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 TRANSPORTATION SYSTEMS, Inc.

3-22-10

Dear Mr. Powers,  
 Executive Director, Gateway Cities Council of Governments  
 Paramount, California

I am sending this letter as a result of inquiries to us from a group representing officials of some of the cities in your area regarding possible plans to; (1) double-deck I-710 with an elevated electrified, multi-lane, concrete freeway for some type of dualmode hybrid-electric, multi-tandem trucks carrying multiple marine shipping containers and (2) a SR-710 extension that could involve boring large multi-lane tunnels under some of the cities from the end of I-710 to some point. I was told during a recent conversation with Mr. Earnest Morales of the MTA that they recommended this approach upon the basis of an engineering study conducted by URS for the Ports of LA/LB. (We had previously reviewed and commented on a report conducted by a different URS for the MTA at the request of Mr. Morales and pointed out some serious flaws in the URS analysis.) (I am sending our comments to Mr. Morales with this letter.)

We understand that the above Ports of LA/LB I-710 Project internal technology team in August 2008, determined that employing electric/battery-powered trucks could deliver responsive capacity at lower cost than an automated fixed guideway system. This system was not in the Appendices A report of the URS/Ports of LA/LB study, which rated our **dualmode CargoRail**<sup>™</sup> system *high*. Solving the dualmode problem in this manner allowed the URS/MTA analysis to lump our **CargoRail** system in with the other fixed guideway systems, **which had no dualmode capability, THUS**; ignoring our lower cost dual mode capability. We understand that a CNG-powered hybrid-electric/battery truck alternative combined with an elevated, electrified dual lane truck freeway is now being recommended for EIR/EIS analysis.

Based upon our findings from reading the URS report to the MTA, we do not believe that our **CargoRail/CargoTram**<sup>™</sup> approach to the port /rail intermodal center movement of large marine cargo shipping containers received a fair evaluation by URS during their study, for the following reasons:

- URS/Ports of LA/LB downgraded our technical score by questioning such factors as strength of our guideway, ability to bridge the shipping channel, method of attachment of our stainless-steel uprights to tapered top concrete piers, strength of our steel uprights to withstand earthquakes, capability of our piers and uprights to withstand loads in curves, space for our piers along a freeway, etc. indicate to us that no structural engineer at URS ever examined our approach. (For example, no such engineer ever requested any specific guideway or upright material thickness or the size of our piers or uprights in curves. Any **trained structural engineer** would have requested and analyzed such additional information before making the comments on these matters included in the URS report.

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Incidentally, there was never any request for detailed engineering analytical information during any of the Ports of LB/LA study. (The MTA study appears to have been made strictly upon the basis of the prior Port of LB/LA study information.) Our only conclusion has been that the entire study was probably accomplished entirely by "**Transportation Planners**" with little or no engineering knowledge. It is interesting to note that the report contained no mention of any potential problems with elevated concrete freeway structures during earthquakes or potential space problems with regard to the size of the much larger piers required for such structures.

- We also noted with some degree of interest that the dualmode CNG-powered hybrid electric trucks towing up to ten trailers carrying marine shipping containers that drive on the port and rail yard paved surfaces, but travel on the electrified elevated concrete truck freeway recommended by the URS/MTA study are nearly identical to our *patent-pending* multi-vehicle, CNG-powered **CargoTrams** that operate in almost exactly the same manner.
- We also noted that the URS/MTA study report did not bother to address the almost impossible problem of their recommended dualmode CNG-powered hybrid electric trucks being able to have sufficient numbers of traction wheels or weight on wheels to accomplish the feat of towing up to ten loaded trailers. Note that in our **CargoTrams**, the lead generator/control vehicle and each of the trailing container carrying vehicles have electrically-powered drive wheels to provide the necessary traction. **Our lead vehicle does not tow anything!**
- We also noted that the URS/MTA study report also did not address the problem of steering the trailing vehicles, especially in turns. In contrast, our **CargoTram** system includes a *patent-pending* computerized steering system that steers all wheels following the front wheels of the lead car to follow essentially the same path on the ground as the front wheels, a feat that is necessary for such a tram to accomplish the necessary sharp turns in a port or rail yard area. Furthermore, our **CargoTrams** have each set of wheels independently steered when on the elevated guideway to maintain the axles at the necessary same fixed distance from side reference and electrical power rails.

The total silence of the URS/MTA and the URS/Port of LA/LB reports on the above-listed issues appears to indicate that the evaluators either (1) did not bother to examine the **CargoRail** approach or (2) were incapable of understanding it and, as a result presented a very amateurish approach that, attempted to provide the **CargoRail** capability.

A brief summary of **CargoRail** advantages as a solution for the I-710/SR-710 problems is as follows:

- **CargoRail** vehicles are entirely powered by electricity for guideway travel.

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- The **CargoRail** dualmode CNG-powered hybrid **CargoTrams** are able to enter and leave the guideway and be driven in the same manner as trucks on ordinary pavement for port, rail yard, street or highway operation.
- **CargoTrams** can be configured in lengths best adapted for needed off-guideway operations. For example, short **CargoTrams** would be used for public street or highway uses in order to comply with truck length limitations.
- All **CargoTram** vehicles are propelled by on-board electric motors rather than having all but the first vehicle towed as is the case with tandem trucks of any type.
- A *patent-pending* computer controlled steering system enables all wheels of a **CargoTrams** to follow in essentially the same path as the front wheels for shorter turn radius than trailer trucks.
- **CargoRail** vehicle wheels run inside enclosed stainless steel rail tubes to enable operation under all weather conditions and run with essentially no noise to persons on the ground near the guideways.
- **CargoRail** guideways are open in the center space between the two side rail beams to enable sunlight to penetrate to avoid wide dark shadows on the ground.
- From structural and visual standpoints, **CargoRail** guideways resemble typical steel railroad trestles, except for being smaller in size and of rust-free stainless steel.
- **CargoRail** guideway may be banked in curves in the same manner as highways and railroads and use increased size and strength steel upright supports and piers as needed to carry necessary loads.
- Tapered stainless steel support uprights are mounted to reinforced concrete columns that have a matching taper so that no bolting is required in order to provide high attachment strength for the uprights in the presence of high winds or earthquakes. This is the same technique now being used in mounting many high-tension power transmission line tapered steel towers to their concrete base piers.

**CargoRail CargoTrams** can seamlessly go off of the guideway (rails) (using CNG clean burning compressed natural gas & batteries) and move around the ports and on streets or highways as a hybrid, dualmode, tandem trucks. None of the other rail options have this capability. Multi-car **CargoTrams** can be loaded with multiple 40-ft and 20-ft containers at the sorting yards and driven directly onto elevated, electrified guideways for pollution free cargo movement at 75 miles an hour. The critical fact that this system can

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seamlessly run from the guide-ways like a train to a "street" or "highway" surface like a tandem truck allowing the "guideways to end at the boundary to the ports," was ***totally overlooked*** in the URS/MTA study. **We know of no other cargo system having this essential capability.**

The pollution-free **CargoRail** system can be ELEVATED (grade separated) along the existing freeways and the Blue Line right of way and it can handle grades of to 10% while trucks are limited to 2-4% grades at full speed.

In conclusion we believe that our **CargoRail** approach should be considered in the current EIR study, we would be happy to work with any technical assessment company involved in the EIR effort to answer any issue on which that they find they might need clarification.



J. Kirston Henderson, President