Overall Facility Density and Speed Calculations

Variable Names

L = Length n = Number of Lanes D = Density S = Speed TT = Travel Time

Notation

i is the segment index, j is the subsegment index and n is the number of segments

$$\text{FacilitySpeed} := \frac{\sum_{i=1}^{n} \text{LSeg}_i}{\sum_{i=1}^{n} \text{TTSeg}_i} \qquad \text{FacilityDensity} := \frac{\sum_{i=1}^{n} \left(\text{nLDSeg}_i\right)}{\sum_{i=1}^{n} \left(\text{nLSeg}_i\right)}$$

FacilitySpeed	*= Speed in the entire facility*	FacilityDensity	*= Density for the entire facility*
LSeg_i	*= Sum of lengths of each subsegment j in segment i*	nLDSeg_i	*= Sum of n*L*D for each subsegment j in segment i*
TTSeg_i	*= Sum of travel times of each subsegment j in segment i*	nLSeg_i	*= Sum of n*L for each subsegment j in segment i*

1. Basic Segment

Sub Segment Input and Calcs

$S_{1.1} := 65.0 \quad D_{1.1} := 16.8 \quad L_{1.1} := 5280 \quad n_{1.1} := 3 \quad TT_{1.1} := \frac{L_{1.1}}{S_{1.1}} = 81.231$

$nLD_{1.1} := n_{1.1} \cdot L_{1.1} \cdot D_{1.1} = 266112$

$nL_{1.1} := n_{1.1} \cdot L_{1.1} = 15840$

Segment Calcs

$nLDSeg_1 := nLD_{1.1} = 266112$

$nLSeg_1 := nL_{1.1} = 15840$

$TTSeg_1 := TT_{1.1} = 81.231$

$LSeg_1 := L_{1.1} = 5280$

2. Full Cloverleaf Segment

Sub Segment Input and Calcs

$S_{2.1} := 59.9$ $D_{2.1} := 17.9$ $L_{2.1} := 1500$ $n_{2.1} := 3$ $TT_{2.1} := \frac{L_{2.1}}{S_{2.1}} = 25.042$

$S_{2.2} := 65.0$ $D_{2.2} := 15.2$ $L_{2.2} := 500$ $n_{2.2} := 3$ $TT_{2.2} := \frac{L_{2.2}}{S_{2.2}} = 7.692$

$S_{2.3} := 53.1$ $D_{2.3} := 17.4$ $L_{2.3} := 3000$ $n_{2.3} := 4$ $TT_{2.3} := \frac{L_{2.3}}{S_{2.3}} = 56.497$

$S_{2.4} := 65.0$ $D_{2.4} := 16.5$ $L_{2.4} := 500$ $n_{2.4} := 3$ $TT_{2.4} := \frac{L_{2.4}}{S_{2.4}} = 7.692$

$S_{2.5} := 59.7$ $D_{2.5} := 18.8$ $L_{2.5} := 1500$ $n_{2.5} := 3$ $TT_{2.5} := \frac{L_{2.5}}{S_{2.5}} = 25.126$

$nLD_{2.1} := n_{2.1} \cdot L_{2.1} \cdot D_{2.1} = 80550$ $nL_{2.1} := n_{2.1} \cdot L_{2.1} = 4500$

$nLD_{2.2} := n_{2.2} \cdot L_{2.2} \cdot D_{2.2} = 22800$ $nL_{2.2} := n_{2.2} \cdot L_{2.2} = 1500$

$nLD_{2.3} := n_{2.3} \cdot L_{2.3} \cdot D_{2.3} = 208800$ $nL_{2.3} := n_{2.3} \cdot L_{2.3} = 12000$

$nLD_{2.4} := n_{2.4} \cdot L_{2.4} \cdot D_{2.4} = 24750$ $nL_{2.4} := n_{2.4} \cdot L_{2.4} = 1500$

$nLD_{2.5} := n_{2.5} \cdot L_{2.5} \cdot D_{2.5} = 84600$ $nL_{2.5} := n_{2.5} \cdot L_{2.5} = 4500$

