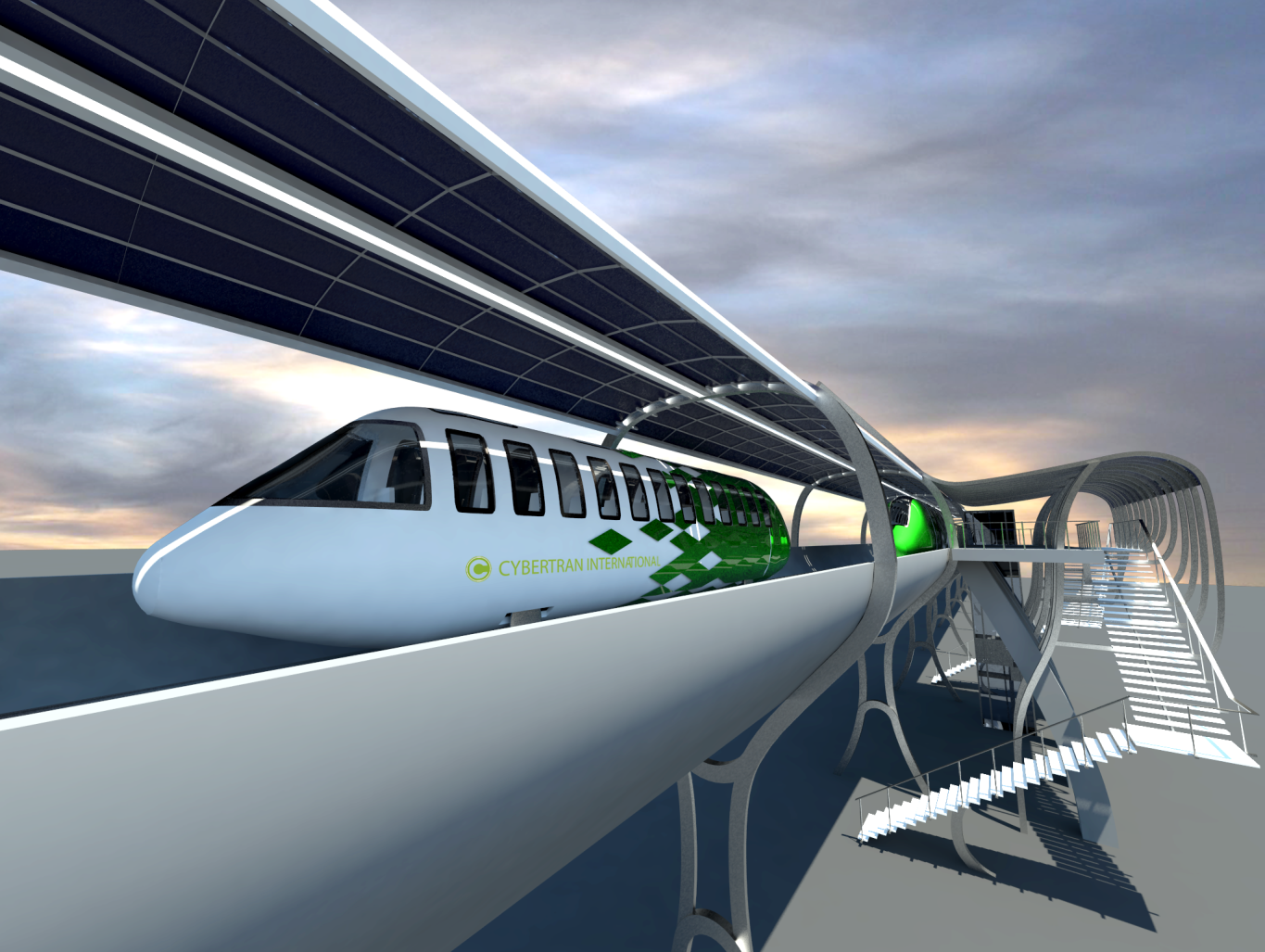
CYBERTRAN INTERNATIONAL, INC.

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**TRANSIT WORLD RICHMOND**

An Unsolicited Proposal

Submitted to:

**The City of Richmond**

c/o Bill Lindsay

City Manager

Updated January 2014

**CYBERTRAN INTERNATIONAL, INC.**

Manufacturer and Developer of Ultra Light Rail Transit

SOLAR ULTRA LIGHT RAIL TRANSIT SYSTEM

FOR RICHMOND, CALIFORNIA

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## TRANSMITTAL LETTER

October 28, 2012

Mr. Bill Lindsay

City Manager

City of Richmond

450 Civic Center Plaza

Richmond, California 94804

RE: CyberTran’s ULRT System Proposal for Richmond

Dear Mr. Lindsay:

CyberTran International (CTI) is pleased to submit this Unsolicited Proposal to establish an Ultra Light Rail Transit (ULRT) system in Richmond. The contents of this submittal outline a vision into the future demonstrating to the world that Richmond is a model city for green, sustainable living. Some of the highlights of the CyberTran ULRT proposal for Richmond are outlined below.

On the CyberTran ULRT system, individuals are transported efficiently from any one transit station to any other transit station “directly” -- without stopping at every station. This enables a person to live in Richmond and still be able to get to work or do their shopping quickly via public transit. Simply put, the CTI system facilitates the use of public transit as a meaningful alternative for Richmond residents to the use of an automobile.

CTI’s philosophy is to employ the latest technologies and best local talent to create world class teams that run deep with experience and proven track records of success. With the City of Richmond, we seek to establish a model Solar ULRT system that utilizes the most advanced railcar equipment and technology with the latest techniques. The system will transport people efficiently with minimal installation of lightweight, cost-effective station infrastructure and equipment designed for the ULRT system.

CyberTran is a transit company composed of a team of entrepreneurs knowledgeable in business and advanced transportation.  The company’s mission is the commercialization of a new technology in passenger rail that takes advantage of computer, radio, and rail technologies, known as ULRT. This system, invented by a team of engineers and scientists at the US Department of Energy’s Idaho National Laboratory, will become the next wave of transportation infrastructure.

This Unsolicited Proposal is intended to be a preliminary analysis of the installation of an ULRT system in Richmond including a transit connection to BART. The estimated installation cost of the thirteen stations, including an O&M facility, is $319 million. In addition, we have provided initial design studies and cost estimates for suggested Transit-Oriented Developments at nine of the station sites. Preliminary construction and operational cost estimates of the transit system and a revenue projection for the system based on ridership and advertising is provided herein.

Based on preliminary estimates, the potential for investment in TOD’s adjacent to nine of the thirteen stations is approximately $3.5 billion. This means that with the establishment of the CTI’s ULRT system, the City of Richmond has the opportunity to leverage up to 15 times the investment in the transit system through TOD’s surrounding the transit stations. Moreover, construction of the ULRT system is expected to create 1,000 jobs during construction and development of the TODs is expected to create 22,000 jobs during construction and more than 8,000 permanent jobs in the office, retail, industrial and hotel industries.

This Unsolicited Proposal provides cost estimates for a specific set of buildings and uses in each of the TOD projects, along with the square footage of each development type corresponding to the site plans and renderings prepared by our team. Finally, financing scenarios are contemplated. It should be noted that the transit system, TOD projects, and estimates of costs and revenues have been created to encourage a conversation with the City and are not intended to be conclusive. We anticipate that deeper analysis will be required before key decision-making occurs. The City may wish to pursue funding for economic development and planning studies to evaluate the potential of the project described herein.

On behalf of our team, I would like to thank you in advance for your consideration of this proposal. Please feel free to contact me directly at (510) 472-4145 should you have any questions regarding this proposal. We look forward to working with you to bring this exciting project to fruition.

Warmest regards,

D. Dexter Vizinau

President

## EXECUTIVE SUMMARY

The **CYBERTRAN INTERNATIONAL RICHMOND ULTRA LIGHT RAIL TRANSIT (ULRT) SYSTEM** can be summarized as follows:

**Location:** Richmond, California

**Transit System Description:** Installation of new Ultra Light Rail Transit (ULRT) system, including property acquisition, all essential site and utility infrastructure, light rail cars and station equipment. New transit system to include up to thirteen (13) stations located throughout Richmond with convenient transit connection to El Cerrito del Norte BART Station.

The ULRT system is designed to be expandable and to serve as an anchor to the planned West Contra Costa County BART (WBART) I-80 Corridor connector. The ULRT system will double as an energy grid providing energy to operate the system and to feed the local Power Grid, supplying surplus energy to surrounding communities.

**TOD Development Sites:** Transit oriented development (TOD) opportunities to be generated at up to thirteen (13) transit stations including residential, retail, office, and industrial/R&D development sites. Station area infrastructure and improvements to be incorporated at transit stations to encourage future transit oriented development as a means to promote economic development throughout Richmond.

