

# History of the Advanced Transit Association (ATRA) Year by Year

by J. Edward Anderson, first ATRA President.

## 2000 – The Twenty-Fifth Year.

The Annual Meeting was held on January 11, 2000, at the Washington Hilton on Connecticut Avenue. Dennis Manning was elected the new President and Catie Burke the new Vice President. Tom Richert was elected Chairman, replacing Jerry Kieffer, who had been Chairman for ten years. The Board agreed to become a cooperating organization for the 2001 Automated People Mover Conference, to be held in San Francisco, July 8-11, 2001. In its boldest move, the Board agreed to update the 1989 ATRA report on the status of PRT, with Jerry Kieffer agreeing to serve as the Project Chairman. The target date for completion of the new report was set at November 30, 2000. Dennis Manning was convinced that the Internet would make communication among ATRA members easier and acknowledged the intense effort that would be required to update the PRT study. Tom Richert proposed to create a design competition among college students in a variety of disciplines to raise awareness among academicians and young professionals. Dennis announced that ATRA Member Bill Flanigan would host a conference on advanced transit technologies in Aspen in October 2000.

Dr. Byron L. Johnson, a longtime leader of ATRA, died in early January, 2000, after a long illness. He had served as a Congressman from 1959 to 1961, but was then defeated because of his stand against the Vietnam War. He served as a professor of Economics at the University of Colorado, a Regent, and for 12 years as the Chairman of the Board of Regents. He also served as Chairman of the Board of the Denver Area Regional Transportation District.



Jerry Kieffer, Chuck Harris, and Byron Johnson in front of the Raytheon PRT 2000 vehicle.

In the Spring 2000 ATRA Newsletter, Jerry Poskey contributed an article entitled “Raytheon’s Withdrawal: Bad News or Good?” He said: “In October 1999 PRT advocates were stunned to learn that Raytheon was withdrawing from the PRT business.” “Now that a working PRT system has existed, PRT cannot be dismissed as a futuristic fantasy. Regardless of Raytheon’s withdrawal, the feasibility of PRT cannot be denied.”

Under the heading “ATRA is on the Cutting Edge,” Newsletter Editor Bob Dunning called attention to the work of the following members of ATRA: Austrans, Ron Glenn; CabinTaxi, Marsden Burger; Cybertran, Richard Arthur; MTS, Peter Mitchell; RUF, Palle Jensen; SkyTran,

Doug Maleweicki; Taxi 2000, Ed Anderson. He then called attention to Jeral Poskey, who was developing a 12 volume *PRT Primer*; Jerry Schneider as webmaster of the world's best window on automated transit; Jerry Kieffer, who will be leading ATRA's 1989 PRT Feasibility Report Update; Bob McLane, a prime mover in the Twin City organization Citizens for PRT; Murthy Bondada, in co-organizing the International Conference on Urban Public Transportation Systems held in Miami in March of 1999; Dr. Dave Walworth MD, lead in building a group to pursue PRT development in Silicon Valley and Santa Cruz, California; Bob Brodbeck with the SkyLoop group in the Cincinnati Area; Ed Anderson, who with Taxi 2000 was working to build a system at Mayo Clinic in Rochester, Minnesota; and Bill Flanigan, who was working on a conference in Aspen, Colorado. He also mentioned that ATRA had joined ABAM Engineers in planning of the Eighth ASCE International Automated People Mover Conference in San Francisco, July 8-11, 2001. ATRA members Larry Fabian, Edward Neumann, and Dennis Manning were members of the organizing committee.

Tom Richert, as ATRA Chairman, wrote on February 10<sup>th</sup> to Tom McCracken, Chairman of the Chicago RTA, expressing ATRA's hope that the RTA would continue to use its unique authority to "encourage experimentation in developing new public transportation technology" to resume its quest for a highly service-effective, very low cost PRT system.

On February 11<sup>th</sup>, Jerry Kieffer wrote to Minnesota Representative Ray Vandever, who with other members of the Minnesota State Legislature was in discussions with representatives of Taxi 2000, urging that the State find necessary seed money to demonstrate the worth of the PRT concept in day to day use. Kieffer stressed that he had no financial stake in Taxi 2000.

