

NEVADA INTERCITY PASSENGER RAILWAY CO.
◀∞∞∞CARSON CITY TO RENO-SPARKS TO LAS VEGAS∞∞∞▶
THE NATION'S FIRST, TRUE HIGH SPEED PASSENGER RAIL LINE
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BACKGROUND

Nevada's gaming and tourist based economy is being eroded, due to the rapid spread of legalized gaming nationally, but particularly the spread of casino-style gaming on California's native American reservations. The result of these events is a permanent decline in tax revenue necessary for Nevada's cities, counties and the State to maintain, and expand infrastructure, provide rural medical care, and quality education. The problems created by our crumbling state economy have been exacerbated by the collapse of the housing market, an extended drought that has Nevada's big cities looking to plunder the water resources of its rural counties, and the permanent loss of American manufacturing jobs exported to foreign countries, primarily China. While most of the lost manufacturing jobs may eventually be recovered, the length of time it takes will force many more foreclosures nationwide, driving property prices down even further. It is not beyond the realm of possibility for the bottom to fall completely out of both residential and commercial real estate. [Fig. 1.1]

Recovery may begin sooner in the states that enjoy the greatest advantages, i.e., seaports, access to Pacific Rim trading partners, or access to European markets, plentiful natural resources, and a diverse economy. Nevada has none of those advantages. We do have attractions that transcend gaming, as well as some agriculture, and a booming mining industry. Maximizing the assets we have, without depleting them will be difficult. The temptation during these hard times, though, is to grasp at any opportunity that presents itself, even if it's poison. If we accept domestic waste from other states, nuclear waste [Fig. 1.2], legalization of marijuana, or mortgage our future buying jobs through expensive incentives [Fig. 1.3] to big businesses in exchange for their relocating here, we will squander our meager resources rather than husbanding them.

Twenty years ago it was difficult to find a native Nevadan in Nevada amongst a heavily transient population. It was as equally as rare to hear a favorable comment about Nevada from that transient population. The State's economy, since, has diversified to a larger extent. Its tax structure that relied heavily on gaming revenue to keep the general business climate tax-free, brought many businesses and their employees from other states, and resulted in a new, larger generation of natives who actually *prefer* living here. The collapse of the real estate market has left the parents of this generation, (many of whom came from California, and were able to buy their homes here for cash due to the booming California economy), suddenly upside down. If they were to

attempt to sell their homes, they would take a huge loss. Roots among these former emigrants have grown deep, too. Nevertheless, news stories, as recent as December 17, 2009, indicate many Nevadans have stopped filing unemployment claims. While this statistic reduces unemployment from 12.6% to 12.3%, the State employment department believes it's due to people giving up on their job search entirely, or leaving the state, [Fig. 1.4]. December 18, 2009 brought even worse news, as the Hawthorne Army Ammunition Depot announced layoffs. The Nation's jobless rate, in spite of the Christmas hiring season, also, unexpectedly spiked to 7,000 new unemployment claims.

What will the University of Nevada system's graduates face? A dead end job making minimum wage sorting the septic or radioactive garbage from other states, seems hardly worthy of even a high school education. We, and our children, deserve better.

Many people believe history has no bearing on the present, however, Nevada's crisis can find a parallel to George Washington's situation at Valley Forge. Our prospects are as equally as bleak. Washington did not make plans to fight for better surrender terms, nor did he bow to circumstances, and disband his army and flee for his life. Instead, Washington marshaled his resources, hired the expertise he lacked, ('Baron' Von Steuben), utilized the talents of his people, and planned for victory. Washington, then, achieved it. Nevada should aspire to nothing less. We can begin our campaign by building the nation's first, true high-speed rail line.

Throughout the United States, certain rail corridors have been identified as the most desirable, and eligible for funding, [Fig 1.5]. None of these corridors, to-date, in spite of being funded, and given plenty of time to develop, have achieved true high-speed capability [Fig. 1.6]. High-speed is defined as being at or above the top, safe speed of most automobiles, 120 miles-per-hour. Nevada's rail project will be built between Carson City, and the Reno-Sparks area, and from there to Las Vegas. It will be built for high-speed, low environmental impact, and cost effectiveness, and it will achieve it. The technologies in the form of Bombardier's JetTrain, bio-diesel and bio-jet fuel, high efficiency photo-voltaic panels, continuously welded rail, and pre-stressed concrete cross-ties, have been tested and proven. We have the skilled people, the companies, the institutions, the history and the climate to construct such a railroad better and more quickly, and run it more efficiently than anywhere else in the U.S., and possibly the world. The time has come for us to seize the initiative, and take our future into our own hands.