**No. of Projected Riders** 3,895 residents; 975 workers; 4,750 daily boardings

**& Transit Trips Generated:** Estimated 3,165,000additional trips to El Cerrito del Norte

BART per year; 5,400,000 trips with new TOD-based ridership

**Job Creation:** 1,000 construction jobs created during transit system development; 22,000 construction jobs created during future TOD development; at least 50 permanent green jobs created for operation of transit system, and over 100 jobs in vehicle manufacturing.

6,500 permanent jobs created for TOD Retail/Hotel space

1,000 permanent jobs created for TOD Office/R&D space

700 Permanent jobs created for Warehouse/Industrial

**Project Cost Estimate:** $319 million Total Transit System Development Budget

* $192 million Transit System Construction Budget

$3.6 Billion TOD investment potential at full build-out

**Basis of Cost Estimate:** Cost estimates based on quote from equipment manufacturer, construction cost analysis, and industry standards. Transit revenue projections based on preliminary ridership projections, projected ticket pricing, and estimated advertising revenue for comparable transit systems.

**Requested Funding:** Land Assembly at no cost to CyberTran

Assistance in sourcing up to $150 million in public financing from regional, state and federal sources

**Estimated Annual** $ 7.9 million in transit revenue without TOD ridership

**Revenue:** $ 3.1 million in Year 1 advertising revenue

$13.6 million in Year 5 in transit revenue with TOD ridership

$ 3.1 million in Year 1 advertising revenue

## 3. PROPOSED PROJECT SCOPE

**Proposal Summary**

CTI proposes to build and operate a state-of-the-art Ultra Light Rail Transit (ULRT) System in Richmond, California that connects the city’s neighborhoods to its employment and commercial areas, and to BART’s regional transit network, from Port Richmond to Cutting Boulevard at 23rd Street, and from Hilltop Mall to the Richmond Field Station.

The City of Richmond is a prime location for a ULRT demonstration project due to its relative size as a municipality (a new transit system of reasonable scale can have tremendous impact and benefit) and its proximity and central location in the Bay Area. Furthermore, the City of Richmond is ideal to become a destination city with its 32 miles of coastline, tremendous views and economic development initiatives aimed at establishing Richmond as an anchor along the East Bay Green Corridor. Together, these characteristics foster an atmosphere with a strong sense of Social Responsibility to create good paying jobs and healthy living environments for its citizens.

CTI is seeking to partner with the City of Richmond in the development of a ULRT System with up to thirteen (13) transit stations, and to encourage Transit-Oriented Development at up to nine (9) station areas, as outlined more fully herein. We are requesting assistance from the City of Richmond in assembling the essential property to install the transit lines and stations (system infrastructure). Working in partnership with City staff, our team will assemble the property, finance the project, build the infrastructure, install the transit stations, and manage the operation of the system.

**The Shared Vision of the ULRT System for Richmond**

In this way, the CTI team proposes to build a transit system in the City of Richmond that will enhance each area surrounding a proposed station. Each station area will be improved with new landscaping, curb cuts, sidewalks and promenades to enhance the visual appearance of areas surrounding the transit station for the patrons, and to encourage and promote transit oriented development (TOD) on adjacent properties. The opportunities for future TODs created by the stations will attract investment in new housing, commercial and retail activities in station areas and have an enduring economic and employment benefit to the City of Richmond. The new construction and infrastructure projects that would take place at each station over the next several years would bring both economic development and physical revitalization to Richmond neighborhoods.

**Efficient, Cost Effective People Transport using ULRT**

Given the need for cost-effective solutions for regional transit infrastructure, the CyberTran ULRT solution provides an ideal, green alternative for public transit that connects distant areas of Richmond to the regional BART transit system. In a city like Richmond, the CyberTran ULRT system would reduce the need for car and bus traffic as the primary means to transport people to and from places of employment, recreation, housing, retail, commercial services and other destinations needed to enjoy an enhanced quality of life.

Once on the CyberTran ULRT system, individuals will be transported efficiently from any one transit station to any other transit stations directly -- without stopping at every station. This enables a person to live in nearly any area of Richmond and still be able to get to work quickly and to do their shopping via public transit without using an automobile. Simply put, the CTI system facilitates the use of public transit as a meaningful alternative for Richmond residents.

**CTI’s approach to Ultra Light Rail Transit specifically and public transit generally:**

The CTI approach to ULRT is to provide a more efficient, environmentally friendly, and less costly transit system as compared to traditional light rail transit systems. Our ULRT systems provide efficient, cost-effective people transport services that produce environmental benefits and yield significant cost savings over other transportation alternatives. CTI’s systems have positive economic impacts and are designed to maintain environmentally sound approaches during operation.

The ULRT Transit System is unique with its flexibility to be modified or expanded without major construction cost. The system’s networkability also provides for use across the transit service spectrum with its ability to serve low, medium and high speed markets while providing seamless connectivity across market platforms.

Nationally, there is a 40 year pipeline of deferred investment in transit infrastructure including the need for new transit infrastructure and for maintenance work to be performed on existing infrastructure. Between this pipeline and other transit maintenance (or replacement) that must occur to make the region and the US more competitive, the ULRT industry is likely to grow over the next several decades.

**Richmond-based CyberTran and its ULRT Team**

CTI, a leader in the development of ULRT systems, is headquartered in Richmond, California. CTI is a young company composed of a team of entrepreneurs knowledgeable in business and advanced transportation.  The ULRT system was invented at the US Department of Energy’s Idaho National Laboratory by a team of expert engineers and scientists and is destined to become the next wave of transportation infrastructure.

The team assembled by CTI to undertake the development of the Richmond ULRT system includes Swinerton Construction, Todd Jersey Architects, Deterministic Systems, Inc., and United Street Car – the lead companies to be directly involved in the design, engineering, construction, finance and operation of the system.

**Business Proposal**

CTI is interested in entering into a public private partnership with the City of Richmond to develop and operate the ULRT system on City-owned property. Specifically, we are requesting that the City of Richmond assemble approximately 15 acres of property and lease to CTI on the following basic terms and conditions:

1. Assistance with station area and TOD site assembly
2. 99 year ground lease for estimated 12 acres of property and right of ways
3. Base ground rent of approximately $100 per year
4. Royalty payment to City of up to 1.0% of gross receipts
5. Become the cornerstone of a sub-regional transportation plan

**Transit System Development at Thirteen (13) Richmond Stations**

The Richmond ULRT system will be “state of the art” using green building and operating practices and will connect residents of Richmond to BART, the backbone of transportation for the broader San Francisco Bay Area.

CTI is seeking to partner with the City of Richmond in the development of a ULRT System with up to thirteen (13) transit stations. CTI’s strategy is to implement a business plan that is innovative and solutions-oriented, as well as forward-thinking. The steps that will be completed in parallel with the assembly of property are the completion of final designs, permitting, site work and installation of equipment.

The next step is to secure approval to construct buildings and infrastructure to operate the facility. CTI intends to pull together an investment of approximately $300 million in system infrastructure and physical improvements for the transit system alone, which will create more than 1,000 construction jobs. Approximately $15 million of the project budget will be dedicated to station area improvements to encourage TOD development.

**Transit Oriented Development at Nine (9) Stations**

Once a new transit system is built, the properties surrounding up to nine of the new Richmond ULRT stations will be poised for housing, commercial, industrial and retail development compatible with each area. As presently envisioned, excluding the El Cerrito del Norte and Richmond Field Station TOD sites, the overall potential for TOD is estimated at approximately $3.6 Billion in new development, including $2.5 Billion of new housing. Conservatively, the TOD can bring two million square feet of new retail and 8,000 new housing units to the City of Richmond. In this way, the ULRT system will create countless benefits and spillover effects that have the potential to transform and push Richmond to become a leader in the 21st Century.

**The Use of Solar Power**

The CyberTran ULRT system can be integrated with a solar farm installed over the right-of-way and attached to the guideway structure. This system uses photovoltaic panels on racks that are in turn attached to the guideway structure such that the moving vehicles pass underneath the panels en route. The solar power can be matched to the 3rd rail power such that it can be directly wired to the 3rd rail, obviating the need for expensive power conditioning equipment.

Commercially available photovoltaic panels today can convert in excess of 15% of sunlight into electrical power. There is sufficient surface area above the ULRT guideways to generate peak solar of **1.5 MW/mile**. Our estimate of power consumption of the ULRT system is on the order of 15% of this generated power, leaving the balance (**85%**) to be fed back into the local electrical grid.

Based on known results of solar farms and using tax credits available, the payback period for such a solar farm would be less than ten years. After that the solar power will generate a profit according to preliminary estimates of around $2M/yr for the proposed Richmond system. This power may also be utilized directly in the TODs around the ULRT stations, making the stations truly sustainable.