The Autumn 2000 issue of the ATRA Newsletter led off with an article entitled "ATRA/NSPE Conference Convenes Diverse Community to Accelerate Change." New Technologies Showcased. The conference was held in Aspen, Colorado, 18-20 October. Speakers representing Taxi 2000, CyberTran, Magnemotion, SkyTran, InTranSys, RUF International, ULTra, and HiLoMag gave presentations. Seven other prominent persons also gave presentations.

The Newsletter also contained an article about the PRT study being planned in Cincinnati, one about MagneMotion, one about RUF, and one on SkyTran.

The Newsletter announced that Catie Burke's book *Innovation and Public Policy: The Case of PRT* had just become available on the ATRA website.

### My work on PRT during 2000.

In January 1999 Byron Johnson's wife died suddenly of pancreatic cancer. Cindy and I had visited the Johnson's the previous fall at which time she commented on Byron's health, implying that she was in better condition. Thus, her death was particularly shocking, and was devastating to Byron – they had been married since their college days. I had planned to visit him in February 2000, but in a conversation with his son Steve I learned that if I wanted to visit him I

should do so immediately. I booked an airplane the same day. The next day daughter Candy and I sought out the hospice that was then Byron's home. I frankly had not realized that he had deteriorated so much. Candy and I spent a short time with him beginning at about 11 am, and I learned later that he died almost exactly 24 hours later. I was back in Denver the weekend of February 26-27 for the memorial service. My feelings about Byron are best expressed in the following Eulogy that I sent to his family.

### **A Eulogy to Byron L. Johnson**

Byron's son Steve telephoned me last Sunday evening to tell me that the prognosis was that Byron would not live out the month of January. Monday morning, I made a reservation to fly to Denver Tuesday afternoon after a meeting about investment in PRT at 1:30 p. m. The only reasonable flight left at 4:45 p. m. and I agonized over whether I would have enough time to make that flight, but I made the reservation anyway, only to later think that maybe it was foolish to cut the time so short and that would be safer to go a day later. I decided not to change the flight, so my daughter Candice and I visit Byron for a short time at about 11 a.m. Wednesday morning. He recognized us and I knew he would be interested in our progress on PRT so I gave him a short and realistically optimistic briefing. He smiled in approval and we could understand a few of the words he tried to say in response. Little did we know that he would die almost exactly 24 hours later. I am so glad that we could see him one more time.

I can't pin down the exact date when Byron and I first talked, but it must have been sometime in 1972. By 1974, when I worked for nine months at the Colorado RTD, we were in frequent communication, and have been ever since, much of which was through the work of the Advanced Transit Association. He was elected to its Board of Directors in 1984 and became its Chairman in 1986. He visited us and stayed in our home several times both in Minneapolis and in Boston, and I visited him many times when I had a chance to go to Denver. The last visit to us was the occasion of the November 1996 PRT Conference in Minneapolis. He was a member of the organizing committee and gave a paper "Seeking Profit Prospects for PRT," which was along the theme he, as an economist, had been urging for many years. Fortunately, I could visit Byron many times after that, mostly to attend together hearings related to transportation along the I-70 corridor west of Denver, but also to advance the cause of PRT. I came to know most of all the part of Byron that was devoted through all those years, and earlier, to foresighted thinking about the transit needs of the Denver Metropolitan Area, but I soon came to know that he wore many hats: economics professor, Chairman of the Board of Regents of the University of Colorado, Chairman of the RTD, World Federalist, churchman, beloved husband and father, and perhaps other roles I am not aware of.

In preparing this Eulogy, I reviewed the thick file of correspondence, papers, and statements I have from Byron going back to the mid-1970s. The consistent theme through all of this is of a man of great concern for the future of his community and willingness to urge, based upon solid economics, initiatives that were beyond the scope of conventional thought but which have increasingly been shown to be correct. As one example, consider the following words from a four-

page briefing he gave on transportation on February 12, 1991: “Join with me starting this year to make Denver truly the Queen City of the Plains. Let us again be the pioneering city that befits our history at its finest. Let us lead the nation in moving into the future with confidence, with imagination, with vision, and daring.” It will be to the benefit of the citizens of Colorado and indeed of the world to be more fully appraised of the thought of Byron Johnson. He has been a great inspiration to me and many other people. His memory will be best preserved by taking seriously the proposals he worked to advance. Be brave like Byron and take some new steps to a better future for us all.