THE CONCEPT

Bombardier's JetTrain [Fig. 2.1] will be the centerpiece for the *privately owned* high-speed rail service. The locomotive was developed in cooperation with the Federal Railroad Administration, and tested safely out of the development program at speeds above 150 miles per hour. The Pratt & Whitney jet engine which powers the locomotive runs on standard diesel fuel. The trainset's primary attraction is the fact it can be run on non-dedicated track, allowing it to immediately operate on track used primarily by freight companies, without undue disruption to their operations.

A high-speed, north-south passenger rail link will enable a wider variety of responsible businesses to establish themselves in the rural counties of Storey, Churchill, Mineral, Esmeralda and Nye without the owners fearing they will be isolating themselves from easy access to major airports, the commercial conveniences of the larger cities, or even quality medical care. The employees of these new corporate emigrants will enjoy the benefits of small town life, i.e. a low crime rate, clean air, far less noise pollution, and smaller school class sizes for their children.

The benefit of the high-speed passenger rail service won't be only for the rural counties and the small towns between the northern and southern Nevada population centers. Las Vegas and Carson City-Reno-Sparks host huge events of national note. High-speed passenger rail would allow the communities to help tourists get the greatest satisfaction from the money they spend. After enjoying an event in Las Vegas, a quick and comfortable trip north would allow them to revel in the beauty of Lake Tahoe. An exciting week experiencing Hot August Nights could be rolled seamlessly into a visit to Las Vegas' City Center, and other southern Nevada attractions. Reno has long sought to have the winter Olympics return to Squaw Valley. Even a chance at hosting a World Cup event would mean vital revenue for the area. The high-speed passenger train service would make most of the state, not just Reno, available to the attendees. Additionally, the casino industry in Nevada has gained immense and valuable experience in serving tourists. Our casinos have world class chefs, and highly talented hoteliers whose expertise would develop the finest on-board food and travel service anywhere.

The route of the rail line from Carson City to Reno would roughly parallel Highway 395 with the Reno-Tahoe 'International' Airport as one of the JetTrain's primary stops. Legislators, business travelers, and the average vacation traveler from Minden and Carson City would be delivered to the airport's doorstep. The southern route of the railroad would parallel Highway 95 and link Reno-Tahoe airport with McCarran International, and its direct international flights. With McCarran International and the Reno-Tahoe Airports linked, business travelers and tourists can take flights to destinations unique to each airport. The railroad would enhance Amtrak's rail service along its northern, east-west route in Reno, and possibly be extended through Las Vegas into Arizona to Amtrak's southern, east-west route, making both cities major transportation hubs for the western U.S.

The social and economic relevance of any mode of transportation must be incorporated into its design and operation. In the preceding paragraphs, the need, and advantages of building and operating a high-speed, passenger railroad in Nevada, and its secondary purpose of high-speed freight have been generally outlined. President Obama signed the American Recovery and Reinvestment Act on February 17, 2009. The goal of the act was to provide state and municipal governments with money to improve infrastructure, but unlike the first phase of TARP, which gave money away to distressed financial institutions with no strings attached, ARRA was designed to provide accountability through the establishment of specific criteria. A privately owned railway is not directly eligible for most federal transportation funding. The following sections, however, will utilize the 2009 TIGER (Transportation Investment Generating Economic Recovery) Grants criteria, Docket #OST-2009-0115 to relate more fully the economic and social relevance of the railroad, and the high degree of financial responsibility the company will employ.

SPECIFICS AND PLANNING

The summary on page 23227 of the TIGER grant description states that there are three purposes--indirectly stated earlier--the grants are designed to foster: 1) Preserve and create jobs and promote economic recovery, 2) Invest in transportation infrastructure that will provide long-term economic benefits, and 3) Assist those most effected by the current economic downtown. The criteria are well written, and since the work has already been done to formulate the criteria, you'll notice it is in quotes and used verbatim. Following the verbatim quotes will be the specific means this high-speed rail project will address each criterion:

- 1) **Long Term Outcomes.** In order to measure a projects alignment with this criterion, the Department will assess the public benefits generated by the project, as measured by the extent to which a project produces one or more of the following outcomes.
 - i) State of good repair: In order to determine whether the project will improve the condition of existing transportation facilities or systems, including whether life-cycle costs will be minimized, the Department will assess:
 - ii) Whether the project is part of, or consistent with, relevant state, local or regional efforts to maintain transportation facilities or systems in a state of good repair.
 - iii) Whether the project is appropriately capitalized up-front and uses asset management approaches that optimize its long-term cost structure, and...
 - iv) The extent to which a sustainable source of revenue is available for long-term operations and maintenance of the project. The application should include any quantifiable metrics of the facility or system's current condition and performance and, to the extent possible, projected condition and performance, with an explanation of how the project will improve the facility or system's condition, performance and/or long-term cost structure."

