PUBLIC TRANSIT SERVICE OBJECTIVES AND STANDARDS 3

Credit: Waukesha County Transit

3.1 INTRODUCTION

To allow a thorough evaluation of the existing transit services offered by Waukesha Metro Transit and Waukesha County Transit and any alternative transit services proposed as part of this study, this chapter establishes the objectives for the transit services and identifies the principles and standards that will be used to measure how successful the existing systems and any proposed alternatives are at fulfilling those objectives. The objectives included in this chapter are intended to represent the level of transit service and performance desired by the residents of the City of Waukesha, Waukesha County, and riders from other counties that utilize the transit services provided by both systems. The planning principles support each objective, and the associated standards describe how a transit service can fulfill the objective. Specifically, the 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, only if the objectives, principles, 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, principles, and standards to reflect the desired level of transit service for the City of Waukesha and Waukesha County, the task of formulating these metrics 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 Waukesha Area Transit Development Plan Advisory Committee was to articulate transit service objectives, principles, and 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.

Figure 3.1
Public Transit Service Objectives, Principles, Standards, and Performance Measures

Objective 1

Public transit should efficiently serve the travel needs of residents and employers within the City of Waukesha and Waukesha County, connecting to major activity centers, population centers, and areas of employment, which are fully developed or planned to be developed to medium or high densities.

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.

Design and Operating Standards

1. Local Bus Service

Provide local fixed-route transit service to connect areas of urban development to the largest major activity centers within the City, County, and Region.

2. Commuter Bus Service

Serve major travel corridors with commuter bus service by connecting major activity centers and concentrations of significant urban development within the City, County, and Region.

3. Flexible Service

Provides local transportation linking major transfer centers and commuter services to major employment centers by providing a timed transfer from other services and serving the shift times of large employers. If implemented by the City or County, costs should be partially borne by the employer or employers served.

4. Paratransit Service

Paratransit service should be available within the transit service area to meet the needs of people with disabilities who are unable to use fixed-route bus service.

Performance Standards and Associated Performance Measures

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, within one-half mile of a commuter bus route, or within the service boundaries of a flexible service. Major activity centers include the following:[a]

a. Commercial areas
b. Educational institutions
c. Medical centers
d. Employers
e. Facilities serving transit-dependent populations
f. Libraries, government centers, and cultural facilities

2. Population

Maximize the population served by transit, particularly the transit dependent population. Residents are considered served if they are within the service boundaries of a flexible service, or within the following distances of a fixed-route transit service:

	Distance from Bus Stop	
Service Type	Walking	Driving
Commuter Bus	½ Mile	3 Miles
Local Bus or Shuttle	¼ Mile	--

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, within one-half mile of a commuter bus route, or within the service boundaries of a flexible service.

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 total transit-supportive land area within one-quarter mile of a local bus or shuttle route, within one-half mile of a commuter bus route, or within the service boundaries of a flexible service.

[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, public technical colleges, and public and private middle schools and high schools*
- *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 in 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*
- *Libraries include all local public libraries in Waukesha County*
- *Government and public institutional centers include all major government offices, city halls, civic centers, and Department of Motor Vehicles offices*
- *Cultural facilities include those that hold significant public arts events and have prominence within the State*

Figure 3.1 (Continued)

OBJECTIVE 2

Provide efficient, safe,[b] reliable, convenient, and comfortable transit services in the City of Waukesha and Waukesha 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 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

1. Route Design

Extend bus routes as needed or pair them with a local shuttle to perform a collection-distribution function at the ends of the route. Public transit routes should have direct alignments with a limited number of turns, and should be arranged to minimize duplication of services and unnecessary transfers.

2. Bus Stop and Park-Ride Lot Design

Clearly mark bus stops and park-ride lots with easily recognizable signs or shelters 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. For local bus routes, place stops approximately every three blocks and provide accessible paths and crosswalks to bus stops.[c] For express transit routes, place stops at intersecting transit routes, signalized intersections, and major activity centers. Place park-ride lots at least one mile apart on commuter bus routes. Within business parks, shuttle 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.

3. Route Design

The maximum load factor for each route, measured as the ratio of passengers to seats at that point where passenger loads are highest, should not exceed the following:

Service Type	Peak Periods	All Other Times
Local	1.25	1.00
Commuter	1.00	1.00

4. Service Frequency and Availability

Operate all fixed-route transit services with maximum headways as indicated below.