J. Edward Anderson

January 8, 2000

In January 1998 the Editorial Board of the *Journal of Advanced Transportation* decided to publish a special issue to commemorate the Millennium. They wanted each paper in a Millennium Special Issue to explore a key area of transportation that would be of interest to readers of the Journal. They wanted advances made during the previous few decades to be reviewed and the likely state of the art during the first few decades of the 21<sup>st</sup> century to be envisioned in each of the papers. They began their selection process by listing many key areas of interest within the transportation field and identified the leading international authority for each. A process of ranking and voting was used to choose the prospective list for inclusion in the Millennium Special Issue. I was invited to submit a paper on personal rapid transit, which has been the key area of interest of the Advanced Transit Association. Being extremely busy at the time, I tried the easy way out by submitting a paper on a specialized topic, but one of the editors, Duke University Professor Charles M. Harman said that that would not do – they needed a state-of-the-art overview. So, I set aside the time needed to write a 27-page paper that appeared in the Millennium Special Issue. This turned out to be a useful exercise as it permitted me the opportunity to summarize much of my work in a form that would be widely available.

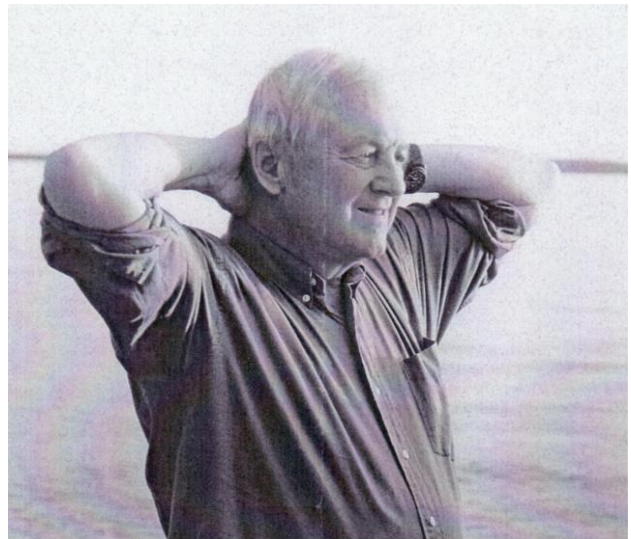
In early January 2000, with relief that all the talk of disaster because of the Y2K computer problem did not amount to anything, we received the appropriately signed copy of our agreement from a high-level Raytheon attorney, and now were completely free from Raytheon – we could again promote Taxi 2000 as the answer to many transportation problems.

We now had a growing number of people pushing for us, the more so because we were free from Raytheon: In the Twin Cities, we had Citizens for PRT, our own Board of Directors, a variety of friends of mine, friends and acquaintances of Shef Lang’s, and others. We had supporters in Cincinnati and Seattle, and among many members of the Advanced Transit Association. One consequence for me was a growing number of invitations to give presentations, and in January I gave the following:

- January 10<sup>th</sup>: Transportation Research Board Conference, Washington, D. C.
- January 17<sup>th</sup>: Eden Prairie City Manager
- January 21<sup>st</sup>: Science Museum of Minnesota
- January 25<sup>th</sup>: Ramsey County Commissioners
- January 27<sup>th</sup>: A group of Investors at Ridgedale Shopping Center
- January 28<sup>th</sup>: KFAI Radio Station
- January 29<sup>th</sup>: A citizens group in Frog Town, St. Paul

On February 9<sup>th</sup>, Liz Sroufe called to tell me that to raise money to build Taxi 2000 she was teaming with Tom Goff, a project engineer who had worked for Morrison-Knutson. He had managed huge engineering projects including a multi-billion-dollar project in Saudi Arabia. Liz said that Tom had been following our work for many years. Liz asked if it would be possible for the Chicago RTA to restart the PRT project – a highly unlikely prospect for an organization that had just been stung. She said that people in SeaTac were upset; the City Council had voted 7-0 to build PRT based on my design. She said that their plans were stuck; Raytheon had hamstrung everybody around SeaTac. She said that my name sold, that Taxi 2000 sold, and she wanted to get back into action, this time with Tom Goff, to raise the funds needed to build our test system. It was inspiring to see such interest in helping us, and they tried for many years.

