The purpose of this memorandum is to solicit nominations to serve on project oversight panels for FY 2014 Transit Cooperative Research Program (TCRP) research projects.

The TCRP is an applied research program that provides solutions to practical problems faced by transit operators. The primary participants in the TCRP are an independent governing board organized by the Transit Development Corporation and designated the TCRP Oversight and Project Selection (TOPS) Committee; the Transportation Research Board (TRB) as program manager and secretariat for the TOPS Committee; the American Public Transportation Association (APTA) as a vital link to the transit community; and the Federal Transit Administration (FTA) as program sponsor.

The TOPS Committee met on October 25, 2013, and approved new research projects for Fiscal Year 2014. Descriptions of the new research projects are attached. The purpose of this memorandum is to solicit your nominations for new project panels. We are asking you to nominate individuals with expertise directly relevant to the research proposed, and we would particularly welcome your help in identifying women and minority candidates. Your nominations would be appreciated as soon as possible, but no later than January 20, 2014, so that we may move the program forward in a timely manner. We will begin the panel formation process shortly thereafter. Nominations received after January 20th will not be guaranteed full consideration in the panel formation process.

To ensure proper consideration of your panel nominations, we need information on each nominee's affiliation, title, address, approximate age, and, most importantly, professional qualifications related to the particular project. Contacts to determine an individual's interest in serving will be made from this office after we have matched available expertise with that required by the nature of the project. A panel nomination form is attached for your use if a resume is not available. We also encourage submittals via e-mail, which can be sent to ablackwell@nas.edu.
Panels for the new research projects are scheduled to meet during March/April 2014. Panel members are prohibited from submitting or participating in preparation of proposals on projects under their jurisdiction. They serve on the panels without compensation, but are reimbursed for travel and subsistence expenses. Travel insurance is provided at no cost to the members. In many cases, only two meetings are held in the life of a project, and these normally occur in Washington, D.C. The first meeting is to develop a project statement that is used to solicit proposals; the second meeting is to select a research organization from among those submitting proposals. Other meetings may be dictated by project circumstances; however, they are few and usually at least a year apart. Membership for each panel will number approximately eight. Panels operate under the guidance of a permanent chair, and there is liaison representation from the FTA, APTA, and TRB; the TCRP staff serves as the secretariat.

We are grateful for your ongoing support of the TCRP in providing nominees. Typically, nominees for panels in the Cooperative Research Programs outnumber the available positions by about four to one. As a result, we have been able to establish panels truly outstanding in their ability to play a fundamental role in the accomplishment of successful research.

Attachments:  New FY 2014 Research Project Descriptions
TCRP Panel Nomination Form

DISTRIBUTION: Chair and Members, TCRP Oversight and Project Selection Committee; Executive Director, TDC; Associate Administrator for Budget and Policy, FTA; Associate Administrator for Research, Demonstration, and Innovation, FTA; Director, Office of Research Management, FTA; Liaison Representatives, FTA; APTA Committees; Directors, U.S. DOT University Transportation Centers; Chair and Members, AASHTO Standing Committee on Public Transportation; Board of Directors and State Delegates, Community Transportation Assoc. of America; Executive Secretary, Women's Transportation Seminar; Representatives, Historically Black Colleges; Executive Director, Conference of Minority Transportation Officials; Executive Director, National Transportation Consortium of Minority Colleges & Universities; Executive Director, National Association of Black Engineers; Executive Director, Society of Hispanic Professional Engineers; Executive Director, National Forum for Black Public Administrators; Executive Director, National Association of Minority Contractors; CEO and President, National Urban League; President, National Council of Negro Women; Chair and Members, TRB Executive Committee; Chair, TRB Group Councils and Sections; Chair, TRB Committees (Transit); TRB State Representatives; TRB University Representatives; TRB Transit Representatives; TRB Sustaining Associates; Chair, Subcommittee on NRC Oversight; TRB Staff (Selected)
Transit Cooperative Research Program
Panel Nomination Form

Use this form only when a resume is not submitted. The resume is preferred.

Nomination for TCRP Project Number: ____________________________

NOMINEE:

First Middle Last

Employer: ____________________________________________________________

Current Job Title: ______________________________________________________

Address:

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

Phone #: _____________ Fax #: _____________ Email: ________________

Years at Current Position:_______ Years of Experience Relevant to this TCRP Project: _________

Education:

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Professional Licenses: ________________________________________________

Fields of Special Knowledge or Interest (e.g., operations, planning, vehicle engineering):

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

Comments: __________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________
TCRP Panel Nomination Form

Optional Information on Nominee

Please check one: □ Male □ Female          Date of Birth: _____________

Ethnicity (please check one):

(A) American Indian or Alaskan Native; origin in any of the original peoples of North America.

