

22 May 2012
POLICY AND ORGANIZATION GROUP
Committee Triennial Strategic Plan (TSP)

Committee Name and Number: AP075, Light Rail Transit

Committee Chairpersons: John Wilkins, New Jersey Transit, April 2004-April 2010
Gregory L. Thompson, Florida State University, April 2010 to present

TSP Three-Year Period: April 2009 to December 2011

Date Prepared: December 2011; May 2012

Committee Future Outlook Statement:

Current Committee Scope

The committee fosters research oriented to understanding how light rail transit can better address transportation issues facing urban regions. All functional aspects of light rail transit are considered, including: institutional structure for providing transit service, multimodal integration, modal management, planning, finance, design, construction, technology, labor, safety, security and fare payment systems, performance, joint development, transit oriented development, and evaluation.

Factors and influences that will shape the committees activities

The worsening financial crisis affecting North American and European governments is resulting in disruption of government financing of transit capital and operating budgets. At this time it appears that government financing of transit will only worsen into the foreseeable future and that more private sector financing of public transportation is required. At the same time there is growing awareness of the pernicious effects of increasing greenhouse gas emissions and increasing fossil fuel energy prices, with growing awareness that vehicle miles traveled in private vehicles needs to be reduced. Yet, the increasingly complex travel patterns resulting from a century of decentralizing development cannot be undone. Poverty also is increasing while also suburbanizing, and most jobs that the poor need to reach are in the suburbs. The combination of financial and environmental stress, complex travel patterns, and the suburbanization of transit dependent populations and jobs suggest a need for realignment of public transportation services in North American metropolitan regions. The committee will consider these trends and needs in soliciting research to identify how light rail technology improvements, investments, and regional multimodal coordination strategies can facilitate regional transit realignment.

Committee Future Outlook

The committee is particularly interested in fostering research to gain a better understanding of how light rail transit can be used to improve transit modal share within districts of metropolitan areas as well as throughout metropolitan regions. In both cases the goal is to reduce transportation energy input and pollution output, while also improving transit productivity and efficiency. Past committee-fostered research shows that there has been considerable progress

in attaining such goals from regional light rail applications in some U.S. and Canadian metropolitan regions, and the recent French development and widespread application of a tram/light rail hybrid model promises further attainment of such goals for North American metropolitan regions. The committee seeks to learn more about the French approach and its consequences.

The committee also is interested in research that seeks to understand how light rail investments interact with urban and suburban development. To what extent do transit oriented developments adjacent to light rail transit nodes enhance patronage, and to what extent do light rail or streetcar investments entice transit oriented development? The committee seeks to learn more about the interaction of light rail investments and land use change.

A number of downtown circulator streetcar lines have been implemented in recent years with mixed, but generally low patronage results. Installations with low patronage are justified on the grounds of stimulating downtown redevelopment, but there is little understanding of how a transportation mode that attracts few passengers can stimulate redevelopment. We note that some developers in dense, trendy downtown districts are contributing to the financing and operating expenses of some downtown circulator streetcars, suggesting that the private sector sees value in them. Essentially, the jury still is out on the utility of this variant of light rail technology, and the committee encourages research that seeks to determine the real utility of the mode and possible variations to its specifications that could produce stronger results.

The committee has five major goals for the future –

- Promote research to evaluate impacts and identify best practices from North American and international transportation projects that incorporate light rail in project planning, programming, development and implementation, as well as in post-implementation operations and evaluation.
- Promote research into the renewal of aging light rail infrastructure and vehicles.
- Promote research to improve safety and security of light rail systems.
- Disseminate knowledge on best practices, renewal, safety, security, and related research findings to transportation professionals and key decision makers in public agencies and private organizations in order to increase knowledge about the best practices and impacts of light rail investments and operating practices.
- Identify and address critical issues related to light rail planning, implementation, renewal, and evaluation for key stakeholders and transportation user groups, such as transit and urban revitalization advocates, transit operators and users, metropolitan planning organizations, environmental interests, infrastructure financiers and investors at different levels of government and in the private sector, among others. Advance common research and collaborative activities to establish fact-based decisions about the role of light rail in transportation projects and programs.

