

# Annual Route Report

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2015 Operating Data

*Prepared for:*  
**Board of Directors**

**Final**

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# Executive Summary

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The Annual Route Report is published annually to inform Spokane Transit staff, the public, and Board of Directors of the performance of each route compared to three performance standards: Ridership, Equivalent Energy Consumption, and Fares. Customers expect Spokane Transit to provide reliable and convenient service in a courteous, cost-effective manner. For Spokane Transit to ensure the reliability, consistency, and proper development of its transit services, it must continually evaluate and understand the strengths and weaknesses of the products offered.

This year marks the 7th Annual Route Report and reflects Spokane Transit's ongoing commitment to monitor its performance to ensure the effectiveness and efficiency of Spokane Transit's 34 transit routes and to promote overall system improvement through careful measurement of established performance benchmarks and standards listed in this report.

The report is organized into three sections. Section I contains 2015 route performance results, analysis of consecutive years (2015/2014) and identifies which routes fall below the minimum standards for those years. Section II contains route indicators including route length, seated capacity, revenue hours, revenue miles, unallocated cost, average passenger trip length, passenger boardings, passenger miles, and annual fare revenue. Section III contains information related to the Universal Transit Access Pass (UTAP) program. The UTAP program enables members of an organization access to fixed-route transit service through a contract with STA. Service is paid for based on the actual fare pass usage of its members. Finally, the Appendix contains tables summarizing the performance results of each section of the report.

Ridership in 2015 was down 4.5% compared to STA's record ridership in 2014. The decrease is consistent with national trends. The largest contributors to decreased ridership are post-secondary school riders and express bus riders because lower fuel prices have contributed to enticing some of these riders to return their cars. Also contributing to the decrease was the relatively mild winter as STA did not see the usual spike in ridership during moderate snow events.

Overall, a total of 30 of STA's 34 routes had decreases in productivity and 28 of the 34 routes had decreases in ridership. This means that only four routes had productivity increases and six routes had increases in route total boardings. As a result, 16 routes (down from 20) evaluated met all three performance standards, twelve routes (up from eight) were unable to meet one of the three performance standards, and six routes (up from five) were unable to meet two standards of the three standards. The lone bright spot was that no routes were unsuccessful in all three standards. There was one route in 2014 (Route 34) with this distinction. The most

common performance standards not met were Equivalent Energy Consumption and Ridership. The energy standard will continue to be a challenge for some routes to meet as the personal automobile fleet traveling the nation's roadways continues to become more energy efficient.

Any route that falls below the minimum standard for any one of the three performance standards for two consecutive years will be considered out of compliance. These routes are placed on an out of compliance list followed by a remediation plan that states possible solutions in order to improve performance. The remediation plan may correspond with the Service Implementation Plan (now Section 5 of the current Transit Development Plan) where feasible while some routes will continue to be monitored even though they are out of compliance due to long term plans contained in STA Moving Forward.

# Section I: Route Performance

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## Route Performance Overview

In December 2009, the Spokane Transit Board of Directors adopted the **Fixed-Route Service Design Guidelines** to guide the planning, implementation, and monitoring of fixed-route transit service in order to steer Spokane Transit staff through the 2010/2011 service reductions. These guidelines and standards were ultimately merged into the Fixed Route element and Annex I Fixed-Route Performance Standards contained in **Connect Spokane: A Comprehensive Plan for Public Transportation** adopted by the Board of Directors in July of 2010.

An essential part of the required performance monitoring is to evaluate operating data for the prior year of service. This section uses operating data from 2015. As a snapshot of the system and individual routes, this report is an essential tool for evaluating and planning for improvements in transit service.

Routes are rated annually against three performance standards: Ridership, Comparable Energy Consumption, and Fares. Each of these standards has a benchmark score which is calculated annually. A route which meets a performance standard's benchmark in either or both of the previous two years is considered to meet that performance standard. (In other words, a single year of substandard performance is not considered a failure in this report.)

The Appendix shows a table comparing 2015 with 2014 and summarizes whether each route passed or was unable to meet a particular benchmark. Furthermore, it is noted under the Consecutive Years Analysis section whether a route did not meet a performance measure for consecutive years. New to the Appendix is a "Historical Context" section that enlightens the reader on interesting tidbits and changes in ridership over the years.

## Route Performance Standards

As stated in **Connect Spokane**, any route that falls below the minimum standard for any one of the three performance standards for two consecutive years will be considered out of compliance. The Consecutive Year Analysis section contains a list of routes out of compliance. New service will be evaluated following its development period, typically 18 to 24 months. A partial year of operation (e.g. if a route begins operating in September) will not be counted against a route's compliance with these standards.

As stated previously, the performance standards measure the success of the fixed-route service based upon the three performance standards. Routes are compared against annual benchmark

scores set for routes similar in service type and/or vehicle types. The service types<sup>1</sup> and performance standards used are explained below.

## Performance Standard I: Ridership

Ridership is a critical metric for evaluating the system's effectiveness to serve people and the places to which they travel. Spokane Transit may desire to serve a particular facility, location, or community, but the route may still fail to attract ridership. In such cases, it is important to identify why the route is not performing well and what steps can be taken to remediate the route. See Consecutive Year Analysis section for a remediation plan for routes out of compliance.

As stated in the **Connect Spokane**, one of the best indicators of potential performance is a route's relation to the CBD (Central Business District). A route which serves the CBD has more connectivity than other routes. Consequently, it must meet a higher expectation due to the downtown Plaza's finite number of bus bays and overall capacity. Accordingly, use of the Plaza's capacity should be focused on routes with a higher level of effectiveness in terms of ridership.

The metric used for ridership is Boardings per Revenue Hour. Revenue hours represent the hours the bus is in service. Boardings per Revenue Hour are calculated by dividing the annual boardings of a route by the annual revenue hours of that same route.

Ridership benchmarks are based upon the average Boardings per Revenue Hour for all basic routes that intersect the CBD.

Ridership benchmarks for specific service types are calculated as follows:

- Basic routes intersecting the CBD must meet a minimum ridership benchmark that is one-half standard deviation below the average of the basic CBD routes. In 2015 that average was 28.18 Boardings per Revenue Hour. This equates to a benchmark of 24.78 Boardings per Revenue Hour in 2015. It should be noted that this benchmark was down compared to 2014 (26.22).
- Basic routes NOT intersecting the CBD must meet a minimum ridership benchmark one-half that for basic routes that do intersect the CBD. This equates to a benchmark of 12.39 Boardings per Revenue Hour in 2015. In 2014 this benchmark was 13.11.
- Commuter Peak routes must meet a minimum ridership benchmark one-half standard deviation above the average of the basic routes. This equates to a benchmark of 31.59 Boardings per Revenue Hour in 2015 (33.76 in 2014). For routes that operate as a function of what would otherwise be out-of-service time on a route ("Commuter Peak – Subordinate") the standard is equal to one-third the Commuter Peak benchmark. For

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<sup>1</sup> Connect Spokane defines the High Performance Transit Network (HTPN). Currently, Spokane Transit has no HTPN service so HTPN performance standards are omitted from this report.

2015, this equates to a benchmark of 10.53 Boardings per Revenue Hour (11.25 in 2014). It should be noted that Route 165 is the only route classified as Commuter Peak – Subordinate.

STA may consider modifying the calculation of the Commuter Peak standard because it will be challenging for the express routes to meet the standard. In fact Route 173 (old #73) is the only “express” route to meet the ridership standard in 2009. Since 2010 it has not.

## **Performance Standard 2: Equivalent Energy Consumption**

There is great potential in the use of mass transit over the personal automobile to conserve energy and lessen human impact on the environment. Typically, energy consumption is shown by the number of single-occupancy vehicle (SOV) trips reduced by the use of mass transit, but this measure does not take into account that a transit bus is much heavier than a personal vehicle and consumes more energy per vehicle mile.

