

## **Why the Central Area Loop Study Committee Failed to Adopt PRT**

### **The Decision**

On September 25, 2001 the Central Area Loop Study Committee (CALSC) voted 15 to 7\* to reject the Sky Loop Committee's (SLC) Recommended Decision to adopt the Sky Loop as the Locally Preferred Alternative for the long-term for the CAL. The wording of the actual recommendation is attached.

The CALSC then voted 14 to 8 to accept the recommendations of OKI and Parsons Brinckerhoff (PB) regarding PRT, which were:

"The PRT (Taxi 2000) alternative is not recommended for adoption as the loop circulator technology for the Central Area.

"Taxi 2000 should pursue the construction and operation of a full scale demonstration project to resolve questions regarding engineering designs, operational feasibility and cost."

Instead, the CALSC adopted the OKI and PB recommendations for improvements to the Southbank Shuttle bus routes for the CAL and to undertake "additional study of surface rail alternatives serving the urban cores of Covington, Newport and Cincinnati... [to be] conducted and incorporated as an integral part of the proposed Regional Rail Plan" – meaning that streetcars would be continued to be studied for the CAL.

### **History of the CALSC**

In 1997, Senator Jim Bunning obtained \$500,000 in federal funds for the study of elevated rail as a possible choice for the I-71 Corridor. OKI had previously rejected all forms of elevated rail in the I-71 Corridor Study; but these funds were to be used only for study of elevated rail, so they were just sitting at OKI, waiting for an agreement between Sen. Bunning and OKI on how they would be used.

The CALSC was created when the Sky Loop Committee (SLC) asked Senator Bunning to release the \$500,000 to be used for a study of elevated rail (PRT) for a downtown Cincinnati-Covington-Newport transit circulator. Senator Bunning agreed to allow the use of these funds for studying the feasibility of the Sky Loop for the downtown area circulator, which eventually was called the Central Area Loop (CAL). His agreement to do this was contingent on Southbank Partners, Forward Quest and OKI agreeing on both a scope of work and the people eligible to serve on the study committee.

Southbank Partners wanted to get the cities of Covington and Newport to agree to this as well, and so they were brought to the table. After weeks of negotiation between all these

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\* Only 22 of the original 43 CALSC members were eligible to vote, because of the requirement that they must have attended 75% or more of the meetings.

parties, the Scope of Work was agreed upon, as well as a list of 43 representatives from Cincinnati, Newport and Covington, Hamilton, Kenton and Campbell Counties, the Ohio Department of Transportation, the Kentucky Transportation Cabinet, the Cincinnati and Northern Kentucky transit authorities (Metro/SORTA and TANK), about a dozen representatives of businesses in the CAL area and a number of citizens at large from the three cities.

Local match funds of \$50,000 from the City of Cincinnati and \$75,000 from the Kentucky Transportation Cabinet were secured, thus completing the \$625,000 OKI required for the study.

In addition to selecting a technology for the CAL circulator, at the insistence of Newport and Covington the Scope of Work included studying the extension of light rail to Newport from the intermodal center in downtown Cincinnati and studying traffic patterns on 4<sup>th</sup> & 5<sup>th</sup> Streets between I-75 in Covington and Saratoga Street in Newport.

This grand coalition seemed promising, except for the fact that that none of the three cities had expressed any interest in PRT for the CAL. Throughout the CAL Study, this never changed. Cincinnati early on was skeptical of any elevated system, due to the perception by Downtown Cincinnati, Inc. (DCI), the Cincinnati Chamber of Commerce and others that Cincinnati's Skywalk system had negatively impacted "street life." Covington and Newport had their own reasons for participating in the Study, as noted above.

Adding these other elements to the Scope of Work meant there was less money available for studying the circulator, and especially for understanding PRT, which was new to both OKI and PB. This would become a problem in this study.

Finally, it should be noted that the Sky Loop Committee, under its former name, the Advanced Elevated Rail Committee, had been opposed to light rail, while OKI had been advocating light rail for a number of years. Light rail had already been selected for the I-71 Corridor, giving OKI encouragement and millions of dollars to further study it for the whole Greater Cincinnati area.

When the CAL Study commenced, the SLC agreed that while we would not support light rail, we wouldn't actively oppose it for the I-71 Corridor. We would support the idea that light rail would be compatible with the Sky Loop. Because it was to connect to the intermodal transit center in downtown Cincinnati, each would feed the other, making both serve the people better.

The agreement for the Study was in place by fall 1999, but the local match funds were not secured, nor the consulting team selected, until April 2000. The CALS then began in earnest.

For many months after the study began, the consultants focused on getting a route established for light rail to Newport, looking at how light rail or streetcars would use existing bridges, determining routes for light rail/streetcars on the CAL, making improvements to the Southbank Shuttle, and examining traffic patterns on 4<sup>th</sup> and 5<sup>th</sup> Streets in Covington and Newport.