Segment Calcs

$nLDSeg_2 := nLD_{2.1} + nLD_{2.2} + nLD_{2.3} + nLD_{2.4} + nLD_{2.5} = 421500$

$nLSeg_2 := nL_{2.1} + nL_{2.2} + nL_{2.3} + nL_{2.4} + nL_{2.5} = 24000$

$TTSeg_2 := TT_{2.1} + TT_{2.2} + TT_{2.3} + TT_{2.4} + TT_{2.5} = 122.049$

$LSeg_2 := L_{2.1} + L_{2.2} + L_{2.3} + L_{2.4} + L_{2.5} = 7000$

3. Basic Segment

Sub Segment Input and Calcs

$S_{3.1} := 65.0 \quad D_{3.1} := 19 \quad L_{3.1} := 5280 \quad n_{3.1} := 3 \quad TT_{3.1} := \frac{L_{3.1}}{S_{3.1}} = 81.231$

$nLD_{3.1} := n_{3.1} \cdot L_{3.1} \cdot D_{3.1} = 300960$

$nL_{3.1} := n_{3.1} \cdot L_{3.1} = 15840$

Segment Calcs

$nLDSeg_3 := nLD_{3.1} = 300960$

$nLSeg_3 := nL_{3.1} = 15840$

$TTSeg_3 := TT_{3.1} = 81.231$

$LSeg_3 := L_{3.1} = 5280$

4. Diamond

Sub Segment Input and Calcs

$S_{4.1} := 59.6 \quad D_{4.1} := 20.2 \quad L_{4.1} := 1500 \quad n_{4.1} := 3 \quad TT_{4.1} := \frac{L_{4.1}}{S_{4.1}} = 25.168$

$S_{4.2} := 65.0 \quad D_{4.2} := 16.5 \quad L_{4.2} := 2280 \quad n_{4.2} := 3 \quad TT_{4.2} := \frac{L_{4.2}}{S_{4.2}} = 35.077$

$S_{4.3} := 51.8 \quad D_{4.3} := 19.1 \quad L_{4.3} := 1500 \quad n_{4.3} := 4 \quad TT_{4.3} := \frac{L_{4.3}}{S_{4.3}} = 28.958$

$nLD_{4.1} := n_{4.1} \cdot L_{4.1} \cdot D_{4.1} = 90900 \qquad nL_{4.1} := n_{4.1} \cdot L_{4.1} = 4500$

$nLD_{4.2} := n_{4.2} \cdot L_{4.2} \cdot D_{4.2} = 112860 \qquad nL_{4.2} := n_{4.2} \cdot L_{4.2} = 6840$

$nLD_{4.3} := n_{4.3} \cdot L_{4.3} \cdot D_{4.3} = 114600 \qquad nL_{4.3} := n_{4.3} \cdot L_{4.3} = 6000$

Segment Calcs

$nLDSeg_4 := nLD_{4.1} + nLD_{4.2} + nLD_{4.3} = 318360$

$nLSeg_4 := nL_{4.1} + nL_{4.2} + nL_{4.3} = 17340$

$TTSeg_4 := TT_{4.1} + TT_{4.2} + TT_{4.3} = 89.202$

$LSeg_4 := L_{4.1} + L_{4.2} + L_{4.3} = 5280$

5. Basic Segment

Sub Segment Input and Calcs

$S_{5.1} := 51.8 \quad D_{5.1} := 19.1 \quad L_{5.1} := 1000 \quad n_{5.1} := 4 \quad TT_{5.1} := \frac{L_{5.1}}{S_{5.1}} = 19.305$

$nLD_{5.1} := n_{5.1} \cdot L_{5.1} \cdot D_{5.1} = 76400$

$nL_{5.1} := n_{5.1} \cdot L_{5.1} = 4000$

Segment Calcs

$nLDSeg_5 := nLD_{5.1} = 76400$

$nLSeg_5 := nL_{5.1} = 4000$

$TTSeg_5 := TT_{5.1} = 19.305$

$LSeg_5 := L_{5.1} = 1000$

6. Partial Cloverleaf

Sub Segment Input and Calcs

$S_{6.1} := 51.8 \quad D_{6.1} := 19.1 \quad L_{6.1} := 1500 \quad n_{6.1} := 4 \quad TT_{6.1} := \frac{L_{6.1}}{S_{6.1}} = 28.958$

$S_{6.2} := 65.0 \quad D_{6.2} := 16.5 \quad L_{6.2} := 2280 \quad n_{6.2} := 3 \quad TT_{6.2} := \frac{L_{6.2}}{S_{6.2}} = 35.077$