Our problem now was that Taxi 2000 was now just Shef Lang (picture here) and me, with two other part-time directors. People expected to see a large company behind us, a company that would build and maintain PRT systems for a long time. We were advised that we needed to find an associate that had had the kind of top management background that we lacked.



On the very next day, Seth Barnard, who had been a student of Professor Charles Harris and was the negotiator for the Amsterdam Poot family, called to say that he had met with officials of Lockheed Martin (LM) in their Orlando facility. He had given them a presentation on Taxi 2000 and said that they were much impressed. He said that LM had 1000 engineers in their Orlando facility and owned 800 acres there. So here appeared the kind of alliance we needed. Lockheed had introduced the idea of a “Skunk Works,” where new and different ideas could be developed by a small, hand-picked group. We, of course, could not get into a disaster such as we did at Raytheon, but we began to explore.

On February 19 I got a call from Bob Brodbeck, a member of the Cincinnati Sky Loop Committee, telling me that he, Chip Tappan, and several other members of the Sky Loop Executive Committee had met for over an hour with Bill Butler, the developer who I have mentioned could put up the funds needed to build our test system and was expected to be the major investor. Chip

gave Butler a three-ring binder of information about our business plan, the engineering program, and pages from the Taxi 2000 web site. The plan was to form a new corporation, Sky Loop Corporation, to place the test system in the Cincinnati Area, and to provide \$5 million to do the necessary engineering. Butler hesitated: He asked how long the patents would be valid, he wondered why the Raytheon program failed, and he wondered how fast the cars could go. He wondered how PRT could get a fair shake in Cincinnati in view of OKI opposition, but commented that there would be political fallout if PRT didn't get a fair shake. The most important comment at the meeting was that Kentucky Senator Bunning could get \$500,000 for the federal share of the funds needed to do a study of PRT. On March 13<sup>th</sup> Chip Tappan called to tell me that the Sky Loop Committee had to raise \$125,000 to match the federal grant. He also said that he had spent a week with Bill Butler and concluded that Butler would not be a prospect. Chip said that Butler said that at the advanced age of 57 he was slowing down and did not want to take on anything speculative.

Seth Barnard called me again on February 21 to tell me that he had talked to Lockheed Martin Senior Vice President Dr. Harold Cates. Seth said that it was obvious that Cates had read everything he had sent, which included my memo "The unraveling of the design," and that Cates had investigated widely and even talked to one of the Raytheon managers who worked on their PRT project. Seth said that it was clear that Cates was enthusiastic about acquiring Taxi 2000.

I received a shock from Bert Press who had heard from Shef that he had cancer in his bones and was often in a great deal of pain. Bert knew that we needed someone with a strong background in business and he told me that he had found the right person, Richard Broms. Bert said that Broms had sold his business to a Japanese group, that he was 48 years old, and that he came from a good family. Moreover, Bert said that Broms had a lot of money and knew the venture capital community. Bert arranged for us to have a breakfast meeting with Broms at the Nicollet Island Inn on the morning of March 9<sup>th</sup>. This led to a deepening relationship that looked like an answer to a prayer. We met Broms for the second time on April 5<sup>th</sup> at the Nicollet Island Inn. By now he had had an opportunity to study us in detail and, having known Bert Press who briefed him in detail, he agreed to work with us.

Up to the third week of February, I gave the following presentations:

February 1<sup>st</sup>: The Green Institute, Minneapolis

February 2<sup>nd</sup>: Woodlake Lutheran Church, Edina, Minnesota

February 3<sup>rd</sup>: A committee of the Minnesota Legislature

February 8<sup>th</sup>: Senior Men's Investment Breakfast Club, Minneapolis

February 15<sup>th</sup>: Kiwanis Golden K Club, Edina, Minnesota

February 24<sup>th</sup>: Minnesota Transit Association, St. Paul, Minnesota.

