Transit Service Planning Guidelines and Resources

A Follow-up to the Technical Training on Cost Reduction Strategies

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INTRODUCTION

The draft report on the training to Michigan transit systems on cost reduction strategies noted that it appears that many organizations in the State do not have a distinct service planning process in place. As a result, these systems may be operating the same service design as they were years ago, without full consideration of changing demographics in their communities. In addition, they may be operating more expensive dial-a-ride or demand-response services when fixed schedule service or fixed route service would be more appropriate and economical.

During a conference call conducted with the Michigan Department of Transportation (MDOT) and the project Steering Committee to discuss findings from the training workshops, the group requested follow-up resources that could be provided to local transit systems to assist them with service planning efforts. This follow-up document provides a brief review of transit service components, primarily focusing on a series of steps that transit systems in urban, small urban, and rural areas should go through as part of the assessment of their system. It is designed for distribution to local Michigan transit agencies after appropriate MDOT review and input.

While many of the service planning steps discussed in the guide should be components of an ongoing evaluation process, they can be combined for developing a more formal transit plan. As also noted in the draft report, MDOT could support greater analysis of current transit services -- and therefore more cost effective services -- by encouraging completion of regular transit plans or including these plans as part of future application processes. Typically, these plans are conducted every five to six years and include the components described in this document.

This follow-up document concludes with information on various resources that are available to local transit systems for use with their service planning efforts.

TRANSIT SERVICE PLANNING COMPONENTS

The following activities are typical components of the transit service planning process. As noted above, they should be considered on an ongoing basis and at any given time some will have more relevance, however they are presented in the chronological order they would occur as part of an overall Transit Development Plan (TDP).
Review of Recent Studies and Plans

At the outset of the planning process it is important to conduct a review of recent studies and plans to get a better understanding of the previous planning efforts, local trends, and directions that any planning process may be taking. Typically this review would include:

- Any transportation studies for the transit system and/or region under study,
- Current Census data, including updates,
- Any other surveys or relevant demographic data,
- Operating reports and performance data for the system under study,
- Land use or development plans for the area under study,
- Previous and current funding for the local transit system,
- Progress on implementation of any previous transit plan, and
- Future funding opportunities.

Public and Stakeholder Input

A critical part of the service planning process is participation from a wide variety of public and agencies affected by public transit services, through the use of an existing committee or formation of a new Transportation Advisory Committee (TAC). The TAC helps to ensure that the interests of many segments of the community are represented during the planning process. The transit service planning process should also involve individual interviews with key stakeholders to gain input regarding issues and concerns.

A rider survey is typically used to collect information on transit needs, unmet needs, and service quality from current customers. Drivers can hand out and collect surveys, or if possible other staff or temporary workers can ride buses to distribute and discuss the survey with customers. Often this process greatly increases the number of completed forms. General public input is sought by placing an open-ended survey on the transit system’s website (and outreach including press releases regarding the survey and through the use of public workshops or meetings.) These meetings need to be well publicized, and concerned individuals known to the transit system should be specifically invited.

The transit planning process should also involve feedback from drivers and operations staff. While this input is usually provided on an ongoing basis through informal discussions, a specific driver meeting can be scheduled to obtain their thoughts on unmet needs and to gain information on what they are hearing from customers on possible improvements to the system.
Review of Existing Transit Services

The transit service planning process obviously includes a review of existing transit services, with a major focus on the system’s routes and the performance of the various transportation services that it provides. This step involves:

- Collection and calculation of basic route or service level performance data for three years to allow an assessment of the current routes and services and to evaluate the performance over time and compare to any established performance standards,

- Documentation and review of the current transit fleet, including ownership, expected life, and planned replacement year. This will include contractor-owned as well as publicly-owned vehicles. The same holds true for facilities, including shelters and transfer facilities if they exist,

- Review of overall management practices of the transit system, with a focus on policies, procedures, staffing levels, and division of responsibilities relative to the functions of system administration, operation, and maintenance,

- Documentation of current funding sources used by transit system for both operations and capital,

- Review of the current fare structure, including the time period that has elapsed since it was changed, and its level in comparison to comparable systems in the region,

- Where fixed-route services are operated, a review of the system’s bus stop inventory in relationship to pedestrian and bicycle access.

Analysis of Other Area Providers and Purchasers

In addition to analyzing the services and management of the public transit provider, a formal transit planning process also involves an inventory and analysis of the other providers in the area, as well as the purchasers of transportation services. This step includes identification of the private non-profit, private-for-profit, and human service agencies providing service in the transit system service area. To the extent that it is available, the following information can be obtained:

- Service types,
- Routes, schedules, and reservation policies,
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• Current operations policies and procedures,
• Current budgets and funding sources for operations and capital, along with any funding restrictions,
• Data on passenger and trip types, as well as regular origins and destinations,
• Ridership and performance data
• Transportation management and staffing requirements and levels,
• Fleet information,
• Perceived and actual unmet needs,
• Agency interest in additional coordination, and
• Other data as determined by key participants.

Of special interest is the identification of current coordination activities as well as additional opportunities for coordination, particularly with public transit services.

