



Mr. Christophe J. Schneiter
Assistant Director/City Engineer
City of Santa Cruz
Public Works Department
809 Center Street
Santa Cruz, CA 95060

24 November 2008

Mr. Schneiter:

This letter is in response to the “Personal Rapid Transit (PRT) System” RFQ dated 5 October, 2008. However, it is being offered to address other related aspects of your effort that you may find of interest, not as a direct response from an entity intending to supply such systems.

As you may be aware, The Aerospace Corporation conducted a seminal systems engineering study of the automated transit network concept known as PRT in the years 1968 through 1974. The result of that work, “Fundamentals of Personal Rapid Transit”, published in 1976 by former Aerospace vice-President and study lead, Dr. Jack Irving, is considered by many today as having established the technical plausibility of the concept and encouraged many other researchers and commercial interests to continue its development. However, as enticing as the benefits promised by its proponents are, the concept has not yet received the full benefit of a comprehensive development program. Today, although the available technology is now much more advanced and progress is being made, many issues - both technical and non-technical - remain, and require close scrutiny.

Proposed automated systems depart considerably from traditional mass transit systems in many ways, of course. In the areas of communication, control, propulsion, manufacturing approaches and operational modes these systems are considerably more complex than light rail systems or the familiar Automated People Movers found at airports and other venues. Despite its conceptual simplicity, the technical complexities underpinning the concept require the evaluation of numerous tradeoffs in system architecture and design in order to ensure cost-effectiveness and “mission” success.

As significantly, the unique blend of technologies characteristic of these proposed automated systems and the additional risks of garnering sufficient public acceptance and ensuring proper integration within existing transportation networks and urban forms, will require that complementary resources of various organizations - commercial, governmental and academic - be effectively applied in non-traditional combinations.

Until such time when sufficient experience has been acquired and systems can be acquired off-the-shelf, pursuit of such advanced transit systems will share with space systems development the characteristic of being high-risk endeavors. Mitigating the inherent risks requires proper multi-disciplinary systems engineering, the application of sufficient industrial and programmatic resources and engineering to extremely high levels of system reliability and safety.

As a national laboratory, The Aerospace Corporation is able to provide, free from commercial pressures, objective technical and programmatic support to government entities in the development and/or acquisition of complex systems, including unbiased evaluations of commercial proposals. The corporation routinely works in the type of diverse environment described above and offers a blend of both intellectual and practical hardware development resources with over 100,000 square feet of laboratory space available to assist in these efforts.

The fundamental value of this support is the reduction of cost and risk to procuring agencies. The proposed project, and others like it, are significant and timely undertakings that, succeed or fail, will likely have ramifications affecting the future of automated transit concepts. At the very least, it certainly seems to deserve a good hard look, especially in light of the numerous transportation-related issues we're now facing as a nation.

I've attached a brochure to provide you with a bit more of an introduction, but there's far more, to discuss, of course. I look forward to that discussion, should you feel this to be of interest.

Regards,

A handwritten signature in black ink, appearing to read "Paige". The signature is written in a cursive, flowing style.

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