The Equivalent Energy Consumption standard relates to the duration of a passenger’s ride time on a vehicle. As stated in **Connect Spokane**, a bus route should at minimum perform equally to the private automobile in terms of energy consumed per mile traveled for each passenger. The private automobile is improving in efficiency each year. For example, in 2000 the fuel economy in terms of miles per gallon was 21.9 mpg and that number is 25.2 mpg in 2013 (number used in this report because that is the most recent data). As a result, the Energy benchmark had increased three straight years but has leveled off in 2015 due to modifying Btu data. The Btu numbers in one gallon of gasoline and one gallon of diesel fuel were modified to match data from STA’s Maintenance Department as they keep up on how fuel has become more efficient in terms of negative environmental impacts. They obtain Btu data from the Alternative Fuels Data Center – Fuel Properties Comparison table ([www.afdc.energy.gov](http://www.afdc.energy.gov)) and then take an average between the high and the low energy content. They currently list low energy content gasoline at 116,090 Btu and high energy content gasoline at 124,340 Btu for an average of 120,215 Btu. Low energy diesel is 128,450 Btu and the high energy diesel is 137,380 Btu for an average of 132,915 Btu.

The energy consumption for each passenger mile of a route will vary by the typical vehicle size used for each route. Below is a table that shows typical vehicle types assigned to Spokane Transit for Basic and Commuter Routes and their required minimum average load factor. Basic Routes must meet an average load factor that results in the route being as energy efficient as a typical single occupancy vehicle (SOV). The benchmark for Commuter Routes is higher than that for Basic Routes and must be as energy efficient as the average-loaded private automobile.

Table 1.1 - Minimum Average Load Factor Benchmark Scores

Average Load Factor Benchmarks		
	Basic Routes	Commuter Peak Routes
Vehicle Type	2015	2015
30' Bus	6.38	9.88
35' Bus	4.92	7.62
40' Bus	4.92	7.62
60' Bus	6.98	10.82

The average passenger load (load factor) of a route is calculated by dividing the annual passenger miles of a route by the annual platform miles of a route. Passenger miles are the cumulative sum of the distances ridden by each passenger while platform miles represent all miles the vehicle travels, both in- and out-of-service. STA may consider modifying the calculation of this standard because many routes that use 30' buses (Routes 1 and 2) will never meet the standard due to short route lengths which produce low passenger miles.

### Performance Standard 3: Fares

Spokane Transit collects fares in the form of cash, passes and institutional pass programs which Spokane Transit administers. Farebox recovery represents the revenue collected along a route as a percentage of the total cost of operating the route. Fares per passenger are not the same for every route. Two routes with the same ridership could have very different farebox recovery ratios based on fare media and operating costs.

The Fares performance standard uses a route's farebox recovery ratio to show the relationship between fares collected versus the operating cost of a route. Farebox recovery ratio is calculated by dividing the annual fare revenue by the annual unallocated cost (the cost of the route and associated support). The benchmark which must be met or exceeded is equal to one-half the system-wide average (for revenue allocated to routes) farebox recovery ratio. The 2015 system average was 20.79% (down from 22.19%), creating a benchmark of 10.40%. The system average fare calculated for this measure does not incorporate fare revenue which cannot be confidently allocated to any route. In 2015, additional revenue hours were required in order to improve reliability on Route 26 due to its challenging route pattern. This trend may continue with other routes in the coming years as additional revenue hours will be incrementally invested in order to maintain effective service delivery; however, ridership is down on most routes. In September 2016, the goal is to review resources on Route 66 and reallocate to finance other improvements since EWU ridership is down substantially from its peak.

## Summary of 2015 Route Performance

The following section outlines the performance of all routes subject to performance monitoring for 2015. A route will be considered to have been unable to meet a performance standard if it is not in compliance for two consecutive years. Please refer to the Appendix for a detailed breakdown of each of the three performance standards for all routes and for a table comparing 2015 with 2014 that summarizes whether each route passed or was unable to meet a particular benchmark for each year. Further detailed analysis is contained in the coming section titled Consecutive Year Analysis. This includes a watch list of routes that may require corrective action in the future. As noted before, it will be difficult for some routes to meet the Equivalent Energy Consumption Standard due to the short route length thereby producing very low average trip lengths which produces lower annual passenger miles. Passengers can only travel limited distances on these routes. For example, the outbound distance for Route 1 is only 1.34 miles. Because the typical vehicle size on the route is a 30 foot bus, the benchmark is higher at 6.38. Furthermore, some routes have excess revenue hours because they take on more recovery/layover time for partner routes within the interline causing the partner routes to perform better. One such case is Route 34; however, the route still needs to be performing better due to its 15 minute frequency. The route takes on most of the recovery time from Route 33 as set up in the Trapeze scheduling software. It is important to take this into deliberate consideration when proposing potential service changes that would improve performance.

### Fixed-Routes Unable to Meet All Three Standards

There were no routes unable to meet all three standards in 2015. Last year Route 34 had this distinction but it only met the ridership standard in 2015 because the benchmark was lowered. In fact it dropped to 12.63 Boardings Per Revenue Hour (BPRH) and in 2014 that number was 12.81. The benchmark is 12.39. It should be noted that the route operates with 15 minute weekday frequency and other frequent 15 minute routes perform in the 30 to 40 range (Route 20 – 35.97 BPRH; Route 24 – 38.11 BPRH; Route 25 – 36.13 BPRH; Route 33 – 35.02 BPRH; Route 44 – 32.08 BPRH).

### Fixed-Routes Unable to Meet Two of Three Standards

Table 1.2 depicts the six routes unable to meet two of the three performance standards for 2015. New to this list is Route 34 described in the previous section. The route now has two consecutive years of operation and will be open to scrutiny in future service changes for opportunities to save or reallocate its resources. Route 1 had a 6.59% increase in boardings from 2014; however, much of the increase may be attributed to a farebox issue due to the route being on long-term detour so this positive news needs to be taken in with caution. In fact,

when compared to Route 1 ridership in 2007 (first full year of current GFI Fareboxes), total boardings are down 29.80% in 2015 (177,728 boardings in 2007 vs 136,925 boardings in 2015). Of concern is Route 96 ceding gains in all three categories especially for fares. The route farebox recovery ratio dipped to 9.82% from 10.90%. However when comparing with 2007 ridership, boardings are up a staggering 49.77% due to incremental investments in all Spokane Valley routes. Over the past 10 years, STA has significantly increased transit service in Spokane Valley. An opportunity to look at the entire Spokane Valley service will present itself in the event the upcoming ballot measure passes in November 2016. The addition of a new Valley route in May 2017 that would serve Indiana Ave east of Sullivan Rd could provide an opportunity to modify Route 96 in order to increase productivity. The route currently travels out of direction to Mirabeau Park & Ride in both directions.

**Table 1.2 Fixed-Routes Unable to Meet Two of Three Standards**

<b>Route</b>	<b>Route Name</b>	<b>Type</b>	<b>Performance Standards Not Met</b>
<b>1</b>	Plaza/Arena	Basic	Ridership, Energy
<b>2</b>	Southside/Medical Shuttle	Basic	Ridership, Energy
<b>34</b>	Freya	Basic	Energy, Fares
<b>60</b>	Airport via Browne’s Addition	Basic	Ridership, Energy
<b>96</b>	Pines/Sullivan	Basic	Energy, Fares
<b>124</b>	North Express	Commuter Peak	Ridership, Energy

### **Fixed-Routes Unable to Meet One of Three Standards**

Twelve routes were unable to meet one of the three required performance standards in 2015 (up from eight in 2014). These routes illustrate that a route’s design does not always meet all performance standards. It is imperative to ensure continued monitoring of these routes so that steps can be taken, where possible, to improve their performance. Route 23 continues to exceed expectations with an outstanding 6.97% increase in boardings despite overall network ridership being down in 2015. More improvements are planned which include extending the route to the Indian Trail end of line on all trips and all service days pending further STA Moving Forward funding. Routes 23, 42, 43, and 97 are new to this list as they all did not meet the energy standard but are performing well in the other two categories.

