100 YEARS TRB
MOVING IDEAS: ADVANCING SOCIETY

CENTENNIAL PAPERS

Standing Committee on Rail Transit Systems (AP065)
Wenyu Jia, Chair

Evolution and Impact of TRB's Rail Transit Committees on National Transit Research

S. DAVID PHRANER, *Past Chair, Emeritus Committee Member*, with
STEVEN ABRAMS, *Past Committee Chair,* and
with contributions from
JOHN SCHUMANN, *Past Chair, LRT Committee*

In 2015, the Rail Transit Systems Committee (AP065) approved a comprehensive history document of the Transportation Research Board's (TRB) four extant rail passenger planning committees. The Rail Transit Systems Committee is the pioneering origin of this family of committees and subcommittees and therefore it was appropriate that we should undertake this effort. The ultimate intention was to represent our committees' contribution to TRB's centennial event.

This present 2019 document is an abridgement of that original 25-page history paper. Our committee came to believe that our institutional memory and heritage was fading with the loss of our earliest members. It became urgent to formally preserve the institutional memory of one of the pioneering transit modal committees at the TRB. The paper's source material is derived from TRB staff records, informal personal records, historical records, papers, internet exchanges and interviews with former officers, staff and members of the Rail Transit Systems Committee and its three progeny committees. The unabridged history paper is available from our committee.

The origins of the Rail Transit Systems Committee reach back to the era of the Highway Research Board. The earliest rail transit planning was devoted to the vision of *preserving, improving and expanding existing regional rail transit, building new systems using conventional rail transit technology and establishing research credibility at the national level.* The original committee founders were also keen on importing what was later to be known as light rail transit and pre-metro ideas from Europe and combining them with concepts of North American regional rail.

WHY THIS HISTORICAL MONOGRAPH?

More important than mere institutional history, the story of the beginning of a rail committee structure within TRB parallels major changes in national and state transportation and institutional policy. Some might claim that research efforts led rather than paralleled those changes. As research is intended to create an environment for sound transportation decisions and a future vision of a transport role, the rail committees are important to today's emergence of railroads and rail transit as a national transportation, energy, and environmental priority. This research creates a bellwether of transportation issues over the next decade and beyond.

PURPOSE, SCOPE AND RATIONALE

This paper reveals the people who had the vision and perseverance to initiate research that eventually morphed into a movement to popularize public transportation in a nation that had turned away from rail transit or any form of mass transit in favor of the automobile and the lifestyle that it promoted.

For purposes of TRB rail planning scope, the four committees' histories are indivisible as they share a common origin:

Rail Transit Systems - AP065 (the "mother" Committee – A1E04)
Light Rail Transit - AP075 (A1E06A),(A1E04(1))
Commuter Rail - AP070 (A1E07)
Intercity Passenger Rail – AR010 (A1E12)

HISTORICAL SETTING AND BACKGROUND

Most of the changes and evolution in the technical side of rail transit research are documented and recorded in committee agenda, technical papers and sessions produced; yet something was missing. Discussions among committee members disclosed that there is little common knowledge and history within each of the committees on the institutional and social forces that created those committees, and how they matured to become the research functions of the current national transit research community. The historical research agenda and persons of the committees, groups, and sections at TRB, clearly required better recording and memorializing.

The earliest origins of the Rail Transit Systems Committee are thought to be traced back to the first decades following WWII. By the early 1970s those professionals and educators interested in advancing a new concept in streetcar and regional rail transit in general, had assembled informally as a group to share ideas and strategies.

To understand the rationale for creating a rail passenger planning initiative within the national research community, one has to appreciate the transportation conditions and attitudes in the post-WWII period. Railroads, rail and bus transit were in an undeniable period of decline. The extent of that lamentable decline has been documented elsewhere, citing nearly a 60% decrease in all U.S. transit ridership within two post-war decades. The erosion of public transportation and rail services reflected a national attitude, if not policy; a perception that these transit modes were technically obsolete and increasingly non-essential in a booming post-war automobile and new housing-driven economy. The future's unintended consequences of this trend in environmental, health, lifestyle and energy degradation were simply unimagined.