$S_{6.3} := 59.7 \quad D_{6.3} := 18.8 \quad L_{6.3} := 1500 \quad n_{6.3} := 3 \quad TT_{6.3} := \frac{L_{6.3}}{S_{6.3}} = 25.126$

$nLD_{6.1} := n_{6.1} \cdot L_{6.1} \cdot D_{6.1} = 114600 \qquad nL_{6.1} := n_{6.1} \cdot L_{6.1} = 6000$

$nLD_{6.2} := n_{6.2} \cdot L_{6.2} \cdot D_{6.2} = 112860 \qquad nL_{6.2} := n_{6.2} \cdot L_{6.2} = 6840$

$nLD_{6.3} := n_{6.3} \cdot L_{6.3} \cdot D_{6.3} = 84600 \qquad nL_{6.3} := n_{6.3} \cdot L_{6.3} = 4500$

Segment Calcs

$nLDSeg_6 := nLD_{6.1} + nLD_{6.2} + nLD_{6.3} = 312060$

$nLSeg_6 := nL_{6.1} + nL_{6.2} + nL_{6.3} = 17340$

$TTSeg_6 := TT_{6.1} + TT_{6.2} + TT_{6.3} = 89.16$

$LSeg_6 := L_{6.1} + L_{6.2} + L_{6.3} = 5280$

7. Full Cloverleaf Segment

Sub Segment Input and Calcs

$S_{7.1} := 59.3$ $D_{7.1} := 20.2$ $L_{7.1} := 1500$ $n_{7.1} := 3$ $TT_{7.1} := \frac{L_{7.1}}{S_{7.1}} = 25.295$

$S_{7.2} := 65.0$ $D_{7.2} := 16.5$ $L_{7.2} := 1500$ $n_{7.2} := 3$ $TT_{7.2} := \frac{L_{7.2}}{S_{7.2}} = 23.077$

$S_{7.3} := 59.5$ $D_{7.3} := 19.5$ $L_{7.3} := 1500$ $n_{7.3} := 3$ $TT_{7.3} := \frac{L_{7.3}}{S_{7.3}} = 25.21$

$S_{7.4} := 65.0$ $D_{7.4} := 19.8$ $L_{7.4} := 1000$ $n_{7.4} := 3$ $TT_{7.4} := \frac{L_{7.4}}{S_{7.4}} = 15.385$

$S_{7.5} := 58.7$ $D_{7.5} := 21.1$ $L_{7.5} := 1500$ $n_{7.5} := 3$ $TT_{7.5} := \frac{L_{7.5}}{S_{7.5}} = 25.554$

$S_{7.6} := 65.0$ $D_{7.6} := 16.0$ $L_{7.6} := 1500$ $n_{7.6} := 3$ $TT_{7.6} := \frac{L_{7.6}}{S_{7.6}} = 23.077$

$S_{7.7} := 55.0$ $D_{7.7} := 16.3$ $L_{7.7} := 1500$ $n_{7.7} := 4$ $TT_{7.7} := \frac{L_{7.7}}{S_{7.7}} = 27.273$

$nLD_{7.1} := n_{7.1} \cdot L_{7.1} \cdot D_{7.1} = 90900$ $nL_{7.1} := n_{7.1} \cdot L_{7.1} = 4500$

$nLD_{7.2} := n_{7.2} \cdot L_{7.2} \cdot D_{7.2} = 74250$ $nL_{7.2} := n_{7.2} \cdot L_{7.2} = 4500$

$nLD_{7.3} := n_{7.3} \cdot L_{7.3} \cdot D_{7.3} = 87750$ $nL_{7.3} := n_{7.3} \cdot L_{7.3} = 4500$

$nLD_{7.4} := n_{7.4} \cdot L_{7.4} \cdot D_{7.4} = 59400$ $nL_{7.4} := n_{7.4} \cdot L_{7.4} = 3000$

$nLD_{7.5} := n_{7.5} \cdot L_{7.5} \cdot D_{7.5} = 94950$ $nL_{7.5} := n_{7.5} \cdot L_{7.5} = 4500$

$nLD_{7.6} := n_{7.6} \cdot L_{7.6} \cdot D_{7.6} = 72000$ $nL_{7.6} := n_{7.6} \cdot L_{7.6} = 4500$