The committee plan below contains specific actions to achieve these goals.

Committee Plan:

Emerging issues inside and outside the committee scope

There are many emerging issues that are important to the Committee on Light Rail Transit. The most critical transportation issues with the most direct connection to the committee's work follow:

- Congestion: Increasingly congested facilities across all modes;
- Energy, Environment, and Climate Change: Extraordinary energy and environmental challenges;
- Equity: Burdens on the transportation disadvantaged;
- Finance: Inadequate revenues to fund infrastructure and operations from passengers and the public sector and a need for greater private sector involvement;
- Multi-modal system integration at regional and local levels: Several urban regions demonstrate that multi-modal integration at the regional level greatly improves productivity, cost efficiency, and patronage trends of bus as well as light rail modes, and such integration should be more aggressively pursued to maximize the use of financial resources;
- Infrastructure: Enormous aging capital stock to maintain; and,
- Institutions: 20th century institutions facing 21st century challenges.

TRB's Policy & Organizational Group has identified a number of critical cross-cutting issues that will require collaboration and action from an array of TRB committees in order to make meaningful advances in addressing these needs adequately. The Light Rail Transit Committee is prepared to contribute to the following TRB-identified cross-cutting issues, all of which are consistent with one or more of the committee's five goals listed above:

- Finance
- Transportation and Sustainability
- Institutions

Projects and Activities

The list below will be used in the coming years to accomplish the three major goals identified by the committee. Most of these projects move the committee forward on more than one goal.

- Collaboration with other TRB committees - The Committee on Light Rail Transit collaborates with many other committees across the TRB committee structure in addressing cross-cutting issues. A complete list of committees with which the Committee on Light Rail Transit collaborates is provided in Appendix A. The committee will seek sponsorship of joint sessions and research statements to identify critical issues and advance light rail research relevant to stakeholders and users, sponsor or co-sponsor sessions and workshops at annual meetings and mid-year meetings, and organize, in collaboration with the American

Public Transportation Association, a national conference on light rail transit to take place every three to four years.

- Collaboration with FTA to promote research and best practices - provide input and assistance to FTA in defining the future of light rail transit. Coordinate with and assist FTA in the dissemination of best practices reviews on the deployment and evaluation of transportation pricing projects.
- Reach out to international organizations, such as UITP – exchange information with international organizations dedicated to improving the utility of light rail technologies to societies that they serve.
- Enhance the Light Rail Transit Committee web site (<http://research.lctr.org/trblrt>) for knowledge sharing, outreach, and promoting research. In Fall 2011 the committee chair appointed a new Communications Coordinator, Fabian Cevallos, who established the committee web site. During Winter and Spring 2012 the Dr. Cevallos worked with the committee chair Thompson as well as with the committee vice chair and research director, Currie, as well as with the chair of the new subcommittee AP075(3) Larwin to enhance the value of the web site as a research library. The site contains power points from the special French session that the committee sponsored at the January 2012 annual meeting, other special presentations made to the committee’s annual meeting, additional materials assembled on the French approach, including comparisons with North American approaches, and a huge library assembled as part of a recent TCRP synthesis study on proof of payment fare systems. The site contains cross-links to two calls-for-papers that the committee through Dr. Currie put out as well as a call for abstracts for the forth-coming 12th National Light Rail Conference, to be held in Salt Lake City in November 2012. The Communications Coordinator also made the site accessible to those who use Twitter, and the site now has a number of followers using that medium. Build the next generation of leadership. To this end the committee chair Thompson recommended to TRB that it appoint to the committee a new vice chair in charge of research, and he recommended a younger, highly productive scholar for this position, Dr. Graham Currie. TRB made the appointment, and it is likely that Dr. Currie will take over the committee’s reins when the current chair Dr. Thompson steps down. Thompson appointed an even younger member as committee secretary, Sean Kennedy, and in fact Kennedy entered the committee’s ranks several years ago as a young person member. The chair and the vice-chair collaborate frequently on committee affairs. The committee chair also has been involving younger and more gender and ethnically diverse persons in decision-making consultations. The just-completed rotation process furthered the transition to a younger and more diverse committee membership of talented and well-placed individuals who, it is hoped, will become increasingly forceful in committee affairs.
- Strengthen sub-committees - Streamlining the functions, scopes, and mission/goals of the subcommittees so as to keep a vibrant level of intellectual inquiry present in the committee