State of Good Repair-The proposed high-speed passenger rail project would meet this criterion on many levels through: 1) The tie and rail technology utilized, 2) The increase in ease of access to existing primary and secondary airports, 3) The improvement of municipal bus services, 4) Creating conditions

conducive to high-speed freight, 5) Re-establish historical access between Reno and Carson City for the V&T Railway.

Union Pacific's Reno and Thorne branches utilize mostly 19th Century and some 20th Century track technology. The 19th Century cut spike and wooden tie technology [Fig. 3.1] has been modified with continuously welded rail in some stretches. The mid-20th Century technology of pre-stressed concrete cross ties (PSC), and continuously welded rail (CWR) [Fig. 3.2] have been employed to a limited extent on those branches. The use of high-speed passenger trains would require the track to be up-graded entirely to PSC ties and CWR. PSC ties and CWR are a cost-effective [Fig. 3.3] compromise between the 19th Century technology, and the most expensive option; entirely ballast-less technology (an all concrete paved right-of-way), reducing maintenance expenses, and enhancing safety. The project, as outlined, would be built between downtown Carson City (route to be determined) to Reno past the Reno-Tahoe Airport, across the river to the main line, where the train could then continue to downtown near the new RTC bus center, and northward on the Reno Branch past Stead, where an existing spur line provides access to the Stead airport, and to the terminus of the Carson City-Reno route at Border Town.

The junction of the Carson City leg of the line at the Transcontinental corridor allows the eastward turn that the passenger trains would take to move through Sparks, past Wadsworth, and Fernley to the switch at Hazen and the southern route, the Thorne Branch that will guide the train through Fallon, Silver Springs, past Yerington, Schurz, Hawthorne, (where the Thorne Branch ends), Mina, Tonopah, Goldfield, Beatty, Indian Springs, and, Las Vegas. Fallon, Hawthorne, Tonopah and Indian Springs have now, or had, sizeable military activities. High-speed passenger rail and freight service would provide transport for personnel, and equipment for these military functions thus supporting national security. Keeping the Reno and Thorne Branches in good repair as well as providing daily commuter access between Reno and Carson City would reduce air pollution in Truckee Meadows, and Eagle Valley. The project fits both state and regional efforts to maintain facilities or systems in good repair by offering the prospect of adding relevancy, improvement, and vitality to existing rail corridors. Nevada's Revised Statutes require the preservation of railroad right-of-way for possible future use. Additionally, the

State has actively backed the reconstruction of the V&T railway from Mound House into Carson City. Washoe County's Regional Transportation Commission is implementing an express bus route in lieu of a light rail system. The construction of high speed passenger line between Carson City and Reno, would allow RTC buses to be utilized to greater effect as they would become 'feeder' vehicles shuttling passengers to the rail stations. Bus routes would be shortened, allowing more frequent servicing of bus stops. The reduction of traffic along Highway 395 would allow NDOT to devote more money to maintenance, and less to expensive expansions and improvements. Incorporating RTC and NDOT taxes into the purchase price of each train ticket would make up for the losses in tax revenue both entities would suffer from the reduction in gasoline tax proceeds.

Excitement generated by the railway's intended utilization of solar power for its stations, bio-diesel or bio-jet fuel to fuel the trains, the recycling of abandoned mining heap leach pads, and the number of people the project will employ nationwide, and the fact it would be the first true, high-speed passenger service in the U.S. could draw substantial donations from the general public. The initial capitalization of the project would involve the internet, and the innovation of social networking websites to attract donors. The 'green' nature of the project is the very essence of asset management. PV panels and bio-fuels allow the railway a modicum of control over one of its largest daily expenditures: energy. The donations gathered through the website would pay for executive board's salaries (compensation strictly controlled), surveying the route, the engineering design of stations, bridges, and train maintenance facilities. The participation of local businesses with significant, independent success of their own, lending their expertise to the planning process in partnership with labor unions, the State, county and municipal governments, should attract even larger investment. Federal grants may also be available to pay for vital environmental impact research necessary to the formulation of the EIS/EIR.