In November 2000 consideration of PRT began when the SLC brought Dr. Ed Anderson, CEO of Taxi 2000, to Cincinnati. Dr. Anderson spent five hours with OKI and PB

explaining how Taxi 2000 worked. Dr. Anderson answered numerous questions from JKH Mobility's Mr. Sam Lott, hired by PB to analyze PRT for the consulting team. The rest of the PB team was there as well.

Thereafter, the only communication between the consultants and Dr. Anderson prior to 7/17/01 was a series of emails between Dr. Anderson and Mr. Lott. Furthermore, these emails did not begin until early June 2001.

At the second to last CALSC meeting, held 7/17/01, PB presented its Draft Final Report (DFR) for the entire study, including its complete review of Taxi 2000 PRT. This is where PB surprised us all with its own PRT design and a cost estimate of that system more than six times greater than what the SLC and Taxi 2000 had projected for the Sky Loop up to that point.

The August CALSC meeting was moved to September to give the SLC time to respond to statements in the DFR. The SLC and Taxi 2000 then prepared the Rebuttal to the DFR, which was mailed to all CALSC members and to PB and OKI fifteen days before the September meeting.

The final CALSC meeting was held on September 25, 2001; the decision of the committee at that meeting is set forth above.

### **The Role of the Ohio-Kentucky-Indiana Regional Council of Governments (OKI) in the CALS**

OKI acted as staff to the CALSC. Wally Pagan, President of Southbank Partners, was chosen to be Chairman of the CALSC.

OKI solicited and received bids from three transportation-consulting teams. The CALSC chose PB.

During the course of the study, OKI played a minor role in the deliberations of the CALSC, that is, until the end. Throughout the study, OKI certainly did almost nothing to facilitate an understanding of PRT, but left it up to PB to set forth the agenda and process for the study.

A curious thing happened at OKI's Executive Committee meeting on 9/13/01, however. OKI staff attempted to have the Executive Committee adopt the PB recommendations noted above, before the CALSC was to make its decision on 9/25. This effort was opposed by Barry House of the Kentucky Transportation Cabinet, and so was rejected at that time.

Then at the final CALSC meeting on 9/25/01, Mr. Jim Duane, the Executive Director of OKI, did play a role in defeating the selection of PRT. He stated that there was no way that PRT in general, or Taxi 2000 in particular, could be selected by the CALSC as the Locally Preferred Alternative for the CAL. Why? Because PRT was not a "proven technology", and no sole-source vendor could be chosen. It was also suggested by OKI that this was not a Major Investment Study, as we had thought, but only an alternatives study, so choosing a Locally Preferred Alternative was not the correct terminology. No alternative language was offered.

These statements certainly served to confuse the CALSC, as it had been known throughout the study that a PRT prototype would have to be built, but that it would not happen before the CALSC made its selection. While there were other PRT designs in existence, Taxi 2000 was chosen early by the CALSC as the PRT design of choice. To wait until the final meeting – the meeting at which the Committee would vote – to tell the CALSC that they could not make such a decision - was likely a major factor in its defeat. This "fact" expressed by Mr. Duane was also contrary to the original understanding between Senator Bunning, OKI, Southbank Partners, and SLC as to how this study would be conducted. We all knew that PRT would have to be proven by development of a prototype before it could be purchased. Besides, PRT had previously been approved in an MIS study (which is more thorough than an alternatives analysis) for the City of SeaTac in 1992, so the precedent of selecting PRT for a circulator system was already established. SLC mentioned the SeaTac study, but OKI wouldn't consider this.

At the end, when it counted, it became quite clear that OKI was very much opposed to PRT being selected by the CALSC for the downtown circulator.

### **The Role of the PB Consulting Team in the CALS**

We believe that the consultants did what consultants in similar studies always seem to do when confronting an emerging and innovative technology such as PRT: they gave the CALSC an amazingly large number of reasons to reject it.

To their credit, PB's San Francisco office did a good job in constructing a travel demand model for PRT. While we disagree with certain assumptions used as input to that demand model (things that would tend to underestimate PRT demand and overestimate streetcar and bus demand), nevertheless, the results surprised all but the SLC and Taxi 2000. The SLC had said for months that demand would equal 30,000 trips per day, compared to 6,000 per week for the Southbank Shuttle. Few believed us. We were not surprised when PB's demand model results ranged from 26,500 to 32,500 trips per day, compared to at most 6,900 trips per day for any other technology.

The consultants decided at some point that they could not accept the Taxi 2000 PRT design without making substantial changes that added significant weight, size and cost. We found this out only on 7/17/01, when the DFR was presented to the CALSC without prior consultation with SLC or Taxi 2000. Coupled with many other assumptions and comments in the DFR, this document would effectively kill any chance of choosing PRT.