Table 1.3 Fixed-Routes Unable to Meet One of Three Standards

Route	Route Name	Type	Performance Standard Not Met
22	Northwest Blvd	Basic	Ridership
23	Maple/Ash	Basic	Energy
42	South Adams	Basic	Energy
43	Lincoln/37 <sup>th</sup> Ave	Basic	Energy
62	Medical Lake	Basic	Ridership
68	Cheney Local	Basic	Energy
94	East Fifth/Millwood	Basic	Ridership
97	South Valley	Basic	Energy
98	Liberty Lake Via Sprague	Basic	Energy
165	Cheney Express	Commuter Peak	Energy
173	VTC Express	Commuter Peak	Ridership
174	Liberty Lake Express	Commuter Peak	Ridership

### Fixed-Routes Meeting All Three Standards

Table 1.4 indicates routes that met STA’s standards for Ridership, Equivalent Energy Consumption, and Fares for 2015. Sixteen routes are on the list which is down from 20 routes in 2014. Some bright spots despite the overall 4.5% decrease in ridership include routes 25, 28, 45, and 94. These routes all have positive increases in boardings. Routes 28, 45, and 94 all having increases in BPRH even though Route 94 is on the list above.

Although a route may meet all three standards, the route may still be a candidate for future revisions as the future High Performance Transit Network begins to take shape.

Table 1.4 Fixed-Routes Meeting All Three Standards

Route	Route Name	Type
20	SFCC	Basic
21	West Broadway	Basic
24	Monroe	Basic
25	Division	Basic
26	Lidgerwood	Basic
27	Hillyard	Basic
28	Nevada	Basic
29	SCC	Basic
32	Trent/Montgomery	Basic
33	Wellesley	Basic
39	Mission	Basic

Route	Route Name	Type
44	29 <sup>th</sup> Avenue	Basic
45	Regal	Basic
61	Hwy 2 via Browne's Addition	Basic
66	Cheney/EWU	Basic
90	Sprague	Basic

## Consecutive Year Analysis

Standards imply accountability, comparison, and remediation in the event of non-compliance. As stated earlier, any route that falls below the minimum standard for any one of the three performance standards for two consecutive years will be considered out of compliance. A partial year of operation (e.g. if a route begins operating in September) will not be counted against a route's compliance with these standards.

## Out of Compliance List

Table 1.5 shows the current watch list of routes out of compliance for two consecutive years. The "X" indicates what standard the route was unable to meet for consecutive years. It should be noted that Route 94 Ridership productivity inched up to 21.16 BPRH (up from 20.85). Route 96 is now out of compliance on Fares for two consecutive years. Route 34 barely met the Ridership standard in 2015. Overall the list is the same as 2014 in terms of the routes.

Table 1.5 Out of Compliance (watch list)

Route	2015 Standard Not Met			2014 Standard Not Met		
	Ridership	Energy	Fares	Ridership	Energy	Fares
1	X	X		X	X	
2	X	X		X	X	
22	X			X		
23		X			X	
34		X	X	X	X	X
60	X	X		X	X	
62	X			X		
68		X			X	
94	X			X		
96		X	X		X	X
98		X			X	
124	X			X		
173	X			X		
174	X			X		

## Remediation Plan

Table 1.6 indicates the plan of remediation related to each of the routes that did not meet one or more standard for consecutive years. Many of these routes such as Routes 2 and 60 have been on the list for five consecutive years.

Table 1.6 Remediation Plan

Route	Remediation Plan
1	Continue to monitor and work with Downtown Spokane Partnership, the third party in the contract with STA and the Public Facilities District, to continue to pursue strategies to re-invigorate marketing to downtown businesses that benefit from this service. The route experienced a slight increase in boardings but that will not be validated until next year's report due to a farebox issue previously mentioned above. Consider modifying energy benchmark.
2	Continue to monitor. Solution may require extending the route to the pedestrian bridge that is planned to connect to the South University District. This likely cannot be addressed until the September 2018 service change when the bridge project is estimated to be completed. Consider modifying energy benchmark.
22	Continue to monitor. The route was lengthened to cover some of the old segment of Route 30 on Francis Ave east to Maple St in 2011.
23	Continue to monitor. The route continues to add riders as total boardings increased 6.97% from 2014. Future plans to extend to Indian Trail end of line on all trips (weekdays and weekends) would likely yield longer passenger trips thereby improving the performance for the Energy standard. However, the change likely would not take place until the September 2018 service change (pending additional funding with a successful November 2016 ballot measure).
34	Continue to monitor. The route continues to underperform in all three categories; however, it did narrowly meet the ridership benchmark in 2015 with a lowered overall benchmark for routes not traveling to the CBD. The resources on the route may be redirected to serve 17 <sup>th</sup> Ave to Perry (new Route 36 contingent of STA Moving Forward funding) by reducing the frequency to 30 minutes. This could happen in September 2018 or September 2019.
60	Continue to monitor. The route serves the airport (a major regional destination) and likely would perform worse if it did not travel through Browne's Addition. Much of the current routing (minus the airport) would be served by the Central City Line (September 2021) in the event of a successful ballot measure in November 2016.
62	Continue to monitor. Current service was approved with the September 2011 service change. As stated in Board Resolution No. 675-11, "the Route 62 final recommendation is an exception to the Board's Comprehensive Plan policy to

Route	Remediation Plan
	<p>provide Basic Interurban service at a minimum frequency on weekdays (FR Policy 4.0) and will not likely adhere to approved performance standards.” The route does meet the Energy and Fares benchmarks. Given the current route structure, adding more service (revenue hours) would reduce the route’s performance compared to the standards, with the likelihood of unsuccessfully meeting all three standards. The construction of the West Plains Transit Center located at Exit 272 of I-90 (currently funded for design only) would address this issue by creating a new route that would serve Medical Lake (connecting the city to Airway Heights in September 2020 pending further funding) with a Basic Interurban route that has lower productivity standards because the route would not travel to the CBD.</p>
<p><b>68</b></p>	<p>Continue to monitor. Energy standard will be difficult to meet due to the short route length thereby producing very low average trip lengths which produces lower annual passenger miles. Passengers can only travel limited distances on this route. City of Cheney bus service may be analyzed for the September 2018 service change if the vote passes. Planned changes to the EWU PUB along with traffic light improvements could provide an opportunity to modify the route in order to increase productivity and serve new areas.</p>
<p><b>94</b></p>	<p>Continue to monitor. Total overall boardings increased 1.64% from 2014.</p>
<p><b>96</b></p>	<p>Continue to monitor. Boardings per Revenue Hour dropped significantly from 15.28 in 2014 to 13.49 which is of concern. May 2017 provides an opportunity to analyze the route if the upcoming ballot measure passes in November 2016. A new route would begin service in the Spokane Valley that would serve Indiana Ave east of Sullivan Rd. This could allow for a route restructure to eliminate the out of direction travel on Route 96 and improve connections at Mirabeau Park &amp; Ride.</p>
<p><b>98</b></p>	<p>Continue to monitor. Performance numbers were down slightly in all three categories compared to 2014.</p>
<p><b>124</b></p>	<p>Continue to monitor. All three performance measures decreased significantly compared to 2014. Future plans to interline the route with a new South Express route in September 2019 may result in ridership gains (pending additional STAMF funding). Routing may be analyzed due to congestion in the Mead High School area to eliminate the unsafe left turn out of Hastings Park &amp; Ride.</p>
<p><b>173</b></p>	<p>Continue to monitor. All express routes lost ridership in 2015 due to low Eastern Washington University ridership and low gas prices. Route 66 service will potentially be adjusted in September 2016 which could provide for more interline opportunities.</p>
<p><b>174</b></p>	<p>Continue to monitor. All express routes lost ridership in 2015 due to low Eastern Washington University ridership and low gas prices. Route 66 service will potentially be adjusted in September 2016 which could provide for more interline opportunities.</p>

## Section II: Route Indicators

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The tables contained in Section II show various annual indicators related to 2015. These indicators include route length, seated capacity, revenue hours, revenue miles, unallocated cost, average passenger trip length, passenger boardings, passenger miles, and annual fare revenue by route.