(B) Black; origin in any of the black racial groups.

(H) Hispanic, Mexican, Puerto Rican, Central or South American, or other Spanish culture or origin, regardless of race.

(P) Asian or Pacific Islander; origin in any of the original peoples of the Far East, Southeast Asia, or the Pacific Islands. Includes China, Japan, Korea, the Philippine Islands, Samoa, and the Indian subcontinent.

(W) White; origin in any of the original peoples of Europe, North Africa, or the Middle East.

(2) Two or more races (not Hispanic or Latino); all persons who identify with more than one of the above five races

Name of Nominator: ____________________________________________________________

Address: ____________________________________________________________________

____________________________________________________________________________

Please return to: Christopher W. Jenks, Director
                  Cooperative Research Programs
                  Transportation Research Board
                  500 Fifth Street, NW
                  Washington, D.C.  20001
                  or
                  FAX  202/334-2006
Transit Cooperative Research Program
Projects in the Fiscal Year 2014 Program
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Summary of Approved Research Projects

- **Project A-41**  
  *Improving the Resiliency of Transit Systems Threatened by Natural Disasters*

  **Research Field:** Operations  
  **Allocation:** $350,000  
  **TCRP Staff:** Stephan Parker

Given the increase in frequency and level of devastation as a result of recent natural disasters, research is needed that looks at innovative strategies for improving resiliency of transit assets and infrastructure that will minimize the impact of and improve the response to future disasters.

Transit agencies must assess whether critical assets and infrastructure including rolling stock, track, tunnels, bridges, signals, communication and power systems, maintenance facilities, operations centers and central offices are afforded adequate protection under extreme weather conditions that test the current and possibly outdated design envelope. This research will examine what strategies have been or should be used for hardening equipment and the built environment especially in vulnerable areas such as flood plains, high-wind zones, areas susceptible to earthquakes and other extreme weather events. What were the costs and benefits? What lessons can be learned for new and existing systems? And what potential metrics to help guide decision making can be created, based upon these strategies?

The objective of this research is to identify the best practices of transit agencies nation-wide in improving resiliency of equipment and infrastructure threatened by national disasters. These findings will be widely disseminated throughout the industry to inform decisions that will minimize the impact and improve response to future disasters.

In the research to be conducted, measures that were undertaken or will be undertaken to protect transit equipment and infrastructure from future weather events will be investigated. These measures will be selected from among those developed by transit agencies that have experienced severe weather events. For each measure, the following analysis will be provided: (1) situational assessment including likelihood of a future hazard or disaster, vulnerability and criticality of assets, and extent of damage from previous hazards; (2) design criteria applied; (3) alternatives evaluated; and (4) rationale for selecting the option, including cost and anticipated reduction in damage or other negative impacts. The New York/New Jersey region is currently recovering from Hurricane Sandy and resiliency strategies are being developed which will be used to help inform this research. Resiliency strategies of transit agencies in the Gulf States that rebuilt after Hurricane Katrina and transit agencies that have recovered from other types of natural disasters such as tornadoes, earthquakes, blizzards, etc. will also be reviewed. Information for this research will be gathered through interviews with officials from transit agencies, metropolitan planning organizations (MPOs), local governments, the Federal Transit Administration (FTA) and Federal Emergency Management Agency (FEMA), and through available literature. At the end of the research, options will be provided, including a set of potential metrics to support decision making for building and maintaining resilient public transportation projects.

Congress recently authorized FTA to administer emergency relief funds for public transit and appropriated $10.4 billion for Hurricane Sandy relief, nearly half of which will be spent on resiliency projects in the affected area. The research is timely in documenting the approaches to resiliency by several of the nation’s largest transit systems for Hurricane Sandy. The lessons learned from Hurricane Sandy and from other major disasters throughout the country will help transit systems that have not yet been affected but are susceptible to flooding, high winds, earthquakes, blizzards and other extreme weather conditions better prepare their assets and infrastructure for the next major event. By deploying resiliency strategies and metrics presented in this research, transit systems nation-wide could save billions of dollars in recovery cost each year.
The objective of this research is to develop a methodology for estimating the impact of different scenarios for reinvesting in transit assets on characteristics of the transit operations that matter to transit systems and their customers. The starting point would be the condition estimates, ideally estimates that are consistent with the outputs of TERM. Customer impact, system reliability, and maintenance cost metrics will be identified and data gaps for calculating these metrics will be defined.