I accepted an invitation to go to Santa Cruz, California, by their Citizens for PRT, which was chaired by retired medical doctor Dave Walworth. After spending the weekend of February 26-27 in Denver, I flew directly to San Jose, California, on the morning of the 28<sup>th</sup> where I was met by several members of Santa Cruz CPRT. They escorted me to the San Jose Planning Department where I gave a presentation. We then headed over the mountains to Santa Cruz, which is right on the ocean. The evening of the 28<sup>th</sup> I had dinner with Santa Cruz City Councilman Ed Porter and we talked into the wee hours of the morning. On Tuesday, February 29, I was taken on a tour of Santa Cruz by members of the City Council including the mayor. This was followed by a presentation to the City Council. Several years later Santa Cruz found sufficient funds to do a layout study of PRT and they invited PRT companies to build their test tracks there, unfortunately without the funding needed to turn a dream into reality. After the Chicago debacle, no government in the United States had taken up the challenge until San Jose did in 2009.

J. Edward Anderson, Ph. D.,  
the nation's acknowledged  
expert on P. R. T. will be in  
Santa Cruz County  
on Tuesday, February 29, 2000.

He will speak at two Public  
Hearings:

9:00 AM at the Watsonville  
Senior Center, 114 E. 5th St.

7:00 PM at the Santa Cruz City  
Council Chamber, 809 Center St.

The second meeting will be  
televised on Community TV,  
Channel 71.

All are invited. Please come.

In March, I gave presentations to the following groups:

March 2<sup>nd</sup>: Minnehaha Lodge No. 165, Minneapolis.

March 8<sup>th</sup>: Kiwanis Club of St. Louis Park, Minnesota.

March 14<sup>th</sup>: Washington County Council, Washington County, Minnesota.

March 16<sup>th</sup>: Bloomington City Planners, Bloomington, Minnesota.

March 18<sup>th</sup>: Viking Lunch Club, Minnesota Valley Country Club.

March 27<sup>th</sup>: Kiwanis Club of Northeast Minneapolis.

On April 3<sup>rd</sup>, I gave a presentation to the Minnesota House Transportation Committee and found that a growing number of members of the Legislature supported us. Then on Saturday, April 8<sup>th</sup> I gave my presentation at the Annual Convention of the Minnesota Libertarian Party. They appreciated very much a transit system that could pay for itself. Some years before, I had read the book *For a New Liberty: The Libertarian Manifesto* by Murray N. Rothbard. I was much impressed by Rothbard's arguments. Liberty and freedom are dear to me, as well of course to everyone else, but I am convinced too that only government can set rules that level the playing field and insure fairness. One of the reasons I have worked so much of my life to develop personal rapid transit is that I have seen in it a way to provide an essential service sufficiently attractive that it can be paid for from revenues without taxing everyone to support it. This view was shared by the Libertarians I met, but the fact that optimally designed PRT can provide that essential service while saving natural resources and while polluting far less seems to be of little concern to them.

Finding that Libertarians I met lacked concern for the environment turned me off. My philosophy of life is and has been one of enlightened self-interest, but to be “enlightened” requires a great deal of study about a whole range of issues that influence life on this earth. That study is never complete. One can always learn from others; however, lack of concern for the environment we find ourselves in on this earth is contrary to what I have learned. While air and water may not be sufficiently polluted in some locations to produce easily recognizable affects, growing evidence shows that that pollution is causing illness and death to many people, often more so to children. Tobacco smoke, leaded gasoline and mercury poisoning are examples in which it took decades before the public woke up sufficiently that restrictive laws could be passed, but Libertarians wanted no restrictions. In many cases pollution is felt more by people who live in other places or the projected effects are too far in the future to be of concern. Rothbard expressed enlightened self-interest, and if his views were shared by more Libertarians I would be one of them. I have worked with a right-wing Republican and a Green Party member, both public officials, who worked together to try to get PRT to happen in Minnesota. That is the kind of issue I like – one that is clearly of benefit to all.

