



Credit: Ozaukee County

3.1 INTRODUCTION

To allow a thorough evaluation of the existing transit services offered by Ozaukee County and any alternative transit services proposed as part of this study, this chapter establishes the objectives for the transit services and identifies the standards that will be used to measure how successful the existing system and any proposed alternatives are at fulfilling those objectives. The objectives and standards provide the basis upon which the performance of existing transit services will be assessed; alternative service plans designed and evaluated; and service improvements recommended. Therefore, the objectives included in this chapter are intended to represent the level of transit service and performance desired by the residents of Ozaukee County. Only if the objectives and standards clearly reflect the transit-related goals of the community will the recommended plan provide the desired level of service within the limits of available financial resources.

Given the need for objectives to reflect the desired level of transit service for Ozaukee County, the task of formulating objectives, principles, and standards must involve interested and knowledgeable public officials and private citizens representing a broad cross-section of interests in the community, as well as individuals familiar with the technical aspects of providing transit service. Accordingly, one of the important functions of the Ozaukee County Transit Development Plan Advisory Committee was to articulate transit service objectives, principles, and supporting standards for the planning effort. By drawing upon the collective knowledge, experience, views, and values of the members of the Advisory Committee, a relevant set of transit service objectives, supporting principles, and standards was defined and is listed in Figure 3.1.

3.2 OBJECTIVES

The following objectives adopted by the Advisory Committee envision a transit system that will effectively serve Ozaukee County while minimizing costs:

- a. Serve the travel needs of residents traveling within Ozaukee County, County residents commuting to jobs in Milwaukee County, and County employees seeking workers
- b. Provide efficient, safe, reliable, convenient, and comfortable transit services in Ozaukee County

**Figure 3.1
Public Transit Service Objectives and Standards**

OBJECTIVE 1

Serve the travel needs of residents traveling within Ozaukee County, County residents commuting to jobs in Milwaukee County, and County employers seeking workers.

Associated Public Transit Principle

Transit services can increase mobility for all segments of the population in urban and rural areas, particularly for people residing in low- to middle-income households, students, seniors, and people with disabilities. Fixed-route public transit services are generally best suited for operating within and between large and medium-sized urban areas, serving the mobility needs of the population and the labor needs of employers. Demand-response public transit services are more cost-effective than fixed-route transit services where demand for transit is low, such as when serving areas with low-density urban development, small urban areas, and rural areas.

Design and Operating Standards

<p>1. Commuter Bus Service Serve major travel corridors with commuter bus service by connecting major activity centers and concentrations of significant urban development within the County and the Region.</p>	<p>2. Shuttle Bus Service Provides local transportation linking commuter services to major employment centers by providing a timed transfer from commuter services and serving the shift times of large employers. If implemented by the County, costs should be partially borne by the employer or employers served.</p>	<p>3. Shared-Ride Taxi Service Should provide local transportation to the County's residents, particularly those that can be considered transit-dependent, by connecting residential areas with each other, major activity centers, and areas of employment.</p>
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Performance Standards and Associated Performance Measures

