

FINAL REPORT

Volume 2 Technical Supplement

**AUTOMATIC UPDATING
of
TRAFFIC VOLUME DATA
for
SIGNAL TIMING PLAN
DEVELOPMENT**

**Prepared for:
Federal Highway Administration
U.S. Department of Transportation**

— jhk & associates
July 1987

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16. Abstract The purpose of this research was to test the validity of using automatically-collected traffic volumes from selected system detector sites to generate a full TRANSYT-7F data file for calculating signal network timing plans. Termed the 1.5 GC control concept, this approach assumes that volume shifts on selected links will accurately represent shifts throughout the network. Tests were run at two significantly different test sites and included several detector placement scenarios. The essential tasks included determining from a pre-existing data set the factors to be used to designate which volume data (locations) would serve as a surrogate to represent data collected by "system detectors." Site-specific algorithms were devised to synthesize TRANSYT data from the system detector data. New turning movement volume data were then collected at all signalized intersections at the same time link volume counts were manually collected at system detector sites. Applying the algorithms, TRANSYT-7F input files were created and signal settings were then generated using the estimated link volumes and link-to-link movement data. This TRANSYT run was then compared to the optimum settings generated using the new full TRANSYT data set. Results from multiple TRANSYT runs for both test sites strongly suggest that the 1.5 GC approach as simulated in this research is a viable alternative to the labor-intensive conventional field data collection currently used to develop TRANSYT-7F volume data files. This allows more frequent updates of timing plans to meet changing traffic conditions.			
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**AUTOMATIC UPDATING OF
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FOR SIGNAL TIMING
PLAN DEVELOPMENT**

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APPENDIX A**Tallahassee Test Site
Volume Updating Algorithms**

APPENDIX A NOTES

1. The following is a key to the volume updating equations. "Original" refers to the original TRANSYT-7F database. "New" refers to the new detector data which is used for 1.5 GC.

V_n = Total volume on link n.

t_n = Fraction of through traffic on link n.

l_n = Fraction of left turning traffic on link n.

r_n = Fraction of right turning traffic on link n.

D_n = Original detector count on link n. (In the Tallahassee case study original detector counts were not available, but were simulated using original TRANSYT-7F data.)

D'_n = New detector count on link n. (In the Tallahassee case study, some of the more straightforward links were not counted directly, but new detector data was simulated using new TRANSYT-7F data.)

L_{n-m} = Original link to link volume from link n to link m.

2. Appendix B contains documentation of special cases where the typical volume updating equations were modified for special conditions. These modifications are reflected in the Appendix A equations as appropriate. However, many of the special modifications dealt with modifying detector data for the presence of mid-block parking lots. These locations are not documented in the volume updating equations because the modification for mid-block parking lots was applied directly to the detector data, prior to input to the equations.
3. In cases where Rule 2 (sum of input links) was used to calculate new TRANSYT-7F link volumes, a modification was made for certain links to reflect mid-block parking lots. These locations are noted in the Appendix A equations.
4. Traffic volumes entering mid-block sinks (parking lots) were estimated using the original TRANSYT-7F volumes. This was accomplished by subtracting the sum of input volumes on a link from the total link volume as shown in the following general equation:

$$MBF_n = V_n - (L_{a-n} + L_{b-n} + L_{c-n})$$

where:

MBF_n = Mid-block flow for link n

V_n = Total volume on link n

L_{i-n} = Link to link volume from link i to link n

a,b,c = Links upstream from link n

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
2203	2303	1	$(\frac{D'_{2303}}{D_{2303}}) \cdot t_{2303} \cdot V_{2303}$
	2305	1	$(\frac{D'_{2305}}{D_{2305}}) \cdot r_{2305} \cdot V_{2305}$
	Total	1	$(\frac{D'_{2203}}{D_{2203}}) \cdot V_{2203}$
2205	Total	1	$(\frac{D'_{2205}}{D_{2205}}) \cdot V_{2205}$
2207	3201	1	$(\frac{D'_{3201}}{D_{3201}}) \cdot l_{3201} \cdot V_{3201}$
	3207	1	$(\frac{D'_{3207}}{D_{3207}}) \cdot t_{3207} \cdot V_{3207}$
	Total	1	$(\frac{D'_{2207}}{D_{2207}}) \cdot V_{2207}$
2303	2503	1	$(\frac{D'_{2503}}{D_{2503}}) \cdot t_{2503} \cdot V_{2503}$
	2507	1	$(\frac{D'_{2507}}{D_{2507}}) \cdot l_{2507} \cdot V_{2507}$

Link	Input Link	Rule Number	Equation	
2303	Total	1	$(\frac{D'_{2303}}{D_{2303}}) \cdot v_{2303}$	
2305	Total	1	$(\frac{D'_{2305}}{D_{2305}}) \cdot v_{2305}$	
2503	2703	1	$(\frac{D'_{2703}}{D_{2703}}) \cdot t_{2703} \cdot v_{2703}$	
A-5	2705	1	$(\frac{D'_{2705}}{D_{2705}}) \cdot r_{2705} \cdot v_{2705}$	
	2707	1	$(\frac{D'_{2707}}{D_{2707}}) \cdot l_{2707} \cdot v_{2707}$	
	Total	1	$(\frac{D'_{2503}}{D_{2503}}) \cdot v_{2503}$	
2507	3501	1	$(\frac{D'_{3501}}{D_{3501}}) \cdot l_{3501} \cdot v_{3501}$	
	3507	1	$(\frac{D'_{3507}}{D_{3507}}) \cdot t_{3507} \cdot v_{3507}$	
	Total	1	$(\frac{D'_{2507}}{D_{2507}}) \cdot v_{2507}$	

SCENARIO A EQUATIONS

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
2703	Total	1	$(\frac{D'_{2703}}{D_{2703}}) \cdot v_{2703}$
2705	Total	1	$(\frac{D'_{2705}}{D_{2705}}) \cdot v_{2705}$
2707	3701	1	$(\frac{D'_{3701}}{D_{3701}}) \cdot 1_{3701} \cdot v_{3701}$
A-6	3707	1	$(\frac{D'_{3707}}{D_{3707}}) \cdot t_{3707} \cdot v_{3707}$
	Total	1	$(\frac{D'_{2707}}{D_{2707}}) \cdot v_{2707}$
3201	Total	1	$(\frac{D'_{3201}}{D_{3201}}) v_{3201}$
3205	2203	1	$(\frac{D'_{2203}}{D_{2203}}) \cdot 1_{2203} \cdot v_{2203}$
	2205	1	$(\frac{D'_{2205}}{D_{2205}}) \cdot t_{2205} \cdot v_{2205}$
	Total	1	$(\frac{D'_{3205}}{D_{3205}}) \cdot v_{3205}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3207	4201	1	$(\frac{D'_{4201}}{D_{4201}}) \cdot l_{4201} \cdot V_{4201}$
	4203	1	$(\frac{D'_{4203}}{D_{4203}}) \cdot r_{4203} \cdot V_{4203}$
	4207	1	$(\frac{D'_{4207}}{D_{4207}}) \cdot t_{4207} \cdot V_{4207}$
	Total	1	$(\frac{D'_{3207}}{D_{3207}}) \cdot V_{3207}$
3301	3201	1	$(\frac{D'_{3201}}{D_{3201}}) \cdot t_{3201} \cdot V_{3201}$
	3205	1	$(\frac{D'_{3205}}{D_{3205}}) \cdot l_{3205} \cdot V_{3205}$
	3207	1	$(\frac{D'_{3207}}{D_{3207}}) \cdot r_{3207} \cdot V_{3207}$
	Total	1	$(\frac{D'_{3301}}{D_{3301}}) \cdot V_{3301}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3305	2303	1	$(\frac{D'_{2303}}{D_{2303}}) \cdot 1_{2303} \cdot V_{2303}$
	2305	1	$(\frac{D'_{2305}}{D_{2305}}) \cdot t_{2305} \cdot V_{2305}$
	Total	1	$(\frac{D'_{3305}}{D_{3305}}) \cdot V_{3305}$
A-8 3401	3301	1	$(\frac{D'_{3301}}{D_{3301}}) \cdot t_{3301} \cdot V_{3301}$
	3305	1	$(\frac{D'_{3305}}{D_{3305}}) \cdot 1_{3305} \cdot V_{3305}$
	Total	1	$(\frac{D'_{3401}}{D_{3401}}) \cdot V_{3401}$
3405	Total	1	$(\frac{D'_{3405}}{D_{3405}}) \cdot V_{3405}$
3412	Total	1	$(\frac{D'_{3412}}{D_{3412}}) \cdot V_{3412}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3501	3401	1	$(\frac{D'_{3401}}{D_{3401}}) \cdot t_{3401} \cdot V_{3401}$
	3405	1	$(\frac{D'_{3405}}{D_{3405}}) \cdot 1_{3405} \cdot V_{3405}$
	3412	1	$(\frac{D'_{3412}}{D_{3412}}) \cdot V_{3412}$
	Total	1	$(\frac{D'_{3501}}{D_{3501}}) \cdot V_{3501}$
3507	4607	1	$(\frac{D'_{4607}}{D_{4607}}) \cdot t_{4607} \cdot V_{4607}$
	4610	1	$(\frac{D'_{4610}}{D_{4610}}) \cdot r_{4610} \cdot V_{4610}$
	Total	1	$(\frac{D'_{3507}}{D_{3507}}) \cdot V_{3507}$
3701	3501	1	$(\frac{D'_{3501}}{D_{3501}}) \cdot t_{3501} \cdot V_{3501}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3701	3507	1	$(\frac{D'_{3507}}{D_{3507}}) \cdot r_{3507} \cdot v_{3507}$
	Total	1	$(\frac{D'_{3701}}{D_{3701}}) \cdot v_{3701}$
3705	2703	1	$(\frac{D'_{2703}}{D_{2703}}) \cdot l_{2703} \cdot v_{2703}$
	2705	1	$(\frac{D'_{2705}}{D_{2705}}) \cdot t_{2705} \cdot v_{2705}$
	Total	1	$(\frac{D'_{3705}}{D_{3705}}) v_{3705}$
3707	4701	1	$(\frac{D'_{4701}}{D_{4701}}) \cdot l_{4701} \cdot v_{4701}$
	4703	1	$(\frac{D'_{4703}}{D_{4703}}) \cdot r_{4703} \cdot v_{4703}$
	4707	1	$(\frac{D'_{4707}}{D_{4707}}) \cdot t_{4707} \cdot v_{4707}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	Total	1	$(\frac{D'_{3707}}{D_{3707}}) \cdot V_{3707}$
3801	3701	1	$(\frac{D'_{3701}}{D_{3701}}) \cdot t_{3701} \cdot V_{3701}$
	3705	1	$(\frac{D'_{3705}}{D_{3705}}) \cdot l_{3705} \cdot V_{3705}$
	3707	1	$(\frac{D'_{3707}}{D_{3707}}) \cdot r_{3707} \cdot V_{3707}$
	Total	1	$(\frac{D'_{3801}}{D_{3801}}) \cdot V_{3801}$
3805	Total	1	$(\frac{D'_{3805}}{D_{3805}}) \cdot V_{3805}$
4101	Total	1	$(\frac{D'_{4101}}{D_{4101}}) \cdot V_{4101}$
4103	4203	1	$(\frac{D'_{4203}}{D_{4203}}) \cdot t_{4203} \cdot V_{4203}$
	4205	1	$(\frac{D'_{4205}}{D_{4205}}) \cdot r_{4205} \cdot V_{4205}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4103	4207	1	$(\frac{D'_{4207}}{D_{4207}}) \cdot l_{4207} \cdot v_{4207}$
	Total	1	$(\frac{D'_{4103}}{D_{4103}}) v_{4103}$
4105	Total	1	$(\frac{D'_{4105}}{D_{4105}}) \cdot v_{4105}$
A-12 4107	Total	1	$(\frac{D'_{4107}}{D_{4107}}) \cdot v_{4107}$
4201	4101	1	$(\frac{D'_{4101}}{D_{4101}}) \cdot t_{4101} \cdot v_{4101}$
	4105	1	$(\frac{D'_{4105}}{D_{4105}}) \cdot l_{4105} \cdot v_{4105}$
	4107	1	$(\frac{D'_{4107}}{D_{4107}}) \cdot r_{4107} \cdot v_{4107}$
	Total	1	$(\frac{D'_{4201}}{D_{4201}}) \cdot v_{4201}$
4203	Total	1	$(\frac{D'_{4203}}{D_{4203}}) \cdot v_{4203}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4205	3201	1	$(\frac{D'_{3201}}{D_{3201}}) \cdot r_{3201} \cdot V_{3201}$
	3205	1	$(\frac{D'_{3205}}{D_{3205}}) \cdot t_{3205} \cdot V_{3205}$
	Total	1	$(\frac{D'_{4205}}{D_{4205}}) \cdot V_{4205}$
4207	5202	1	$(\frac{D'_{5201}}{D_{5201}}) \cdot V_{5202}$
	5203	1	$(\frac{D'_{5203}}{D_{5203}}) \cdot r_{5203} \cdot V_{5203}$
	5207	1	$(\frac{D'_{5207}}{D_{5207}}) \cdot t_{5207} \cdot V_{5207}$
	Total	1	$(\frac{D'_{4207}}{D_{4207}}) \cdot V_{4207}$
4607	5602	1	$(\frac{D'_{5601}}{D_{5601}}) \cdot V_{5602}$
	5603	1	$(\frac{D'_{5603}}{D_{5603}}) \cdot r_{5603} \cdot V_{5603}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4607	Total	1	$(\frac{D'_{4607}}{D_{4607}}) \cdot V_{4607}$
A-14	4703	1	$(\frac{D'_{4703}}{D_{4703}}) \cdot t_{4703} \cdot V_{4703}$
	4705	1	$(\frac{D'_{4705}}{D_{4705}}) \cdot r_{4705} \cdot V_{4705}$
	4707	1	$(\frac{D'_{4707}}{D_{4707}}) \cdot l_{4707} \cdot V_{4707}$
	Total	1	$(\frac{D'_{4610}}{D_{4610}}) \cdot V_{4610}$
4701	4607	1	$(\frac{D'_{4607}}{D_{4607}}) \cdot r_{4607} \cdot V_{4607}$
	Total	1	$(\frac{D'_{4701}}{D_{4701}}) \cdot V_{4701}$
4703	4803	1	$(\frac{D'_{4803}}{D_{4803}}) \cdot t_{4803} \cdot V_{4803}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4703	4805	1	$(\frac{D'_{4805}}{D_{4805}}) \cdot r_{4805} \cdot v_{4805}$
	4807	1	$(\frac{D'_{4807}}{D_{4807}}) \cdot l_{4807} \cdot v_{4807}$
	Total	1	$(\frac{D'_{4703}}{D_{4703}}) \cdot v_{4703}$
A-15 4705	3701	1	$(\frac{D'_{3701}}{D_{3701}}) \cdot r_{3701} \cdot v_{3701}$
	3705	1	$(\frac{D'_{3705}}{D_{3705}}) \cdot t_{3705} \cdot v_{3705}$
	Total	1	$(\frac{D'_{4705}}{D_{4705}}) \cdot v_{4705}$
4707	5703	1	$(\frac{D'_{5703}}{D_{5703}}) \cdot r_{5703} \cdot v_{5703}$
	5707	1	$(\frac{D'_{5707}}{D_{5707}}) \cdot t_{5707} \cdot v_{5707}$
	Total	1	$(\frac{D'_{4707}}{D_{4707}}) \cdot v_{4707}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4801	4701	1	$(\frac{D'_{4701}}{D_{4701}}) \cdot t_{4701} \cdot V_{4701}$
	4705	1	$(\frac{D'_{4705}}{D_{4705}}) \cdot l_{4705} \cdot V_{4705}$
	4707	1	$(\frac{D'_{4707}}{D_{4707}}) \cdot r_{4707} \cdot V_{4707}$
	Total	1	$(\frac{D'_{4801}}{D_{4801}}) \cdot V_{4801}$
4803	Total	1	$(\frac{D'_{4803}}{D_{4803}}) \cdot V_{4803}$
4805	3801	1	$(\frac{D'_{3801}}{D_{3801}}) \cdot r_{3801} \cdot V_{3801}$
	3805	1	$(\frac{D'_{3805}}{D_{3805}}) \cdot t_{3805} \cdot V_{3805}$
	Total	1	$(\frac{D'_{4805}}{D_{4805}}) \cdot V_{4805}$
4807	5803	1	$(\frac{D'_{5803}}{D_{5803}}) \cdot r_{5803} \cdot V_{5803}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4807	5807	1	$(\frac{D'_{5807}}{D_{5807}}) \cdot t_{5807} \cdot v_{5807}$
	Total	1	$(\frac{D'_{4807}}{D_{4807}}) \cdot v_{4807}$
5201	Total	1	$(\frac{D'_{5201}}{D_{5201}}) v_{5201}$
5202	Total	1	$(\frac{D'_{5201}}{D_{5201}}) v_{5202}$
5203	5303	1	$(\frac{D'_{5303}}{D_{5303}}) L_{5303-5203}$
	5311	1	$(\frac{D'_{5306}}{D_{5306}}) \cdot L_{5311-5203}$
	Total	1	$(\frac{D'_{5203}}{D_{5203}}) \cdot v_{5203}$
5204	5303	1	$(\frac{D'_{5303}}{D_{5303}}) L_{5303-5204}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5204	Total	1	$(\frac{D'_{5203}}{D_{5203}}) \cdot V_{5204}$
5205	4201	1	$L_{4201-5205} (\frac{D'_{4201}}{D_{4201}})$
	4203	1	$L_{4203-5205} (\frac{D'_{4203}}{D_{4203}})$
	4205	1	$L_{4205-5205} (\frac{D'_{4205}}{D_{4205}})$
	Total	1	$(\frac{D'_{5205}}{D_{5205}}) \cdot V_{5205}$
5206	4201	1	$L_{4201-5206} (\frac{D'_{4201}}{D_{4201}})$
	4205	1	$L_{4205-5206} (\frac{D'_{4205}}{D_{4205}})$
	Total	1	$(\frac{D'_{5205}}{D_{5205}}) \cdot V_{5206}$
5207	6201	1	$L_{6201-5207} (\frac{D'_{6201}}{D_{6201}})$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5207	6203	1	$L_{6203-5207} \left(\frac{D'_{6203}}{D_{6203}} \right)$
	6207	1	$L_{6207-5207} \left(\frac{D'_{6207}}{D_{6207}} \right)$
	Total	1	$\left(\frac{D'_{5207}}{D_{5207}} \right) \cdot V_{5207}$
5208	6203	1	$L_{6203-5208} \left(\frac{D'_{6203}}{D_{6203}} \right)$
	6207	1	$L_{6207-5208} \left(\frac{D'_{6207}}{D_{6207}} \right)$
	Total	1	$\left(\frac{D'_{5207}}{D_{5207}} \right) \cdot V_{5208}$
5301	5201	1	$\left(\frac{D'_{5201}}{D_{5201}} \right) \cdot t_{5201} \cdot V_{5201}$
	5206	1	$\left(\frac{D'_{5205}}{D_{5205}} \right) \cdot V_{5206}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5301	5207	1	$(\frac{D'_{5207}}{D_{5207}}) \cdot r_{5207} \cdot V_{5207}$
	Total	1	$(\frac{D'_{5301}}{D_{5301}}) \cdot V_{5301}$
5303	5403	1	$(\frac{D'_{5403}}{D_{5403}}) \cdot t_{5403} \cdot V_{5403}$
	5408	1	$(\frac{D'_{5408}}{D_{5408}}) \cdot V_{5408}$
	Total	1	$(\frac{D'_{5303}}{D_{5303}}) \cdot V_{5303}$
5306	Total	1	Peak: V_{5306} Off Peak: $(\frac{D'_{5306}}{D_{5306}}) V_{5306}$
5311	Total	1	Peak: $V_{5311} (D'_{5311} - D_{5311})$ Off Peak: $(\frac{D'_{5306}}{D_{5306}}) V_{5311}$
5401	5301	1	$(\frac{D'_{5301}}{D_{5301}}) \cdot t_{5301} \cdot V_{5301}$
	5306	1	$(\frac{D'_{5306}}{D_{5306}}) \cdot V_{5306}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5401	Total	1	$(\frac{D'_{5401}}{D_{5401}}) \cdot v_{5401}$
5403	5603	1	$L_{5603-5403} \cdot (\frac{D'_{5603}}{D_{5603}})$
	5605	1	$L_{5605-5403} (\frac{D'_{5605}}{D_{5605}})$
	Total	1	$(\frac{D'_{5403}}{D_{5403}}) \cdot v_{5403}$
5404	5603	1	$L_{5603-5404} (\frac{D'_{5603}}{D_{5603}})$
	5605	1	$L_{5605-5404} (\frac{D'_{5605}}{D_{5605}})$
	Total	1	$(\frac{D'_{5404}}{D_{5404}}) \cdot v_{5404}$
5408	6403	1	$L_{6403-5408} (\frac{D'_{6403}}{D_{6403}})$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5408	6407	1	$L_{6407-5408} \left(\frac{D'_{6407}}{D_{6407}} \right)$
	Total	1	$\left(\frac{D'_{5408}}{D_{5408}} \right) \cdot V_{5408}$
5412	6403	1	$L_{6403-5412} \cdot \left(\frac{D'_{6403}}{D_{6403}} \right)$
	6407	1	$L_{6407-5412} \cdot \left(\frac{D'_{6407}}{D_{6407}} \right)$
	Total	1	$\left(\frac{D'_{5408}}{D_{5408}} \right) \cdot V_{5412}$
5601	5401	1	$L_{5401-5601} \left(\frac{D'_{5401}}{D_{5401}} \right)$
	5412	1	$L_{5412-5601} \left(\frac{D'_{5412}}{D_{5412}} \right)$
	Total	1	$\left(\frac{D'_{5601}}{D_{5601}} \right) \cdot V_{5601}$
5602	5401	1	$L_{5401-5602} \left(\frac{D'_{5401}}{D_{5401}} \right)$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5602	5412	1	$L_{5412-5602} \left(\frac{D'_{5408}}{D_{5408}} \right)$
	Total	1	$\left(\frac{D'_{5601}}{D_{5601}} \right) \cdot V_{5602}$
5603	5703	1	$\left(\frac{D'_{5703}}{D_{5703}} \right) \cdot t_{5703} \cdot V_{5703}$
	5705	1	$\left(\frac{D'_{5705}}{D_{5705}} \right) \cdot r_{5705} \cdot V_{5705}$
	Total	1	$\left(\frac{D'_{5603}}{D_{5603}} \right) \cdot V_{5603}$
5605	Total	1	$\left(\frac{D'_{5605}}{D_{5605}} \right) \cdot V_{5605}$
5701	5601	1	$\left(\frac{D'_{5601}}{D_{5601}} \right) \cdot t_{5601} \cdot V_{5601}$
	5605	1	$\left(\frac{D'_{5605}}{D_{5605}} \right) \cdot l_{5605} \cdot V_{5605}$
	Total	1	$\left(\frac{D'_{5701}}{D_{5701}} \right) \cdot V_{5701}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5703	5803	1	$(\frac{D'_{5803}}{D_{5803}}) \cdot t_{5803} \cdot V_{5803}$
	5805	1	$(\frac{D'_{5805}}{D_{5805}}) \cdot r_{5805} \cdot V_{5805}$
	5807	1	$(\frac{D'_{5807}}{D_{5807}}) \cdot l_{5807} \cdot V_{5807}$
	Total	1	$(\frac{D'_{5703}}{D_{5703}}) \cdot V_{5703}$
5705	4701	1	$(\frac{D'_{4701}}{D_{4701}}) \cdot r_{4701} \cdot V_{4701}$
	4703	1	$(\frac{D'_{4703}}{D_{4703}}) \cdot l_{4703} \cdot V_{4703}$
	4705	1	$(\frac{D'_{4705}}{D_{4705}}) \cdot t_{4705} \cdot V_{4705}$
	Total	1	$(\frac{D'_{5705}}{D_{5705}}) \cdot V_{5705}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5707	6703	1	$(\frac{D'_{6703}}{D_{6703}}) \cdot r_{6703} \cdot V_{6703}$
	6707	1	$(\frac{D'_{6707}}{D_{6707}}) \cdot t_{6707} \cdot V_{6707}$
	Total	1	$(\frac{D'_{5707}}{D_{5707}}) \cdot V_{5707}$
5801	5701	1	$(\frac{D'_{5701}}{D_{5701}}) \cdot t_{5701} \cdot V_{5701}$
	5707	1	$(\frac{D'_{5707}}{D_{5707}}) \cdot r_{5707} \cdot V_{5707}$
	Total	1	$(\frac{D'_{5801}}{D_{5801}}) \cdot V_{5801}$
5803	Total	1	$(\frac{D'_{5803}}{D_{5803}}) \cdot V_{5803}$
5805	4801	1	$(\frac{D'_{4801}}{D_{4801}}) \cdot r_{4801} \cdot V_{4801}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5805	4803	1	$(\frac{D'_{4803}}{D_{4803}}) \cdot l_{4803} \cdot v_{4803}$
	4805	1	$(\frac{D'_{4805}}{D_{4805}}) \cdot t_{4805} \cdot v_{4805}$
	Total	1	$(\frac{D'_{5805}}{D_{5805}}) \cdot v_{5805}$
5807	6803	1	$(\frac{D'_{6803}}{D_{6803}}) \cdot r_{6803} \cdot v_{6803}$
	6807	1	$(\frac{D'_{6807}}{D_{6807}}) \cdot t_{6807} \cdot v_{6807}$
	Total	1	$(\frac{D'_{5807}}{D_{5807}}) \cdot v_{5807}$
6201	Total	1	$(\frac{D'_{6201}}{D_{6201}}) \cdot v_{6201}$
6203	6403	1	$(\frac{D'_{6403}}{D_{6403}}) \cdot t_{6403} \cdot v_{6403}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	6405	1	$(\frac{D'_{6405}}{D_{6405}}) \cdot r_{6405} \cdot v_{6405}$
	6408	1	$(\frac{D'_{6407}}{D_{6407}}) \cdot v_{6408}$
	Total	1	$(\frac{D'_{6203}}{D_{6203}}) \cdot v_{6203}$
A-27 6205	5201	1	$(\frac{D'_{5201}}{D_{5201}}) \cdot r_{5201} \cdot v_{5201}$
	5204	1	$(\frac{D'_{5203}}{D_{5203}}) \cdot v_{5204}$
	5205	1	$(\frac{D'_{5205}}{D_{5205}}) \cdot t_{5205} \cdot v_{5205}$
	Total	1	$(\frac{D'_{6205}}{D_{6205}}) \cdot v_{6205}$
6207	7201	1	$(\frac{D'_{7201}}{D_{7201}}) \cdot l_{7201} \cdot v_{7201}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6207	7207	1	$(\frac{D'_{7207}}{D_{7207}}) \cdot t_{7207} \cdot v_{7207}$
	Total	1	$(\frac{D'_{6207}}{D_{6207}}) \cdot v_{6207}$
6403	6503	1	$(\frac{D'_{6503}}{D_{6503}}) \cdot t_{6503} \cdot v_{6503}$
	6508	1	$(\frac{D'_{6508}}{D_{6508}}) \cdot v_{6508}$
	Total	1	$(\frac{D'_{6403}}{D_{6403}}) \cdot v_{6403}$
6405	5401	1	$(\frac{D'_{5401}}{D_{5401}}) \cdot r_{5401} \cdot v_{5401}$
	5404	1	$(\frac{D'_{5403}}{D_{5403}}) \cdot v_{5404}$
	Total	1	$(\frac{D'_{6405}}{D_{6405}}) \cdot v_{6405}$
6407	Total	1	$(\frac{D'_{6407}}{D_{6407}}) \cdot v_{6407}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6408	Total	1	$(\frac{D'_{6407}}{D_{6407}}) \cdot v_{6408}$
6503	6603	1	$(\frac{D'_{6603}}{D_{6603}}) \cdot t_{6603} \cdot v_{6603}$
	6608	1	$(\frac{D'_{6608}}{D_{6608}}) \cdot v_{6608}$
	Total	1	$(\frac{D'_{6503}}{D_{6503}}) \cdot v_{6503}$
6508	Total	1	$(\frac{D'_{6508}}{D_{6508}}) \cdot v_{6508}$
6603	6703	1	$(\frac{D'_{6703}}{D_{6703}}) \cdot t_{6703} \cdot v_{6703}$
	6705	1	$(\frac{D'_{6705}}{D_{6705}}) \cdot r_{6705} \cdot v_{6705}$
	6707	1	$(\frac{D'_{6706}}{D_{6706}}) \cdot l_{6707} \cdot v_{6707}$
	Total	1	$(\frac{D'_{6603}}{D_{6603}}) \cdot v_{6603}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6608	Total	1	$(\frac{D'_{6608}}{D_{6608}}) \cdot V_{6608}$
6703	6803	1	$(\frac{D'_{6803}}{D_{6803}}) \cdot t_{6803} \cdot V_{6803}$
	6805	1	$(\frac{D'_{6805}}{D_{6805}}) \cdot r_{6805} \cdot V_{6805}$
	6807	1	$(\frac{D'_{6807}}{D_{6807}}) \cdot l_{6807} \cdot V_{6807}$
	Total	1	$(\frac{D'_{6703}}{D_{6703}}) \cdot V_{6703}$
6705	5701	1	$(\frac{D'_{5701}}{D_{5701}}) \cdot r_{5701} \cdot V_{5701}$
6705	5701	1	$(\frac{D'_{5701}}{D_{5701}}) \cdot r_{5701} \cdot V_{5701}$
	5705	1	$(\frac{D'_{5705}}{D_{5705}}) \cdot t_{5705} \cdot V_{5705}$
	Total	1	$(\frac{D'_{6705}}{D_{6705}}) \cdot V_{6705}$

