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Proceedings of Bus Summit 2000: Ensuring a Healthy U.S. Bus Industry

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Bus Summit 2000

Ensuring a Healthy US Bus Industry 2000

US Department of Transportation
Federal Transit Administration

FTA

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Bus Summit 2000: Ensuring a Healthy U.S. Bus Industry

Executive Summary

Executive Summary

The Federal Transit Administration (FTA) Bus Industry Summit was held October 18-19, 2000, in Washington, DC. The Summit offered an opportunity for representatives from the transit industry, including transit providers, vehicle manufacturers, consultants, and government officials, to participate in a forum to address critical issues affecting the North American transit bus industry. The Summit addressed specific issue areas: Procurement Planning and Information Exchange; Vehicle Standardization; New Technology in the Procurement Process; and closed with a final summary session entitled, "Where Do We Go From Here," that focused on follow-up actions to tackle the critical issues discussed. The issue areas were defined in the course of on-going meetings with industry stakeholders being held as part of the FTA's Strategic Plan.

Although significant strides have been made through various industry and government activities in the last eight years—and transit as a whole is experiencing positive trends in increased ridership, increased availability of federal funding, and an explosion of new technology—the industry continues to experience several recurring concerns. Procurement and standardization continue to challenge all segments of the industry. In addition, technological innovation and the move towards electronic communications bring additional complexity, as well as opportunity, to the transit industry. The Summit is an integral part of the Federal Transit Administration's strategic plan to address such challenges, providing a starting point for a more detailed and focused discussion among industry stakeholders. The findings of the Bus Summit provide critical information to guide future efforts in support of a healthy U.S. bus industry.

The Summit is an important start to fostering collaborative partnerships, particularly in the areas of procurement, technology advancements, and ensuring that bus transit becomes an attractive mode of travel for more and more Americans. Continual input is required in order to make sure that the industry's efforts are as responsive and equitable as possible; the inputs provided by the Summit participants are a keystone in those efforts. As economic, societal, environmental and other challenges are tackled, the industry's mutual customer, the American riding public, will be the beneficiary of the industry's success.

Communication, Information, and the Internet

Perhaps the most commonly identified issue of the Summit was the need for improved cooperation and interaction among industry stakeholders. Improved standardization of design and procurement, effective regulatory efforts, and the introduction of efficient and safe technology are all possible with better collaboration between manufacturers, transit officials, and government. Comments and recommendations include the following:

- Better information collection and dissemination would benefit all sectors of the industry.
- Increased use of the Internet, perhaps through a centralized database or portal, could facilitate exchange of procurement information, specifications, planned delivery dates and other critical information. Bids and procurements could also be posted online. Information could be transmitted electronically, reducing the procurement process time.
- The American Public Transportation Association's (APTA) e-commerce efforts were cited as a good starting point for the creation of an Internet portal. APTA expects its site to be operational by Spring 2001.
- E-Commerce could help reduce the costs of procurement through streamlining the process.

Vehicle Procurement

Procurement continues to be an important issue for the industry. While the Transportation Equity Act of the 21st Century (TEA-21) has increased overall funding, and several new innovative financing mechanisms have been introduced to facilitate procurement, industry has suggested that several areas need to be improved. Specific recommendations made during the Summit include the following:

- Piggyback procurements could be better facilitated, particularly for small agencies that might benefit from consortia arrangements, consolidating quantities and limiting differences in vehicles to cosmetic features. Increased technical assistance could be provided by large agencies, FTA and APTA, as smaller agencies may not have the technical, engineering, or specification writing staff to handle the demands of a new purchase.
- A more open exchange of information could benefit the procurement process. Proprietary information, in particular, may stifle communication among industry players, hindering the evaluation process and creating a potentially inequitable situation for other manufacturers.
- The process for both bids and Requests for Proposals (RFPs) could be streamlined. One suggestion is to require manufacturers to submit only essential information. For example, asking for product information on already approved products may be superfluous. Qualifications and capability information should be submitted in advance of the due date. On the due date, only pricing would be received. Where practical, offers might be accepted without additional negotiations.
- The pricing of options is often complicated. The Producer Price Index (PPI) can be used to estimate future costs on options. However, component manufacturers may estimate 2-3 times beyond the PPI, or may use different methods of determining a fair price. The bus manufac-

turer has little control over suppliers' pricing and has to determine how to pass on the pricing difference to the transit agency.

- The General Services Administration (GSA) procurement schedule could be used for procurement of "off-the-shelf" buses. Also, it was suggested that FTA consider administering one large procurement each year to help streamline the process.
- Improving multi-year procurement procedures is desirable. The annual funding cycle and continued improvements in technology drive revisions in multi-year procurements. This may add to, rather than mitigate, uncertainty.

Standard Procurement Guidelines

The issue of vehicle standards, in particular, generated much discussion during the Summit. The effort to develop industry specifications resulted in the development of the Standard Bus Procurement Guidelines (SBPG), first released in 1997. The development of the SBPG was a collaborative effort involving government, manufacturers, and transit providers. However, concern was expressed that despite this collaborative approach, standardization has yet to be truly adopted in the industry. Specifically:

- Many participants voiced the suggestion to update the SBPG. Current standards may already be outdated, particularly in dealing with new technology. Industry should consider a continuous process for updating the specifications.
- Transit agencies do not always follow the standard product guidelines closely, but instead pick and choose the parts of the guidelines that suit their needs. This approach can create problems for manufacturers who expected that the SBPG would be considered as a whole. Manufacturer warranties and other provisions, and resulting cost savings, were often based on acceptance of the guidelines in total.
- An independent third party organization, separate from APTA, FTA, the transit agencies, and the manufacturers, may be desirable for facilitating the update of SBPG, perhaps on an annual basis. An outreach effort to all stakeholders should be used to develop consensus in the development and review of the standards and to promote use of and adherence to the standards. Funding could be secured through a self-imposed industry tax.
- Industry might consider moving towards a more performance-based standard. Though agencies demand quality and better warranties, and often request specific components based on experience, brand names may not universally represent good quality, and may preclude new suppliers from entering the market.
- Increased reliability may help to reduce operating costs. On the other hand, some agencies want the opposite because lower standards may reduce vehicle costs.
- Grantees might benefit from additional training on procurement guidelines and practices. It was suggested that FTA fund these additional training opportunities.
- The supplier-agency relationship, particularly the trust level, could be improved in the context of SBPG. These guidelines sought to appor-

tion risk, but some manufacturers feel that they have in fact assumed disproportionately more risk (i.e., longer warranties, etc.) without the resulting benefits.

- Agencies could consider allowing more lead time for manufacturers to develop subcomponents that provide longer warranties.

Technology Deployment

Industry continues to be transformed by the introduction of new technology, including the growth and interest in ITS, composite materials, and clean fuels such as fuel cell, hybrids, and all-electric propulsion systems. The industry faces a tremendous challenge in introducing advanced technologies in a way that encourages widespread adoption and commercialization, and provides the most benefit to the transit industry as a whole. Key issues and action items posed by attendees:

- Research and development costs might be more effectively shared among manufacturers, FTA, and transit agencies. This would facilitate product standardization and streamlining of the approval process and lead to institutionalizing the review of new technologies, perhaps by organizations such as APTA or FTA.
- Technological innovation should be more thoroughly reviewed to ensure feasibility and compatibility before being incorporated into procurements supported by federal funding. A supported research and development effort as well as FTA review of new manufacturers and products may benefit the industry.
- The industry might consider reducing the number of variations in new technology and focus on the most promising applications, thereby concentrating effort and scarce funds.
- Technology specifications might be approached through standardized hardware and customized software. A suggestion was put forward for FTA to lead this effort, with APTA facilitating.
- Additional incentives would speed up research and development and deployment. A transit working group, facilitated by FTA and tasked with developing goals, a technology roadmap, and standards for bus technology, may be desirable. Concurrently, industry should consider establishing a federally-funded bus technology deployment program to preview new technologies.
- In the context of new technology procurements, transit agencies were urged to avoid specifying every single component of a system, particularly as many components are tested to function as a group. Rather, it may be more cost effective to allow manufacturers to select components.

The FTA, Policy and Regulations

Comments were numerous concerning the need for action by FTA, including a suggestion that FTA develop a master plan that would serve as a transit map for future policy, legislative and funding activities. Other suggestions received:

- Some participants suggested that the FTA 12-year useful vehicle life provision may need to be reassessed. In particular, the option of a flexible lifetime or other mechanism to facilitate the deployment

of new technology vehicles (those considered experimental) may need to be explored. Attendees were referred to existing waiver provisions within FTA circulars, which may help to address this issue.

- FTA offices might consider, in part, more uniform bus guidelines within each region than are currently in place. This is particularly important for piggybacked procurements.
- Buy America and its costs and benefits may need to be reassessed. It was voiced that Buy America does not lend itself to international competition, yet at the same time international owners control many bus companies. There may be a better way of improving the market and adapting technology from the rest of the world. It was noted by FTA that Buy America provisions are not likely to fundamentally change, except for an act of Congress. However, the agency is willing to work with the industry to improve flexibility.
- FTA should consider focusing on improving the quality and procedures of bus testing at the industry testing facility in Altoona, PA. The use of simulation software as a precursor, or even substitute, for physical testing may be an effective approach.