<p>1. Major Activity Centers Maximize the number of major activity centers and facilities for transit-dependent people served by transit. This is measured by the number of activity centers within one-quarter mile of a local bus or shuttle route, one-half mile of a commuter bus route, or within the service area of a shared-ride taxi service. Major activity centers include the following:^a</p> <ol style="list-style-type: none"> Commercial areas Educational institutions Medical centers Employers Facilities serving transit-dependent populations 	<p>2. Population Maximize the population served by transit. Residents are considered served if they are within the following distances of a fixed-route transit service, or are within the service area of a shared-ride taxi service.</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th colspan="2" style="text-align: center;">Distance from Bus Stop</th> </tr> <tr> <th style="text-align: left;"><u>Service Type</u></th> <th style="text-align: center;"><u>Walking</u></th> <th style="text-align: center;"><u>Driving</u></th> </tr> </thead> <tbody> <tr> <td>Commuter Bus</td> <td style="text-align: center;">½ Mile</td> <td style="text-align: center;">3 Miles</td> </tr> <tr> <td>Local Shuttle</td> <td style="text-align: center;">¼ Mile</td> <td style="text-align: center;">--</td> </tr> </tbody> </table>		Distance from Bus Stop		<u>Service Type</u>	<u>Walking</u>	<u>Driving</u>	Commuter Bus	½ Mile	3 Miles	Local Shuttle	¼ Mile	--	<p>3. Employment Maximize the number of jobs served by transit. This is measured by the total employment at businesses located within one-quarter mile of local bus or shuttle routes, one-half mile of a commuter bus route, or within the service area of a demand-response service.</p>	<p>4. Density Maximize the transit-supportive land area accessible by public transit. Land area is considered transit-supportive if it has a density of at least 4 dwelling units per net residential acre, or at least 640 jobs per quarter section. This is measured by the proportion of the County's total transit-supportive land area within one-quarter mile of a local bus or shuttle route, one-half mile of a commuter bus route, or within the service area of a shared-ride taxi service.</p>
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^a In order to be considered a major activity center, the following definitions must apply:

- Commercial areas are concentrations of retail and service establishments that typically include a department store or a discount store along with a supermarket on 15 to 60 acres, totaling 150,000 or more square feet of gross leasable floor space
- Educational institutions are the main campus of traditional four-year institutions of higher education and public technical colleges
- Medical centers are all hospitals and clinics with 10 or more physicians
- Employers are all employers with more than 100 employees, or clusters of adjacent employers with collectively more than 100 employees such as business or industrial parks
- Facilities serving transit-dependent populations are senior centers, senior meal sites, residential facilities for seniors and/or people with disabilities, residential facilities for low-income individuals, and government facilities that provide significant services to members of transit-dependent population groups

Figure 3.1 (continued)

OBJECTIVE 2

Provide efficient, safe, reliable, convenient, and comfortable transit services in Ozaukee County.

Associated Public Transit Principle

The benefits to the entire public of a transit service are directly related to the level of utilization—measured by ridership—of that service. Ridership is influenced by the level of access the public has to services that are reliable and provide for quick, convenient, comfortable, and safe travel. Riders view transit services with these attributes as an effective and attractive alternative to the private automobile.

Design and Operating Standards

<p>1. Route Design Extend commuter bus routes as needed or pair them with a local shuttle to perform a collection-distribution function at the ends of the route. Routes should have direct alignments with a limited number of turns, and should be arranged to minimize duplication of service and unnecessary transfers.</p>	<p>2. Bus Stop and Park/Ride Lot Design Clearly mark bus stops and park-ride lots with easily recognizable signs and locate them so as to minimize the walking or driving distance over an accessible path to and from residential areas and major activity centers, and to facilitate connections with other transit services where appropriate. Place stops every two to three blocks apart on local bus routes and place park-ride lots at least one mile apart on commuter bus routes. Within business parks, shuttle route stop spacing may need to differ from standard local route stop spacing based on the spacing between businesses and the presence or lack of sidewalks and crosswalks.</p>	<p>3. Vehicle Age and Condition Rehabilitate or replace vehicles once they reach the end of their normal service life. Federal Transit Administration guidelines (listed below) require a transit vehicle to reach a minimum service life before it is replaced.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2"><u>Vehicle Type</u></th> <th><u>Length</u></th> <th colspan="2"><u>Service Life</u></th> </tr> <tr> <th><u>(feet)</u></th> <th>Years</th> <th>Mileage</th> </tr> </thead> <tbody> <tr> <td>Heavy-Duty Bus</td> <td>35+</td> <td>12</td> <td>500,000</td> </tr> <tr> <td>Heavy Duty Bus</td> <td>25-30</td> <td>10</td> <td>350,000</td> </tr> <tr> <td>Medium-Duty Bus</td> <td>25-30</td> <td>7</td> <td>200,000</td> </tr> <tr> <td>Light-Duty Bus^b</td> <td>20-30</td> <td>5</td> <td>150,000</td> </tr> <tr> <td>Cars and Vans^b</td> <td>--</td> <td>4</td> <td>100,000</td> </tr> </tbody> </table>	<u>Vehicle Type</u>	<u>Length</u>	<u>Service Life</u>		<u>(feet)</u>	Years	Mileage	Heavy-Duty Bus	35+	12	500,000	Heavy Duty Bus	25-30	10	350,000	Medium-Duty Bus	25-30	7	200,000	Light-Duty Bus ^b	20-30	5	150,000	Cars and Vans ^b	--	4	100,000
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<p>4. Service Frequency and Availability Operate all fixed-route transit services at least every 30 minutes during the weekday peak period, and operate local fixed-route services at least every 60 minutes during off-peak service hours. Shared-ride taxi services should have a maximum advance reservation requirement of 24 hours, and seek to have less than 3 percent of same day service requests denied.</p>	<p>5. Service Travel Speeds Operate transit services such that travel speeds are not less than 10 miles per hour for local fixed-route and shared-ride taxi services, and not less than 25 miles per hour for commuter bus services.</p>	<p>6. Passenger Demand Provide adequate service and vehicle capacity to meet existing and anticipated demand. The average passenger load factor, measured as the ratio of passengers to seats, should not exceed 1.00 during any period for shared-ride taxi. Fixed route transit services should not exceed an average passenger load factor of 1.50.</p>																											