### Route Indicator Definitions

<b>Indicator</b>	<b>Description</b>
<b>Route Length</b>	One-way distance of the dominant outbound pattern during the weekday peak period. It should be noted that some routes have many different pattern to which the bus travels.
<b>Seated Capacity</b>	The number of seats provided on the coach size and type typically used on the route.
<b>Revenue Hours</b>	The number of hours buses travel during scheduled trips for a given route. This time does not include deadhead time.
<b>Revenue Miles</b>	The number of miles buses travel during scheduled trips for a given route. This does not include deadhead miles.
<b>Unallocated Cost</b>	Expenses associated with fixed-route operations only. This includes the benefits and wages of coach operators, maintenance, and supervisors. This also includes fuel costs. This is calculated by multiplying the route revenue hours by the unallocated cost per hour (obtained from Finance). For the year 2015, the unallocated cost per hour was \$102.64.
<b>Average Passenger Trip Length</b>	The average distance ridden for an unlinked passenger trip computed as passenger miles traveled divided by unlinked passenger trips.
<b>Passenger Boardings</b>	A single passenger getting on a transit vehicle.
<b>Passenger Miles</b>	The cumulative sum of the distances ridden by each passenger.
<b>Fare Revenue</b>	All income received directly from passengers, paid either in cash or through pre-paid tickets, passes, etc.

Table 2.1 Route Length, Seated Capacity, Revenue Hours, Revenue Miles, and Unallocated Costs

Route	Route Name	One Way Route Length	Typical Seated Capacity	Annual Revenue Hours	Annual Revenue Miles	Annual Unallocated Cost
1	Plaza/Arena	1.34	26	6,216	32,777	\$ 638,046.16
2	Southside Medical Shuttle	2.86	26	10,000	64,333	\$ 1,026,382.55
20	SFCC	3.98	39	9,244	136,825	\$ 948,804.16
21	West Broadway	3.04	39	8,615	63,640	\$ 884,269.26
22	Northwest Boulevard	8.39	39	12,513	153,526	\$ 1,284,327.14
23	Maple/Ash	9.19	39	9,969	145,594	\$ 1,023,200.71
24	Monroe	5.12	39	16,493	166,488	\$ 1,692,862.05
25	Division	9.15	39	29,945	348,790	\$ 3,073,519.90
26	Lidgerwood	9.27	39	12,834	153,334	\$ 1,317,281.76
27	Hillyard	10.22	39	17,029	207,328	\$ 1,747,864.77
28	Nevada	8.61	39	11,768	146,694	\$ 1,207,846.99
29	SCC	4.18	39	8,196	77,811	\$ 841,281.58
32	Trent/Montgomery	7.50	32	9,808	137,186	\$ 1,006,690.04
33	Wellesley	8.81	39	15,639	270,187	\$ 1,605,221.86
34	Freya	6.18	39	20,053	190,744	\$ 2,058,252.24
39	Mission	6.88	32	8,549	94,990	\$ 877,443.70
42	South Adams	2.08	32	4,635	33,585	\$ 475,733.32
43	Lincoln/37th Avenue	6.74	39	9,179	124,168	\$ 942,106.90
44	29th Avenue	4.07	39	10,337	134,728	\$ 1,060,961.97
45	Regal	6.84	39	14,149	163,491	\$ 1,452,245.15
60	Airport via Browne's Addition	7.38	32	8,831	129,266	\$ 906,383.05
61	Hwy 2 via Browne's Addition	13.38	39	14,706	284,470	\$ 1,509,401.26
62	Medical Lake	20.24	39	3,421	83,699	\$ 351,157.10
66	Cheney/EWU	16.90	62	21,190	541,196	\$ 2,174,936.47
68	Cheney Local	6.42	32	6,951	84,958	\$ 713,409.58
90	Sprague	7.93	39	23,418	303,888	\$ 2,403,585.54
94	East Fifth/Millwood	11.09	39	14,646	194,262	\$ 1,503,242.86
96	Pines/Sullivan	10.65	32	12,987	188,501	\$ 1,333,031.87
97	South Valley	9.51	32	10,616	174,177	\$ 1,089,607.76
98	Liberty Lake via Sprague	9.14	32	11,100	164,985	\$ 1,139,312.21
124	North Express	8.87	39	4,198	67,747	\$ 430,898.12
165	Cheney Express	20.74	62	2,925	62,941	\$ 300,186.08
173	VTC Express	10.01	39	4,239	87,145	\$ 435,094.04
174	Liberty Lake Express	18.54	39	10,073	259,719	\$ 1,033,920.43

Table 2.2 Average Passenger Trip Length, Passenger Boardings, Passenger Miles, and Fare Revenue

Route	Route Name	Average Passenger Trip Length	Annual Passenger Boardings	Annual Passenger Miles	Annual Fare Revenue
1	Plaza/Arena	0.93	136,925	127,438	\$ 115,402.99
2	Southside Medical Shuttle	1.48	194,093	286,547	\$ 131,968.04
20	SFCC	3.39	332,494	1,125,461	\$ 211,784.46
21	West Broadway	1.61	228,702	368,115	\$ 156,252.54
22	Northwest Boulevard	2.73	297,486	812,410	\$ 217,185.85
23	Maple/Ash	2.29	315,908	723,069	\$ 242,877.49
24	Monroe	1.97	628,615	1,240,635	\$ 470,603.25
25	Division	3.59	1,081,925	3,884,890	\$ 877,105.76
26	Lidgerwood	3.83	319,338	1,223,213	\$ 250,403.45
27	Hillyard	3.66	470,190	1,720,576	\$ 378,749.38
28	Nevada	3.48	322,763	1,121,924	\$ 267,573.23
29	SCC	2.73	272,278	742,228	\$ 182,053.89
32	Trent/Montgomery	4.44	215,895	958,959	\$ 146,944.38
33	Wellesley	2.88	547,632	1,577,653	\$ 402,623.36
34	Freya	2.50	253,192	633,436	\$ 155,545.30
39	Mission	2.39	266,929	637,687	\$ 194,123.91
42	South Adams	1.10	125,113	138,147	\$ 82,248.60
43	Lincoln/37th Avenue	2.60	229,453	597,303	\$ 179,407.73
44	29th Avenue	2.72	331,556	900,888	\$ 250,470.46
45	Regal	3.11	445,624	1,384,487	\$ 350,345.68
60	Airport via Browne's Addition	2.67	178,210	475,562	\$ 128,520.34
61	Hwy 2 via Browne's Addition	6.38	434,285	2,768,332	\$ 324,585.75
62	Medical Lake	12.59	41,857	526,578	\$ 41,282.45
66	Cheney/EWU	14.58	622,199	9,068,630	\$ 662,497.36
68	Cheney Local	2.28	126,889	288,954	\$ 87,564.49
90	Sprague	4.17	986,082	4,105,725	\$ 703,938.47
94	East Fifth/Millwood	4.13	309,949	1,278,933	\$ 235,034.69
96	Pines/Sullivan	3.71	175,187	648,892	\$ 130,899.71
97	South Valley	4.00	205,491	822,456	\$ 149,429.44
98	Liberty Lake via Sprague	3.36	210,960	708,092	\$ 163,711.23
124	North Express	5.81	84,816	492,792	\$ 103,431.58
165	Cheney Express	14.18	44,848	635,623	\$ 46,510.77
173	VTC Express	8.82	112,005	987,566	\$ 100,917.30
174	Liberty Lake Express	12.95	239,111	3,095,261	\$ 275,923.30

## Section III: Universal Transit Access Pass (UTAP)

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This section is intended to make available the going rates for services provided under the Universal Transit Access Pass (UTAP) Program effective July 1, 2016.