Other Concerns

The Summit brought forth a number of suggestions related to other industry concerns, including quality and performance of existing vehicles, stabilizing the demand for vehicles, and recruiting high quality personnel. Specifically, participants offered the following:

- Focus on improving the quality of the vehicles, especially reliability and durability. This could be achieved through better standards, extended warranty provisions, and improved quality in the construction process.
- Utilize existing manufacturing capacity more effectively, perhaps through stabilizing the demand for vehicles.
- Development of standardized workstations may improve the working environment within the vehicle.
- Additional training should also be made available to drivers, and operating manuals are still below standard and should be upgraded.
- A coordinated effort to recruit and train people is needed. Many agencies are finding it difficult to recruit drivers. An industry-wide approach could benefit the industry on a larger scale.

Conclusions

FTA outlined several areas for comment and further consideration:

- FTA expects any strategic plan to affirm its strong support of SBPG, while also seeking to maximize flexibility in its support for transit agencies. FTA will work with the industry to develop an effective strategy.
- FTA will consider establishing a more formal committee on public transportation to provide continuing guidance to the agencies and stakeholders in the industry.

- FTA will organize a series of round tables to discuss areas of concern in further depth. Topics will be industry driven.
- FTA will continue to work with APTA and other industry associations to continue the dialogue on critical issues, in particular: technology deployment, standards, and procurement.

Partnerships for Better Procurement Planning: Collaboration and Information Exchange

Session 1

Moderator:
Dorrie Aldrich, Federal Transit Administration

Panelists:
Margaret Merhoff, Los Angeles County Metropolitan Transit Authority
Raymond Ellis, KPMG Consulting
Brian MacLeod, Gillig Corporation

Facilitator:
Cliff Henke, Metro Magazine

Introduction

Ms. Dorrie Aldrich, FTA, opened the first session of the day by emphasizing the importance of an open and on-going dialogue to ensure effective information exchange and procurement planning. She emphasized that the industry must work together to form effective partnerships and alliances. FTA-sponsored initiatives have included collaborations and information exchanges to address the diverse needs of transit. For example, in partnership with transit agencies, an electronic version of the Best Practices Procurement Manual is available on the FTA's web site. Ms. Aldrich noted that the manual provides guidance on diverse topics such as piggybacking, tag-ons, and revenue contracting.

Another mechanism that FTA has implemented to facilitate better communication and technical assistance on procurement related issues is a third-party procurement hotline. This service has a 48-hour turnaround time and is meant to be results-driven, effective, and efficient by providing responses to frequently asked procurement questions. Ms. Aldrich commented that the goal is to enable agencies to procure the desired quality products, goods and services on time and within budgetary limits.

To frame the discussion, Ms. Aldrich noted the following issues and action items as possible industry priorities:

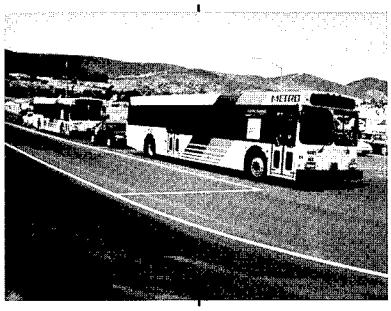
Session Highlights

- Better communication and information exchange among industry stakeholders is important to facilitating a better procurement process.
- An electronic clearinghouse could serve as an effective portal for information exchange.
- E-commerce may help reduce costs by streamlining the procurement process.
- Piggyback procurements may need to be facilitated more effectively.
- Improving manufacturer performance and meeting delivery dates is desirable.
- Industry consolidation, the global economy and Buy America regulations may need to be addressed in the context of the procurement process.

- Create an industry task force to update procurement guidelines.
- Explore ways to create a central clearinghouse of procurement information for the common sharing of knowledge, ideas and strategies to address the diverse needs of transit.
- Continuously improve the joint procurement process by forming partnerships and alliances to streamline the procurement process. Plan and participate in consolidated procurements.
- Increased use of information technology may be the key to further sharing of upcoming procurement plans, joint procurement opportunities and awards, lessons learned, specifications, piggybacking opportunities, and other types of technical specifications.

"Several procurement issues need to be addressed. First and foremost is the need for better information collection from transit agencies around the country, perhaps through access to a central database available over the Internet."

——Margaret Merhoff
Los Angeles County
Metropolitan Transit
Authority



Large Transit Agency Perspective

Margaret Merhoff, representing the Los Angeles County Metropolitan Transit Authority (MTA), presented the perspective of a large transit property. The MTA operates bus and rail service for Los Angeles County. Bus operations involve over 2,000 peak-period buses, with an additional 150 buses operated on a contract basis. Ridership currently totals approximately 1.2 million daily boardings for bus and rail.

In response to legal action, MTA has been ordered to procure new buses, in part to update its aging fleet. In 1997, the average bus fleet age exceeded 10 years. The public perceived buses as being overcrowded, poorly maintained, and dirty. As an outcome of the litigation, the MTA Board approved procurement of 2,095 new buses over a six-year period. To date, 1,346 buses have been purchased, all powered by compressed natural gas (CNG) and with a significant proportion designated to be low-floor. Ms. Merhoff remarked that the average price has declined by $20,000 per bus over the last five years, in part due to economies-of-scale resulting from the large number of buses being purchased.

In a recent procurement, MTA used an escrow agent to receive pricing and technical proposals. Proposals were first reviewed for technical responsiveness. Responsive proposals were then reviewed "blindly" to examine price differentials between diesel and CNG bids. The MTA Board then reviewed the differential and authorized the purchase of CNG buses. All CNG bids were then opened. MTA used the Producer Price Index (PPI) for Bus and Truck Bodies to provide a reasonable price escalator for options. As a result, the agency now has options that are valid for up to 48 months. Options, however, must be used carefully to ensure that manufacturers can reserve appropriate production capacity.

In the experience of Los Angeles, Ms. Merhoff noted that several procurement issues need to be addressed. First and foremost is the need for better information collection from transit agencies around the country, perhaps through access to a centralized Internet database. This database would contain procurement information, specifications, planned delivery dates, and other critical information. Within the MTA, the Internet has been helpful in streamlining the information process. All procurement documents are available online. The agency is working towards the goal of having all suppliers and agencies transmit information electronically, thereby significantly reducing procurement process time.

In addition, there is a need to develop a process for facilitating piggybacks more effectively. The 1999 "Dear Colleague" letter from FTA helped to clarify piggybacking and use of options; however, more needs to be done. Small agencies should be encouraged to form consortia, thereby consolidating quantities and limiting differences in vehicles to cosmetic features. Achieving this will require increased technical assistance from large agencies, FTA and APTA.

Ms. Merhoff also advocated more open communication. Proprietary information often stifles communication among industry players and hinders the procurement evaluation process, creating an inequitable situation for other manufacturers.

In her opinion, the future will be characterized by greater use of the Internet. The industry needs to find better ways to make use of this—in particular, to facilitate the sharing of information on many topics and to encourage more interaction among procurement professionals. A web site might also contain a secure bulletin board for communication among grantees.

Finally, Ms. Merhoff stated that the procurement process needs to be streamlined for both bids and Requests for Proposals (RFPs). Manufacturers should only be asked to submit essential information. Asking for product information on already approved products, for example, may be superfluous. Ms. Merhoff cited Ralph Nash, a widely recognized author and lecturer in the Government Contracts field, who advocates a "super streamlined process" for negotiating procurements, where qualifications and capability information are submitted in advance of the due date. Nash also recommends a small technical submittal or no technical submittal. On the due date, only pricing is received, by which time the agency would have made a capability determination. Oral presentations (not sales pitches) would then be scored and added to the scores for capability. Finally, Mr. Nash recommends, where practical, acceptance of an offer without negotiations. While this exact process may not work for bus procurements, Ms. Merhoff stated that this type of expedited process should be the goal.

A Manufacturer's Perspective

Brian MacLeod, of the Gillig Corporation, presented a manufacturer's perspective on bus procurement. Gillig, a 110-year-old San Francisco-based bus manufacturer, has one of the largest market shares for buses in the U.S., with 17% of the market. Gillig is proud of its record of consistent on-time deliveries.

Mr. MacLeod observed that the outlook for the bus industry should be good, but instead, is less than positive. Production and volumes are up but revenues are down, due in part to the underutilization of production capacity. Many bus manufacturers are having financial and delivery problems.

Procurement lead times can approach two years, depending on vehicle complexity, number of buses, and type, according to MacLeod. Concurrently, the number of new vehicles in production has tripled over recent years, facilitated by the use of newer manufacturing techniques, electronics, emission controls, low-floor vehicles, and new fuel technologies. MacLeod also noted that delays from sub-suppliers continue to affect lead times.

The bus industry needs to improve its performance in meeting guidelines and delivery dates. The transit agencies can help by following standard product guidelines or streamlining the procedures and creating practical requirements. Improved multi-year procurement procedures and simplified piggyback contracts would also help.

New technologies, new requirements, and new manufacturers will continue to keep the bus industry in flux. Mr. MacLeod suggested that the industry reduce the number of variations in vehicle designs and determine the best technologies, avoiding impractical innovations. Likewise, MacLeod noted that research and development costs should be shared among manufacturers, FTA, and transit agencies. The manufacturing industry is too small to take sole responsibility for research and development.

Further, MacLeod stated that transit agencies should move in the direction of product standardization. The current standards are not effective because many agencies ignore them, especially as buyers seek new technologies. When this does occur, it is necessary that buyers share the risk of product development.

He said that manufacturers need to define a realistic production capacity and improve performance on meeting delivery dates. Strong management and improved performance are key to a successful manufacturing business.