Several notable events signaled the beginning of change in North America from the prevailing negative perceptions of rail transit; the opening of the first modern, all-new rapid transit line in Toronto ON (1954), the creation of the Bay Area Rapid Transit District regional rail system (1972), and the light rail new starts in Edmonton AB (1978), San Diego CA (1981), and Calgary AB (1981).

RAIL COMMITTEE ORIGINS

Four extant (2019) TRB passenger rail (planning) committees trace their origins to early transport research and technology efforts within the old Highway Research Board (HRB). The unifying attribute of these four committees is their common focus on passenger rail systems and their relationship within rail transit and railroad modes.

Bill Vigrass, one of the early founders (and first chairman) of what later became the Rail Transit Systems Committee, relates that the earliest incarnation of rail transit related research was an HRB task force formed to explore all new guided transportation technology. Note that the intent of this group appeared to be reinventing and developing demand responsive practices but not improving or refining existing rail transit practices and technology. Another group objective was to counterbalance the concentration of HRB research and national surface transport policy almost exclusively focused on highway design, operations, structures and pavements.

This "renegade" HRB new systems transit "group" consisted of engineers, designers, and planners assembled to consider all-new transport technologies of varied sorts. Formed in the late 1960s, the group became known as the "Future Concepts", with the HRB designation UTP-6. Later under TRB sanction and altered structure, it was designated committee A1010. Some of the membership of this early transit planning group shared some of the public's prevailing view of existing modes of transit as obsolete and increasingly

irrelevant. Accordingly, their approach was to start with a clean research slate rather than to resurrect and improve the then unpopular and discredited conventional transit modes of bus, streetcar, rapid transit and commuter rail.

This period of the '50s, '60s, and '70s was the decades of fascination with monorail, automated guideway vehicles, personal rapid transit; modes that tried to mimic the advantages and attributes of automobiles through invention. It appears that the research emphasis and agenda of the group emerged as a competing array of automated guideway transit (AGT) and personal rapid transit (PRT) schemes designed and promoted by individual members of the group.

This late post-war period was also the era of urban renewal, slum clearance and the emergence of a national highway program that became the Interstate Highway initiative of 1956. Clearing urban "blight" and building a network or grid of freeways, was consistent with the all-new approach rather than salvaging the unredeemable obsolete infrastructure; deteriorated and corrupted features of the urban American landscape.

The transit traditionalist minority within the Future Concepts group however, sought to shift some of the group's futurist emphasis toward improving conventional rail transit modes and adapt them to contemporary society. Messrs.' Stewart Taylor, Vukan Vuchic, Bill Vigrass, Ron DeGraw, H. Dean Quinby, Joe Silien, Jeff Mora and other like-minded and recognizable professionals with names like Touton, Lenow, Parkinson, Orski, Fisher, Rogers, Sullivan and Diamant were experienced practitioners and realized that forming a new rail transit group or committee could combine and channel their creativeness *to improve rail transit rather than trying to reinvent it*. Though the seed was planted for establishing a rail systems committee, the HRB at the time was not quite ready to fully embrace such modal heresy.

The transit traditionalists within (and outside) HRB group UTP-6 also studied and observed the European method of rebuilding of cities decimated by the destruction of war. Bombing had forced "all new" urban renewal practices on those nations' cities, but they responded somewhat differently than with the U.S. brand of urban renewal clear cuts. Their national policies were directed at rebuilding their urban infrastructure by preserving and reconstructing what was left of their historic city centers, and creating new towns at transit supporting densities, served by rail transit with green belts, at the edge of the conurbation. Some European centrums were redesigned with exclusive pedestrian and public transit zones. While many of the European obsolete tram systems were converted to motorbus or trolley bus, others were being upgraded to what became known as pre-metro or modern light rail transit (LRT).