Demographics and Land Use Review

This step in the transit planning process serves as a major data collection effort. It involves identification of major trip generators and analysis of population subgroups that often depend on transit services, including older adults, people with disabilities, people with lower incomes, and autoless households.

The land use review is used to identify the variety of land uses that are now or could become potential transit destinations within the planning period. This typically includes analysis of:

- all major trip attractions with ridership potential,
- major travel corridors,
- seasonal patterns that affect the need for transit,
- zoning and land use regulations that may impact on transit, and
- out-of-transit system service area travel needs, including major destinations.

Typically, this information is presented in the form of maps identifying the locations of key destinations in relation to current transit services, along with lists of the destinations by category, and a text description of the degree to which current services link the high need/high potential residential areas with the potential transit destinations.

In order to determine the locations of the major origins for transit ridership, a population profile will be developed to identify areas of the transit system and/or region that have either high absolute numbers of persons in need of public transportation services, or high percentages of the population with such needs. Based
on the numbers and density of persons likely to need service, the appropriate type of service (paratransit, route deviation or fixed-route at different frequencies) can be determined later in the development of alternatives. Typical data sources are the U.S. Census and the American Community Survey, supplemented by data from the local transit system's planning and zoning department to identify potential transit markets.

Appropriate transit user groups are identified by:

1. Identifying the transit dependent population by Census block group. The transit dependent population includes:
   - persons 65 years of age and older,
   - persons with disabilities,
   - zero car households,
   - youths, and
   - persons living below the poverty level.

2. Identifying population densities that could support different types of transit.

Based on the compilation of the data collected in this step, detailed reviews of the population subgroups that may take advantage of community public transportation are developed. Geographic Information Systems programs and computer graphics are used to depict these on maps. A narrative description is also often prepared, which focuses on the transit potential of each area, including the relative need as compared to the rest of the region. This analysis provides the transit system with an accurate depiction of the locations of current and potential users for public transit services.

**Development of Alternatives**

Building upon previous steps, development of various alternatives to improve public transit services (including likely impacts on ridership, revenues, and costs) can take place. These alternatives are then typically discussed with the TAC to determine favored options. Alternatives may address:

- Revisions or modifications to existing services to ensure achievement of any performance standards,

- Changes to existing service design in response to changes in population, and/or business development,

- The feasibility and development of expanded or possible new service in under- or unserved areas,
• Possible feasibility and development of additional service to major employment, medical, educational, and commercial destinations, should there be needs for service expansion,

• The potential for further coordination/consolidation of service among various providers,

• The transportation needs of the transit system residents based on projected future demographic, development, and economic growth.

Selection of Preferred Alternatives

The final step in the service planning process is selection of the preferred alternatives to be included in a recommended service plan (typically with a five year timeframe). This plan will provide:

• A preferred organizational structure in terms of its organizational relationships, staffing requirements, costs, and other issues. Implementation schedules will be included in the overall schedule of the transit service plan,

• A conceptual route and schedule structure for new services that might be needed, as well as for any planned modifications to existing services,

• Equipment and staff requirements for plan implementation. For the first year of the plan, equipment needs, particularly vehicle needs, will be detailed, including replacement vehicle needs. Any recommendations addressing staffing will also be detailed. For years 2 to 5 of the planning period, the plan will provide equipment and staffing needs for each specific recommended improvement or project. In this way, the transit system can pursue and implement individual service recommendations as funding allows,

• Detailed projected budget for the first year of the plan, including administrative costs, planning, capital costs, and operating expenses. The projected funding will show the funding sources needed to meet the proposed budget expenditures, including the applicant, the source, local match, and total cost. For the remaining four years of the planning period, budgets will be provided for each specific improvement project or service. Development of budget projections typically assess projected administrative expenses, projected costs for capital equipment, projected operational costs, projected costs to address safety and security issues, and revenue projections,

• Ridership and vehicle mile projections for the recommended alternatives,
Recommended timeline for implementation, detailing when over the five-year plan period that the various recommendations should be initiated. The timeline, however, must recognize that funding availability for the transit system may be impacted when various recommendations may be feasible,

A Title VI analysis to reflect the need to evaluate any proposed changes in terms of their potential impact on minority populations.

ADDITIONAL RESOURCES

The following resources are also available for public transit systems to use when assessing and evaluating their services:

- The Transit Cooperative Research Program (TCRP) provides a variety of free resources to help transit systems conduct assessments of their systems and improve services. These resources include workbooks on transit scheduling and on estimating demand for rural passenger transportation. All resources are available through the TCRP Website at www.tcrponline.org.

- The American Public Transportation Association (APTA) offers a resource library that contains a comprehensive collection of reports, studies, and publications for and about public transportation. The resource library is available through the APTA website at www.apta.com.

- The Community Transportation Association of America (CTAA) provides an “Information Station” that includes a variety of resources for assessing public transit services, especially in small urban and rural areas. These resources are available through the CTAA website at www.ctaa.org.

- University Transportation Centers (UTC) and other university based programs offer a variety of resources for assessing public transit services. These programs include the Institute for Transportation Research and Education (ITRE) at North Carolina State University and the Small Urban and Rural Transit Center (SURTC) at North Dakota State University. Links to UTCs are available at www.rita.dot.gov/utc.