Future areas for the transit industry to focus on, according to MacLeod, include:

- Product standardization and streamlining of the approval process
- Institutionalizing review of new technologies, perhaps by organizations such as APTA or the FTA
- Simplifying multi-year procurements and piggybacks
- Reducing vehicle service life from 12 to 10 years
- Consider "qualifying" new sellers into the marketplace

A Consultant's Perspective

Raymond Ellis of KPMG spoke from an industry consultant's perspective, focusing on how technology is changing procurement and how technology might shape the future of that process.

The potential to apply the Internet in the transit industry is significant. Mr. Ellis suggested that APTA and the FTA play lead roles in providing an industry portal. Regulatory compliance documentation can be addressed automatically with e-commerce. Also, e-commerce will help reduce costs by streamlining the procurement process, thereby improving relationships between suppliers and providers. E-Commerce can also help minority and disadvantaged businesses.

According to Ellis, Internet applications in the future will have three dimensions:

- Business to Business—improved communications among companies;
- Business to Consumer—managing operations within companies;
- Forecasting—better data collection provides more accurate information for forecasts.

Mr. Ellis noted that this meeting was lacking a discussion of the industry's role in the international economy. The transit industry over-

seas is much larger than that of the United States and is taking the lead in developing and implementing new technologies. The U.S. transit industry needs to enter into and accept the new international economy in order to remain competitive and effective. He stated that industry consolidation, the global economy, and the role of Buy America should be addressed.

Session 1 Questions and Discussion

Facilitator: Cliff Henke, Metro Magazine

Mr. Henke opened up the question and discussion period.

Michael Townes, Hampton Roads Transit, addressed the issue of the **FTA 12-Year Life Span Requirement**. He questioned the basis for this requirement and its origination. In his opinion, it seems artificial and needs to be reassessed. A 10-year lifespan or a flexible lifetime for new technology vehicles (those considered experimental) should be an option.

Margaret Merhoff, LAMTA, responded that the 12-year life span is a concern for her agency. FTA should consider changing this policy. There is a problem related to the age of buses with a 10-year average and some as old as 18 years. Reducing the age down to a 7.5 year average would help, in her opinion. Such a change would require modification to FTA policy. Merhoff also noted that the industry has improved quality to better meet the needs of the grantee.

Pat Cannon, AC Transit, asked a question concerning **sharing of information for bids and procurement**. He suggested that bids should be posted online. Information needs to be shared among agencies. Mr. Cannon asked whether any "national" procurement had taken place. A clearinghouse needs to be implemented to help bring the agencies together. Perhaps some sort of third party electronic help-line, with a guaranteed 48-hour turnaround, would be effective? What is APTA's stance on this?

Tony Kouneski, APTA, responded that the organization is developing a digital marketplace on a web site, and is working to pursue a partnership and secure a contract for this within the next 30 days, with implementation planned for Spring 2001. This business-to-business site will also be an area of focus, and available by Spring 2001.

Mel Globerman, General Services Administration (GSA), Automotive Division, asked what the industry has done to address breakdowns and to generally **improve quality of the vehicle**. If standards were improved for reliability and durability, would such standards be adopted? Would the buses improve? Would a better bus reduce deviation in specification requirements?

Margaret Merhoff responded that her agency was using standard procurement language to address these issues. Also, warranty provisions need to be extended. Quality must be built into the product—it cannot be specified into the vehicle.

Brian MacLeod, Gillig, responded that he doesn't agree that quality necessarily needs to be improved. Rather, standards are needed to address differences in variability among products.

Ed Kravitz, Advanced Bus Industries, asked Ms. Merhoff **whether LAMTA had considered going above the PPI** when determining future prices of bus components. Many component manufacturers do not pay attention to a particular index (such as the Consumer Price Index), since transit is a minor part of their business. Did LAMTA consider accepting actual price increases for these items?

Margaret Merhoff responded that pricing is done during the option procurement, not later. Suppliers will easily go 2-3 times beyond the PPI when pricing options. In any case, the rules need to be very clear so the manufacturer can respond appropriately. Perhaps a clause should be included that allows for adjustments. The bus manufacturer has the right to know the rules.

Dorrie Aldrich, FTA, commented that use of the PPI (as an index) was a good approach to pricing options.

Brian MacLeod remarked that the issue of overcapacity would not be resolved in the marketplace. The industry must find a better way of utilizing existing capacity.

Maureen Milan, New Jersey Transit Corporation (NJT), noted that smaller transit agencies often want to **piggyback** onto larger transit agency procurements. Several persons mentioned the need for better information exchange to allow more piggybacking opportunities. Piggybacking is seen as a good way to do business, especially for small transit authorities. FTA offices and grantees should use more uniform bus guidelines within each region than they are now. This is an opportunity to re-evaluate and streamline the process. She asked what others have done to facilitate piggybacking and whether the industry can do better?

Margaret Merhoff responded that she thought the industry has gone to the extreme on the issue of piggybacking. She agreed that a clearinghouse is needed to help agencies share information on respective transit properties' acquisition needs.

Maureen Milan addressed the **Buy America** provision, which she feels is still in the nation's interest, but not as currently practiced. Buy America and its costs and benefits need to be reassessed on a fundamental level. With global procurement, international owners control many bus companies, but Buy America does not lend itself to international competition. Other products available around the world may be better. Preserving the industry on a local level does not mean Buy America has to be practiced the way it is today.

Standard Specifications: What Works?

Session 2

Moderator:
Patrick Reilly, Federal Transit Administration

Panelists:
Mike Connelly, Blacksburg Transit
Paul Royal, Orion Bus Industries, Inc.
Jim Gebis, Chicago Transit Authority

Facilitator:
Maureen Milan, New Jersey Transit Corporation

FTA Introduction

Patrick Reilly, FTA, began the session by encouraging the group to think about "mending, not ending" the industry's work on developing standard bus procurement guidelines (SBPG).

Small Transit Agency Perspective

Mike Connelly, representing Blacksburg Transit of Virginia, a property with a fleet of 31 buses, spoke about the use of SBPG for a recent joint procurement. Connelly believes that SBPG is a big step forward and a big advantage for small agencies. The industry has a definite need for orderly and effective guidelines in the procurement of buses, particularly at small agencies where the number of technical staff may be too small to develop them independently.

Blacksburg initiated a joint procurement process with James County Transit Company, a larger agency in the region. Connelly indicated that the procurement was both quick and successful. Blacksburg went through both agencies' purchasing and legal departments to secure all approvals required, and then to the Virginia Department of Transportation (VDOT) for approval. The entire process took 30 days,

Session Highlights

- Standardized procurement guidelines are a big step forward for the industry.
- Smaller agencies, in particular, may benefit from joint procurements based on SBPG.
- The industry should be careful to ensure that standards do not become a barrier to risk taking and promotion of innovation, or conflict with new regulations.
- SBPG is in need of updating. Guidelines should be performance-driven, as opposed to component-driven. Performance guidelines may give manufacturers a better basis for negotiating with suppliers.
- Costs associated with new standards development might be covered through a self-imposed industry assessment.

"The Standard Bus Procurement Guidelines (SBPG) is meant to be performance-driven as opposed to focusing on specific suppliers. Performance guidelines give manufacturers a basis with which to negotiate and work with suppliers, allowing for increased warranty protection and better pricing."

——Paul Royal
Orion Bus Industries, Inc.

and included the development of a CD-ROM documenting the procurement process, which was distributed to all parties involved. He stated that the relatively fast pace of this process was directly attributable to the utilization and clarity of the procurement guidelines. The process also enabled the suppliers to propose the best bus based on the requirements.

Mr. Connelly emphasized that while standardization is important and the experience of his agency was positive, transit agencies are afraid that the standards will lock them into one vehicle and/or vehicle design. Transit agencies should also be careful that the standards do not become a barrier to risk-taking, thinking "outside the box," and promoting innovation. Specifications designed on a performance basis may not work well for specific components. Nonetheless, the standards should not inhibit new products or manufacturing processes, stated Connelly. He then posed the question of who updates the standard procurement guidelines, as it does not appear that a process for updating the information is in place. The standards are now three years old and, he said, they need to be updated now.

Large Transit Agency Perspective

Jim Gebis, representing the Chicago Transit Authority (CTA), provided a large agency perspective on standardized specifications. Mr. Gebis noted that in 1998 CTA undertook the first major procurement using the new SBPG guidelines. In his experience, it was essential to have all parties, large and small, working together. The process was initially characterized by reluctance and various requests for exemptions on the part of manufacturers, but in the end they participated fully in the procurement.

Mr. Gebis identified the following issues regarding use of the SBPG in the procurement process at CTA:

- SBPG is dated and sometimes is in conflict with newer regulations.
- Warranty periods on the major components were increased with the revision of the SBPG but some of the manufacturers and component suppliers are not willing to provide the period as "standard" or go above that standard with longer warranty periods.
- The redesign of vehicles to comply with SBPG forced the manufacturer to go to the FTA's bus testing facility in Altoona, Pennsylvania for new product testing. In the case of CTA, the operator did not receive the testing report in time, and therefore couldn't use federal funding.
- As a result, CTA is using the advanced payment option from the bus manufacturer because the federal dollars of the grant for partial payments, or any payments for that matter, cannot be applied until the bus testing report is received.

The original terms and conditions of the SBPG (used for the first time by CTA) generated many requests for approved equals (RFAs) from manufacturers. CTA recently made some modifications and used the SBPG to purchase new articulated buses, and fewer RFAs were submitted.