In contrast to Europe, the North American streetcar, intercity rail and commuter railroad systems were being abandoned or motorized with their rail infrastructure being liquidated at an alarming rate. While there was no deliberate national policy to dismantle the rail transit systems (nor a conspiracy among highway advocates and motorized transport producers), investment in any mode of public transportation other than aviation and roads was discouraged. Public transit was becoming uneconomic and a burden to its private and public sector managements. North American rail transit was in crisis.

W. Campbell Graueb, former TRB staff liaison, as a participant and first-hand observer during this period has his own "take" on events that formed the Rail Transit Systems Committee. His recollections are quoted below. We pick up the story where Bill Vigrass left off in the late '60s when HRB was still operative:

> "The earliest I (Graueb) can trace (through search of TRB/HRB records) is the establishment of a Task Force A1T57A, Task Force on Urban Mass Transportation. It was chaired by Dr. Kenneth W. Heathington. The task force recommended establishing four permanent committees within HRB; 1.) Planning and Development, 2.) Bus Transit, 3.) Rail Transit and 4.) Intermodal Systems. In 1973, the Task Force morphed into Committee A1E02, Public Transportation Planning and Development, chaired by Heathington. Three additional committees were (officially) formed (with successive numbers in TRB nomenclature of the period A1E03 – Bus, A1E04 – Rail Systems, A1E05 – Intermodal). The Rail Transit Systems Committee was officially formed in 1974 with Bill Vigrass appointed as its first chair on Feb. 1, 1974."

Just outside the realm of HRB/TRB, earlier activities were transpiring that would have an effect on the nation's transport research agenda. Achievements were being made by some of the same core of individuals driving the earliest organized rail transit research efforts at HRB. In 1962, H.D. Quinby described a new form of electric rail transit based on upgrading and expanding streetcar networks into regional rail corridors that was gaining popularity in Western Europe. In the early 1970s, Dr. Vukan Vuchic, an educator at the University of Pennsylvania, researched and prepared a landmark report on mature LRT systems, drawing heavily from European experience and technology advancement. Both Vuchic and Quinby were members of the first light rail committee.

Prior to the formation of the Urban Mass Transportation Administration (UMTA), Federally-sponsored rail transit projects were developed and advanced in an entirely different way. Because of the absence of any "slot" within the Federal bureaucracy in which to fit transit, the Housing and Urban Development Agency (HUD) by default was assigned such projects. In response to a clamor among the largest urban regions trying to salvage and improve their railroad and rail transit infrastructure, HUD, working with the regional planning institutions, developed a series of demonstrations with innovative fare collection, rail rolling stock and unique service reforms. These demonstrations that became routine practice after they were service proven, benefitted the riders and were cost effective for the operator.

The early HUD transit demonstrations showed that *we could learn and conduct research by doing rather than just studying.* UMTA was formed when it was acknowledged that the Federal government had a role in helping urban areas reverse the downward trajectory of the transit industry.

Committee members and associates played major roles in planning LRT new starts, heavy rail extension projects, and preserving failing commuter railroad corridors. Their achievements extended beyond mere research; into applying research findings to planning, promotion, and support for building new and better rail systems to replace those that had been dismantled during the previous decades.

1974 was a milestone year for U.S national transportation research. That year The *Highway* Research Board became The *Transportation* Research Board. William Carey, Executive Director of HRB, and others actively sought general support funding from UMTA (the Federal Transit Administration's (FTA) predecessor), and other modal administrations within the USDOT. All State Highway Departments (later DOTs), with the encouragement of American Association of State Highway Officials (AASHO, later AASHTO) and the Bureau of Public Roads (BPR), had provided for the financial needs of HRB. A very small part of the HRB budget came from other private sources. HRB interest and ability to expand its agenda to more comprehensive transportation research required funding from other modal sources.