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<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6707	7701	1	$(\frac{D'_{7701}}{D_{7701}}) \cdot l_{7701} \cdot v_{7701}$
	7707	1	$(\frac{D'_{7707}}{D_{7707}}) \cdot t_{7707} \cdot v_{7707}$
	Total	1	$(\frac{D'_{6707}}{D_{6707}}) \cdot v_{6707}$
6803	Total	1	$(\frac{D'_{6803}}{D_{6803}}) \cdot v_{6803}$
6805	5801	1	$(\frac{D'_{5801}}{D_{5801}}) \cdot r_{5801} \cdot v_{5801}$
	5805	1	$(\frac{D'_{5805}}{D_{5805}}) \cdot t_{5805} \cdot v_{5805}$
	Total	1	$(\frac{D'_{6805}}{D_{6805}}) v_{6805}$
6807	Total	1	$(\frac{D'_{6807}}{D_{6807}}) \cdot v_{6807}$
7201	Total	1	$(\frac{D'_{7201}}{D_{7201}}) v_{7201}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7205	6201	1	$(\frac{D'_{6201}}{D_{6201}}) \cdot r_{6201} \cdot v_{6201}$
	6203	1	$(\frac{D'_{6203}}{D_{6203}}) \cdot l_{6203} \cdot v_{6203}$
	6205	1	$(\frac{D'_{6205}}{D_{6205}}) \cdot t_{6205} \cdot v_{6205}$
	Total	1	$(\frac{D'_{7205}}{D_{7205}}) \cdot v_{7205}$
7207	Total	1	$(\frac{D'_{7207}}{D_{7207}}) \cdot v_{7207}$
7701	7201	1	$(\frac{D'_{7201}}{D_{7201}}) \cdot t_{7201} \cdot v_{7201}$
	7205	1	$(\frac{D'_{7205}}{D_{7205}}) \cdot l_{7205} \cdot v_{7205}$
	7207	1	$(\frac{D'_{7207}}{D_{7207}}) \cdot r_{7207} \cdot v_{7207}$
	Total	1	$(\frac{D'_{7701}}{D_{7701}}) \cdot v_{7701}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7705	6703	1	$(\frac{D'_{6703}}{D_{6704}}) \cdot l_{6703} \cdot V_{6703}$
	6705	1	$(\frac{D'_{6705}}{D_{6705}}) \cdot t_{6705} \cdot V_{6705}$
	Total	1	$(\frac{D'_{7705}}{D_{7705}}) \cdot V_{7705}$
7707	Total	1	$(\frac{D'_{7707}}{D_{7707}}) \cdot V_{7707}$
7801	7701	1	$(\frac{D'_{7701}}{D_{7701}}) \cdot t_{7701} \cdot V_{7701}$
	7705	1	$(\frac{D'_{7705}}{D_{7705}}) \cdot l_{7705} \cdot V_{7705}$
	7707	1	$(\frac{D'_{7707}}{D_{7707}}) \cdot r_{7707} \cdot V_{7707}$
	Total	1	$(\frac{D'_{7801}}{D_{7801}}) \cdot V_{7801}$
7805	6803	1	$(\frac{D'_{6803}}{D_{6803}}) \cdot l_{6803} \cdot V_{6803}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6805	6805	1	$(\frac{D'_{6805}}{D_{6805}}) \cdot t_{6805} \cdot v_{6805}$
	Total	1	$(\frac{D'_{7805}}{D_{7805}}) \cdot v_{7805}$
7812	Total	1	$(\frac{D'_{7812}}{D_{7812}}) \cdot v_{7812}$

SCENARIO C EQUATIONS

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
2203	2303	3	$(\frac{D'_{2203}}{D_{2203}}) t_{2303} v_{2303}$
	2305	5	$(\frac{D'_N}{D_N}) r_{2305} v_{2305}$
	Total	1	$(\frac{D'_{2203}}{D_{2203}}) v_{2203}$
A-35	2205	1	$(\frac{D'_{2205}}{D_{2205}}) v_{2205} v_{13}$
	2207	1	$(\frac{D'_{3201}}{D_{3201}}) l_{3201} v_{3201}$
	3207	1	$(\frac{D'_{3207}}{D_{3207}}) t_{3207} v_{3207}$
	Total	1	$(\frac{D'_{2207}}{D_{2207}}) v_{2207}$
2303	2503	2	$t_{2503} [(\frac{D'_{2703}}{D_{2703}}) (t_{2703} v_{2705}) + (\frac{D'_{2707}}{D_{2707}}) (l_{2707} v_{2707}) + (\frac{D'_{2705}}{D_{2705}}) (r_{2705} v_{2705})]$
	2507	5	$(\frac{D'_N}{D_N}) l_{2507} v_{2507}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
2303	Total	3	$(\frac{D'_{2203}}{D_{2203}}) v_{2303}$
2305	Total	5	$(\frac{D'_N}{D_N}) v_{2305}$
2503	2703	1	$(\frac{D'_{2703}}{D_{2703}}) t_{2703} v_{2703}$
	2705	1	$(\frac{D'_{2705}}{D_{2705}}) r_{2705} v_{2705}$
	2707	1	$(\frac{D'_{2707}}{D_{2707}}) l_{2707} v_{2707}$
	Total	2	Sum of above
2507	3501	3	$(\frac{D'_{3701}}{D_{3701}}) l_{3501} v_{3501}$
	3507	5	$(\frac{D'_N}{D_N}) t_{3507} v_{3507}$
	Total	2	Sum of above

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
2703	Total	1	$(\frac{D'_{2703}}{D_{2703}}) v_{2703}$
2705	Total	1	$(\frac{D'_{2705}}{D_{2705}}) v_{2705}$
2707	3701	1	$(\frac{D'_{3701}}{D_{3701}}) l_{3701} v_{3701}$
	3701	1	$(\frac{D'_{3707}}{D_{3707}}) t_{3707} v_{3707}$
	Total	1	$(\frac{D'_{2707}}{D_{2707}}) v_{2707}$
3201	Total	1	$(\frac{D'_{3201}}{D_{3201}}) v_{3201}$
3205	2203	1	$(\frac{D'_{2203}}{D_{2203}}) l_{2203} v_{2203}$
	2205	1	$(\frac{D'_{2205}}{D_{2205}}) t_{2205} v_{2205}$
	Total	1	$(\frac{D'_{3205}}{D_{3205}}) v_{3205}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3207	4201	5	$(\frac{D'_N}{D_N}) l_{4201} V_{4201}$
	4203	5	$(\frac{D'_N}{D_N}) r_{4203} V_{4203}$
	4207	2	$t_{4207} [(\frac{D'_{5207}}{D_{5207}}) (t_{5207} V_{5207}) + (\frac{D'_{5201}}{D_{5201}}) (V_{5202}) + (\frac{D'_{5203}}{D_{5203}}) (r_{5203} V_{5203})]$
	Total	1	$(\frac{D'_{3207}}{D_{3207}}) V_{3207}$
3301	3201	1	$(\frac{D'_{3201}}{D_{3201}}) t_{3201} V_{3201}$
	3205	1	$(\frac{D'_{3205}}{D_{3205}}) l_{3205} V_{3205}$
	3207	1	$(\frac{D'_{3207}}{D_{3207}}) r_{3207} V_{3207}$
	Total	2	Sum of above (Peak only: Modified for mid-block sink)
3305	2303	3	$(\frac{D'_{2203}}{D_{2203}}) l_{2303} V_{2303}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3305	2305	5	$(\frac{D'_N}{D_N}) t_{2305} v_{2305}$
	Total	2	Sum of above (Peak only: Modified for mid-block sink)
3401	3301	2	$t_{3301} [(\frac{D'_{3201}}{D_{3201}}) (t_{3201} v_{3201}) + (\frac{D'_{3205}}{D_{3205}}) (l_{3205} v_{3205}) + (\frac{D'_{3207}}{D_{3207}}) (r_{3207} v_{3207})]$
	3305	5	$(\frac{D'_N}{D_N}) l_{3305} v_{3305}$
	Total	4	$[1/2 (\frac{D'_{3201}}{D_{3201}} + \frac{D'_{3701}}{D_{3701}})] v_{3401}$
3405	Total	5	$(\frac{D'_N}{D_N}) v_{3405}$
3412	Total	5	$(\frac{D'_N}{D_N}) v_{3412}$
3501	3401	4	$[1/2 (\frac{D'_{3201}}{D_{3201}} + \frac{D'_{3701}}{D_{3701}})] t_{3401} v_{3401}$
	3405	5	$(\frac{D'_N}{D_N}) l_{3405} v_{3405}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3501	3412	5	$(\frac{D'_N}{D_N}) v_{3412}$
	Total	3	$(\frac{D'_{3701}}{D_{3701}}) v_{3501}$
3507	4607	5	$(\frac{D'_N}{D}) t_{4607} v_{4607}$
	4610	5	$(\frac{D'_N}{D_N}) v_{4610}$
	Total	5	$(\frac{D'_N}{D_N}) v_{3507}$
3701	3501	3	$(\frac{D'_{3701}}{D_{3701}}) t_{3501} v_{3501}$
	3507	5	$(\frac{D'_N}{D_N}) r_{3507} v_{3507}$
	Total	1	$(\frac{D'_{3701}}{D_{3701}}) v_{3701}$
3705	2703	1	$(\frac{D'_{2703}}{D_{2703}}) l_{2703} v_{2703}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3705	2705	1	$(\frac{D'_{2705}}{D_{2705}}) t_{2705} v_{2705}$
	Total	1	$(\frac{D'_{3705}}{D_{3705}}) v_{3705}$
3707	4701	5	$(\frac{D'_N}{D_N}) l_{4701} v_{4701}$
	4703	5	$(\frac{D'_N}{D_N}) r_{4703} v_{4703}$
	4707	2	$t_{4707} [(\frac{D'_{5707}}{D_{5707}}) (t_{5707} v_{5707}) + (\frac{D'_{5703}}{D_{5703}}) (r_{5703} v_{5703})]$
	Total	1	$(\frac{D'_{3707}}{D_{3707}}) v_{3707}$
3801	3701	1	$(\frac{D'_{3701}}{D_{3701}}) t_{3701} v_{3701}$
	3705	1	$(\frac{D'_{3705}}{D_{3705}}) l_{3705} v_{3705}$
	3707	1	$(\frac{D'_{3707}}{D_{3707}}) r_{3707} v_{3707}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3801	Total	2	Sum of above
3805	Total	5	$(\frac{D'_N}{D_N}) V_{3805}$
4101	Total	5	$(\frac{D'_N}{D_N}) V_{4101}$
4103	4203	5	$(\frac{D'_N}{D_N}) t_{4203} V_{4203}$
	4205	4	$[1/2 (\frac{D'_{3205}}{D_{3205}}) + \frac{D'_{5205}}{D_{5205}}] r_{4205} V_{4205}$
	4207	4	$[1/2 (\frac{D'_{5207}}{D_{5207}} + \frac{D'_{3207}}{D_{3207}})] l_{4207} V_{4207}$
	Total	2	Sum of above
4105	Total	5	$(\frac{D'_N}{D_N}) V_{4105}$
4107	Total	5	$(\frac{D'_N}{D_N}) V_{4107}$

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<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4201	4101	5	$(\frac{D'_N}{D_N}) t_{4101} v_{4101}$
	4105	5	$(\frac{D'_N}{D_N}) l_{4105} v_{4105}$
	4107	5	$(\frac{D'_N}{D_N}) r_{4107} v_{4107}$
	Total	5	Off Peak: $(\frac{D'_N}{D_N}) v_{4201}$ Peak: $1/2 (\frac{D'_{3207}}{D_{3207}} + \frac{D'_{5205}}{D_{5205}}) v_{4201}$
4203	Total	5	$(\frac{D'_N}{D_N}) v_{4203}$
4205	3201	1	$(\frac{D'_{3201}}{D_{3201}}) r_{3201} v_{3201}$
	3205	1	$(\frac{D'_{3205}}{D_{3205}}) t_{3205} v_{3205}$
	Total	2	Sum of above
4207	5202	1	$(\frac{D'_{5201}}{D_{5201}}) v_{5202}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4207	5203	1	$(\frac{D'_{5203}}{D_{5203}}) r_{5203} v_{5203}$
	5207	1	$(\frac{D'_{5207}}{D_{5207}}) t_{5207} v_{5207}$
	Total	2	Sum of above
4607	5602	4	$[1/2 (\frac{D'_{5401}}{D_{5401}} + \frac{D'_{5412}}{D_{5412}})] v_{5602}$
	5603	3	$(\frac{D'_{5703}}{D_{5703}}) r_{5603} v_{5603}$
	Total	2	Sum of above
4610	4703	5	$(\frac{D'_N}{D_N}) t_{4703} v_{4703}$
	4705	4	$[1/2 (\frac{D'_{3705}}{D_{3705}} + \frac{D'_{5705}}{D_{5705}})] r_{4705} v_{4705}$
	4707	4	$[1/2 (\frac{D'_{5707}}{D_{5707}} + \frac{D'_{3707}}{D_{3707}})] l_{4707} v_{4707}$
	Total	2	Sum of above

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4701	4607	-	$[1/2 (\frac{D'_{5401}}{D_{5401}} + \frac{D'_{5412}}{D_{5412}})] r_{4607} v_{4607}$
	Total	2	Sum of above
4703	4803	5	$(\frac{D'_N}{D_N}) t_{4803} v_{4803}$
	4805	5	$(\frac{D'_N}{D_N}) r_{4805} v_{4805}$
	4807	5	$(\frac{D'_N}{D_N}) l_{4807} v_{4807}$
	Total	5	$(\frac{D'_N}{D_N}) v_{4703}$
4705	3701	1	$(\frac{D'_{3701}}{D_{3701}}) r_{3701} v_{3701}$
	3705	1	$(\frac{D'_{3705}}{D_{3705}}) t_{3705} v_{3705}$
	Total	2	Sum of above
4707	5703	1	$(\frac{D'_{5703}}{D_{5703}}) r_{5703} v_{5703}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4707	5707	1	$(\frac{D'_{5707}}{D_{5707}}) t_{5707} v_{5707}$
	Total	2	Sum of above
4801	4701	5	$(\frac{D'_N}{D_N}) t_{4701} v_{4701}$
	4705	4	$[1/2 (\frac{D'_{3705}}{D_{3705}} + \frac{D'_{5705}}{D_{5705}})] l_{4705} v_{4705}$
	4707	4	$[1/2 (\frac{D'_{5707}}{D_{5707}} + \frac{D'_{3707}}{D_{3707}})] r_{4707} v_{4707}$
	Total	2	Sum of above
4803	Total	5	$(\frac{D'_N}{D_N}) v_{4803}$
4805	3801	3	$(\frac{D'_{3701}}{D_{3701}}) r_{3801} v_{3801}$
	3805	5	$(\frac{D'_N}{D_N}) t_{3805} v_{3805}$
	Total	2	Sum of above

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4807	5803	3	$(\frac{D'_{5703}}{D_{5703}}) r_{5803} v_{5803}$
	5807	5	$(\frac{D'_N}{D_N}) t_{5807} v_{5807}$
	Total	2	Sum of above
5201	Total	1	$(\frac{D'_{5201}}{D_{5201}}) v_{5201}$
5202	Total	3	$(\frac{D'_{5201}}{D_{5201}}) v_{5202}$
5203	5303	2	$\frac{L_{5303} - 5203}{L_{5303} - 5203 + L_{5303} - 5204} [(\frac{D'_{5403}}{D_{5403}}) (t_{5403} v_{5403}) + (\frac{D'_{5408}}{D_{5408}}) (v_{5408})]$
	5311	5	$(\frac{D'_N}{D_N}) v_{5311}$
	Total	1	$(\frac{D'_{5203}}{D_{5203}}) v_{5203}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5204	5303	2	$(\frac{L_{5303} - 5204}{L_{5303} - 5204 + L_{5303} - 5203}) [(\frac{D'_{5403}}{D_{5403}}) (V_{5403}) + (\frac{D'_{5408}}{D_{5408}}) (V_{5408})]$
	Total	1	$(\frac{D'_{5203}}{D_{5203}}) V_{5204}$
5205	4201	5	$(\frac{D'_N}{D_N}) (L_{4201} - 5205)$
	4203	5	$(\frac{D'_N}{D_N}) (L_{4203} - 5205)$
5205	4205	4	$[1/2 (\frac{D'_{3205}}{D_{3205}} + \frac{D'_{5205}}{D_{5205}})] L_{4205} - 5203$
	Total	1	$(\frac{D'_{5205}}{D_{5205}}) V_{5205}$
5206	4201	5	$(\frac{D'_N}{D_N}) (L_{4201} - 5206)$
	4205	4	$[1/2 (\frac{D'_{3205}}{D_{3205}})] L_{4205} - 5206$
	Total	2	Sum of above

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5207	6201	1	$(\frac{D'_{6201}}{D_{6201}}) L_{6201 - 5207}$
	6203	1	$(\frac{D'_{6203}}{D_{6203}}) L_{6203 - 5207}$
	6207	1	$(\frac{D'_{6207}}{D_{6207}}) L_{6207 - 5207}$
	Total	1	$(\frac{D'_{5207}}{D_{5207}}) V_{5207}$
5208	6203	1	$(\frac{D'_{6203}}{D_{6203}}) L_{6203 - 5208}$
	6207	1	$(\frac{D'_{6207}}{D_{6207}}) L_{6207 - 5208}$
	Total	1	$(\frac{D'_{5207}}{D_{5207}}) V_{5208}$
5301	5201	1	$(\frac{D'_{5201}}{D_{5201}}) t_{5201} V_{5201}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>	
	5206	1	$(\frac{D'_{5205}}{D_{5205}}) v_{5206}$	
	5207	1	$(\frac{D'_{5207}}{D_{5207}}) r_{5207} v_{5207}$	
	Total	2	Sum of above	
5303	5403	1	$(\frac{D'_{5403}}{D_{5403}}) v_{5403}$	
	5408	1	$(\frac{D'_{5408}}{D_{5408}}) v_{5408}$	
	Total	2	Sum of above	
5306	Total	3	Off Peak: $(\frac{D'_N}{D_N}) v_{5306}$	Peak: $(\frac{D'_{5401}}{D_{5401}}) v_{5306}$
5311	Total	3	Off Peak; $(\frac{D'_N}{D_N}) v_{5311}$	Peak: $(\frac{D'_{5203}}{D_{5203}}) v_{5311}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5401	5301	2	$t_{5301} \left[\left(\frac{D'_{5201}}{D_{5201}} \right) (t_{5201} v_{5201}) + \left(\frac{D'_{5205}}{D_{5205}} \right) (v_{5206}) + \left(\frac{D'_{5207}}{D_{5207}} \right) (r_{5207} v_{5207}) \right]$
	5306	5	$\left(\frac{D'_N}{D_N} \right) v_{5306}$
	Total	2	Sum of above (Peak Only: Modified for mid-block sink)
5403	5603	2	$t_{5603} \left(\frac{L_{5603} - 5403}{L_{5603} - 5403 + L_{5603} - 5404} \right) \left[\left(\frac{D'_{5703}}{D_{5703}} \right) (t_{5703} v_{5703}) + \left(\frac{D'_{5705}}{D_{5705}} \right) (r_{5705} v_{5705}) \right]$
	5605	5	$(L_{5605} - 5403) \left(\frac{D'_N}{D_N} \right)$
	Total	1	$\left(\frac{D'_{5403}}{D_{5403}} \right) v_{5403}$
5404	5603	4	$(L_{5603} - 5404) \left[\frac{1}{2} \left(\frac{D'_{5703}}{D_{5703}} + \frac{D'_{5403}}{D_{5403}} \right) \right]$
	5605	5	$(L_{5605} - 5404) \left(\frac{D'_N}{D_N} \right)$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5404	Total	1	$(\frac{D'_{5403}}{D_{5403}}) V_{5404}$
5408	6403	1	$(\frac{D'_{6403}}{D_{6403}}) L_{6403 - 5408}$
5601	5401	1	$(L_{5401 - 5601}) (\frac{D'_{5401}}{D_{5401}})$
	5412	1	$(L_{5412 - 5601}) (\frac{D'_{5408}}{D_{5408}})$
	Total	2	Sum of above
5601	5401	1	$(L_{5401 - 5602}) (\frac{D'_{5401}}{D_{5401}})$
	5412	1	$(L_{5412 - 5602}) (\frac{D'_{5408}}{D_{5408}})$
	Total	2	Sum of above

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5603	5703	1	$(\frac{D'_{5703}}{D_{5703}}) (t_{5703} v_{5703})$
	5705	1	$(\frac{D'_{5705}}{D_{5705}}) (r_{5705} v_{5705})$
	Total	2	Sum of above
5605	Total	5	$(\frac{D'_N}{D_N}) v_{5605}$
5701	5601	2	$[(\frac{L_{5401} - 5601}{L_{5401} - 5601 + L_{5401} - 5602}) (\frac{D'_{5401}}{D_{5401}}) (t_{5401} v_{5401})] +$ $[(\frac{L_{5412} - 5601}{L_{5412} - 5601 + L_{5412} - 5602}) (\frac{D'_{5408}}{D_{5408}}) (v_{5412})]$
5701	5605	5	$(\frac{D'_N}{D_N}) l_{5605} v_{5605}$
	Total	1	$(\frac{D'_{5701}}{D_{5701}}) v_{5701}$
5705	4701	5	$(\frac{D'_N}{D_N}) l_{4703} v_{4703}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	4705	2	$t_{4705} \left[\left(\frac{D'_{3705}}{D_{3705}} \right) (t_{3705} V_{3705}) + \left(\frac{D'_{3701}}{D_{3701}} \right) (r_{3701} V_{3701}) \right]$
	Total	1	$\left(\frac{D'_{5705}}{D_{5705}} \right) V_{5705}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5707	6703	1	$(\frac{D'_{6703}}{D_{6703}}) r_{6703} v_{6703}$
	6707	1	$(\frac{D'_{6707}}{D_{6707}}) t_{6707} v_{6707}$
	Total	1	$(\frac{D'_{5707}}{D_{5707}}) v_{5707}$
5801	5701	1	$(\frac{D'_{5701}}{D_{5701}}) t_{5701} v_{5701}$
	5707	1	$(\frac{D'_{5707}}{D_{5707}}) r_{5707} v_{5707}$
	Total	2	Sum of above
5803	Total	3	$(\frac{D'_{5703}}{D_{5703}}) v_{5803}$
5805	4801	5	$(\frac{D'_N}{D_N}) r_{4801} v_{4801}$
	4803	5	$(\frac{D'_N}{D_N}) l_{4803} v_{4803}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5805	4805	5	$(\frac{D'_N}{D_N}) t_{4805} V_{4805}$
	Total	5	$(\frac{D'_N}{D_N}) V_{5805}$
5807	6803	3	$(\frac{D'_{6703}}{D_{6703}}) r_{6803} V_{6803}$
	6807	5	$(\frac{D'_N}{D_N}) t_{6801} V_{6807}$
	Total	2	Sum of above
6201	Total	1	$(\frac{D'_{6201}}{D_{6201}}) V_{6201}$
6203	6403	1	$(\frac{D'_{6403}}{D_{6403}}) t_{6403} V_{6403}$
	6405	1	$(\frac{D'_{6405}}{D_{6405}}) r_{6405} V_{6405}$
	6408	1	$(\frac{D'_{6407}}{D_{6407}}) V_{6408}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6203	Total	1	$(\frac{D'_{6203}}{D_{6203}}) V_{6203}$
6205	5201	1	$(\frac{D'_{5201}}{D_{5201}}) r_{5201} V_{5201}$
	5204	1	$(\frac{D'_{5203}}{D_{5203}}) V_{5204}$
	5205	1	$(\frac{D'_{5205}}{D_{5205}}) t_{5205} V_{5205}$
6205	Total	1	$(\frac{D'_{6205}}{D_{6205}}) V_{6205}$
6207	7201	5	$(\frac{D'_N}{D_N}) l_{7201} V_{7201}$
	7207	3	$(\frac{D'_{6207}}{D_{6207}}) t_{7207} V_{7207}$
	Total	1	$(\frac{D'_{6207}}{D_{6207}}) V_{6207}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6403	6503	3	$(\frac{D'_{6403}}{D_{6403}}) t_{6503} v_{6503}$
	6508	5	$(\frac{D'_N}{D_N}) v_{6508}$
	Total	1	$(\frac{D'_{6403}}{D_{6403}}) v_{6403}$
6405	5401	1	$(\frac{D'_{5401}}{D_{5401}}) r_{5401} v_{5401}$
	5404	1	$(\frac{D'_{5403}}{D_{5403}}) v_{5404}$
	Total	1	$(\frac{D'_{6405}}{D_{6405}}) v_{6405}$
6407	Total	1	$(\frac{D'_{6407}}{D_{6407}}) v_{6407}$
6408	Total	1	$(\frac{D'_{6407}}{D_{6407}}) v_{6408}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6503	6603	2	$t_{6603} \left[\left(\frac{D'_{6703}}{D_{6703}} \right) (t_{6703} v_{6703}) + \left(\frac{D'_{6707}}{D_{6707}} \right) (1_{6707} v_{6707}) + \left(\frac{D'_{6705}}{D_{6705}} \right) \right]$
	6608	5	$\left(\frac{D'_N}{D_N} \right) v_{6608}$
	Total	2	Sum of above (Off Peak Only: Modified for mid-block sink)
6508	Total	5	$\left(\frac{D'_N}{D_N} \right) v_{6508}$
6603	6703	1	$\left(\frac{D'_{6703}}{D_{6703}} \right) t_{6703} v_{6703}$
	6705	1	$\left(\frac{D'_{6705}}{D_{6705}} \right) r_{6705} v_{6705}$
	6707	1	$\left(\frac{D'_{6707}}{D_{6707}} \right) 1_{6707} v_{6707}$
	Total	2	Sum of above
6608	Total	5	$\left(\frac{D'_N}{D_N} \right) v_{6608}$
6703	6803	3	$\left(\frac{D'_{6703}}{D_{6703}} \right) t_{6803} v_{6803}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6703	6805	5	$(\frac{D'_N}{D_N}) r_{6805} v_{6805}$
	6807	5	$(\frac{D'_N}{D_N}) l_{6807} v_{6807}$
	Total	1	$(\frac{D'_{6703}}{D_{6703}}) v_{6703}$
6705	5701	1	$(\frac{D'_{5701}}{D_{5701}}) r_{5701} v_{5701}$
	5705	1	$(\frac{D'_{5705}}{D_{5705}}) t_{5705} v_{5705}$
	Total	1	$(\frac{D'_{6705}}{D_{6705}}) v_{6705}$
6707	7701	5	$(\frac{D'_N}{D_N}) l_{7701} v_{7701}$
	7707	3	$(\frac{D'_{6707}}{D_{6707}}) v_{6705}$
6707	7701	5	$(\frac{D'_N}{D_N}) l_{7701} v_{7701}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6707	7707	3	$(\frac{D'_{6707}}{D_{6707}}) t_{7707} V_{7707}$
	Total	1	$(\frac{D'_{6707}}{D_{6707}}) V_{6707}$
6803	Total	3	$(\frac{D'_{6703}}{D_{6703}}) V_{6803}$
6805	5801	3	$(\frac{D'_{5701}}{D_{5701}}) r_{5801} V_{5801}$
	5805	5	$(\frac{D'_N}{D_N}) t_{5805} V_{5805}$
	Total	2	Sum of above (Peak Only: Modified for mid-block sink)
6807	Total	5	$(\frac{D'_N}{D_N}) V_{6807}$
7201	Total	5	$(\frac{D'_N}{D_N}) V_{7201}$
7205	6201	1	$(\frac{D'_{6201}}{D_{6201}}) r_{6201} V_{6201}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7205	6203	1	$(\frac{D'_{6203}}{D_{6203}}) 1_{6203} V_{6203}$
	6205	1	$(\frac{D'_{6205}}{D_{6205}}) t_{6205} V_{6205}$
	Total	2	Sum of above
7207	Total	3	$(\frac{D'_{6207}}{D_{6207}}) V_{7207}$
7701	7201	5	$(\frac{D'_N}{D_N}) t_{7201} V_{7201}$
	7205	3	$(\frac{D'_{6205}}{D_{6205}}) 1_{7205} V_{7205}$
	7207	5	$(\frac{D'_N}{D_N}) r_{7207} V_{7207}$
	Total	5	Peak: Sum of above Off Peak: $(\frac{D'_N}{D_N}) V_{7701}$
7705	6703	1	$(\frac{D'_{6703}}{D_{6703}}) 1_{6703} V_{6703}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7705	6705	1	$(\frac{D'_{6705}}{D_{6705}}) t_{6705} V_{6705}$
	Total	2	Sum of above (Peak Only: Modified for mid-block sink)
7707	Total	3	$(\frac{D'_{6707}}{D_{6707}}) V_{7707}$
7801	7701	5	$(\frac{D'_N}{D_N}) t_{7701} V_{7701}$
	7705	3	$(\frac{D'_{6705}}{D_{6705}}) l_{7705} V_{7705}$
	7707	5	$(\frac{D'_N}{D_N}) r_{7707} V_{7707}$
	Total	2	Sum of above
7805	6803	5	$(\frac{D'_N}{D_N}) l_{6803} V_{6803}$
	6805	5	$(\frac{D'_N}{D_N}) t_{6805} V_{6805}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	Total	5	$(\frac{D'_N}{D_N}) v_{7805}$
7812	Total	5	$(\frac{D'_N}{D_N}) v_{7812}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
2203	2303	1	$(\frac{D'_{2303}}{D_{2303}}) t_{2303} \cdot V_{2303}$
	2305	3	$(\frac{D'_{3305}}{D_{3305}}) r_{2305} \cdot V_{2305}$
	Total	2	Sum of above (Peak Only: Modified for mid-block sinks.)
2205	Total	3	$(\frac{D'_{5205}}{D_{5205}}) V_{2205}$
2207	3201	3	$(\frac{D'_{3501}}{D_{3501}}) l_{3201} \cdot V_{3201}$
	3207	2	$t_{3207} [(\frac{D'_{4207}}{D_{4207}}) t_{4207} \cdot V_{4207} + (\frac{D'_{4201}}{D_{4201}}) l_{4201} V_{4201} + (\frac{D'_{4103}}{D_{4103}}) \cdot r_{4203} \cdot V_{4203}]$
	Total	2	Sum of above
2303	2503	3	$(\frac{D'_{2303}}{D_{2303}}) t_{2503} \cdot V_{2503}$
	2507	3	$(\frac{D'_{3507}}{D_{3507}}) R_{2507} \cdot V_{2507}$
	Total	1	$(\frac{D'_{2303}}{D_{2303}}) V_{2303}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
2305	Total	3	$(\frac{D'_{3305}}{D_{3305}}) V_{2305}$
2503	2707	3	$(\frac{D'_{4707}}{D_{4707}}) l_{2707} \cdot V_{2707}$
	2703	3	$(\frac{D'_{2303}}{D_{2303}}) \cdot t_{2703} \cdot V_{2703}$
	2705	3	$(\frac{D'_{5705}}{D_{5705}}) \cdot R_{2705} \cdot V_{2705}$
	Total	2	Sum of above
2507	3501	1	$(\frac{D'_{3501}}{D_{3501}}) l_{3501} \cdot V_{3501}$
	3507	1	$(\frac{D'_{3507}}{D_{3507}}) \cdot t_{3507} \cdot V_{3507}$
	Total	2	Sum of above
2703	Total	3	$(\frac{D'_{2303}}{D_{2303}}) V_{2703}$
2705	Total	3	$(\frac{D'_{5705}}{D_{5705}}) V_{2705}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
2707	3707	2	$t_{3707} \left[\left(\frac{D'_{4707}}{D_{4707}} \right) t_{4707} \cdot V_{4707} + \left(\frac{D'_{4801}}{D_{4801}} \right) l_{4701} V_{4701} + \left(\frac{D'_N}{D_N} \right) r_{4703} \cdot V_{4703} \right]$
	3701	3	$\left(\frac{D'_{3501}}{D_{3501}} \right) l_{3701} \cdot V_{3701}$
	Total	2	Sum of above
3201	Total	3	$\left(\frac{D'_{3501}}{D_{3501}} \right) V_{3201}$
3205	2203	3	$\left(\frac{D'_{2303}}{D_{2303}} \right) \cdot l_{2203} \cdot V_{2203}$
	2205	3	$\left(\frac{D'_{4205}}{D_{4205}} \right) \cdot t_{2205} \cdot V_{2205}$
	Total	2	Sum of above (Peak Only: Modified for mid-block sinks)
3207	4207	1	$\left(\frac{D'_{4207}}{D_{4207}} \right) t_{4207} \cdot V_{4207}$
	4203	3	$\left(\frac{D'_{4103}}{D_{4103}} \right) r_{4203} \cdot V_{4203}$
	4201	1	$\left(\frac{D'_{4201}}{D_{4201}} \right) l_{4201} \cdot V_{4201}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3207	Total	2	Sum of above
3301	3207	3	$(\frac{D'_{4207}}{D_{4207}}) r_{3207} \cdot V_{3207}$
	3201	3	$(\frac{D'_{3501}}{D_{3501}}) t_{3201} \cdot V_{3201}$
	3205	3	$(\frac{D'_{5205}}{D_{5205}}) l_{3205} \cdot V_{3205}$
	Total	2	Sum of above (Peak Only: Modified for mid-block sinks.)
3305	2303	1	$(\frac{D'_{2303}}{D_{2303}}) \cdot L_{2303} \cdot V_{2303}$
	2305	3	$(\frac{D'_{3305}}{D_{3305}}) \cdot t_{2305} \cdot V_{2305}$
	Total	1	$(\frac{D'_{3305}}{D_{3305}}) \cdot V_{3305}$
3401	3301	3	$(\frac{D'_{3501}}{D_{3501}}) t_{3301} \cdot V_{3301}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3401	3305	1	$(\frac{D'_{3305}}{D_{3305}}) \cdot 1_{3305} V_{3305}$
	Total	2	Sum of above
3405	Total	1	$(\frac{D'_{3405}}{D_{3405}}) V_{3405}$
3412	Total	1	$(\frac{D'_{3412}}{D_{3412}}) V_{3412}$
3501	3401	3	$(\frac{D'_{3501}}{D_{3501}}) \cdot t_{3401} \cdot V_{3401}$
	3405	1	$(\frac{D'_{3405}}{D_{3405}}) \cdot 1_{3405} \cdot V_{3405}$
	3412	1	$(\frac{D'_{3412}}{D_{3412}}) V_{3412}$
	Total	1	$(\frac{D'_{3501}}{D_{3501}}) V_{3501}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3507	4610	5	$(\frac{D'_N}{D_N}) V_{4610}$
	4607	3	$(\frac{D'_{3507}}{D_{3507}}) \cdot t_{4607} \cdot V_{4607}$
	Total	1	$(\frac{D'_{3507}}{D_{3507}}) \cdot V_{3507}$
3701	3507	1	$(\frac{D'_{3507}}{D_{3507}}) \cdot r_{3507} \cdot V_{3507}$
	3501	1	$(\frac{D'_{3501}}{D_{3501}}) \cdot t_{3501} \cdot V_{3501}$
	Total	2	Sum of above (Peak Only: Modified for mid-block sinks.)
3705	2705	3	$(\frac{D'_{5705}}{D_{5705}}) t_{2705} \cdot V_{2705}$
	2703	3	$(\frac{D'_{2303}}{D_{2303}}) l_{2703} \cdot V_{2703}$
	Total	2	Sum of above