structure. In May 2011 the chair appointed an ad-hoc subcommittee AP075(3) on International Light Rail Development and appointed Tom Larwin to chair it. This ad-hoc committee put together a special session on French Light Rail Developments for the January 2012 TRB Annual Meeting, comprised of invited French experts in the field. It also is putting together a plenary session of invited international experts for the forth-coming 12th National Light Rail Conference. The committee chair has recommended to TRB that this ad-hoc committee become a permanent subcommittee of AP075.

- Tighten the working relationship with the APTA Light Rail and Streetcar group to share knowledge of state-of-the-art light rail and streetcar practices.
- *TR News* – In addition to an article recently submitted on French light rail/tram hybrid development, contribute an article on U.S. light rail development practice.
- Rail transit caucuses – Participate in annual rail transit caucuses organized in different metropolitan regions.
- Development of Research Problem Statements – From the research initiatives that the committee currently is sponsoring, develop a list of research needs statements RNS to include in the TRB data base. The committee also will formulate additional research proposals to submit the TCRP; three years ago it had a statement accepted on light rail safety, and it currently is drafting a research proposal on the French light rail/tram hybrid approach.
- Reach out to organizations and groups beyond TRB - Developing new relationships with professional associations, the global community, and multidisciplinary groups of researchers. This includes AASHTO, APTA, the Congress on New Urbanism, Reconnecting America.

Communication

- Disseminate information on upcoming events with light rail transit development to the mailing list of Committee members and friends.
- Utilize new communication tools as a means to enhance education, outreach and information exchange on the concepts, practices and costs/benefits of congestion pricing such as social networking, blogs, podcasts, etc. to augment the congestion pricing list serve. We are making tremendous strides in this area as outlined in the previous section.
- Increasing use of the committee's web site and other web resources to spread the word.
- Submit articles to *TR News*.

Membership

- Update Committee and Subcommittee membership to maintain balanced representation of both established and emerging applications of transportation pricing,

across modes, different types of pricing applications, and different points of view.

- Ensure that Committee membership reflects a balanced composition with regard to geography, gender, race, ethnicity, and organizational affiliation. We made considerable progress in this regard in 2010-2011, and with the new 2012 rotation now complete, we have made much greater progress in this regard.

Proposed changes in scope

No changes in the scope or title are needed now.

Appendix A - Committee History

Committee website

<http://research.lctr.org/trblrt>

Committee Member Statistics Over the Past Three Years

Table 1. Committee Member Stats/Category of Members

		2009	2010	2011 (July)
TOTAL		22	23	34
GENDER	MALE		21	30
	FEMALE		2	4
RACE	MINORITY		2	4
TYPE	REGULAR	12	14	22
	YOUNG (30)	1	0	1
	EMERITUS	5	5	5
	INTERNATIONAL (incl Canada)	4	4	6
PROFESSION	ACADEMIC		3	6
	CONSULTANT		11	13
	FED/STATE/TRANSIT		8	12
	STUDENT or RETIRED		1	3
GEOGRAPHIC	NORTH AMERICA (include Canada)		20	30
DISTRIBUTION	INTERNATIONAL (n/i Canada)		1	4
	US			
	NORTHEAST (incl M.A.)		11	12
	MIDATLANTIC			
	SOUTH		1	4
	MIDWEST		1	2
	WEST		7	10
	CANADA		1	2
FRIENDS	MEXICO			

Table 2. Committee Activity

	2009	2010	2011
COMMITTEE MEETINGS	Attendance		
ANNUAL MEETING	29	27	34
MIDYEAR MEETING	na	28	21
SPONSORED SESSIONS	Numbers		
PRIME	2	2	2
COSPONSORED	1	2	1
CALL FOR PAPERS	1	1	1
RESEARCH PROBLEM STATEMENTS	Numbers		
COMMITTEE			
INDIVIDUAL			
PAPERS	Numbers		
SUBMITTED	15	10	15
SELECTED			
PRESENTATION	8	7	8
PUBLICATION	3	4	3
PRESENT & PUBLISH			
SPECIALITY CONFERENCE WORKSHOP/CAUCUS	1		

Membership gender and racial diversity

As shown in Table 1, the number of female members increased from 2 to 4 in 2011, while the number of minority members also increased from 2 to 4.