Bus Manufacturer Perspective

Paul Royal, Orion Bus Industries, provided a manufacturer's perspective. In general, SBPG is meant to be performance-driven as opposed to focusing on specific suppliers. Performance guidelines give manufacturers a

basis with which to negotiate and work with suppliers, allowing for increased warranty protection and better pricing. Unfortunately, the standards are not being used very widely today, thereby making it harder for manufacturers to secure good bids from suppliers. Requesting a component-based standard, or specifying a component, prevents the manufacturer from negotiating with the suppliers; this drives up costs and makes it harder to ensure quality. Consequently, many component procurements end up as sole-source arrangements. The guidelines and their interpretation need to be improved; for example, a swing of $70,000 on a $300,000 vehicle indicates a problem with the way bidders are reading clauses and requirements.

When a customer makes changes to the guidelines, this requires the manufacturer to re-negotiate its agreements with suppliers. Changes in warranties and indemnity are particularly difficult, putting the manufacturer at a disadvantage in negotiating with the suppliers. Specifications by the customer are sometimes not commercially realistic, which leads to the manufacturer passing the cost back to the customer as it attempts to negotiate for the parts.

In conclusion, Mr. Royal identified the following issues affecting standardized procurement:

- The process is characterized by excessive mixing and matching of components among suppliers. Manufacturers would like to enter into long-term supply agreements that would both reduce costs and increase warranties.
- A wide variety of concerns exists among agencies regarding consistency and terms and conditions.
- In order for a bid to be successful, the manufacturer needs to be clear about the guidelines.
- Indemnification periods are frequently too long.
- Terms and conditions and technical specifications need to be well understood, with all parties capable of understanding and meeting the specifications. Otherwise, confusion and inaccurate bids may result.

Session 2 Questions and Discussion

Facilitator: Maureen Milan, New Jersey Transit Corporation

Ms. Milan opened the floor to questions and comments on the issue of standards.

Frank Venezia, representing Lea + Elliott and a participant in developing the original White Book specifications over 20 years ago, remarked that the **SBPG needs to be updated soon**. Outdated specifications are not useful and, in fact, are sometimes contradictory. Without a coherent and accurate set of specifications, transit agencies will pick and choose those specifications that are relevant to their procurement, leading to a loss of the advantages of standardization. An independent third party or organization, separate from APTA, FTA, the agencies, and the manufacturers, should update the specifications on an annual basis. An outreach effort to all stakeholders should be used to develop a consensus in the development and review of the standards and to promote use of and adherence to the standards. Having the industry tax itself could provide funding.

Mike Connelly, Blacksburg Transit, responded that the procurement process has been characterized by tradeoff and compromise on the development and use of the specifications. Mr. Connelly also expressed some uncertainty as to whether it should be the task of APTA, FTA, or an independent entity to update current standard procurement guidelines.

Jim Gebis, Chicago Transit Authority, remarked that it was easier to follow Part One of the specifications, which deals with terms and conditions, as opposed to Part Two, which involves technical specifications.

Cliff Henke, Metro Magazine, expressed his support for an independent standards organization to undertake future standards development.

Tony Kouneski, APTA, clarified that the **last standards development effort was coordinated by APTA and the Transportation Research Board (TRB).** According to Kouneski, the total amount of money invested to develop the Technical Specifications for SBPG was less than the cost of a new bus. Further, it would cost the industry about half of that amount to keep the specifications updated on an annual basis. Kouneski stated that TRB will likely not be part of any future standards development because it is outside of their organizational mission. He also cited examples of the rail industry, together with the Federal Railroad Administration (FRA), jointly addressing standards. FRA and rail transit operators created a program to develop commuter rail standards. Concurrently, rail transit authorities implemented a tax to fund the updating effort. Kouneski challenged the industry to step up to the plate and clarify its goals so the appropriate organizations can respond effectively.

Dana Lowell, New York City Transit (NYCT), indicated that **NYCT has not adopted the standard procurement guidelines**, nor do they have plans to do so. However, his agency would like to be able to move towards a performance-based specification in the future. Agency procurements were often component-driven in the past because of positive or negative experiences with certain products, causing agencies to specify or avoid individual components. This is largely a matter of trust and it will take some time to ensure trust between agencies and suppliers. Finally, it is important to remember that agencies have significant differences such as size, location and performance requirements that can affect the product required as well as the procurement process.

Maureen Milan stated that **transit properties are demanding much longer than 12-year life cycles**. In the case of New Jersey Transit, better quality vehicles are allowing an extension of the life cycle to 14-16 years, as opposed to the 10-year cycles proposed by original equipment manufacturers (OEM).

Paul Royal, Orion Bus Industries, Inc., stressed the need to establish a better foundation for trust between transit operators and manufacturers.

Jim Gebis noted that **trust between agencies and manufacturers is an issue**, as the agencies demand quality and better guarantees and often request brand names based on experience. However, brand names do not always represent good quality for the manufacturers. Some of the products are new or not as well tested. In the end, it is critical for manufacturers to stand by their products.

Mel Globerman remarked that SBPG is a good start. However, the industry needs to raise the bar, which would level the playing field and, in turn, cause less deviation from the standard guidelines. This would make it easier to bid and to keep prices down.

Mike Connelly stated that some agencies might prefer **lower vehicle standards** because it may allow the agency to procure a greater number of vehicles. For example, an operator may need a heavy-duty 12-year bus, but that may cost 40% more than a medium-duty 7-year bus. State Departments of Transportation and Transit Boards may choose to budget enough for the 7-year buses, but the expectation is that they will perform like a 12-year bus. After 3 to 4 years, the buses may already be nearing the end of their useful life. Nonetheless, the agency must use up the 7-year life to write them off, based on FTA requirements.

Don Durkee, FTA, responded to the issue of partial progress payments. He stated that transit agencies can use local funds for progress payments to the extent they feel necessary. In fact, nothing prohibits agencies from using local dollars for initial payments and then drawing down on the Federal share after requirements are met (i.e., after the bus testing report is received).

Tony Bryant, Tri-County Metropolitan Transportation Authority (TRI-MET), reiterated that **transit properties specify individual components** because they want a certain manufacturer or want to meet a specific operational requirement. After purchase, properties do not want to make changes to the bus. Capital expenditures for buses are meant to reduce operating costs; fewer modifications can lead to lowering these costs.

Margaret Merhoff, Los Angeles Metropolitan Transportation Authority, commented that the **industry has changed since the last update of SBPG**. She suggested the industry consider broadening the group of industry representatives involved in the process. Greater buy-in would increase the likelihood that provisions are more widely adopted.

Gordon Nevison, Carrier Corporation, offered that subcomponent suppliers would be better prepared to respond to bids if the lead-time were greater. He stated that a lot of new technological innovation is being forced upon subsuppliers with little time to react. **Every procurement should include performance requirements and warranty expectations.** Subcomponent suppliers frequently need more time to develop new products and ensure their quality. Varying lengths of warranties from the sub-component suppliers affect the cost and the reliability and warranty that the manufacturer can offer the purchaser.

Maureen Milan suggested that **costs associated with new engineering** and other related risks should be shared among parties.

Jim Gebis largely agreed with Mr. Nevison regarding longer lead times. During the CTA procurement, the agency called in suppliers to interactively improve the procurement process.

Patrick Reilly, FTA, stressed the need for buy-in by legal counsel. Good communication between legal and the rest of the staff is critical to the success of the procurement process.

Dana Lowell suggested that **specifications identify the design life of each component.** Agencies would rather have a reliable component than receive a warranty payment. Further, FTA needs to be willing to take more risk, together with industry, in order to learn from and improve upon new technology deployments. Agencies should not be penalized for trying to improve.

Jack Requa, Washington Metropolitan Area Transit Authority (WMATA), noted that **his agency was instructed to use the SBPG.** Many suggested that WMATA's procurement was not the most "friendly." However, the negotiated procurement they undertook has helped them move towards a more beneficial product and standardization of their fleet.

Michael Sanders, Connecticut Department of Transportation, **questioned how the industry deals with innovation and responsiveness** to the marketplace when developing standardized procurement guidelines. Perhaps standard procurement guidelines should be more receptive to the "plug and play" concept, which would allow components to be easily upgraded as technology improves. Further, Sanders asked the group to better identify the benefits of using the procurement guidelines and to question why they are not being used more often. Finally, FTA also needs to increase flexibility with regard to Buy America: Is it necessary for agencies to go through both pre- and post-certification? Would FTA consider awarding certain procurements at a different funding split?

Seyed Mirsajedin, Metropolitan Atlanta Rapid Transit Authority (MARTA), urged the industry **not to use the guidelines as a "box"** in which operators do not consider needs that may not be met. For example, the current noise level standard in the procurement guidelines is too permissive in his opinion; passengers actually want quieter vehicles than the industry is specifying.

Edward Thomas, FTA, following up on Mr. Sanders' comments, asked participants to **consider how to deal with ITS issues** and questioned whether the industry should be moving towards addressing technology standards without first addressing some of the issues related to technology deployment.

Finally, **Bob Buchanan**, Orion Industries, expressed his **concern that neither TRB nor APTA has the resources to update the standards**. He suggested that FTA should take the lead in developing a plan to update SBPG.

Technology, Safety, and the Procurement Process: Is Innovation Driving Our Business?

Session 3

Moderator:
Edward Thomas, Federal Transit Administration

Panelists:
Greg Cook, Ann Arbor Transit Authority
Fred Cartwright, Allison Transmission, Inc.
Dr. Adi Arieli, Arieli Associates

Facilitator:
Dana Lowell, New York City Transit

FTA Introduction

Edward Thomas, FTA, introduced the session by summarizing the following key trends affecting how technology is deployed in the transit industry:

- Rapid pace of technological change;
- Impact of globalization;
- Increasing importance of partnerships.