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3707	4701	3	$(\frac{D'_{4801}}{D_{4801}}) \cdot l_{4701} \cdot V_{4701}$
	4703	5	$(\frac{D'_N}{D_N}) \cdot r_{4703} \cdot V_{4703}$
	4707	1	$(\frac{D'_{4707}}{D_{4707}}) \cdot t_{4707} \cdot V_{4707}$
	Total	2	Sum of above
3801	3707	3	$(\frac{D'_{4707}}{D_{4707}}) \cdot r_{3707} \cdot V_{3707}$
	3701	2	$t_{3701} [(\frac{D'_{3501}}{D_{3501}}) \cdot t_{3501} \cdot V_{3501} + (\frac{D'_{3507}}{D_{3507}}) \cdot r_{3507} \cdot V_{3507}]$
	3705	3	$(\frac{D'_{5705}}{D_{5705}}) \cdot L_{3705} \cdot V_{3705}$
	Total.	2	Sum of above
3805	Total	3	$(\frac{D'_{5805}}{D_{5805}}) \cdot V_{3805}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4101	Total	3	$(\frac{D'_{4201}}{D_{4201}}) \cdot v_{4101}$
4103	4203	3	$(\frac{D'_{4103}}{D_{4103}}) \cdot t_{4203} \cdot v_{4203}$
	4205	3	$(\frac{D'_{5205}}{D_{5205}}) \cdot r_{4205} \cdot v_{4205}$
	4207	1	$(\frac{D'_{4207}}{D_{4207}}) \cdot l_{4207} \cdot v_{4207}$
	Total	1	$(\frac{D'_{4103}}{D_{4103}}) \cdot v_{4103}$
4105	Total	5	$(\frac{D'_N}{D_N}) \cdot v_{4105}$
4107	Total	5	$(\frac{D'_N}{D_N}) \cdot v_{4107}$
4201	4101	3	$(\frac{D'_{4201}}{D_{4201}}) \cdot t_{4101} \cdot v_{4101}$
	4105	5	$(\frac{D'_N}{D_N}) \cdot l_{4105} \cdot v_{4105}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4201	4107	5	$(\frac{D'_N}{D_N}) \cdot r_{4107} \cdot v_{4107}$
	Total	1	$(\frac{D'_{4201}}{D_{4201}}) \cdot v_{4201}$
4203	Total	3	$(\frac{D'_{4103}}{D_{4103}}) \cdot v_{4203}$
4205	3201	3	$(\frac{D'_{3501}}{D_{3501}}) r_{3201} \cdot v_{3201}$
	3205	3	$(\frac{D'_{4205}}{D_{4205}}) \cdot t_{3205} \cdot v_{3205}$
	Total	2	Sum of above
4207	5202	5	$(\frac{D'_N}{D_N}) v_{5202}$
	5203	3	$(\frac{D'_{5403}}{D_{5403}}) r_{5203} \cdot v_{5203}$
	5207	3	$(\frac{D'_{4207}}{D_{4207}}) \cdot t_{5207} \cdot v_{5207}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4207	Total	1	$(\frac{D'_{4207}}{D_{4207}}) \cdot V_{4207}$
4607	5602	1	$(\frac{D'_{5601}}{D_{5601}}) \cdot V_{5602}$
	5603	3	$(\frac{D'_{5403}}{D_{5403}}) \cdot r_{5603} \cdot V_{5603}$
	Total	2	Sum of above (Peak Only: Modified for mid-block sinks)
4610	4703	5	$(\frac{D'_N}{D_N}) \cdot t_{4703} \cdot V_{4703}$
	4705	3	$(\frac{D'_{5705}}{D_{5705}}) \cdot r_{4705} \cdot V_{4705}$
	4707	1	$(\frac{D'_{4707}}{D_{4707}}) \cdot L_{4707}$
	Total	2	Sum of above (Peak Only: Modified for mid-block sinks)
4701	4607	3	$(\frac{D'_{3507}}{D_{3507}}) \cdot r_{4607} \cdot V_{4607}$
	Total	2	Sum of above

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4703	4803	5	$(\frac{D'_N}{D_N}) \cdot t_{4803} \cdot V_{4803}$
	4805	3	$(\frac{D'_{5805}}{D_{5805}}) \cdot r_{4805} \cdot V_{4805}$
	4807	3	$(\frac{D'_{5807}}{D_{5807}}) \cdot l_{4807} \cdot V_{4807}$
	Total	2	Sum of above
4705	3701	3	$(\frac{D'_{3501}}{D_{3501}}) \cdot r_{3701} \cdot V_{3701}$
	3705	3	$(\frac{D'_{5705}}{D_{5705}}) \cdot t_{3705} \cdot V_{3705}$
	Total	2	Sum of above
4707	5703	3	$(\frac{D'_{5403}}{D_{5403}}) \cdot r_{5703} \cdot V_{5703}$
	5707	3	$(\frac{D'_{4707}}{D_{4707}}) \cdot t_{5707} \cdot V_{5707}$

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<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4707	Total	1	$(\frac{D'_{4707}}{D_{4707}}) \cdot V_{4707}$
4801	4701	3	$(\frac{D'_{4801}}{D_{4801}}) \cdot t_{4701} \cdot V_{4701}$
	4705	3	$(\frac{D'_{5705}}{D_{5705}}) \cdot l_{4705} \cdot V_{4705}$
	4707	1	$(\frac{D'_{4707}}{D_{4707}}) \cdot r_{4707} \cdot V_{4707}$
	Total	1	$(\frac{D'_{4801}}{D_{4801}}) \cdot V_{4801}$
4803	Total	5	$(\frac{D'_N}{D_N}) \cdot V_{4803}$
4805	3801	3	$(\frac{D'_{3501}}{D_{3501}}) \cdot r_{3801} \cdot V_{3801}$
	3805	3	$(\frac{D'_{5805}}{D_{5805}}) \cdot t_{3805} \cdot V_{3805}$
	Total	2	Sum of above

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4807	5803	3	$(\frac{D'_{5403}}{D_{5403}}) \cdot r_{5803} \cdot V_{5803}$
	Total	2	Sum of above
5201	Total	3	$(\frac{D'_{5601}}{D_{5601}}) \cdot V_{5201}$
5202	Total	5	$(\frac{D'_N}{D_N}) \cdot V_{5202}$
5203	5303	3	$(\frac{D'_{5403}}{D_{5403}}) L_{5303-5203}$
	5311	3	$(\frac{D'_{3305}}{D_{3305}}) L_{5311-5203}$
	Total	2	Sum of above (Peak Only: Modified for mid-block sinks)

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5204	5303	3	$(\frac{D'_{5403}}{D_{5403}}) L_{5303-5204}$
	5311	3	$[(\frac{D'_{3305}}{D_{3305}}) \cdot v_{5311}]$
	Total	2	Sum of above (Peak Only: Modified for mid-block sinks)
5205	4201	1	$L_{4201-5205} [(\frac{D'_{4201}}{D_{4201}})]$
	4203	3	$L_{4203-5205} [(\frac{D'_{4103}}{D_{4103}})]$
	4205	3	$L_{4205-5205} [(\frac{D'_{5205}}{D_{5205}})]$
	Total	1	$(\frac{D'_{5205}}{D_{5205}}) v_{5205}$
5206	4201	1	$L_{4201-5206} [(\frac{D'_{4201}}{D_{4201}})]$
	4205	3	$L_{4205-5206} [(\frac{D'_{5205}}{D_{5205}})]$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5206	Total	1	$[(\frac{D'_{5205}}{D_{5205}}) v_{5206}]$
5207	6201	1	$L_{6201-5207} [(\frac{D'_{6201}}{D_{6201}})]$
	6203	3	$(L_{6203-5207}) [(\frac{D'_{6503}}{D_{6503}})]$
	6207	3	$L_{6207-5207} [(\frac{D'_{4207}}{D_{4207}})]$
	Total	2	Sum of above
5208	6201	1	$L_{6201-5208} [(\frac{D'_{6201}}{D_{6201}})]$
	6203	3	$(L_{6203-5208}) (\frac{D'_{6503}}{D_{6503}})$
	6207	3	$L_{6207-5208} [(\frac{D'_{4207}}{D_{4207}})]$
	Total	2	Sum of above

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5301	5201	3	$(\frac{D'_{5601}}{D_{5601}}) \cdot t_{5201} \cdot v_{5201}$
	5206	1	$(\frac{D'_{5205}}{D_{5205}}) \cdot v_{5206}$
	5207	3	$(\frac{D'_{4207}}{D_{4207}}) \cdot r_{5207} \cdot v_{5207}$
	Total	2	Sum of above
5303	5403	1	$(\frac{D'_{5403}}{D_{5403}}) \cdot t_{5403} \cdot v_{5403}$
	5408	1	$(\frac{D'_{5408}}{D_{5408}}) \cdot v_{5408}$
	Total	2	Sum of above
5306	Total	3	$(\frac{D'_{3305}}{D_{3305}}) \cdot v_{5306}$
5311	Total	3	$(\frac{D'_{3305}}{D_{3305}}) \cdot v_{5311}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5401	5301	3	$(\frac{D'_{5601}}{D_{5601}}) \cdot t_{5301} = v_{5301}$
	5306	3	$(\frac{D'_{3305}}{D_{3305}}) \cdot v_{5306}$
	Total	2	Sum of above (Peak Only: Modified for mid-block sinks)
5403	5603	3	$L_{5603-5403} [(\frac{D'_{5403}}{D_{5403}})]$
	5601	1	$L_{5605-5403} [(\frac{D'_{5605}}{D_{5605}})]$
	Total	1	$(\frac{D'_{5403}}{D_{5403}}) v_{5403}$
5404	5603	3	$L_{5603-5404} [(\frac{D'_{5403}}{D_{5403}})]$
	5601	1	$L_{5605-5404} [(\frac{D'_{5605}}{D_{5605}})]$
	Total	1	$(\frac{D'_{5403}}{D_{5403}}) v_{5404}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5408	6403	3	$I_{6403-5408} [(\frac{D'_{6503}}{D_{6503}})]$
	6407	3	$L_{6407-5408} (\frac{D'_{5408}}{D_{5408}})$
	Total	1	$(\frac{D'_{5408}}{D_{5408}}) \cdot V_{5408}$
5412	6403	3	$L_{6403-5412} [(\frac{D'_{6503}}{D_{6503}})]$
	6407	3	$L_{6407-5412} (\frac{D'_{5408}}{D_{5408}})$
	Total	1	$(\frac{D'_{5408}}{D_{5408}}) \cdot V_{5412}$
5601	5412	1	$L_{5412-5601} [(\frac{D'_{5408}}{D_{5408}})]$
	5401	3	$L_{5401-5601} [(\frac{D'_{5601}}{D_{5601}})]$
	Total	1	$(\frac{D'_{5601}}{D_{5601}}) V_{5601}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5601	5401	3	$L_{5401-5602} \left[\left(\frac{D'_{5601}}{D_{5601}} \right) \right]$
	5412	1	$L_{5412-5602} \left[\left(\frac{D'_{5408}}{D_{5408}} \right) \right]$
	Total	1	$\left(\frac{D'_{5601}}{D_{5601}} \right) V_{5602}$
5603	5703	3	$\left(\frac{D'_{5403}}{D_{5403}} \right) t_{5703} \cdot V_{5703}$
	5705	1	$\left(\frac{D'_{5705}}{D_{5705}} \right) \cdot r_{5705} \cdot V_{5705}$
	Total	2	Sum of above (Peak Only: Modified for mid-block sinks)
5605	Total	1	$\left(\frac{D'_{5605}}{D_{5605}} \right) V_{5605}$
5701	5605	1	$\left(\frac{D'_{5605}}{D_{5605}} \right) \cdot l_{5605} \cdot V_{5605}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5701	5601	1	$(\frac{D'_{5601}}{D_{5601}}) \cdot t_{5601} \cdot V_{5601}$
	Total	2	Sum of above
5703	5803	3	$(\frac{D'_{5403}}{D_{5403}}) \cdot t_{5803} \cdot V_{5803}$
	5805	1	$(\frac{D'_{5805}}{D_{5805}}) \cdot r_{5805} \cdot V_{5805}$
	5807	1	$(\frac{D'_{5807}}{D_{5807}}) \cdot l_{5807} \cdot V_{5807}$
	Total	2	Sum of above
5705	4701	3	$(\frac{D'_{4801}}{D_{4801}}) \cdot r_{4701} \cdot V_{4701}$
	4703	5	$(\frac{D'_N}{D_N}) \cdot l_{4703} \cdot V_{4703}$
	4705	3	$(\frac{D'_{5705}}{D_{5705}}) \cdot t_{4705} \cdot V_{4705}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5705	Total	1	$(\frac{D'_{5705}}{D_{5705}}) \cdot v_{5705}$
5707	6703	3	$(\frac{D'_{6503}}{D_{6503}}) \cdot r_{6703} \cdot v_{6703}$
	6707	3	$(\frac{D'_{4707}}{D_{4707}}) \cdot t_{6707} \cdot v_{6707}$
	Total	2	Sum of above
5801	5701	2	$t_{5701} [(\frac{D'_{5601}}{D_{5601}}) \cdot v_{5601} + (\frac{D'_{5605}}{D_{5605}}) \cdot i_{5605} \cdot v_{5605}]$
	5707	3	$(\frac{D'_{4707}}{D_{4707}}) \cdot r_{5707} \cdot v_{5707}$
	Total	2	Sum of above
5803	Total	3	$(\frac{D'_{5403}}{D_{5403}}) \cdot v_{5803}$
5805	4801	1	$(\frac{D'_{4801}}{D_{4801}}) \cdot r_{4801} \cdot v_{4801}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	4803	5	$(\frac{D'_N}{D_N}) \cdot l_{4803} \cdot v_{4803}$
	4805	3	$(\frac{D'_{5805}}{D_{5805}}) \cdot t_{4805} \cdot v_{4805}$
	Total	1	$(\frac{D'_{5805}}{D_{5805}}) \cdot v_{5805}$
5807/	6803	3	$(\frac{D'_{6503}}{D_{6503}}) \cdot r_{6803} \cdot v_{6803}$
	6807	3	$(\frac{D'_{5807}}{D_{5807}}) \cdot t_{6807} \cdot v_{6807}$
	Total	1	$(\frac{D'_{5807}}{D_{5807}}) \cdot v_{5807}$
6201	Total	1	$(\frac{D'_{6201}}{D_{6201}}) \cdot v_{6201}$
6203	6403	2	$t_{6403} [(\frac{D'_{6503}}{D_{6503}}) \cdot t_{6503} \cdot v_{6503} + (\frac{D'_{6508}}{D_{6508}}) v_{6508}]$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6203	6405	1	$(\frac{D'_{6405}}{D_{6405}}) \cdot r_{6405} \cdot V_{6405}$
	6408	3	$(\frac{D'_N}{D_N}) \cdot V_{6408}$
	Total	2	Sum of above (Peak Only: Modified for mid-block sinks)
6205	5201	3	$(\frac{D'_{5601}}{D_{5601}}) \cdot r_{5201} \cdot V_{5201}$
	5204	3	$(\frac{D'_{5403}}{D_{5403}}) \cdot V_{5204}$
	5205	1	$(\frac{D'_{5205}}{D_{5205}}) \cdot t_{5205} \cdot V_{5205}$
	Total	2	Sum of above
6207	7201	3	$(\frac{D'_{7701}}{D_{7701}}) \cdot l_{7201} \cdot V_{7201}$
	7207	3	$(\frac{D'_{4207}}{D_{4207}}) \cdot t_{7207} \cdot V_{7207}$
	Total	2/3	Off Peak: Sum of above Peak: $(\frac{D'_{4207}}{D_{4207}}) V_{6207}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6403	6503	1	$(\frac{D'_{6503}}{D_{6503}}) \cdot t_{6503} \cdot V_{6503}$
	6508	1	$(\frac{D'_{6508}}{D_{6508}}) \cdot V_{6508}$
	Total	2	Sum of above
6405	5401	3	$(\frac{D'_{5601}}{D_{5601}}) \cdot r_{5401} \cdot V_{5401}$
	5404	1	$(\frac{D'_{5403}}{D_{5403}}) \cdot V_{5404}$
	Total	1	$(\frac{D'_{6405}}{D_{6405}}) \cdot V_{6405}$
6407	Total	3	$(\frac{D'_{5408}}{D_{5408}}) \cdot V_{6407}$
6408	Total	5	$(\frac{D'_N}{D_N}) \cdot V_{6408}$
6503	6603	3	$(\frac{D'_{6503}}{D_{6503}}) \cdot t_{6603} \cdot V_{6603}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6503	6608	1	$(\frac{D'_{6608}}{D_{6608}}) \cdot V_{6608}$
	Total	1	$(\frac{D'_{6503}}{D_{6503}}) \cdot V_{6503}$
6508	Total	1	$(\frac{D'_{6508}}{D_{6508}}) \cdot V_{6508}$
6603	6703	3	$(\frac{D'_{6503}}{D_{6503}}) \cdot t_{6703} \cdot V_{6703}$
	6705	3	$(\frac{D'_{5705}}{D_{5705}}) \cdot r_{6705} \cdot V_{6705}$
	6707	3	$(\frac{D'_{4707}}{D_{4707}}) \cdot l_{6707} \cdot V_{6707}$
	Total	2	Sum of above
6608	Total	1	$(\frac{D'_{6608}}{D_{6608}}) \cdot V_{6608}$
6703	6803	3	$(\frac{D'_{6503}}{D_{6503}}) \cdot t_{6803} \cdot V_{6803}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6703	6805	3	$(\frac{D'_{5805}}{D_{5805}}) \cdot r_{6805} \cdot V_{6805}$
	6807	3	$(\frac{D'_{5807}}{D_{5807}}) \cdot l_{6807} \cdot V_{6807}$
	Total	2	Sum of above (Peak Only: Modified for mid-block sinks)
6705	5701	3	$(\frac{D'_{5601}}{D_{5601}}) \cdot r_{5701} \cdot V_{5701}$
	5705	1	$(\frac{D'_{5705}}{D_{5705}}) \cdot t_{5705} \cdot V_{5705}$
	Total	2	Sum of above (Peak Only: Modified for mid-block sinks)
6707	7701	1	$(\frac{D'_{7701}}{D_{7701}}) \cdot l_{7701} \cdot V_{7701}$
	7707	3	$(\frac{D'_{4707}}{D_{4707}}) \cdot t_{7707} \cdot V_{7707}$
	Total	2	Sum of above

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6803	Total	3	$(\frac{D'_{6503}}{D_{6503}}) v_{6803}$
6805	5801	3	$(\frac{D'_{5601}}{D_{5601}}) r_{6805} \cdot v_{6805}$
	5805	1	$(\frac{D'_{5805}}{D_{5805}}) t_{6805} \cdot v_{6805}$
A-91	Total	2	Sum of above (Peak Only: Modified for mid-block sinks)
6807	Total	3	$(\frac{D'_{5807}}{D_{5807}}) v_{6807}$
7201	Total	3	$(\frac{D'_{7701}}{D_{7701}}) \cdot v_{7201}$
7205	6201	1	$(\frac{D'_{6201}}{D_{6201}}) \cdot r_{6201} \cdot v_{6201}$
	6203	3	$(\frac{D'_{6503}}{D_{6503}}) \cdot l_{6203} \cdot v_{6203}$
	6205	2	$t_{6205} [(\frac{D'_{5205}}{D_{5205}}) t_{5205} \cdot v_{5205} + (\frac{D'_{5403}}{D_{5403}}) v_{5204} + (\frac{D'_{5601}}{D_{5601}}) \cdot r_{5201} \cdot v_{5201}]$
	Total	2	Sum of above (Peak Only: Modified for mid-block sinks)

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7207	Total	3	$(\frac{D'_{4207}}{D_{4207}}) \cdot V_{7207}$
7701	7201	3	$(\frac{D'_{7707}}{D_{7707}}) \cdot t_{7201} \cdot V_{7201}$
	7205	3	$(\frac{D'_{5205}}{D_{5205}}) \cdot l_{7205} \cdot V_{7205}$
	7207	3	$(\frac{D'_{4207}}{D_{4207}}) \cdot r_{7207} \cdot V_{7207}$
	Total	1	$(\frac{D'_{7701}}{D_{7701}}) \cdot V_{7701}$
7705	6703	3	$(\frac{D'_{6503}}{D_{6503}}) \cdot l_{6703} \cdot V_{6703}$
	6705	2	$t_{6705} [(\frac{D'_{5705}}{D_{5705}}) \cdot t_{6705} \cdot V_{6705} + (\frac{D'_{5403}}{D_{5403}}) \cdot l_{5703} \cdot V_{5703} + (\frac{D'_{5601}}{D_{5601}}) \cdot r_{5701} \cdot V_{5701}]$
	Total.	2	Sum of above (Peak Only: Modified for mid-block sinks)

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7707	Total	3	$(\frac{D'_{4707}}{D_{4707}}) \cdot V_{7707}$
A-93	7701	1	$(\frac{D'_{7701}}{D_{7701}}) \cdot t_{7701} \cdot V_{7701}$
	7705	3	$(\frac{D'_{5705}}{D_{5705}}) \cdot l_{7705} \cdot V_{7705}$
	7707	3	$(\frac{D'_{4702}}{D_{4702}}) \cdot r_{7707} \cdot V_{7707}$
	Total	2	Sum of above
	7805	3	$(\frac{D'_{6503}}{D_{6503}}) \cdot l_{6803} \cdot V_{6803}$
	6805	2	$t_{6805} [(\frac{D'_{5805}}{D_{5805}}) \cdot t_{5805} \cdot V_{5805} + (\frac{D'_{5601}}{D_{5601}}) \cdot r_{5801} \cdot V_{5801} + (\frac{D'_{5403}}{D_{5403}}) l_{5803} \cdot V_{5803}]$
	Total	2	Sum of above
7812	Total	5	$(\frac{D'_N}{D_N}) V_{7812}$

APPENDIX B**Modifications to General
Volume Updating Procedures**

SCENARIO A - AM PEAK HOUR
List of Modifications to General Algorithms

1. Link 2203. Modified for parking lot based on old TRANSYT-7F volumes.
2. Link 2303. Detector not used. Too far from intersection. Contains intervening unsignalized intersection.
3. Link 3205. Modified for parking lot based on old TRANSYT-7F volumes.
4. Link 3305. Modified for parking lot based on old TRANSYT-7F volumes.
5. Link 3405. Detector not used. Parking lot problems, but no basis for modifications to detector data.
6. Link 5401. Modified for parking lots based on old TRANSYT-7F data.
7. Link 6803. Detector data not used due to data problems.
8. Link 7705. Modified for parking lots based on old TRANSYT-7F data.
9. Links 5306 and 5311. All growth in traffic was assigned to Link 5311. Link 5203 volumes increased, but Link 5401 volume did not.