According to Spokane Transit's Tariff Policy, UTAP is an annual program made available on a contractual basis in which all members of an organization have unlimited access to STA services. The organization pays a fee that allows all identified members of their organization to use STA services for the contracted time period. Eligible participants must be identifiable by an identification card that is readable by STA fare collection equipment. The number of these programs is dependent on the capacity of STA's fare collection equipment.

The contract price is based on each unlinked trip taken by members of the program. The charge for each unlinked trip is calculated based on an established rate for each route in STA's system. A rate sheet for each route is published annually and included in the annual contract update.

The participating organization is billed monthly for the previous month's trips. However, in order to allow participating organizations to budget, contracts will also include a "not to exceed" total price for an annual contract. The "not to exceed" fee will be calculated by STA prior to each contract period. Actual monthly ridership may result in the cost of the contract to be lower than the "not to exceed" fee.

### UTAP Rates Calculation

Overall, the UTAP direct utility rates are based on the direct expenses required to provide a typical unlinked passenger trip by each route, applying direct operating expenses to the seated capacity of buses in service. This cost per seat mile calculated for each route is applied to the average passenger trip length to arrive at the expenses directly utilized by a passenger. Additionally, a base rate is applied uniformly to all routes that takes into account the expenses incurred in directly administering fixed-route operations, including dispatching, road supervisors and scheduling. The base utility rate calculation for 2015 is shown below.

$$\text{Base Utility Rate (B)} = \frac{\text{Base Expenses}}{\text{Passengers}} = \frac{\$3,682,306}{10,815,736} = \frac{\$0.34}{\text{passenger}}$$

There are several steps and many variables that are used to generate each route's direct utility rate. The first step is to determine direct expenses for each route by applied uniform direct costs per revenue hour and revenue mile commensurate on actual revenue hours and revenue miles operated in a year. The common inputs for this variable are shown below using 2015 NTD

reported annual data. Route-specific revenue hours and revenue miles data for 2015 can be found in Section II of this report.

$$\text{Direct Cost per Revenue Hour (R)} = \frac{\text{Direct Operating Expenses}}{\text{Revenue Hours}} = \frac{\$27,628,886}{395,972} = \frac{\$69.77}{\text{revenue hour}}$$

$$\text{Direct Cost per Revenue Mile (M)} = \frac{\text{Direct Maintenance Expenses}}{\text{Revenue Miles}} = \frac{\$9,329,498}{5,480,629} = \frac{\$1.70}{\text{mile}}$$

$$\text{Direct Route Expenses (D}_n\text{)} = \text{R} \times \text{Route Revenue Hours} + \text{M} \times \text{Route Revenue Miles}$$

Next, route expenses are applied to the seat miles provided by each route based upon the total revenue miles traveled for each route multiplied by the seated capacity of the typical coach size and type used on a route. Route-specific seated capacity for 2015 can be found in Section II of this report.

$$\text{Route Seat Miles (S}_n\text{)} = \text{Route Revenue Miles} \times \text{Route Seated Capacity}$$

$$\text{Route Direct Cost per Seat Mile (C}_n\text{)} = \frac{\text{D}_n}{\text{S}_n}$$

Finally, the direct utility rate is determined by multiplying the direct cost per seat-mile by the average passenger trip length calculated for that route. Average passenger trip length by route for 2015 is found in Section II of this report.

$$\text{Route Direct Utility Rate (U}_n\text{)} = \text{C}_n \times \text{Route Average Passenger Trip Length}$$

The combination of direct utility rate ( $U_n$ ) and base utility rate ( $B$ ) are capped to not exceed the cost of an adult single ride fare of \$1.50. Based upon 2015, the direct utility rates for Route 62 Medical Lake and 174 Liberty Lake Express were capped at \$1.16 in accordance with this methodology. It should be noted that Paratransit trips taken in the UTAP program are charged the full rate of \$1.50.

## UTAP Rates Schedule

Based on the preceding variables and data for calendar year 2015, the UTAP direct utility rates effective July 1, 2016 are published below.

Table 3.1 Direct Utility Rate - Effective July 1, 2016

Route	Route Name	Direct Utility Rate (per Boarding)
1	Plaza/Arena Shuttle	\$ 0.53
2	Southside Medical Shuttle	\$ 0.71
20	SFCC	\$ 0.56
21	West Broadway	\$ 0.46
22	Northwest Boulevard	\$ 0.52
23	Maple/Ash	\$ 0.38
24	Monroe	\$ 0.44
25	Division	\$ 0.71
26	Lidgerwood	\$ 0.74
27	Hillyard	\$ 0.70
28	Nevada	\$ 0.65
29	SCC	\$ 0.63
32	Trent/Montgomery	\$ 0.93
33	Wellesley	\$ 0.42
34	Freya	\$ 0.58
39	Mission	\$ 0.60
42	South Adams	\$ 0.39
43	Lincoln/37th	\$ 0.46
44	29th Ave	\$ 0.49
45	Regal	\$ 0.62
60	Airport via Browne's Addition	\$ 0.54
61	Airway Heights via Browne's Addition	\$ 0.87
62	Medical Lake	\$ 1.16
66	Cheney/EWU	\$ 1.04
68	Cheney Local	\$ 0.53
90	Sprague	\$ 0.76
94	East Central/Millwood	\$ 0.74
96	Pines/Sullivan	\$ 0.75
97	South Valley	\$ 0.75
98	Liberty Lake via Sprague	\$ 0.67
124	North Express	\$ 0.90
165	Cheney Express	\$ 1.13
173	VTC Express	\$ 1.15
174	Liberty Lake Express via Mirabeau	\$ 1.16
X	New or Special Event Route	\$ 0.70
B	Base Utility Rate	\$ 0.34
P	Paratransit Utility Rate	\$ 1.50