The private ownership would allow the railway to buy land in the rural communities for 'green' commercial and residential real estate development, and sell or lease the properties to pay down debt on the railway. A publicly owned effort would not allow the state to buy property and sell it for a profit after development, with leases on the commercial properties providing a revenue stream for the railroad. Much like the 1984 Los Angeles Olympics, ticket sales will only address part of the profitability picture. License fees for marketing railway branded products, rightfully, as an environmentally

responsible mode of transportation would provide more revenue. The methods employed to create and operate the railroad very efficiently could well serve as the pattern for the expansion of high-speed passenger rail service nationwide making the railway's management personnel experts in the field. The revenue generated from these varied sources, combined with the renewable energy technology used to build the railroad will allow the passenger system to pay its fair share of maintenance and improvement to R.O.W. also used by freight companies in a symbiotic relationship.

- 2) **“Economic Competitiveness**-In order to determine whether a project promotes the economic competitiveness of the United States, the Department will assess whether the project will measurably contribute, over the long-term, to growth in employment, production or other high value economic activity. For purposes of aligning a project with this outcome, applicants should provide evidence of the long-term economic benefits that are provided by the completed project, not the near-term economic benefits of construction that are captured in the Jobs Creation & Economic Stimulus criterion. In weighing long-term employment benefits, the quality of jobs supported will be considered as well as the number of jobs and whether these jobs are expected to provide employment in Economically Distressed Areas...”

Nevada, as a whole, is an economically distressed area. The State ranks among the top five states for the highest foreclosure rates in the Nation. Rural county unemployment is above 15%. Unemployment statewide sits at 12.3%. [Fig. 3.4] The categories of construction and tourist related service industries have been the hardest hit. The high-speed passenger rail project would provide employment in the long term by **steady, limited**, but **well planned** residential construction in the rural communities. Many of the towns along the rail line's route already have business districts. The downturn in gaming related tourism has left shops closed and empty. Since most of these communities, with the advent of high-speed passenger service, would be well within commuting distance, they would be revitalized as 'bedroom communities' for the large cities at either end of the line. Small businesses would find existing commercial buildings ready for occupancy, reducing start-up costs. In turn, they would provide employment for locals. The attraction of larger employers through the railway's commercial developments will generate even longer-term stability in employment and expand county tax bases.

The JetTrain locomotive was intended to be built in Bombardier's Plattsburgh, New York facility. The passenger and dining car production for the trainset, if memory serves, were assigned to facilities in South Barre, Vermont. Pratt and Whitney jet engines manufactured in a Canadian factory were selected as the power plant for the locomotives. Steel rail, from American manufacturers, for new track construction and renovation of older track, would employ many steelworkers. L B Foster, the primary producer of PSC ties in the U.S., has plants in Arizona and Washington. Servers, routers, PCs, telephones and fiber-optic cable to link and equip train stations and the CTC (Central Train Control), from different sources, would employ many more Americans. With more Americans employed, and the prospect of perfecting high-speed passenger rail, the U.S. could take a large step towards catching up with the rest of the world in this vital technology. The establishment and expansion of high-speed passenger service would not only alleviate Nevada's airport and highway congestion, but the Nation's as well. Domestic and international business travel and tourism would be enhanced. Our competitive edge would be honed by immediately planning the next generation JetTrain. American dependence on foreign oil would be significantly reduced, allowing more of our income taxes to be devoted to retiring the national debt and freeing the U.S. from foreign countries dictating our national and international policies.

- 3) "**Livability**-Improving the quality of living and working environments and the experience for people in communities across the United States."

The establishment of high-speed passenger rail service in the U.S. will shrink distances between rural communities and cities. A train is unmatched in its ability to serve the towns and metropolitan areas along its route. It is, nearly, an all-weather platform, allowing people to commute from larger cities to smaller towns, and vice-versa, with ease and safety. Rural residents can travel to urban areas for serious purposes such as medical care, legal matters, work, and social or entertainment events. Urban residents can enjoy trips to the countryside. Additionally, medical facilities in the form of a medical train can come to the rural areas, greatly shortening travel, or eliminating it, for people merely seeking a check-up, or requiring treatment for an illness or injury. The medical trains would also be available to be rushed to areas of natural or manmade disasters providing on-the-spot triage and treatment.

Larger cities will benefit from the advantages of high-speed passenger rail in making smaller towns, as far as 200 miles away, bedroom communities. The need for municipalities to accommodate ever larger populations during times of prosperity, and provide infrastructure for them during times of recession,

would be alleviated to a large degree. Highways would only have to be maintained, not constantly expanded at huge expense. Traffic congestion on major thoroughfares would be reduced, resulting in less air, and noise pollution, enhancing nearly everyone's quality of life.