SCENARIO C AM PEAK HOUR**List of Modifications to General Algorithms**

1. All modifications applied to Scenario A were also applied to Scenario C.
2. Links 3301, 3305, 5401, 6805, and 7705 were modified for parking lots because their total volumes were calculated from the sum of input links (Rule 2).
3. Link 2303. Rule 2 (Total volume calculated from sum of input links) was deemed inappropriate for links where input links are two or more intersections away. Rule 3 was used instead.
4. Link 4201. Links 3207 and 5205 (Rule 4) were used to increase traffic volumes instead of Rule 5 (overall network traffic increase).
5. Link 5306. Link 5401 (Rule 3) was used to increase traffic volume instead of Rule 5 (overall network traffic increase).
6. Link 5311. Link 5203 (Rule 3) was used to increase traffic volume instead of Rule 5 (overall network traffic increase).

SCENARIO E AM PEAK HOUR**List of Modifications to General Algorithms**

1. A number of links were modified for parking lots because their total volumes were calculated from the sum of input link volumes (Rule 2). This modification was applied to the following links:

2203	5204	7205
3205	5401	7705
3301	5603	
3701	6203	
4607	6703	
4610	6705	
5203	6805	

2. Links 5203 and 5204. Rule 2 (sum of input link volumes) was considered inappropriate for input links because the percentage of southbound through vehicles at intersection 53 is not known. Rule 3 was used instead. Rule 2 was used for total volumes.
3. Link 6707. Rule 2 (sum of input link volumes) was considered inappropriate. Rule 3 was used instead.

SCENARIO A AM OFF PEAK**List of Modifications to General Algorithms**

1. Links 5203, 5204. Old turning movement data has problems. New turning movement data used.
2. Links 5601, 5602. Detector and turning movement counts taken on different days do not agree. Detector data not used.

SCENARIO C AM OFF PEAK**List of Modifications to General Algorithms**

1. All scenario A modifications were also applied to Scenario C.
2. Link 5603. Modified for parking lots (Rule 2, sum of input links)
3. Link 6503. Modified for parking lots (Rule 2, sum of input links)
4. Link 7701. Rule 2 (sum of input links) inappropriate. Rule 5 used. (Intervening streets have too much added flow.)

SCENARIO E AM OFF PEAK**List of Modifications to General Algorithm**

1. All Scenario A modifications were also applied to Scenario E.
2. Links 5203 and 5204. Rule 2 (sum of input links) was considered inappropriate because percentage of southbound through vehicles at intersection 53 is not known. Rule 3 was used instead. Rule 2 was used for total volumes.
3. Link 5603. Modified for parking lots.
4. Link 6203. Modified for parking lots.

APPENDIX C**Detailed Detector Scenario Comparisons**

1.5 GC SUMMARY STATISTICS (8/5/86)

AM PEAK HOUR

INK	OPTIMUM (ACTUAL) VOLUME	SCN A VOLUME	SCN C VOLUME	SCN E VOLUME	SCN A ERROR	SCN C ERROR	SCN E ERROR	NODE	OPTIMUM (ACTUAL) P.I.	SCN A P.I.	SCN C P.I.	SCN E P.I.
1203	602	618	618	696	16	16	94	22	15.60	18.50	16.80	18.90
1205	782	816	816	978	34	34	196					
1207	664	664	664	726	0	0	62					
1303	752	752	711	752	0	-41	0	23	14.70	16.50	17.10	16.50
1305	1040	1040	1085	1232	0	45	192					
1503	1362	1362	1469	1514	0	107	152	25	7.40	9.50	8.90	7.60
1507	618	618	700	620	0	82	2					
1703	1558	1558	1558	1587	0	0	29	27	16.00	16.20	16.90	17.80
1705	152	148	148	197	-4	-4	45					
1707	272	272	272	330	0	0	58					
1201	381	381	381	393	0	0	12	32	11.70	11.20	11.50	10.60
1205	770	838	838	918	68	68	148					
1207	1100	1100	1100	1052	0	0	-48					
1301	448	482	658	640	34	210	192	33	8.90	10.10	10.20	11.30
1305	1068	998	906	998	-70	-162	-70					
1401	692	692	795	807	0	103	115	34	6.50	6.50	7.70	6.30
1405	78	78	88	78	0	10	0					
1412	224	224	187	224	0	-37	0					
1501	822	822	852	822	0	30	0	35	8.80	11.20	7.30	13.50
1507	554	554	645	554	0	91	0					
1701	726	726	726	690	0	0	-36	37	13.90	8.60	12.30	8.80
1705	308	266	266	267	-42	-42	-41					
1707	434	434	434	331	0	0	-103					
1801	584	584	747	758	0	163	174	36	4.10	4.70	4.70	3.90
1805	176	176	142	136	0	-34	-40					
1101	676	676	398	668	0	-278	-8	41	12.30	10.80	10.90	14.30
1103	380	380	224	380	0	-156	0					
1105	28	28	144	175	0	116	147					
1107	200	200	144	143	0	-56	-57					
1201	578	578	433	578	0	-145	0	42	20.50	16.80	17.00	17.60
1203	194	194	116	190	0	-78	-4					
1205	794	794	752	812	0	-42	18					
1207	996	996	970	996	0	-26	0					
1407	462	462	490	486	0	28	24	46	3.50	3.00	5.00	3.50
1510	178	178	280	175	0	102	-3					
1701	184	184	110	93	0	-74	-91	47	7.40	6.60	8.80	7.60
1703	214	176	337	310	-38	123	96					
1705	328	328	270	303	0	-58	-25					
1707	400	318	358	318	-82	-42	-82					
1801	184	184	155	184	0	-29	0	48	5.60	5.90	5.90	5.40
1803	256	256	361	359	0	105	103					
1805	160	160	179	172	0	19	12					
1807	324	324	287	282	0	-37	-42					
1201	688	623	623	558	-65	-65	-130	52	71.30	73.10	74.70	67.80
1203	194	191	191	201	-3	-3	7					
1205	1012	1058	1058	1093	46	46	81					
1207	172	260	260	218	88	88	46					
1301	576	697	697	697	121	121	121					
1303	150	87	87	87	-63	-63	-63					
1305	550	533	533	617	-17	-17	67					
1307	210	277	277	272	67	67	62					

1.5 GC SUMMARY STATISTICS (8/5/86) (CONTINUED)

AM PEAK HOUR

LINK	OPTIMUM (ACTUAL) VOLUME	SCN A VOLUME	SCN C VOLUME	SCN E VOLUME	SCN A ERROR	SCN C ERROR	SCN E ERROR	NODE	OPTIMUM (ACTUAL) P.I.	SCN A P.I.	SCN C P.I.	SCN E P.I.
5301	738	738	567	521	0	-171	-217	53	21.20	15.10	19.40	17.90
5303	1226	1226	1391	1391	0	165	165					
5306	356	392	409	478	36	53	122					
5311	318	282	388	310	-36	70	-8					
5401	1034	1034	912	1062	0	-122	28	54	35.60	42.00	35.40	43.40
5403	662	798	798	798	136	136	136					
5404	414	414	414	414	0	0	0					
5408	538	592	592	592	54	54	54					
5412	586	532	532	532	-54	-54	-54					
5601	800	700	777	700	-100	-23	-100	56	16.60	21.70	16.60	17.20
5602	468	452	504	452	-16	36	-16					
5603	1176	1176	1257	1386	0	81	210					
5605	62	62	80	62	0	18	0					
5701	824	824	824	723	0	0	-101	57	19.60	16.00	20.10	19.20
5703	1296	1224	1224	1537	-72	-72	241					
5705	320	312	312	312	-8	-8	-8					
5707	326	326	326	333	0	0	7					
5801	784	776	783	689	-8	-1	-95	58	13.10	13.80	13.50	14.30
5803	1316	1364	1038	1341	48	-278	25					
5805	276	260	271	260	-16	-5	-16					
5807	354	312	219	312	-42	-135	-42					
6201	88	128	128	128	40	40	40	62	14.20	12.80	12.80	10.50
6203	662	568	568	721	-94	-94	59					
6205	876	876	876	900	0	0	24					
6207	606	674	674	766	68	68	160					
6403	962	932	932	1206	-30	-30	244	64	32.50	33.60	39.40	34.10
6405	798	798	798	798	0	0	0					
6407	1096	1005	1005	980	-91	-91	-116					
6408	252	343	343	372	91	91	120					
6503	1180	1180	1130	1180	0	-50	0	65	2.10	2.20	3.20	2.10
6508	26	26	58	26	0	32	0					
6603	1246	1246	1423	1344	0	177	98	66	2.70	2.30	1.50	2.10
6608	36	36	30	36	0	-6	0					
6703	1452	1350	1350	1291	-102	-102	-161	67	12.50	11.60	14.60	10.20
6705	242	242	242	198	0	0	-44					
6707	342	408	408	339	66	66	-3					
6803	1518	1518	1603	1545	0	85	27	68	20.20	20.00	17.10	19.30
6805	220	220	272	220	0	52	0					
6807	246	246	163	148	0	-83	-98					
7201	354	354	297	305	0	-57	-49	72	8.80	11.20	9.90	11.90
7205	722	722	727	582	0	5	-140					
7207	794	794	389	442	0	-405	-352					
7701	478	502	400	502	24	-78	24	77	8.20	7.90	8.20	9.30
7705	126	168	128	83	42	2	-43					
7707	368	368	371	322	0	3	-46					
7801	404	512	465	473	108	61	69	78	3.30	4.60	3.90	9.30
7805	238	238	193	169	0	-45	-69					
7812	176	176	204	203	0	28	27					
	562	563	559	577	1	-3	15	TOTAL	438.80	444.00	451.30	452.20

1.5 GC SUMMARY STATISTICS (8/5/86)

AM OFF PEAK

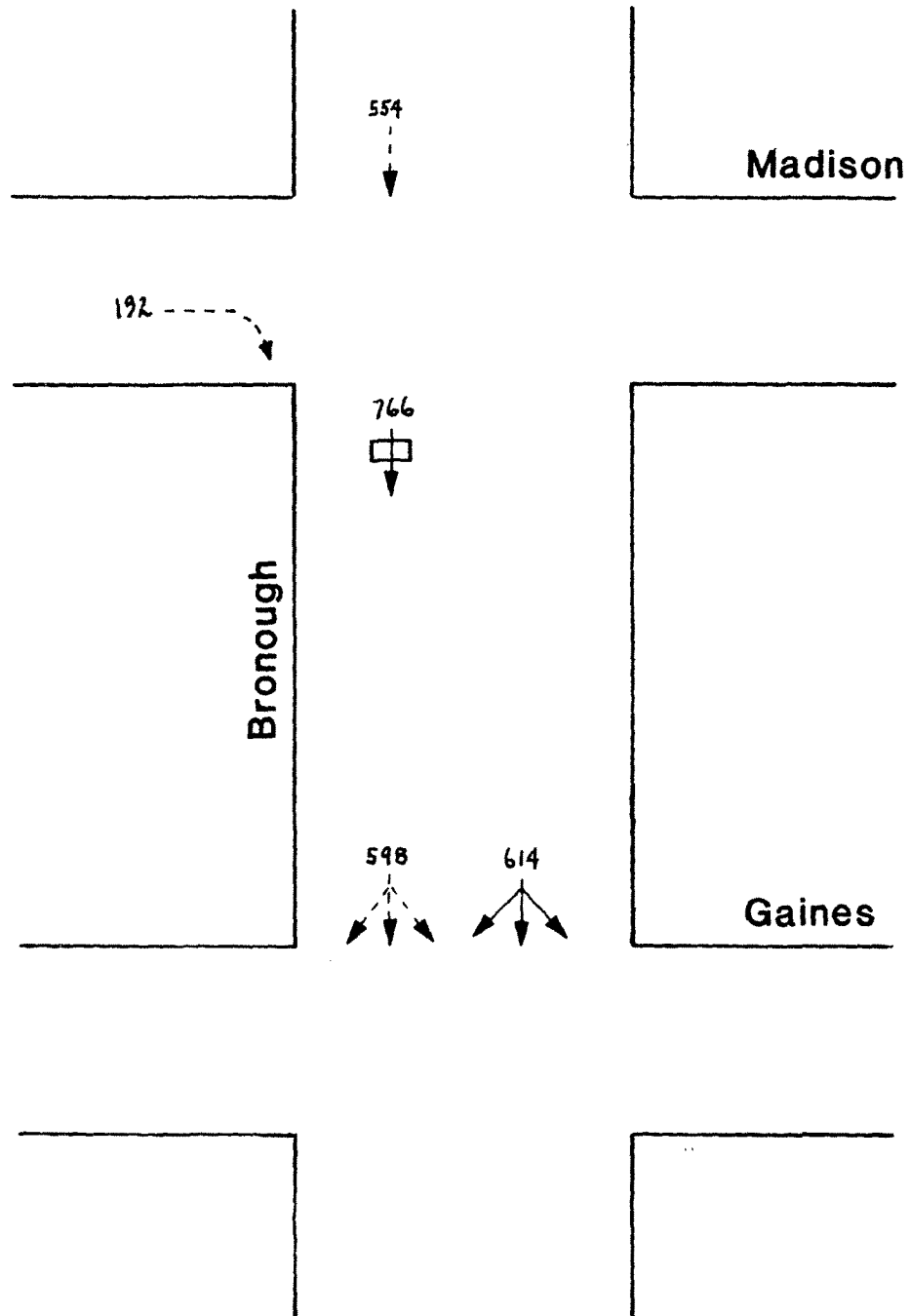
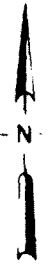
LINK	OPTIMUM (ACTUAL) VOLUME	SCN A VOLUME	SCN C VOLUME	SCN E VOLUME	SCN A ERROR	SCN C ERROR	SCN E ERROR	NODE	OPTIMUM (ACTUAL) P.I.	SCN A P.I.	SCN C P.I.	SCN E P.I.
2203	226	242	242	320	16	16	94	22	4.00	4.40	3.90	5.20
2205	450	482	482	473	32	32	23					
2207	472	472	486	481	0	14	9					
2303	254	254	273	298	0	19	44	23	5.00	4.10	4.20	4.60
2305	412	412	373	663	0	-39	251					
2503	354	352	393	463	-2	39	109	25	3.40	2.90	2.80	2.50
2507	320	320	356	367	0	36	47					
2703	442	442	442	525	0	0	83	27	6.00	6.80	7.00	7.20
2705	166	166	166	187	0	0	21					
2707	196	196	196	266	0	0	70					
3201	45	45	59	67	0	14	22	32	4.50	4.30	3.80	3.60
3205	560	560	560	661	0	0	101					
3207	584	584	584	558	0	0	-26					
3301	184	168	183	151	-16	-1	-33	33	3.10	3.50	3.50	3.20
3305	432	334	386	334	-98	-46	-98					
3401	282	282	331	317	0	49	35	34	3.60	3.10	3.10	2.80
3405	82	74	44	74	-8	-38	-8					
3412	138	138	116	138	0	-22	0					
3501	454	454	436	454	0	-18	0	35	6.60	4.00	4.50	6.80
3507	372	364	354	364	-8	-18	-8					
3701	512	512	530	451	0	18	-61	37	7.20	6.40	6.70	8.00
3705	252	202	202	214	-50	-50	-38					
3707	264	264	214	234	0	-50	-30					
3801	462	460	437	396	-2	-25	-66	38	3.40	3.50	3.50	3.50
3805	198	198	119	111	0	-79	-87					
4101	266	266	202	251	0	-64	-15	41	5.70	5.70	6.50	5.70
4103	194	194	140	210	0	-54	16					
4105	44	44	91	39	0	47	-5					
4107	104	104	91	91	0	-13	-13					
4201	278	278	224	278	0	-54	0	42	5.40	5.40	4.40	7.00
4203	52	52	55	88	0	3	36					
4205	524	524	520	570	0	-4	46					
4207	486	486	385	502	0	-101	16					
4607	376	376	510	240	0	134	-136	46	1.20	1.40	1.20	1.20
4610	130	130	188	196	0	58	66					
4701	268	268	161	154	0	-107	-114	47	3.80	5.80	4.40	5.60
4703	128	136	133	244	8	5	116					
4705	268	268	262	304	0	-6	36					
4707	240	246	228	246	6	-12	6					
4801	138	138	119	138	0	-19	0	48	4.80	4.30	4.10	5.40
4803	210	210	246	246	0	36	36					
4805	204	204	154	153	0	-50	-51					
4807	198	198	200	188	0	2	-10					
5201	586	666	666	552	80	80	-34	52	27.80	29.50	28.50	31.90
5202	106	68	68	53	-38	-38	-53					
5203	546	606	606	525	60	60	-21					
5204	50	56	56	142	6	6	92					
5205	294	301	301	301	7	7	7					
5206	112	147	123	147	35	11	35					
5207	258	313	313	218	55	55	-40					
5208	196	125	125	96	-71	-71	-100					

1.5 GC SUMMARY STATISTICS (8/5/86) (CONTINUED)

AM OFF PEAK

	OPTIMUM (ACTUAL) VOLUME	SCN A VOLUME	SCN C VOLUME	SCN E VOLUME	SCN A ERROR	SCN C ERROR	SCN E ERROR	NODE	OPTIMUM (ACTUAL) P.I.	SCN A P.I.	SCN C P.I.	SCN E P.I.
5301	644	644	740	648	0	96	4	53	11.90	10.60	10.20	8.20
5303	644	644	639	639	0	-5	-5					
5306	268	214	128	228	-54	-140	-40					
5311	108	138	83	147	30	-25	39					
5401	896	996	862	945	100	-34	49	54	19.00	21.40	23.80	19.60
5403	438	371	371	371	-67	-67	-67					
5404	286	231	231	231	-55	-55	-55					
5408	266	268	268	268	2	2	2					
5412	450	396	396	396	-54	-54	-54					
5601	490	600	603	600	110	113	110	56	10.00	8.40	8.30	7.90
5602	256	146	151	146	-110	-105	-110					
5603	496	496	560	508	0	64	12					
5605	60	60	47	62	0	-13	2					
5701	754	754	756	622	0	2	-132	57	10.10	12.50	12.20	16.30
5703	924	788	788	766	-136	-136	-158					
5705	232	250	250	250	18	18	18					
5707	206	206	216	177	0	10	-29					
5801	696	716	756	629	20	60	-67	58	13.40	13.40	13.10	11.40
5803	802	774	730	678	-28	-72	-124					
5805	282	242	260	242	-40	-22	-40					
5807	196	174	101	174	-22	-95	-22					
6201	60	60	60	60	0	0	0	62	7.80	8.10	6.20	5.90
6203	270	266	266	307	-4	-4	37					
6205	412	412	412	277	0	0	-135					
6401	238	286	286	160	48	48	-78					
6403	520	520	520	495	0	0	-25	64	12.50	12.60	13.00	15.20
6405	574	574	584	584	0	10	10					
6407	500	521	521	658	21	21	158					
6408	50	35	35	44	-15	-15	-6					
6503	504	504	381	504	0	-123	0	65	2.80	2.30	2.10	2.00
6508	52	52	44	52	0	-8	0					
6603	586	586	622	942	0	36	356	66	2.20	2.10	2.40	2.10
6608	88	88	124	88	0	36	0					
6703	514	520	520	878	6	6	364	67	4.30	4.70	5.00	5.60
6705	190	190	190	193	0	0	3					
6707	200	186	186	206	-14	-14	6					
6803	586	586	561	940	0	-25	354	68	8.20	8.40	7.70	7.60
6805	172	172	205	223	0	33	51					
6807	150	150	83	78	0	-67	-72					
7201	144	140	158	169	-4	14	25	72	4.20	4.30	4.40	4.80
7205	388	378	328	308	-10	-60	-80					
7207	316	316	245	220	0	-71	-96					
7701	418	448	419	448	30	1	30	77	6.60	6.10	6.70	5.60
7705	194	190	106	107	-4	-88	-87					
7707	150	150	203	165	0	53	15					
7801	396	372	382	412	-24	-14	16	78	3.40	5.10	3.20	4.40
7805	132	132	158	187	0	26	55					
7812	162	162	122	122	0	-40	-40					
	320	318	311	326	-2	-10	6	TOTAL	211.90	215.10	210.40	220.80

APPENDIX D**Sample Links with Mid-Block
Source/Sink Problems**



- > Old Turning Movement Count
- > New Turning Movement Count
- > New Detector Count

**SUMMARY OF DATA
FOR LINK 2203
(AM PEAK HOUR)**

Bronough

(Non-Signalized
No Counts)

230

St. Augustine

Duval

108

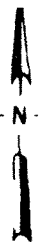
Parking Deck

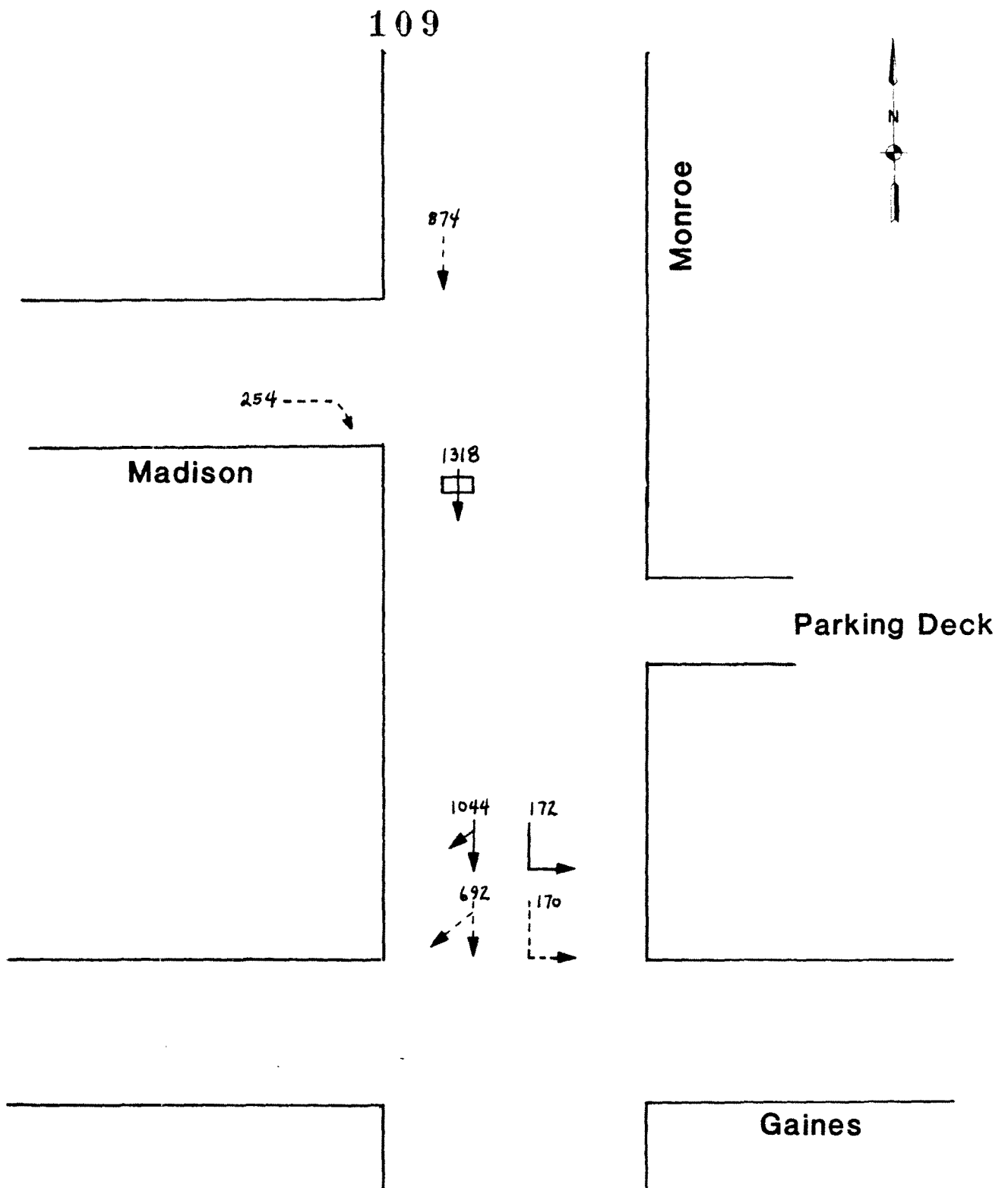
82

82

- > Old Turning Movement Count
- > New Turning Movement Count
- ⊞> New Detector Count

**SUMMARY OF DATA
FOR LINK 3401
(AM PEAK HOUR)**





- > Old Turning Movement Count
- > New Turning Movement Count
- ☐—> New Detector Count

