



Credit: Ozaukee County

## 6.1 INTRODUCTION AND SUMMARY

This chapter describes the recommended transit service plan for the Ozaukee County Transit System, as determined by the Advisory Committee guiding the plan following public input in February and March 2018. The recommended plan contains elements that should be implemented between 2019 and 2023 depending on the amount of funding the County has available for transit services. In 2016, the Commission adopted VISION 2050, a regional land use and transportation system plan with a design year of 2050.<sup>9</sup> This recommended plan encourages the further development of transit service in Ozaukee County within the framework of VISION 2050, which proposes a substantial improvement and expansion of transit service in Southeastern Wisconsin over the next 30 years. This chapter also lists transit service alternatives that could be explored further to determine if they warrant implementation, and alternatives that should not be considered for implementation. Future expenses, revenues, and ridership for the transit system under each funding scenario or element of the funding scenario are included in this chapter.

## 6.2 RECOMMENDED TRANSIT SERVICES IF FUNDING IS MAINTAINED

The following section describes the recommended actions to be taken if Ozaukee County chooses to maintain funding for the transit system at a relatively constant level between 2019 and 2023, and there are no significant changes to State and Federal funding. The following changes to the transit system are recommended:

- A fare increase, at the rate of inflation, of \$0.25 in 2019 and 2023 for the Ozaukee County Express
- A fare increase, at the rate of inflation, of \$0.25 in 2020 for the Ozaukee County Shared-Ride Taxi
- Implement on-demand service for a premium fare on the Ozaukee County Shared-Ride Taxi by providing service within two hours of a request and with a 15-minute departure time

<sup>9</sup> See *SEWRPC Planning Report No. 55, VISION 2050: A Regional Land Use and Transportation Plan for Southeastern Wisconsin, July 2016*.

Other than these changes, this plan recommends that existing Shared-Ride Taxi and County Express services continue to operate the same as they do currently under this funding scenario.

### **Continue Operating the Ozaukee County Express, and Increase Fares at the Rate of Inflation**

This funding scenario assumes no significant changes in County, State, or Federal funding and recommends the County continue its current operation of the Ozaukee County Express. The forecasted service levels, ridership, operating expenses, and operating revenues for the Ozaukee County Express are shown in Table 6.1. Fare increases of \$0.25 are expected to be necessary at the beginning of 2019 and again at the beginning of 2023 if the County wishes fares to keep pace with inflation. If the fare increases are implemented, the County may expect its level of funding in year-of-expenditure dollars to be about the same in 2023 as in 2019, although oscillations in ridership in recent years make this difficult to predict. Assuming the County continues to contract with MCTS for the Express Service and therefore is integrated in the MCTS fare structure, the County would only receive additional funds from cash fares and those fares paid with stored value on the M-Card if the fare increases are implemented. The County could include the recommended fare increases during future contract negotiations for commuter transit services.

### **Continue Operating the Shared-Ride Taxi and Increase Fares at the Rate of Inflation**

If there are no significant changes in County, State, or Federal funding, this plan recommends that Ozaukee County continue to operate the Shared-Ride Taxi in much the same fashion it does now and increase fares by \$0.25 in 2020 to keep pace with inflation. Table 6.2 summarizes the forecasted service levels, ridership, operating expenses, and operating revenues. The current service's ridership and revenue hours of service are expected to continue to increase due to employment growth and increases in the senior population. As this funding scenario assumes no significant changes in funding, it recommends the County continue its current practice of replacing approximately five vehicles a year as they reach their useful life of 300,000 miles.

If the County implements a smartphone app for the Shared-Ride Taxi, riders would be able to make a reservation, pay, and track their ride. If implemented, riders would be able to better anticipate their ride's arrival, potentially reducing the amount of time needed for passenger boarding. Additional time savings may be realized through on-line payments, reducing the time needed for the driver to collect payment.

### **Provide On-Demand Service for a Premium Fare**

During outreach meetings with Ozaukee County businesses and the public regarding the alternatives for this plan, two primary concerns emerged regarding the County's existing Shared-Ride Taxi service. First, there was a desire to have a guarantee of same-day service available for all trip purposes. Second, there was a desire to reduce transfer times between MCTS services and the Shared-Ride Taxi and guarantee on-time arrivals for employment trips.

Providing improved service to address these concerns will require more revenue vehicle hours of service and may reduce the efficiency of the Shared-Ride Taxi. For example, providing guaranteed same-day service may reduce efficiency by decreasing opportunities to schedule shared rides. It will also require more drivers and vehicles to be available during peak hours to guarantee service availability. Guaranteeing on-time arrivals and reduced transfer times requires consideration of the Shared-Ride Taxi's scheduling process, which currently budgets up to 60 minutes to ensure passengers arrive at their destination on time. For example, if a passenger schedules a ride for which they need to arrive at their destination by 10:00 a.m. and the trip takes 15 minutes, the Shared-Ride Taxi could be scheduled to arrive within a 60-minute window between 8:45 a.m. and 9:45 a.m. This characteristic of the Shared-Ride Taxi service is somewhat limiting for a passenger beginning their trip at their home or business. However, if any individual is transferring to the Shared-Ride Taxi from an MCTS bus service, ensuring that the individual transfers successfully may require the individual to arrive at the transfer point up to one hour early. Therefore, reducing transfer times for employment trips by eliminating the 60-minute window would provide a more desirable service, but would reduce efficiency because it would require that rides not be shared unless origins and destinations for multiple passengers are nearly identical. This improvement also would likely require more capacity during peak times to meet demand.

This recommendation proposes charging a premium fare for enhanced Shared-Ride Taxi services to address both concerns raised by the public and businesses. The guaranteed same-day service is proposed

to be provided within two hours of the trip request being received and to be offered with a shorter 15-minute departure window to reduce potential wait time. To ensure an on-time arrival for work-related trips, this recommendation also encourages the County to publicize the option for employers and employees to schedule standing reservations through the Shared-Ride Taxi, which is further discussed in the recommendation to implement reduced transfer fares at the three MCTS bus stop connection points as a transit service to consider if funding is increased.

It is anticipated that the on-demand services for a premium fare will result in the need for additional vehicles to meet the demand for the Ozaukee County Shared-Ride Taxi, particularly during the eight hours of highest ridership, which include weekday mornings from 5:00 a.m. to 10:00 a.m., weekday afternoons from 2:00 p.m. to 5:00 p.m., and weekends from 10:00 a.m. to 2:00 p.m. As discussed above, the on-demand rides will likely not be shared unless origins and destinations for multiple passengers are nearly identical, requiring additional capacity. Therefore, the revenue services hours assumed in the cost calculations provided in Table 6.3, include two vehicles during times of peak capacity on weekdays, resulting in a total of 16 additional revenue service hours, and one vehicle during times of peak capacity on Saturday and Sundays, resulting in eight additional revenue service hours. The capital cost to purchase two additional vehicles, at a cost of approximately \$50,000 each, is not included in this total.

In order to meet all service objectives at the lowest possible cost to the County, this recommendation assumes that a premium fare of \$10.00 per ride be charged for the on-demand services with the expectation that the premium fare be paid by employers for employment trips. This service is anticipated to generate approximately 5,900 revenue passengers in 2023. The on-demand service is anticipated to cost approximately \$144,300 to operate in 2023. Given the premium fare of \$10.00 recommended for the on-demand services, the local share would be approximately \$5,900 in 2023.

If Ozaukee County chooses to reduce funding for transit service, or is unable to increase funding in response to a decrease in State or Federal funding, it is recommended that the County prioritize raising fares to fill the budget gap before considering reducing service. The Ozaukee County Express operates efficiently as a result of recent route optimization improvements, which eliminated underperforming runs. Therefore, there are not additional runs that are obvious candidates for elimination at this time.