$nLD_{7.7} := n_{7.7} \cdot L_{7.7} \cdot D_{7.7} = 97800$ $nL_{7.7} := n_{7.7} \cdot L_{7.7} = 6000$

Segment Calcs

$nLDSeg_7 := nLD_{7.1} + nLD_{7.2} + nLD_{7.3} + nLD_{7.4} + nLD_{7.5} + nLD_{7.6} + nLD_{7.7} = 577050$

$nLSeg_7 := nL_{7.1} + nL_{7.2} + nL_{7.3} + nL_{7.4} + nL_{7.5} + nL_{7.6} + nL_{7.7} = 31500$

$TTSeg_7 := TT_{7.1} + TT_{7.2} + TT_{7.3} + TT_{7.4} + TT_{7.5} + TT_{7.6} + TT_{7.7} = 164.87$

$LSeg_7 := L_{7.1} + L_{7.2} + L_{7.3} + L_{7.4} + L_{7.5} + L_{7.6} + L_{7.7} = 10000$

8. Off-Ramp Segment

Sub Segment Input and Calcs

$S_{8.1} := 55.0$ $D_{8.1} := 16.3$ $L_{8.1} := 1500$ $n_{8.1} := 4$ $TT_{8.1} := \frac{L_{8.1}}{S_{8.1}} = 27.273$

$nLD_{8.1} := n_{8.1} \cdot L_{8.1} \cdot D_{8.1} = 97800$

$nL_{8.1} := n_{8.1} \cdot L_{8.1} = 6000$

Segment Calcs

$nLDSeg_8 := nLD_{8.1} = 97800$

$nLSeg_8 := nL_{8.1} = 6000$

$TTSeg_8 := TT_{8.1} = 27.273$

$LSeg_8 := L_{8.1} = 1500$

9. Basic Segment

Sub Segment Input and Calcs

$S_{9.1} := 65.0$ $D_{9.1} := 16.8$ $L_{9.1} := 5280$ $n_{9.1} := 3$ $TT_{9.1} := \frac{L_{9.1}}{S_{9.1}} = 81.231$

$nLD_{9.1} := n_{9.1} \cdot L_{9.1} \cdot D_{9.1} = 266112$

$nL_{9.1} := n_{9.1} \cdot L_{9.1} = 15840$

Segment Calcs

$nLDSeg_9 := nLD_{9.1} = 266112$

$nLSeg_9 := nL_{9.1} = 15840$

$TTSeg_9 := TT_{9.1} = 81.231$

$LSeg_9 := L_{9.1} = 5280$

10. Full Cloverleaf Segment

Sub Segment Input and Calcs

$S_{10.1} := 59.6$ $D_{10.1} := 17.9$ $L_{10.1} := 1500$ $n_{10.1} := 3$ $TT_{10.1} := \frac{L_{10.1}}{S_{10.1}} = 25.168$

$S_{10.2} := 65.0$ $D_{10.2} := 14.6$ $L_{10.2} := 1000$ $n_{10.2} := 3$ $TT_{10.2} := \frac{L_{10.2}}{S_{10.2}} = 15.385$

$S_{10.3} := 57.4$ $D_{10.3} := 20.8$ $L_{10.3} := 900$ $n_{10.3} := 3$ $TT_{10.3} := \frac{L_{10.3}}{S_{10.3}} = 15.679$

$S_{10.4} := 57.4$ $D_{10.4} := 20.8$ $L_{10.4} := 900$ $n_{10.4} := 3$ $TT_{10.4} := \frac{L_{10.4}}{S_{10.4}} = 15.679$

$S_{10.5} := 65$ $D_{10.5} := 15.7$ $L_{10.5} := 1000$ $n_{10.5} := 3$ $TT_{10.5} := \frac{L_{10.5}}{S_{10.5}} = 15.385$

$S_{10.6} := 59.5$ $D_{10.6} := 19.2$ $L_{10.6} := 1500$ $n_{10.6} := 3$ $TT_{10.6} := \frac{L_{10.6}}{S_{10.6}} = 25.21$

$nLD_{10.1} := n_{10.1} \cdot L_{10.1} \cdot D_{10.1} = 80550$ $nL_{10.1} := n_{10.1} \cdot L_{10.1} = 4500$

$nLD_{10.2} := n_{10.2} \cdot L_{10.2} \cdot D_{10.2} = 43800$ $nL_{10.2} := n_{10.2} \cdot L_{10.2} = 3000$

