3
11. Operating Cost/VRH: \$50.40
12. Farebox Recovery Ratio: 57.6%

¹ This figure does not include annual depreciation of \$1,027,694.

Supplementary Information, Unitrans Fleet List

Current as of July 8, 2008

<u># In</u>	<u>Fleet</u>	<u>Year</u>	<u>Manufacturer</u>	<u>Model</u>	<u>Seats</u>	<u>Fuel</u>
4		2006	Orion	5.502	40	CNG
4		2005	Orion	5.502	41	CNG
5		2003	Orion	7.501	39	CNG
9		2000	Bluebird	Q-Bus	38	CNG
1		2000	Bluebird	Q-Bus	38	Hydrogen-CNG ²
8		1995	Orion	5.502	43	CNG
7		1995	Orion	5.502	35	CNG
2		1988	Gillig	Phantom	28	Diesel
1		1947	AEC	Double-deck	56	Diesel
1		1947	AEC	Double-deck	56	Diesel
1		1950	Leyland	Double-deck	56	Diesel
1		1951	AEC	Double-deck	56	Diesel
1		1952	AEC	Double-deck	56	CNG
1		1954	AEC	Double-deck	56	Diesel ³
1		2004	Eldorado	Minibus	20	CNG
1		2001	Eldorado	Minibus	20	Diesel
1		1998	Eldorado	Minibus	20	Diesel

² This bus has been modified to operate on a 70% Hydrogen – 30% CNG blend; the fuel station is currently being completed. Until the HCNG fueling facility is operable, this bus will operate solely on CNG.

Supplementary Information, Unitrans Service Map