As the transit sector was struggling in transition from private to public ownership, transit operators' immediate priority was obtaining emergency funds to keep service running. Their meager funds at that time prevented them from contributing to a national research effort in any significant way. Some institutions were at work on behalf of transit operators and their passengers. Specifically, the Institute for Rapid Transit (IRT) and American Transit Association (ATA-later, the American Public Transportation Association (APTA)) worked through a new institution, the Transit Development Corporation (TDC), to generate and feed transit research results down to the individual transit operators. As these groups were considered to be lobbyists with a transit *advocacy* agenda, their research credibility was initially questioned. Finally, a regular source of public transit funding for research emerged. This historic event occurred in 1973 when UMTA commenced yearly funding support (called general support at HRB/TRB). That was also the year that the position of *Senior Program Officer for Public Transportation Research* was created, to which W. Campbell Graeub was appointed.

Now with a broader research agenda formally recognized and sanctioned at the national level, those advocating rail transit research could build on a formal organization for a stronger rail transit planning research agenda. The research organization structure that we take for granted today was starting to form.

Following the landmark TRB Annual Meeting in January 1974, the *Rail Transit Systems Committee (A1E04) of TRB* was formed on February 1, 1974 as described above. J. William Vigrass of PATCO was appointed Committee A1E04's first Chairman. As its TRB nomenclature reveals, Committee A1E04 was part of the Transportation Systems Planning Group 1.

The research agenda for this new committee concentrated on traditional heavy rail rapid transit since that was the rail passenger mode yielding the highest (and most stable, though declining) passenger volumes. Other passenger rail modes were considered, though not formally within the scope of the committee's initial research agenda. The formal TRB charge to the Rail Transit Systems Committee was:

> "The committee researches planning practices for improving urban rail transit systems with emphasis on regional rail/rail rapid transit. The committee develops and applies rail transit institutional, physical, technological and operational innovations, including means of coordinating rail modal diversity and joint research efforts among transit modes."

The Rail Transit Systems Committee's charge was broadly drafted with enough latitude, using terms like "regional rail," to include the other passenger rail modes within its scope. Bay Area Rapid Transit District and Port Authority Transit Corp. (Camden/Philadelphia) had expanded the traditional urban role of rail rapid transit (regarded as "subways" and "elevateds") to a regional rail concept, extending into the near suburbs and crossing traditional jurisdictional boundaries. At the time, the other rail passenger modes (streetcar, interurban and commuter railroad) were not being addressed fully by any other TRB committees. Then too, railroad commuter service and intercity passenger trains were still considered the realms of the private railroad managements, though those managements were decreasingly interested in hosting (and financing) such passenger operations. Interest in the rail submodes was later to evolve into subcommittees and ultimately into full committee status for those other rail transit modes.

Similarly, while there was interest and discussion on intercity passenger railroad operations and such issues as maglev and high speed rail, these issues were also considered within the (private) railroads' domain and that of the newly formed (1971) National Railroad Passenger Corporation (Amtrak). A key defining sentence in the Rail Transit Systems Committee's charge embraced the rail passenger modes and remained within the committee's scope. That scope "includes means of coordinating rail modal diversity and joint research efforts among transit modes."

LIGHT RAIL BECOMES PART OF THE NATIONAL RESEARCH AGENDA

LRT interest and zeal matured into a formal committee, but slowly. There was a reason for priority concern about the plight of light rail; the alarming rate of street rail transit conversions to motor bus. Traditional (heavy) rail rapid transit had also suffered losses of patronage, but unlike streetcars, there was little threat that it would disappear entirely.

During the early 1970s an Ad hoc "Advisory Committee on Light Rail Transit," (HRB designated it as A1T64B) was formed with Stewart F. Taylor as chair. This early LRT committee's most historic and singular achievement was to plan and sponsor a National Conference on Light Rail Transit in Philadelphia. To the astonishment of many, over 300 attended; far exceeding what TRB staff had planned.