# Appendix

## Section I

### 2015 Route Performance Results

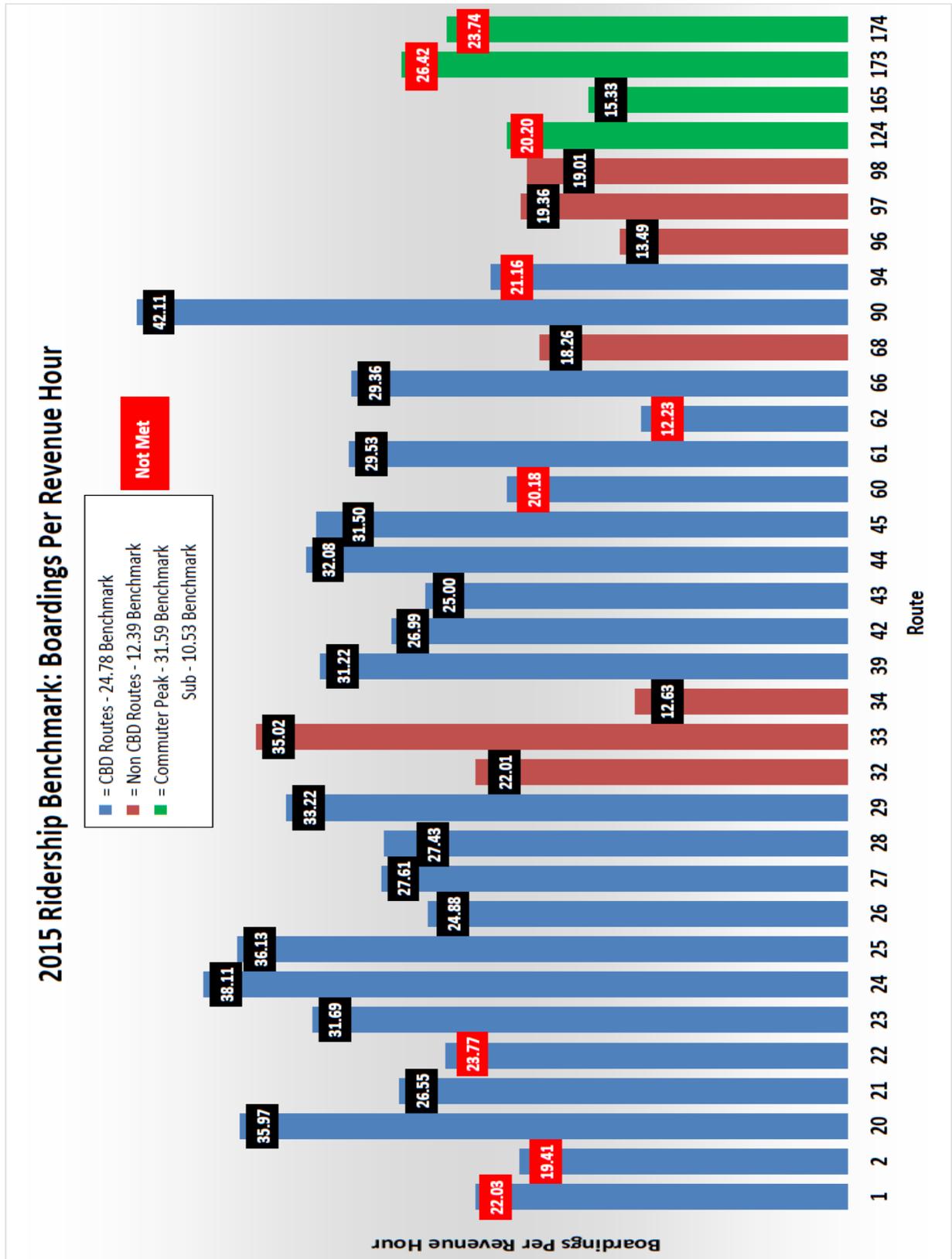
Route	Route Name	Ridership		Energy		Fares	
		Benchmark	Actual	Benchmark	Actual	Benchmark	Actual
1	Plaza/Arena	24.78	22.03	6.38	3.64	10.40%	18.09%
2	Southside Medical Shuttle	24.78	19.41	6.38	4.36	10.40%	12.86%
20	SFCC	24.78	35.97	4.92	8.09	10.40%	22.32%
21	West Broadway	24.78	26.55	4.92	5.65	10.40%	17.67%
22	Northwest Boulevard	24.78	23.77	4.92	5.08	10.40%	16.91%
23	Maple/Ash	24.78	31.69	4.92	4.54	10.40%	23.74%
24	Monroe	24.78	38.11	4.92	7.06	10.40%	27.80%
25	Division	24.78	36.13	4.92	10.27	10.40%	28.54%
26	Lidgerwood	24.78	24.88	4.92	7.49	10.40%	19.01%
27	Hillyard	24.78	27.61	4.92	7.90	10.40%	21.67%
28	Nevada	24.78	27.43	4.92	7.12	10.40%	22.15%
29	SCC	24.78	33.22	4.92	9.01	10.40%	21.64%
32	Trent/Montgomery	12.39	22.01	4.92	6.52	10.40%	14.60%
33	Wellesley	12.39	35.02	4.92	5.59	10.40%	25.08%
34	Freya	12.39	12.63	4.92	3.11	10.40%	7.56%
39	Mission	24.78	31.22	4.92	6.37	10.40%	22.12%
42	South Adams	24.78	26.99	4.92	4.07	10.40%	17.29%
43	Lincoln/37th Avenue	24.78	25.00	4.92	4.57	10.40%	19.04%
44	29th Avenue	24.78	32.08	4.92	6.65	10.40%	23.61%
45	Regal	24.78	31.50	4.92	7.75	10.40%	24.12%
60	Airport via Browne's Addition	24.78	20.18	4.92	3.62	10.40%	14.18%
61	Hwy 2 via Browne's Addition	24.78	29.53	4.92	9.14	10.40%	21.50%
62	Medical Lake	24.78	12.23	4.92	6.21	10.40%	11.76%
66	Cheney/EWU	24.78	29.36	6.98	14.88	10.40%	30.46%
68	Cheney Local	12.39	18.26	4.92	2.56	10.40%	12.27%
90	Sprague	24.78	42.11	4.92	12.96	10.40%	29.29%
94	East Fifth/Millwood	24.78	21.16	4.92	6.00	10.40%	15.64%
96	Pines/Sullivan	12.39	13.49	4.92	3.19	10.40%	9.82%
97	South Valley	12.39	19.36	4.92	4.49	10.40%	13.71%
98	Liberty Lake via Sprague	12.39	19.01	4.92	3.58	10.40%	14.37%
124	North Express	31.59	20.20	7.62	5.71	10.40%	24.00%
165	Cheney Express	10.53	15.33	10.82	9.43	10.40%	15.49%
173	VTC Express	31.59	26.42	7.62	9.98	10.40%	23.19%
174	Liberty Lake Express	31.59	23.74	7.62	9.74	10.40%	26.69%

Did not meet benchmark

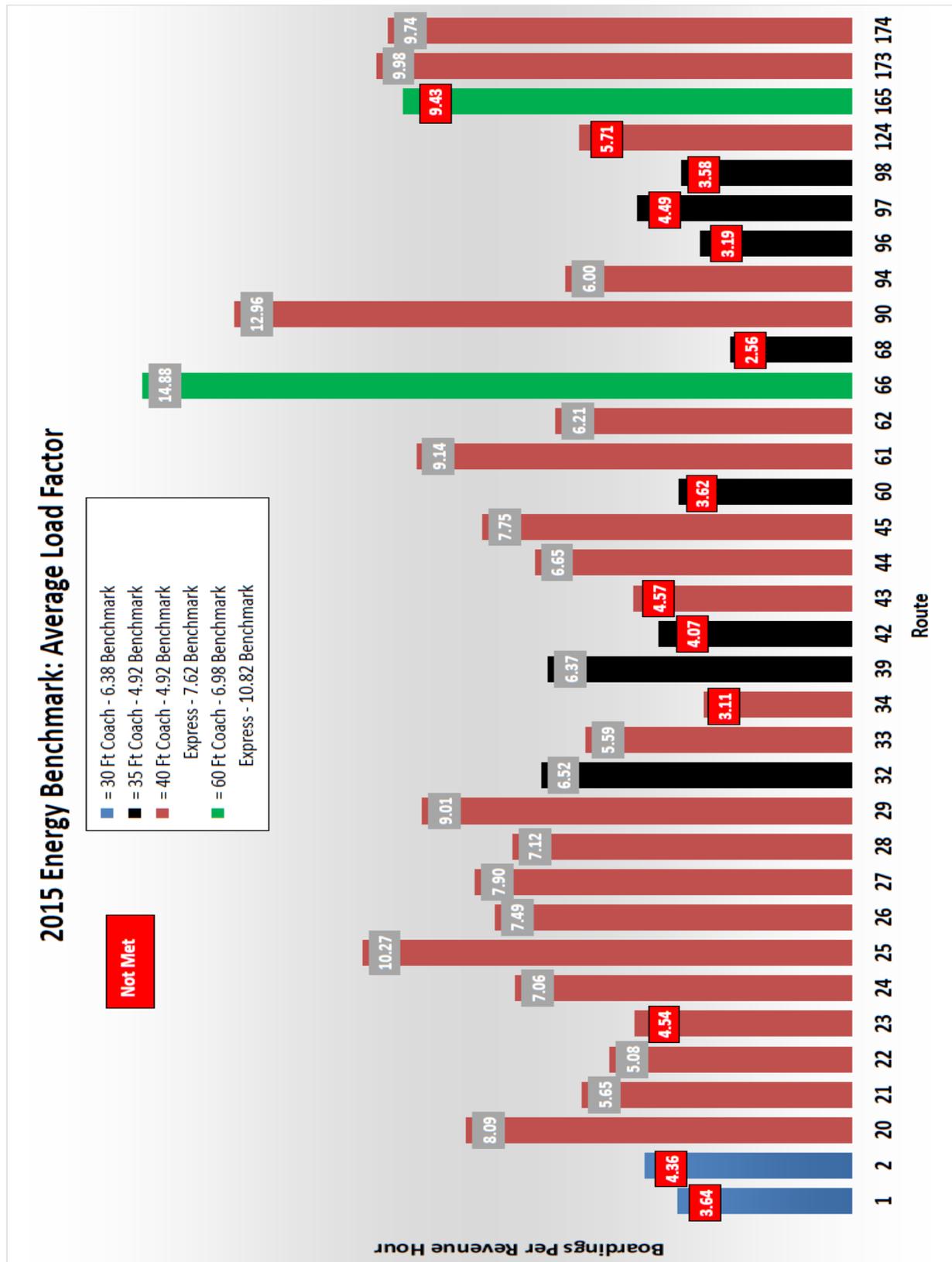
## 2015/2014 Route Performance Results Comparison