The research should develop a strategy for establishing quantitative relationships between asset condition estimates and operating characteristics that are of concern to transit systems and their customers. Metrics will be selected based on credible relationships with infrastructure conditions and data availability. Research to quantify these relationships will be proposed and a methodology to extend TERM to estimate impacts from deteriorated asset conditions will be proposed.
Over the past 40 years, there has been considerable change in the way commuter rail services are provided in the major metropolitan areas of the United States and Canada. Until the early 1960s, commuter rail services in these two countries were owned, operated, and paid for by the privately owned freight railroads. Starting around that time, public agencies began to subsidize the continued operation of the trains that, without the promise of public funding, would have soon disappeared.

At that time, service existed in only a handful of metropolitan areas. By contrast, the commuter rail industry in North America today has grown to 26 systems, serving 20 metropolitan areas in the U.S. and Canada. More than half of these systems are “new starts,” having commenced operations since January 9, 1989. All of the new starts, as well as several of the legacy systems, contract for all or part of their essential operating and maintenance services. In fact, only five systems “do it all themselves”.

This rapid expansion and evolution of commuter rail has led to a wide variety of strategies and approaches for obtaining and managing the operation and maintenance of these services. A growing number of non-railroad entities are managing and providing these services due in a large part to the growing disinterest on the part of the traditional railroads in being involved in any type of passenger service. The result has been two basic approaches to service delivery: (1) bundled services where one entity provides all the essential components to operate the service and (2) unbundled services where the provision of the service is broken down into separate contracts for each essential component.

The objective of this research is to provide guidance to public agencies and other key stakeholders in the contracting of commuter rail service operations. This research project will address four key questions:

1. How have the various service delivery models evolved over the years?
2. How effective have the new service delivery models been?
3. What are the current best practices for contracting out commuter rail service?
4. What lessons have been learned from the past 40 years of industry experience?

The expected product is a guidebook that describes/defines the various service delivery models for contracting commuter rail operations. This guidebook will also include an evaluation of the impacts, advantages, and disadvantages of each model as well as the effectiveness of the approach. Key system attributes should be included as part of the evaluation such as passenger miles, train miles, revenues, costs and other appropriate criteria that could help the practitioner assess the value of the various service models.

At the present time, of the 26 commuter rail services in operation in North America, all but five procure some or all of their operational and maintenance services from contractors. While it will be the intent of the research team to gather data and develop information from all 21 of the systems using contractors, the focus will be on those systems that have recently (i.e., within the past five years) undergone a significant change in the type of contractor(s) providing services, in the manner in which services are contracted for (e.g., from bundled to unbundled service provision), and/or in the nature of the contract employed and its principal terms and conditions.

As this will not be, for the most part, information that can be gleaned from published sources or from the internet, it is anticipated that the research team will need a number of face-to-face meetings with the decision makers and contracting officers at the target services (systems). From these meetings, it is expected that key background information will be identified and the logic of the thought processes that led to the agency’s current service delivery model will be identified.

The overall approach to the research is expected to consist of the following steps:
1. General research and documentation of the service delivery models at the 26 commuter rail services in North America
2. Identification of the targeted systems
3. Request for background contracting information from targeted systems
4. Interviews at the targeted systems
5. Follow-up request for additional information related to service delivery contracting
6. Follow-up interviews as required
7. Identification of potential key parameters (train miles, passenger miles, revenues, fare box recovery, etc.)
8. Documentation of key parameters at targeted systems
9. Evaluation of service delivery models
10. Identification of best practices
11. Documentation of findings