### 6.3 RECOMMENDED TRANSIT SERVICES IF FUNDING IS REDUCED

If Ozaukee County chooses to reduce funding for transit service, or is unable to increase funding in response to a decrease in State or Federal funding, it is recommended that the County prioritize raising fares to fill the budget gap before considering reducing service. The Ozaukee County Express operates efficiently as a result of recent route optimization improvements, which eliminated underperforming runs. Therefore, there are not additional runs that are obvious candidates for elimination at this time.

#### Increase Fares at a Rate Greater than Inflation on the Ozaukee County Express

Although raising fares was not a preferred option expressed during the public outreach process, there are few other options available to the County if funding is reduced, given that Ozaukee County recently dropped or modified unproductive segments on the Express Route. Therefore, this recommendation would increase fares by \$0.25 in 2019, 2021, and 2023 for the Ozaukee County Express, which would represent

**Table 6.1**  
**Projected Annual Operating Expenses, Revenues,**  
**and Ridership for the Ozaukee County Express if**  
**Available Funding is Maintained: 2019-2023**

Characteristics	Projected		
	2019	2023	Average
Services Provided			
Revenue Vehicle Miles	182,900	182,900	182,900
Revenue Vehicle Hours	7,200	7,200	7,200
Revenue Passengers			
Total	110,000	110,000	110,000
Passengers per Revenue Vehicle Mile	0.60	0.60	0.60
Passengers per Revenue Vehicle Hour	15.28	15.28	15.28
Expenses and Revenues			
Operating Expenses <sup>a</sup>	\$1,534,400	\$1,573,700	\$1,554,100
Farebox Revenues <sup>a</sup>	\$248,800	\$255,500	\$252,200
Percent of Expenses			
Recovered Through Revenues	16.2	16.2	16.2
Operating Assistance			
Federal <sup>a</sup>	\$474,000	\$486,000	\$480,000
State <sup>a</sup>	\$400,000	\$410,100	\$405,100
County <sup>a</sup>	\$411,600	\$422,100	\$416,900
Total <sup>a</sup>	\$1,285,600	\$1,318,200	\$1,301,900
Per Trip Data			
Operating Expenses <sup>a</sup>	\$13.95	\$14.31	\$14.13
Farebox Revenue <sup>a</sup>	\$2.26	\$2.44	\$2.36
Total Operating Assistance <sup>a</sup>	\$11.69	\$11.98	\$11.84

<sup>a</sup> Expenses and revenues are expressed in estimated year-of-expenditure dollars.

Source: SEWRPC

an increase at a rate greater than inflation. Increasing fares on the Ozaukee County Express would be expected to reduce the required amount of County assistance by approximately \$47,400 between 2019 and 2023, as shown in Table 6.4. Raising fares would likely reduce ridership, so each successive fare increase would generate less additional revenue for the County. Due to the contractual relationship with MCTS for the Ozaukee County Express service, if the fare increases are implemented only by Ozaukee County, the County would only receive additional funds from increases of cash fares and fares paid with stored value on the M-Card, which account for 38 percent of the total fares collected on the Ozaukee County Express. The County could include the recommended fare increases during future contract negotiations for commuter transit services to ensure that they apply more uniformly to all passengers.

**Table 6.2  
Projected Annual Operating Expenses, Revenues, and Ridership for Fare Increases on the Ozaukee County Shared-Ride Taxi if Funding is Maintained: 2019-2023**

Characteristics	Projected		
	2019	2023	Average
Services Provided			
Revenue Vehicle Miles	1,271,300	1,342,600	1,307,000
Revenue Vehicle Hours	60,400	63,700	62,100
Revenue Passengers			
Total	119,500	126,200	122,900
Passengers per Revenue Vehicle Mile	0.09	0.09	0.09
Passengers per Revenue Vehicle Hour	1.98	1.98	1.98
Expenses and Revenues			
Operating Expenses <sup>a</sup>	\$1,920,900	\$2,149,300	\$2,035,100
Farebox Revenues <sup>a</sup>	\$587,900	\$652,500	\$620,200
Percent of Expenses			
Recovered Through Revenues	30.6	30.4	30.5
Operating Assistance			
Federal <sup>a</sup>	\$111,500	\$124,700	\$118,100
State <sup>a</sup>	\$908,900	\$1,017,000	\$963,000
County <sup>a</sup>	\$312,600	\$355,100	\$333,800
Total <sup>a</sup>	\$1,333,000	\$1,496,800	\$1,414,900
Per Trip Data			
Operating Expenses <sup>a</sup>	\$16.07	\$17.03	\$16.55
Farebox Revenue <sup>a</sup>	\$4.92	\$5.17	\$5.05
Total Operating Assistance <sup>a</sup>	\$10.66	\$11.78	\$11.22

<sup>a</sup> Expenses and revenues are expressed in estimated year-of-expenditure dollars.

Source: SEWRPC

### Increase Fares at a Rate Greater than Inflation on the Ozaukee County Shared-Ride Taxi

Similar to the input received regarding increasing fares on the Ozaukee County Express, a number of commenters indicated that they are not in favor of raising regular fares on the Ozaukee County Shared-Ride Taxi. Therefore, an option available to Ozaukee County should they need to reduce their level of support for the Shared-Ride Taxi includes increasing the per trip fare charged to managed care providers, also referred to as the agency fare, while keeping regular fare increases on pace with inflation. In addition to the fare increase of \$0.25 recommended in 2020 to keep pace with inflation, this option would include an additional increase in the per trip agency fare from \$12.00 to \$16.00 in 2019, to reduce the County's level of support. As shown in Table 6.5, increasing the agency fare to \$16.00 in 2019 and a \$0.25 fare increase in 2020 would be expected to reduce the required amount of County assistance by approximately \$31,500 between 2019 and 2023.

## 6.4 RECOMMENDED TRANSIT SERVICES IF FUNDING IS INCREASED

If Ozaukee County chooses to increase funding for the transit system between 2019 and 2023, the following changes to the transit system are recommended:

- Extending Shared-Ride Taxi service hours from 10:00 p.m. to 11:30 p.m. on weekdays
- Expanding marketing of transit options
- Increasing service frequency and service hours on the Ozaukee County Express
- Improving bus stops within Ozaukee County along Port Washington Road
- Implementing reduced transfer fares of \$1.00 at the three MCTS bus stop connection points.

Although the five recommended changes under this funding scenario would require that additional funding be made available for County transit services, the additional funding needed would be relatively modest and within the scale of funding increases provided for transit services in Ozaukee County in the past.

### Extend Shared-Ride Taxi Service Hours

Many of the public and business comments supported extending service hours on the Shared-Ride Taxi to provide both employment-related rides and transportation to social activities in the evening. Given the relatively high cost of providing extended hours for both weekdays and weekends, this recommendation prioritizes extending service hours to 11:30 p.m. on weekdays on a trial basis. By extending service by one and one half hours on weekdays, the county can track any changes in ridership and would be able to tailor outreach regarding the service expansion to Ozaukee County businesses. Table 6.6 provides the estimated operating expenses, revenues, and ridership for this service. This recommendation is anticipated to serve 500 additional revenue passengers at a cost to the County of approximately \$3,000 in 2023. If additional outreach is done to promote the extended service hours, particularly to local businesses, ridership levels may increase.

### Expand Marketing of Transit Options

Strong support was expressed for expanding transit marketing during the business meetings and the public comment period. This recommendation would aim to increase awareness about transit options in Ozaukee County by expanding the target audience and venues and continuing to find innovative ways to share information about the transit services offered.