Geographic distribution of membership

As shown in Table 1, the geographic distribution of committee membership in 2010 was concentrated in the Northeast and Mid-Atlantic region, with a secondary concentration in the West. In 2011 committee total membership increased substantially, with the increase spread between new international members, members from the mid part of the country and the South, and additional members from the West.

Professional affiliation distribution of membership

In 2010 consultant members predominated, but in 2011 most of the added members came from the ranks of transit systems and universities. Consultants still are slightly in the lead, but the committee membership now is more balanced in terms of profession.

Subcommittees and their chairs

- AP075(1) Light Rail Systems Circulators Systems; Jack Boorse of PB Consulting

The Light Rail Circulators Subcommittee, established about five years ago to address research needs associated with downtown LRT and street car circulator or distribution systems, which are thought to stimulate development. The subcommittee set up a number of working groups including:

- Trackway Infrastructure Group
- Electric Traction Group
- Streetcar/Railroad Crossings Group
- Stations and Stops Group
- Streetcar Projects Monitoring Group

The Trackway Infrastructure Group already completed a paper dealing with Embedded Track Construction. The paper is currently available in the APTA web site. There also is a paper on overhead wire design.

- AP075(2) Light Rail Conference Planning; Greg Thompson of Florida State University

As part of the continuing effort to hold a jointly sponsored (TRB and APTA) national LRT Conference every three to four years, AP075(2) maintains a close working relationship with the American Public Transportation Association LRT Task force. This relationship will continue. The subcommittee took the lead in planning the 11th National Light Rail Transit Conference that took place in Los Angeles in April 2009, and it currently is planning the 12th National Light Rail Conference to take place in Salt Lake City 12-13 November 2012.

- AP075(3) International Light Rail Developments; Tom Larwin of Lee Engineering.

The AP075 Chair Thompson created AP075(3) in May 2011 with the task of documenting rapidly developing ideas (emanating particularly from France) about organizing light rail with much greater ridership, efficiency, and urban and regional development effect than past practice has accomplished. Tom Larwin is Chair and Tom Parkinson, John Schumann, Graham Currie, Tom Matoff, John Smatlak (APTA), and Greg Thompson are members. As of May 2012 the subcommittee held five phone meetings, and through Graham Currie and Tom Larwin, both of whom visited France during Fall 2011, organized a special session of invited French experts on French practice for the 2012 annual TRB meeting. From Graham's and other committee members' work, a plenary panel of

different invited French experts is being organized to take place at the 2012 National Light Rail Conference in Salt Lake City in November 2012. The subcommittee also wrote and submitted to *TR News* an article on French hybrid light rail/tram developments. The subcommittee currently is working on a research proposal to submit to TCRP on the French tram/light rail hybrid approach. At the January 2012 meeting of AP075, the members voted to make the AP075(3) subcommittee permanent, and accordingly AP075 chair Thompson requested of TRB that AP075(3) be made permanent with the name, Subcommittee on International Light Rail Developments.

Other committee relationships

AP075 maintains close formal and informal relationships with other TRB committees. They include, but are not limited to:

- AP065 Rail Transit Systems
- AP070 Commuter Rail Transportation
- AP025 Public Transportation and Development
- AP055 Rail Transit Infrastructure
- ADD30 Transportation and Land Development
- AP0010 International Activities Committee
- AR010 Intercity Passenger Rail Committee
- AP040 Major Activity Center Circulation Systems
- AP045 Intermodal Transfer Facilities
- AP050 Bus Transit Systems

As part of the continuing effort to hold a LRT Conference every three to four years, the Committee has maintained a close working relationship with the APTA LRT Task force. This relationship will continue.