Improving Service to Western Washington University (WWU)

Introduction

Western Washington University (WWU) and WTA have an agreement for a universal bus pass for students. WTA currently operates service every 15 minutes through WWU’s campus using standard 40 ft buses. At certain times of day, this frequency is inadequate, and we need to run extra buses to handle overloads. If we switch some 40 ft buses for 60 ft articulated buses, this could help us to address capacity issues and reduce the number of extra buses we need to run.

Standard Bus

Cost: $413,581
Length: 40 ft
Seats: 35 to 38
Maximum Capacity: 57

Articulated Bus

Cost: $675,702
Length: 60 ft
Seats: 50 to 55
Maximum Capacity: 82

Results

I evaluated the cost of purchasing 5 articulated buses instead of standard buses and the cost savings over a 12-year life span.

<table>
<thead>
<tr>
<th>Bus Size</th>
<th>Cost</th>
<th>Cost for 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard - 40 ft</td>
<td>$413,581</td>
<td>$2,067,905</td>
</tr>
<tr>
<td>Articulated - 60 ft</td>
<td>$675,702</td>
<td>$3,378,510</td>
</tr>
<tr>
<td>Additional cost for 5 articulated buses:</td>
<td>$1,310,605</td>
<td></td>
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</tbody>
</table>

I looked at the data on loads to and from WWU and estimated that we can eliminate 6,400 revenue hours per year of extra service if we implemented articulated buses. This would save $682,944 per year and $8,195,328 over 12 years. I used the assumption that 60 ft buses would be more expensive to operate and maintain and would cost an additional $1,903,492 over 12 years.

<table>
<thead>
<tr>
<th>12-year cost savings</th>
<th></th>
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<tbody>
<tr>
<td>Cost saving from eliminating service</td>
<td>$8,195,328</td>
</tr>
<tr>
<td>Additional cost of 5 articulated buses</td>
<td>-$1,310,605</td>
</tr>
<tr>
<td>Additional cost of operation and maintenance</td>
<td>-$1,903,492</td>
</tr>
<tr>
<td>Total savings</td>
<td>$4,981,231</td>
</tr>
</tbody>
</table>

Recommendations

Articulated buses could save significant money and help address passenger demand. With the money saved from eliminating the need for extra buses, I would propose increasing the frequency through campus during peak periods. Between 7:00-10:00 am and 2:00-5:00 pm, I would recommend increasing the frequency from every 15 minutes to every 10 minutes.

Next Steps

As we continue to evaluate articulated buses and determine future service plans, we need to collect additional ridership data as well as forecast for additional ridership due to WWU’s plan to increase student enrollment. We need to refine service plan scenarios and get input from students and staff at WWU.

Contact Information

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