## 4. ULTRA LIGHT RAIL TRANSIT SYSTEM DESIGN CONCEPTS

**System Route**

CTI is interested in entering into a long-term development agreement with the City of Richmond to develop the thirteen station ULRT system that runs from Port Richmond to Cutting Boulevard at 23rd and from Richmond Hilltop Mall to the Richmond Field Station. Station areas were selected giving priority to areas that are current and future population or employment centers and areas that have a great need for improved transit access. The **15 miles** of track in the proposed ULRT system touches the full extent of Richmond’s neighborhoods and business districts, connecting all areas to the BART system.

**Stations**

CTI has identified the optimal station sites that are likely to generate the greatest ridership and have the greatest benefit to Richmond residents and employers as public transportation. Transit stations that are proposed for the new Richmond ULRT system include:

* El Cerrito del Norte BART
* Cutting Boulevard & 23rd
* Marina Bay Transit
* Richmond Field Station
* Nystrom Village
* Port of Richmond
* Point Richmond
* North Richmond
* Parchester *Village*
* O&M Facility and Yard
* Richmond Parkway
* Hilltop Mall
* Hilltop Transit Center

Station sites selected for the ULRT corridor include areas of north, south, east and west Richmond. The full range of neighborhoods and commercial areas in Richmond are connected to each other and to BART through the ULRT system. In south Richmond, the ULRT corridor runs from Point Richmond through the Port of Richmond and the Richmond Field Station to Cutting Boulevard, transporting riders to BART. The North Richmond and Hilltop Mall areas are served by five (5) transit stations including North Richmond, Parchester Village, Richmond Parkway, Hilltop Mall, and Hilltop Transit Center.

**Station Area / TOD Parcels**

CTI proposes to work with the City of Richmond to assemble properties around the station sites to prepare these underdeveloped areas for transit oriented development.

**The Transit World Concept**

The City of Richmond ULRT system launches the “Transit World” concept and experience. Transit World is a new approach to planning a Sustainable Living lifestyle which transitions the Urban American Culture to becoming a more Transit Based Society. Richmond’s Transit World (RTW) design takes into consideration the system’s central physical position within the Bay Area region, connecting the city’s employment corridors along existing transit routes the can be enhanced by the Transit World experience.

The I-80 Corridor is a heavily used and congested artery providing northern access to the nine county San Francisco Bay Area region. The RTW System allows for expansion westward across the San Rafael Bridge to service Marin County and expand northward across the Carquinez Bridge to service Solano County and expanding to the Sacramento Area, and the RTW System can expand eastward along Hwy 4 connecting to East Contra Costa County where it can further expand southward along the Hwy 680 Corridor.

CTI has the potential to impact our lives in far-reaching ways. It will revolutionize the way that we travel from place to place, but ULRT is more than just a better transit system. It is less expensive to build, easier to use, and more convenient than any existing form of transit. It is also a better transportation system for humanity and the environment.

CTI has a vision of sustainable transportation that is good for humanity – a system that not only can be powered by renewable resources, but can also serve as a blueprint for smart growth, development, and the creation of a new industry.

**DESCRIPTION OF THE ULRT SYSTEM**

CTI is poised to be a leading supplier of light rail transit systems in the Bay Area and internationally. Our system is a viable ULRT alternative, and a compelling solution for Richmond.

**Ultra-Light Direct-to-Destination Rail**

The CTI approach to ULRT is direct-to-destination rail. Our unique passenger rail system works more like an elevator than a traditional transit system. Rather than running on a defined schedule, a computer-controlled system responds to passenger needs in real time. Passengers input their destinations at a station, and after a small amount of time has passed, vehicles arrive to deliver the passengers directly to their destinations. Multiple small vehicles and off-line stations allow for this level of flexibility and responsiveness. No unnecessary stops, no worrying about train schedules – just hassle-free transportation.

The average speed for CTI vehicles in typical light rail corridors is around 50 mph. Each vehicle operates on electricity that can be generated by solar panels in the right of way (or from any other power source on a typical electricity grid). In lieu of drivers, operators monitor and control vehicles from a centralized control room.

**ULRT Product**

CTI has recognized the socio-economic need for transit technology that can significantly reduce the world's dependence on the automobile for personal mobility. The urgency to meet this need derives from the fact that transportation in the US is almost entirely dependent on petroleum, a non-renewable and in many cases imported resource. If mobility is to be achieved without the need to carry the fuel on board, the vehicles must run on fixed routes on guideways constructed specifically for the operating vehicles. Additionally, the high cost of maintaining the US’s crumbling road network and the impossibility of affording system expansions in crowded corridors directs attention to alternative transportation, in particular rail for its relatively efficient use of land and energy.

The principal drawback of current passenger rail technology is its high cost. By developing a new way to provide passenger service on smaller, lighter vehicles, CTI has reduced the cost significantly. With smaller vehicles that can better match passenger demand, and the ability to operate on-demand and direct-to-destination, the CTI ULRT system offers the ability to achieve higher operating efficiencies with a proportionate savings in the cost of operations. Automation leading to lower Operation and Maintenance costs further enhances ULRT’s appeal to transit agencies, and as such is a key feature of the CyberTran ULRT product.

The logic of the CyberTran ULRT system engineering is as follows:

* Rail infrastructure is very expensive. The major cost driver of rail infrastructure is the civil structure that supports conventional transit vehicles.
* Conventional Rail Vehicles are large and heavy in order to spread fixed operating costs over the maximum number of riders
* Using a higher number of optimally sized smaller and lighter vehicles spreads the load over the whole structure, reducing the cost of the infrastructure dramatically while maintaining mass transit passenger carrying capacity
* Placing stations off-line on sidings eliminates the station as an inhibitor of vehicle traffic, allowing higher capacities
* With higher vehicle traffic possible, service equivalent to Rapid Transit can be achieved with many smaller, lighter cars

**Technology**

The CTI proposal includes the latest equipment and technology in the ULRT industry. The system allows for lightweight station infrastructure and structural support because of the ultra lightweight nature of the rail cars used by the system. With a capacity of approximately 20 persons per vehicle, the CTI rail cars are ultra lightweight at 10,000 lbs.

The signature feature of the CyberTran ULRT concept is the construction and use of track structures that place all stations off-line. CTI vehicles seat 10-24 passengers (depending on seating configurations) and are independently deployed, i.e. not coupled together into trains as with other conventional rail systems. Vehicles can be dispatched to stations when and where waiting passengers have indicated they want to go through the push of a button, much like an elevator.

At stations, CyberTran's® unique switching technology enables passing vehicles to bypass CTI's off-line stations. Off-line loading dramatically speeds up system operation. When it was computer-simulated on Portland's MAX light rail network, CyberTran® more than tripled average speeds from 14 mph to 51 mph in comparison to the existing Portland system.

With stations off-line, the system operation is more advantageous than conventional transit. Vehicles can be switched automatically from one guideway to another for a seamless journey direct to destination without transfers. The result is a significant reduction in travel time compared to conventional transit.

The inconvenience of making vehicle transfers leads to the conventional wisdom that each transfer required on a trip causes a ridership loss of 50%. Eliminating transfers can be expected to increase ridership and therefore revenue.

Dramatic reductions in capital and operating costs coupled with increased ridership promise fare box recovery ratios greater than 100% in many corridors, resulting in subsidy-free transit. This compares to the deficit-ridden finances of all American transit systems today. In an era of ever increasing demands for limited taxpayer funds, this is a powerful inducement for transit agencies and the government to embrace CyberTran’s ULRT technology.

Demand-responsive service on a slender guideway threaded through dense urban developments, serving offline stations literally at the front door of major trip generators, garners a greater share of ridership in comparison to the private automobile. Harnessing the real estate development concept exemplified by Hong Kong's MTR system can defray capital and operating costs for a profitable bottom line to the community and the company. CyberTran® heralds a new era of financially and environmentally sustainable transportation.

At the same time, CTI’s innovative technology and specialized ULRT equipment provides the rider with ultimate convenience, safety and comfort. CTI vehicles are designed to carry a small group of passengers directly from one station to another. Holding approximately 20 people in a more comfortable atmosphere than the typical bus or subway car, their small size means that they are also significantly lighter weight, reducing structural and power requirements and guideway construction costs. Vehicles are computer-controlled using a robust collision avoidance system to maintain safe operating conditions at all times.

**Guideway**

CTI runs on grade-separated guideways so that it does not interfere with other vehicular or pedestrian traffic, increasing safety. Due to the small size and low weight of the vehicles, guideway construction cost is significantly less than other systems, and tracks can be run on existing bridges and in highway medians.

CTI is a minimum construction impact system that does not require continuous ground preparation. It can be installed over many existing structures such as bridges and in highway medians. The system’s minimal physical footprint also means that it has a low visual impact.

CTI reduces the need for automobiles as a primary means of transport because, in a city like Richmond, the CTI system moves people to and from BART and places of employment, recreation, housing, retail and commercial services and other destinations needed to enjoy a good quality of life.