In response to the extensive misinformation about Taxi 2000 PRT in the DFR, we prepared the Rebuttal to the DFR. However, in the end, while copies of this 40-page document (with 110 pages of attachments) were sent to OKI, PB and all CALSC members, we believe few were able to read all of it or follow the engineering debate contained therein. While our rebuttal created a "reasonable doubt" about the consultants' PRT assessments, the CALSC was put in the position to have to choose who was right. Many of the CALSC members never read all of the Rebuttal or, if they did, did not have the time to adequately consider all the questions we raised. When, in the end, the CALSC had to choose which of us was right, they chose the consultant. Quite surprising to us, PB never even considered the

corrections we offered in our rebuttal. They certainly did not mention our rebuttal at the 9/25 meeting, nor did they change one thing in their DFR based upon our rebuttal.

### **Lack of a Prototype Made Our Job Harder**

The CALS was just getting started in May 2000 when the SLC and Taxi 2000 met with a major national company to discuss partnering with Taxi 2000 to build and test the prototype. It was then hoped this firm would become the large company Taxi 2000 needed to build PRT systems worldwide. For the next several months, negotiations continued. These negotiations fell apart by December 2000, when their V.P. of Special Projects retired. In July of 2000 the V.P. had told Dr. Anderson that they wanted to see others join the team. While they were prepared to team with Taxi 2000 in building systems, their Board of Directors was unwilling to fund the prototype alone.

Attempts to secure prototype funding via venture capital firms have not been fruitful to date, likely due in no small part to the fact that in studies like the CALS, consultants always recommend against PRT.

Therefore, the SLC was left to sell PRT to the CALSC without any firm plan for a prototype. This left many of the questions raised by PB and others without answers based upon an operating system. The SLC could only say, "wait for the prototype." This made it much easier for OKI and PB to attack PRT, especially at the final two meetings.

Nevertheless, after some reflection, it is unlikely this was the primary factor in the defeat of PRT in Cincinnati. It was the combination of all the factors noted herein that produced a burden too great for the SLC and Taxi 2000 to overcome.

### **Conclusions About Development of PRT from Our Experience in Cincinnati**

#### **1. There is no chance of selling a PRT system as sophisticated as the Sky Loop system for a downtown area until a prototype is built and tested.**

The Sky Loop initiative involved working with multiple governments and other public entities and also convincing numerous private building owners to provide stations in or near their buildings. Such a complicated system will never be sold until simpler systems are built elsewhere.

Many questions arose concerning how the posts and guideway would fit over downtown sidewalks that are only 13 feet wide, how would it get over the Skywalk, how will a curved section of guideway be supported, especially when turning 90 degrees from one street to another, and how will stations look and fit outside buildings, much less inside them?

To sell how PRT will look, Taxi 2000 should be able to videotape the proposed route and then use computer-aided imaging to show guideway, stations, posts, etc. along the route. This will take a proficient marketing team with appropriate monetary support. Had this been available during the CALS, it might have made a big difference in the outcome.

#### **2. The PRT prototype must include all the elements needed to prove the performance specifications we referred to in the study.**

This will need to include Taxi 2000's full prototype plan, consisting of 2,200feet of guideway, speeds to 40 mph, straight and curved elevated guideway, a station, at least three vehicles and all of the necessary computer hardware and software. It will also need to include working with national engineering organizations to write specific safety and design standards for PRT that would then be accepted at the local level.

**3. The first PRT system is likely to be smaller and less complicated than the Sky Loop system in Cincinnati.**

Likely candidates for such PRT systems would be airports or university campuses. These would require fewer stations and, perhaps more importantly, fewer entities involved in the decision making process.

**4. Public planning agencies and their consulting teams will continue to be obstacles for PRT development until PRT is a proven commodity in public transit.**

No innovation will ever come out of this combination of decision makers. A PRT prototype will have to be built, and private or semi-public entities such as those mentioned above will be the first customers for PRT. A market for PRT will have to be established in spite of the planning agencies and their consultants. Only when they see it as established technology will they get on board.

**Future Role of the Sky Loop Committee**

We will maintain our web site in order to continue communicating with other PRT supporters around the world.

Should Taxi 2000 develop and test its prototype, we will look for other applications of PRT in our community. Possible candidates are the Cincinnati/Northern Kentucky International Airport, Northern Kentucky University, and the University of Cincinnati.

Before we would again propose the Sky Loop system to link the downtowns of the three river cities, the political climate would have to change to gain more support than we did with this study.

We hope that this synopsis of what has happened here in our attempt to implement PRT as a 21st century solution to moving people in Cincinnati/Northern Kentucky will be useful to further the development of PRT elsewhere. We are confident PRT will happen. For a system that will attract at least four times the number of passengers as conventional transit systems, and possibly do it at a profit, we feel this is inevitable. We eagerly await the place where this will first happen, for there they will have taken the step into transportation's future that many others, now including Cincinnati, have declined to do.

Charles S. Tappan  
Chairman  
October 12, 2001