Transit has been at the forefront in developing and deploying many advanced vehicle technologies, including driver assist systems, passenger safety and security systems, financial management systems, customer service systems, advanced propulsion systems, composite materials, and vehicle management systems. These technologies are enhancing the safety, operating efficiency, accessibility and environmental quality of transit systems. However, the full benefits of such technologies depend on how effective integration is into the vehicle, as well as within the transit operations environment.

Industry partnerships are key to advancing the technology agenda. Mr. Thomas cited several examples, including APTA's Clean Fuels Coordinating Committee; FTA's Bus Rapid Transit Consortium; the Department of Transportation's 21st Century Truck and Bus Program; various industry standards activities; and new mechanisms, such as FTA's Joint Partnership program, which allow better leveraging of risk and reward in the deployment process.

Session Highlights

- Technology is enhancing the safety, efficiency, accessibility, and environmental quality of transit systems.
- Technology specifications should aim for standardized hardware and customized software.
- Additional incentives are needed for technology research, development and deployment.
- Lack of a comprehensive U.S. transit roadmap is limiting technological innovation.
- Partnerships should be established to share risk for new technologies.

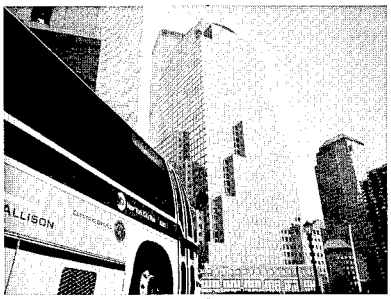
Consultant Perspective

Dr. Adi Arieli, Arieli Associates, emphasized the importance of analyzing how transit technology is developed. He observed that engineering is intended to achieve the required design at the lowest cost. Standardization permits interoperability, or "plug and play" capability, independent of the bus platforms and components. Therefore, technology specifications should aim for standardized hardware and customized software, the latter being easier to implement. He suggested that good planning and engineering would minimize expenditures for deployment. The federal government should lead and APTA should facilitate.

He then established a link with the procurement process. Traditionally, technological innovation has not fared well in the procurement process. Transit agencies typically purchase buses based on a low bid process and attempt to obtain technology through design specifications. This is referred to as "back door engineering." However, with manufacturers facing low profit margins, subsystem design specifications and low-bid procurements, a lack of innovation and market volatility are understandable outcomes, according to Arieli. He also stated that the federal government controls bus capital expenditures, but has not used this leverage to encourage deployment or technology standards. More incentives are needed for technology R&D implementation.

"Hybrid-electric engines are the technology of the future in buses, with reduced operating costs, reduced brake wear, elimination of shift shock, and improved acceleration and curb pull-away."

——Fred Cartwright
Allison Transmission



Supplier Perspective

Mr. Fred Cartwright, Allison Transmission, spoke from the supplier perspective. Hybrid-electric engines, he believes, are the technology of the future in buses. He cited reduced operating costs over the 12-year life cycle, reduced brake wear, elimination of "shift shock," and improved acceleration and curb pull-away. The technical challenge will be to reduce operating costs to acceptable levels. There is concern about the initial start-up cost of implementing new technologies, suggesting that between $100 to 200 million is required to fully commercialize hybrid technology, for example. Transit agencies often incur high costs for "first-unit" purchases and significant upgrade costs. In addition, transit agencies often are unable to evaluate prototypes and refine and commercialize technologies in real-world operating environments. Finally, lack of a comprehensive U.S. transit bus technology roadmap, fuel strategy or funding, combined with no funding for deployment, assessment and commercialization, are limiting technology innovation. Stakeholders might overcome barriers to development and deployment of new technologies by considering the following:

- Establish a "Bus Working Group," facilitated by FTA, to develop goals, a technology roadmap, and standards for bus technology. DOT's 21st Century Truck and Bus Program may offer some insights or synergies.

- Establish a federally-funded bus technology deployment program to preview new technologies. Because of the large start-up costs associated with implementing new technologies, deployment is discouraged.

- Savings and improvements are generated through iterations of technology, not by volume. Invest in testing and deployment rather than large-volume orders.

- Improve the bus testing process at Altoona through the use of simulation software as a precursor to or substitute for physical testing.

Transit Agency Perspective

Gregg Cook, Ann Arbor Transit Authority, spoke about the integration of technology into the bus system. He mentioned that the business is being driven by technology and the search for the newest technology. Intelligent transportation systems save lives, time, and money. Current developing technologies for bus service include automated vehicle location systems (AVL), mobile data terminals, mobile transfer of data, real time information, surveillance cameras, voice annunciators, and real-time arrival/departure passenger information displays. Advanced systems allow buses to communicate position information to guarantee customer transfers, for example, and recording devices allow accident playback investigation. Mr. Cook mentioned that technological additions, such as digital cameras and voice annunciators, for example, cost Ann Arbor approximately $25,000 to $30,000 per bus. The experience at his agency has indicated that customer service improvements are well worth the investment.

New technology also brings a need for new skills, and staff must be prepared to adapt, said Cook. Advanced systems require more intensive training of drivers and additional maintenance support. Also, in some cases, current vehicle design cannot accommodate the wiring and power supply demands of new technology. He suggested that system architecture should be opened up and integrated.

Session 3 Questions and Discussion

Facilitator: Dana Lowell, New York City Transit

Dana Lowell opened the floor for comments and questions by emphasizing that new technology brings risks and costs. He then posed the following questions:

- **How does the industry share the risks and costs?**
- **How should technology standards be developed?**
- **Should the industry work towards performance standards as opposed to product standards?**

Tony Bryant, TRI-MET, stated that his agency was the first agency to order liquified natural gas (LNG) buses. Many problems occurred and, therefore, costs associated with operations increased significantly. To address this type of situation, the FTA could establish risk partnership for new technologies. For example, the FTA could **allow replacement of buses earlier** if major problems occur. Currently, it appears that only in severe and unusual circumstances will the FTA allow disposition of non-running buses before their official 12-year life is over.

Pat Cannon, AC Transit, mentioned that the **Department of Defense has developed many new technologies.** Stakeholders should investigate the transfer of this technology to transit applications.

Edward Thomas pointed out that the **Bus Rapid Transit (BRT) Program** is a good example of the integration of a number of new technologies.

Where Do We Go from Here?

Session 4

Moderator:
Susan Schruth, Federal Transit Administration

Panelists:
Victor Burke, Dallas Area Rapid Transit
Annemarie Chenoweth, Neoplan USA Corporation
Fred Gilliam, Chance Coach
Jeff Rosenberg, Amalgamated Transit Union

FTA Perspective

Susan Schruth, FTA, opened the final session of the Summit. The purpose of the last panel, she explained, was to focus on the critical issues addressed throughout the day and to begin the process of identifying further action required. Representatives from the public and private sectors, as well as labor, were asked to comment on key questions raised, and to offer any additional issues and action items for consideration.

As a starting point, Ms. Schruth offered the following summary of issues and actions proposed by participants in previous sessions:

1. Information

Issue
The industry needs a better way to obtain and distribute timely, comprehensive, and reliable information, particularly in the area of procurement.

Proposed Solutions
Establish an electronic clearinghouse accessible by agencies and manufacturers and perhaps other parties. (Based on the comments, responsibility for this should lie with APTA or FTA, with attendees leaning toward FTA.) Support e-business as an accepted method of operating in the bus industry. Further coordination with APTA's e-commerce initiative is desirable.

Session Highlights

- FTA should consider reviewing several key areas, including Buy America provisions, 12-year useful life standards and piggybacks.
- The supplier-agency relationship is often tenuous, and could be improved.
- Leveraging the benefits of new technology deployment with the resulting risks remains an important issue.
- The Industry should consider standardizing a functional driver workstation.
- The Industry would benefit from a more coordinated effort to improve driver training.
- An open architecture approach to vehicle design may be beneficial to the procurement process.

2. Regulatory Environment

Issue

Several participants felt that FTA should conduct a "fundamental reassessment" of how it deals with the public transportation industry in several critical areas.

Proposed Solutions

FTA should consider conducting policy reviews in the areas of Buy America; procurement, in particular, piggybacks and 5-year contract terms; the useful life of vehicles and the current 12-year rule; and the processing of piggyback procurements, especially differences among and within regions.

3. Standard Procurement Guidelines

Issue

Transit agencies, as well as the manufacturing/supplier community, expressed the need for more agreement on and use of the SBPG. Further, it was urged that these standards be updated soon, and should be examined for applicability to new technologies and use of a more performance-oriented approach. The industry needs to include more "human factors" in the equation when designing standards.

Proposed Solutions

FTA expects to affirm its strong support and updating of the SBPG standards, while also seeking to maximize flexibility in its support for grantees. Based on participant comments, FTA should consider taking a leadership role in starting the effort; however, existing industry organizations, or perhaps a standards organization, should take the lead in the technical development/updating. Together with the industry, regional and outreach sessions should be established to get broader buy-in. Other interested parties should be pulled in to broaden the base of support/users. The APTA-FRA rail standards model (discussed previously) may be a useful example.

4. Supplier-Agency Relationship

Issue

This is not an easy relationship and it needs to be improved. The uniform standards sought to apportion risk, but suppliers seem to feel that they have in fact assumed disproportionately more risk (with longer warranties, etc.). The agencies have not used the uniform technical specifications, so the manufacturers have not benefited from any cost savings. The perception is that agencies tend to not trust the manufacturer and do not provide adequate lead time in developing subcomponents with longer warranties.