**SUMMARY OF DATA FOR
LINKS 5203 AND 5204
(AM PEAK HOUR)**

APPENDIX E**Los Angeles Test Site
Volume Updating Algorithms**

VA 1.5GC
DETECTOR SCENARIO A
 LA Test Site

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-2 2401	Total	1	$(\frac{D'_{2401}}{D_{2401}}) V_{2401}$
	3601	1	$L_{3601-2401} (\frac{D'_{3601}}{D_{3601}})$
	3605	1	$L_{3605-2401} (\frac{D'_{3605}}{D_{3605}})$
	3607	1	$L_{3607-2401} (\frac{D'_{3607}}{D_{3607}})$
2402	Total	1	$(\frac{D'_{2401}}{D_{2401}}) V_{2402}$
	3601	1	$L_{3601-2402} (\frac{D'_{3601}}{D_{3601}})$
	3605	1	$L_{3605-2402} (\frac{D'_{3605}}{D_{3605}})$
	3607	1	$L_{3607-2402} (\frac{D'_{3607}}{D_{3607}})$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
2403	Total	1	$(\frac{D'_{2403}}{D_{2403}}) V_{2403}$
2404	Total	1	$(\frac{D'_{2403}}{D_{2403}}) V_{2404}$
2405	Total	1	$(\frac{D'_{2405}}{D_{2405}}) V_{2405}$
E-3 2406	Total	1	$(\frac{D'_{2405}}{D_{2405}}) V_{2406}$
2407	Total	1	$(\frac{D'_{2407}}{D_{2407}}) V_{2407}$
2408	Total	1	$(\frac{D'_{2407}}{D_{2407}}) V_{2408}$
3501	Total	1	$(\frac{D'_{3501}}{D_{3501}}) V_{3501}$
3505	Total	1	$(\frac{D'_{3505}}{D_{3505}}) V_{3505}$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-4 3507	Total	1	$(\frac{D'_{3507}}{D_{3507}}) v_{3507}$
	3602	1	$(\frac{D'_{3601}}{D_{3601}}) v_{3602}$
	3603	1	$(\frac{D'_{3603}}{D_{3603}}) r_{3603} v_{3603}$
	3607	1	$(\frac{D'_{3607}}{D_{3607}}) t_{3607} v_{3607}$
3601	Total	1	$(\frac{D'_{3601}}{D_{3601}}) v_{3601}$
	4201	1	$L_{4201-3601} (\frac{D'_{4201}}{D_{4201}})$
	4206	1	$L_{4206-3601} (\frac{D'_{4205}}{D_{4205}})$
3602	Total	1	$(\frac{D'_{3601}}{D_{3601}}) v_{3602}$
	4201	1	$L_{4201-3602} (\frac{D'_{4201}}{D_{4201}})$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-5	4206	1	$L_{4206-3602} \left(\frac{D'_{4205}}{D_{4205}} \right)$
	3603 Total	1	$\left(\frac{D'_{3603}}{D_{3603}} \right) V_{3603}$
	2403	1	$L_{2403-3603} \left(\frac{D'_{2403}}{D_{2403}} \right)$
	2405	1	$L_{2405-3603} \left(\frac{D'_{2405}}{D_{2405}} \right)$
	2408	1	$L_{2408-3603} \left(\frac{D'_{2407}}{D_{2407}} \right)$
3604	Total	1	$\left(\frac{D'_{3603}}{D_{3603}} \right) V_{3604}$
	2403	1	$L_{2403-3604} \left(\frac{D'_{2403}}{D_{2403}} \right)$
	2405	1	$L_{2405-3604} \left(\frac{D'_{2405}}{D_{2405}} \right)$
	2408	1	$L_{2408-3604} \left(\frac{D'_{2407}}{D_{2407}} \right)$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3605	Total	1	$(\frac{D'_{3605}}{D_{3605}}) V_{3605}$
	3501	1	$(\frac{D'_{3501}}{D_{3501}}) r_{3501} V_{3501}$
	3505	1	$(\frac{D'_{3505}}{D_{3505}}) t_{3505} V_{3505}$
E-6 3607	Total	1	$(\frac{D'_{3607}}{D_{3607}}) V_{3607}$
3801	Total	1	$(\frac{D'_{3801}}{D_{3801}}) V_{3801}$
	4001	1	$L_{4001-3801} (\frac{D'_{4001}}{D_{4401}})$
	4005	1	$L_{4005-3801} (\frac{D'_{4005}}{D_{4005}})$
3802	Total	1	$(\frac{D'_{3802}}{D_{3802}}) V_{3802}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	4001	1	$L_{4001-3802} \left(\frac{D'_{4001}}{D_{4001}} \right)$
	4005	1	$L_{4005-3802} \left(\frac{D'_{4005}}{D_{4005}} \right)$
3803	Total	1	$\left(\frac{D'_{3803}}{D_{3803}} \right) V_{3803}$
E-7 3810	Total	1	$\left(\frac{D'_{3803}}{D_{3803}} \right) V_{3810}$
3807	Total	1	$\left(\frac{D'_{3807}}{D_{3807}} \right) V_{3807}$
3901	Total	1	$\left(\frac{D'_{3901}}{D_{3901}} \right) V_{3901}$
	4101	1	$L_{4101-3901} \left(\frac{D'_{4101}}{D_{4101}} \right)$
	4105	1	$L_{4105-3901} \left(\frac{D'_{4105}}{D_{4105}} \right)$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3902	Total	1	$(\frac{D'_{3902}}{D_{3902}}) V_{3902}$
	4101	1	$L_{4101-3902} (\frac{D'_{4101}}{D_{4101}})$
	4105	1	$L_{4105-3902} (\frac{D'_{4105}}{D_{4105}})$
3903	Total	1	$(\frac{D'_{3903}}{D_{3903}}) V_{3903}$
3907	Total	1	$(\frac{D'_{3907}}{D_{3907}}) V_{3907}$
3910	Total	1	$(\frac{D'_{3903}}{D_{3903}}) V_{3910}$
4001	Total	1	$(\frac{D'_{4001}}{D_{4001}}) V_{4001}$
	5301	1	$L_{5301-4001} (\frac{D'_{5301}}{D_{5301}})$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5306	1	$L_{5306-4001} \left(\frac{D'_{5305}}{D_{5305}} \right)$
	5307	1	$L_{5307-4001} \left(\frac{D'_{5307}}{D_{5307}} \right)$
4003	Total	1	$\left(\frac{D'_{4003}}{D_{4003}} \right) V_{4003}$
E-9	3803	1	$L_{3803-4003} \left(\frac{D'_{3803}}{D_{3803}} \right)$
	3807	1	$L_{3807-4003} \left(\frac{D'_{3807}}{D_{3807}} \right)$
4004	Total	1	$\left(\frac{D'_{4004}}{D_{4004}} \right) V_{4004}$
	3803	1	$L_{3803-4004} \left(\frac{D'_{3803}}{D_{3803}} \right)$
	3807	1	$L_{3807-4004} \left(\frac{D'_{3807}}{D_{3807}} \right)$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4005	Total	1	$(\frac{D'_{4005}}{D_{4005}}) V_{4005}$
4009	Total	1	$(\frac{D'_{4001}}{D_{4001}}) V_{4009}$
	5301	1	$L_{5301-4009} (\frac{D'_{5301}}{D_{5301}})$
	5306	1	$L_{5306-4009} (\frac{D'_{5305}}{D_{5305}})$
	5307	1	$L_{5307-4009} (\frac{D'_{5307}}{D_{5307}})$
4101	Total	1	$(\frac{D'_{4101}}{D_{4101}}) V_{4101}$
	5101	1	$(\frac{D'_{5101}}{D_{5101}}) L_{5101-4101}$
	5105	1	$(\frac{D'_{5105}}{D_{5105}}) L_{5105-4101}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-11	5107	1	$(\frac{D'_{5107}}{D_{5107}}) L_{5107-4101}$
	4103 Total	1	$(\frac{D'_{4103}}{D_{4103}}) V_{4103}$
	3903	1	$L_{3903-4103} (\frac{D'_{3903}}{D_{3903}})$
	3907	1	$L_{3907-4103} (\frac{D'_{3907}}{D_{3907}})$
	4104 Total	1	$(\frac{D'_{4104}}{D_{4104}}) V_{4104}$
	3903	1	$L_{3903-4104} (\frac{D'_{3903}}{D_{3903}})$
	3907	1	$L_{3907-4104} (\frac{D'_{3907}}{D_{3907}})$
	4105 Total	1	$(\frac{D'_{4105}}{D_{4105}}) V_{4105}$
	4109 Total	1	$(\frac{D'_{4101}}{D_{4101}}) V_{4109}$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5101	1	$L_{5101-4109} \left(\frac{D'_{5101}}{D_{5101}} \right)$
	5105	1	$L_{5105-4109} \left(\frac{D'_{5105}}{D_{5105}} \right)$
	5107	1	$L_{5107-4109} \left(\frac{D'_{5107}}{D_{5107}} \right)$
E-13 4201	Total	1	$\left(\frac{D'_{4201}}{D_{4201}} \right) v_{4201}$
	4301	1	$\left(\frac{D'_{4301}}{D_{4301}} \right) t_{4301} v_{4301}$
	4305	1	$\left(\frac{D'_{4305}}{D_{4305}} \right) l_{4305} v_{4305}$
	4307	1	$\left(\frac{D'_{4307}}{D_{4307}} \right) r_{4307} v_{4307}$
4203	Total	1	$\left(\frac{D'_{4203}}{D_{4203}} \right) v_{4203}$
	3603	1	$L_{3603-4203} \left(\frac{D'_{3603}}{D_{3603}} \right)$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	3605	1	$L_{3605-4203} \left(\frac{D'_{3605}}{D_{3605}} \right)$
	3607	1	$L_{3607-4203} \left(\frac{D'_{3607}}{D_{3607}} \right)$
4204	Total	1	$\left(\frac{D'_{4203}}{D_{4203}} \right) v_{4204}$
	3603	1	$L_{3603-4204} \left(\frac{D'_{3603}}{D_{3603}} \right)$
	3605	1	$L_{3605-4204} \left(\frac{D'_{3605}}{D_{3605}} \right)$
	3607	1	$L_{3607-4204} \left(\frac{D'_{3607}}{D_{3607}} \right)$
4205	Total	1	$\left(\frac{D'_{4205}}{D_{4205}} \right) v_{4205}$
4206	Total	1	$\left(\frac{D'_{4205}}{D_{4205}} \right) v_{4206}$
4301	Total	1	$\left(\frac{D'_{4301}}{D_{4301}} \right) v_{4301}$

DETECTOR SCENARIO A

Link	Input Link	Rule Number	Equation
E-14	5201	1	$L_{5201-4301} \left(\frac{D'_{5201}}{D_{5201}} \right)$
	5205	1	$L_{5205-4301} \left(\frac{D'_{5205}}{D_{5205}} \right)$
	5207	1	$L_{5207-4301} \left(\frac{D'_{5207}}{D_{5207}} \right)$
	Total	1	$\left(\frac{D'_{4301}}{D_{4301}} \right) V_{4301}$
4302	5201	1	$L_{5201-4302} \left(\frac{D'_{5201}}{D_{5201}} \right)$
	5205	1	$L_{5205-4302} \left(\frac{D'_{5205}}{D_{5205}} \right)$
	5207	1	$L_{5207-4302} \left(\frac{D'_{5207}}{D_{5207}} \right)$
4303	Total	1	$\left(\frac{D'_{4303}}{D_{4303}} \right) V_{4303}$
	4203	1	$L_{4203-4303} \left(\frac{D'_{4203}}{D_{4203}} \right)$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	4205	1	$L_{4205-4303} \left(\frac{D'_{4205}}{D_{4205}} \right)$
4304	Total	1	$\left(\frac{D'_{4303}}{D_{4303}} \right) V_{4304}$
	4203	1	$L_{4203-4304} \left(\frac{D'_{4203}}{D_{4203}} \right)$
	4205	1	$L_{4205-4304} \left(\frac{D'_{4205}}{D_{4205}} \right)$
4305	Total	1	$\left(\frac{D'_{4305}}{D_{4305}} \right) V_{4305}$
4307	Total	1	$\left(\frac{D'_{4307}}{D_{4307}} \right) V_{4307}$
	4401	1	$\left(\frac{D'_{4401}}{D_{4401}} \right) 1_{4401} V_{4401}$
	4403	1	$\left(\frac{D'_{4403}}{D_{4403}} \right) r_{4403} V_{4403}$
	4407	1	$\left(\frac{D'_{4407}}{D_{4407}} \right) V_{4407}$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4401	Total	1	$(\frac{D'_{4401}}{D_{4401}}) V_{4401}$
	5201	1	$(\frac{D'_{5201}}{D_{5201}}) L_{5201-4401}$
	5204	1	$L_{5204-4401} (\frac{D'_{5203}}{D_{5203}})$
	5205	1	$L_{5205-4401} (\frac{D'_{5205}}{D_{5205}})$
4403	Total	1	$(\frac{D'_{4403}}{D_{4403}}) V_{4403}$
4405	Total	1	$(\frac{D'_{4405}}{D_{4405}}) V_{4405}$
	4301	1	$(\frac{D'_{4301}}{D_{4301}}) r_{4301} V_{4301}$
	4304	1	$(\frac{D'_{4303}}{D_{4303}}) V_{4304}$
	4305	1	$(\frac{D'_{4305}}{D_{4305}}) t_{4305} V_{4305}$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4407	Total	1	$(\frac{D'_{4407}}{D_{4407}}) v_{4407}$
5101	Total	1	$(\frac{D'_{5101}}{D_{5101}}) v_{5101}$
	5501	1	$(\frac{D'_{5501}}{D_{5501}}) t_{5501} v_{5501}$
	5506	1	$(\frac{D'_{5505}}{D_{5505}}) v_{5506}$
	5507	1	$(\frac{D'_{5507}}{D_{5507}}) r_{5507} v_{5507}$
5103	Total	1	$(\frac{D'_{5103}}{D_{5103}}) v_{5103}$
	4103	1	$(\frac{D'_{4103}}{D_{4103}}) t_{4103} v_{4103}$
	4105	1	$(\frac{D'_{4105}}{D_{4105}}) r_{4105} v_{4105}$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5105	Total	1	$(\frac{D'_{5105}}{D_{5105}}) V_{5105}$
5107	Total	1	$(\frac{D'_{5107}}{D_{5107}}) V_{5107}$
	5202	1	$(\frac{D'_{5201}}{D_{5201}}) V_{5202}$
	5203	1	$(\frac{D'_{5203}}{D_{5203}}) r_{5203} V_{5203}$
	5207	1	$(\frac{D'_{5207}}{D_{5207}}) L_{5207-5107}$
5201	Total	1	$(\frac{D'_{5201}}{D_{5201}}) V_{5201}$
	5701	1	$L_{5701-5201} (\frac{D'_{5701}}{D_{5701}})$
	5706	1	$L_{5706-5201} (\frac{D'_{5705}}{D_{5705}})$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-19	5707	1	$L_{5707-5201} \left(\frac{D'_{5707}}{D_{5707}} \right)$
	5202	1	$\left(\frac{D'_{5201}}{D_{5201}} \right) V_{5202}$
	5701	1	$L_{5701-5202} \left(\frac{D'_{5701}}{D_{5701}} \right)$
	5706	1	$L_{5706-5202} \left(\frac{D'_{5705}}{D_{5705}} \right)$
5203	5707	1	$L_{5707-5202} \left(\frac{D'_{5707}}{D_{5707}} \right)$
	Total	1	$\left(\frac{D'_{5203}}{D_{5203}} \right) V_{5203}$
	4303	1	$L_{4303-5203} \left(\frac{D'_{4303}}{D_{4303}} \right)$
	4305	1	$L_{4305-5203} \left(\frac{D'_{4305}}{D_{4305}} \right)$
	4307	1	$L_{4307-5203} \left(\frac{D'_{4307}}{D_{4307}} \right)$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5204	Total	1	$(\frac{D'_{5203}}{D_{5203}}) V_{5204}$
	4303	1	$L_{4303-5204} (\frac{D'_{4303}}{D_{4303}})$
	4305	1	$L_{4305-5204} (\frac{D'_{4305}}{D_{4305}})$
	4307	1	$L_{4307-5204} (\frac{D'_{4307}}{D_{4307}})$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5205	Total	1	$(\frac{D'_{5205}}{D_{5205}}) V_{5205}$
	5101	1	$(\frac{D'_{5101}}{D_{5101}}) r_{5101} V_{5101}$
	5103	1	$(\frac{D'_{5103}}{D_{5103}}) l_{5103} V_{5103}$
	5105	1	$(\frac{D'_{5105}}{D_{5105}}) t_{5105} V_{5105}$
5207	Total	1	$(\frac{D'_{5207}}{D_{5207}}) V_{5207}$
	4403	1	$(\frac{D'_{4403}}{D_{4403}}) t_{4403} V_{4403}$
	4405	1	$(\frac{D'_{4405}}{D_{4405}}) r_{4405} V_{4405}$
	4407	1	$(\frac{D'_{4407}}{D_{4407}}) l_{4407} V_{4407}$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5301	Total	1	$(\frac{D'_{5301}}{D_{5301}}) V_{5301}$
	6301	1	$L_{6301-5301} (\frac{D'_{6301}}{D_{6301}})$
	6305	1	$L_{6305-5301} (\frac{D'_{6305}}{D_{6305}})$
	6307	L	$L_{6307-5301} (\frac{D'_{6307}}{D_{6307}})$
5302	Total	1	$(\frac{D'_{5301}}{D_{5301}}) V_{5302}$
	6301	1	$L_{6301-5302} (\frac{D'_{6301}}{D_{6301}})$
	6305	1	$L_{6305-5302} (\frac{D'_{6305}}{D_{6305}})$
	6307	1	$L_{6307-5302} (\frac{D'_{6307}}{D_{6307}})$

DETECTOR SCENARIO A

Link	Input Link	Rule Number	Equation
5303	Total	1	$(\frac{D'_{5303}}{D_{5303}}) V_{5303}$
	4003	1	$L_{4003-5303} (\frac{D'_{4003}}{D_{4003}})$
	4005	1	$L_{4005-5303} (\frac{D'_{4005}}{D_{4005}})$
5304	Total	1	$(\frac{D'_{5303}}{D_{5303}}) V_{5304}$
	4003	1	$L_{4003-5304} (\frac{D'_{4003}}{D_{4003}})$
	4005	1	$L_{4005-5304} (\frac{D'_{4005}}{D_{4005}})$
5305	Total	1	$(\frac{D'_{5305}}{D_{5305}}) V_{5305}$
5306	Total	1	$(\frac{D'_{5305}}{D_{5305}}) V_{5306}$
5307	Total	1	$(\frac{D'_{5307}}{D_{5307}}) V_{5307}$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5401	1	$L_{5401-5307} \left(\frac{D'_{5401}}{D_{5401}} \right)$
	5407	1	$L_{5407-5307} \left(\frac{D'_{5407}}{D_{5407}} \right)$
5308	Total	1	$\left(\frac{D'_{5307}}{D_{5307}} \right) V_{5308}$
E-24	5401	1	$L_{5401-5308} \left(\frac{D'_{5401}}{D_{5401}} \right)$
	5407	1	$L_{5407-5308} \left(\frac{D'_{5407}}{D_{5407}} \right)$
5401	Total	1	$\left(\frac{D'_{5401}}{D_{5401}} \right) V_{5401}$
5405	Total	1	$\left(\frac{D'_{5405}}{D_{5405}} \right) V_{5405}$
	5301	1	$\left(\frac{D'_{5301}}{D_{5301}} \right) r_{5301} V_{5301}$
	5304	1	$\left(\frac{D'_{5303}}{D_{5303}} \right) V_{5304}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5305	1	$(\frac{D'_{5305}}{D_{5305}}) t_{5305} v_{5305}$
5407	Total	1	$(\frac{D'_{5407}}{D_{5407}}) v_{5407}$
	5501	1	$(\frac{D'_{5501}}{D_{5501}}) l_{5501} v_{5501}$
E-25	5503	1	$(\frac{D'_{5503}}{D_{5503}}) r_{5503} v_{5503}$
	5507	1	$(\frac{D'_{5507}}{D_{5507}}) t_{5507} v_{5507}$
5501	Total	1	$(\frac{D'_{5501}}{D_{5501}}) v_{5501}$
	6401	1	$(\frac{D'_{6401}}{D_{6401}}) t_{6401} v_{6401}$
	6405	1	$(\frac{D'_{6405}}{D_{6405}}) l_{6405} v_{6405}$
5503	Total	1	$(\frac{D'_{5503}}{D_{5503}}) v_{5503}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-26	5103	1	$(\frac{D'_{5503}}{D_{5503}}) t_{5103} V_{5503}$
	5105	1	$(\frac{D'_{5105}}{D_{5105}}) r_{5105} V_{5105}$
	5107	1	$(\frac{D'_{5107}}{D_{5107}}) l_{5107} V_{5107}$
	5505	1	$(\frac{D'_{5505}}{D_{5505}}) V_{5505}$
	5401	1	$L_{5401-5505} (\frac{D'_{5401}}{D_{5401}})$
	5405	1	$L_{5405-5505} (\frac{D'_{5405}}{D_{5405}})$
5506	Total	1	$(\frac{D'_{5505}}{D_{5505}}) V_{5506}$
	5401	1	$L_{5401-5506} (\frac{D'_{5401}}{D_{5401}})$
	5405	1	$L_{5405-5506} (\frac{D'_{5405}}{D_{5405}})$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-27 5507	Total	1	$(\frac{D'_{5507}}{D_{5507}}) V_{5507}$
	5601	1	$L_{5601-5507} (\frac{D'_{5601}}{D_{5601}})$
	5603	1	$L_{5603-5507} (\frac{D'_{5603}}{D_{5603}})$
	5607	1	$L_{5607-5507} (\frac{D'_{5607}}{D_{5607}})$
5508	Total	1	$(\frac{D'_{5507}}{D_{5507}}) V_{5508}$
	5601	1	$L_{5601-5508} (\frac{D'_{5601}}{D_{5601}})$
	5603	1	$L_{5603-5508} (\frac{D'_{5603}}{D_{5603}})$
	5607	1	$L_{5607-5508} (\frac{D'_{5607}}{D_{5607}})$
5601	Total	1	$(\frac{D'_{5601}}{D_{5601}}) V_{5601}$

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<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5603	Total	1	$(\frac{D'_{5603}}{D_{5603}}) V_{5603}$
5605	Total	1	$(\frac{D'_{5605}}{D_{5605}}) V_{5605}$
	5501	1	$(\frac{D'_{5501}}{D_{5501}}) r_{5501} V_{5501}$
	5503	1	$(\frac{D'_{5503}}{D_{5503}}) l_{5503} V_{5503}$
	5505	1	$(\frac{D'_{5505}}{D_{5505}}) t_{5505} V_{5505}$
5607	Total	1	$(\frac{D'_{5607}}{D_{5607}}) V_{5607}$
	5702	1	$(\frac{D'_{5701}}{D_{5701}}) V_{5702}$
	5703	1	$(\frac{D'_{5703}}{D_{5703}}) r_{5703} V_{5703}$
	5707	1	$(\frac{D'_{5707}}{D_{5707}}) t_{5707} V_{5707}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-29 5701	Total	1	$(\frac{D'_{5701}}{D_{5701}}) v_{5701}$
	6501	1	$L_{6501-5701} (\frac{D'_{6501}}{D_{6501}})$
	6506	1	$L_{6506-5701} (\frac{D'_{6505}}{D_{6505}})$
	6507	1	$L_{6507-5701} (\frac{D'_{6507}}{D_{6507}})$
5702	Total	1	$(\frac{D'_{5701}}{D_{5701}}) v_{5702}$
	6501	1	$L_{6501-5702} (\frac{D'_{6501}}{D_{6501}})$
	6506	1	$L_{6506-5702} (\frac{D'_{6505}}{D_{6505}})$
	6507	1	$L_{6507-5702} (\frac{D'_{6507}}{D_{6507}})$
5703	Total	1	$(\frac{D'_{5703}}{D_{5703}}) v_{5703}$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-30	5203	1	$L_{5203-5703} \left(\frac{D'_{5203}}{D_{5203}} \right)$
	5205	1	$L_{5205-5703} \left(\frac{D'_{5205}}{D_{5205}} \right)$
	5207	1	$L_{5207-5703} \left(\frac{D'_{5207}}{D_{5207}} \right)$
	Total	1	$\left(\frac{D'_{5703}}{D_{5703}} \right) V_{5704}$
5704	5203	1	$L_{5203-5704} \left(\frac{D'_{5203}}{D_{5203}} \right)$
	5205	1	$L_{5205-5704} \left(\frac{D'_{5205}}{D_{5205}} \right)$
	5207	1	$L_{5207-5704} \left(\frac{D'_{5207}}{D_{5207}} \right)$
	Total	1	$\left(\frac{D'_{5705}}{D_{5705}} \right) V_{5705}$
5705	5601	1	$L_{5601-5705} \left(\frac{D'_{5601}}{D_{5601}} \right)$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5603	1	$L_{5603-5705} \left(\frac{D'_{5603}}{D_{5603}} \right)$
	5605	1	$L_{5605-5705} \left(\frac{D'_{5605}}{D_{5605}} \right)$
5706	Total	1	$\left(\frac{D'_{5705}}{D_{5705}} \right) V_{5706}$
	5601	1	$L_{5601-5706} \left(\frac{D'_{5601}}{D_{5601}} \right)$
	5603	1	$L_{5603-5706} \left(\frac{D'_{5603}}{D_{5603}} \right)$
	5605	1	$L_{5605-5706} \left(\frac{D'_{5605}}{D_{5605}} \right)$
5707	Total	1	$\left(\frac{D'_{5707}}{D_{5707}} \right) V_{5707}$
5708	Total	1	$\left(\frac{D'_{5707}}{D_{5707}} \right) V_{5708}$

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<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6301	Total	1	$(\frac{D'_{6301}}{D_{6301}}) V_{6301}$
	7101	1	$L_{7101-6301} (\frac{D'_{7101}}{D_{7101}})$
	7106	1	$L_{7106-6301} (\frac{D'_{7105}}{D_{7105}})$
	7107	1	$L_{7107-6301} (\frac{D'_{7107}}{D_{7107}})$
6302	Total	1	$(\frac{D'_{6301}}{D_{6301}}) V_{6302}$
	7101	1	$L_{7101-6302} (\frac{D'_{7101}}{D_{7101}})$
	7106	1	$L_{7106-6302} (\frac{D'_{7105}}{D_{7105}})$
	7107	1	$L_{7107-6302} (\frac{D'_{7107}}{D_{7107}})$
6303	Total	1	$(\frac{D'_{6303}}{D_{6303}}) V_{6303}$

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<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-33 6304	5303	1	$L_{5303-6303} \left(\frac{D'_{5303}}{D_{5303}} \right)$
	5305	1	$L_{5305-6303} \left(\frac{D'_{5305}}{D_{5305}} \right)$
	5308	1	$L_{5308-6303} \left(\frac{D'_{5307}}{D_{5307}} \right)$
	Total	1	$\left(\frac{D'_{6303}}{D_{6303}} \right) V_{6304}$
	5303	1	$L_{5303-6304} \left(\frac{D'_{5303}}{D_{5303}} \right)$
6305	5305	1	$L_{5305-6304} \left(\frac{D'_{5305}}{D_{5305}} \right)$
	5308	1	$L_{5308-6304} \left(\frac{D'_{5307}}{D_{5307}} \right)$
	Total	1	$\left(\frac{D'_{6305}}{D_{6305}} \right) V_{6305}$
6307	Total	1	$\left(\frac{D'_{6307}}{D_{6307}} \right) V_{6307}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6401	Total	1	$(\frac{D'_{6401}}{D_{6401}}) V_{6401}$
	7301	1	$(\frac{D'_{7301}}{D_{7301}}) L_{7301-6401}$
	7306	1	$(\frac{D'_{7305}}{D_{7305}}) L_{7306-6401}$
	7307	1	$(\frac{D'_{7307}}{D_{7307}}) L_{7307-6401}$
6403	Total	1	$(\frac{D'_{6403}}{D_{6403}}) V_{6403}$
	5503	1	$(\frac{D'_{5503}}{D_{5503}}) t_{5503} V_{5503}$
	5505	1	$(\frac{D'_{5505}}{D_{5505}}) r_{5503} V_{5503}$
	5508	3	$(\frac{D'_{5507}}{D_{5507}}) l_{5507} V_{5507}$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6407	Total	1	$(\frac{D'_{6407}}{D_{6407}}) V_{6407}$
6409	Total	1	$(\frac{D'_{6401}}{D_{6401}}) V_{6409}$
	7301	1	$L_{7301-6409} (\frac{D'_{6401}}{D_{6401}})$
	7306	1	$L_{7306-6409} (\frac{D'_{7305}}{D_{7305}})$
	7307	1	$L_{7307-6409} (\frac{D'_{7307}}{D_{7307}})$
6411	Total	1	$(\frac{D'_{6411}}{D_{6411}}) V_{6411}$
6501	Total	1	$(\frac{D'_{6501}}{D_{6501}}) V_{6501}$
	7001	1	$L_{7001-6501} (\frac{D'_{7001}}{D_{7001}})$
	7005	1	$L_{7005-6501} (\frac{D'_{7005}}{D_{7005}})$

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<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	7012	1	$L_{7012-6501} \left(\frac{D'_{7007}}{D_{7007}} \right)$
6502	Total	1	$\left(\frac{D'_{6501}}{D_{6501}} \right) V_{6502}$
6502	7001	1	$L_{7001-6502} \left(\frac{D'_{7001}}{D_{7001}} \right)$
	7005	1	$L_{7005-6502} \left(\frac{D'_{7005}}{D_{7005}} \right)$
	7012	1	$L_{7012-6502} \left(\frac{D'_{7007}}{D_{7007}} \right)$
6503	Total	1	$\left(\frac{D'_{6503}}{D_{6503}} \right) V_{6503}$
	5703	1	$L_{5703-6503} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	5705	1	$L_{5705-6503} \left(\frac{D'_{5705}}{D_{5705}} \right)$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6504	Total	1	$(\frac{D'_{6503}}{D_{6503}}) V_{6504}$
	5703	1	$L_{5703-6504} (\frac{D'_{5703}}{D_{5703}})$
	5705	1	$L_{5705-6504} (\frac{D'_{5705}}{D_{5705}})$
	5708	1	$L_{5708-6504} (\frac{D'_{5707}}{D_{5707}})$
6505	Total	1	$(\frac{D'_{6505}}{D_{6505}}) V_{6505}$
	7401	1	$L_{7401-6505} (\frac{D'_{7401}}{D_{7401}})$
	7406	1	$L_{7406-6505} (\frac{D'_{7405}}{D_{7405}})$
	7407	1	$L_{7407-6505} (\frac{D'_{7407}}{D_{7407}})$
6506	Total	1	$(\frac{D'_{6505}}{D_{6505}}) V_{6506}$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	7401	1	$L_{7401-6506} \left(\frac{D'_{7401}}{D_{7401}} \right)$
	7406	1	$L_{7406-6506} \left(\frac{D'_{7405}}{D_{7405}} \right)$
	7407	1	$L_{7407-6506} \left(\frac{D'_{7407}}{D_{7407}} \right)$
	7406	1	$L_{7406-6506} \left(\frac{D'_{7405}}{D_{7405}} \right)$
	7407	1	$L_{7407-6506} \left(\frac{D'_{7407}}{D_{7407}} \right)$
6507	Total	1	$\left(\frac{D'_{6507}}{D_{6507}} \right) v_{6507}$
6508	Total	1	$\left(\frac{D'_{6507}}{D_{6507}} \right) v_{6508}$
7001	Total	1	$\left(\frac{D'_{7001}}{D_{7001}} \right) v_{7001}$
	7506	1	$L_{7506-7001} \left(\frac{D'_{7505}}{D_{7505}} \right)$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7002	7507	1	$L_{7507-7001} \left(\frac{D'_{7507}}{D_{7507}} \right)$
	Total	1	$\left(\frac{D'_{7001}}{D_{7001}} \right) V_{7002}$
	7506	1	$L_{7506-7002} \left(\frac{D'_{7505}}{D_{7505}} \right)$
7003	7507	1	$L_{7507-7002} \left(\frac{D'_{7507}}{D_{7507}} \right)$
	Total	1	$\left(\frac{D'_{7003}}{D_{7003}} \right) V_{7003}$
	6503	1	$L_{6503-7003} \left(\frac{D'_{6503}}{D_{6503}} \right)$
	6505	1	$L_{6505-7003} \left(\frac{D'_{6505}}{D_{6505}} \right)$
	6508	1	$L_{6508-7003} \left(\frac{D'_{6507}}{D_{6507}} \right)$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-40	7004	Total	1
			$(\frac{D'_{7003}}{D_{7003}}) V_{7004}$
	6503		1
			$L_{6503-7004} (\frac{D'_{6503}}{D_{6503}})$
	6505		1
			$L_{6505-7004} (\frac{D'_{6505}}{D_{6505}})$
	6508		1
			$L_{6508-7004} (\frac{D'_{6507}}{D_{6507}})$
	7005	Total	1
			$(\frac{D'_{7005}}{D_{7005}}) V_{7005}$
	7007	Total	1
			$(\frac{D'_{7007}}{D_{7007}}) V_{7007}$
	7012	Total	1
			$(\frac{D'_{7007}}{D_{7007}}) V_{7012}$
	7101	Total	1
			$(\frac{D'_{7101}}{D_{7101}}) V_{7101}$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7102	Total	1	$(\frac{D'_{7101}}{D_{7101}}) v_{7102}$
7103	Total	1	$(\frac{D'_{7103}}{D_{7103}}) v_{7103}$
	6303	1	$L_{6303-7103} (\frac{D'_{6303}}{D_{6303}})$
	6305	1	$L_{6305-7103} (\frac{D'_{6305}}{D_{6305}})$
	6307	1	$L_{6307-7103} (\frac{D'_{6307}}{D_{6307}})$
7104	Total	1	$(\frac{D'_{7103}}{D_{7103}}) v_{7104}$
	6303	1	$L_{6303-7104} (\frac{D'_{6303}}{D_{6303}})$
	6305	1	$L_{6305-7104} (\frac{D'_{6305}}{D_{6305}})$