In 1981, the LRT Advisory Committee became the Light Rail Subcommittee (A1E04A) under the Rail Transit Systems Committee (A1E04). In doing so, light rail was the first of what was to become a family of TRB subcommittees dealing with the entire spectrum of rail transit institutions, operations, infrastructure and technology. Later, it was elevated to full committee status as A1E06.

Other milestones were occurring concurrent with the tumult in the LRT research arena. Forming our rail planning committee paralleled a shift in direction and scope of national transportation research. State highway departments, (starting with New Jersey) evolved into comprehensive surface transportation departments or "DOT". Federal, state and local jurisdictions also expanded their role beyond just highways, to new roles in the planning, design, and provision of public transportation facilities and services. In the Federal sector, the cabinet level Department of Transportation was formed with separate administrations for each of the surface, air and marine transport modes. Transportation in the U.S. was finally being treated as comprehensive travel modes operating in unison as a system.

We pause to reflect on the accomplishments up to 1980 in sanctioning rail transit research and the evolution of the committee structure within TRB and The National Academies. Similar committees and subcommittees were also being established within the American Public Transportation Association (APTA)

in recognition of the importance assigned to the rail modes by the practitioner as well as the research community. The two "movements", one research and the other practice, were working simultaneously, in parallel, and in complementary fashion:

- Staking out a claim for the validity of rail rapid transit and comprehensive rail transit research as a national priority and,
- A new initiative to plant LRT as a bonafide domestic transit mode that held the promise of reestablishing the connection between public transportation, urban planning, and redevelopment of urban areas.

NEW COMMITTEES AND SUBCOMMITTEES

The research agenda for the Rail Transit Systems Committee grew in size and comprehensiveness to include specifically intercity, high speed, and commuter railroad services and of course, light rail.

The challenge for the chairman of the Rail Transit Systems Committee at that time was to balance the interests of the various rail transit and passenger modes within the committee research agenda. The emerging problem was an agenda that was too busy to fully accommodate the broadening interest in all rail transit researchers and practitioners. We were learning that research asks more questions than it answers and the resulting expansion and complexity of the research agenda could not be accommodated within a single committee. In reviewing the attendance list of the committee meetings at that time, one could not avoid being impressed with the caliber of system managers, leading educators, published historians and influential planners in attendance…names like Krambles*, Geissenheimer*, Smerk, Middleton*, Vuchic, Larwin, Stanger, Vigrass, Addison, O'Brien, Inglish, Wanaseljia, Bakker, Orski, Graebner, Levinson*, Silkunas, Skoropowski, Zupan, Tennyson*, Tucker*, Thompson and others too numerous to mention.

LRT was particularly appealing to researchers. It thus became evident that light rail warranted its own free-standing, full committee status. The Light Rail Subcommittee Chair Tom Larwin and the Rail Transit Systems Committee Chair Dave Phraner worked together to plan the separation of the Light Rail from the Rail Transit Systems research agenda and form the new committee that had been approved by TRB leadership.

The Commuter Railroad interests within the Rail Transit Systems Committee also had a full research agenda befitting a full TRB committee status. They too split off under the leadership of Don Eisele with the TRB nomenclature initially A1E07 and later AP070.

The Intercity Passenger Rail Subcommittee (A1E012) also split off from Rail Transit Systems under the leadership of George Haikalis, John Tone, Bruce (Emanuel) Horowitz, and others. Their move also involved a transfer from the Planning group to the Railroad group, hence their TRB designation as AR010.

THE NEW RAIL COMMITTEES AND THEIR RELATIONSHIP TO THE ORIGINAL RAIL TRANSIT SYSTEMS COMMITTEE AND A NEW GENERATION OF RAIL TRANSIT SUBCOMMITTEES:

In reviewing the Rail Transit Systems Committee's original charge, a revised committee research agenda was developed that retained the heavy rail rapid transit, elements of regional rail and included a comprehensive rail transit perspective, overseeing the coordination of research issues common to *all the rail transit modes*. Those research issues and matters with two or more of the rail modes could still be coordinated by the rail *systems* committee.