**Table 6.3**  
**Projected Annual Operating Expenses, Revenues, and Ridership for the Ozaukee Shared-Ride Taxi for On-Demand Service for a Premium Fare: 2019-2023**

Characteristics	Projected		
	2019	2023	Average
Services Provided			
Revenue Vehicle Miles	37,800	38,500	38,200
Revenue Vehicle Hours	4,600	4,700	4,700
Revenue Passengers			
Total	5,800	5,900	5,900
Passengers per Revenue Vehicle Mile	0.15	0.15	0.15
Passengers per Revenue Vehicle Hour	1.25	1.25	1.25
Expenses and Revenues			
Operating Expenses <sup>a</sup>	\$130,500	\$144,300	\$137,400
Farebox Revenues <sup>a</sup>	\$58,000	\$59,000	\$58,500
Percent of Expenses			
Recovered Through Revenues	44.44	40.89	42.67
Operating Assistance			
Federal <sup>a</sup>	\$30,300	\$33,500	\$31,900
State <sup>a</sup>	\$41,500	\$45,900	\$43,700
County <sup>a</sup>	\$700	\$5,900	\$3,300
Total <sup>a</sup>	\$72,500	\$85,300	\$78,900
Per Trip Data			
Operating Expenses <sup>a</sup>	\$22.50	\$24.46	\$23.48
Farebox Revenue <sup>a</sup>	\$10.00	\$10.00	\$10.00
Total Operating Assistance <sup>a</sup>	\$12.50	\$14.46	\$13.48

<sup>a</sup> Expenses and revenues are expressed in estimated year-of-expenditure dollars.

Source: SEWRPC

**Table 6.4**  
**Projected Annual Operating Expenses, Revenues, and Ridership for the Ozaukee Express if Fares are Increased at a Rate Greater than Inflation: 2019-2023**

Characteristics	Projected		
	2019	2023	Average
Services Provided			
Revenue Vehicle Miles	182,900	182,900	182,900
Revenue Vehicle Hours	7,200	7,200	7,200
Revenue Passengers			
Total	108,500	105,600	107,050
Passengers per Revenue Vehicle Mile	0.59	0.58	0.59
Passengers per Revenue Vehicle Hour	15.07	14.67	14.87
Expenses and Revenues			
Operating Expenses <sup>a</sup>	\$1,534,400	\$1,573,700	\$1,554,100
Farebox Revenues <sup>a</sup>	\$198,700	\$263,300	\$231,000
Percent of Expenses			
Recovered Through Revenues	12.95	16.73	14.84
Operating Assistance			
Federal <sup>a</sup>	\$474,000	\$486,000	\$480,000
State <sup>a</sup>	\$400,000	\$410,100	\$405,100
County <sup>a</sup>	\$461,700	\$414,300	\$438,000
Total <sup>a</sup>	\$1,335,700	\$1,310,400	\$1,323,100
Per Trip Data			
Operating Expenses <sup>a</sup>	\$14.14	\$14.90	\$14.52
Farebox Revenue <sup>a</sup>	\$2.57	\$2.89	\$2.73
Total Operating Assistance <sup>a</sup>	\$12.31	\$12.41	\$12.36

<sup>a</sup> Expenses and revenues are expressed in estimated year-of-expenditure dollars.

Source: SEWRPC

This plan recommends hiring a mobility manager that could work with businesses to promote the transit services, analyze and evaluate transportation services across county lines, and share information on transit services. The cost of a mobility manager varies by County, organization, and experience, but could range from \$25,000 to \$60,000. Federal grants could help pay for up to 80 percent of this cost.

### Increase Service Frequency and Hours on the Ozaukee County Express

This recommendation would increase service frequency and hours on the Ozaukee County Express in the event more funding becomes available. This recommendation includes adding a morning southbound run from Grafton Commons at approximately 6:30 a.m. and an afternoon run from downtown Milwaukee at approximately 4:30 p.m. Table 6.7 displays the expected operating expenses, revenues, and ridership for this recommendation.

Adding the two runs is expected to cost approximately \$102,600 in 2023, with Ozaukee County's portion of the operating cost estimated at \$29,700. The additional frequency would provide existing riders with greater flexibility and thereby would improve the quality of service, in addition to attracting an estimated 6,600 additional riders in 2023.

### Improve Bus Stops Along Port Washington Road

The bus stop improvements recommended in this plan would help increase accessibility for all individuals using the Ozaukee County Express, including people with disabilities, by providing bus pads and connecting sidewalks at bus stops along Port Washington Road, as shown in Map 6.1. The estimated cost of these improvements is approximately \$176,800 (as shown in Table 6.8). The costs were based on similar improvements completed by MCTS, but do not include any potential costs associated with relocating utilities, traffic signals, or other impediments. This plan recommends that preliminary engineering be undertaken to develop more refined cost estimates. Federal Transit Administration grants, including FTA Section 5307 and 5310 funds, could help pay for up to 80 percent of the costs.

### Implement Reduced Transfer Fares at the Three MCTS Bus Stop Connection Points

During the public comment period, it was requested that the County extend the existing \$1.00 transfer fare for trips connecting between the Express and Shared-Ride Taxi to Shared-Ride Taxi trips connecting to MCTS services at the three transfer points of Cherrywood Lane, Glencoe Place, and the Brown Deer Park & Ride Lot. In 2017, the three transfer points generated 2,516 Shared-Ride Taxi rides as either destination or origin trips, including 1,897 transfers at the Cherrywood Lane, 374 transfers at Glencoe Place, and 245 transfers at the Brown Deer Park & Ride Lot.

If this recommendation is selected for implementation, the County should identify potential opportunities to reduce the wait times at the three MCTS transfer points. As previously discussed within the recommendation to provide on-demand service for a premium fare, it is recommended that the County encourage employees or employers to schedule standing Shared-Ride Taxi reservations for regularly occurring

**Table 6.5**  
**Projected Annual Operating Expenses, Revenues, and Ridership for the Ozaukee Shared-Ride Taxi if the Agency Fare is Increased from \$12.00 to \$16.00 per Trip and Fares are Increased at the Rate of Inflation: 2019-2023**

Characteristics	Projected		
	2019	2023	Average
Services Provided			
Revenue Vehicle Miles	1,244,700	1,283,300	1,263,900
Revenue Vehicle Hours	59,100	60,900	60,000
Revenue Passengers			
Total	117,200	120,600	118,800
Passengers per Revenue Vehicle Mile	0.09	0.09	0.09
Passengers per Revenue Vehicle Hour	1.98	1.98	1.98
Expenses and Revenues			
Operating Expenses <sup>a</sup>	\$1,879,600	\$2,054,800	\$1,967,200
Farebox Revenues <sup>a</sup>	\$663,300	\$713,900	\$688,600
Percent of Expenses			
Recovered Through Revenues	35.3	34.7	35.0
Operating Assistance			
Federal <sup>a</sup>	\$109,000	\$119,300	\$114,200
State <sup>a</sup>	\$889,400	\$972,300	\$930,900
County <sup>a</sup>	\$217,800	\$249,300	\$233,500
Total <sup>a</sup>	\$1,216,300	\$1,340,900	\$1,278,600
Per Trip Data			
Operating Expenses <sup>a</sup>	\$16.06	\$17.04	\$16.55
Farebox Revenue <sup>a</sup>	\$5.67	\$5.92	\$5.79
Total Operating Assistance <sup>a</sup>	\$10.40	\$11.12	\$10.76

<sup>a</sup> Expenses and revenues are expressed in estimated year-of-expenditure dollars.