Seth Barnard had been busy lining up interest in Taxi 2000 at Lockheed Martin Orlando. Dr. Harold Cates had been investigating. He asked questions about every aspect of entering the business of developing and marketing Taxi 2000. Seth called Steve Gluck at Raytheon to get the status. Steve said that PRT was not dead at Raytheon, but that they could no longer invest. However, he also said that it would be okay with him if Lockheed wanted to enter the business. Seth arranged for Shef Lang and me to visit Lockheed on Thursday, April 13<sup>th</sup>. We flew to Orlando on the 12<sup>th</sup> and arrived in time to have dinner with Harold Cates and one of his colleagues. This full evening ahead of time was an important way to get acquainted before we got into business.

Cates had arranged that he and 6 or 8 engineering managers would spend the entire day with us on the 13<sup>th</sup>. During the morning, I gave a Power Point presentation that started at about 8:00 am and continued until lunch. This was the most elaborate presentation I had ever prepared and fortunately I had ample time to prepare it and get it critiqued by my colleagues. After lunch, we engaged in an informal discussion that lasted until 5 pm. This was one of the most enjoyable days I have spent. They asked excellent questions and were clearly interested. They were all senior systems engineers and knew how to assess a new system.

At the end of the day, Cates said that he would like to assess the market by visiting at least three cities where I had said there was interest in Taxi 2000. He suggested that we do this the week of May 8<sup>th</sup>, which was four weeks ahead and permitted sufficient time for people to make the necessary arrangements. I was impressed by his thoughtfulness. When I got home I made a schedule: Cincinnati on Monday; Rochester, Minnesota, on Tuesday morning; Rosemont, Illinois, on Tuesday afternoon; members of the Minnesota Legislature on Wednesday morning; Taxi 2000 Board members on Wednesday afternoon; Santa Cruz, California on Thursday; SeaTac, Washington, on Friday morning. I called my main contact at each of these locations and, because I could say that I would be accompanied by a Lockheed Senior Vice President who was interested in taking



over Taxi 2000, all agreed to my schedule without hesitation. The meetings were all very positive and we thought that at last we could be underway.

Dr. Cates's next task was to prepare a briefing to the Lockheed Martin New Business Initiatives Committee. Now we had to wait for the result. He told me that it would be necessary to find investments in addition to LM and that he was taking some initiatives in that direction.

On Thursday April 20<sup>th</sup>, I gave a presentation at Macalester College in St. Paul, and then on Tuesday April 25<sup>th</sup>, I flew to Chicago to meet with Christopher Burke, the planning consultant to Rosemont, the city that had been selected for the first PRT system in the Chicago Area. I wanted to prepare him for the forthcoming meeting with Harold Cates, and I of course was most interested in his view of what happened to the proposed Raytheon PRT 2000 system for Rosemont. He told me that the main problem was that Raytheon would not guarantee the operating costs. Because Rosemont had such a need to reduce congestion they were seriously considering a system of elevated busways, which ended up being too costly and have never been built.

On May 3<sup>rd</sup>, several of us drove to Duluth to visit the steel fabricator BendTec, Inc. about building our guideways and to give a presentation to the Duluth Transit Authority Directors. We found a great deal of interest in Duluth in manufacturing components, but no money.

After returning from the week-long series of visits with Harold Cates, I gave a presentation on Tuesday evening May 16<sup>th</sup> to a meeting of the Twin Cities Republicans, and found a great deal of interest there. Then a week later I gave a presentation at the annual Transportation Research Conference, sponsored by the University's Center for Transportation Studies. Here we assembled an exhibit and I could talk with several local transportation professionals, many of whom expressed great interest in my system. On Tuesday, May 23<sup>rd</sup> a series of breakfast meetings was initiated at the Good Earth Restaurant in Roseville to which about a half-dozen individuals interested in PRT attended weekly for many years, but with dwindling attendance after I resigned from Taxi 2000 Corporation in late January 2005. In this picture, we see from left to right one of my former graduate students Scott Gaff, then Ray MacDonald, then me, then Don Mathews, then Jack Rossbach, and finally Kurt Allen. On June 19<sup>th</sup> I was invited to attend a breakfast of program chairpersons of various Twin Cities organizations who were always looking for interesting speakers. This inaugurated for me many more speaking engagements, which I will mention in subsequent paragraphs.