	Maximum Headway (minutes)	
Service Type	Weekday Peak Periods	Off-Peak Periods/ Weekends/Holidays
Rapid	15	15
Commuter	30	120
Express	15	30
Local/Shuttle	30	60

5. Service Travel Speeds

Operate transit services such that average travel speeds are not less than 10 miles per hour for local fixed-route services, and not less than 25 miles per hour for commuter bus services.

6. Vehicle Age and Condition

Consideration should be given to rehabilitating or replacing each public transit vehicle at the end of its normal service life as defined below for different types of transit vehicles:

		Service Life[d]	
Vehicle Type	Length (feet)	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
Cars, Vans, and Cutaways	--	4	100,000

Performance Standards and Associated Performance Measures

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, with less than 10 passengers per revenue vehicle hour, or less than one passenger per revenue vehicle mile should be reviewed for potential changes to their routes, runs, service areas, and service periods.

2. On-Time Performance

Maximize adherence to published schedules for fixed-route transit services. Regularly monitor performance and make adjustments to any fixed-route service with less than 90 percent of trips on time (defined as being between zero minutes early and three minutes late for fixed-route services).

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.

[b] *The Federal Transit Administration published the Public Transportation Agency Safety Rule (49 CFR part 673) on July 19, 2018, requiring transit operators to develop safety plans, including safety performance measures by July 20, 2020. Waukesha Metro and Waukesha County Transit have good safety records and are working toward compliance with the Safety Rule. Since the process is underway, specific safety measures are not yet identified as part of this plan.*

[c] *This standard encourages that accessible sidewalks and crosswalks be provided to bus stops and that all pedestrian facilities be designed and constructed in accordance with the Federal American with Disabilities Act (ADA) and its implementing regulations.*

[d] *The service life standards represent the minimum useful life benchmarks defined in FTA Circular 5010.1E, March 21, 2017, revised July 16, 2018. Transit operators are required to measure their transit assets' vehicle age and condition pursuant regulations set forth in 49 CFR part 625 Transit Asset Management, based on a set of maximum useful life benchmarks. However, Figure 3.1 includes the minimum service life measures as they represent the minimum number of years or mileage that recipients of Federal assistance must meet in order to qualify for new vehicles.*

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

1. Costs

Minimize the total operating expenditures and capital investment for transit services to reflect efficient utilization of resources.

2. Fare Structure

Charge premium fares for premium services, and discounted fares for priority population groups and frequent riders.

3. Fare Increases

Consider periodic increases in passenger fares to maintain the financial stability of transit services when:

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

It is recommended that fares not be increased faster than the rate of inflation.

4. Total Assistance

Minimize the sum of capital investment and operating assistance in the transit system from all sources, while meeting other objectives.

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 improvement district.

Performance Standards and Associated Performance Measures

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.

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.

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.

Source: SEWRPC

3.2 OBJECTIVES

The following objectives envision a transit system that will effectively serve the City of Waukesha and Waukesha County while minimizing costs:

1. Public transit should efficiently serve the travel needs of residents and employers within the City of Waukesha and Waukesha County, connecting to major activity centers, population centers, and areas of employment, which are fully developed or planned to be developed to medium or high densities.

2. Provide efficient, safe, reliable, convenient, and comfortable transit services in the City of Waukesha and Waukesha County.

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.

3.3 PRINCIPLES AND STANDARDS

Complementing each of the service objectives is a planning principle and 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 City and County to measure against to determine any areas of a transit service that might need improvement. It is not necessarily realistic to expect Waukesha Metro's or Waukesha County's transit services to meet all of the standards, as standards related to cost effectiveness or levels of public assistance may come in 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 associated performance measures also reflect cost efficiency standards set forth in Wis. Statute 85.20 and Administrative Rule TRANS 4. Specifically, TRANS 4 establishes six performance indicators to assess the performance of Wisconsin's 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; and revenue hours per capita. All of these indicators have been incorporated into the standards and performance measures included in Figure 3.1 or will be used to identify peer transit systems for evaluating the Waukesha Metro Transit and the Waukesha County Transit Systems. The performance standards in Figure 3.1 can also provide guidance that complements the Management Performance Reviews that are required for systems receiving State transit operating assistance. The most recent review for Waukesha Metro Transit and Waukesha County Transit was finalized in May 2019.

The performance evaluation of the existing transit system utilized in the current study includes individual assessments of transit performance for Waukesha Metro and Waukesha County Transit Systems. 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 service performance evaluations for each transit system. 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.