Source: SEWRPC

employment trips to guarantee a seamless transfer and an on-time arrival to work. The County will be required to track the number of employment-related subscription trips to ensure that no more than 50 percent of the available capacity of the total system is absorbed by employment-based trips. If this alternative is pursued by the County, Commission staff can offer input on the design and tracking of the program to meet Federal requirements.

As shown in Table 6.9, Commission staff estimates that as more riders learn about the \$1.00 transfer fares from the three MCTS connection points, the number of revenue passengers transferring will increase by 700 riders, as compared to transfers resulting from the existing fare structure in 2023. The number of revenue passengers may increase if standing reservations are promoted among businesses, particularly through a marketing campaign. Based on the current fare structure, the County is currently receiving approximately \$12,200 in farebox revenues from the Shared-Ride Taxi trips generated from the three MCTS bus stop connection points. If the \$1.00 transfer fare is extended, Commission staff estimates that farebox revenue would be reduced to \$3,300 for these trips, a loss of approximately \$8,900. In addition, the operating expenses would increase along with ridership, from \$33,800 under the current fare structure to \$43,000 with the \$1.00 transfer fare. Therefore, the loss of farebox revenue (\$8,900) and the increase in operating expenses (\$9,200) results in a cost to the County of approximately \$18,100 in 2023.

**Table 6.6  
Projected Annual Operating Expenses, Revenues, and Ridership for the Ozaukee Shared-Ride Taxi to Extend Hours to 11:30 p.m. on Weekdays: 2019-2023**

Characteristics	Projected		
	2019	2023	Average
Services Provided			
Revenue Vehicle Miles	18,400	18,700	18,600
Revenue Vehicle Hours	400	400	400
Revenue Passengers			
Total	500	500	500
Passengers per Revenue Vehicle Mile	0.03	0.03	0.03
Passengers per Revenue Vehicle Hour	1.25	1.25	1.25
Expenses and Revenues			
Operating Expenses <sup>a</sup>	\$11,300	\$12,300	\$11,800
Farebox Revenues <sup>a</sup>	\$2,400	\$2,500	\$2,500
Percent of Expenses			
Recovered Through Revenues	21.24	20.33	20.78
Operating Assistance			
Federal <sup>a</sup>	\$2,600	\$2,900	\$2,800
State <sup>a</sup>	\$3,600	\$3,900	\$3,800
County <sup>a</sup>	\$2,700	\$3,000	\$2,900
Total <sup>a</sup>	\$8,900	\$9,800	\$9,400
Per Trip Data			
Operating Expenses <sup>a</sup>	\$22.60	\$24.60	\$23.60
Farebox Revenue <sup>a</sup>	\$4.71	\$4.96	\$4.84
Total Operating Assistance <sup>a</sup>	\$17.80	\$19.60	\$18.70

<sup>a</sup> Expenses and revenues are expressed in estimated year-of-expenditure dollars.

Source: SEWRPC

## 6.5 TRANSIT SERVICES REQUIRING FURTHER STUDY

Implementing the following transit services would be complex, requiring negotiating with several other entities or units of government, or obtaining potentially significant funding from numerous sources, and therefore it is recommended that further study be completed before determining if implementation is appropriate. These transit services include:

- Implementing options for bus-on-shoulder operations along IH 43
- Merging the Ozaukee County and Washington County Shared-Ride Taxi services
- Implementing the new MCTS Route 68 to serve key employment and education destinations
- Implementing flexible shuttles with deviations up to 0.75 miles.

Due to the complicating factors, it is recommended that the County explore each of these alternatives further by contacting potential partner entities, including the Wisconsin Department of Transportation, Washington County, Ozaukee County businesses, and MCTS.

### Study Implementation of Bus-on-Shoulder Along IH 43

Implementing bus-on-shoulder (BOS) would allow buses to use the shoulder along IH 43 during peak congestion periods to bypass congestion in the general purpose traffic lanes, reducing congestion-related reliability issues and providing a more attractive alternative to the automobile. There are numerous benefits to implementing BOS. In addition to reducing congestion-related schedule reliability problems, BOS applications also increase the travel time competitiveness of bus services relative to automobiles; reduce bus running times; are relatively low cost and easy to implement; do not require new rights-of-way; and are not obtrusive. There are approximately 20 BOS projects in North America, including the Minneapolis-St. Paul area, the Chicago area, and in Columbus, Ohio. However, there are several factors that will need to be carefully considered in order to

safely implement BOS in Southeastern Wisconsin. These include potential changes to state law, existing shoulder widths within the corridor, bus driver training, operating protocols, and public education.

Commission staff conducted an inventory of current operations, shoulder widths, and impediments along the IH 43 segments utilized by the Ozaukee County Express, which is documented in Chapter 5 of this report, "Transit Service Alternatives for the Ozaukee County Transit System." This included 2016 travel speed data from the Federal Highway Administration's National Performance Management Research Data Set. In addition, WisDOT provided data on shoulder widths along IH 43. BOS best practices and comparisons were derived from the Transit Cooperative Research Program (TCRP) Report 151, *A Guide for Implementing Bus on Shoulder Systems*. This section summarizes the findings related to time savings benefits, shoulder widths and structural impediments, and next steps to implement BOS.

### Time Savings Benefits

As delays caused by congestion impact the reliability of the Ozaukee County Express, the improvement in reliability expected from implementing BOS has the potential to increase ridership. As noted in the TCRP Report on BOS systems, transit riders will build buffer time into their travel schedules to account for anticipated congestion. This buffered travel time is used by commuters to help make mode choice decisions. Although it is difficult to isolate ridership changes based on BOS implementation, applications in more congested corridors are believed to have increased ridership due to increased reliability of the transit service.

Commission staff conducted an initial feasibility study (in Chapter 5) that quantified potential travel savings benefits if BOS is implemented along the IH 43 corridor. For example, Table 6.10 compares observed travel times along IH 43 to potential time savings if BOS is implemented at speeds of 35, 40, or 45 miles per hour. Shoulder use at 45 miles per hour is shown for comparison purposes given that a majority of BOS nationwide have shoulder-use speed limits of 35 miles per hour.

The majority of BOS travel time improvements occur in the southbound direction. The congestion on IH 43 results in median travel time delays of approximately 11 minutes (shown in Table 6.10). If BOS is implemented

**Table 6.7**  
**Projected Annual Operating Expenses, Revenues, and Ridership for Increased Service Frequency and Hours on the Ozaukee County Express: 2019-2023**