The Taxi 2000 Board of Directors met on Thursday, June 13<sup>th</sup>, for the first time in about six months. The first major business was that we were within a month of running out of funds,

which, however, did not mean we would stop working. Very little of our activity required expenditure of company funds. As the second item of business Richard Broms presented a detailed plan to find private funding. It was agreed that Shef would take the lead to prepare the required materials with me assisting. We were convinced that the normal kind of venture capitalist would not be interested because they looked for too quick a return, but that there may be an “Angel Investor” who would have the patience to wait for a return, and then a much greater return. Several of our friends had contacts with such persons and followed up where they could.

In July I gave a presentation on

July 20<sup>th</sup> to the South town Exchange Club in Golden Valley, Minnesota; on

July 26<sup>th</sup> to the St. Anthony Kiwanis Club in St. Anthony, Minnesota; and on

July 31<sup>st</sup> to the North Hennepin Kiwanis Club in Robinsdale, Minnesota.

There had been a growing number of people willing to assist Taxi 2000 Corporation. John Braff, son of my Navy buddy, converted my PRT simulation program from the DOS-based Professional Basic 7.1 to Visual Basic – a big improvement, and assisted me in many computer and electronic problems. As I have mentioned, St. Paul Architect Richard Wolfgram had read the article on our work in the mentioned Institute of Technology publication and began meeting with us more and more frequently to the point that he felt that he was part of our operation. Joe Lampe had read the Op-Ed article about Taxi 2000 that appeared in the *StarTribune* in November 1998. He introduced himself, began arranging for me to give presentations to Republican groups, and to meet with us more and more often. Jack Hoeschler, the lawyer friend of Shef Lang’s who negotiated with the Raytheon lawyer to release us from our agreement with them, hosted many meetings of our Board in his office and helped Shef arrange meetings with potential investors. Membership in Citizens for Personal Rapid Transit kept growing and several of its members, particularly Kurt Allen, Tim Nelson, Steve Anderson, Dick Gronning, Lynn Mayo, and Margaret Beagle begin passing out our literature and visiting many members of the State Legislature. We, of course, had no money to compensate these people – they were volunteers. Some worked out very well, but two of them later exhibited their own agendas – at first hidden – that became destructive. Carefully choosing one’s associates is extremely important.

Now I heard, in a speech before the National Press Club in Washington, Ralph Nader, in response to a question about his priorities, said that his number one priority was to do something significant about public transportation by urging the development of personal transit “as developed by Professor Ed Anderson.” That speech was broadcast nationwide on NPR. We heard a rerun at 9:00 pm that night, following which I got many calls and emails. I wrote to Nader thanking him for the exposure.

On June 20<sup>th</sup>, I got a call from one of my former students at Boston University, Andy Ryan, who was working for Delphi Automotive in Lockport, New York. Delphi had broken away from General Motors as their parts supplier. Ryan said that Delphi was looking for new products and he had interested his boss in considering Taxi 2000. We traded information over a period of about six months, but heard nothing more.

In early August Richard Broms began developing a business plan for us. He involved his controller, Marlin Schoep, who developed an operations-and-maintenance cost model in such detail that he even estimated the number of shelves required in the maintenance shop. Shef and I busied ourselves providing data for him and used the standard Means Cost-Estimating handbooks to detail the cost of everything possible. Broms advised that additional funds would be needed to raise the investment capital required to get our company underway, so Shef obliged by providing \$25,000 in return for stock at ten cents a share. We were now holding weekly meetings with Broms, sometimes in his home in Eden Prairie, sometimes in his office also in Eden Prairie, and sometimes at various restaurants. It appeared more and more that he would lead us into the investment we needed to build our test system and if so, we expected that he would become our CEO.

On September 25<sup>th</sup>, I gave a presentation to the Zuhrah Boosters at the Zuhrah Shrine Center in Minneapolis. Then on October 3<sup>rd</sup> I gave a presentation to the Fridley City Council with hopes that it would generate some fallout for us, but it did not. On October 18<sup>th</sup>, I flew to Aspen, Colorado, for the above-mentioned two-day conference at which I gave a short presentation. It resulted in renewed interest in our system in Aspen, Snowmass, and Vail.

