Setting the Stage
IBTTA Financial Summit

Harold W. Worrall, PhD, PE

March 2004

It is indeed a pleasure to open this great financial summit. IBTTA and its leadership could not have chosen a better time to focus our attention to the possibilities before us.

To set the stage I have chosen to briefly review a range of financial techniques used throughout the world today as a beginning point, discuss for a moment the intimate relationship that transportation has with economic vitality, touch on technology as it has not only enabled direct user fee approaches but inherently modified our policy perspective. The concept of transportation as a public good and the perceived necessity to produce transportation by public entities will also be touched upon. I will conclude with a few current events as anecdotal evidence of trends in transportation financial policy and promote the concept that tolls are a Direct User Fee to be implemented as a complement not replacement of existing taxation.

"Pay as you go" has a long tradition in the U.S. From 1908 to 1927 when it was discontinued, Henry Ford had mass-produced 18 million model Ts. In 1916 the first "user fee" gasoline tax was applied. The stated purpose was to "get people out of the mud". It was the beginning of "pay as you go". The statement has a fiscally conservative ring and instills public confidence in government programs. The passage of the National Interstate and Defense Highway Act of 1956 further inculcated "pay as you go" into the policy psyche and the procedural fund allocation process began in earnest.

Tax-exempt debt has been a mainstay of public authorities and turnpikes in the U.S. throughout the twentieth century. Many of the Interstate design toll highways have been built with tax-exempt debt, sometimes in combination with other federal or state resources. It is very financially efficient and makes it difficult for private finance to compete. This method of finance singularly differentiates the U.S. from other direct user fee markets throughout the world where equity arrangements are much more common.

Equity finance can take many forms. Sometimes it is a straightforward issuance of equity interest in the open market such as that issued for Melbourne Citylink or Brisa in Portugal. Equity can be 51% or more owned by a government, a common approach in Europe or 51% owned by private interests. I visited Australia in 2002 along with the Executive Committee of IBTTA. As we traveled from the south Melbourne to the North Brisbane via Sydney, the spectrum of equity financing unfolded. Transurban in Melbourne is a private company, Sydney had several toll roads financed with major ownership varying between public and private and the Queensland Motorway has one share of stock owned by the Director-General of the Queensland Department of Main Roads. In the U.S. private capital investment in transportation infrastructure has seen limited use but the future may be quite different. Pension funds and managed investment funds specializing in such investments may be utilized more in the future.

These three financial mechanisms or versions of them encompass our opportunities to finance public infrastructure. You can pay as you receive public revenue, borrow on the predictions of growth or offer ownership in various forms.

Is there a relationship between transportation and the economy? Is it short term, long term, very important, kind of important? Evidence to resolve these questions can be found in history, empirical research and theoretical contexts.

Consider the U.S. in 1862. It was in the middle of the Civil War, the U.S. had begun to generate great debt to prosecute the war and yet at the urging of President Lincoln Congress passed the Pacific Railroad Act in which the transcontinental railroad was set as a national goal. Funded through bonds issued to the public and secured by land granted by the government in exchange for each mile constructed, the transcontinental railroad became a reality seven years later on May 10,1869. The latter half of that century's growth was catalyzed by the railroads in the U.S.

The growth of the last century was the result of the highway systems of the U.S., most significantly the Interstate system in the last half of the century as we kept pace with the growth of the automobile and motor freight.

Research published by the National Cooperative Highway Research program (performed by David Aschauer) found the relationship between public investment and productivity of private capital to be strongly positive, AASHTO sponsored research performed by Weisbrod etal found that a reduction of 10% in travel times had an annual economic impact of over one billion dollars for the Chicago and Philadelphia study areas alone. Much research has been conducted to demonstrate the direct relationship.

The Urban Mobility Study begun in 1982 by the Texas Transportation Institute, recently published their annual report on the costs of congestion and calculated current costs to the nation at $69.5 billion annually in the cost of wasted fuel and lost time alone. In contrast to the $69.5 billion cost of congestion is the total capital spending on highways in the U.S. by all levels of government in 2000 was $64.6. The annual cost of congestion exceeds the total capital spending on highways by all levels of government.

Perhaps the most graphic way of looking at highway travel as it relates to economic health is the following chart of vehicle miles traveled versus Gross Domestic Product.

This graph is reproduced from the road information program report published in May 2001. A more perfect fit of data over a twenty-year period would be difficult to portray. The chart demonstrates that from 1980 to 2000 a very close relationship has existed between the total vehicle miles traveled in the United States and the national Gross Domestic Product.

Technology in the direct user fee industry has been pervasive. A quick review of some of the highlights is important to our discussion today because it highlights one very important fact that many of us in the business have known for some time, customers don't mind paying a reasonable toll to use a highway but they do not want to stop to do so. Congestion at plazas creates a negative impression of direct user fees as a partial solution to our transportation problems.

Electronic Toll Collection has increased the processing speed from 400 vehicles per hour per lane to highway capacity of 2200 vehicles per hour per lane. ETC can and does operate at highway speeds. ETC is not a complete technology however without video enforcement. That technology has continued to improve to the point that images are transmitted over fiber lines and image quality has improved several fold. This high quality video imaging and processing has made ETC viable.