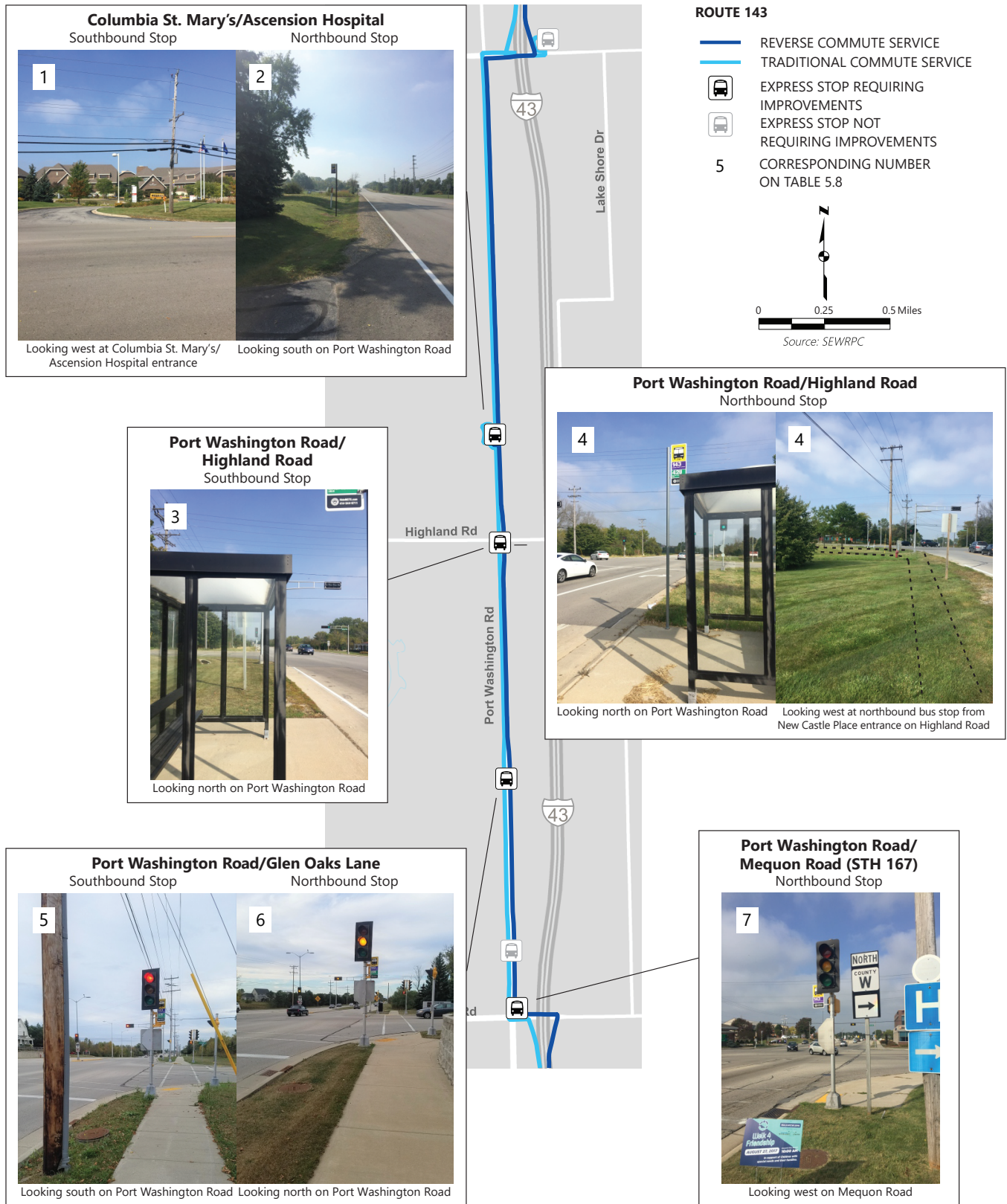
Characteristics	Projected		
	2019	2023	Average
Services Provided			
Revenue Vehicle Miles	28,200	28,200	28,200
Revenue Vehicle Hours	1,020	1,020	1,020
Revenue Passengers			
Total	6,600	6,600	6,600
Passengers per Revenue Vehicle Mile	0.23	0.23	0.23
Passengers per Revenue Vehicle Hour	13.00	13.00	13.00
Expenses and Revenues			
Operating Expenses <sup>a</sup>	\$102,000	\$102,600	\$102,300
Farebox Revenues <sup>a</sup>	\$16,500	\$16,500	\$16,500
Percent of Expenses			
Recovered Through Revenues	16.2	16.1	16.1
Operating Assistance			
Federal <sup>a</sup>	\$23,700	\$23,800	\$23,800
State <sup>a</sup>	\$32,400	\$32,600	\$32,500
County <sup>a</sup>	\$29,400	\$29,700	\$29,600
Total <sup>a</sup>	\$85,500	\$86,100	\$85,800
Per Trip Data			
Operating Expenses <sup>a</sup>	\$15.45	\$15.55	\$15.50
Farebox Revenue <sup>a</sup>	\$2.50	\$2.50	\$2.50
Total Operating Assistance <sup>a</sup>	\$12.95	\$13.05	\$13.00

<sup>a</sup> Expenses and revenues are expressed in estimated year-of-expenditure dollars.

Source: SEWRPC



**Map 6.1**  
**Potential Bus Stop Improvements for the Ozaukee County Express**  
**Along Port Washington Road in the City of Mequon**



**Table 6.8**  
**Bus Stop Improvement Locations and Estimated Costs**

Map Number	Location	Improvements	Estimated Cost
1	Columbia St. Mary's Hospital (West side of Port Washington Road)	400' x 8' sidewalk 6' x 8' bus pad	\$96,000 \$2,000
2	Columbia St. Mary's Hospital (East side of Port Washington Road)	6' x 8' bus pad	\$2,000
3	Port Washington Road/Highland Road (SW)	66' x 8' sidewalk connecting to bus pad and shelter	\$15,840
4	Port Washington Road/Highland Road (SE)	142' x 8' sidewalk connecting to Newcastle Place Senior Housing 82' x 8' sidewalk connecting to bus pad and shelter	\$34,080 \$19,680
5	Port Washington Road/Glen Oaks Lane (NW)	6' x 8' bus pad to connect to sidewalk	\$2,000
6	Port Washington Road/Glen Oaks Lane (SE)	12' x 6' bus pad to connect to sidewalk	\$2,160
7	Port Washington Road/Mequon Road (NE)	10' x 10' bus pad to connect to sidewalk	\$3,000
Estimated Total			\$176,760

Note: Unit costs provided by the Milwaukee County Transit System were utilized to develop the costs associated with the recommended bus stop improvements to comply with the American with Disabilities Act are as follows:

6' x 8' flat bus pad = \$1,500 - \$2,000 (used \$2,000 in estimate)  
 Concrete = \$30/square foot

Source: SEWRPC

with a 35 miles per hour operating speed, the median travel times for southbound bus trips would be improved by over three minutes. If the BOS is implemented allowing speeds of 40 miles per hour, the median time savings would be increased to approximately four minutes.

**Shoulder Widths and Structural Impediments**

Shoulder width requirements will be governed by the width of the bus, however, most agencies have used ten feet as a minimum operational lane width as buses are typically nine feet wide. This plan recommends that the desirable shoulder width should be 12 feet to allow adequate vertical clearance for the bus, including bus mirrors. However, MCTS or the Express operator at the time further study is initiated should be consulted to verify their preferred operational widths.

Continuous and consistent shoulder widths are necessary to effectively implement BOS as structural impediments would necessitate merging into congested traffic, adding delay and potentially negating the travel time benefits of BOS. For purposes of this analysis, it was assumed that the bus would operate on the right shoulder. This prevents the bus from needing to cross multiple lanes of traffic to exit the freeway, adding potential delay and negating the travel time benefits of BOS. As noted above, the recommended shoulder width for BOS is 12 feet, but a minimum width of ten feet may be acceptable. Map 6.2 shows the shoulder widths and structural barriers along the corridor. The majority of impediments shown are bridges, where the bridge piers or concrete walls currently prohibit the use of the shoulder for buses. Map 6.2 also indicates locations on IH 43 into which the general purpose travel lanes could potentially be shifted to provide additional width to the right shoulder. For example, the northbound and southbound segment between County Line Road and Good Hope Road could be restriped to allocate three feet from the left shoulder to a wider right shoulder. Therefore, it may be possible to accommodate the necessary shoulder width in certain areas without major construction. It should be noted that any restriping recommendations

**Table 6.9**  
**Comparison of Projected Annual Operating Expenses, Revenues, and Ridership to Implement Reduced Transfer Fares of \$1.00 at the Three MCTS Bus Stop Connections and Current Fares in 2023**

Characteristics	Current Fare	\$1.00 Transfer
Revenue Passengers	2,600	3,300
Expenses and Revenues		
Operating Expenses <sup>a</sup>	\$33,800	\$43,000
Farebox Revenues <sup>a</sup>	\$12,200	\$3,300
Percent of Expenses		
Recovered Through Revenues	36.1	7.7
Per Trip Data		
Farebox Revenue <sup>a</sup>	\$4.71	\$1.00

<sup>a</sup> Expenses and revenues are expressed in estimated year-of-expenditure dollars.