There are no guidelines and/or generally recognized standards to consider in determining how to provide a city or a metropolitan region with commuter rail service. There is no “how to,” “what to look for,” or “what to avoid” set of instructions for service planners and service architects. There is a clear need for a presentation of the approaches, an evaluation of the models, and guidance on how and when to apply the models to existing and new services. The intent of this research will be to begin to address this shortcoming and start to fill this void in—what has become a dynamic, fast-growing segment of the public transportation industry in North America—commuter rail service.
There is general agreement that demographic and psychographic shifts in the American population are occurring that could have major (positive) impacts for the transit community. To date, however, no single source document has been created for transit managers, advocates, and elected officials that examines how these changes might impact transit markets over the coming decades. The present literature documents the way different generations make decisions about their residential location, auto ownership, scale of vehicle miles of travel (VMT), and, perhaps most importantly, the changing role of the private auto as it reflects these behavioral changes. That literature provides a setting that improves the ability of analysts and practitioners to understand how changes in demographics and, more specifically, changes in attitudes and preferences associated with different age groups and other demographic categories influence transportation behavior. It is therefore proposed that a systematic research effort be undertaken to bring the subject of both demographic change and change in attitudes and preferences by demographic subgroup to the study of transit services and associated patterns of walking and biking. The proposed handbook would help the leaders of the transit industry design specific services for specific market segments.

Throughout the last 60 years, continuous growth in automobile reliance (as measured by vehicle ownership and VMT) was simply taken for granted. A wide variety of data sources now suggest that VMT per person has flattened and recently declined for a variety of reasons. Questions exist in the transportation research community as to whether this change is permanent or merely reflects a profound impact on mobility caused, at least in part, by changing economic conditions. Some believe, for example, that even an empirically documented propensity by younger Americans to decrease their reliance on private automobiles is something which will erode as they enter later phases of the life cycle. Alternatively, others believe that the preference for a lifestyle based on walking, biking and transit is creating an altered transportation behavior that will persist over the changes in life stages.

Researchers are now challenging an older model of residential choice in which the desire for more residential space overwhelms concerns about longer commuting trip distances, resulting in near automatic pro-sprawl transportation behavior. Rather, an altered form of equilibrium may be taking hold in American cities. Recently, a 2013 study reports that 61% of those sampled would not increase auto commute times to facilitate the choice of a bigger house, consistent with a general pattern where Generation Y members express more interest in compact neighborhoods than those of older generations (Urban Land Institute, 2013). The proposed research would place larger demographic trends and concepts in terms relevant to the managers and proponents of public transportation and examine in some detail product and service preferences of the emerging groups. A proposed analytical framework would allow alternative scenarios for the future to be examined in terms of the likely impact on future markets for transit ridership. While predicting the future is impossible, strategically preparing for alternative futures is something the transit industry can and should address proactively.

The objective of this research would be to provide the transit community with information about how transportation markets are (and are not) shifting in terms of their attitudes, preferences and behaviors. Armed with this information, transit managers and administrators can better plan for the needs of an evolving market. The products from the research would be based on a national data collection effort to specifically translate demographic generalizations into actionable strategies for those supportive of the transit-oriented lifestyle. While a major focus of the research would be on the transportation behavior of younger age cohorts, the research would also gather information about changes in attitudes and preferences for older groups, including those facing the decision to give up driving and surrender their driver’s license. Other demographic patterns to be observed include similar variation relative to such issues as family formation (size), and population composition in terms of race and ethnicity.
The final deliverable of this research would be a handbook that (1) would set the recent developments in applied demographics into the context of evolving transit markets; (2) would document how variation in attitudes and preferences for transportation behaviors vary by demographic group, focusing particularly on generational changes associated with the age of the cohort, and its life stage; and (3) would present an analytical framework that relates alternative future demographic scenarios to predicted impact upon transit ridership. This research would build directly upon other research applying these concepts in a manner aimed at managers in the transit industry.

This research will incorporate known demographic trends into the planning and analysis of public transportation in a systematic and disciplined manner.
Many transit operators offer Park-n-Ride (PnR) lots to increase the effective coverage of their bus and/or rail transit systems. Correctly sizing a PnR lot is an important element of service provision. Under-sized lots may lead to spillover parking in nearby neighborhoods, resulting in complaints from those residents or discouraged travelers who choose modes other than transit. Over-sized lots represent resources that could have been better allocated elsewhere. A reliable method to forecast PnR lot use would help avoid these suboptimal outcomes.

In addition, the question of whether to charge for parking at PnR facilities often arises. Questions arise as to (1) the impact of parking charges on revenue generation and parking demand and (2) determination of the appropriate charge, if any.

The objective of this research is to develop a guidebook for planning transit PnR facilities (bus and/or rail). The guidebook will provide tools for estimating demand for PnR facilities; appropriately sizing PnR facilities; assessing whether to charge for usage; and determining the optimum parking charge, if any.