Proposed Solutions

Address the issue of stabilizing demand. The consensus of the group was that a focused, long-term action plan should be developed by FTA with industry support, and given to stakeholders for review.

5. New Technology/Product Development

Issue

The industry has not fully addressed how to share in the risk and reward of introducing new technology. The issue came up both in the context of the standards discussion and the technology session. More needs to be done by the industry as a whole to allow for the benefits of technology without one entity (agency, manufacturer or FTA) assuming too much of the risk.

Proposed Solutions

The industry should consider supporting a focused technology deployment program that would allow new technology to be fully tested and deployed—put through the paces—prior to agencies taking delivery. This approach is preferable to manufacturers counting on high volume orders to spread out the costs of introducing new technology, which does not mitigate the risk of new deliveries.

Ms. Schruth then opened the floor to the four panelists, asking them to comment on their major concerns as representatives of their respective industry sectors, and to add or expand upon the key issue areas outlined.

Manufacturer Perspective

Annemarie Chenoweth, Neoplan USA, responded that the 1995 Bus Industry Summit focused on a number of similar issues as the 2000 Summit, some of which have been resolved, while others still represent unresolved challenges. She summarized these areas as follows:

Funding Uncertainty

Five years ago, the industry faced funding uncertainties; now with the passage of TEA-21, funding is secure for the immediate term.

Fluctuations in Market Demand

The market is characterized by continuous fluctuations in market demand that have yet to be addressed. Transit authorities lag in funding bus capital investments.

Cost of New Technology

Chenoweth stated that the business risk for making the latest technologies work on vehicles is placed predominantly (and unfairly) on the bus manufacturer as integrator. For example, the EPA requirements for buses have traditionally been more stringent than those for trucks. Bus manufacturers must provide larger cooling systems to ensure cleaner engines. The cost for implementing this new technology is high and can only be amortized over a relatively small number of vehicles because of the relatively small number of buses versus trucks.

Compliance with Federal Policies and Procedures

According to Chenoweth, Buy America should be maintained. She stated that it is essentially a good piece of legislation that provides for waivers in certain circumstances. Strict enforcement of Buy America is necessary, she said, to prohibit violators from benefiting from an unfair competitive advantage. Buy America is not a trade regulation. There is concern among some in the U.S. bus industry that going overseas may raise the risk of unfair labor practices.

Complexities of the Procurement Process

Finally, regarding standardization, Ms. Chenoweth pointed out that the SBPG was a "package deal" whereby manufacturers, suppliers and transit authorities made certain concessions to assure a level playing field through equitable provisions. However, very few transit authorities have used the SBPG as intended, she said. Chenoweth said that most agencies pick out the sections where the manufacturers offer concessions, such as extended warranties, but avoid the other provisions that were drafted to provide fairness to the manufacturer. The SBPG was meant to be a compromise to level the field for everyone, while keeping enough flexibility for individual needs. It could then be used by small transit agencies universally. However, it seems that some transit agen-

"The objective of the Standard Bus Procurement Guidelines is a healthy long-term industry that benefits the customers through maximum competition in the marketplace, with objective criteria for all bidders."

——Annemarie Chenoweth
Neoplan USA

cies are backing away from this compromise and, therefore, bus companies are losing out.

Chenoweth emphasized that if an agency uses the standard specifications, it should not pick and choose components or waiver various products. Procurement should be all or nothing, otherwise delays and quality control problems may occur due to mismatched components. Adding more expensive components also uses up federal funding that could be supporting bus purchases by other agencies. The objective of the SBPG, according to Chenoweth, is a healthy long-term industry for the benefit of the customers through maximum competition in the marketplace with objective criteria for all bidders.

In negotiated procurements where objective criteria are stated and followed for evaluation, large transit authorities have successfully negotiated their own contracts with manufacturers.

She also underscored that new technologies are very much in demand and solve many problems on the operator's side. Quality control is also a key issue; the reliability of vehicles is of increasing importance. She believes that stakeholders can do a better job of partnering.

Transit Agency Perspective

Victor Burke, Dallas Area Transit Authority, outlined several issues, primarily regarding procurement. Bus operators, manufacturers, government and suppliers need to communicate better. All parties are to blame for problems in communication. Overall, for each purchase a procurement plan and bus replacement plan are needed. The procurement process needs to be started well ahead of the required delivery date, and the process streamlined accordingly. Mr. Burke stated that negotiated procurement is the standard way of procuring buses, and competitive negotiation will get better pricing and delivery. The objective is on-time delivery, carried out with effective oversight.

Standards are a measure used in assessing quality. This includes developing a procurement standard as well as technical specifications. The industry would benefit from clear, realistic specifications of what is currently needed and what is currently available.

New technology can be beneficially applied to transit. However, when considering technology procurement, it is wise to carefully limit purchases. Bells and whistles that are not absolutely necessary can make for poor investments.

Transit Labor Perspective

Jeff Rosenberg, Amalgamated Transit Union (ATU), provided the perspective of organized labor, focusing specifically on the technology link and the importance of considering human factors in the design and manufacture of new products.

ATU, in existence since 1892, has long advocated technological improvements in transit, such as the introduction of driver's side heaters, air brakes, and enclosed cabs. Nonetheless, in the past, the driver was often the last person consulted on the design of the workstation. However, the atmosphere is changing, and transit authorities are now listening to operators and mechanics. With such input, agencies are now listening to those who must sit in the vehicle and repair the vehicle—those who often bring decades of experience to the table.

Mr. Rosenberg listed the following examples of how technology has benefited vehicle operators:

- Low-floor buses put the operator and passenger on an eye-to-eye level.
- Wheelchair ramps reduce time required for lift assistance, thereby positively impacting the schedule.
- Global Positioning Systems (GPS) and Automated Vehicle Location (AVL) technology provide up-to-the-minute passenger information.
- Signal preemption allows drivers to better maintain schedules.
- Electronic fare collection speeds up the fare collection process and provides an added level of safety by reducing opportunity for theft.
- On-board voice annunciation systems allow for less distraction of the driver.
- Emergency response buttons allow drivers and authorities to respond more quickly to safety concerns.

He also cited the following areas where agencies could consider the concerns of transit personnel:

- Wrap ads, while a good marketing tool, pose safety concerns. Visibility is compromised for passengers and drivers. A similar concern arose in the auto industry with tinted windows.
- Tie-down mechanisms for wheelchairs pose ongoing challenges.
- Standardization of the driver's workspace is a critical issue. Industry should look at standardizing a functional workstation that mitigates back injury, provides for uniform location of controls, and generally mitigates repetitive trauma injuries. Such progress would decrease the number of lost workdays and worker's compensation payments.

Mr. Rosenberg also noted that training manuals are still below standard and should be improved. A coordinated effort to recruit and train people to become drivers is also needed. With the good economy, many agencies are finding it difficult to recruit drivers. An industry-wide approach could benefit everyone.

Industry Perspective

Fred Gilliam, Chance Coach, provided observations from the perspective of a manufacturer of small buses. He raised the following issues:

- Many agencies do not use the SBPG. The industry needs to ask why and then update the guidelines to be more effective.
- Miscommunication among operators, manufacturers and other entities pervades the transit industry.
- Standardization discourages innovation and creativity. Most standards are component-driven, with different operating requirements from city to city.

- Support after the sale is critical. Agencies need to insist on this, with the manufacturer taking full responsibility for providing the support required.

- The industry should raise the bar to ensure a higher quality vehicle.

- The industry needs to consider the impact of warranties on procurements, both positive and negative.

- An open architecture approach to vehicle design would be beneficial to the procurement process.

- Deliveries could be accelerated if the procurement process would begin a bit earlier.

- Agencies should avoid specifying every single component when procuring vehicles. In fact, some components are tested to function as a group. Instead, allow manufacturers to select the components.

Session 4 Questions and Discussion

Stephanie Andresson, Mincom Inc., suggested that the industry consider **sharing with the private sector any efficiencies that may result from the introduction of better technology** (hardware, software, methodological innovation).

Adi Arieli, Arieli Associates, suggested the industry **develop a master plan**—in effect, a transit map for the future.

Elaine Dezenski, FTA, suggested that FTA, together with the industry, might consider developing **a series of bus roundtables** and other venues to more intensively address some of the key concerns. Video conferencing may be a solution to mitigate travel required by participants.

Victor Burke, Dallas Area Rapid Transit, stated that an **industry-wide survey** should be developed to find out who will buy into the standard procurement guidelines and who will not. Perhaps the Bus Summit participants could suggest some goals to come out of such a plan.

Tom Peacock, APTA, then suggested that either FTA or the industry might establish a mechanism to **update the procurement specifications**.

Maureen Milan, New Jersey Transit Corporation, remarked that the next step should be the development of a **best practices manual for procurement**.

Seyed Mirsajedin, Metro Atlanta Rapid Transit Authority (MARTA), commented that **new ITS technologies warrant a focused demonstration program**.

Closing Remarks

The Federal Transit Administration thanked all the participants for their candid and enthusiastic participation. The key issue areas were summarized as follows:

Bus Standards

FTA supports the 12-year life cycle for federally funded vehicles while encouraging flexibility for grantees to the extent possible. Participants should consider whether reducing the life cycle would have a negative impact on the number of vehicles agencies are able to procure. The agency expects that agencies will need to perform mid-life overhauls, both to update technologies and improve vehicle performance.

Buy America

The Buy America policy is unlikely to have any significant changes, although it does get revisited every seven years. "Mending rather than ending" Buy America should be the recommended course.