Source: SEWRPC

**Table 6.10**  
**Comparison of Potential Bus-On-Shoulder (BOS) Travel Times to Median Observed Travel Times on an Average Weekday Along IH 43 Between Mequon Road and STH 145**

Southbound (11.48 Miles)												
Travel Time (Minutes)	Time Period (AM)											
	6:30	6:45	7:00	7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	
Mainline Freeway <sup>a</sup>	11:30	12:00	14:00	20:30	23:00	21:30	19:00	18:00	16:00	14:00	12:00	
Delay <sup>b</sup>	--	--	2:00	8:30	11:00	9:30	7:00	6:00	4:00	2:00	--	
BOS at 45 MPH <sup>c</sup> Time Savings	--	--	--	5:00	7:30	6:00	3:30	2:30	0:30	--	--	
BOS at 40 MPH <sup>c</sup> Time Savings	--	--	--	3:30	6:00	4:30	2:00	1:00	--	--	--	
BOS at 35 MPH <sup>c</sup> Time Savings	--	--	--	1:00	3:30	2:00	--	--	--	--	--	

Northbound (11.72 Miles)															
Travel Time (Minutes)	Time Period (PM)														
	3:00	3:15	3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15	6:30
Mainline Freeway <sup>a</sup>	12:00	12:30	13:00	14:00	14:00	15:00	16:00	16:30	17:30	17:30	17:00	15:30	13:30	12:00	12:00
Delay <sup>b</sup>	--	--	0:30	1:30	1:30	2:30	3:30	4:00	5:00	5:00	4:30	3:00	1:00	--	--
BOS at 45 MPH <sup>c</sup> Time Savings	--	--	--	--	--	--	0:30	1:00	2:00	2:00	1:30	--	--	--	--

<sup>a</sup> The mainline freeway travel time is the median travel time observed on an average weekday in the year 2016.

<sup>b</sup> Delay is the difference between the free flow travel time—12:00 minutes traveling southbound and 12:30 minutes traveling northbound—and the observed travel time on the mainline freeway. The free flow travel time is based on the speed limit of each segment.

<sup>c</sup> The travel time for a Bus-On-Shoulder traveling southbound is 15:30 minutes at 45 MPH, 17:00 minutes at 40 MPH, and 19:30 minutes at 35 MPH; and the travel time for a Bus-On-Shoulder traveling northbound is 15:30 minutes at 45 MPH.

Source: Federal Highway Administration and SEWRPC

would need to be reviewed and potentially implemented by WisDOT, the owner and operator of IH 43, in order for Ozaukee County to implement BOS.

**Next Steps to Implement BOS**

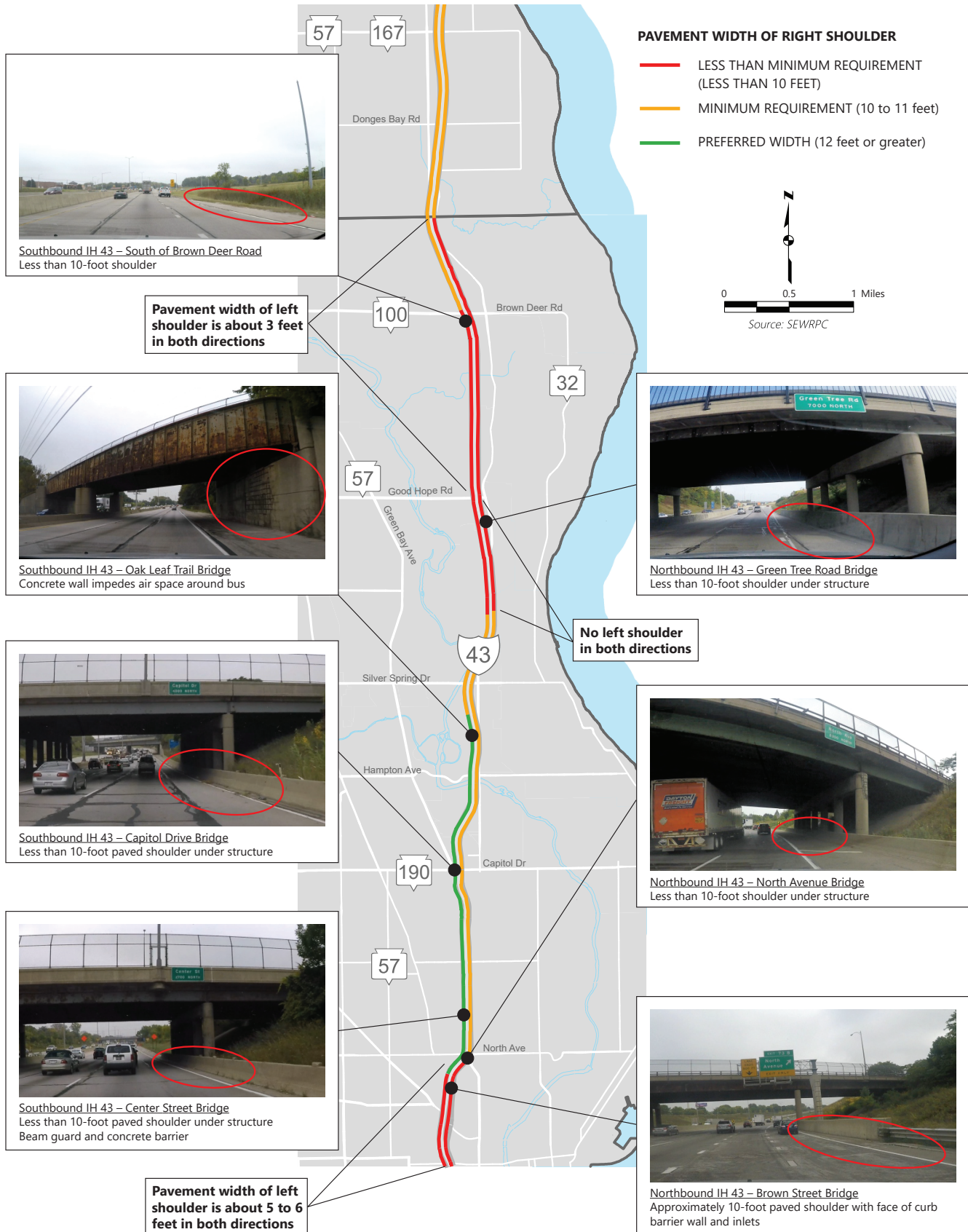
The Commission will continue to study BOS feasibility and implementation in Southeastern Wisconsin to determine current impediments, travel time savings, and where BOS could be implemented immediately with restriping. The Commission will coordinate with key stakeholders, including the Federal Highway Administration, WisDOT, and MCTS to review policy, budget, operation protocols, and training. Further study will be needed to gather best practices related to marketing and education campaigns that acquaint motorists using the general purpose lanes of the reasons that buses should be given priority and how buses and motorists should operate their vehicles. In addition, there are legal considerations that will need to be addressed by the Wisconsin State Legislature. Currently, the Wisconsin Rules of the Road Section 346.08 prohibits passing on the right using any part of the shoulder. In order to implement bus-on-shoulder, the Wisconsin State Legislature would have to amend state statute in order to formalize BOS operations.