One of the first examples of how multiple rail committee coordination would be achieved was the innovation of a periodically organized **Rail Transit Caucus**. Originating in the New York/North Jersey metro area, the first TRB "Rail Caucus" was sponsored by members of all four rail committees and informally supported by their representatives' rail transit agencies and operators. Officially, the event was titled "*Intermodal Rail Passenger Study Caucus."* The first rail caucus held on September 22-24, 1994 was a precedent, but it was also an experiment with such novel features as:

- Low cost (1st Rail Caucus registration was $10.00)
- Informality and departure from TRB conference routines (only two presentations)
- Limited/small number of registrants (no more than 40 or the capacity of a bus)
- Minimal TRB staff involvement/burden (they said "okay") and no cost to TRB
- An emphasis on field inspections and informal information exchange
- A specialty conference-like gathering confined to common rail transit issues

The success of this first Rail Caucus has created a succession of these events and become a TRB tradition. More than that, it exemplified how the four committees could work together on common projects, interests, issues and objectives between the rail modes.

The Rail Caucus and the specialty conference planning, particularly those for LRT, have served another function. They are excellent opportunities to intern for leadership positions within the committee structure. Similarly, several of the hard working committee secretaries have ascended to committee chairmanship.

The rail committee structure continued to grow with each of the new rail committees spawning new subcommittees of their own. The Rail Transit Systems Committee also created new subcommittees to fulfill specialized research needs not being met fully elsewhere at TRB.

Largely by default, an **Electric Trolley bus (ETB) Subcommittee** was proposed by the Rail Transit Systems Committee. TRB approved the subcommittee's formation. As the number of ETB operations diminished in North America, the scope of the ETB subcommittee was expanded to include guided bus and alternate fuels options. Its title changed to **Guided and Electric Trolley Bus Joint Subcommittee of AP065(1), AP075**. In 2018, the subcommittee was renamed and relocated within the TRB standing committee structure to become the **Guided and Electric Buses, AP050(2) a Joint Subcommittee of AP050, AP065, and AP075.**

Because of the increased flow of technology and practice from abroad into the U.S., specifically in railcar, train control technologies, and rail transit operating routines, the need for an **International Rail Transit Subcommittee, AP065(2)** was proposed by the Rail Transit Systems Committee.

As the diversity in rail transit modes and technologies further broadened, the Rail Transit Systems Committee noted increasing attention being paid to rail diesel car (RDC) technologies. These vehicles, because of their economies in labor, fuel, and utilization, were becoming routine parts of the committee paper and session agendas. Research into shared track practices in Western Europe and the Pacific Rim revealed that this railcar technology was advancing in popularity there, while simultaneously on the decline among rail transit operators domestically. As this type of rail transit research crossed the committee research agenda boundaries, Chairs of the Commuter Rail Committee and Rail Transit Systems Committee prepared a joint request of TRB to approve the formation of a new jointly sponsored subcommittee, popularly called the **DMU Subcommittee** (A1E07(1)). The DMU Subcommittee has been one of the most successful of the new generation of rail transit subcommittees. The result of their deliberations was the new title, **Self-Powered Units Joint Subcommittee of AP070, AR020**.

Yet another area of growing research interest common to all the TRB rail committees is with joint use of tracks and rights-of-way. This interest was fueled by two important national documents. The first was TCRP Report #52 on European and Pacific Rim experience with track sharing and interoperability between rail transit and railroad modes. The Transit Cooperative Research Program (TCRP), the Eno Foundation and FTA responded to the report with foreign study missions and Research Digests to further detail the issues arising from this seminal report.

Predictably, what also grew out of this initial research issue and resulting activity was another subcommittee within the TRB rail transit committee structure, this time on shared track. Sponsored jointly between the Rail Transit Systems and the Commuter Rail Committee, the **Shared Rail Corridors and Facilities Joint Subcommittee of AP065(3), AP045, AP070, AP075, AR010, AR040** was formed.