Technology and Deployment

The deployment of innovation presents many challenges. First and foremost, the federal appropriations process continues to earmark the vast majority of request research and development funding. The earmarking of the National Research and Planning budget limits FTA's ability to pool national resources as projects tend to be scattered throughout the country and may or may not be focused on specific areas. Furthermore, it takes time and effort to support and implement appropriate technologies in the industry, including the determination of viable technological innovation. Agencies should consider pooling resources to help focus technology deployment activities and broaden the potential market for the resulting innovation. The formation of alliances between FTA and other federal agencies may also assist in deployment efforts.

Procurement

Transit agencies might consider more risk sharing in making procurements, with equitable allocation among all stakeholders. The federal cost share is typically 80%, which necessitates significant oversight. Agencies might also consider initial capital costs versus life cycle costs. Procurements can be administered as low bid or through competitive negotiation. It is up to the grantee to decide which approach is most beneficial. Finally, FTA supports a national procurement clearinghouse to facilitate information exchange. Such an effort should include a link to FTA's procurement manual on best practices, which is currently available on the Internet.

In summary, FTA will explore with industry the creation of a more formalized committee on public transportation to provide guidance and act as an "incubator" for new initiatives. As a start to follow-up activities related to the Summit, FTA will issue proceedings and will continue to identify opportunities to discuss the critical issues facing the industry.

Change is a fact in this industry and the industry needs to be responsive to it. Participants should continue the dialogue on important issues and work together to find mutually agreeable solutions.

Speaker Biographies

Dorrie Young Aldrich

In June 1996, Dorrie Aldrich became the Federal Transit Administration's Associate Administrator for Administration. As Associate Administrator for Administration, Ms. Aldrich is responsible for providing leadership and guidance in the areas of management and planning, information technology, human resources and procurement. She is also responsible for the execution of the administrative expense budget. Prior to this appointment, she served as the Deputy Associate Administrator for Administration since October 1992.

Ms. Aldrich is a graduate of Howard University and received a Master's Degree in Business Administration from The American University. She has received numerous performance and honor awards recognizing her outstanding and distinguished federal service. These awards include The 2000 Presidential Rank of Meritorious Executive Award and FTA's Award for Supervisory Excellence.

Dr. Adi Arieli

As Manager for Surface Transportation Systems and Program Manager for the Advanced Technology Transit Bus at Northrop Grumman, Dr. Adi Arieli managed the largest ever DOT R&D program ($52 million). Responsible for acquisitions, sales, margins and cash flow, he also managed several smaller R&D programs.

Under his direction, six computer-controlled, all-composite, hybrid-powered bus prototypes were developed and tested using aerospace technologies while maintaining affordability.

Dr. Arieli also served as Senior Research Scientist for Olin, and was involved in materials technology at UC-Davis and Israel Aircraft Industries. He received his Ph.D. in Engineering from UC-Davis.

Victor H. Burke

Victor Burke is Executive Vice-President and General Manager of Operations at Dallas Area Rapid Transit (DART), where he oversees 80 percent of DART's operating budget and employees in six major operating departments: Transportation, Maintenance, Paratransit, Transit Police, Procurement, and Operations Technology. Mr. Burke serves on APTA's Executive Committee and is beginning his third term as Vice-Chair of APTA's largest committee—Bus and Paratransit Operations. He also co-chairs APTA's Clean Fuels Technology Coordinating Committee.

Mr. Burke has been with DART for ten years, following retirement from a 28-year career as an Air Force officer, primarily in the field of procurement. He holds a Bachelor's Degree in Business Management and a Master's Degree in Procurement Management. Mr. Burke is a

much sought-after speaker and is very active in his local community. Few things are more important to him than providing safe and dependable transportation to the public.

Annemarie Chenoweth

Annemarie Chenoweth has served as President of the Neoplan USA since 1988. Ms. Chenoweth also was Executive Vice President for NEOPLAN USA Corporation from 1981 to 1988.

Ms. Chenoweth is a member of the APTA Board of Directors, APTA BMBG Member and various committees including the Procurement Steering Committee and Awards Committee/APTA. She is a member of the Board of Directors, Colorado Association of Commerce and Industry and sits on Governor Romer's Panel of Health Advisors, Colorado Economic Development Commission as well as the Task Force on Coloradoans without Health Insurance, the Blue Ribbon Panel on Transportation, and Citizens for Colorado Transportation Network.

She holds a Bachelor's of Art Degree with highest distinction from Colorado State University, Fort Collins, Colorado and Juris Doctor Degree from the University of Colorado, Boulder, CO.

Fred Gilliam

Fred M. Gilliam joined Chance Coach, Inc. in June 1999 as Executive Vice President, primarily focusing on sales and marketing and the development of a new low floor bus. In the 37 years prior to his employment with Chance Coach, Inc., Mr. Gilliam managed and operated transit systems in Houston, Memphis, New Orleans, Tulsa and Denver.

Mr. Gilliam is active in many organizations and is on numerous committees for the American Public Transportation Association and the Transit Research Board. He is also active with several state transit associations.

Cliff Henke

Cliff Henke has 20 years of experience as a public transportation and business journalist. He specializes in all aspects of public transportation, writing about the issue since 1981. Since 1993, Mr. Henke has been Editor and Associate Publisher of METRO Magazine, a 96-year-old magazine covering public transportation.

Mr. Henke also writes frequently on e-business strategies in a variety of industries. He is the chief editor and producer of www.transit-center.com, the public transportation web site that METRO has owned since 1997. In 1998 and 1999, he led transit-center.com's and METRO Magazine's support of APTA's Y2K online services.

Dana M. Lowell

Dana Lowell is currently the Assistant Chief Maintenance Officer for Research & Development in the MTA New York City Transit Department of Buses. Mr. Lowell is responsible for all of NYCT's efforts to reduce exhaust emissions from its fleet of 4,300 transit buses. These

efforts include the evaluation and introduction of buses using various "Clean Fuel" technologies.

Prior to his current position, Mr. Lowell was a manager in NYCT's Department of Capital Program Management, responsible for capital project planning and financial analysis. Before joining NYCT, Mr. Lowell worked in the City of New York Office of Management and Budget, conducting Value Engineering reviews of major city capital projects. Mr. Lowell also spent four years as an officer in the U.S. Army Corps of Engineers.

Mr. Lowell holds a degree in Mechanical Engineering from Princeton University, as well as a Masters Degree in Business Administration from the Stern School of Business at New York University.

Margaret E. Merhoff

Margaret Merhoff began working in procurement and contracts as a Special Projects Administrator for the City of Gary, Indiana in 1980. Her primary responsibility was the completion of a multi-modal transportation center for the City of Gary under the Urban Initiatives Section 3 Program.

In 1986, Ms. Merhoff came to the MTA as a Contract Administrator responsible for negotiated procurements for a variety of MTA departments. She was promoted to Sr. Contract Administrator in 1990 and in 1996 became a Contract Administration Manager.

In 1997, Ms. Merhoff assumed responsibility for all bus procurements at the MTA. Since that time, she has conducted three bus procurements for a total purchase of 1,348 CNG buses.

Ms. Merhoff is a graduate of King College in Bristol, Tennessee and received a Master's of Science Degree in Planning from the University of Tennessee in Knoxville, Tennessee.

She is a member of the National Association of Purchasing Management and currently working towards obtaining a Certified Purchasing Manager Certificate.

William W. Millar

William W. Millar is president of the American Public Transportation Association (APTA). Mr. Millar became chief executive officer of APTA in November 1996 after 24 years in transit operations.

Mr. Millar was executive director of the Port Authority of Allegheny County, Pittsburgh, for 12 years prior to joining APTA. Before he joined PAT in 1977, he developed and managed Pennsylvania's Free Transit Program for Senior Citizens as well as other transit aid programs for the Pennsylvania Department of Transportation.

Mr. Millar's philosophy has been to build partnerships by working together with organizations traditionally associated with transportation as well as those typically not connected with transit.

Patrick W. Reilly

Patrick William Reilly is the Chief Counsel of the Federal Transit Administration (FTA) of the Department of Transportation (DOT), a position he has held since September 30, 1996. He is primarily responsible for providing legal advice and support to the Administrator of the

Federal Transit Administration (FTA), coordinating with and supporting DOT's Office of General Counsel, reviewing FTA-sponsored projects, and drafting and reviewing legislation and regulations.

Prior to arriving at the FTA, Mr. Reilly was an attorney with the Washington D.C office of Keck, Mahin & Cate, a Chicago, Illinois based law firm.

He received his Juris Doctor degree from the University of Virginia School of Law in May, 1986 and his Bachelor of Arts degree in Economics from Boston College in May, 1983, graduating magna cum laude.

J. Paul Royal

J. Paul Royal is the Vice President, Orion Bus Industries. He is responsible for all sales, marketing, contracting, technical sales, legal and corporate affairs for Orion.

Prior to joining Orion, Mr. Royal practiced law with a nationally recognized law firm and focused his practice on commercial litigation with an emphasis on construction and development related matters.

Mr. Royal is a graduate of Dalhousie University in Halifax, Nova Scotia where he received a degree in law. Mr. Royal is married with two young children and resides in Oakville, Ontario.

Jeff Rosenberg

Jeff Rosenberg is Legislative Counsel for the Amalgamated Transit Union (ATU), the largest labor organization representing transit workers in the United States and Canada. Founded in 1892, the ATU today is comprised of over 170,000 members in 270 local unions in 46 states and nine provinces. Mr. Rosenberg is responsible for tracking and analyzing federal, state, and Canadian legislation and regulations relating to the public transportation industry. He represents the union's views before Congress and state legislatures throughout the nation.