Although ETC is an important operations technology, it is important in a more significant way. Before ETC, customer contact occurred only at the tollbooth. We now know who the customer is, their mailing address, Email address and phone numbers. All of these provide an opportunity to communicate with our customer in ways not previously possible. ETC has changed the way approach areas and plazas are designed. It is truly a unique experience to reconstruct a plaza to express lane configuration while under traffic. Coordination must now include IT staff, hardware and software contractors as well as civil engineers and constructors. Larger and more qualified contingents of IT professionals are required to design, modify and maintain computer systems.

Most importantly, computer systems and their attendant processes become more mission critical with each increasing percentage of electronic participation. Violations, video enforcement, system flaws etc. are not so crucial at 10% ETC participation but at 70% those same issues can become devastating.

Lastly, electronic toll collection has begun a movement toward greater regional cooperation. The Inter Agency Group is a good example of the benefits that can accrue to the customer when public agency cooperation occurs.

What does all this have to do with financial options? New ways of funding, organizing and operating public highway infrastructure are becoming evident to us and it is the pervasive element of technology that has made direct user fees an option thus leading to the current movements toward financing methods that incorporate pricing, demand management, equity funding, and public-private ventures.

It is also important to note that the competing modes of transportation are beginning to see integrated intermodalism as a conceivable future. As corridor pricing encourages alternate transportation modes, toll operators are considering ways of moving more people through the use of HOT lanes. The variant philosophies of transportation and urban development are finding common ground.

The U.S. has traditionally utilized public agencies to produce public goods. It is assumed that private companies would have an overriding profit agenda to the detriment of equity and fairness philosophies. A classical approach for involving the private sector is some version of the regulated utility.

It is assumed that public funding is performed through tax-exempt debt and the private sector is assumed to be a stockholder proposition. These are our traditions and of course some of this tradition is codified in our federal and state statutes.

Consider for a moment however the possibilities. Tax law modifications that allow tax exempt debt to be used by the private sector as a partial method for developing needed public transportation infrastructure, the use of pension fund investments, the creation of investment

funds specifically targeting public transportation projects and new organizations, hybrids of public and private designed for urban mobility projects are all possibilities.

One needs not look very far to see current events trending us toward a solution. Texas passed a sweeping piece of state legislation aimed at promoting direct user fees to construct much needed urban arterials as well as proposing 4000 miles of inter-urban transportation corridors. At the same time North Carolina has just begun the formation of a new turnpike system.

Virginia is advancing on a number of fronts to expand major corridors through the application of direct user fees and build on their history of direct user fees.

London has implemented an innovative transportation demand program that uses electronic tolling methods and has the industry wondering where the project fits in our understanding of traditional toll roads.

Germany and Austria are beginning programs to charge for trucks passing through and within their countries. Centrally located within the new and expanding European Union these countries are using quite different technologies, Germany's Toll Collect is using Global Positioning Satellite and GSM telephony while Austria's approach is more similar to the technology currently in use for automobiles in Europe. Both however feature nonstop electronic tolling.

Australia's Citylink project constructed by Transurban and the Canadian 407 project operated by Centra of Spain have led the way on nonstop, all electronic tolling methods. These projects have advanced the state of the art of electronic tolling.

We are in the process of reauthorization in the U.S., a process that occurs generally every six years. It is also a time when transportation policy in the U.S. comes under review. Considerations for expanding direct user fees are under discussion and we will hear more from FHWA and USDOT later in the program.

In summary a realization is building that direct user fees have a prominent role in our future. They can be used to expand needed economic lifelines, affect more balance in the supply and demand of public infrastructure and do so in a nonstop process that is minimally disruptive to the customer.

Some may have noticed that I have used the term Direct User Fee rather than toll. This is not intended to be a more politically correct use of words. Gasoline taxes are surrogate user fees intended to cause the user to pay for service delivered. The future offers the possibility to create a more direct relationship between benefit and cost.

The future may see transponders placed in vehicles at the time of manufacture and activated by the user on a voluntary basis. It is also possible that large state and federal clearinghouses will be formed or existing ones utilized to process financial transactions. Once again technology, business, the need for public goods and customer service may conspire to present us with a future of direct user fee financing.

Direct user fees should be seen as options not replacements of existing programs. Considerable momentum exists politically, financially and procedurally and any broad program of replacement will be met with great public and private entity resistance.

Governments have historically used fund distribution as a mechanism for promoting transportation policy at each level and it is in the interest of the industry and the public that some uniformity exists.

It would appear that pricing offers the best opportunities on major arterial highway corridors. They are the systems most crucial to the transit of commerce, like the arteries of the heart in the human body.

The events themselves have set the stage for this summit. We must move forward in a careful and deliberate manner that is also cooperative with other jurisdictions and modes. Our job is to manage a morphing process that has already begun.

At this summit are some of the leaders on the subject of direct user fee financing from throughout the world. I look forward to their views and innovation with great relish.