$nLD_{10.3} := n_{10.3} \cdot L_{10.3} \cdot D_{10.3} = 56160$ $nL_{10.3} := n_{10.3} \cdot L_{10.3} = 2700$

$nLD_{10.4} := n_{10.4} \cdot L_{10.4} \cdot D_{10.4} = 56160$ $nL_{10.4} := n_{10.4} \cdot L_{10.4} = 2700$

$nLD_{10.5} := n_{10.5} \cdot L_{10.5} \cdot D_{10.5} = 47100$ $nL_{10.5} := n_{10.5} \cdot L_{10.5} = 3000$

$nLD_{10.6} := n_{10.6} \cdot L_{10.6} \cdot D_{10.6} = 86400$ $nL_{10.6} := n_{10.6} \cdot L_{10.6} = 4500$

Segment Calcs

$nLDSeg_{10} := nLD_{10.1} + nLD_{10.2} + nLD_{10.3} + nLD_{10.4} + nLD_{10.5} + nLD_{10.6} = 370170$

$nLSeg_{10} := nL_{10.1} + nL_{10.2} + nL_{10.3} + nL_{10.4} + nL_{10.5} + nL_{10.6} = 20400$

$TTSeg_{10} := TT_{10.1} + TT_{10.2} + TT_{10.3} + TT_{10.4} + TT_{10.5} + TT_{10.6} = 112.506$

$LSeg_{10} := L_{10.1} + L_{10.2} + L_{10.3} + L_{10.4} + L_{10.5} + L_{10.6} = 6800$

11. Basic Segment

Sub Segment Input and Calcs

$S_{11.1} := 65.0 \quad D_{11.1} := 19.5 \quad L_{11.1} := 5280 \quad n_{11.1} := 3 \quad TT_{11.1} := \frac{L_{11.1}}{S_{11.1}} = 81.231$

$nLD_{11.1} := n_{11.1} \cdot L_{11.1} \cdot D_{11.1} = 308880$

$nL_{11.1} := n_{11.1} \cdot L_{11.1} = 15840$

Segment Calcs

$nLDSeg_{11} := nLD_{11.1} = 308880$

$nLSeg_{11} := nL_{11.1} = 15840$

$TTSeg_{11} := TT_{11.1} = 81.231$

$LSeg_{11} := L_{11.1} = 5280$

12. On-Ramp Segment

Sub Segment Input and Calcs

$S_{12.1} := 52.9 \quad D_{12.1} := 21 \quad L_{12.1} := 1500 \quad n_{12.1} := 4 \quad TT_{12.1} := \frac{L_{12.1}}{S_{12.1}} = 28.355$

$nLD_{12.1} := n_{12.1} \cdot L_{12.1} \cdot D_{12.1} = 126000$

$nL_{12.1} := n_{12.1} \cdot L_{12.1} = 6000$

Segment Calcs

$nLDSeg_{12} := nLD_{12.1} = 126000$

$nLSeg_{12} := nL_{12.1} = 6000$

$TTSeg_{12} := TT_{12.1} = 28.355$

$LSeg_{12} := L_{12.1} = 1500$

13. Basic Segment

Sub Segment Input and Calcs

$S_{13.1} := 52.9$ $D_{13.1} := 21$ $L_{13.1} := 1500$ $n_{13.1} := 4$ $TT_{13.1} := \frac{L_{13.1}}{S_{13.1}} = 28.355$

$nLD_{13.1} := n_{13.1} \cdot L_{13.1} \cdot D_{13.1} = 126000$

$nL_{13.1} := n_{13.1} \cdot L_{13.1} = 6000$

Segment Calcs

$nLDSeg_{13} := nLD_{13.1} = 126000$

$nLSeg_{13} := nL_{13.1} = 6000$

$TTSeg_{13} := TT_{13.1} = 28.355$

$LSeg_{13} := L_{13.1} = 1500$

14. Full Cloverleaf Segment

Sub Segment Input and Calcs

$S_{14.1} := 52.9$ $D_{14.1} := 21$ $L_{14.1} := 1500$ $n_{14.1} := 4$ $TT_{14.1} := \frac{L_{14.1}}{S_{14.1}} = 28.355$