Route	Route Name	Riderhip Benchmark		Energy Benchmark		Fares Benchmark	
		2015	2014	2015	2014	2015	2014
1	Plaza/Arena	NOT MET	NOT MET	NOT MET	NOT MET	PASS	PASS
2	Southside Medical Shuttle	NOT MET	NOT MET	NOT MET	NOT MET	PASS	PASS
20	SFCC	PASS	PASS	PASS	PASS	PASS	PASS
21	West Broadway	PASS	PASS	PASS	PASS	PASS	PASS
22	Northwest Boulevard	NOT MET	NOT MET	PASS	PASS	PASS	PASS
23	Maple/Ash	PASS	PASS	NOT MET	NOT MET	PASS	PASS
24	Monroe	PASS	PASS	PASS	PASS	PASS	PASS
25	Division	PASS	PASS	PASS	PASS	PASS	PASS
26	Lidgerwood	PASS	PASS	PASS	PASS	PASS	PASS
27	Hillyard	PASS	PASS	PASS	PASS	PASS	PASS
28	Nevada	PASS	PASS	PASS	PASS	PASS	PASS
29	SCC	PASS	PASS	PASS	PASS	PASS	PASS
32	Trent/Montgomery	PASS	PASS	PASS	PASS	PASS	PASS
33	Wellesley	PASS	PASS	PASS	PASS	PASS	PASS
34	Freya	PASS	NOT MET	NOT MET	NOT MET	NOT MET	NOT MET
39	Mission	PASS	PASS	PASS	PASS	PASS	PASS
42	South Adams	PASS	PASS	NOT MET	PASS	PASS	PASS
43	Lincoln/37th Avenue	PASS	PASS	NOT MET	PASS	PASS	PASS
44	29th Avenue	PASS	PASS	PASS	PASS	PASS	PASS
45	Regal	PASS	PASS	PASS	PASS	PASS	PASS
60	Airport via Browne's Addition	NOT MET	NOT MET	NOT MET	NOT MET	PASS	PASS
61	Hwy 2 via Browne's Addition	PASS	PASS	PASS	PASS	PASS	PASS
62	Medical Lake	NOT MET	NOT MET	PASS	PASS	PASS	PASS
66	Cheney/EWU	PASS	PASS	PASS	PASS	PASS	PASS
68	Cheney Local	PASS	PASS	NOT MET	NOT MET	PASS	PASS
90	Sprague	PASS	PASS	PASS	PASS	PASS	PASS
94	East Fifth/Millwood	NOT MET	NOT MET	PASS	PASS	PASS	PASS
96	Pines/Sullivan	PASS	PASS	NOT MET	NOT MET	NOT MET	NOT MET
97	South Valley	PASS	PASS	NOT MET	PASS	PASS	PASS
98	Liberty Lake via Sprague	PASS	PASS	NOT MET	NOT MET	PASS	PASS
124	North Express	NOT MET	NOT MET	NOT MET	NOT MET	PASS	PASS
165	Cheney Express	PASS	PASS	NOT MET	PASS	PASS	PASS
173	VTC Express	NOT MET	NOT MET	PASS	PASS	PASS	PASS
174	Liberty Lake Express	NOT MET	NOT MET	PASS	PASS	PASS	PASS