Performance Standards and Associated Performance Measures

<p>1. Ridership and Service Effectiveness Maximize ridership on and the effectiveness of transit services. This is measured using passengers per capita, total passengers per vehicle hour, total passengers per vehicle mile, and passenger miles per vehicle mile which will be compared to similar transit systems. Transit services with service effectiveness measures more than 20 percent below the median of the peer comparison group will be reviewed for potential changes to their routes, runs, service areas, and service periods.</p>	<p>2. On-Time Performance Maximize adherence to published schedules for fixed-route transit services and scheduled rider pickup and drop off times for shared-ride taxi services. Regularly monitor performance and make adjustments to any local transit service with less than 90 percent and any commuter bus service with less than 70 percent of trips on time (defined as being between zero minutes early and three minutes late for fixed-route services and 30 minutes early or late for shared-ride taxi services).</p>	<p>3. Travel Time Keep travel times on transit services reasonable in comparison to travel time by automobiles for similar trips. This standard is measured using the ratio of transit to automobile distance and the ratio of transit to automobile travel time.</p>
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^b This vehicle type is currently owned by the Ozaukee County Transit System.

Figure 3.1 (continued)

OBJECTIVE 3

Meet all other objectives at the lowest possible cost. Given limited public funds, this objective seeks to permit elected officials the flexibility to balance the standards associated with Objectives 1 and 2 with the level of public funding required to fully meet those standards.

Associated Public Transit Principle

Given limited public funds, the cost of providing transit at a desired service level should be minimized and revenue gained from the service should be maximized to maintain the financial stability of services.

Design and Operating Standards

<p>1. Costs Minimize the total operating expenditures and capital investment for transit services to reflect efficient utilization of resources.</p>	<p>2. Fare Structure Charge premium fares for premium services, and discounted fares for priority population groups and frequent riders.</p>	<p>3. Fare Increases Consider periodic increases in passenger fares to maintain the financial stability of transit services when:</p> <ul style="list-style-type: none"> a. The farebox recovery ratio falls below the level determined to be acceptable by local officials b. Operating expenses per unit of service have increased by more than 10 percent since fares were last raised c. Projected levels of Federal and State operating assistance would require an increase in local operating assistance above the level deemed acceptable by local officials d. A fare increase would be projected to generate more revenue than would be lost due to potential decreases in ridership <p>It is recommended that fares not be increased faster than the rate of inflation.</p>	<p>4. Total Assistance Minimize the sum of capital investment and operating assistance in the transit system from all sources, while meeting other objectives.</p>	<p>5. Cost Sharing Charge special fares to, or implement cost-sharing agreements with, agencies, employers, or business improvement districts for additional transit services and trips designed to serve a particular agency, employer, or business district.</p>
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Performance Standards and Associated Performance Measures

