



Dear Chair Fang and Board Members,

In 2009, BART's Board and Staff made a commitment to Bay Area taxpayers and BART riders that they would not choose an unproven technology for the Oakland Airport Connector. This promise was important enough that it was enshrined in the RFP as a "Proven Technology" requirement that any system have a two-year operational history (7 days a week, 365 days a year).

In February we wrote to you that we did not believe the Oakland Airport Connector met the RFP requirements for "proven technology". Since that time we have continued to investigate the issue, including speaking with several experts familiar with Doppelmayr's systems, and have now concluded that the proposed AGT does not comply with BART's RFP.

This doesn't just bring into question the appropriateness of choosing this technology, but just as importantly it makes clear the project poses an even bigger cost escalation threat to BART than is being acknowledged or accounted for. As we discussed in February, 40% of the Doppelmayr's 5 AGTs in service last year experienced major problems; and these systems are very simple, existing technologies. The proposed OAC system is significantly longer and more complicated than any AGT they have built to date, so it is imperative to take the risks involved with new technology seriously.

The RFP does allow one "technology revision (that) involves not more than two of the Major Subsystems." As you can see on the attached fact sheet, changes to four of the subsystems are involved in the proposed AGT system, although it is feasible that you can consider one as being currently tested in Venice Italy (as your General Manager noted in her March 3, 2010 response). The other three have no tests whatsoever to date.

This information is critical since BART staff are requesting you pass a resolution this Thursday that authorizes them to award this contract. Based on the information provided on the attached fact sheet we are requesting two actions.

First, we request you limit your risk by returning to your original contingency level of 12%, and possibly higher. That level has been reduced recently to 9% to help make the full funding plan pencil out. Even more disheartening is that staff is now asking to essentially reduce it to 8% by using the contingency to immediately pay for \$2.9 million in escalation fees, effectively reducing the contingency on Day One.

Second, to have an independent consultant or consulting team that is unaffiliated with this project determine whether the Doppelmayr AGT proposal meets the requirements of your RFP; a requirement that was put in there to protect BART and the public. This analysis is not particularly complicated and can be done within a couple of weeks; plenty of time given that multiple funding sources have to be obtained before the contract is awarded.

We greatly appreciate your continued interest in these issues. Please feel free to contact John Knox White at x371 for additional information.

Respectfully,

A handwritten signature in blue ink that reads "Stuart Cohen".

Stuart Cohen

Executive Director

A handwritten signature in blue ink that reads "John Knox White".

John Knox White

Program Director

## **Proven Technology Fact Sheet**

The RFP is extremely clear on the issue of “proven technology” and its importance stating that systems will only be considered only under the following conditions:

Technology shall ***have been successfully proven in current, daily, year-round passenger service operation for two years. Such passenger service shall have achieved the system operations similar to those levels specified in these Technical Provisions.***

There is however the ability to use one Technology Revision involving not more than two of the Major subsystems.

According to our research there are two technology revisions that require changes to four subsystems.

### ***The OAC does not comply with the RFP***

#### ***Four major subsystems will need to change***

According to experts who are familiar with Doppelmayr’s systems, four subsystems (three more than previously identified) will be changed because of the use of a multiple-rope, pinched-loop design. All of Doppelmayr's other systems are short and single-cable, for example Venice’s new line is just about half a mile long.

#### **1) Vehicle/Train Switching:**

As noted in Ms Dugger’s letter of March 3, 2010, “Doppelmayr Cable Car Inc. (DCC), as AGT Supplier for the Flat Iron/Parsons Team, submitted the switch mechanism as the one allowed technology revision.”

The letter further stated that “the switch mechanism being installed by DCC in Venice would be operated for several years prior to the installation and operation of the OAC, providing ample time to detect and correct any technical issues. DCC has a very capable engineering staff and the resources to address any technical issues and a willingness to correct any technical deficiencies at their own expense.”

TransForm agrees this is an allowable technology revision. However, there are three more changes that were not identified.

#### **2) The Vehicle:**

Doppelmayr’s current people-mover systems which meet the two-year service requirement are semi-permanently attached to a single cable that moves them. The OAC will be required to disconnect from the cables at the stations and in the middle and connect to a new cable to continue its journey. The vehicles will require new, detachable, motorized grips in order to change from one cable to another.

### **3) Automatic Train Control:**

Dopplemayr's two-year compliant do not operate more than one train per track, yet the OAC will not only include multiple trains per track, they will also need to switch cables as they leave the station, as well as in the middle of the journey, a process that risks derailment or collision if not operated to perfection. Venice does not provide this level of complexity in its design. Therefore the ATC will need to be far more sophisticated than any of Dopplemayr's systems in use currently. The ATC is critical to reliability and safety of the OAC, and yet the system is completely new, not proven at all.

Dopplemayr's Mexico City system had to be shut down after DCC's own personnel crashed one of the vehicles on a simple, one-train per track system. Given that the OAC requires switching, and multiple-ropes that DCC has no experience building and operating on an AGT, the fact that their Train Controls allowed this accident on such a basic design raises big concerns about the unproven, OAC design.

**4) Vehicle Running Gear/Guidance assemblies and interface:** The Guideway Mounted Propulsion and Suspension Elements will all change in order to accommodate the multiple rope system that the OAC requires. As DCC has still not built a multiple rope system, this will be a completely new implementation, requiring significant redesigns.

### ***Unproven suppliers make project even riskier***

Not only does this subsystem require a new and unproven design, in order to meet by Buy America requirements Dopplemayr is using US suppliers for this equipment who have never provided such equipment for any similar projects in the past, further exacerbating the risk to BART. This subsystem is very fickle to begin with; it was the basis for the 3-month shutdown of the Toronto AGT where they attempted a "minor technology revision" to make a slightly more robust guidance assembly.

Toronto's system is a much simpler design than the OAC and the shutdown was required after major design flaws were found, just two years into service. That DCC paid for the rebuild is immaterial; the issue is that BART is asking DCC to implement a much more complicated design that they have never built before.