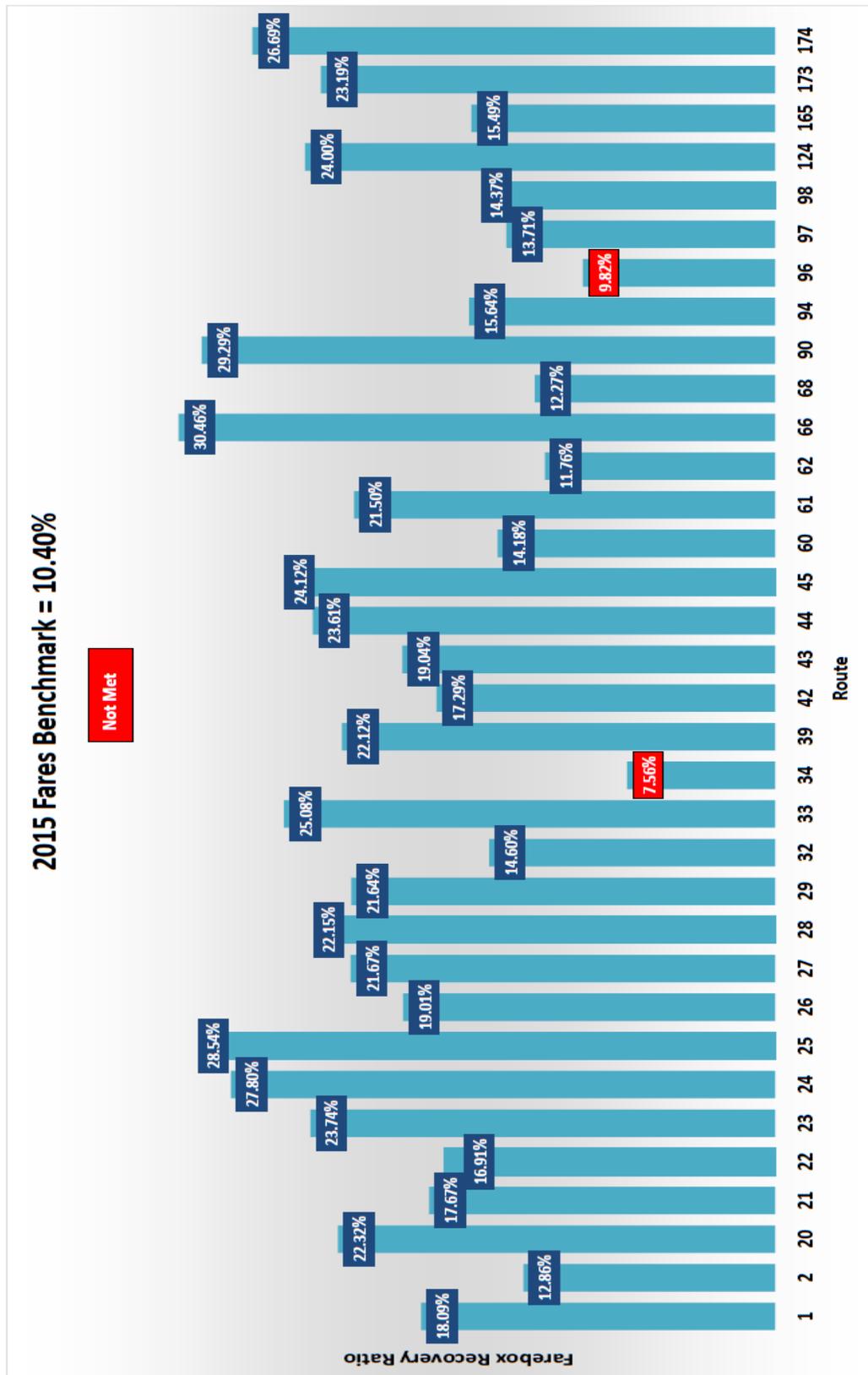
# 2015 Ridership Benchmark Chart



# 2015 Energy Benchmark Chart

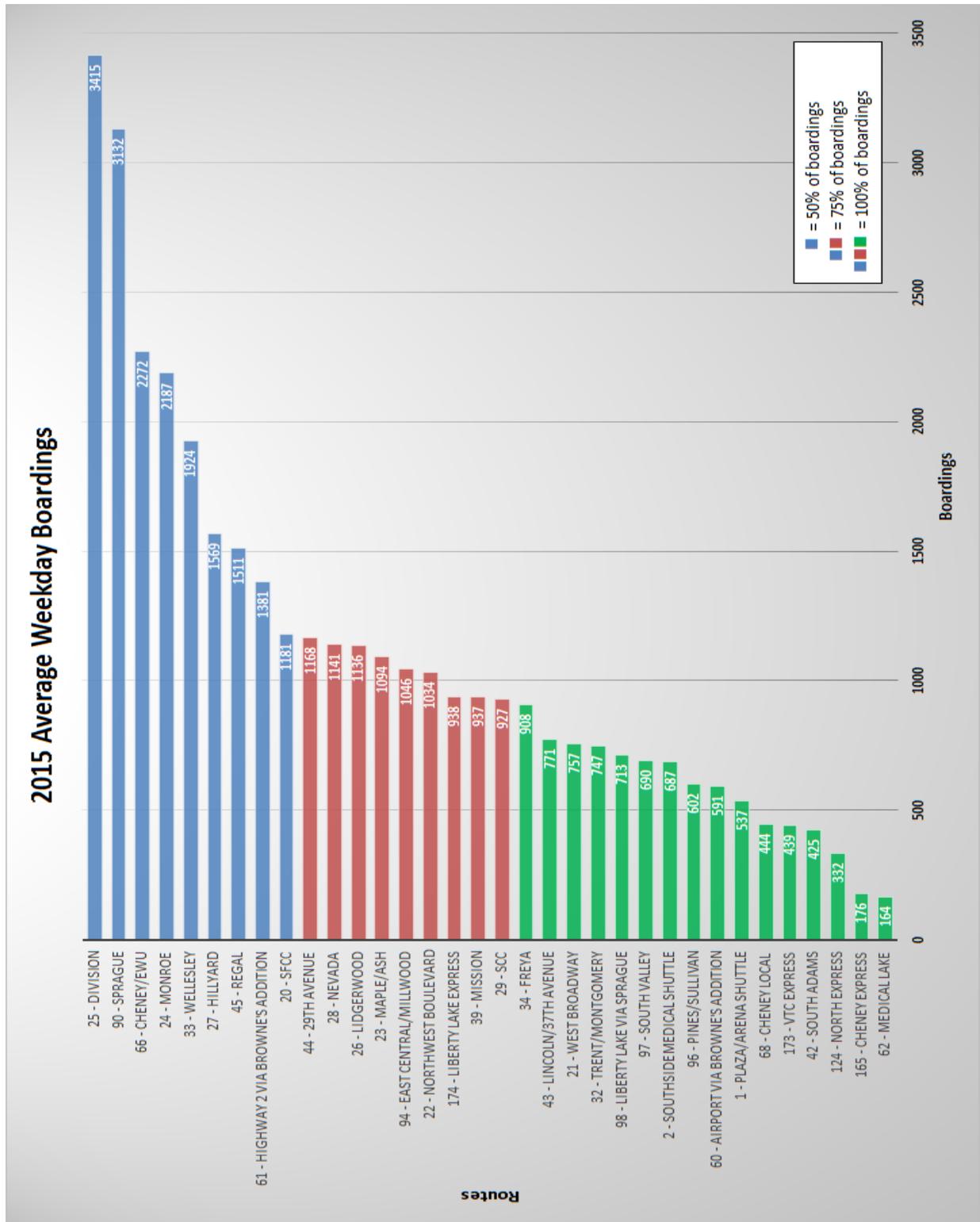


## 2015 Fares Benchmark Chart



# Section II

## 2015 Average Weekday Boardings



## 2015 Weekday Total Boardings Comparison to 2014

Route	Total Wk 2015	Total Wk 2014	Change	% Change
1 - Plaza/Arena Shuttle	136,925	127,634	9,291	6.79%
124 - North Express	84,713	98,139	-13,426	-15.85%
165 - Cheney Express	44,844	57,434	-12,590	-28.08%
173 - VTC Express	112,005	118,979	-6,974	-6.23%
174 - Liberty Lake Express	239,165	251,574	-12,409	-5.19%
2 - Southside Medical Shuttle	175,227	191,646	-16,419	-9.37%
20 - SFCC	301,159	339,796	-38,637	-12.83%
21 - West Broadway	193,101	200,978	-7,877	-4.08%
22 - Northwest Boulevard	263,671	280,079	-16,408	-6.22%
23 - Maple/Ash	278,896	255,853	23,043	8.26%
24 - Monroe	557,664	627,819	-70,155	-12.58%
25 - Division	870,908	863,495	7,413	0.85%
26 - Lidgerwood	289,597	295,297	-5,700	-1.97%
27 - Hillyard	400,213	425,461	-25,248	-6.31%
28 - Nevada	291,013	285,053	5,960	2.05%
29 - SCC	236,394	250,286	-13,892	-5.88%
32 - Trent/Montgomery	190,478	195,830	-5,352	-2.81%
33 - Wellesley	490,580	511,767	-21,187	-4.32%
34 - Freya	231,623	229,092	2,531	1.09%
39 - Mission	238,899	243,995	-5,096	-2.13%
42 - South Adams	108,457	128,774	-20,317	-18.73%
43 - Lincoln/37th Avenue	196,730	213,783	-17,053	-8.67%
44 - 29th Avenue	297,798	315,297	-17,499	-5.88%
45 - Regal	385,287	383,722	1,565	0.41%
60 - Airport via Browne's Addition	150,641	162,669	-12,028	-7.98%
61 - Highway 2 via Browne's Addition	352,212	367,310	-15,098	-4.29%
62 - Medical Lake	41,854	48,855	-7,001	-16.73%
66 - Cheney/EWU	579,436	654,954	-75,518	-13.03%
68 - Cheney Local	113,186	121,585	-8,399	-7.42%
90 - Sprague	798,730	835,093	-36,363	-4.55%
94 - East Central/Millwood	266,746	260,298	6,448	2.42%
96 - Pines/Sullivan	153,385	169,853	-16,468	-10.74%
97 - South Valley	175,827	185,860	-10,033	-5.71%
98 - Liberty Lake via Sprague	181,749	176,628	5,121	2.82%

## Historical Context

As stated earlier, ridership was down 4.5% compared to the record 2014 ridership. However, STA needs to pause and reflect on how much the network has grown and gotten more efficient to put 2015 in context with the “bigger picture.” Ridership has grown exponentially on some routes and that needs to be shared with the community. Below is a summary of the growth of some of the routes in STA’s network. Since so many changes took place to route patterns and route numbers, the routes listed below are the routes that experienced minor changes since 2007, the first full year of STA’s GFI Farebox system. Keep in mind that ridership was down in 2015 and STA was forced to eliminate some service during the Great Recession.

