



## **APPENDIX 3 – Table of Contents – MDT Traffic Count Data & Traffic Delay Simulation**

### **3.0 MDT Traffic Count Data & Traffic Delay Simulation**

- 3.1 Traffic Count Data
- 3.2 Traffic Delay Simulation

**Day and Night Peak Hourly Traffic Volumes**  
**For Proposed Kearsal Module Transportation Route**

Location	From MP	To MP	Weighted Average Annual Peak Day Hourly Traffic Volume <sup>1</sup>	July Peak Day Hourly Traffic Volume <sup>2,3</sup>	Factor 1 <sup>4</sup>	Weighted Average Annual Peak Night Hourly Traffic Volume <sup>1</sup>	July Peak Night Hourly Traffic Volumes <sup>2,5</sup>	Factor 2 <sup>6</sup>	Night Travel Time Period
Hwy 12 East of Lolo Pass	34.0	28.1	59	<b>124</b>		11	<b>10</b>		2:30 am to 5 am
Hwy 12 West of Lolo Weigh Scale	28.1	32.7	139	<b>291</b>		29	<b>23</b>		2:30 am to 5 am
Hwy 93	83.9	91.1	2260	<b>4744</b>		123	<b>381</b>		Midnight to 4 am
Hwy 93	91.1	91.5	2827	<b>5935</b>		154	<b>477</b>		Midnight to 4 am
Hwy 93 / Reserve Street	0.0	0.8	2350	<b>4933</b>		185	<b>397</b>		Midnight to 4 am
Hwy 93 / Reserve Street	0.8	3.4	3279	<b>6883</b>		251	<b>553</b>		Midnight to 4 am
Hwy 93 / Reserve Street	3.4	4.4	2420	<b>5081</b>		190	<b>409</b>		Midnight to 4 am
Hwy 93 / Reserve Street	4.4	5.4	2277	<b>4780</b>		205	<b>384</b>		Midnight to 4 am
I-90	101.6	104.7	1736	<b>3644</b>		243	<b>293</b>		Midnight to 4 am
I-90	104.7	105.6	1616	<b>3393</b>		242	<b>273</b>		Midnight to 4 am
I-90	105.6	107.2	1589	<b>3336</b>		180	<b>268</b>		Midnight to 4 am
I-90	107.2	110.2	1340	<b>2813</b>		186	<b>226</b>		Midnight to 4 am
Hwy 200	0.0	1.1	701	<b>1471</b>		80	<b>118</b>		Midnight to 4 am
Hwy 200 / ATR - 015 <sup>2</sup>	5.1	5.1		533	1.76		33	0.06	
Hwy 200 <sup>7</sup>	1.1	32.8	302	<u>533</u>		31	<u>33</u>		Midnight to 4 am
Hwy 200 / ATR - 132 <sup>2</sup>	30.8	30.8		426	2.39		31	0.07	
Hwy 200 <sup>7</sup>	32.8	56.7	178	<u>426</u>		18	<u>31</u>		Midnight to 4 am
Hwy 200 / ATR - 070 <sup>2</sup>	73.0	73.0		291	2.14		31	0.11	
Hwy 200 <sup>7</sup>	56.7	101.7	136	<u>291</u>		15	<u>31</u>		11 pm to 5 am
Hwy 200	101.7	110.4	115	<b>241</b>		15	<b>19</b>		11 pm to 5 am
Hwy 287	20.5	38.9	30	<b>53</b>		6	<b>8</b>		11 pm to 6 am
Hwy 287	38.9	40.3	77	<b>137</b>		13	<b>20</b>		11 pm to 6 am
Hwy 287	40.3	64.8	43	<b>77</b>		3	<b>11</b>		11 pm to 6 am
Hwy 287	64.8	65.2	78	<b>139</b>		5	<b>20</b>		11 pm to 6 am
Hwy 89	40.5	40.9	462	<b>825</b>		39	<b>119</b>		11 pm to 6 am
Hwy 89	40.9	48.3	89	<b>159</b>		8	<b>23</b>		11 pm to 6 am
Hwy 89 / ATR - 039 <sup>2</sup>	81.5	81.5		76	1.79		11	0.14	
Hwy 89	48.3	83.6	43	<b>76</b>		3	<b>11</b>		11 pm to 6 am
Hwy 44	0.0	14.0	61	<b>108</b>		11	<b>16</b>		11 pm to 6 am
Hwy 358	0.0	28.0	28	<b>49</b>		3	<b>7</b>		11 pm to 6 am
Hwy 2	255.2	256.8	262	<b>468</b>		34	<b>68</b>		11 pm to 6 am
Hwy 213	0.0	6.9	178	<b>318</b>		26	<b>46</b>		11 pm to 6 am
Hwy 213	6.9	7.4	68	<b>122</b>		8	<b>18</b>		11 pm to 6 am
Hwy 214	0.0	21.7	21	<b>38</b>		2	<b>6</b>		11 pm to 6 am
Hwy 214	21.7	32.9	5	<b>9</b>		2	<b>1</b>		11 pm to 6 am