**Consider Merging the Ozaukee County and Washington County Shared-Ride Taxi Services**

At the request of the Ozaukee and Washington County Boards of Supervisors, Commission staff prepared a memorandum for consideration at a Joint Meeting of the Ozaukee County and Washington County Public Works Committees on November 16, 2017. The memorandum included an assessment of the benefits, costs, and impacts of combining the Ozaukee County and Washington County transit systems. The two Public Works Committees voted against a motion to continue investigating a regional transit partnership between the Counties at the November 16, 2017 meeting. Since the potential merger of the two systems could be reconsidered during the five-year horizon of this plan, a potential merger is included as an item for further study under this plan. Additionally, support for a transit system merger was expressed during the public comment period, suggesting that interest still exists.

Under current state law, the full merger of the two transit systems would require the creation of a transit commission. As shown in Table 6.11, a merger of the Ozaukee County and Washington County transit systems

**Map 6.2**  
**Geometric Constraints for Potential Bus-On-Shoulder (BOS) Along IH 43**



could result in future annual ridership increases between 6,700 and 10,600 passengers, as riders would have greater access to both counties' employment opportunities, medical facilities, and other resources.

Excluding any one-time startup costs and any potential savings at the contractor level or in county staffing, it is estimated that merging the transit services would increase the combined costs of the counties by \$22,800 to \$36,400 annually. Should both Ozaukee County and Washington County determine to proceed with a merger, the counties would need to determine how to proceed on a number of items including, but not limited to, the transfer of assets, vehicle storage, maintenance, branding, and fare structure. More detail on the Commission staff's analysis can be found in Chapter 5 of this report, "Transit Service Alternatives," or in the memorandum presented at the November 16, 2017 meeting.

**Table 6.11**  
**Estimated Additional Annual Operating Expenses, Revenues, and Ridership for a Merged Ozaukee County-Washington County Shared-Ride Taxi Service**

Characteristics	Estimated Amounts		
	Low	High	Average
Services Provided			
Revenue Vehicle Miles	113,900	180,200	147,100
Revenue Vehicle Hours	4,200	6,700	5,500
Revenue Passengers	6,700	10,600	8,700
Expenses and Revenues			
Operating Expenses <sup>a</sup>	\$106,300	\$169,600	\$138,000
Farebox Revenues <sup>a</sup>	\$25,000	\$39,900	\$32,500
Percent of Expenses			
Recovered Through Revenues	23.5	23.5	23.5
Operating Assistance			
Federal <sup>a</sup>	\$31,400	\$49,800	\$40,600
State <sup>a</sup>	\$27,100	\$43,500	\$35,300
County <sup>a</sup>	\$22,800	\$36,400	\$29,600
Total <sup>a</sup>	\$81,300	\$129,700	\$105,500

<sup>a</sup> Expenses and revenues are expressed in estimated year-of-expenditure dollars.

Source: SEWRPC

### Consider Implementing a New Route to Serve Port Washington Road

A potential new MCTS route, as shown on Map 6.3, could serve Ozaukee County employers along Port Washington Road as well as Concordia University and the MATC-Mequon campus. As envisioned, this route would offer weekday service approximately every 30 to 40 minutes from 6:00 a.m. to 12:00 a.m. and weekend service every 30 minutes from 6:00 a.m. to 11:00 p.m. on Saturdays, and from 8:00 a.m. to 7:00 p.m. on Sundays. The operating expenses would be approximately \$868,200 in 2023, of which the local share would be \$318,300, as indicated in Table 6.12. Ridership is anticipated to be about 50,300 in 2023. This route could replace Route 42U, which has historically underperformed compared to other MCTS routes. Because of the significant local funds needed to implement this route, it is not recommended at this time. However, the proposed route may be attractive in the future as MCTS considers a system redesign to focus on higher frequency routes and service areas that have a mix of residential, commercial, and entertainment uses. Further study will be needed to identify if additional funding could be provided from MATC, Concordia, businesses, or Ozaukee County to support this potential new route.

### Consider Implementing Flexible Shuttles

Flexible shuttles, as envisioned in the transit service alternatives, would allow route deviations of up to 0.75 miles from a fixed route to provide direct access to businesses. The flexible shuttle alternative considered two routes – one along Cedarburg Road and another along Port Washington Road, as shown in Map 6.4. The route along Cedarburg Road would serve the Mequon business park, downtown Cedarburg, MATC-Mequon, and employers in Grafton and Saukville. The Port Washington Road route would serve destinations including Ascension Columbia St. Mary's, Aurora Medical Center, and the Port Washington Industrial Park. The annual cost for the service was estimated to be approximately \$214,000, with \$75,700 needing to be generated locally, as shown in Table 6.13. The capital cost to purchase two mini-buses (estimated at \$55,000 each), is not included in this total.

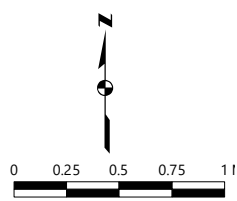
While flexible shuttles can be a reasonable transit service option in less densely populated areas, their ability to modify the routes in response to passenger requests may cause this service to be less viable for work trips as the potential deviations reduce travel time reliability. In general, the public and businesses supported flexible shuttles during the outreach on the transit service alternatives. However, comments from Ozaukee County employers indicated that their start times are not flexible. Therefore, this plan recommends that flexible shuttles be further studied to determine if they would be able to adequately provide the needed on-time service.

**Map 6.3**  
**Potential MCTS Route in Milwaukee and Ozaukee Counties**



To Bayshore Town Center

- POTENTIAL WEEKDAY ROUTE 68
- POTENTIAL WEEKEND ROUTE 68
- MCTS ROUTE



Source: SEWRPC

If the County decides to explore shuttle service further, it is recommended that potential options to provide the service be discussed with businesses that could most benefit from having more direct shuttle access. Based on similar privately provided services operating in the Region, it is estimated that the shuttle service could operate with approximately two to five vans. The County could consider the option of overseeing a contract with a private transit provider to identify stop locations, service times, and costs. It is anticipated that the businesses receiving the service would contribute to the cost of the shuttle service.

**6.6 TRANSIT SERVICES NOT RECOMMENDED FOR IMPLEMENTATION OR FURTHER STUDY**

Due to input from businesses and the public, and the high cost relative to projected ridership, the following transit service alternatives are not recommended for implementation or further study:

- Providing on-demand services through a partnership with a transportation network company (Uber/Lyft) is not recommended. This alternative received minimal interest from businesses and the public. Without subsidies from private businesses or the County, the cost of using a private transportation network company for a daily commute would be relatively high given the current fare structures for Lyft and Uber.
- Extending MCTS service on Route 12 to provide service to the Mequon business park and Mequon Town Center is not recommended due to the lack of interest from businesses and the public and the limited service area relative to its cost.
- Expanded reverse commute services on the Ozaukee County Express from Milwaukee County to Ozaukee County is not recommended due to the projected low ridership (2,300 riders in 2022), relative to the added cost of additional service. In addition, this alternative generated relatively little interest from the public and Ozaukee County businesses.
- Reducing service on the Ozaukee County Express by eliminating the lowest performing runs is not recommended. Eliminating the two existing runs discussed in Chapter 5 would result in less schedule flexibility for riders. Further, the current route for the Ozaukee County Express operates efficiently as a result of recent refinements to optimize the stops served by each run.