**Stations**

Each CTI station is located off of the main line, allowing vehicles to bypass others entering or waiting at a station. When a vehicle is ready to depart, it comes to speed and returns to the main guideway. This simple design change improves average speed and passenger convenience. Vehicles are stored in the stations when not in use, so they are always available.

The CyberTran ULRT system transports individuals efficiently from any one transit station to any other transit station directly, without stopping at every station. This enables a person to live in more areas of Richmond and still be able to get to work quickly and to do their shopping without using an automobile. Simply put, the CTI system facilitates the use of public transit as a meaningful alternative for Richmond residents and workers.

Because CTI uses off-line stations, more stations can be added without slowing down through passengers. This encourages more Smart Growth, or Transit-Oriented-Development, helping to finance system capital and operating costs, and laying down a blueprint for sustainable development. It also provides ridership that increases the system O&M bottom line.

**Clean Energy Provision through the ULRT System**

The ULRT creates a significant opportunity to design clean energy solutions into the air space and surrounding property within each station area. The CTI’s ULRT system is an opportunity to implement a green solution to support growth in infrastructure needs for the San Francisco Bay Area.

CTI is powered by clean electricity through a third rail. The electricity to power the system can be generated by solar panels over the guideway, the stations, and parking lots. CTI’s steel wheel on steel rail design is approximately three times more energy efficient than rubber tires on pavement, making the transit system much more energy efficient than rubber-tired vehicles.

Through the use of solar panels at transit stations, CTI promotes clean energy generation for the system and will become a net renewable energy generator. By adopting this proactive, forward thinking approach to clean energy, CTI fits with the emerging Green Economy and the direction of the economy, thereby making for a more sustainable business for the long term.

**“Last Mile” Transit Solutions**

The CTI ULRT system in Richmond incorporates several key “last mile” transit elements including Ride Share for cars, bikes and scooters, electric car charging stations, and others.

## 5. TRANSIT ORIENTED DEVELOPMENT IN RICHMOND

**Summary of the Transit Oriented Development Opportunity**

The transit development opportunity associated with the 13 stations in the Richmond ULRT system is outlined below. From our preliminary design schemes, the TOD development opportunity surrounding up to nine of the thirteen transit stations proposed for Richmond is significant. Approximately three (3) million square feet of non-residential development potential and seven (7) million square feet of residential development potential exists based on conservative design and zoning assumptions. The potential for site-specific development of each product type around the transit stations is summarized as follows:

* **Housing Development**

Seven (7) million square feet of residential development is feasible with a mix of housing types, mostly in mixed-use, mid-rise buildings with ground floor retail. Two TOD projects, Hilltop Mall and Nystrom Village, represent the opportunity for up to six (6) million square feet of new housing (with approximately 3 million square feet in each development), and offer the potential to build entire new residential villages with town centers.

* **Retail Space**

Two (2) million square feet of new retail space is proposed with one (1) million square feet of new retail at Hilltop Mall, 450,000 square feet at Nystrom Village, and the balance consisting of smaller scale retail at the Port of Richmond, 23rd & Cutting, Hilltop Transit Center, and North Richmond stations.

* **Office Space**

Approximately 360,000 square feet of new office space (Class A/B) is envisioned with the bulk of this space to be developed at the Marina Bay Transit station.

* **Service Light Industrial Research and Development (SLIRD) Space**

Approximately 400,000 square feet of new warehouse and/or service light industrial research and development (SLIRD) space is proposed for two transit stations: Richmond Parkway (with 330,000 square feet) and the O&M Yard site (with approximately 75,000 square feet). This land area is sufficient to support one or more SLIRD business parks at each site.

* **Hotel Development**

Up to two (2) hotel sites are envisioned in the TOD plan developed. Hotel sites are located adjacent to the Port of Richmond and Point Richmond transit stations.

**Lawrence Berkeley Laboratory**

The Richmond Field Station sits on 300+ acres of waterfront immediately across the San Francisco Bay from San Francisco near an industrial area of Richmond with excellent access to highway and other regional transportation networks. While the development of Richmond Field Station by the Lawrence Berkeley Laboratory is likely to be substantial, the TOD program for the CTI ULRT system is not included as no concrete project scope has been defined for the Richmond Field Station project.

**Economic Potential of the TOD Opportunity**

* Residential Development $2.5 Billion
* Office Development $150 Million
* Retail Development $750 Million
* Warehouse Development $15 Million
* SLIRD Development $100 Million
* Hotels & Health Clubs $ 45 Million
* Parking Stalls $ 30 Million

**Station Descriptions**

The following is a summary of the estimated cost and scope of investment of the potential TOD opportunity as envisioned in this proposal. The TOD potential is based on a thorough analysis of current zoning, development standards and the land use context at each station. The estimated cost structure below includes development of the station and the overall potential investment in transit oriented development as currently proposed.

STATION STATION TDC TOD $$$ INVESTMENT

Cutting & 23rd Street $ 21,246,500 $ 27,500,000

Marina Bay Transit $ 11,863,000 $ 130,000,000

Nystrom Village $ 16,937,000 $ 1,385,000,000

Port of Richmond $ 20,938,000 $ 340,000,000

Point Richmond $ 24,012,000 $ 39,000,000

North Richmond $ 46,293,000 $ 34,000,000

Richmond Parkway $ 28,691,000 $ 135,000,000

Hilltop Transit $ 21,904,000 $ 185,000,000

Parchester Village $ 49,362,000 - 0 -

El Cerrito del Norte $ 21,254,000 - 0 –

Richmond Field Station $ 23,166,000 - 0 –

O&M Facility and Yard $ 10,675,000 $ 15,000,000

Hilltop Mall $ 15,260,000 $ 1,300,000,000

**$319,000,000 $3,600,000,000**

Hence, an investment of approximately $300,000,000 in new ULRT transportation infrastructure can leverage approximately $3.6 billion in real estate investment in the form of new transit-oriented development in Richmond. A program description is provided for each TOD station opportunity including a snapshot of the economic benefits from the TOD at each station.

* **Cutting & 23rd**

An urban style supermarket-anchored shopping center, the Cutting & 23rd TOD opportunity is focused on all non-residential development including primarily office and retail space. The southeast corner features a multi-story building with three (3) floors of office space over the supermarket at street level, anchoring the four corners of retail and mixed-use development. The main building is envisioned as an office location for the transit agency with additional office space on upper floors. Similarly, the three remaining corners would provide “in-line” retail opportunities in single- or two-story buildings with multi-tenant office space on upper floors as the market dictates.

* **Marina Bay Transit**

Marina Bay Transit Station is viewed as an ideal location for office spaces with large open floor plans. Existing property utilized as parking would be redeveloped with 1st floor parking and office space on a podium. The number of floors of office in each building would be determined by demonstrated tenant demand or based on site-specific market plans. Assuming a FAR of 0.50 for the TOD site(s), a 95,000 Square foot office building is easily accommodated with small convenience store or coffee shop at the primary corner of the building. Up to 325,000 square feet of office/R&D space is envisioned for this site.

* **Nystrom Village**

Nystrom Village’s TOD site(s) are well suited to accommodate three (3) new high-rise or mid-rise residential buildings with some supporting retail and entertainment space. A total of up to 3,000,000 square feet of residential space is proposed with an additional 450,000 square feet of lifestyle retail/entertainment space anchored by skating rinks (ice skating and roller skating) and a 24 Hour Fitness style health club with swimming pool. Additional retail to complete the TOD development, which could accommodate approximately 3,000 new housing units, would include cafes, restaurants and lounges that create a sense of place with a mix of ethnic style destinations. This TOD site is envisioned as all residential with retail development. No office space is proposed.

* **Port of Richmond**

The Port of Richmond TOD sites would be anchored by a two-story supper club in a mixed-use building. With more than 1 million square feet of new space proposed, other development opportunities at Port of Richmond include Light Industrial/ R&D development in large buildings characteristic of this district, as well as a group of new residential buildings designed to create an “Alley” where social activities can be centered for the emerging residential community. This “Alley” would be a focal point where residents of the area can congregate, with cafes, restaurants and lounges facing the street.

* **Point Richmond**

A 55-room hotel mixed-use development is recommended for the Point Richmond TOD Site(s), along with additional small-scale residential and retail buildings.

* **North Richmond**

Similar to Cutting & 23rd, North Richmond is proposed to accommodate a new supermarket-anchored shopping center on its TOD sites. Residential development is planned to complement the 15,000 square foot community supermarket, primarily with two-story Townhouse and Live-Work housing types on adjacent parcels. Approximately 90,000 square feet of housing can be accommodated based on current plans.

* **Richmond Parkway**

Richmond Parkway TOD is perfectly suited to an Office/R&D Business Park possibly of the Service Light Industrial R&D (SLIRD) variety. Approximately 400,000 square feet of SLIRD is proposed along with live work housing units and ancillary retail space.