<p>1. Operating Expenses Minimize the operating expenses per total and revenue vehicle mile, the operating expenses per total and revenue vehicle hour, and the operating assistance per passenger. Annual increases in such costs should not exceed the median percentage increases experienced by comparable transit systems.</p>	<p>2. Farebox Revenue Maximize the operating revenues generated from passenger fares. This is measured using the percent of operating expenses recovered through passenger fare revenue.</p>	<p>3. Cost Effectiveness Review transit services with substandard cost effectiveness for potential changes to their routes, runs, service areas, and service periods. Cost effectiveness is considered substandard when the operating expenses per passenger, or operating expenses per passenger mile are more than 20 percent above, or the farebox recovery ratio is more than 20 percent below, the median for comparable transit systems.</p>
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- c. Meet all other objectives at the lowest possible cost. Given limited public funds, this objective seeks to permit elected officials the flexibility to balance the standards associated with Objectives 1 and 2 with the level of public funding required to fully meet those standards.

3.3 PRINCIPLES AND STANDARDS

Complementing each of the service objectives is a planning principle and a set of standards, as shown in Figure 3.1. The planning principle supports each objective, and the associated standards describe how a transit service can fulfill the objective. The standards provide a guideline for the County to measure against to determine any areas of a transit service that might need improvement. It is not necessarily realistic to expect the County's transit services to meet all of the standards, as standards related to cost effectiveness or levels of public assistance may come into conflict with design standards regarding service area or level of service. The service design and operating standards are intended to provide guidelines for the design of new and improved services, for the operation of the transit system, and for purchasing capital equipment or constructing facilities. The performance standards provide the basis for evaluating the performance of the existing transit system and proposed alternative services. For each performance standard, one or more performance measures are identified that can be used to quantify the performance of the transit service or system for measurement against the standard.

The service performance standards and the associated performance measures also reflect the recommendations of the 1996 State Transit Advisory Council. Among the charges to the Council was the identification of appropriate transit system performance measures and standards. The Council recommended that five measures be used to assess the performance of Wisconsin transit systems, including: operating ratio, or farebox recovery rate; operating expense per passenger; passengers per capita; passengers per revenue vehicle hour of service; operating expenses per revenue vehicle hour of service. All of these performance measures have been incorporated into the performance standards and measures included in Figure 3.1 or will be used to identify peer transit systems for evaluating the Ozaukee County Transit System. The performance standards in Figure 3.1 can also provide guidance to the transit system in establishing the multi-year service and performance goals that are required for systems receiving State transit operating assistance.

The performance evaluation of the existing transit system utilized in the current study included assessments of transit performance on both a system-wide and an individual service basis. The service standards set forth in this chapter represent a comprehensive list from which specific performance standards and measures, as deemed appropriate, were drawn in conducting the system-wide and service performance evaluations. A more complete description of the evaluation process is presented in Chapter 4.

3.4 ADDITIONAL CONSIDERATIONS

The objectives, principles, and standards set forth in Figure 3.1 are intended to guide the evaluation of the performance of the existing transit system and the design and evaluation of alternative service improvements. In the application of these objectives, principles, and standards, the limitations of public resources must be pragmatically considered in the following ways:

- An overall evaluation of the existing public transit services and the alternative service plans must be made based on costs and revenue. This analysis may show the attainment of one or more standards to be beyond the fiscal capability of the community, and, therefore, the standards cannot be practically met and must be either modified or eliminated.
- A transit system is unlikely to fully meet all the standards, and the extent to which each standard is met, exceeded, or violated must serve as the final measure of the ability of the system to achieve the objective each standard supports.
- Certain intangible factors, including the perceived value of the transit service to the community and its potential acceptance by the concerned elected officials, may influence the preparation and selection of a recommended plan. Given that transit service may be perceived as a valuable service within the community, the community may decide to initiate or retain such services regardless of performance or cost.