July Peak Day Hourly Traffic Volume Factor - Lolo Pass to Hwy 200 / 287 Junction	2.10
July Peak Day Hourly Traffic Volume Factor - Hwy 200 / 287 Junction to Sweetgrass	1.79

July Peak Night Hourly Traffic Volume Factor - From Lolo Pass to Hwy 200 / 287 Junction	0.08
July Peak Night Hourly Traffic Volume Factor - From Hwy 200 / 287 Junction to Sweetgrass	0.14

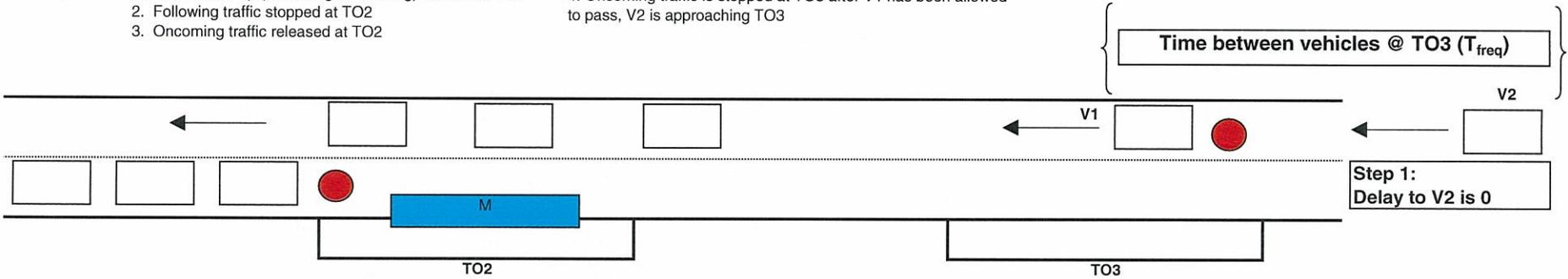
**Notes:**

- 1) MDT file: "exxon\_conoco\_west.xls"
- 2) MDT file: "july\_2008\_atr\_volumes.xlsx"
- 3) July Peak Day Hourly Traffic Volume in **Bold Italic font** are factored values (Weighted Average Annual Peak Day Hourly Traffic Volume multiplied by Factor 1)
- 4) Factor 1 = July Peak Day Hourly Traffic Volume for ATR sites divided by Weighted Average Annual Peak Day Hourly Traffic Volume for Next Route Segment
- 5) July Peak Night Hourly Traffic Volume in **Bold Italic font** are factored values (July Peak Day Hourly Traffic Volume multiplied by Factor 2)
- 6) Factor 2 = July Peak Night Hourly Traffic Volume divided by July Peak Day Hourly Traffic Volume for each ATR Site
- 7) July Peak Day and Night Hourly Traffic Volume in underlined font are forced to equal the closest preceding ATR site peak values.

## Traffic Delay Simulation for Oncoming Traffic

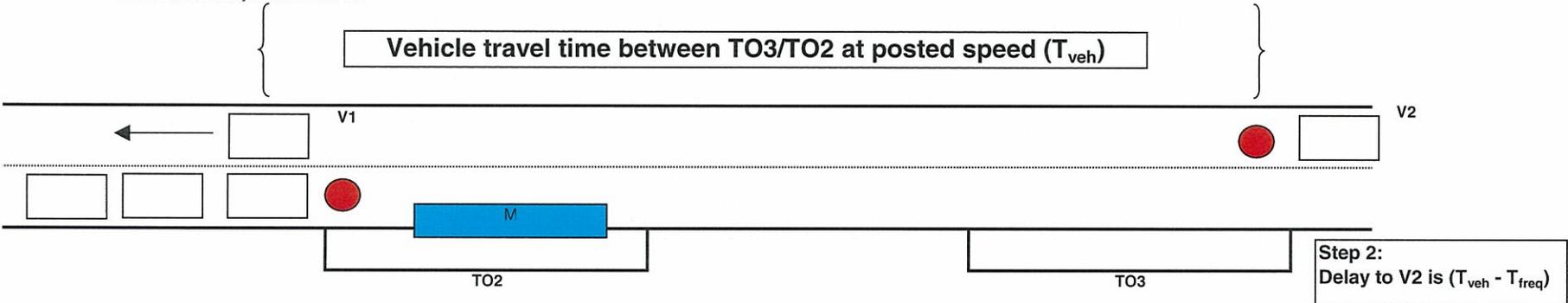
**STEP 1**

1. Traffic build-up (oncoming & following) cleared at TO2
2. Following traffic stopped at TO2
3. Oncoming traffic released at TO2
4. Oncoming traffic is stopped at TO3 after V1 has been allowed to pass, V2 is approaching TO3