* **Hilltop Mall**

Nearly a four million square foot build-out is planned for the redevelopment of Hilltop Mall, where transit-oriented development is viewed as a catalyst for transforming the shopping mall parking areas into a village of mixed-use buildings on podium over parking. Parking spaces are preserved while housing, office and retail intensity of the property is increased to establish an Urban Entertainment Destination Center at Hilltop Mall, leveraging the existing draw of this regional shopping center location.

Planned uses include nearly 3 million square feet of residential buildings and more than 1 million square feet of added retail/entertainment space including a hotel, live performance theatre, Dave & Buster’s style entertainment arcade, and a multiplex cinema.

* **Hilltop Transit Center**

Mixed-use residential and retail buildings are planned for this TOD location with retailers ranging from micro-retail tenants and kiosks to multi-tenant franchise retailers. Residential areas are envisioned as multi-family and live-work types that fit the character of the neighborhood.

* **El Cerrito del Norte BART Station**

The TOD opportunity for the El Cerrito Del Norte station is significant, including hundreds of residential units, retail and mixed uses on the site. While we believe the TOD opportunity at El Cerrito del Norte is viable, since the El Cerrito del Norte BART Station is located outside of Richmond’s city limits, the housing units and commercial space that can be developed at the site is not formally included in this proposal.

## SYSTEM RIDERSHIP ANALYSIS

There is momentum gathering nationally and regionally toward use of transit and transit-oriented development for its convenience, economic value and reduction of impact on the environment (carbon footprint). The San Francisco Bay Area market, for example, is well suited to a world-class ULRT system and Richmond is a logical choice for a demonstration project for the Transit World concept. The underlying purpose of the system is to reduce emissions, create meaningful alternatives to vehicle transport, and improve air quality.

**Ridership Estimates based on Existing Richmond Population and Workforce**

Following is a summary of the ridership analysis for the proposed Richmond ULRT system. Thirteen (**13**) ultra-light rail transit (ULRT) stations are planned along the proposed Richmond ULRT system. The total existing population within **0.5 mile** distance or Sphere of Influence (**SOI**) of the thirteen stations is **38,956 persons**, which means that **more than one-third** of Richmond’s population will be served by the system.

The ridership estimate assumes that 10% of the **existing** population within 0.5 miles of each ULRT station will utilize the ULRT system for commuting in and out of Richmond (“**10%** mode share”). No ridership is assumed for residents of Richmond living outside the **0.5 mile** SOI. Daily ridership from the existing population living in Richmond is estimated at **3,895 riders**. Ridership attributed to non-residents commuting in and out of Richmond for work is estimated at 25% of the resident-based ridership (and approximately 10% of the estimated workforce operating in the SOI), or **975 riders**. Assuming round trip usage of the system, **9,740** boardings per day, 260 days per year and 25% of same ridership on weekend days, the total ridership is estimated at **3,165,000** boardings per year.

**New Ridership from Transit Oriented Development**

Nine (9) of the thirteen (13) ULRT stations are proposed to have new transit-oriented development (TOD) that will add ridership as these projects are built out. New TOD’s are projected to add 8,000 new households or approximately 17,600 residents within the SOI around the nine (9) stations, based on an average household size of 2.2 persons in the new TOD housing units.

The ridership projection is based on utilization of the ULRT system by an estimated **20%** of the new population living in the TOD’s at build-out (“**20%** mode share”). The increased mode share assumption is based in part on the fact that many residents of the new TOD are assumed to have chosen to live in this location based on the convenience of light rail transit. Daily ridership from the population living in the TOD’s and within **0.25 mile** distance of each station is estimated at 3,520 riders. Assuming round trip usage of the system, **7,040** boardings per day on 260 days per year, and 25% of same ridership on weekend days, new TOD-based ridership is estimated at 2,288,000 boardings per year. Total annual ridership then is 2,238000 + 3,165,000 = **5,453,000** annual boardings.

**Fare revenue calculations**

Two methods of fare calculation are provided based on the projected ridership: distance-based fares and flat rate fares. Distance-based fares are calculated using a $1 charge + $.33/mile. For the basis of distance-based fare mileage, the distance from each station to the El Cerrito Del Norte BART Station is used. A flat rate of $2 per trip is used.

Distance-based fare revenue is estimated based on 3,165,000 boardings calculated above. Approximately 10% of the existing population within the SOI of each new ULRT station is assumed to use the ULRT station nearest their residence (“Station of Origin”). For each resident, the distance from the station of origin to the destination, which in each case is assumed to be El Cerrito del Norte station, is used to calculate the fare.

Distance-based fares calculated using a $1 charge + $.33/mile yield estimated annual fare revenue of $7,900,000. Upon completion, additional revenue generated for the ULRT system from TOD-based ridership is estimated at $5,720,000 based on distance-based fares. At full TOD build-out, total distance-based fares of $13,600,000 are anticipated. Flat rate fares based on 3,165,000 trips per year at $3.00 per trip yield an estimated $9,495,000 in annual revenue. TOD-based ridership is projected to add 2,288,000 trips and $6,864,000 in annual revenue for the system.

**Exclusions from the Ridership Estimate and calculation of Fare Revenue**

The ridership estimate presented here conservatively estimates daily ridership and daily boardings based on existing and planned population and system use by Richmond residents and workers. For instance, the ULRT **Del Norte** BART is **not** included because it is wholly within the City of El Cerrito and even though there may be ridership from that station to other Richmond stations, such intra-Richmond ridership is not taken into account. Similarly, the **Richmond Field Station** ULRT station has **no new** TOD ridership included because it is unknown how that site will be developed by the Lawrence Berkeley Natl. Lab and the University of California.

The calculation of Total Daily Riders and system revenue may be **conservatively low** due to the following:

* 1. No intra-Richmond ridership is assumed.
  2. No RFS new TOD ridership is assumed.
  3. No ridership for residents of Richmond living outside the .5 mile Sphere of Influence (“SOI”) from each station is assumed.
  4. No additional TOD within the SOI of any stations is assumed.
  5. No estimate for ridership from anticipated TOD at Richmond Field Station or El Cerrito del Norte is assumed.

The ridership estimate also does not assume that TOD development will occur at certain stations, such as Parchester Village and North Richmond, so only the existing population of these areas are included in the projections at a 10% Mode Share. The O&M station, which has TOD development potential on property adjacent to the proposed station location, has no planned TOD at this time and no assumed existing population to be served. In all, the exclusions from the ridership estimate which would likely add to system ridership and fare revenue make these projections **conservative**. In this way, both the daily ridership and fare revenue calculations can be viewed as conservative.

## CONSISTENCY WITH AGENCY OBJECTIVES

***City of Richmond Goals and Objectives***

CTI will work extensively with the City of Richmond to formulate a plan to deliver community benefits, including those outlined here. This proposal is consistent with the goals and objectives of the General Plan. In July of 2011 the City Council voted to formally enter into a Public Private Partnership with CTI and instructed staff to make plans for a ULRT system in the city’s General Plan.

The ULRT system proposed is a key step towards managing Smart Growth as outlined in the General Plan but provides for Sustainable Living through Transit Oriented Development.

In the recent past the SF Bay Area has seen a migration from inner cities to outlying areas creating sprawl resulting in a reduction in open space, traffic congestion, and an increase in greenhouse gases.

A General Plan with a focus of planning TOD simultaneously with a transit system will feature the City of Richmond as a model city of Sustainable Living for the global community. This type of planning will be the first of its kind in the United States.

The impact of implementing this TOD approach will be a migration from the outer regions of the Bay Area back to the inner city urban community. This is achieved by creating Livability nodes of TOD which provides for all amenities and necessities needed in a dense area.

Going vertical has the benefit of increasing land use and value while using less space. It allows for the ability to live, work and play in close proximity to home while becoming less dependent on the automobile. This is also consistent with SB375 and is focused on Sustainable Communities.

* **Compliance with SB 375**

The sustainable communities and climate protection act of 2008 (SB 375) tasks regional air resource boards with establishing greenhouse gas reduction targets. The regional metropolitan planning organizations are then to create a sustainable communities strategy to demonstrate how they will reach this target through integrated land use, housing and transportation planning. Specifically SB 375 ties housing and development to transportation planning, requiring regions to plan for an 8 year projection of housing needs and, among other things, identify a transportation network to service the needs of the community. The plans will then be incorporated into the federally enforceable regional transportation plan (RTP). These plans then require final review by the air resource boards to determine compliance with greenhouse reduction targets.

SB 375 encourages compliance and implementation of these plans through CEQA streamlining for projects consistent with the regional sustainable communities strategy. Furthermore SB 375 creates what are called transit priority projects (TPP). To qualify for TPP’s a project must contain at least 50% residential use, have a minimum net density of 20 units an acre and are located within .5 miles of a transit stop or high quality transit corridor included in the regional plan. To encourage the development of TPP’s SB 375 provides reduced parking requirements, density bonuses, reduced impact fees for infill and TOD , use of grants, flexible development standards and development review process (CEQA) streamlining.