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DEFECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	6307	1	$L_{6307-7104} \left(\frac{D'_{6307}}{D_{6307}} \right)$
7105	Total	1	$\left(\frac{D'_{7105}}{D_{7105}} \right) v_{7105}$
7106	Total	1	$\left(\frac{D'_{7105}}{D_{7105}} \right) v_{7106}$
E-42 7107	Total	1	$\left(\frac{D'_{7107}}{D_{7107}} \right) v_{7107}$
	7201	1	$\left(\frac{D'_{7201}}{D_{7201}} \right) l_{7201} v_{7201}$
	7203	1	$\left(\frac{D'_{7203}}{D_{7203}} \right) r_{7203} v_{7203}$
	7207	1	$\left(\frac{D'_{7207}}{D_{7207}} \right) t_{7207} v_{7207}$
7111	Total	1	$\left(\frac{D'_{7105}}{D_{7105}} \right) v_{7111}$
7201	Total	1	$\left(\frac{D'_{7201}}{D_{7201}} \right) v_{7201}$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7203	Ttoal	1	$(\frac{D'_{7203}}{D_{7203}}) v_{7203}$
7205	Total	1	$(\frac{D'_{7205}}{D_{7205}}) v_{7205}$
	7101	1	$(\frac{D'_{7101}}{D_{7101}}) r_{7101} v_{7101}$
	7104	1	$(\frac{D'_{7103}}{D_{7103}}) v_{7104}$
	7105	1	$(\frac{D'_{7105}}{D_{7105}}) t_{7105} v_{7105}$
7207	Total	1	$(\frac{D'_{7207}}{D_{7207}}) v_{7207}$
	7302	1	$(\frac{D'_{7301}}{D_{7301}}) v_{7302}$
	7303	1	$(\frac{D'_{7303}}{D_{7303}}) r_{7303} v_{7303}$
	7307	1	$(\frac{D'_{7307}}{D_{7307}}) t_{7307} v_{7307}$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7301	Total	1	$(\frac{D'_{7301}}{D_{7301}}) V_{7301}$
7302	Total	1	$(\frac{D'_{7301}}{D_{7301}}) V_{7302}$
7303	Total	1	$(\frac{D'_{7303}}{D_{7303}}) V_{7303}$
E-44	6403	1	$L_{6403-7303} (\frac{D'_{6403}}{D_{6403}})$
	6411	1	$L_{6411-7303} (\frac{D'_{6411}}{D_{6411}})$
	6407	1	$L_{6407-7303} (\frac{D'_{6407}}{D_{6407}})$
7304	Total	1	$(\frac{D'_{7303}}{D_{7303}}) V_{7303}$
	6403	1	$L_{6403-7304} (\frac{D'_{6403}}{D_{6403}})$
	6411	1	$L_{6411-7303} (\frac{D'_{6411}}{D_{6411}})$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-45	6407	1	$L_{6407-7303} \left(\frac{D'_{6407}}{D_{6407}} \right)$
	7305	1	$\left(\frac{D'_{7305}}{D_{7305}} \right) V_{7305}$
	7201	1	$L_{7201-7305} \left(\frac{D'_{7201}}{D_{7201}} \right)$
	7203	1	$L_{7203-7305} \left(\frac{D'_{7203}}{D_{7203}} \right)$
7306	7205	1	$L_{7205-7305} \left(\frac{D'_{7205}}{D_{7205}} \right)$
	Total	1	$\left(\frac{D'_{7305}}{D_{7305}} \right) V_{7306}$
	7201	1	$L_{7201-7306} \left(\frac{D'_{7201}}{D_{7201}} \right)$
	7203	1	$L_{7203-7306} \left(\frac{D'_{7203}}{D_{7203}} \right)$
	7205	1	$L_{7205-7306} \left(\frac{D'_{7205}}{D_{7205}} \right)$

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7307	Total	1	$(\frac{D'_{7307}}{D_{7307}}) V_{7307}$
	7401	1	$L_{7401-7307} (\frac{D'_{7401}}{D_{7401}})$
	7410	1	$L_{7410-7307} (\frac{D'_{7410}}{D_{7410}})$
	7407	1	$L_{7407-7307} (\frac{D'_{7407}}{D_{7407}})$
7308	Total	1	$(\frac{D'_{7307}}{D_{7307}}) V_{7308}$
	7401	1	$L_{7401-7308} (\frac{D'_{7401}}{D_{7401}})$
	7410	1	$L_{7410-7308} (\frac{D'_{7410}}{D_{7410}})$
	7407	1	$L_{7407-7308} (\frac{D'_{7407}}{D_{7407}})$
7401	Total	1	$(\frac{D'_{7401}}{D_{7401}}) V_{7401}$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7403	Total	1	$(\frac{D'_{7403}}{D_{7403}}) V_{7403}$
	6502	1	$L_{6502-7403} (\frac{D'_{6501}}{D_{6501}})$
	6503	1	$L_{6503-7403} (\frac{D'_{6503}}{D_{6503}})$
	6507	1	$L_{6507-7403} (\frac{D'_{6507}}{D_{6507}})$
7404	Total	1	$(\frac{D'_{7403}}{D_{7403}}) V_{7404}$
	6502	1	$L_{6502-7404} (\frac{D'_{6501}}{D_{6501}})$
	6503	1	$L_{6503-7404} (\frac{D'_{6503}}{D_{6503}})$
	6507	1	$L_{6507-7404} (\frac{D'_{6507}}{D_{6507}})$
7405	Total	1	$(\frac{D'_{7405}}{D_{7405}}) V_{7405}$

DEFLECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	7301	1	$L_{7301-7405} \left(\frac{D'_{7301}}{D_{7301}} \right)$
	7304	1	$L_{7304-7405} \left(\frac{D'_{7303}}{D_{7303}} \right)$
	7305	1	$L_{7305-7405} \left(\frac{D'_{7305}}{D_{7305}} \right)$
E-7406	Total	1	$\left(\frac{D'_{7405}}{D_{7405}} \right) V_{7406}$
	7301	1	$L_{7301-7406} \left(\frac{D'_{7301}}{D_{7301}} \right)$
	7304	1	$L_{7304-7406} \left(\frac{D'_{7303}}{D_{7303}} \right)$
	7305	1	$L_{7305-7406} \left(\frac{D'_{7305}}{D_{7305}} \right)$
7407	Total	1	$\left(\frac{D'_{7407}}{D_{7407}} \right) V_{7407}$
	7503	1	$L_{7503-7407} \left(\frac{D'_{7503}}{D_{7503}} \right)$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-49	7507	1	$L_{7507-7407} \left(\frac{D'_{7507}}{D_{7507}} \right)$
	7408	Total	$\left(\frac{D'_{7407}}{D_{7407}} \right) v_{7408}$
	7503	1	$L_{7503-7408} \left(\frac{D'_{7503}}{D_{7503}} \right)$
	7507	1	$L_{7507-7408} \left(\frac{D'_{7507}}{D_{7507}} \right)$
	7410	Total	$\left(\frac{D'_{7403}}{D_{7403}} \right) v_{7410}$
	6502	1	$L_{6502-7410} \left(\frac{D'_{6501}}{D_{6501}} \right)$
	6503	1	$L_{6503-7410} \left(\frac{D'_{6503}}{D_{6503}} \right)$
	6507	1	$L_{6507-7410} \left(\frac{D'_{6507}}{D_{6507}} \right)$
	7503	Total	$\left(\frac{D'_{7503}}{D_{7503}} \right) v_{7503}$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-50	7003	1	$L_{7003-7503} \left(\frac{D'_{7003}}{D_{7003}} \right)$
	7005	1	$L_{7005-7505} \left(\frac{D'_{7005}}{D_{7005}} \right)$
	7007	1	$L_{7007-7503} \left(\frac{D'_{7007}}{D_{7007}} \right)$
	Total	1	$\left(\frac{D'_{7503}}{D_{7503}} \right) v_{7504}$
7504	7003	1	$L_{7003-7504} \left(\frac{D'_{7003}}{D_{7003}} \right)$
	7005	1	$L_{7005-7504} \left(\frac{D'_{7005}}{D_{7005}} \right)$
	7007	1	$L_{7007-7504} \left(\frac{D'_{7007}}{D_{7007}} \right)$
	Total	1	$\left(\frac{D'_{7505}}{D_{7505}} \right) v_{7505}$
7505	7401	1	$L_{7401-7505} \left(\frac{D'_{7401}}{D_{7401}} \right)$

DETECTOR SCENARIO A

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	7404	1	$L_{7404-7505} \left(\frac{D'_{7403}}{D_{7403}} \right)$
	7405	1	$L_{7405-7505} \left(\frac{D'_{7405}}{D_{7405}} \right)$
7506	Total	1	$\left(\frac{D'_{7505}}{D_{7505}} \right) V_{7506}$
	7401	1	$L_{7401-7506} \left(\frac{D'_{7401}}{D_{7401}} \right)$
	7404	1	$L_{7404-7506} \left(\frac{D'_{7403}}{D_{7403}} \right)$
	7405	1	$L_{7405-7506} \left(\frac{D'_{7405}}{D_{7405}} \right)$
7507	Total	1	$\left(\frac{D'_{7507}}{D_{7507}} \right) V_{7507}$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
2401	Total	1	$(\frac{D'_{2401}}{D_{2401}}) V_{2401}$
	3601	4	$L_{3601-2401} \quad 1/2 \quad (\frac{D'_{4201}}{D_{4201}} + \frac{D'_{2401}}{D_{2401}})$
	3605	5	$L_{3605-2401} \quad (\frac{D'_N}{D_N})$
	3607	5	$L_{3607-2401} \quad (\frac{D'_N}{D_N})$
2402	Total	1	$(\frac{D'_{2401}}{D_{2401}}) V_{2402}$
	3601	3	$L_{3601-2402} \quad (\frac{D'_{4201}}{D_{4201}})$
	3605	5	$L_{3605-2402} \quad (\frac{D'_N}{D_N})$
	3607	5	$L_{3607-2402} \quad (\frac{D'_N}{D_N})$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
2403	Total	1	$(\frac{D'_{2403}}{D_{2403}}) V_{2403}$
2404	Total	1	$(\frac{D'_{2403}}{D_{2403}}) V_{2404}$
2405	Total	1	$(\frac{D'_{2405}}{D_{2405}}) V_{2405}$
2406	Total	1	$(\frac{D'_{2405}}{D_{2405}}) V_{2406}$
2407	Total	1	$(\frac{D'_{2407}}{D_{2407}}) V_{2407}$
2408	Total	1	$(\frac{D'_{2407}}{D_{2407}}) V_{2408}$
3501	Total	5	$(\frac{D'_N}{D_N}) V_{3501}$
3505	Total	5	$(\frac{D'_N}{D_N}) V_{3505}$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3507	Total	5	$(\frac{D'_N}{D_N}) V_{3507}$
	3602	3	$(\frac{D'_{4201}}{D_{4201}}) V_{3602}$
	3603	3	$(\frac{D'_{2403}}{D_{2403}}) r_{3603} V_{3603}$
	3607	5	$(\frac{D'_N}{D_N}) t_{3607} V_{3607}$
3601	Total	2	Sum of below
	4210	1	$L_{4201-3601} (\frac{D'_{4201}}{D_{4201}})$
	4206	1	$L_{4206-3601} (\frac{D'_{4205}}{D_{4205}})$
3602	Total	2	Sum of below
	4201	1	$L_{4201-3602} (\frac{D'_{4201}}{D_{4201}})$

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DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	4206	1	$L_{4206-3602} \left(\frac{D'_{4205}}{D_{4205}} \right)$
3603	Total	2	Sum of below
	2403	1	$L_{2403-3603} \left(\frac{D'_{2403}}{D_{2403}} \right)$
	2405	1	$L_{2405-3603} \left(\frac{D'_{2405}}{D_{2405}} \right)$
	2408	1	$L_{2408-3603} \left(\frac{D'_{2407}}{D_{2407}} \right)$
3604	Total	2	Sum of below
	2403	1	$L_{2403-3604} \left(\frac{D'_{2403}}{D_{2403}} \right)$
	2405	1	$L_{2405-3604} \left(\frac{D'_{2405}}{D_{2405}} \right)$
	2408	1	$L_{2408-3604} \left(\frac{D'_{2407}}{D_{2407}} \right)$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3605	Total	5	$(\frac{D'_N}{D_N}) V_{3605}$
	3501	5	$(\frac{D'_N}{D_N}) r_{3501} V_{3501}$
	3505	5	$(\frac{D'_N}{D_N}) t_{3505} V_{3505}$
3607	Total	5	$(\frac{D'_N}{D_N}) V_{3607}$
3801	Total	2	Sum of below
	4001	1	$L_{4001-3801} (\frac{D'_{4001}}{D_{4001}})$
	4005	1	$L_{4005-3801} (\frac{D'_{4005}}{D_{4005}})$
3802	Total	1	$V_{3802} (\frac{D'_{3802}}{D_{3802}})$
	4001	1	$L_{4001-3802} (\frac{D'_{4001}}{D_{4001}})$

DETECTOR SCENARIO C

Link	Input Link	Rule Number	Equation
3802	4005	1	$L_{4005-3802} \left(\frac{D'_{4005}}{D_{4005}} \right)$
3803	Total	1	$\left(\frac{D'_{3803}}{D_{3803}} \right) V_{3803}$
3807	Total	1	$\left(\frac{D'_{3807}}{D_{3807}} \right) V_{3807}$
3810	Total	1	$\left(\frac{D'_{3803}}{D_{3803}} \right) V_{3810}$
3901	Total	2	Sum of below
	4101	1	$L_{4101-3901} \left(\frac{D'_{4101}}{D_{4101}} \right)$
	4105	1	$L_{4105-3901} \left(\frac{D'_{4105}}{D_{4105}} \right)$
3902	Total	1	$\left(\frac{D'_{3902}}{D_{3902}} \right) V_{3902}$
	4101	1	$L_{4101-3902} \left(\frac{D'_{4101}}{D_{4101}} \right)$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	4105	1	$L_{4105-3902} \left(\frac{D'_{4105}}{D_{4105}} \right)$
3903	Total	1	$\left(\frac{D'_{3903}}{D_{3903}} \right) V_{3903}$
3907	Total	1	$\left(\frac{D'_{3907}}{D_{3907}} \right) V_{3907}$
3910	Total	1	$\left(\frac{D'_{3903}}{D_{3903}} \right) V_{3910}$
4001	Total	1	$\left(\frac{D'_{4001}}{D_{4001}} \right) V_{4001}$
	5301	1	$L_{5301-4001} \left(\frac{D'_{5301}}{D_{5301}} \right)$
	5306	1	$L_{5306-4001} \left(\frac{D'_{5305}}{D_{5305}} \right)$
	5307	1	$L_{5307-4001} \left(\frac{D'_{5307}}{D_{5307}} \right)$
4003	Total	2	Sum of below

DETECTOR SCENARIO C

Link	Input Link	Rule Number	Equation
4004	3803	1	$L_{3803-4003} \left(\frac{D'_{3803}}{D_{3803}} \right)$
	3807	1	$L_{3807-4003} \left(\frac{D'_{3807}}{D_{3807}} \right)$
	Total	1	$\left(\frac{D'_{4004}}{D_{4004}} \right) V_{4004}$
E-59	3803	1	$L_{3803-4004} \left(\frac{D'_{3803}}{D_{3803}} \right)$
	3807	1	$L_{3807-4004} \left(\frac{D'_{3807}}{D_{3807}} \right)$
4005	Total	1	$\left(\frac{D'_{4005}}{D_{4005}} \right) V_{4005}$
4009	Total	1	$\left(\frac{D'_{4001}}{D_{4001}} \right) V_{4009}$
	5301	1	$L_{5301-4009} \left(\frac{D'_{5301}}{D_{5301}} \right)$
	5306	1	$L_{5306-4009} \left(\frac{D'_{5305}}{D_{5305}} \right)$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5307	1	$L_{5307-4009} \left(\frac{D'_{5307}}{D_{5307}} \right)$
4101	Total	1	$\left(\frac{D'_{4101}}{D_{4101}} \right) V_{4101}$
	5101	4	$1/2 \left[\frac{D'_{4101}}{D_{4101}} + \frac{D'_{5501}}{D_{5501}} \right] L_{5101-4101}$
	5105	5	$L_{5105-4101} \left(\frac{D'_N}{D_N} \right)$
	5107	5	$L_{5107-4101} \left(\frac{D'_N}{D_N} \right)$
4103	Total	2	Sum of below
	3903	1	$L_{3903-4103} \left(\frac{D'_{3903}}{D_{3903}} \right)$
	3907	1	$L_{3907-4103} \left(\frac{D'_{3907}}{D_{3907}} \right)$
4104	Total	1	$\left(\frac{D'_{4101}}{D_{4101}} \right) V_{4104}$

DETECTOR SCENARIO C

Link	Input Link	Rule Number	Equation
	3903	1	$L_{3903-4104} \left(\frac{D'_{3903}}{D_{3903}} \right)$
	3907	1	$L_{3907-4104} \left(\frac{D'_{3907}}{D_{3907}} \right)$
4105	Total	1	$\left(\frac{D'_{4105}}{D_{4105}} \right) V_{4105}$
4109	Total	1	$\left(\frac{D'_{4101}}{D_{4101}} \right) V_{4109}$
	5101	3	$L_{5101-4109} \left(\frac{D'_{5501}}{D_{5501}} \right)$
	5105	5	$L_{5105-4109} \left(\frac{D'_N}{D_N} \right)$
	5107	5	$L_{5107-4109} \left(\frac{D'_N}{D_N} \right)$
4201	Total	1	$\left(\frac{D'_{4201}}{D_{4201}} \right) V_{4201}$
	4301	3	$\left(\frac{D'_{4201}}{D_{4201}} \right) t_{4301} V_{4301}$

DETECTOR SCENARIO C

Link	Input Link	Rule Number	Equation
	4305	5	$(\frac{D'_N}{D_N}) 1_{4305} V_{4305}$
	4307	5	$(\frac{D'_N}{D_N}) r_{4307} V_{4307}$
4203	Total	1	$(\frac{D'_{4203}}{D_{4203}}) V_{4203}$
	3603	4	$L_{3603-4203} 1/2 [\frac{D'_{2403}}{D_{2403}} + \frac{D'_{4203}}{D_{4203}}]$
	3605	5	$L_{3605-4203} (\frac{D'_N}{D_N})$
	3607	5	$L_{3607-4203} (\frac{D'_N}{D_N})$
4204	Total	1	$(\frac{D'_{4203}}{D_{4203}}) V_{4204}$
	3603	4	$L_{3603-4204} (\frac{D'_{2403}}{D_{2403}} + \frac{D'_{4203}}{D_{4203}}) 1/2$
	3605	5	$L_{3605-4204} (\frac{D'_N}{D_N})$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	3607	5	$L_{3607-4204} \left(\frac{D'_N}{D_N} \right)$
4205	Total	1	$\left(\frac{D'_{4205}}{D_{4205}} \right) v_{4205}$
4206	Total	1	$\left(\frac{D'_{4205}}{D_{4205}} \right) v_{4206}$
E-63 4301	Total	3	$\left(\frac{D'_{4201}}{D_{4201}} \right) v_{4301}$
	5201	3	$L_{5201-4301} \left(\frac{D'_{5701}}{D_{5701}} \right)$
	5205	5	$L_{5205-4301} \left(\frac{D'_N}{D_N} \right)$
	5207	5	$L_{5207-4301} \left(\frac{D'_N}{D_N} \right)$
4302	Total	3	$\left(\frac{D'_{4201}}{D_{4201}} \right) v_{4302}$
	5201	3	$L_{5201-4302} \left(\frac{D'_{5701}}{D_{5701}} \right)$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5205	5	$L_{5205-4302} \left(\frac{D'_N}{D_N} \right)$
	5207	5	$L_{5207-4302} \left(\frac{D'_N}{D_N} \right)$
4303	Total	2	Sum of below
	4203	1	$L_{4203-4303} \left(\frac{D'_{4203}}{D_{4203}} \right)$
	4205	1	$L_{4205-4303} \left(\frac{D'_{4205}}{D_{4205}} \right)$
4304	Total	2	Sum of below
	4203	1	$L_{4203-4304} \left(\frac{D'_{4203}}{D_{4203}} \right)$
	4205	1	$L_{4205-4304} \left(\frac{D'_{4205}}{D_{4205}} \right)$
4305	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{4305}$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4307	Total	5	$(\frac{D'_N}{D_N}) V_{4307}$
	4401	5	$(\frac{D'_N}{D_N}) l_{4401} V_{4401}$
	4403	5	$(\frac{D'_N}{D_N}) r_{4403} V_{4403}$
	4407	5	$(\frac{D'_N}{D_N}) t_{4407} V_{4407}$
4401	Total	5	$(\frac{D'_N}{D_N}) V_{4401}$
	5201	3	$(\frac{D'_{5701}}{D_{5701}}) L_{5201-4401}$
	5204	3	$(\frac{D'_{5703}}{D_{5703}}) L_{5204-4401}$
	5205	5	$(\frac{D'_N}{D_N}) L_{5205-4401}$
4403	Total	5	$(\frac{D'_N}{D_N}) V_{4403}$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4405	Total	5	$(\frac{D'_N}{D_N}) V_{4405}$
	4301	3	$(\frac{D'_{4201}}{D_{4201}}) r_{4301} V_{4301}$
	4304	3	$(\frac{D'_{4203}}{D_{4203}}) V_{4304}$
	4305	5	$(\frac{D'_N}{D_N}) t_{4305} V_{4305}$
4407	Total	5	$(\frac{D'_N}{D_N}) V_{4407}$
5101	Total	2	Sum of below
	5501	1	$(\frac{D'_{5501}}{D_{5501}}) t_{5101} V_{5101}$
	5506	1	$(\frac{D'_{5505}}{D_{5505}}) V_{5506}$
	5507	1	$(\frac{D'_{5507}}{D_{5507}}) r_{5507} V_{5507}$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5103	Total	3	$(\frac{D'_{5503}}{D_{5503}}) V_{5103}$
	4103	3	$(\frac{D'_{3903}}{D_{3903}}) t_{4103} V_{4103}$
	4105	1	$(\frac{D'_{4105}}{D_{4105}}) r_{4105} V_{4105}$
E-67 5105	Total	5	$(\frac{D'_N}{D_N}) V_{5105}$
5107	Total	5	$(\frac{D'_N}{D_N}) V_{5107}$
	5202	3	$(\frac{D'_{5701}}{D_{5701}}) V_{5202}$
	5203	3	$(\frac{D'_{5703}}{D_{5703}}) r_{5203} V_{5203}$
	5207	5	$L_{5207-5107} (\frac{D'_N}{D_N})$
5201	Total	2	Sum of below

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5701	1	$L_{5701-5201} \left(\frac{D'_{5701}}{D_{5701}} \right)$
	5706	1	$L_{5706-5201} \left(\frac{D'_{5705}}{D_{5705}} \right)$
	5707	1	$L_{5707-5201} \left(\frac{D'_{5707}}{D_{5707}} \right)$
E-68 5202	Total	2	Sum of below
	5701	1	$L_{5701-5202} \left(\frac{D'_{5701}}{D_{5701}} \right)$
	5706	1	$L_{5706-5202} \left(\frac{D'_{5705}}{D_{5705}} \right)$
	5707	1	$L_{5707-5202} \left(\frac{D'_{5707}}{D_{5707}} \right)$
5203	Total	3	$\left(\frac{D'_{5703}}{D_{5703}} \right) v_{5203}$
	4303	3	$L_{4303-5203} \left(\frac{D'_{4203}}{D_{4203}} \right)$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	4305	5	$L_{4305-5203} \left(\frac{D'_N}{D_N} \right)$
	4307	5	$L_{4307-5203} \left(\frac{D'_N}{D_N} \right)$
5204	Total	3	$\left(\frac{D'_{5703}}{D_{5703}} \right) V_{5204}$
	4303	3	$L_{4303-5204} \left(\frac{D'_{4203}}{D_{4203}} \right)$
	4305	5	$L_{4305-5204} \left(\frac{D'_N}{D_N} \right)$
	4307	5	$L_{4307-5204} \left(\frac{D'_N}{D_N} \right)$
5205	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{5205}$
	5101	3	$\left(\frac{D'_{5501}}{D_{5501}} \right) r_{5101} V_{5101}$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5103	3	$(\frac{D'_{5503}}{D_{5503}}) 1_{5103} V_{5103}$
	5105	5	$(\frac{D'_N}{D_N}) t_{5105} V_{5105}$
5207	Total	5	$(\frac{D'_N}{D_N}) V_{5207}$
	4403	5	$(\frac{D'_N}{D_N}) t_{4403} V_{4403}$
	4405	5	$(\frac{D'_N}{D_N}) r_{4405} V_{4405}$
	4407	5	$(\frac{D'_N}{D_N}) 1_{4407} V_{4407}$
5301	Total	1	$(\frac{D'_{5301}}{D_{5301}}) V_{5301}$
	6301	3	$L_{6301-5301} (\frac{D'_{5301}}{D_{5301}})$
	6305	5	$L_{6305-5301} (\frac{D'_N}{D_N})$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	6307	5	$L_{6307-5301} \left(\frac{D'_N}{D_N} \right)$
5302	Total	1	$\left(\frac{D'_{5301}}{D_{5301}} \right) V_{5302}$
	6301	3	$L_{6301-5302} \left(\frac{D'_{5301}}{D_{5301}} \right)$
	6305	5	$L_{6305-5302} \left(\frac{D'_N}{D_N} \right)$
	6307	5	$L_{6307-5302} \left(\frac{D'_N}{D_N} \right)$
5303	Total	1	$\left(\frac{D'_{5303}}{D_{5303}} \right) V_{5303}$
	4003	3	$L_{4003-5303} \left(\frac{D'_{3803}}{D_{3803}} \right)$
	4005	1	$L_{4005-5303} \left(\frac{D'_{4005}}{D_{4005}} \right)$
5304	Total	1	$\left(\frac{D'_{5303}}{D_{5303}} \right) V_{5304}$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	4003	3	$L_{4003-5304} \left(\frac{D'_{3803}}{D_{3803}} \right)$
	4005	1	$L_{4005-5304} \left(\frac{D'_{4005}}{D_{4005}} \right)$
5305	Total	1	$\left(\frac{D'_{5305}}{D_{5305}} \right) V_{5305}$
E-72 5306	Total	1	$\left(\frac{D'_{5305}}{D_{5305}} \right) V_{5306}$
5307	Total	1	$\left(\frac{D'_{5307}}{D_{5307}} \right) V_{5307}$
	5401	5	$L_{5401-5307} \left(\frac{D'_N}{D_N} \right)$
	5407	4	$L_{5407-5307} \frac{1}{2} \left(\frac{D'_{5507}}{D_{5507}} + \frac{D'_{5307}}{D_{5307}} \right)$
5308	Total	1	$\left(\frac{D'_{5307}}{D_{5307}} \right) V_{5308}$
	5401	5	$L_{5401-5308} \left(\frac{D'_N}{D_N} \right)$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5407	3	$L_{5407-5308} \left(\frac{D'_{5507}}{D_{5507}} \right)$
5401	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{5401}$
5405	Total	2	Sum of below
	5301	1	$\left(\frac{D'_{5301}}{D_{5301}} \right) r_{5301} V_{5301}$
	5304	1	$\left(\frac{D'_{5303}}{D_{5303}} \right) V_{5304}$
	5305	1	$\left(\frac{D'_{5305}}{D_{5305}} \right) t_{5305} V_{5305}$
5407	Total	2	Sum of below
	5501	1	$\left(\frac{D'_{5501}}{D_{5501}} \right) l_{5501} V_{5501}$
	5503	1	$\left(\frac{D'_{5503}}{D_{5503}} \right) r_{5503} V_{5503}$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5507	1	$(\frac{D'_{5507}}{D_{5507}}) t_{5507} v_{5507}$
5501	Total	1	$(\frac{D'_{5501}}{D_{5501}}) v_{5501}$
	6401	4	$1/2 [\frac{D'_{5501}}{D_{5501}} + \frac{D'_{7301}}{D_{7301}}] t_{6401} v_{6401}$
	6407	5	$(\frac{D'_N}{D_N}) r_{6407} v_{6407}$
5503	Total	1	$(\frac{D'_{5503}}{D_{5503}}) v_{5503}$
	5103	3	$(\frac{D'_{5503}}{D_{5503}}) t_{5103} v_{5103}$
	5105	5	$(\frac{D'_N}{D_N}) r_{5105} v_{5105}$
	5107	5	$(\frac{D'_N}{D_N}) l_{5107} v_{5107}$
5505	Total	1	$(\frac{D'_{5505}}{D_{5505}}) v_{5505}$