- 4) “**Sustainability**-Improving the energy efficiency, reducing dependence on oil, reducing greenhouse gas emissions and benefitting the environment.”

Many of the aspects of sustainability have been addressed in livability. To reiterate, the railway system would be designed to use as much of Nevada's natural and business advantages as possible to make construction costs low, lower operational costs, and make them more predictable. The lessons learned here in Nevada would have broader applicability nationally. Bio-diesel emits far lower greenhouse gasses than regular diesel. Bio-jet fuel trumps both, but bio-diesel from deep fryer oils, provides two uses for the oils from a single crop.

- 5) “**Safety**-Improving the safety of U.S. transportation facilities and systems.”

Driver fatigue and inattention have been cited as one of the major causes of traffic accidents and resultant injuries and deaths. High-speed passenger rail service for daily commuters will allow them to get home more quickly and safely than using their automobiles. The time spent aboard the train would afford the passenger freedom to do extra work on laptop computers, socialize with other passengers, and chat or text on cell phones.

Recent events have clearly demonstrated airlines cannot keep up with demand. Flight delays due to break downs, bad weather and terrorist alerts have become common enough to give rise to a 'passenger bill of rights' movement which is gaining momentum. Terrorist threats have caused long, slow moving lines through metal detectors, and inspection points creating

pressures on inspectors. Hurried, the inspectors are making errors, potentially compromising security. The crowded airport lobbies could be just as prime a target as the airliners themselves. Travelers, who have the luxury of extra time, could exercise the option of taking a train instead. With fewer passengers, airliner maintenance rotations and security inspections would not have to be as hurried, reducing delays and flight cancellations, increasing safety and security. Additionally, the high-speed service, in Nevada, would allow private pilots to hangar their aircraft at the numerous civil aviation airfields along the railway's proposed corridor, reducing any potential conflict between commercial and private aircraft.

Generally speaking, railroads would benefit from high-speed passenger service through the required application of positive train control and train separation technology as well as improvement in track technology (PSC and CWR) decreasing incidents of derailments and collision. Once, again, the opportunity to share track maintenance costs will aid the efficiency, on-time performance, and profitability of both freight and passenger services. Nevada's rail line, an at-grade plan, since much of it would have to be new construction, could be pre-engineered with over- or under passes at road intersections, wildlife and livestock trails eliminating the risks of collisions.

- 6) **“Job Creation and Economic Stimulus**-Consistent with the purposes of the Recovery Act, the Department will give priority to projects that are expected to quickly create and preserve jobs and stimulate rapid increases in economic activity, particularly jobs and activity that benefit economically distressed areas as defined by section 301 of the Public Works and Economic Development Act of 1965, as amended (42 U.S.C. 3161) (“Economically Distressed Areas”).

As noted before most of Nevada's counties, but particularly those along the proposed rail corridor meet the definition of economically distressed areas. Tourism continues to suffer [Fig. 3.5], foreclosure rates remain steady which means demand for new homes is nearly non-existent, and emergency personnel are now being cut from county and municipal payrolls. Additionally, at the time of this writing, the Nevada Employment Division estimates that nearly 30,000 people have given up finding employment in-state, and left. The good news is there are many skilled tradesmen remaining, though unemployed.

During a time of prosperity the skilled trades would be fully engrossed in other construction projects, and, due to demand, their labor would come at a premium. The economic downturn means many skilled workers in nearly all construction fields are immediately available for work. Due to advances in technology making passenger trains self-contained, less work is required to complete the EIS-EIR. While the environmental assessment, surveying, and engineering designs are being completed, sourcing for materials and equipment would be done, and production for the trainsets would be scheduled. As a result construction could begin very quickly thereafter. Given the fact all of the technology intended already exists, employment could begin within a few months. While construction was underway employee training-course content would be developed, and train maintenance, train crews and CTC personnel applicants would be vetted, hired and trained. The rail system should be completed within a year. Inauguration of passenger service would employ railway personnel all along the corridor. The degree of activity to build the railway and operate it would employ hundreds of people directly. Thousands of people would be employed indirectly, and, after completion, long-term employment for several hundred. The disbursement of pay through communities in the form of daily purchases would stimulate employment, translating to more jobs.

- 7) **“Secondary Selection Criteria-** 1) Innovation: The department will give priority to projects that use innovative strategies to pursue the long-term outcomes outlined above, 2) Partnership: The Department will give priority to projects that demonstrate strong collaboration among a broad range of participants and/or integration of transportation with other public service efforts.”