$S_{14.2} := 65.0$ $D_{14.2} := 20.3$ $L_{14.2} := 1140$ $n_{14.2} := 3$ $TT_{14.2} := \frac{L_{14.2}}{S_{14.2}} = 17.538$

$S_{14.3} := 53.2$ $D_{14.3} := 20.9$ $L_{14.3} := 2000$ $n_{14.3} := 4$ $TT_{14.3} := \frac{L_{14.3}}{S_{14.3}} = 37.594$

$S_{14.4} := 65$ $D_{14.4} := 20.3$ $L_{14.4} := 1140$ $n_{14.4} := 3$ $TT_{14.4} := \frac{L_{14.4}}{S_{14.4}} = 17.538$

$S_{14.5} := 59$ $D_{14.5} := 22.8$ $L_{14.5} := 1500$ $n_{14.5} := 3$ $TT_{14.5} := \frac{L_{14.5}}{S_{14.5}} = 25.424$

$nLD_{14.1} := n_{14.1} \cdot L_{14.1} \cdot D_{14.1} = 126000$ $nL_{14.1} := n_{14.1} \cdot L_{14.1} = 6000$

$nLD_{14.2} := n_{14.2} \cdot L_{14.2} \cdot D_{14.2} = 69426$ $nL_{14.2} := n_{14.2} \cdot L_{14.2} = 3420$

$nLD_{14.3} := n_{14.3} \cdot L_{14.3} \cdot D_{14.3} = 167200$ $nL_{14.3} := n_{14.3} \cdot L_{14.3} = 8000$

$nLD_{14.4} := n_{14.4} \cdot L_{14.4} \cdot D_{14.4} = 69426$ $nL_{14.4} := n_{14.4} \cdot L_{14.4} = 3420$

$nLD_{14.5} := n_{14.5} \cdot L_{14.5} \cdot D_{14.5} = 102600$ $nL_{14.5} := n_{14.5} \cdot L_{14.5} = 4500$

Segment Calcs

$nLDSeg_{14} := nLD_{14.1} + nLD_{14.2} + nLD_{14.3} + nLD_{14.4} + nLD_{14.5} = 534652$

$nLSeg_{14} := nL_{14.1} + nL_{14.2} + nL_{14.3} + nL_{14.4} + nL_{14.5} = 25340$

$TTSeg_{14} := TT_{14.1} + TT_{14.2} + TT_{14.3} + TT_{14.4} + TT_{14.5} = 126.45$

$LSeg_{14} := L_{14.1} + L_{14.2} + L_{14.3} + L_{14.4} + L_{14.5} = 7280$

Facility Calcs

**Segment 8 is left out of the facility density and speed calcs because segment 8 has an overlapping inbetween length with the previous segment. See schematic.*

$$TotalSegnLD := nLDSeg_1 + nLDSeg_2 + nLDSeg_3 + nLDSeg_4 + nLDSeg_5 + nLDSeg_6 + nLDSeg_7 ... + nLDSeg_9 + nLDSeg_{10} + nLDSeg_{11} + nLDSeg_{12} + nLDSeg_{13} + nLDSeg_{14}$$

$TotalSegnLD = 4004256$

$$TotalSegnL := nLSeg_1 + nLSeg_2 + nLSeg_3 + nLSeg_4 + nLSeg_5 + nLSeg_6 + nLSeg_7 ... + nLSeg_9 + nLSeg_{10} + nLSeg_{11} + nLSeg_{12} + nLSeg_{13} + nLSeg_{14}$$

$TotalSegnL = 215280$ $FacilityDensity := \frac{TotalSegnLD}{TotalSegnL} = 18.6$

$$TotalSegL := LSeg_1 + LSeg_2 + LSeg_3 + LSeg_4 + LSeg_5 + LSeg_6 + LSeg_7 + LSeg_9 + LSeg_{10} ... + LSeg_{11} + LSeg_{12} + LSeg_{13} + LSeg_{14}$$

$TotalSegL = 66760$

$$TotalSegTT := TTSeg_1 + TTSeg_2 + TTSeg_3 + TTSeg_4 + TTSeg_5 + TTSeg_6 + TTSeg_7 ... + TTSeg_9 + TTSeg_{10} + TTSeg_{11} + TTSeg_{12} + TTSeg_{13} + TTSeg_{14}$$

$TotalSegTT = 1105.176$ $FacilitySpeed := \frac{TotalSegL}{TotalSegTT} = 60.4$