The proposed Richmond Project fits perfectly into these requirements for density, use mix and orientation to transit. Working with the city of Richmond, WCCTAC, and the MTC, application for transit priority project status could be secured. If obtained this would be an obvious incentive to both financers and developers alike as regulatory hurdles in California can incur significant costs through legal fees, additional consultants, and delays. Furthermore the relaxed regulations for parking and reduced impact fees for TOD are further financial incentives for developers.

* **Job Creation**

The Richmond ULRT system will create sustainable green jobs tied to current and long-term demand for public transit, which is an increasingly attractive public transportation alternative that addresses the well-documented need for improved transit infrastructure regionally and nationally.

The CTI system will employ in excess of 20 full time equivalents (FTE’s) at start-up capacity, and may employ additional staff depending on demand for our products and the need for multiple shifts to be run at the facility. The CTI system will create employment opportunities at entry level and management positions. During the first year, the primary workforce development objective will be to recruit and train local residents for this green transportation industry. CTI will hire from Richmond-based workforce training programs when possible.

* **Fiscal Benefits**

CyberTran International will work extensively with the City of Richmond to formulate a plan and deliver community benefits.

* + **Increased Property Values**

Transit-oriented development proposed for the station areas will increase property value and add residents and businesses to Richmond’s economy.

* + **Government Revenue**

The Richmond ULRT system will generate significant employment tax, property tax and sales tax revenue for the City of Richmond, County of Alameda, State of California and US Government.

* + **City of Richmond**

The Richmond ULRT system will generate significant employment tax, property tax and sales tax revenue for the City of Richmond.

* + **Alameda County**

The Richmond ULRT system will generate significant property tax and sales tax revenue for the County of Alameda.

* + **State of California**

The Richmond ULRT system will generate significant employment tax and sales tax revenue for the State of California.

* **Infrastructure Improvement for City Areas**

The CTI facility can support new infrastructure development in key areas of Richmond, and encourage additional investment.

* **Transit Oriented Development**

CTI is committed to the planning and development of a high-quality transit system that will encourage investment in transit-oriented residential and commercial development, including various forms of housing, retail, office, industrial and entertainment uses. As more CTI systems are installed, avoided automobile trips will mean less air pollution and traffic congestion.

* **Project Quality & Delivery**

CTI is committed to building a quality ULRT system on the City of Richmond that will enhance the neighborhood and commercial areas with minimal emissions during operation and production of clean solar energy.

* **Equity Partnership with Local Entities**

CTI is a partner with Community Housing and Development Corporation (CHDC), a Richmond community-based development organization respected for their work in affordable housing throughout the city. CHDC is run by Don Gilmore, the community developer who has been serving the community for more than thirty years. As shown in the Team Qualifications section of this proposal, CTI is committed to the involvement of local small businesses in addition to regional and national companies.

## RICHMOND PROJECT TEAM QUALIFICATIONS

**TRANSIT SYSTEM PROJECT TEAM**

***CTI's Multidisciplinary Team***

CTI's multidisciplinary transit system project team, anchored by CyberTran International, Swinerton Construction, Todd Jersey Architecture, and Lawrence Berkeley National Lab includes all essential areas of expertise required to complete a state-of-the-art ultra-light rail transit (ULRT) system in Richmond. The project team has been hand-picked to include local businesses that have the requisite skills to insure successful completion of the facility. Key project personnel include:

* **CyberTran International** Transit System Design & Implementation
* **Deterministic Systems Inc.** Control, Power, Systems Integration
* **PGH Wong Engineering** Civil, Power, Program Management
* **Todd Jersey Architecture** Station Architecture
* **FMG** Architecture
* **Rocky Mountain Institute** Energy systems
* **Greenstone Development** Development Planning
* **Swinerton Construction** Construction Management
* **United Street Car** Vehicle and Structure Manufacturing
* **UC Berkeley PATH** Vehicle Automation
* **Lawrence Berkeley Natl. Lab**  Microgrid Systems, Energy Storage
* **LISC** Affordable Housing Development Finance
* **Enterprise** Affordable Housing Development Finance
* **CHDC** Affordable Housing Developer
* **Rhonda Harris, RFA** Community Outreach
* **Joe L. Fisher Realtor** Affordable Housing Marketing

CTI’s philosophy is to employ the latest technologies and the best local talent to create world class teams that run deep with experience and proven track records of success. With the City of Richmond, we seek to establish a model, green ULRT system that utilizes the most advanced railcar equipment and technology and the latest techniques to transport people efficiently with installation of cost effective infrastructure (stations) and equipment design (railcars) for a ultra light rail system. This is the foundation of the Transit World concept.

For the new transit system, we have assembled a team to complete the construction, finance and operation. For the TOD, we have involved experienced urban planners and developers to pave the way for these site specific developments to occur. As depicted here, the combined team includes all facets of project design, innovation, and operation for both the system and the TOD.



**CyberTran International**

CyberTran International, Inc., a leader in the development of ULRT systems, is headquartered in Richmond, California. Founded by developers from the US Department of Energy, CTI is commercializing ULRT technology. CTI’s ULRT model will save money and prove cost effective for many government agencies or organizations. Our systems provide efficient, cost effective people transport services that yield significant cost savings over transportation alternatives and produce environmental benefits.

Professional Control Systems Engineering (CSE)

DSi is a controls engineering services provider with decades of experience in the design and implementation of networked PLC (Programmable Logic Controller) control systems.

Our professional engineering staff specializes in critical control systems requiring deterministic operations. We design all of the hardware circuits and we write every line of program code so that we can tightly integrate the control system to your application. DSI can design new control systems for your new automation project or we can upgrade and support your existing control system. We have experience with many different PLCs and HMIs allowing you to choose a new platform or integrate into your existing distributed control systems.

Automated Manufacturing - DSI helps Toyota manufacture cars and trucks by providing PLC programming and Video Recording Systems synchronized with our Event Based Recorder Systems (EBRS).

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Founded in 1985, PGH Wong Engineering, Inc. (Wong) has become one of the nation's leading firms in the transit industry. Wong provides a comprehensive range of professional engineering, project/program management, and construction management services.

The firm has served as an invaluable partner to public and private entities across the nation and overseas, including San Francisco Bay Area Rapid Transit (BART), Santa Clara Valley Transportation Authority (VTA), the Federal Transit Administration, San Francisco International Airport, San Francisco Department of Public Works, Miami, Phoenix, New York City Transit, San Francisco Muni, San Diego, Sacramento, Salt Lake City, St. Louis, Boston (MBTA), Monterey (Mexico), and Korean High Speed Rail.

http://www.toddjerseyarchitecture.com/artman2/images/tja.gif

At Todd Jersey Architecture, we design buildings to optimally support human needs while protecting and enhancing the earth’s ecological systems. We are green architects; therefore we practice both people care and earth care. Being a green architecture firm, our projects are beautiful, functional and highly resource efficient.

Based in the San Francisco Bay Area, specifically in Berkeley California, our seven-person firm is highly regarded as a pioneer in the green architecture movement. We have been developing, refining and implementing green building systems and strategies for over twenty years and have designed green architecture projects throughout Northern California.

Our green building projects include mixed-use and creative re-use projects, condominiums, homes, hotels, schools, public buildings, historic renovations, churches, and retail stores. We are the first architectural firm in the country to achieve a LEED Gold certification for a green commercial hotel project.

**FMG Architects**

FMG ARCHITECTS excels. Our creative approach delivers ingenious design that provides high-value sustainable buildings. Collaboration with our clients at the initial stages of work ensures successful cost effective life-cycle based projects. Our award-winning work is instilled with a sense of appropriateness, endurance, and quality.

FMG is a recognized leader in the design of governmental and public agency projects. We have specialized expertise in transportation systems and related facilities including rail stations, airport and water ferry terminals, operations and maintenance buildings, and parking structures.

Transportation facilities present unique design challenges due to their complex nature and stringent compliance with technical and code requirements. Public safety, accessibility, and exiting including signage and wayfinding are of utmost importance.



**About RMI**

“At Rocky Mountain Institute we are practitioners, not theorists. We do solutions, not problems. We do transformation, not incrementalism.”

–Amory Lovins

**Who We Are**

Rocky Mountain Institute is an independent, entrepreneurial, nonprofit, 501(c)(3) think-and-do tank. Co-founded in 1982 by Amory Lovins, who remains an active thought leader as Chairman and Chief Scientist, the Colorado-based organization now has approximately 75 full-time staff, an annual budget of nearly $12 million, and a global reputation.

**What We Do**

RMI excels in radical resource efficiency, especially via integrative design. We drive progress chiefly by transforming design, identifying and busting barriers, and spreading innovation.



Urban design and master planning now call for the integration of many complex factors, including market demands, environmental opportunities, community input and technical efficiencies. Our comprehensive approach to each project seeks to integrate these factors into plans and designs that are appropriate to their place, financially sound, and socially progressive.

With a skilled inter-disciplinary staff of architects, landscape architects, planners, and urban designers Calthorpe Associates provides an integrated set of services. The firm's expertise ranges from urban infill and redevelopment plans to new towns and regional growth strategies, from housing and retail development to commercial and civic design. This wide-ranging experience provides a unique capability that facilitates the development of plans that are grounded in what can be called practical innovation.



Greenstone Development, LLC is a real estate development services firm based in Oakland, California. Our company is focused on green investments in urban communities that create quality real estate assets and long-term value. We identify prime investment opportunities, structure favorable financing strategies and assume ownership interests alongside our investors in acquisition, development and operation of real estate assets. Our experience in commercial and residential mixed-use development, primarily in Oakland, San Francisco, and Richmond, California, represents a substantial track record working closely with government agencies, development partners and community groups to devise real-world solutions that achieve shared real estate objectives.

**The Swinerton Family of Companies**

The Swinerton Family of Companies provides commercial construction services throughout the Western United States, delivering innovative construction solutions and outstanding customer service to a diverse range of business clients that demand exacting performance.

Established in 1888, Swinerton formally incorporated in the State of California in 1908 and holds California Contractor License No. 92. Today, Swinerton offices are located throughout California, in Colorado, Hawaii, Texas, New Mexico and Washington.

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United Streetcar’s mission is to provide modern, efficient, safe and reliable American-produced streetcars and to be a pioneering force in increasing urban transit options throughout the United States. United Streetcar is pleased to provide a green urban transit option to cities across America.

United Streetcar was formed in December, 2005, and is a wholly owned subsidiary of Oregon Iron Works, Inc. (OIW). OIW is a metals manufacturing company that specializes in mechanical and electrical integration and complex fabrication across diverse industries.

United Streetcar has extensive innovative manufacturing and integration experience from its parent company, Oregon Iron Works, Inc., which has exceptional history and success in both commercial and government contract work. Streetcar fabrication fits perfectly with OIW’s long term proven manufacturing capability as well as the experience and ingenuity of OIW’s team of personnel. Through becoming the premier U.S. manufacturer of modern streetcars, United Streetcar continues OIW’s history of being a recognized leader in the local community by bringing additional living wage jobs to the area and contributing to the overall economic vitality of the region.

California Partners for Advanced Transportation Technology (PATH) was established in 1986. It is administered by the Institute of Transportation Studies (ITS), University of California, Berkeley, in collaboration with Caltrans. PATH is a multi-disciplinary program with staff, faculty and students from universities statewide, and cooperative projects with private industry, state and local agencies, and non-profit institutions.

PATH's mission is to develop solutions to the problems of California's surface transportation systems through cutting edge research. PATH develops these solutions by harnessing the knowledge of transportation researchers, working in conjunction with experts in the fields of information technology, electrical engineering, mechanical engineering, economics, transportation policy and behavioral studies. The PATH charter includes conducting leading research, planning and evaluating field operational tests, developing partnerships between academia, the public sector and private companies, and educating both students and practitioners.

The PATH Program emphasizes research directions that offer potentially large improvements in the operations of the transportation system, relative to those that can make only incremental improvements. At the same time that PATH addresses the relatively long-term, high-impact solutions, it also addresses the evolutionary steps that will be necessary to get to the long-term solutions.

****[**Berkeley Lab: Bringing Science Solutions to the World**](http://www.lbl.gov/assets/docs/15810_WoGS_single_pages.pdf)

In the world of science, Lawrence Berkeley National Laboratory (Berkeley Lab) is synonymous with “excellence.” Thirteen scientists associated with Berkeley Lab have won the Nobel Prize. Fifty-seven Lab scientists are members of the National Academy of Sciences (NAS), one of the highest honors for a scientist in the United States. Thirteen of our scientists have won the National Medal of Science, our nation's highest award for lifetime achievement in fields of scientific research. Eighteen of our engineers have been elected to the National Academy of Engineering, and three of our scientists have been elected into the Institute of Medicine. In addition, Berkeley Lab has trained thousands of university science and engineering students who are advancing technological innovations across the nation and around the world.

Berkeley Lab is a member of the national laboratory system supported by the U.S. Department of Energy through its Office of Science. It is managed by the University of California (UC) and is charged with conducting unclassified research across a wide range of scientific disciplines. Located on a 200-acre site in the hills above the UC Berkeley campus that offers spectacular views of the San Francisco Bay, Berkeley Lab employs approximately 4,200 scientists, engineers, support staff and students. Its budget for 2011 is $735 million, with an additional $101 million in funding from the [American Recovery and Reinvestment Act](http://www.lbl.gov/Publications/recovery/), for a total of $836 million.

A [recent study](http://newscenter.lbl.gov/news-releases/2010/04/14/berkeley-lab-economic-impact/) estimates the Laboratory’s overall economic impact through direct, indirect and induced spending on the nine counties that make up the San Francisco Bay Area to be nearly $700 million annually. The Lab was also responsible for creating 5,600 jobs locally and 12,000 nationally. The overall economic impact on the national economy is estimated at $1.6 billion a year. Technologies developed at Berkeley Lab have generated billions of dollars in revenues, and thousands of jobs. Savings as a result of Berkeley Lab developments in lighting and windows, and other energy-efficient technologies, have also been in the billions of dollars.

Berkeley Lab was founded in 1931 by Ernest Orlando Lawrence, a UC Berkeley physicist who won the 1939 Nobel Prize in physics for his invention of the cyclotron, a circular particle accelerator that opened the door to high-energy physics. It was Lawrence’s belief that scientific research is best done through teams of individuals with different fields of expertise, working together. His teamwork concept is a Berkeley Lab legacy that continues today.

For almost three decades, LISC has connected local organizations and community leaders with resources to revitalize neighborhoods and improve quality of life. The LISC model assembles private and public resources and directs it to locally-defined priorities. Our unique structure enables local organizations to access national resources and expertise and our funding partners to leverage their investment and achieve an impact that is truly remarkable.

The Local Initiatives Support Corporation (LISC) is dedicated to helping community residents transform distressed neighborhoods into healthy and sustainable communities of choice and opportunity — good places to work, do business and raise children. LISC mobilizes corporate, government and philanthropic support to provide local community development organizations with: (1) loans, grants and equity investments; (2) local, statewide and national policy support; and (3) technical and management assistance

For 30 years, Enterprise has introduced solutions through public-private partnerships with financial institutions, governments, community organizations and other partners that share our vision that one day, every person will have an affordable home in a vibrant community, filled with promise and the opportunity for a good life.

Our mission is to create opportunity for low- and moderate income people through affordable housing in diverse, thriving communities.  For housing to be a springboard to a good life, it must exist in a supportive living environment with jobs, quality schools, child care, transportation, health care and support for seniors, with access to parks, community spaces and food and retail services that support a healthy lifestyle. Enterprise develops and preserves affordable housing in communities linking people to opportunities for success. When these links are absent, Enterprise forms partnerships and bridges gaps toward creating more vibrant places for people to live and pursue their dreams.

Since 1982, Enterprise has raised and invested more than $11.5 billion in equity, grants and loans to help build or preserve nearly 300,000 affordable rental and for-sale homes to create vital communities and more than 410,000 jobs nationwide.  The Great Recession and growing income disparity have severely aggravated U.S. poverty levels and basic needs, especially among seniors and other vulnerable individuals.

Because of our expertise in affordable housing investment and development, innovative solutions, policy and green initiatives, Enterprise is a national voice, driving social and financial innovation across private, public and government sectors.  Enterprise is advocating for policy solutions and creating new approaches and partnerships to end the foreclosure crisis, such as the [Mortgage Resolution Fund](http://www.illinois.gov/PressReleases/ShowPressRelease.cfm?SubjectID=3&RecNum=9551&mkt_tok=3RkMMJWWfF9wsRokuqTKZKXonjHpfsX6/bF8APvv3Mga3E5XdrGdbRG2zsBEHqIgYO+XGV8VHYRk0hxKE/OQf49N9+BTAlWr). The fund’s goal is to raise $1 billion to help families remain in their homes and stabilize communities. More than 51 percent of all homes financed with Enterprise support meet the [Enterprise Green Communities Criteria](http://www.enterprisecommunity.com/solutions-and-innovation/enterprise-green-communities/criteria), the only national framework for building and preserving green affordable housing.  Headquartered in Columbia, MD., Enterprise has offices and an [on-the-ground presence](http://www.enterprisecommunity.com/where-we-work/other-offices) across the United States. We offer a range of financial products and programs to improve and increase the supply of affordable housing as well as revitalize communities.



**Our Mission**

Create and sustain vibrant communities that make a positive impact in people's lives by providing high quality affordable housing and neighborhood services.