Innovation is epitomized by the Reno Area to Las Vegas railway. The project will take advantage of its mostly new construction to incorporate environmentally conscious practices in every phase, from planning to building to operation. Any project, and its resultant business activity, that is wasteful during construction, and profligately uses resources during its operation, is expensive, not profitable. The rail project will utilize every advantage Nevada’s climate, business resources, tax structure, educational institutions, mining remnants, and our unemployed people to squeeze down construction costs, and keep operating costs low.

The JetTrain, once again, runs on standard diesel fuel. It can therefore utilize either bio-diesel, or bio-jet fuel. While political instability in the Middle East, natural disasters here in the U.S., and maintenance downtime at oil

refineries, domestically, cause widely fluctuating availability and price of diesel fuel, the JetTrain's use of bio-fuels will provide more dependable, long-term fuel prices. There are two bio-diesel refinery companies in Northern Nevada alone. In addition, one of the reasons the Federal Railroad Administration backed the development of the Non-Electric Locomotive (NEL), i.e., the branded technology called the JetTrain by Bombardier, is that the locomotive does not require a dedicated R.O.W. that all-electric trains must use. This means that the Reno Area to Las Vegas railway does not have a built in limitation, as does the DesertXpress. The lessons learned, and the refinements applied to the operation, can then form a 'springboard' to expand the service regionally, nationally, and even internationally, (Canada, and perhaps Mexico).

One of the hurdles for a coast-to-coast express service utilizing a NEL is the need to refuel. As an example of the flexibility the JetTrain allows, is the possibility of developing the innovation of in-transit refueling. Refueling without stopping could be accomplished in one of two ways: 1) A company called Liquip has developed an auxiliary fuel tanker car that can be added to a passenger trainset to far extend the locomotives' range, 2) Dependent on USDOT regulations, it could be possible to have a long section of straight track where a refueling train would match speeds with the slowing passenger train coming up behind it, and trail out a refueling module, refueling the passenger train in much the same way jet fighters are refueled in mid-flight.

The medical train adaptation is another means the railway would become a long-term, integral part of its passengers', and the residents' along its right-of-way, lives. The medical train would be equipped with diagnostic equipment for testing bodily fluids, and providing imaging, such as x-rays and MRI. It would also be equipped with operating rooms for in- and out-patient surgery, a recovery room, and hospital beds so patients requiring long-term recovery can be transported to a hospital for rehabilitation.

The construction of the ROW between Reno-Sparks and Las Vegas will be designed to make certain that wherever the track is required to curve, that track geometry is gradual. Gradual turns will permit the track to be utilized by high-speed freight as well. The elements that make up the track such as CWR and PSC ties, plus using heap leach pads from abandoned gold mines to build a uniformly higher-than-minimum sub-grade will make the track far less susceptible to inundation from flash floods.

The method of initial financing will be innovative, too. The internet has been touted as the tool that has revolutionized society. Yet, in spite of the hype,

it has not done much more than facilitate mail ordering, paying bills, or provide a means to play RPGs with strangers far away. A website will be established, and advertised using every facet of the internet through social networking sites. The website will consist of two levels. The first level will provide a full overview of the project with a very clear statement that money donated does not confer any degree of ownership, and cannot be refunded. The second level will be for donors only. A donation will generate a number unique to that donor. The donor would use it to log onto the second level of the website to view how their money is being spent through contracts, designs, receipts, a ledger maintained by a reputable CPA firm, maps, and eventually a link to, hopefully, USGS satellite images, or Google Earth, of the project's corridor, and ultimately even the construction underway. For the first time, people donating a small amount of money can build a big-time project, and help establish momentum for a *nationwide* high-speed passenger rail network. With initial financing allowing surveying, engineering, and some property purchase, and construction, it should be possible to attract investment from private sources, and perhaps some funding from the U.S. Government to complete the project.

Partnership, out of necessity, will be the watchword of the project and railway operation. In Background, the dire nature of Nevada's predicament was outlined. The national condition is marginally better. One of the reasons the stock market is seeing wild gyrations of hundreds of points on a weekly basis, is investors are having a hard time coming to the realization that the stock market cannot, again, reach the level of "profitability" it had during the middle of the decade. Much of the so-called profit was supposed to reside in huge companies whose claims of liquidity were dependent on fraudulently hiding massive debt, while leaning heavily on easy credit. MCI, Qwest, Global Crossing, and Enron, were all exposed in quick succession, and were followed in fairly short order by the sub-prime debacle, and the collapse of major investment banks that used the same dishonest bookkeeping, but applied fancy labels to their Ponzi scheme under the broad category of "derivatives." When banking reform goes through, and the banks are no longer able to act as their own broker, selling unrecoverable debt engineered into securities, and suicidal investment in unvetted stocks, or inflated real property, credit which had already stopped flowing freely will subside, permanently, to a comparatively low level. The lack of ability of big corporations and banks to, now, disguise their debts through creative bookkeeping, will effect their actual profitability. Wall Street's "disappointment" in consistently lower dividends will undoubtedly become common. Main Street investors will realize they won't be able to quickly recoup the losses they've experienced in IRAs and 401Ks.