DETECTOR SCENARIO C

Link	Input Link	Rule Number	Equation
5506	5401	5	$L_{5401-5505} \left(\frac{D'_N}{D_N} \right)$
	5405	4	$L_{5405-5505} \left(\frac{1}{2} \left(\frac{D'_{5305}}{D_{5305}} + \frac{D'_{5505}}{D_{5505}} \right) \right)$
	Total	1	$\left(\frac{D'_{5505}}{D_{5505}} \right) V_{5506}$
5507	5401	5	$L_{5401-5506} \left(\frac{D'_N}{D_N} \right)$
	5405	3	$L_{5405-5506} \left(\frac{D'_{5305}}{D_{5305}} \right)$
	Total	1	$\left(\frac{D'_{5507}}{D_{5507}} \right) V_{5507}$
	5601	5	$L_{5601-5507} \left(\frac{D'_N}{D_N} \right)$
	5603	5	$L_{5603-5507} \left(\frac{D'_N}{D_N} \right)$
	5607	4	$L_{5607-5507} \left(\frac{1}{2} \left(\frac{D'_{5707}}{D_{5707}} + \frac{D'_{5507}}{D_{5507}} \right) \right)$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5508	Total	1	$(\frac{D'_{5507}}{D_{5507}}) V_{5508}$
	5601	5	$L_{5601-5508} (\frac{D'_N}{D_N})$
	5603	5	$L_{5603-5508} (\frac{D'_N}{D_N})$
	5607	3	$L_{5607-5508} (\frac{D'_{5707}}{D_{5707}})$
5601	Total	5	$(\frac{D'_N}{D_N}) V_{5601}$
5603	Total	5	$(\frac{D'_N}{D_N}) V_{5603}$
5605	Total	2	Sum of below
	5501	1	$(\frac{D'_{5501}}{D_{5501}}) r_{5501} V_{5501}$
	5503	1	$(\frac{D'_{5503}}{D_{5503}}) l_{5503} V_{5503}$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5505	1	$(\frac{D'_{5505}}{D_{5505}}) t_{5505} v_{5505}$
5607	Total	2	Sum of below
	5702	1	$(\frac{D'_{5701}}{D_{5701}}) v_{5702}$
	5703	1	$(\frac{D'_{5703}}{D_{5703}}) r_{5703} v_{5703}$
	5707	1	$(\frac{D'_{5707}}{D_{5707}}) t_{5707} v_{5707}$
5701	Total	1	$(\frac{D'_{5701}}{D_{5701}}) v_{5701}$
	6501	3	$L_{6501-5701} (\frac{D'_{5701}}{D_{5701}})$
	6506	5	$L_{6506-5701} (\frac{D'_N}{D_N})$
	6507	5	$L_{6507-5701} (\frac{D'_N}{D_N})$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5702	Total	1	$(\frac{D'_{5701}}{D_{5701}}) V_{5702}$
	6501	3	$L_{6501-5702} (\frac{D'_{5701}}{D_{5701}})$
	6506	5	$L_{6506-5702} (\frac{D'_N}{D_N})$
	6507	5	$L_{6507-5701} (\frac{D'_N}{D_N})$
5703	Total	1	$(\frac{D'_{5703}}{D_{5703}}) V_{5703}$
	5203	3	$L_{5203-5703} (\frac{D'_{5703}}{D_{5703}})$
	5205	5	$L_{5205-5703} (\frac{D'_N}{D_N})$
	5207	5	$L_{5207-5703} (\frac{D'_N}{D_N})$
5704	Total	1	$(\frac{D'_{5703}}{D_{5703}}) V_{5704}$

DETECTOR SCENARIO C

Link	Input Link	Rule Number	Equation
E-79	5203	3	$L_{5203-5704} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	5205	5	$L_{5205-5704} \left(\frac{D'_N}{D_N} \right)$
	5207	5	$L_{5207-5704} \left(\frac{D'_N}{D_N} \right)$
	5705	1	$\left(\frac{D'_{5705}}{D_{5705}} \right) V_{5705}$
	5601	5	$L_{5601-5705} \left(\frac{D'_N}{D_N} \right)$
	5603	5	$L_{5603-5705} \left(\frac{D'_N}{D_N} \right)$
	5605	3	$L_{5605-5705} \left(\frac{D'_{5505}}{D_{5505}} \right)$
5706	Total	1	$\left(\frac{D'_{5705}}{D_{5705}} \right) V_{5706}$
	5601	5	$L_{5601-5706} \left(\frac{D'_N}{D_N} \right)$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5603	5	$L_{5603-5706} \left(\frac{D'_N}{D_N} \right)$
	5605	3	$L_{5605-5706} \left(\frac{D'_{5505}}{D_{5505}} \right)$
5707	Total	1	$\left(\frac{D'_{5707}}{D_{5707}} \right) V_{5707}$
5708	Total	1	$\left(\frac{D'_{5707}}{D_{5707}} \right) V_{5708}$
6301	Total	2	Sum of below
	7101	1	$L_{7101-6301} \left(\frac{D'_{7101}}{D_{7101}} \right)$
	7106	1	$L_{7106-6301} \left(\frac{D'_{7105}}{D_{7105}} \right)$
	7107	1	$L_{7107-6301} \left(\frac{D'_{7107}}{D_{7107}} \right)$
6302	Total	2	Sum of below

DETECTOR SCENARIO C

Link	Input Link	Rule Number	Equation
	7101	1	$L_{7101-6302} \left(\frac{D'_{7101}}{D_{7101}} \right)$
	7106	1	$L_{7106-6302} \left(\frac{D'_{7105}}{D_{7105}} \right)$
	7107	1	$L_{7107-6302} \left(\frac{D'_{7107}}{D_{7107}} \right)$
E-81 6303	Total	2	Sum of below
	5303	1	$L_{5303-6303} \left(\frac{D'_{5303}}{D_{5303}} \right)$
	5305	1	$L_{5305-6303} \left(\frac{D'_{5305}}{D_{5305}} \right)$
	5308	1	$L_{5308-6303} \left(\frac{D'_{5307}}{D_{5307}} \right)$
6304	Total	3	$\left(\frac{D'_{5303}}{D_{5303}} \right) v_{5304}$
	5303	1	$L_{5303-6304} \left(\frac{D'_{5303}}{D_{5303}} \right)$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5305	1	$L_{5305-6304} \left(\frac{D'_{5305}}{D_{5305}} \right)$
	5308	1	$L_{5308-6304} \left(\frac{D'_{5307}}{D_{5307}} \right)$
6305	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{6305}$
E-82 6307	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{6307}$
6401	Total	2	Sum of below
	7301	1	$L_{7301-6401} \left(\frac{D'_{7301}}{D_{7301}} \right)$
	7306	1	$L_{7306-6401} \left(\frac{D'_{7305}}{D_{7305}} \right)$
	7307	1	$L_{7307-6401} \left(\frac{D'_{7307}}{D_{7307}} \right)$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6403	Total	2	Sum of below
	5503	1	$L_{5503-6403} \left(\frac{D'_{5503}}{D_{5503}} \right)$
	5505	1	$L_{5505-6403} \left(\frac{D'_{5505}}{D_{5505}} \right)$
	5508	1	$L_{5508-6403} \left(\frac{D'_{5507}}{D_{5507}} \right)$
6407	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{6407}$
6409	Total	3	$\left(\frac{D'_{7301}}{D_{7301}} \right) V_{6409}$
	7301	1	$L_{7301-6409} \left(\frac{D'_{7301}}{D_{7301}} \right)$
	7306	1	$L_{7306-6409} \left(\frac{D'_{7305}}{D_{7305}} \right)$
	7307	1	$L_{7307-6409} \left(\frac{D'_{7307}}{D_{7307}} \right)$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6410	Total	2	Sum of below
	5503	1	$L_{5503-6410} \left(\frac{D'_{5503}}{D_{5503}} \right)$
	5505	1	$L_{5505-6410} \left(\frac{D'_{5505}}{D_{5505}} \right)$
	5508	1	$L_{5508-6410} \left(\frac{D'_{5507}}{D_{5507}} \right)$
6411	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{6411}$
6501	Total	3	$\left(\frac{D'_{5701}}{D_{5701}} \right) V_{6501}$
	7001	3	$L_{7001-6501} \left(\frac{D'_{5701}}{D_{5701}} \right)$
	7005	5	$L_{7005-6501} \left(\frac{D'_N}{D_N} \right)$
	7012	5	$L_{7012-6501} \left(\frac{D'_N}{D_N} \right)$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6502	Total	3	$(\frac{D'_{5701}}{D_{5701}}) V_{6502}$
	7001	3	$L_{7001-6502} (\frac{D'_{5701}}{D_{5701}})$
	7005	5	$L_{7005-6502} (\frac{D'_N}{D_N})$
	7012	5	$L_{7012-6502} (\frac{D'_N}{D_N})$
6503	Total	2	Sum of below
	5703	1	$L_{5703-6503} (\frac{D'_{5703}}{D_{5703}})$
	5705	1	$L_{5705-6503} (\frac{D'_{5705}}{D_{5705}})$
	5708	1	$L_{5708-6503} (\frac{D'_{5707}}{D_{5707}})$
6504	Total	2	Sum of below

DETECTOR SCENARIO C

Link	Input Link	Rule Number	Equation
	5703	1	$L_{5703-6504} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	5705	1	$L_{5705-6504} \left(\frac{D'_{5705}}{D_{5705}} \right)$
	5708	1	$L_{5708-6504} \left(\frac{D'_{5707}}{D_{5707}} \right)$
E-86 6505	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{6505}$
	7401	5	$L_{7401-6505} \left(\frac{D'_N}{D_N} \right)$
	7406	3	$L_{7406-6505} \left(\frac{D'_{7305}}{D_{7305}} \right)$
	7407	3	$L_{7407-6505} \left(\frac{D'_{7507}}{D_{7507}} \right)$
6506	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{6506}$
	7401	5	$L_{7401-6506} \left(\frac{D'_N}{D_N} \right)$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	7406	3	$L_{7406-6506} \left(\frac{D'_{7305}}{D_{7305}} \right)$
	7407	3	$L_{7407-6506} \left(\frac{D'_{7507}}{D_{7507}} \right)$
6507	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{6507}$
6508	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{6508}$
7001	Total	2	Sum of below
	7506	1	$L_{7506-7001} \left(\frac{D'_{7505}}{D_{7505}} \right)$
	7507	1	$L_{7507-7001} \left(\frac{D'_{7507}}{D_{7507}} \right)$
7002	Total	2	Sum of below
	7506	1	$L_{7506-7002} \left(\frac{D'_{7505}}{D_{7505}} \right)$

DETECTOR SCENARIO C

Link	Input Link	Rule Number	Equation
7003	7507	1	$L_{7507-7002} \left(\frac{D'_{7507}}{D_{7507}} \right)$
	Total	3	$V_{7003} \left(\frac{D'_{7503}}{D_{7503}} \right)$
	6503	3	$L_{6503-7003} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	6505	5	$L_{6505-7003} \left(\frac{D'_N}{D_N} \right)$
	6508	5	$L_{6508-7003} \left(\frac{D'_N}{D_N} \right)$
7004	Total	3	$V_{7004} \left(\frac{D'_{7503}}{D_{7503}} \right)$
	6503	3	$L_{6503-7004} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	6505	5	$L_{6505-7004} \left(\frac{D'_N}{D_N} \right)$
	6508	5	$L_{6508-7004} \left(\frac{D'_N}{D_N} \right)$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7005	Total	5	$(\frac{D'_N}{D_N}) V_{7005}$
7007	Total	5	$(\frac{D'_N}{D_N}) V_{7007}$
7012	Total	5	$(\frac{D'_N}{D_N}) V_{7012}$
7101	Total	1	$(\frac{D'_{7101}}{D_{7101}}) V_{7101}$
7102	Total	1	$(\frac{D'_{7101}}{D_{7101}}) V_{7102}$
7103	Total	1	$(\frac{D'_{7103}}{D_{7103}}) V_{7103}$
6303		3	$L_{6303-7103} \quad 1/2 \quad (\frac{D'_{5303}}{D_{5303}} + \frac{D'_{7103}}{D_{7103}})$
6305		5	$L_{6305-7103} \quad (\frac{D'_N}{D_N})$
6307		5	$L_{6307-7103} \quad (\frac{D'_N}{D_N})$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-90	7104	Total 1	$(\frac{D'_{7103}}{D_{7103}}) V_{7104}$
	6303	3	$L_{6303-7104} (\frac{D'_{5303}}{D_{5303}})$
	6305	5	$L_{6305-7104} (\frac{D'_N}{D_N})$
	6307	5	$L_{6307-7104} (\frac{D'_N}{D_N})$
7105	Total	1	$(\frac{D'_{7105}}{D_{7105}}) V_{7105}$
7106	Total	1	$(\frac{D'_{7105}}{D_{7105}}) V_{7106}$
7107	Total	1	$(\frac{D'_{7107}}{D_{7107}}) V_{7107}$
	7201	5	$(\frac{D'_N}{D_N}) 1_{7201} V_{7201}$
	7203	5	$(\frac{D'_N}{D_N}) r_{7203} V_{7203}$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	7207	4	$1/2 \left[\frac{D'_{7307}}{D_{7307}} + \frac{D'_{7107}}{D_{7107}} \right] t_{7207} V_{7207}$
7111	Total	1	$\left(\frac{D'_{7105}}{D_{7105}} \right) V_{7111}$
7201	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{7201}$
7203	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{7203}$
7205	Total	2	Sum of below
	7101	1	$\left(\frac{D'_{7101}}{D_{7101}} \right) r_{7101} V_{7101}$
	7104	1	$\left(\frac{D'_{7103}}{D_{7103}} \right) l_{7103} V_{7103}$
	7105	1	$\left(\frac{D'_{7105}}{D_{7105}} \right) t_{7105} V_{7105}$
7207	Total	2	Sum of below

E-91

200

DETECTOR SCENARIO C

E-92

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	7302	1	$(\frac{D'_{7301}}{D_{7301}}) 1_{7302} V_{7302}$
	7303	1	$(\frac{D'_{7303}}{D_{7303}}) r_{7303} V_{7303}$
	7307	1	$(\frac{D'_{7307}}{D_{7307}}) t_{7307} V_{7307}$
7301	Total	1	$(\frac{D'_{7301}}{D_{7301}}) V_{7301}$
7302	Total	1	$(\frac{D'_{7301}}{D_{7301}}) V_{7302}$
7303	Total	1	$(\frac{D'_{7303}}{D_{7303}}) V_{7303}$
6403		4	$L_{6403-7303} 1/2 (\frac{D'_{5503}}{D_{5503}} + \frac{D'_{7303}}{D_{7303}})$
6411		5	$L_{6411-7303} (\frac{D'_N}{D_N})$
6407		5	$L_{6407-7303} (\frac{D'_N}{D_N})$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7304	Total	1	$(\frac{D'_{7303}}{D_{7303}}) V_{7304}$
	6403	3	$L_{6403-7304} (\frac{D'_{5503}}{D_{5503}})$
	6411	5	$L_{6411-7304} (\frac{D'_N}{D_N})$
	6407	5	$L_{6407-7304} (\frac{D'_N}{D_N})$
7305	Total	1	$(\frac{D'_{7305}}{D_{7305}}) V_{7305}$
	7201	5	$L_{7201-7305} (\frac{D'_N}{D_N})$
	7203	5	$L_{7203-7305} (\frac{D'_N}{D_N})$
	7205	4	$L_{7205-7305} \frac{1}{2} (\frac{D'_{7105}}{D_{7105}} + \frac{D'_{7305}}{D_{7305}})$
7306	Total	1	$(\frac{D'_{7305}}{D_{7305}}) V_{7306}$

E-93

202

DETECTOR SCENARIO C

Link	Input Link	Rule Number	Equation
E-94 7307	7201	5	$L_{7201-7306} \left(\frac{D'_N}{D_N} \right)$
	7203	5	$L_{7203-7306} \left(\frac{D'_N}{D_N} \right)$
	7205	3	$L_{7205-7306} \left(\frac{D'_{7105}}{D_{7105}} \right)$
	Total	1	$\left(\frac{D'_{7307}}{D_{7307}} \right) v_{7307}$
	7401	5	$L_{7401-7307} \left(\frac{D'_N}{D_N} \right)$
7308	7407	4	$L_{7407-7307} \left(\frac{1}{2} \left(\frac{D'_{7507}}{D_{7507}} + \frac{D'_{7307}}{D_{7307}} \right) \right)$
	7410	5	$L_{7410-7307} \left(\frac{D'_N}{D_N} \right)$
	Total	1	$\left(\frac{D'_{7307}}{D_{7307}} \right) v_{7308}$
	7401	5	$L_{7401-7308} \left(\frac{D'_N}{D_N} \right)$

DETECTOR SCENARIO C

Link	Input Link	Rule Number	Equation
	7407	3	$L_{7407-7308} \left(\frac{D'_{7307}}{D_{7307}} \right)$
	7410	5	$L_{7410-7308} \left(\frac{D'_N}{D_N} \right)$
7401	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{7401}$
E-95 7403	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{7403}$
	6502	5	$\left(\frac{D'_N}{D_N} \right) V_{6502}$
	6503	3	$L_{6503-7403} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	6507	5	$L_{6507-7403} \left(\frac{D'_N}{D_N} \right)$
7404	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{7404}$
	6502	5	$L_{6502-7404} \left(\frac{D'_N}{D_N} \right)$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	6503	3	$L_{6503-7404} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	6507	5	$L_{6507-7404} \left(\frac{D'_N}{D_N} \right)$
7405	Total	2	Sum of below
	7301	1	$L_{7301-7405} \left(\frac{D'_{7301}}{D_{7301}} \right)$
	7304	1	$L_{7304-7405} \left(\frac{D'_{7303}}{D_{7303}} \right)$
	7305	1	$L_{7305-7405} \left(\frac{D'_{7305}}{D_{7305}} \right)$
7406	Total	2	Sum of below
	7301	1	$L_{7301-7406} \left(\frac{D'_{7301}}{D_{7301}} \right)$
	7304	1	$L_{7304-7406} \left(\frac{D'_{7303}}{D_{7303}} \right)$

E-96

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DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-97	7305	1	$L_{7305-7406} \left(\frac{D'_{7305}}{D_{7305}} \right)$
	7407	Total	Sum of below
	7503	1	$L_{7503-7407} \left(\frac{D'_{7503}}{D_{7503}} \right)$
	7507	1	$L_{7507-7407} \left(\frac{D'_{7507}}{D_{7507}} \right)$
	7408	Total	Sum of below
	7503	1	$L_{7503-7408} \left(\frac{D'_{7503}}{D_{7503}} \right)$
	7507	1	$L_{7507-7408} \left(\frac{D'_{7507}}{D_{7507}} \right)$
	7410	Total	$\left(\frac{D'_N}{D_N} \right) V_{7410}$
	6502	5	$L_{6502-7410} \left(\frac{D'_N}{D_N} \right)$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-98	6503	3	$L_{6503-7410} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	6507	5	$L_{6507-7410} \left(\frac{D'_N}{D_N} \right)$
	7503	Total	$\left(\frac{D'_{7503}}{D_{7503}} \right) v_{7503}$
	7003	3	$L_{7003-7503} \left(\frac{D'_{7503}}{D_{7503}} \right)$
	7005	5	$L_{7005-7503} \left(\frac{D'_N}{D_N} \right)$
	7007	5	$L_{7007-7503} \left(\frac{D'_N}{D_N} \right)$
	7504	Total	$\left(\frac{D'_{7503}}{D_{7503}} \right) v_{7504}$
	7003	3	$L_{7003-7504} \left(\frac{D'_{7503}}{D_{7503}} \right)$
	7005	5	$L_{7005-7504} \left(\frac{D'_N}{D_N} \right)$

DETECTOR SCENARIO C

Link	Input Link	Rule Number	Equation
E-99	7007	5	$L_{7007-7504} \left(\frac{D'_N}{D_N} \right)$
	7505	Total	$\left(\frac{D'_{7505}}{D_{7505}} \right) V_{7505}$
	7401	5	$L_{7401-7505} \left(\frac{D'_N}{D_N} \right)$
	7404	5	$L_{7404-7505} \left(\frac{D'_N}{D_N} \right)$
	7405	3	$L_{7405-7505} \left(\frac{D'_{7305}}{D_{7305}} \right)$
	7506	Total	$\left(\frac{D'_{7505}}{D_{7505}} \right) V_{7506}$
	7401	5	$L_{7401-7506} \left(\frac{D'_N}{D_N} \right)$
	7404	5	$L_{7404-7506} \left(\frac{D'_N}{D_N} \right)$
	7405	3	$L_{7405-7506} \left(\frac{D'_{7305}}{D_{7305}} \right)$

DETECTOR SCENARIO C

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7507	Total	1	$(\frac{D'_{7507}}{D_{7507}}) V_{7507}$

DETECTOR SCENARIO E

E-101

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
2401	Total	3	$(\frac{D'_{5701}}{D_{5701}}) V_{2401}$
	3601	3	$L_{3601-2401} (\frac{D'_{5701}}{D_{5701}})$
	3605	1	$L_{3605-2401} (\frac{D'_{3605}}{D_{3605}})$
	3607	3	$L_{3607-2401} (\frac{D'_{3507}}{D_{3507}})$
2402	Total	3	$(\frac{D'_{5701}}{D_{5701}}) V_{2402}$
	3601	3	$L_{3601-2402} (\frac{D'_{5701}}{D_{5701}})$
	3605	1	$L_{3605-2402} (\frac{D'_{3605}}{D_{3605}})$
	3607	3	$L_{3607-2402} (\frac{D'_{3507}}{D_{3507}})$
2403	Total	3	$(\frac{D'_{5703}}{D_{5703}}) V_{2403}$

210

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
2404	Total	5	$(\frac{D'_N}{D_N}) V_{2404}$
2405	Total	1	$(\frac{D'_{2405}}{D_{2405}}) V_{2405}$
2406	Total	1	$(\frac{D'_{2405}}{D_{2405}}) V_{2406}$
E-102 2407	Total	1	$(\frac{D'_{2407}}{D_{2407}}) V_{2407}$
2408	Total	1	$(\frac{D'_{2407}}{D_{2407}}) V_{2408}$
3501	Total	1	$(\frac{D'_{3501}}{D_{3501}}) V_{3501}$
3505	Total	3	$(\frac{D'_{3605}}{D_{3605}}) V_{3505}$
3507	Total	1	$(\frac{D'_{3507}}{D_{3507}}) V_{3507}$
	3602	3	$(\frac{D'_{5701}}{D_{5701}}) V_{3602}$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-103	3603	3	$(\frac{D'_{5703}}{D_{5703}}) r_{3603} v_{3603}$
	3607	3	$(\frac{D'_{3507}}{D_{3507}}) t_{3607} v_{3607}$
	3601	3	$(\frac{D'_{5701}}{D_{5701}}) v_{3601}$
	4201	3	$L_{4201-3601} (\frac{D'_{5701}}{D_{5701}})$
	4206	1	$L_{4206-3601} (\frac{D'_{4205}}{D_{4205}})$
	3602	3	$(\frac{D'_{5701}}{D_{5701}}) v_{3602}$
	4201	3	$L_{4201-3602} (\frac{D'_{5701}}{D_{5701}})$
	4206	1	$L_{4206-3602} (\frac{D'_{4205}}{D_{4205}})$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3603	Total	3	$(\frac{D'_{5703}}{D_{5703}}) V_{3603}$
	2403	3	$L_{2403-3603} (\frac{D'_{5703}}{D_{5703}})$
	2405	1	$L_{2405-3603} (\frac{D'_{2405}}{D_{2405}})$
	2408	1	$L_{2408-3603} (\frac{D'_{2407}}{D_{2407}})$
3604	Total	5	$(\frac{D'_N}{D_N}) V_{3604}$
	2403	3	$L_{2403-3604} (\frac{D'_{5703}}{D_{5703}})$
	2405	1	$L_{2405-3604} (\frac{D'_{2405}}{D_{2405}})$

E-104

213

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	2408	1	$L_{2408-3604} \left(\frac{D'_{2407}}{D_{2407}} \right)$
3605	Total	1	$\left(\frac{D'_{3605}}{D_{3605}} \right) v_{3605}$
	3501	1	$\left(\frac{D'_{3501}}{D_{3501}} \right) r_{3501} v_{3501}$
	3505	3	$\left(\frac{D'_{3605}}{D_{3605}} \right) t_{3505} v_{3505}$
3607	Total	3	$\left(\frac{D'_{3507}}{D_{3507}} \right) v_{3607}$
3801	Total	3	$\left(\frac{D'_{5301}}{D_{5301}} \right) v_{3801}$
	4001	3	$L_{4001-3801} \left(\frac{D'_{5301}}{D_{5301}} \right)$
	4005	1	$L_{4005-3801} \left(\frac{D'_{4005}}{D_{4005}} \right)$
3802	Total	3	$\left(\frac{D'_{5301}}{D_{5301}} \right) v_{3802}$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	4001	3	$L_{4001-3802} \left(\frac{D'_{5301}}{D_{5301}} \right)$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
3802	4005	1	$L_{4005-3802} \left(\frac{D'_{4005}}{D_{4005}} \right)$
3803	Total	3	$\left(\frac{D'_{5303}}{D_{5303}} \right) V_{3803}$
3807	Total	1	$\left(\frac{D'_{3807}}{D_{3807}} \right) V_{3807}$
3810	Total	D	$\left(\frac{D'_N}{D_N} \right) V_{3810}$
3901	Total	3	$\left(\frac{D'_{5501}}{D_{5501}} \right) V_{3901}$
	4101	3	$L_{4101-3901} \left(\frac{D'_{5501}}{D_{5501}} \right)$
	4105	1	$L_{4105-3901} \left(\frac{D'_{4105}}{D_{4105}} \right)$
902	Total	3	$\left(\frac{D'_{5501}}{D_{5501}} \right) V_{3902}$
	4101	3	$L_{4101-3902} \left(\frac{D'_{5501}}{D_{5501}} \right)$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	4105	1	$L_{4105-3902} \left(\frac{D'_{4105}}{D_{4105}} \right)$
3903	Total	3	$\left(\frac{D'_{5503}}{D_{5503}} \right) V_{3903}$
3907	Total	1	$\left(\frac{D'_{3907}}{D_{3907}} \right) V_{3907}$
E-108 3910	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{3910}$
4001	Total	3	$\left(\frac{D'_{5301}}{D_{5301}} \right) V_{4001}$
	5301	1	$L_{5301-4001} \left(\frac{D'_{5301}}{D_{5301}} \right)$
	5306	5	$L_{5306-4001} \left(\frac{D'_N}{D_N} \right)$
	5307	3	$L_{5307-4001} \left(\frac{D'_{5507}}{D_{5507}} \right)$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4003	Total	3	$(\frac{D'_{5303}}{D_{5303}}) v_{4003}$
	3803	3	$L_{3803-4003} (\frac{D'_{5303}}{D_{5303}})$
	3807	1	$L_{3807-4003} (\frac{D'_{3807}}{D_{3807}})$
4004	Total	5	$(\frac{D'_N}{D_N}) v_{4004}$
	3803	3	$L_{3803-4004} (\frac{D'_{5303}}{D_{5303}})$
	3807	1	$L_{3807-4004} (\frac{D'_{3807}}{D_{3807}})$
4005	Total	1	$(\frac{D'_{4005}}{D_{4005}}) v_{4005}$
4009	Total	3	$(\frac{D'_{5301}}{D_{5301}}) v_{4009}$

E-109

DETECTOR SCENARIO E

Link	Input Link	Rule Number	Equation
E-110	5301	1	$L_{5301-4009} \left(\frac{D'_{5301}}{D_{5301}} \right)$
	5306	5	$L_{5306-4009} \left(\frac{D'_N}{D_N} \right)$
	5307	3	$L_{5307-4009} \left(\frac{D'_{5507}}{D_{5507}} \right)$
	4101	3	$\left(\frac{D'_{5501}}{D_{5501}} \right) V_{4101}$
	5101	3	$L_{5101-4101} \left(\frac{D'_{5501}}{D_{5501}} \right)$
	5105	3	$L_{5105-4101} \left(\frac{D'_{5205}}{D_{5205}} \right)$
	5107	1	$L_{5107-4101} \left(\frac{D'_{5107}}{D_{5107}} \right)$
4103	Total	3	$\left(\frac{D'_{5503}}{D_{5503}} \right) V_{4103}$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	3903	3	$L_{3903-4103} \left(\frac{D'_{5503}}{D_{5503}} \right)$
	3907	1	$L_{3907-4103} \left(\frac{D'_{3907}}{D_{3907}} \right)$
4104	Total	3	$\left(\frac{D'_{5503}}{D_{5503}} \right) v_{4104}$
	3903	3	$L_{3903-4104} \left(\frac{D'_{5503}}{D_{5503}} \right)$
	3907	1	$L_{3907-4104} \left(\frac{D'_{3907}}{D_{3907}} \right)$
4105	Total	1	$\left(\frac{D'_{4105}}{D_{4105}} \right) v_{4105}$
4109	Total	3	$\left(\frac{D'_{5501}}{D_{5501}} \right) v_{4109}$
	5101	3	$L_{5101-4109} \left(\frac{D'_{5501}}{D_{5501}} \right)$
	5105	3	$L_{5105-4109} \left(\frac{D'_{5205}}{D_{5205}} \right)$

E-111

220

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-112	5107	1	$L_{5107-4109} \left(\frac{D'_{5107}}{D_{5107}} \right)$
	4201 Total	3	$\left(\frac{D'_{5701}}{D_{5701}} \right) V_{3701}$
	4301	3	$\left(\frac{D'_{5701}}{D_{5701}} \right) t_{4301} V_{4301}$
	4305	3	$\left(\frac{D'_{4405}}{D_{4405}} \right) l_{4305} V_{4305}$
	4307	1	$\left(\frac{D'_{4307}}{D_{4307}} \right) r_{4307} V_{4307}$
	4203 Total	3	$\left(\frac{D'_{5703}}{D_{5703}} \right) V_{4203}$
	3603	3	$L_{3603-4203} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	3605	1	$L_{3605-4203} \left(\frac{D'_{3605}}{D_{3605}} \right)$
	3607	3	$L_{3607-4203} \left(\frac{D'_{3507}}{D_{3507}} \right)$
	4204 Total	5	$\left(\frac{D'_N}{D_N} \right) V_{4204}$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-113	3603	3	$L_{3603-4204} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	3605	1	$L_{3605-4204} \left(\frac{D'_{3605}}{D_{3605}} \right)$
	3607	3	$L_{3607-4204} \left(\frac{D'_{3507}}{D_{3507}} \right)$
	4205	1	$\left(\frac{D'_{4205}}{D_{4205}} \right) v_{4205}$
	4206	1	$\left(\frac{D'_{4205}}{D_{4205}} \right) v_{4206}$
	4301	3	$\left(\frac{D'_{5701}}{D_{5701}} \right) v_{4301}$
	5201	3	$L_{5201-4301} \left(\frac{D'_{5701}}{D_{5701}} \right)$
	5205	1	$L_{5205-4301} \left(\frac{D'_{5205}}{D_{5205}} \right)$
	5207	3	$L_{5207-4301} \left(\frac{D'_{4403}}{D_{4403}} \right)$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
4302	Total	3	$(\frac{D'_{5701}}{D_{5701}}) V_{4302}$
	5201	3	$L_{5201-4302} (\frac{D'_{5701}}{D_{5701}})$
	5205	1	$L_{5205-4302} (\frac{D'_{5205}}{D_{5205}})$
	5207	3	$L_{5207-4302} (\frac{D'_{4403}}{D_{4403}})$
4303	Total	3	$(\frac{D'_{5703}}{D_{5703}}) V_{4303}$
	4203	3	$L_{4203-4303} (\frac{D'_{5703}}{D_{5703}})$
	4205	1	$L_{4205-4303} (\frac{D'_{4205}}{D_{4205}})$
4304	Total	5	$(\frac{D'_N}{D_N}) V_{4304}$