He served as Legislative Counsel for a Member of the New York State Legislature for three legislative sessions, between 1996-98. Graduate of University of Maryland at College Park. B.A. Government and Politics, 1992. Graduate of Albany Law School of Union University, Albany, NY. J.D., 1995. Member of New York State Bar.

Susan E. Schruth

On July 2, 2000, Susan Schruth was appointed Regional Administrator of the Federal Transit Administration's Philadelphia Mid-Atlantic Region. As Regional Administrator, Ms. Schruth directs a Regional office and metropolitan office of 23 professional and paraprofessional staff and manages a Federal aid program in excess of $6 billion.

Ms. Schruth joined FTA in 1988. in the Chief Counsel's office, as the primary administrative law attorney for the agency, and drafting such rulemakings as Bus Testing, Drug Testing, and the Americans With Disabilities Act Implementation. In 1993, she was appointed Acting Director of Civil Rights.

She holds a B.A., a Master's in Government, and is an attorney and member of the New York and Virginia bars. She has received many

awards, including two Secretarial Gold Medals, a Secretarial Silver medal, and the FTA Administrator's Bronze medal. In 1998, Ms. Schruth was awarded the Woman in Transportation Achievement award by the Atlanta Chapter of the Women's Transportation Seminar.

Edward L. Thomas

Edward Thomas was appointed as the Associate Administrator for Research, Demonstration and Innovation on November 10, 1996. He is responsible for research and technology programs in the areas of safety, security, fleet operations, equipment, infrastructure, specialized customer services and professional capacity building.

Mr. Thomas has over twenty-four years of professional and managerial experience in the Federal Government in a number of areas including planning, program management, policy development, research, demonstrations, training, and field operations.

He began his career with the Federal Transit Administration (FTA) in 1977, and served in both regional and headquarters offices working mostly on transit infrastructure projects.

He received his Bachelor's degree in geography from the University of Maryland and a Master's Degree in planning from Columbia University with concentrations in Transportation Planning and Engineering. He also has extensive postgraduate training in engineering management and finance.

Bus Summit 2000 Attendees

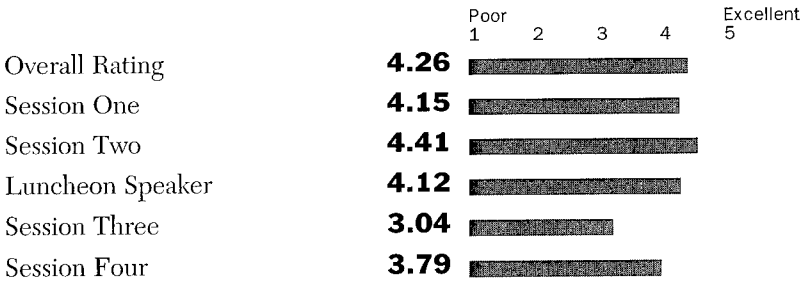
Adams, Hattie	General Services Administration
Adams, Jim	CDTA Capital District
Ahmad, Mokhtee	Federal Transit Administration
Ahrens, Clark	Cummins, Inc.
Aldrich, Dorrie	FTA
Andresen, Stephanie	Mincom, Inc.
Andrews, John	Motor Coach Industries
Arieli, Dr. Adi	Areli Associates, Inc.
Barnes, Ronald	Central Ohio Transit Authority
Blackstone, Robert	GSA
Boon, Jim	King County Metro Transit
Brock, Terry	Neoplan USA Corporation
Bryant, Tony	Tri County Metropolitan Transportation
Bucalo, Frank	Metropolitan Transit Authority
Buchanan, Robert C.	Orion Bus Industries, Inc.
Burke, Victor	Dallas Area Rapid Transit
Cannon, Pat	AC Transit
Carlon, Richard "Dick"	Chance Technical Services
Carroll, Michael J.	First Transit, Inc.
Cartwright, Fred	Allison Transmission
Chenoweth, Annemarie	Neoplan USA Corporation
Colivas, Spiro	FTA
Compton, Jim	GSA
Connelly, Mike	Blacksburg Transit
Cook, Greg	Ann Arbor Transit
Coon, Ralph	Vapor Corporation
Cortese, Stephen	BAE Systems Controls
Coryell, Bill	North American Bus, Inc. (NABI)
Costello, Raymond	RNR Leisure Shuttle
Cronin, Richard	Clever Devices, LTD
Dellinger, Steve	GSA
DeMatteo, Tom	ABC Bus Companies, Inc.
Dezenski, Elaine	FTA
Doyle, Richard	FTA, Region 1
Drayton, John	Los Angeles County Metropolitan Transportation Authority
Dunn, Ed	Broward County Transit
Ellis, Raymond	KPMG
Ettinger, Joel	FTA, Region 5
Fernandez, Nuria	FTA

Franklin, Jerry	FTA, Region 1
Gallagher, Jim	Bus Stuf, Inc.
Gambaccini, Mark	GTS, Inc.
Gebis, Jim	Chicago Transit Authority
Gibson, Jim	Dallas Area Rapid Transit
Gibson, Joe	NOVA BUS
Gilliam, Fred	Chance Coach, Inc.
Globerman, Mel	GSA
G'nerre, Michael	Luminator
Greene, Nancy A.	FTA
Hardy, Ashton	Allison Transmission
Harris-Gale, Gwendolyn	Washington Metropolitan Area Transit Authority
Hayes, Gregory	Next Bus Information Systems, Inc.
Henke, Cliff	Metro Magazine
Hill, Dale	Trans Teq
Hillock, Dave	
Himes, Rich	NABI, Inc.
Hooper, Fran	APTA
Hull, Greg	APTA
Jablonski, Paul C.	South West Ohio Regional Transit Authority
Jackson, Lucy	FTA
Jernigan, Amy	FTA
Johnson, Angela	Chicago Regional Transportation Authority
Johnson, Anthony	Fort Worth Transportation Authority
Johnson, Tonya	Digital Recorders
Jordan, John H.	Delta Regional Transit Systems
Kelleher, Daniel G.	Luminator
Kimball, Arthur	Washington Metropolitan Area Transit Authority (WMATA)
Kouneski, Anthony M.	APTA
Kravitz, Ed N.	Advanced Bus Industries
Light, Vern	Washington Metropolitan Area Transit Authority
Long, William	Clever Devices, LTD
Love, Larry A.	Allison Transmission
Lowell, Dana	New York City Transit
Lumpkin, Jacqueline	Delta Regional Transit System
MacLeod, Brian	Gillig
Malone, Reba	Chance Coach, Inc.
Merhoff, Margaret	Los Angeles County Metropolitan Transportation Authority
Milan, Maureen	New Jersey Transit Corporation
Millar, William	APTA
Mirsajedin, Seyed	Metropolitan Atlanta Rapid Transit Authority

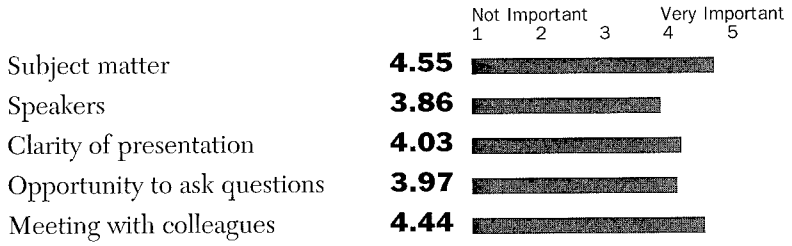
Montanti, Louis	New York City Metro Transit Authority
Nevison, Gordon A.	Carrier Transport Air Conditioning
O'Connor, Michael	Clever Devices, LTD
Owsley, Kent D.	Vapor Corporation
Peacock, Thomas	APTA
Pearson, James A.	Vapor Corporation
Pitts, James T.	Winston & Strawn
Randolph, Richardson	Lea + Elliott, Inc.
Reilly, Patrick	FTA
Rengel, Laurie	Thermo King Corporation
Requa, Jack	Washington Metropolitan Area Transit Authority
Rockwood, Jessica	United Nations
Rogers, Leslie	FTA, Region 9
Rosenburg, Jeff	Amalgamated Transit Union
Ross, Ken	New Flyer Industries
Royal, Paul	Orion Bus Industries, Inc.
Sanders, Michael	Connecticut DOT
Savage, James	COBB Community Transit
Schruth, Susan	FTA, Region 3
Shank, Jeff	Thomas Built Buses
Skoutelas, Paul	Port Authority of Allegheny County
Spartanto, Carlo	Brown & Root
Strickland, Ronald G.	Mark IV Industries, Inc.
Stuart, Lurae B.	Tri-Met
Swanson, Glen	ArvinMeritor
Szilagyi, Paul	Trans Teq
Thomas, Edward	FTA
Townes, Michael	Hampton Roads Transit
Trotter, Jerry L.	APTA
Tumbali, Gerry	Regional Transportation Authority
Venezia, Frank	Lea + Elliott, Inc.
Washington, Joel	FTA
Weatherly, Douglas	Detroit Diesel Corporation
Woodford, John	Transit Authority of River City
Zingale, James	Greater Cleveland Regional Transit Authority

Conference Evaluation

Conference attendees were asked to evaluate the Bus Summit. Twenty-nine responses were received and are summarized below:



Asked whether the Bus Summit met expectations, the replies were:

Yes	**27**
No	**0**
No response	**2**

Asked what was important about the Bus Summit, on a scale of 1 (not important) to 5 (very important), responses were as follows: