ASSESSING LONGITUDINAL ARTERIAL PERFORMANCE & TRAFFIC SIGNAL RETIMING OUTCOMES

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Travel Time: Bluetooth Reidentification

2010 Before/After Flow-Profile Diagram

Figure 10 is a line graph showing the cumulative distribution of travel time in minutes for the 1000th iteration. The x-axis represents 'Travel Time (Minutes)' ranging from 6 to 14. The y-axis represents 'Cumulative Distribution' ranging from 0.00 to 1.00. Two curves are plotted: 'Before' (black line) and 'After' (red line). The 'After' curve is shifted to the left of the 'Before' curve, indicating a reduction in travel time. The 'After' curve reaches a cumulative distribution of 1.00 at approximately 10.5 minutes, while the 'Before' curve reaches it at approximately 13.5 minutes.

Travel Time (Minutes)	Cumulative Distribution (Before)	Cumulative Distribution (After)
6.0	0.00	0.00
7.0	0.00	0.05
8.0	0.00	0.40
9.0	0.25	0.85
10.0	0.55	0.95
11.0	0.80	1.00
12.0	0.90	1.00
13.0	0.95	1.00
14.0	1.00	1.00

Figure 10 is a line graph showing the cumulative distribution of travel time in minutes for the 1000th iteration. The x-axis represents 'Travel Time (Minutes)' ranging from 6 to 14. The y-axis represents 'Cumulative Distribution' ranging from 0.00 to 1.00. Two curves are plotted: 'Before' (black line) and 'After' (red line). The 'After' curve is shifted to the left of the 'Before' curve, indicating a reduction in travel time. The 'After' curve reaches a cumulative distribution of 1.00 at approximately 11.5 minutes, while the 'Before' curve reaches it at approximately 12.5 minutes.

Travel Time (Minutes)	Cumulative Distribution (Before)	Cumulative Distribution (After)
6.0	0.00	0.00
7.0	0.00	0.00
7.5	0.05	0.05
8.0	0.15	0.35
8.5	0.25	0.55
9.0	0.40	0.65
9.5	0.50	0.75
10.0	0.60	0.85
10.5	0.75	0.95
11.0	0.85	1.00
11.5	0.90	1.00
12.0	0.95	1.00
12.5	1.00	1.00
13.0	1.00	1.00
14.0	1.00	1.00

2010 Northbound

Total Vehicle Arrivals

Percent Arrivals on Green/Red

- **Volumes on the corridor increased by 36% from 2010 to 2015**
- **Progression quality was continually improved, with each optimization resulting in a slight increase**
- **Gains were made without increasing the green time for the mainline at the expense of the side streets**

A bar chart showing the Average Arterial Green (h) for SB (Shaded Blue) and NB (Natural Blue) groups in 2010, 2013, and 2015, before and after treatment. The y-axis ranges from 0 to 16 hours. The x-axis shows the years 2010, 2013, and 2015, with 'Before' and 'After' treatment periods for each year. The SB group consistently shows higher average arterial green than the NB group. The 'After' treatment period shows a slight increase in average arterial green for both groups compared to the 'Before' period.

Year	Treatment	SB (h)	NB (h)
2010	Before	~13.0	~6.5
	After	~13.0	~6.5
2013	Before	~13.2	~6.5
	After	~13.5	~6.5
2015	Before	~13.0	~6.5
	After	~13.0	~6.5

Saturdays

Weekdays

Travel Time (TT) + Travel Time Reliability (TTR) Costs

Travel Time Costs

Travel Time Reliability Costs

Saturdays

Weekdays

Annualized User Cost Tabulation

Total of annualized user benefits from 2010, 2013, and 2015 optimizations:

\$4,241,723

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