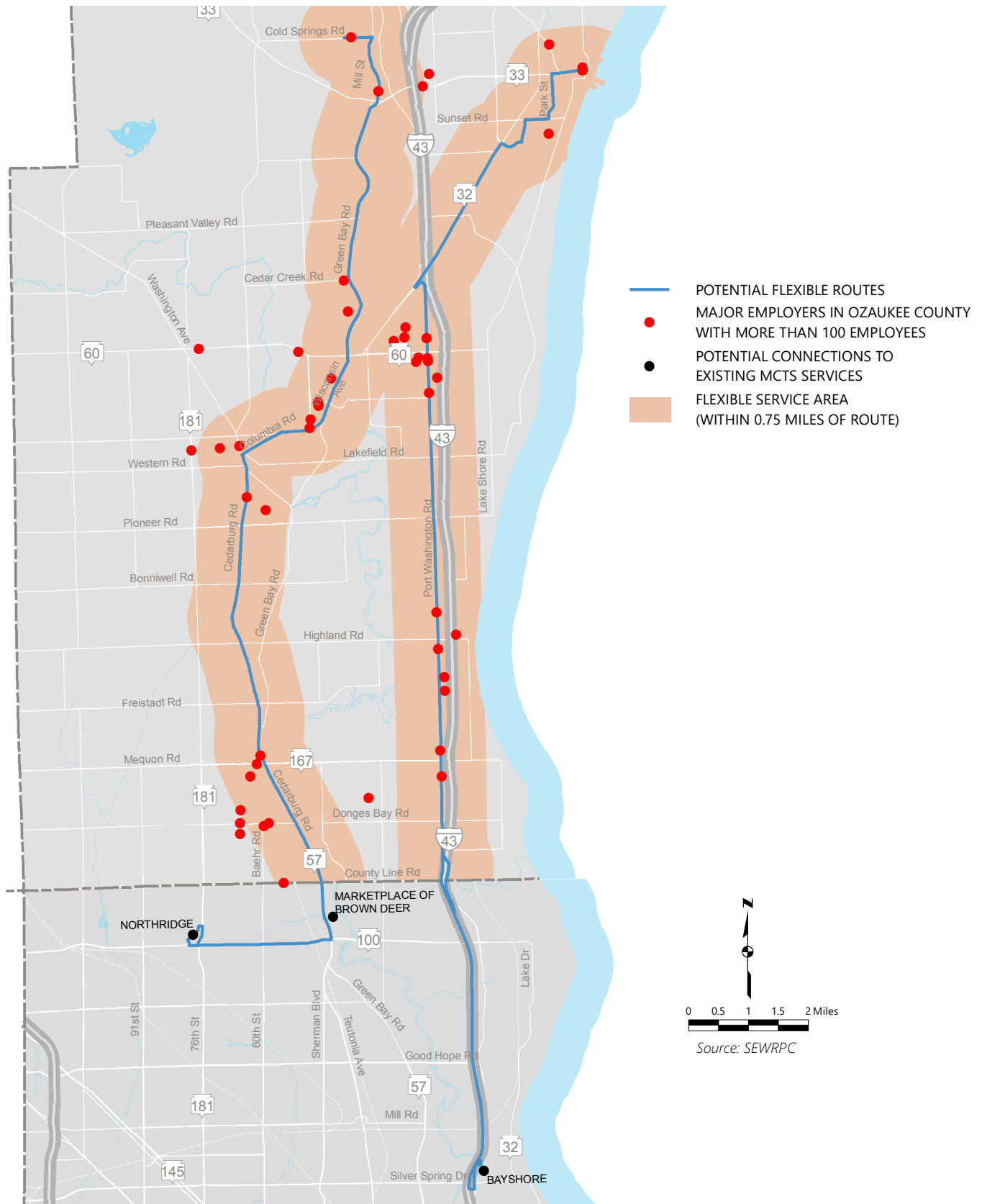
**Table 6.12  
Projected Annual Operating Expenses, Revenues,  
and Ridership to Add a New Route on Port  
Washington Road in Mequon: 2019-2023**

Characteristics	Projected		
	2019	2023	Average
Services Provided			
Revenue Vehicle Miles	63,400	63,400	63,400
Revenue Vehicle Hours	5,000	5,000	5,000
Revenue Passengers			
Total	50,000	50,300	50,200
Passengers per Revenue Vehicle Mile	0.79	0.79	0.79
Passengers per Revenue Vehicle Hour	10.0	10.0	10.0
Expenses and Revenues			
Operating Expenses <sup>a</sup>	\$862,800	\$868,200	\$865,500
Farebox Revenues <sup>a</sup>	\$72,000	\$72,400	\$72,200
Percent of Expenses			
Recovered Through Revenues	8.3	8.3	8.3
Operating Assistance			
Federal <sup>a</sup>	\$200,200	\$201,500	\$200,900
State <sup>a</sup>	\$274,300	\$276,000	\$275,200
County <sup>a</sup>	\$316,300	\$318,300	\$317,300
Total <sup>a</sup>	\$790,800	\$795,800	\$793,400
Per Trip Data			
Operating Expenses <sup>a</sup>	\$17.26	\$17.26	\$17.26
Farebox Revenue <sup>a</sup>	\$1.44	\$1.44	\$1.44
Total Operating Assistance <sup>a</sup>	\$15.82	\$15.82	\$15.82

<sup>a</sup> Expenses and revenues are expressed in estimated year-of-expenditure dollars.

Source: SEWRPC

**Map 6.4**  
**Potential Flexible Route in Ozaukee County and Nearby Major Employers**





## 6.7 CONCLUSION

This chapter has presented the transit services recommended for Ozaukee County for the years 2019-2023. The recommendations in this chapter represent the culmination of the study of the existing transit services in the County, the evaluation of the performance of existing and alternative transit service options relative to a set of objectives and standards that the County transit system should meet, and the consideration of both public and business feedback on the future of transit in Ozaukee County. The recommended plan presents a course of action for the County under three different funding scenarios, and prepares the County to make informed decisions in the face of future uncertainties.

**Table 6.13**  
**Projected Annual Operating Expenses, Revenues, and Ridership for Flexible Shuttles: 2019-2023**

Characteristics	Projected		
	2019	2023	Average
<b>Services Provided</b>			
Revenue Vehicle Miles	78,700	81,500	80,100
Revenue Vehicle Hours	3,800	3,800	3,800
<b>Revenue Passengers</b>			
Total	10,000	10,300	10,150
Passengers per Revenue Vehicle Mile	0.13	0.13	0.13
Passengers per Revenue Vehicle Hour	2.63	2.71	2.67
<b>Expenses and Revenues</b>			
Operating Expenses <sup>a</sup>	\$208,500	\$214,000	\$211,250
Farebox Revenues <sup>a</sup>	\$20,000	\$20,600	\$20,300
<b>Percent of Expenses</b>			
Recovered Through Revenues	9.6	9.6	9.6
<b>Operating Assistance</b>			
Federal <sup>a</sup>	\$33,200	\$34,400	\$33,800
State <sup>a</sup>	\$81,500	\$83,300	\$82,400
County <sup>a</sup>	\$73,800	\$75,700	\$74,800
Total <sup>a</sup>	\$188,500	\$193,400	\$191,000
<b>Per Trip Data</b>			
Operating Expenses <sup>a</sup>	\$20.85	\$20.78	\$20.81
Farebox Revenue <sup>a</sup>	\$2.00	\$2.00	\$2.00
Total Operating Assistance <sup>a</sup>	\$18.85	\$18.78	\$18.81

<sup>a</sup> Expenses and revenues are expressed in estimated year-of-expenditure dollars.

Source: SEWRPC