**People and Areas We Serve**

CHDC serves households throughout Contra Costa County and beyond. The majority of our clients live in the greater Richmond area. We serve people of all income levels, but specialize in serving low and moderate income families. A large majority of our clients have incomes below 80% of the area median

**History of CHDC**

CHDC was founded in 1990 by local leaders in North Richmond working to eliminate blight, improve housing opportunities for current and future residents, and create better economic conditions. It emerged from a housing committee of the North Richmond Neighborhood House, and received early support from several local faith based organizations. Today, CHDC has added over 200 owner-occupied homes to the Richmond area along with street improvements, public services, senior and family rental housing; CHDC is a leader in the greater Richmond area in affordable homeownership and quality rental housing, and CHDC is recognized statewide for its asset-building programs for low income households. Some of our programs have specific income and geographic requirements.

**Rhonda Harris, RFA**

Real Estate Developer, General Contractor and Community Improvement Advocate Rhonda F. Harris is the CEO of R.F. & Associates Inc. (RFA), a full-service development firm with a strong reputation for mobilizing community stakeholders to collaborate on ventures that promote sustainable development in West Contra Costa County and the greater San Francisco Bay Area.

Established in 2000, RFA purchases and renovates distressed properties. With a portfolio of over $8 million in business activity, the developer/contractor has acted as a catalyst for community revitalization, effectively coordinating and uniting local residents, municipalities, lenders, brokers, insurers and subcontractors to reduce blight and stimulate home ownership and economic development in the region’s urban areas. A native of San Francisco, Rhonda Harris has lived in Richmond for more than 33 years. She purchase her first home in Richmond when she was 22, and her first investment property at the age of 23. As a dedicated community servant, she is committed to working with any organization or individual for the betterment of Richmond.

**Joe L. Fisher Realtor**

Real Estate Broker  
Fisher Realty 180 Broadway Suite A Richmond, Calif. 94804  
Practicing Real Estate since 1988  
Lifetime Resident Richmond/Contra Costa  
West Contra Costa Association Of Realtors Board of Directors (WCCAR) 2005-2011  
West Contra Costa Association of Realtors -(WCCAR) President- 2008  
Served: Economic Development Committee City of Richmond  
Served: Planning Commission City of Richmond  
Served: Assessment Appeals Board of Contra Costa County  
Current: Mechanics Bank Community Advisory Board Member  
Current: Coronado Neighborhood Council-- President  
Current: West Contra Costa United School District (WCCUSD) Board Oversight Committee

**Other Team Members and Supporters**

* City of Richmond
* County of Alameda
* State of California
* i-GATE

**TOD Team Qualifications**

It should be noted that key members of the CTI team who will be involved in the design, development, community outreach, financing and construction of the TOD opportunities have been identified in this proposal. The involvement of team members with real estate development expertise is designed to facilitate planning and future development of appropriate housing and commercial/mixed-use developments adjacent to stations. The combined expertise of these team members fits the requirement of the TOD projects.

## BUDGET PROJECTIONS

**TRANSIT SYSTEM BUDGET PROJECTIONS**

The CTI team plans to design, build, and operate the facility and is exploring debt and equity financing for the project. Due to the cost effectiveness of the equipment and system design, CTI is poised for success with reasonable and predictable revenue assumptions. Following is a summary of key financial terms related to the CTI Richmond ULRT system. Included are the proposed ground lease payment, a summary of anticipated system revenue and expenses, and the proposed sources and uses of financing for the system installation.

**Projected ULRT Revenues**

Projected revenues for the CTI Richmond system are presented for the system prior to and upon completion of the transit-oriented development (TOD) sites outlined in this proposal. In both cases, there are two main sources of revenue anticipated for the CyberTran ULRT system: fare collection and advertising revenue. The solar electric power component has not been included in these revenue projections.

Prior to completion of the TOD projects, the expected annual operating income from these revenue sources is outlined below:

PRIOR TO TOD DEVELOPMENT

Ridership-based Revenue using Distance Base Fares: $ 7,600,000

**Revenue from Commercial Space** $ 305,000

Revenue from Advertising in/on Railcars: $ 2,544,000

Revenue from Advertising in Stations: $ 576,000

**Total Anticipated Revenue from Stations $11,025,000**

UPON COMPLETION OF TOD DEVELOPMENT

Ridership-based Revenue using Distance Base Fares: $ 13,600,000

Revenue from Commercial Space $ 305,000

Revenues from Advertising in/on Railcars: $ 2,544,000

Revenue from Advertising in Stations: $ 576,000

**Total Anticipated Revenue from Stations $17,025,000**

**Cashflow Summary**

With annual revenue of $11.0 million, the CTI Richmond ULRT should be able to meet reasonable financial hurdles and investor expectations.

PRIOR TO TOD DEVELOPMENT

Annual Sales Revenue: $11.0 million

Annual Operating Expenses: -$ 8.5 million

**Net Operating Income: $ 2.5 million**

Debt Service Payments: -$ 1.7 million

Net Cash Available:  **$ 0.8 million**

UPON COMPLETION OF TOD DEVELOPMENT

Annual Sales Revenue: $17.0 million

Annual Operating Expenses: -$11.9 million

**Net Operating Income: $ 5.1 million**

Debt Service Payments: -$ 1.7 million

Net Cash Available: **$ 3.4 million**

The economics of the project are favorable showing the likelihood for break-even operating budgets annually based solely on fare revenue and advertising revenue prior to development of any of the TOD sites. This means that unlike the vast majority of transit systems, the CTI System in Richmond should not require long-term subsidies.

**Development Cost of the ULRT System**

**Project Costs**

Land Costs: $ 409,000

Construction Costs: $217,014,000

Site Work Costs: $ 19,100,000

Soft Costs: $ 61,537,000

Financing Costs: $ 12,892,000

Owner Contingency: $ 7,774,000

**Total Development Costs: $318,726,000**

**Sources of Financing**

Private Equity: $ 3,984,000

State / Local Subsidy: $ 165,737,000

Federal Tax Credits/NMTC/DOT: $ 111,554,000

Conventional Private Debt: $ 37,451,000

**Total Sources: $318,726,000**

**Statement on Fiscal Benefits**

As outlined in Section 6 on pages 36-38, the CTI Richmond TOD opportunity has significant fiscal benefits to the city, county, state and federal governments (and surrounding community) through generation of tax revenues. These include, but are not limited to, property tax, sales tax, business tax and payroll tax. Fiscal and other benefits of the project are\* outlined in the section on “Consistency with Agency Objectives”.

## FUNDING OPTIONS

**Sources of financing**

1. Penta-P

This project is envisioned to be a Penta-P, a Public-Private Partnership Pilot Project. Such a project type is recognized by the Federal Transit Administration. It should receive very favorable status by the FTA since PPPs in transit projects are almost nonexistent in the US.

1. TIFIA

“The Transportation Infrastructure Finance and Innovation Act (TIFIA) program provides Federal credit assistance in the form of direct loans, loan guarantees, and standby lines of credit to finance surface transportation projects of national and regional significance. TIFIA credit assistance provides improved access to capital markets, flexible repayment terms, and potentially more favorable interest rates than can be found in private capital markets for similar instruments. TIFIA can help advance qualified, large-scale projects that otherwise might be delayed or deferred because of size, complexity, or uncertainty over the timing of revenues. Many surface transportation projects - highway, transit, railroad, intermodal freight, and port access - are eligible for assistance. Each dollar of Federal funds can provide up to $10 in TIFIA credit assistance - and leverage $30 in transportation infrastructure investment.

1. State and Local funding

Under the new provisions of the Transportation Reauthorization Bill signed by the President in 2012, TIFIA can provide up to 49% of transit project capital. Because of the very high interest in TOD and transit PPPs, it can be anticipated that as much as 25% of the transit project cost could be provide from State, regional, and/or local sources in order to match TIFIA and private sources. Some bonding capacity from net revenues can support infrastructure bond money at the state level, in addition to project costs borne by the state and/or Bay Area agencies.

1. Private stakeholders

Stakeholders at each station site can be expected to provide some funding for station development. Each station has a unique set of stakeholders. The list may include but is not limited to the University of California, Lawrence Berkeley Laboratory, the California Dept. of Health Services, land owners in the Transit Oriented Development Sphere of Influence (SOI – the area within a .5 mile radius of the station), and TOD developers. The stakeholders could provide up to 25% of the transit system capital cost, rounding out the financing picture.

**Market Timing**

The US Government has, most recently through its ARRA Stimulus program, prioritized the repair and redevelopment of streets, highways and other transportation infrastructure projects throughout the US. Some funding for transportation infrastructure projects such as the Richmond ULRT is still moving to the local level.

The TIFIA funding source is timely. Other US Department of Transportation funds (USDOT) are also imminent. State of California Transportation CalTrans) and ACTIA Transportation on State Ballot this fall. iGate is another resource in place to move this process forward. This legislation and policy framework, which could not be more timely, will make for the success of the project.