Many Americans have already seen the effects of this newly restricted cash flow in terms of lost benefits, reduced pay, reduced hours, and layoffs. The boom times in construction will be slow to return. As a result, those construction workers who wish to continue in their trade will have to realize accepting reduced wages and benefits in order to practice their specialties, will be the norm. The railway would open dialogues with trade unions and contractors asking for lower pay scales, and less profitable contracts, with relation to the railway, as a necessity, in order to assure its success. Success will lead to expansion, and more work for people involved in construction and operation. The executive board salary and compensation restrictions included in the railway's articles of incorporation should serve to reassure everyone that concessions requested aren't a means for the company's officers to enrich themselves, but is the railway's effort to set a record of cost effectiveness that leads to quicker expansion of railway operations, and long term job security for employees. In that light, the wage and profit concessions are really an investment in the future.

The partnership with Nevada's businesses would extend beyond the construction realm, and into every phase of service and promotion. Nevada companies will be used to provide on-board services, bio fuels, victuals, and Made in Nevada products will be featured. The express trains between Northern Nevada and Las Vegas will showcase the cooking of chefs from casino and independent restaurants. South bound trains would showcase Las Vegas establishments, while northbound trains would offer fare by northern Nevada chefs. Nevada companies specializing in toys and novelties will have priority in producing branded items for sale locally, through national clothing, toy or novelty franchises, or on the internet.

The JetTrain, while a proven technology, isn't ideally suited to operate in a desert environment. Like any technology, it can be improved. The railway should not be satisfied with a vehicle that can travel 150 mile per hour and a 400 mile range. 200 miles per hour, or beyond, and a 500 mile range should be the goal. The railway would partner with engineering colleges at both the University of Nevada, and UNLV to improve the design of the locomotive, and passenger cars to increase reliability and range, reduce maintenance downtime and costs, and increase speed and safety. The engineering colleges would coordinate with the College of Medicine and Nevada hospitals to design the medical train. The railway would also request the assistance of the education colleges of the universities, so that student teachers would gain in-class credit

teaching children and adults, along the railway's route, the dangers of high-speed trains, and how to stay safe.

The railway would also coordinate closely with county and municipal governments along its corridor to design housing and commercial developments that strike the right compromise between profitability and sustainability. The railway's development arm would work with counties to come up with development rules, for example, prohibiting swimming pools, limiting the size and number of hot tubs or Jacuzzis, and the size and number of indoor tubs within the residential developments, as well as the already required low-flow fixtures, and extensive use of xeriscaping. The houses would also have solar panels, and lithium-ion storage cells included in their designs to add to their attraction to buyers. The railway would also work with the counties and municipalities to structure property taxes to provide funds to upgrade their sewage treatment plants to tertiary treatment, so wastewater can be used to maintain existing agricultural operations. The apartment buildings to be constructed would also employ P.V. panels to reduce electrical costs, and provide tenants with a large degree of freedom from electrical bills, and more disposable income to support local businesses. The commercial construction would also employ much the same methods to make locating a new company, or relocating an established one, to Nevada an attractive option.

AFTERWORD

Nevada leads in all the wrong categories, and lags in all the right ones that indicate the level of the quality of life, and economic health. Nevada has been, or is, near the top in alcoholism, spousal abuse, high school drop-out rates, and teen suicides, but at the bottom in education, healthcare and wages. As of the date of completion of this concept paper, February 11, 2010, Governor Gibbons has called for a special session of the state legislature to address a new shortfall in Nevada's tax income of more than \$800 million. Gibbons also announced layoffs in many state agencies, and the budget cuts he is proposing would heavily impact healthcare, and education at all levels. Clearly, our financial situation is continuing to deteriorate. Nevada needs jobs urgently.