COMMITTEE OUTREACH EFFORTS, WORKSHOPS, AND AWARDS

Information outreach techniques are common to the missions of all the rail committees. The Rail Transit Systems Committee and other rail committees and subcommittees established **websites**. The use of the internet and other advanced communications has spawned the **webinar** and **teleconference** meetings. The obvious advantages are to reduce travel costs and time.

In recent years, the committee has the led the organization of three cross-cutting workshops at TRB's annual meetings, in collaboration with other TRB committees, including:

- Rail Station Congestion Management and Capacity Expansion, 94th Annual Meeting in 2015;
- Solving Rail Transit Core Capacity Constraints, 96th Annual Meeting in 2017; and
- Building A Resilient Rail Transit, 98th Annual Meeting in 2019.

In 2017, AP065 was selected by the TRB as a Blue Ribbon Committee, in the category of communication. The Blue Ribbon Committees serve as role models, with committee Chairs and members sharing their experiences with others. The TRB recognized the committee's innovation in communication through development of a committee history report, introduction of LinkedIn connections, and enhancement of email communications.

PARTICIPANTS AND CREDITS

During the preparation of this paper a wide net was tossed to glean as much information as possible. The response rate was gratifying. Starting with current and past committee and subcommittee chairs and secretaries and staff liaison for the four committees, all contributed some information and they are noted here for attribution including:

Rail Transit Systems – Wenyu Jia, Steve Abrams, Mark Walbrun, Peter Fahrenwald, David Phraner, Bob Landgraf*, Richard Stanger, Vukan Vuchic, Bill Vigrass,

Light Rail Transit - Greg Thompson, John Wilkins, John Schumann, Tom Larwin

Commuter Rail - Dave Wilcock, Bruce Horowitz, Walter Zullig, Don Eisele

Intercity Passenger Rail - David Simpson, John Tone, Bruce Horowitz, George Haikalis

TRB Staff Professionals and Committee Liaisons: Through these tumultuous decades of rail committee maturation, the steady guidance of our TRB staff liaisons has been indispensable. Campbell Graueb was instrumental in establishing the initial committee structure. Dr. Peter Shaw continued in that role when Campbell retired, and oversaw the period of rail committee diversity and expansion. A succession of TRB staff liaisons followed.

Appendix 1 - Rail Transit Systems Committee (A1E04/AP065), Chronology/Chairs:

HRB Future Concepts working group (UTP-6) formed 1969 (later sanctioned by TRB as Committee A1010).

The Rail Transit Systems Committee was formed in 2/1/74, largely from the membership of UTP-6 and Task Force A1T57A. Subcommittees were formed for light rail, commuter rail, and intercity passenger rail, all of which later attained full committee status.