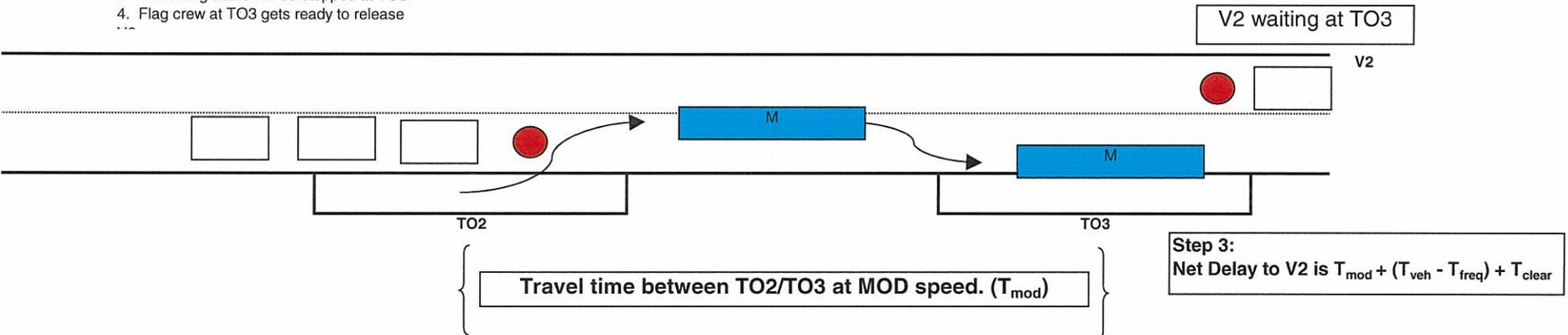
**STEP 2**

1. V1 crosses TO2
2. V2 stopped at TO3
3. Module is ready to move to TO3



**STEP 3**

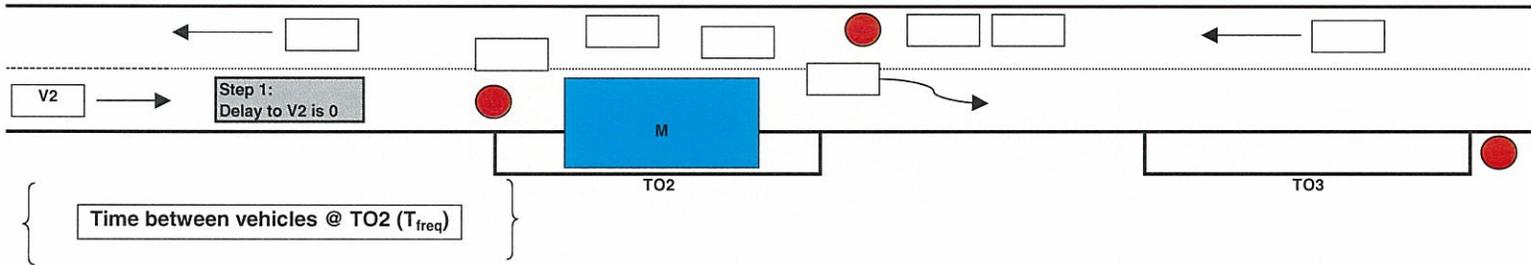
1. Vehicles waiting at TO2 are cleared
2. Module moves to TO3
3. Following traffic will be stopped at TO3
4. Flag crew at TO3 gets ready to release



## Traffic Delay Simulation for Following Traffic

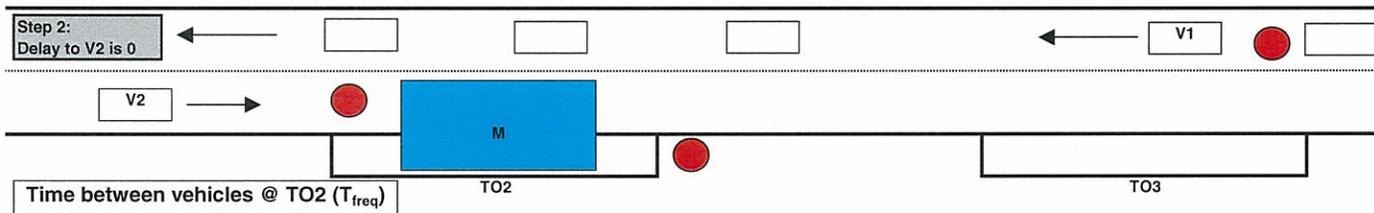
### STEP 1

1. Oncoming traffic buildup cleared at TO2 while following traffic has been stopped at TO2
2. Oncoming traffic at TO2 stopped, and following traffic released at TO2
3. Following traffic is stopped after the last vehicle has cleared TO2 (V2 approaches TO2)



### STEP 2

1. Oncoming traffic at TO2 released, oncoming traffic at TO3 stopped, V1 allowed to pass (all simultaneously)
2. V2 is approaching TO2



### STEP 3

1. All vehicles at TO2 are cleared before module starts from TO2
2. Following traffic follows module
3. Following traffic stopped at TO3
4. Oncoming traffic cleared at TO3
5. Following traffic released at TO2