On October 23<sup>rd</sup>, I got a call from Mike Conwell of Austin, Texas. He had set up an organization he called Austin Citizens for Personal Rapid Transit. He showed a video I had sent him and information from our web site [www.taxi2000.com](http://www.taxi2000.com) to about 100 people on a one-to-one basis and was getting great responses. He started the web page [www.acprt.org](http://www.acprt.org), which became an excellent independent view into PRT developments. On November 1<sup>st</sup>, I heard again from Scott Stevens at Oak Ridge National Laboratory. He was still working on a plan to bring people into the Great Smoky Mountains National Park, which by far attracts more tourists than any National Park in the United States. I worked with him until, unfortunately for us, he retired, and no one continued his work. That is the way things went again and again.

On Monday November 20<sup>th</sup> I was back in Cincinnati to testify before the consultants to a Central Area Loop Study Committee (CALSC) that was set up to do a study of PRT for Downtown Cincinnati. This committee of OKI had received the \$500,000 obtained by U. S. Senator Jim Bunning and after many months of effort the \$125,000 local match came from the City of Cincinnati and the State of Kentucky. These funds had to be spent through OKI, which is the Metropolitan Planning Organization that served the Cincinnati Area, but this was putting the fox in charge of the chicken coop. As I have mentioned, OKI had been strongly pushing for light rail and to them PRT was the spoiler. In a speech, the Mayor of Cincinnati said that introducing competition to light rail could result in no receipt of any federal money, and from her speech it was clear that her major interest in getting the light rail system built was that it was a way to attract a substantial amount of federal money. If there had been no funds for such projects, there would have been no significant push for light rail. We debated whether to invest our time and limited resources in this project – we would have to be either in or out. But we felt that we could not abandon the Sky

Loop Committee after they had selected us from a field of 50 elevated rail systems. So, notwithstanding our major activity of preparing to secure funds to build our much-needed test track, we had to forget about the expected nastiness ahead of us and cooperated in every way we could.

CALSC selected Parsons Brinkerhoff (PB) to do the work. But because they had no expertise in PRT they sought out Kimley-Horn, where one of their engineers, Sam Lott, had played a minor role in the SeaTac PRT Major Investment Study two years previously. The PB team was headed by Fred Craig, who emphasized to everyone that the study would be fair and objective. Since PB had admitted that they had no knowledge about PRT generally and certainly not Taxi 2000 specifically, I was surprised that they did not ask me to make a suitable presentation. This was the first hint that the study would be anything but “fair and objective.” We knew that they were working for a client that wanted to trash PRT to get on with their light rail plan. A comprehensive presentation, which I was prepared to give, would have been obligatory if the consultant team really wanted to understand our system. I should have objected then, but I felt that objecting would not be consistent with the need to cooperate. Sam Lott asked me all the questions they had for a period of about four hours.

I gave one more presentation in the year 2000, on November 22<sup>nd</sup> to the Minneapolis Business Forum. Here was where I had every reason to believe that there would be some action. On December 14<sup>th</sup>, our company Board of Directors met. Shef discussed the strategy of going for \$25 million from large investors rather than a smaller amount from so called unsophisticated investors. We reviewed discussions that Dick Broms had had with a friend from Chase Capital and a trip he made to Orlando to talk to Harold Cates. He concluded that we would have to wait to see if LM wanted to negotiate. We looked anxiously for a positive sign from the LM Board of Directors, but it never came.

People wonder why developing a new transit system has taken so long. Our work has been a rational attempt to develop a transit system that will be able to provide a genuine alternative to the automobile by seeking the optimum in every way, specifically to determine how to simultaneously minimize cost, energy use, air pollution, noise, land use and material use while maximizing ridership and meeting all necessary requirements related to safety, reliability, comfort, and personal security. The resulting system now enjoyed the support of citizen groups in Minneapolis, Cincinnati, Santa Cruz, and Austin, TX. The problem is that in striving to be the best we threaten the rest, the promoters of which attempt in every way they can to place logs in our path. This in many ways has delayed us. Too many people are good only at seeing what is rather than what can be! But isn't that the way things have always been? My work is a considerable challenge, but one in my estimation very much worth the effort and to top that fun.