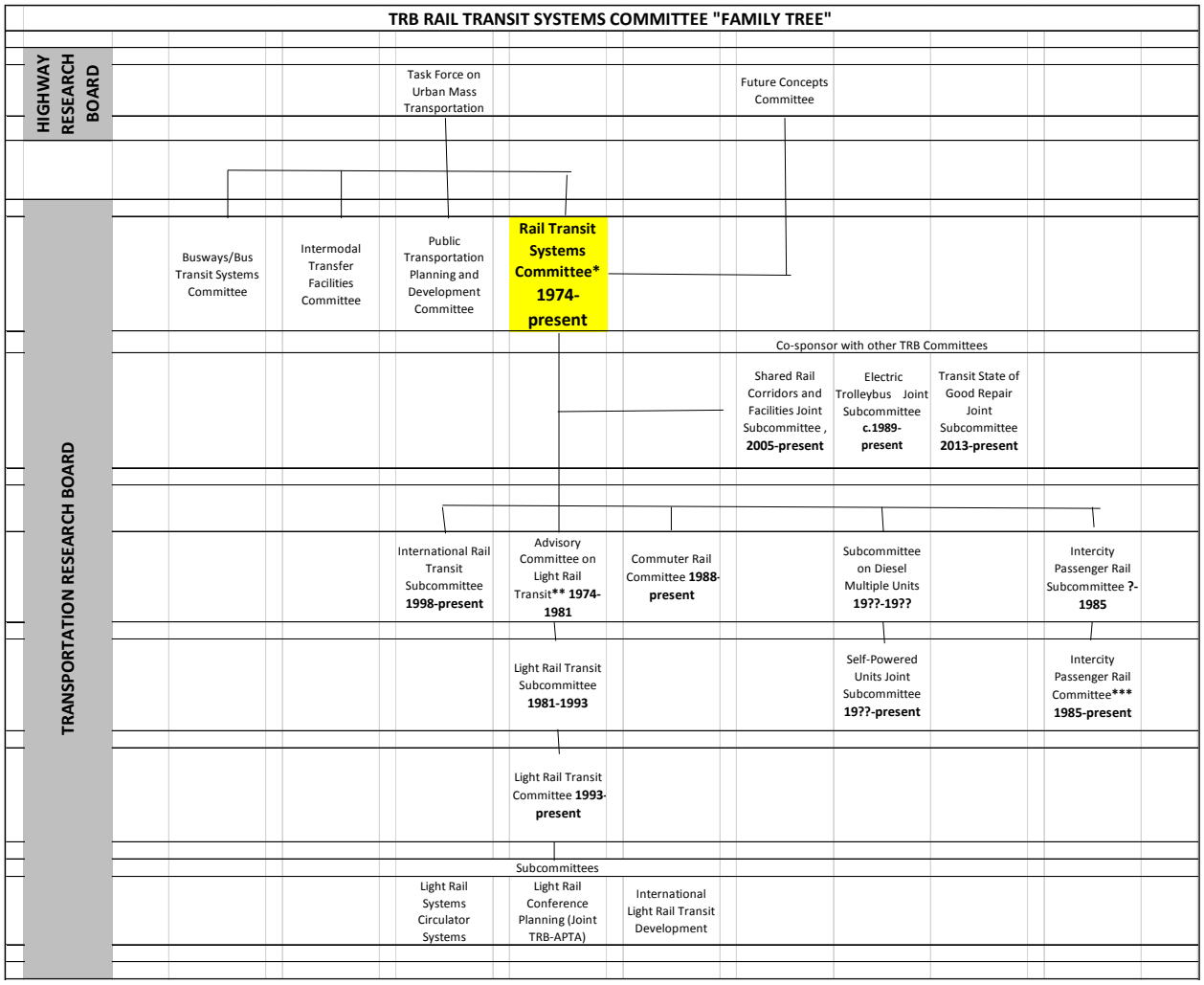
TRB's committee charge: "The committee researches planning practices for improving urban rail transit systems with emphasis on regional rail/rail rapid transit. The committee develops and applies rail transit

institutional, physical, technological and operational innovations, including means of coordinating modal diversity and joint research efforts among transit modes."

J. William Vigrass (PATCO)	2/1/1974 to 9/14/1977
Vukan Vuchic, PhD (University of PA)	2/1/1977 to 1/13/1983 (R. Stanger was Vice Chair)
Richard M. Stanger (LACTC)	2/1/1983 to 1/31/1987
Robert J. Landgraf* (Cleveland RTA)	2/1/1987 to 1/31/1992
S. David Phraner (PANYNJ)	2/1/1992 to 1/31/1998
Peter Fahrenwald (CTA)	2/1/1998 to 4/14/2005
Mark C. Walbrun (CH2M Hill)	4/15/2005 to 4/14/2008
Steven H. Abrams (CTA)	4/15/2008 to 4/14/2014
Wenyu (Wendy) Jia (WMATA, World Bank)	4/15/2014 to 4/14/2020

Notes
*deceased

Appendix 2 - Rail Transit Systems Committee (A1E04/AP065) Family Tree:



*-Committee is part of the "Public Transportation Group"

**-From 1978-81 this was recognized as a Committee

***-Committee is now part of the "Rail Group"