Much of Nevada's economic history has been created by state and local governments with a beggar's attitude: take whatever is handed to you. The attitude was derived from a perceived inferiority by wrongfully comparing our attributes with our neighbor, California. Few nations, let alone states can match California's natural resources and geographical advantages that have resulted in massive economic muscle. Nevada, in its infancy, with only a small agricultural presence, and a near total dependency on mining rode a steep rollercoaster of boom and bust. Nevada grasped whatever chance at quick prosperity came its way, from legalized gambling, and prostitution to quickie marriages, and as equally as speedy divorces. All of these 'instant' successes were a sign of economic immaturity. The days of a sparse population, a one horse economy and educational institutions offering only basic courses have passed. We have a much more diversified economy, and some of the colleges in Nevada's university system have earned national, and, in some instances, international stature. What Nevada needs now is to prove to itself, within itself, as much as to the Nation, we have reached maturity, and gathered strength in achieving it. The best way to announce our arrival is to build projects that provide the state with a broad economic foundation. The Reno Area to Las Vegas railway is one of those projects.

The railway will furnish the State, and the Nation, a system of unparalleled relevance and flexibility. The term that best describes it is "vital role multiplicity." In the "Specifics and Planning" section, the wide variety of roles the railway will fulfill have been outlined. The construction of the rail line will employ thousands of Nevadans, and many other Americans. By connecting western Nevada's sizeable military installations, and, therefore, their critical

functions, the high-speed line will support national defense. It will provide rolling medical facilities to towns and counties along its route. The rail line will be a testing ground for high-speed freight, and the next generation NEL. The railway's operation will connect the smaller towns of rural Nevada to our major urban areas, making them desirable bedroom communities for people working in the larger cities. The railway will reduce automobile traffic between Reno and Carson City, and possibly between Las Vegas proper and some of its suburbs, and allow bus systems in these cities to operate at less expense, and higher efficiency. The railway's aim is to aid carefully balanced residential and business development in the rural counties it serves, while supporting tourist-dependent businesses in Las Vegas, and Reno-Sparks-Carson City region. The NEL, or JetTrain locomotive concept allows for rapid expansion of the service beyond Nevada's borders, and easy experimentation for new, prospective routes.

The History Channel and 60 Minutes, in 2009, aired pieces on the decrepit state of the agricultural levy system in Northern California's river delta estuary. The fresh water, there, is a major source of water for Los Angeles. Most of the levies were built in the late 19th, and early 20th centuries, and they're crumbling. An earthquake in that region would destroy the levies letting the ocean into the estuary, and contaminating the water with salt. The high-speed freight capability of the north-south rail line could, in the event of that worst case scenario, bring massive consists of high-speed freight tanker cars full of fresh water to Southern California. Here is yet another vital role the railway will fill.

During a conversation with Paul La Rouche, purportedly the Director of Marketing and Production for Bombardier, on January 13, 2010, Mr. La Rouche stated that a ridership study is critical for any private railway looking for investment money. A ridership study, while marginally useful, does not guarantee success of a rail system. Likewise, a negative ridership study is not a death sentence for a railway project. A ridership study is a sales pitch. Prospective passengers are polled on whether and how often they would ride a particular type of passenger train service operating at an ideal service level. The service is sold in the study. A picture is painted of the level and manner of service. However, should the railway, once it's built, fail to live up to the service quality promised in the 'ridership study,' it will fail. Conversely, passenger rail service that exceeds expectations will surpass passenger numbers indicated by the ridership study.

The Las Vegas Monorail is a good illustration of this point. The monorail was purchased from MGM Grand-Bally's in 2000 and expanded to include several Las Vegas hotel casinos. The idea behind the 3.9 mile monorail was to alleviate downtown Las Vegas's considerable traffic congestion. However, the monorail had no utility or flexibility. It did not bring casino employees in from residential subdivisions and suburbs to work. The monorail did not bring in tourists from Los Angeles. It did not even connect the downtown to McCarran International Airport, and the system cannot utilize existing standard rail corridors. In short, the monorail was designed to serve only the perceived uses of the casinos. The monorail was also prone to frequent breakdowns. Undoubtedly, a favorable ridership study was conducted, polling the opinions of hotel-casino guests, and possibly Las Vegas in general. People will generally respond favorably to the idea of a monorail as it seems futuristic, and a fun ride. In an amusement park atmosphere like Las Vegas it appealed to many people as another attraction.

The narrow purpose of the monorail, lack of utility, reliability and flexibility forced the railway to file for bankruptcy on January 14, 2010. The railways total liabilities are estimated to be \$1.16 **billion** [Figs. 4.1-4.3]. The monorail has gained a reputation as merely an unreliable amusement ride. In contrast, the Reno Area to Las Vegas railway is conceived, and designed, not simply to exist and survive, but to flourish. Developments in technology, and economic necessity, have created the perfect conditions to build the Nation's first, true high-speed passenger rail line, and Nevadans can build it.