E-114

223

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-115	4203	3	$L_{4203-4304} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	4205	1	$L_{4205-4304} \left(\frac{D'_{4205}}{D_{4205}} \right)$
	4305	3	$\left(\frac{D'_{4405}}{D_{4405}} \right) V_{4305}$
	4307	1	$\left(\frac{D'_{4307}}{D_{4307}} \right) V_{4307}$
	4401	1	$\left(\frac{D'_{4401}}{D_{4401}} \right) l_{4401} V_{4401}$
	4403	1	$\left(\frac{D'_{4403}}{D_{4403}} \right) r_{4403} V_{4403}$
	4407	3	$\left(\frac{D'_{4407}}{D_{4407}} \right) V_{4407}$
	4401	1	$\left(\frac{D'_{4401}}{D_{4401}} \right) V_{4401}$
	5201	3	$L_{5201-4401} \left(\frac{D'_{5701}}{D_{5701}} \right)$
	5204	5	$L_{5204-4401} \left(\frac{D'_N}{D_N} \right)$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5205	1	$L_{5205-4401} \left(\frac{D'_{5205}}{D_{5205}} \right)$
4403	Total	1	$\left(\frac{D'_{4403}}{D_{4403}} \right) v_{4403}$
4405	Total	1	$\left(\frac{D'_{4405}}{D_{4405}} \right) v_{4405}$
E-116	4301	3	$\left(\frac{D'_{5701}}{D_{5701}} \right) r_{4301} v_{4301}$
	4304	5	$\left(\frac{D'_N}{D_N} \right) v_{4304}$
	4305	3	$\left(\frac{D'_{4405}}{D_{4405}} \right) t_{4305} v_{4305}$
	4407	3	$\left(\frac{D'_{4307}}{D_{4307}} \right) v_{4407}$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5101	Total	3	$(\frac{D'_{5501}}{D_{5501}}) V_{5101}$
	5501	1	$(\frac{D'_{5501}}{D_{5501}}) t_{5501} V_{5501}$
	5506	1	$(\frac{D'_{5506}}{D_{5506}}) V_{5506}$
	5507	1	$(\frac{D'_{5507}}{D_{5507}}) r_{5507} V_{5507}$
5103	Total	3	$(\frac{D'_{5503}}{D_{5503}}) V_{5103}$
	4103	3	$(\frac{D'_{5503}}{D_{5503}}) t_{4103} V_{4103}$
	4105	1	$(\frac{D'_{4105}}{D_{4105}}) r_{4105} V_{4105}$
5105	Total	3	$(\frac{D'_{5205}}{D_{5205}}) V_{5105}$
5107	Total	1	$(\frac{D'_{5107}}{D_{5107}}) V_{5107}$
	5202	3	$(\frac{D'_{5701}}{D_{5701}}) V_{5202}$

E-117

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DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5203	3	$(\frac{D'_{5703}}{D_{5703}}) r_{5203} V_{5203}$
	5207	3	$(\frac{D'_{4403}}{D_{4403}}) t_{5207} V_{5207}$
5201	Total	3	$(\frac{D'_{5701}}{D_{5701}}) V_{5201}$
	5701	1	$L_{5701-5201} (\frac{D'_{5701}}{D_{5701}})$
	5706	5	$L_{5706-5201} (\frac{D'_N}{D_N})$
	5707	3	$L_{5707-5201} (\frac{D'_{5507}}{D_{5507}})$

E-118

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DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-119 5202	Total	3	$(\frac{D'_{5701}}{D_{5701}}) V_{5202}$
	5701	1	$L_{5701-5202} (\frac{D'_{5701}}{D_{5701}})$
	5706	5	$L_{5706-5202} (\frac{D'_N}{D_N})$
	5707	3	$L_{5707-5202} (\frac{D'_{5507}}{D_{5507}})$
5203	Total	3	$(\frac{D'_{5703}}{D_{5703}}) V_{5203}$
	4303	3	$L_{4303-5203} (\frac{D'_{5703}}{D_{5703}})$
	4305	3	$L_{4305-5203} (\frac{D'_{4405}}{D_{4405}})$

DETECTOR SCENARIO E

Link	Input Link	Rule Number	Equation
5204	4307	1	$L_{4307-5203} \left(\frac{D'_{4307}}{D_{4307}} \right)$
	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{5204}$
	4303	5	$L_{4303-5204} \left(\frac{D'_N}{D_N} \right)$
	4305	3	$L_{4305-5204} \left(\frac{D'_{4405}}{D_{4405}} \right)$
5205	4307	1	$L_{4307-5204} \left(\frac{D'_{4307}}{D_{4307}} \right)$
	Total	1	$\left(\frac{D'_{5205}}{D_{5205}} \right) V_{5205}$
	5101	3	$\left(\frac{D'_{5501}}{D_{5501}} \right) r_{5101} V_{5101}$
	5103	3	$\left(\frac{D'_{5503}}{D_{5503}} \right) l_{5103} V_{5103}$
	5105	3	$\left(\frac{D'_{5205}}{D_{5205}} \right) t_{5205} V_{5205}$

E-120

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DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-121	5207 Total	2	Sum of below
	4403	1	$(\frac{D'_{4403}}{D_{4403}}) t_{4403} V_{4403}$
	4405	1	$(\frac{D'_{4405}}{D_{4405}}) r_{4405} V_{4405}$
	4407	3	$(\frac{D'_{4307}}{D_{4307}}) l_{4407} V_{4407}$
	5301 Total	1	$(\frac{D'_{5301}}{D_{5301}}) V_{5301}$
	6301	3	$L_{6301-5301} (\frac{D'_{5301}}{D_{5301}})$
	6305	5	$L_{6305-5301} (\frac{D'_N}{D_N})$
	6307	1	$L_{6307-5301} (\frac{D'_{6307}}{D_{6307}})$
5302	Total	1	$(\frac{D'_{5301}}{D_{5301}}) V_{5302}$

DETECTOR SCENARIO E

Link	Input Link	Rule Number	Equation
E-122 5303	6301	3	$L_{6301-5302} \left(\frac{D'_{5301}}{D_{5301}} \right)$
	6305	5	$L_{6305-5302} \left(\frac{D'_N}{D_N} \right)$
	6307	1	$L_{6307-5302} \left(\frac{D'_{6307}}{D_{6307}} \right)$
	Total	1	$\left(\frac{D'_{5303}}{D_{5303}} \right) V_{5303}$
	4003	3	$L_{4003-5303} \left(\frac{D'_{5303}}{D_{5303}} \right)$
5304	4005	1	$L_{4005-5303} \left(\frac{D'_{4005}}{D_{4005}} \right)$
	Total	1	$\left(\frac{D'_{5303}}{D_{5303}} \right) V_{5304}$
	4003	3	$L_{4003-5303} \left(\frac{D'_{5303}}{D_{5303}} \right)$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	4005	1	$L_{4005-5304} \left(\frac{D'_{4005}}{D_{4005}} \right)$
5305	Total	3	$\left(\frac{D'_{5506}}{D_{5506}} \right) V_{5305}$
5306	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{5306}$
E-123 5307	Total	3	$\left(\frac{D'_{5507}}{D_{5507}} \right) V_{5307}$
	5401	1	$L_{5401-5307} \left(\frac{D'_{5401}}{D_{5401}} \right)$
	5407	3	$L_{5407-5307} \left(\frac{D'_{5507}}{D_{5507}} \right)$
5308	Total	3	$\left(\frac{D'_{5507}}{D_{5507}} \right) V_{5308}$
	5401	1	$L_{5401-5308} \left(\frac{D'_{5401}}{D_{5401}} \right)$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5407	3	$L_{5407-5308} \left(\frac{D'_{5507}}{D_{5507}} \right)$
5401	Total	1	$\left(\frac{D'_{5401}}{D_{5401}} \right) V_{5401}$
5405	Total	3	$\left(\frac{D'_{5506}}{D_{5506}} \right) V_{5405}$
	5301	1	$\left(\frac{D'_{5301}}{D_{5301}} \right) r_{5301} V_{5301}$
	5304	1	$\left(\frac{D'_{5303}}{D_{5303}} \right) V_{5304}$
	5305	3	$\left(\frac{D'_{5506}}{D_{5506}} \right) t_{5305} V_{5305}$
5407	Total	3	$\left(\frac{D'_{5507}}{D_{5507}} \right) V_{5407}$
	5501	1	$\left(\frac{D'_{5501}}{D_{5501}} \right) l_{5501} V_{5501}$

E-124

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DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-125	5503	1	$(\frac{D'_{5503}}{D_{5503}}) r_{5503} v_{5503}$
	5507	1	$(\frac{D'_{5507}}{D_{5507}}) t_{5507} v_{5507}$
	5501 Total	1	$(\frac{D'_{5501}}{D_{5501}}) v_{5501}$
	6401	3	$(\frac{D'_{5501}}{D_{5501}}) t_{6401} v_{6401}$
	6407	5	$(\frac{D'_N}{D_N}) r_{6407} v_{6407}$
5503	Total	1	$(\frac{D'_{5503}}{D_{5503}}) v_{5503}$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-126 5505	5103	3	$(\frac{D'_{5503}}{D_{5503}}) t_{5103} V_{5103}$
	5105	3	$(\frac{D'_{5205}}{D_{5205}}) r_{5105} V_{5105}$
	5107	1	$(\frac{D'_{5107}}{D_{5107}}) l_{5107} V_{5107}$
	Total	1	$(\frac{D'_{5506}}{D_{5506}}) V_{5505}$
	5401	1	$L_{5401-5505} (\frac{D'_{5401}}{D_{5401}})$
5506	5405	3	$L_{5405-5505} (\frac{D'_{5506}}{D_{5506}})$
	Total	1	$(\frac{D'_{5506}}{D_{5506}}) V_{5506}$
	5401	1	$L_{5401-5506} (\frac{D'_{5401}}{D_{5401}})$
	5405	3	$L_{5405-5506} (\frac{D'_{5506}}{D_{5506}})$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
507	Total	1	$(\frac{D'_{5507}}{D_{5507}}) V_{5507}$
	5601	5	$L_{5601-5507} (\frac{D'_N}{D_N})$
	5603	5	$L_{5603-5507} (\frac{D'_N}{D_N})$
	5607	3	$L_{5607-5507} (\frac{D'_{5507}}{D_{5507}})$
508	Total	1	$(\frac{D'_{5507}}{D_{5507}}) V_{5508}$
	5601	5	$L_{5601-5508} (\frac{D'_N}{D_N})$
	5603	5	$L_{5603-5507} (\frac{D'_N}{D_N})$
	5607	3	$L_{5607-5507} (\frac{D'_{5507}}{D_{5507}})$
501	Total	5	$(\frac{D'_N}{D_N}) V_{5601}$

DETECTOR SCENARIO E

E-128

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5603	Total	5	$(\frac{D'_N}{D_N}) V_{5603}$
5605	Total	5	$(\frac{D'_N}{D_N}) V_{5605}$
	5501	1	$(\frac{D'_{5501}}{D_{5501}}) r_{5501} V_{5501}$
	5503	1	$(\frac{D'_{5503}}{D_{5503}}) l_{5503} V_{5503}$
	5505	1	$(\frac{D'_{5506}}{D_{5506}}) t_{5505} V_{5505}$
5607	Total	3	$(\frac{D'_{5507}}{D_{5507}}) V_{5607}$
	5702	1	$(\frac{D'_{5701}}{D_{5701}}) V_{5702}$
	5703	1	$(\frac{D'_{5703}}{D_{5703}}) r_{5703} V_{5703}$
	5707	3	$(\frac{D'_{5507}}{D_{5507}}) t_{5707} V_{5707}$

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DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
5701	Total	1	$(\frac{D'_{5701}}{D_{5701}}) V_{5701}$
	6501	3	$L_{6501-5701} (\frac{D'_{5701}}{D_{5701}})$
	6506	1	$L_{6506-5701} (\frac{D'_{6505}}{D_{6505}})$
	6507	5	$L_{6507-5701} (\frac{D'_N}{D_N})$
5702	Total	1	$(\frac{D'_{5701}}{D_{5701}}) V_{5702}$
	6501	3	$L_{6501-5702} (\frac{D'_{5701}}{D_{5701}})$
	6506	1	$L_{6506-5702} (\frac{D'_{6505}}{D_{6505}})$
	6507	5	$L_{6507-5702} (\frac{D'_N}{D_N})$
5703	Total	1	$(\frac{D'_{5703}}{D_{5703}}) V_{5703}$

E-129

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DETECTOR SCENARIO E

E-130

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5203	3	$L_{5203-5703} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	5205	1	$L_{5205-5703} \left(\frac{D'_{5205}}{D_{5205}} \right)$
	5207	3	$L_{5207-5703} \left(\frac{D'_{4403}}{D_{4403}} \right)$
5704	Total	1	$\left(\frac{D'_{5703}}{D_{5703}} \right) V_{5704}$
	5203	3	$L_{5203-5704} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	5205	1	$L_{5205-5704} \left(\frac{D'_{5205}}{D_{5205}} \right)$
	5207	3	$L_{5207-5704} \left(\frac{D'_{4403}}{D_{4403}} \right)$
5705	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{5705}$
	5601	5	$L_{5601-5705} \left(\frac{D'_N}{D_N} \right)$

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DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5603	5	$L_{5603-5705} \left(\frac{D'_N}{D_N} \right)$
	5605	5	$L_{5605-5705} \left(\frac{D'_N}{D_N} \right)$
5706	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{5706}$
E-131 5706	5601	5	$L_{5601-5706} \left(\frac{D'_N}{D_N} \right)$
	5603	5	$L_{5603-5706} \left(\frac{D'_N}{D_N} \right)$
	5605	5	$L_{5605-5706} \left(\frac{D'_N}{D_N} \right)$
5707	Total	3	$\left(\frac{D'_{5507}}{D_{5507}} \right) V_{5707}$
5708	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{5708}$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6301	Total	3	$(\frac{D'_{5301}}{D_{5301}}) V_{6301}$
	7101	3	$L_{7101-6301} (\frac{D'_{5301}}{D_{5301}})$
	7106	5	$L_{7106-6301} (\frac{D'_N}{D_N})$
	7107	3	$L_{7107-6301} (\frac{D'_{7307}}{D_{7307}})$
6302	Total	5	$(\frac{D'_N}{D_N}) V_{6302}$
	7101	5	$L_{7101-6302} (\frac{D'_N}{D_N})$
	7106	5	$L_{7106-6302} (\frac{D'_N}{D_N})$
	7107	3	$L_{7107-6302} (\frac{D'_{7307}}{D_{7307}})$
6303	Total	3	$(\frac{D'_{5303}}{D_{5303}}) V_{6303}$

E-132

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DETECTOR SCENARIO E

E-133

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5303	1	$L_{5303-6303} \left(\frac{D'_{5303}}{D_{5303}} \right)$
	5305	3	$L_{5305-6303} \left(\frac{D'_{5506}}{D_{5506}} \right)$
	5308	3	$L_{5308-6303} \left(\frac{D'_{5507}}{D_{5507}} \right)$
6304	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{6304}$
	5303	1	$L_{5303-6304} \left(\frac{D'_{5303}}{D_{5303}} \right)$
	5305	3	$L_{5305-6304} \left(\frac{D'_{5506}}{D_{5506}} \right)$
	5308	3	$L_{5308-6304} \left(\frac{D'_{5507}}{D_{5507}} \right)$
6305	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{6305}$
6307	Total	1	$\left(\frac{D'_{6307}}{D_{6307}} \right) V_{6307}$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6401	Total	3	$(\frac{D'_{5501}}{D_{5501}}) V_{6401}$
	7301	3	$L_{7301-6401} (\frac{D'_{5501}}{D_{5501}})$
	7306	1	$L_{7306-6401} (\frac{D'_{7305}}{D_{7305}})$
	7307	1	$L_{7307-6401} (\frac{D'_{7307}}{D_{7307}})$
6403	Total	3	$(\frac{D'_{5503}}{D_{5503}}) V_{6403}$
	5503	1	$L_{5503-6403} (\frac{D'_{5503}}{D_{5503}})$
	5505	1	$L_{5505-6403} (\frac{D'_{5506}}{D_{5506}})$
	5508	1	$L_{5508-6403} (\frac{D'_{5507}}{D_{5507}})$
6407	Total	5	$(\frac{D'_N}{D_N}) V_{6407}$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6409	Total	3	$(\frac{D'_{5501}}{D_{5501}}) v_{6409}$
	7301	3	$L_{7301-6409} (\frac{D'_{5501}}{D_{5501}})$
	7306	1	$L_{7306-6409} (\frac{D'_{7305}}{D_{7305}})$
	7307	1	$L_{7307-6409} (\frac{D'_{7307}}{D_{7307}})$
6410	Total	3	$(\frac{D'_{5503}}{D_{5503}}) v_{6410}$
	5503	1	$L_{5503-6410} (\frac{D'_{5503}}{D_{5503}})$
	5505	1	$L_{5505-6410} (\frac{D'_{5506}}{D_{5506}})$
	5508	1	$L_{5508-6410} (\frac{D'_{5507}}{D_{5507}})$
6411	Total	1	$(\frac{D'_{6411}}{D_{6411}}) v_{6411}$

E-135

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DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
6501	Total	3	$(\frac{D'_{5701}}{D_{5701}}) v_{6501}$
	7001	3	$L_{7001-6501} (\frac{D'_{5701}}{D_{5701}})$
	7005	5	$L_{7005-6501} (\frac{D'_N}{D_N})$
	7012	5	$L_{7012-6501} (\frac{D'_N}{D_N})$
6502	Total	5	$(\frac{D'_N}{D_N}) v_{6502}$
	7001	3	$L_{7001-6502} (\frac{D'_{5701}}{D_{5701}})$
	7005	5	$L_{7005-6502} (\frac{D'_N}{D_N})$
	7012	5	$L_{7012-6502} (\frac{D'_N}{D_N})$
6503	Total	3	$(\frac{D'_{5703}}{D_{5703}}) v_{6503}$

E-136

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DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	5703	1	$L_{5703-6503} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	5705	5	$L_{5705-6503} \left(\frac{D'_N}{D_N} \right)$
	5708	5	$L_{5708-6503} \left(\frac{D'_N}{D_N} \right)$
E-137 6504	Total	3	$\left(\frac{D'_{5703}}{D_{5703}} \right) V_{6504}$
	5703		$L_{5703-6504} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	5705	5	$L_{5705-6504} \left(\frac{D'_N}{D_N} \right)$
	5708	5	$L_{5708-6504} \left(\frac{D'_N}{D_N} \right)$
6505	Total	1	$\left(\frac{D'_{6505}}{D_{6505}} \right) V_{6505}$
	7401	5	$L_{7401-6505} \left(\frac{D'_N}{D_N} \right)$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	7406	3	$L_{7406-6505} \left(\frac{D'_{7305}}{D_{7305}} \right)$
	7407	3	$L_{7407-6505} \left(\frac{D'_{7307}}{D_{7307}} \right)$
6506	Total	1	$\left(\frac{D'_{6505}}{D_{6505}} \right) v_{6506}$
	7401	5	$L_{7401-6506} \left(\frac{D'_N}{D_N} \right)$
	7406	3	$L_{7406-6506} \left(\frac{D'_{7305}}{D_{7305}} \right)$
	7407	3	$L_{7407-6506} \left(\frac{D'_{7307}}{D_{7307}} \right)$
6507	Total	5	$\left(\frac{D'_N}{D_N} \right) v_{6507}$
6508	Total	5	$\left(\frac{D'_N}{D_N} \right) v_{6508}$
7001	Total	3	$\left(\frac{D'_{5701}}{D_{5701}} \right) v_{7001}$

E-138

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DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7002	7506	3	$L_{7506-7001} \left(\frac{D'_{7305}}{D_{7305}} \right)$
	7507	5	$L_{7507-7001} \left(\frac{D'_N}{D_N} \right)$
	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{7002}$
	7506	3	$L_{7506-7002} \left(\frac{D'_{7305}}{D_{7305}} \right)$
	7507	5	$L_{7507-7002} \left(\frac{D'_N}{D_N} \right)$
	Total	3	$\left(\frac{D'_{5703}}{D_{5703}} \right) V_{7003}$
7003	6503	3	$L_{6503-7003} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	6505	1	$L_{6505-7003} \left(\frac{D'_{6505}}{D_{6505}} \right)$
	6508	5	$L_{6508-7003} \left(\frac{D'_N}{D_N} \right)$

E-139

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DETECTOR SCENARIO E

	<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-140	7004	Total	3	$(\frac{D'_{5703}}{D_{5703}}) \ V_{7004}$
		6503	3	$L_{6503-7004} \ (\frac{D'_{5703}}{D_{5703}})$
		6505	1	$L_{6505-7004} \ (\frac{D'_{6505}}{D_{6505}})$
		6508	5	$L_{6508-7004} \ (\frac{D'_N}{D_N})$
	7005	Total	5	$(\frac{D'_N}{D_N}) \ V_{7005}$
	7007	Total	5	$(\frac{D'_N}{D_N}) \ V_{7007}$
	7012	Total	5	$(\frac{D'_N}{D_N}) \ V_{7012}$
	7101	Total	3	$(\frac{D'_{5301}}{D_{5301}}) \ V_{7101}$
	7102	Total	5	$(\frac{D'_N}{D_N}) \ V_{7102}$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-141 7103	Total	3	$(\frac{D'_{5303}}{D_{5303}}) V_{5303}$
	6303	3	$L_{6303-7103} (\frac{D'_{5303}}{D_{5303}})$
	6305	5	$L_{6305-7103} (\frac{D'_N}{D_N})$
	6307	1	$L_{6307-7103} (\frac{D'_{6307}}{D_{6307}})$
7104	Total	3	$(\frac{D'_{5303}}{D_{5303}}) V_{5303}$
	6303	3	$L_{6303-7104} (\frac{D'_{5303}}{D_{5303}})$
	6305	5	$L_{6305-7104} (\frac{D'_N}{D_N})$
	6307	1	$L_{6307-7104} (\frac{D'_{6307}}{D_{6307}})$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7105	Total	3	$(\frac{D'_{7305}}{D_{7305}}) V_{7105}$
7106	Total	5	$(\frac{D'_N}{D_N}) V_{7106}$
7107	Total	3	$(\frac{D'_{7307}}{D_{7307}}) V_{7107}$
E-142	7201	5	$L_{7201-7107} (\frac{D'_N}{D_N})$
	7203	1	$L_{7203-7107} (\frac{D'_{7203}}{D_{7203}})$
	7207	3	$L_{7207-7107} (\frac{D'_{7307}}{D_{7307}})$
7108	Total	3	$(\frac{D'_{7307}}{D_{7307}}) V_{7108}$
	7201	5	$L_{7201-7108} (\frac{D'_N}{D_N})$
	7203	1	$L_{7203-7108} (\frac{D'_{7203}}{D_{7203}})$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	7207	3	$L_{7207-7108} \left(\frac{D'_{7307}}{D_{7307}} \right)$
7111	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{7111}$
7201	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{7201}$
E-143 7203	Total	1	$\left(\frac{D'_{7203}}{D_{7203}} \right) V_{7203}$
7205	Total	3	$\left(\frac{D'_{7305}}{D_{7305}} \right) V_{7205}$
	7101	3	$\left(\frac{D'_{5301}}{D_{5301}} \right) r_{7101} V_{7101}$
	7104	3	$\left(\frac{D'_{5303}}{D_{5303}} \right) V_{7104}$
	7105	3	$\left(\frac{D'_{7305}}{D_{7305}} \right) t_{7105} V_{7105}$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-144	7207	Total	3 $(\frac{D'_{7307}}{D_{7307}}) v_{7207}$
	7302		5 $(\frac{D'_N}{D_N}) v_{7302}$
	7303		3 $(\frac{D'_{5503}}{D_{5503}}) r_{7303} v_{7303}$
	7307		1 $(\frac{D'_{7307}}{D_{7307}}) t_{7307} v_{7307}$
7301	Total		3 $(\frac{D'_{5501}}{D_{5501}}) v_{7301}$
7302	Total		5 $(\frac{D'_N}{D_N}) v_{7302}$
7303	Total		3 $(\frac{D'_{5503}}{D_{5503}}) v_{7303}$
	6403		3 $L_{6403-7303} (\frac{D'_{5503}}{D_{5503}})$
	6411		1 $L_{6411-7303} (\frac{D'_{6411}}{D_{6411}})$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-145	6407	5	$L_{6407-7303} \left(\frac{D'_N}{D_N} \right)$
	7304	Total	$\left(\frac{D'_{5503}}{D_{5503}} \right) v_{7304}$
	6403	3	$L_{6403-7304} \left(\frac{D'_{5503}}{D_{5503}} \right)$
	6411	1	$L_{6411-7304} \left(\frac{D'_{6411}}{D_{6411}} \right)$
	6407	5	$L_{6407-7304} \left(\frac{D'_N}{D_N} \right)$
	7305	Total	$\left(\frac{D'_{7305}}{D_{7305}} \right) v_{7305}$
	7201	5	$L_{7201-7305} \left(\frac{D'_N}{D_N} \right)$
	7203	1	$L_{7203-7305} \left(\frac{D'_{7203}}{D_{7203}} \right)$
	7205	3	$L_{7205-7305} \left(\frac{D'_{7305}}{D_{7305}} \right)$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
7306	Total	1	$(\frac{D'_{7305}}{D_{7305}}) V_{7306}$
	7201	5	$L_{7201-7306} (\frac{D'_N}{D_N})$
	7203	1	$L_{7203-7306} (\frac{D'_{7203}}{D_{7203}})$
	7205	3	$L_{7205-7306} (\frac{D'_{7305}}{D_{7305}})$
7307	Total	1	$(\frac{D'_{7307}}{D_{7307}}) V_{7307}$
	7401	5	$L_{7401-7307} (\frac{D'_N}{D_N})$
	7410	1	$L_{7410-7307} (\frac{D'_{7403}}{D_{7403}})$
	7407	3	$L_{7407-7307} (\frac{D'_{7307}}{D_{7307}})$
7308	Total	1	$(\frac{D'_{7307}}{D_{7307}}) V_{7308}$

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DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	7401	5	$L_{7401-7308} \left(\frac{D'_N}{D_N} \right)$
	7410	1	$L_{7410-7308} \left(\frac{D'_{7403}}{D_{7403}} \right)$
	7407	3	$L_{7407-7308} \left(\frac{D'_{7307}}{D_{7307}} \right)$
E-147 7401	Total	5	$\left(\frac{D'_N}{D_N} \right) V_{7401}$
7403	Total	1	$\left(\frac{D'_{7403}}{D_{7403}} \right) V_{7403}$
	6502	5	$L_{6502-7403} \left(\frac{D'_N}{D_N} \right)$
	6503	3	$L_{6503-7403} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	6507		$L_{6507-7403}$
7404	Total	1	$\left(\frac{D'_{7403}}{D_{7403}} \right) V_{7404}$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	6502	5	$L_{6502-7404} \left(\frac{D'_N}{D_N} \right)$
	6503	3	$L_{6503-7404} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	6507	5	$L_{6507-7404} \left(\frac{D'_N}{D_N} \right)$
E-148 7405	Total	3	$\left(\frac{D'_{7305}}{D_{7305}} \right) V_{7405}$
	7301	3	$L_{7301-7405} \left(\frac{D'_{5501}}{D_{5501}} \right)$
	7304	3	$L_{7304-7405} \left(\frac{D'_{5503}}{D_{5503}} \right)$
	7305	1	$L_{7305-7405} \left(\frac{D'_{7305}}{D_{7305}} \right)$
7406	Total	3	$\left(\frac{D'_{7305}}{D_{7305}} \right) V_{7406}$
	7301	3	$L_{7301-7406} \left(\frac{D'_{5501}}{D_{5501}} \right)$

DETECTOR SCENARIO E

Link	Input Link	Rule Number	Equation
7407	7304	3	$L_{7304-7406} \left(\frac{D'_{5503}}{D_{5503}} \right)$
	7305	1	$L_{7305-7406} \left(\frac{D'_{7305}}{D_{7305}} \right)$
	Total	3	$\left(\frac{D'_{7307}}{D_{7307}} \right) V_{7407}$
	7503	3	$L_{7503-7407} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	7507	3	$L_{7507-7407} \left(\frac{D'_{7307}}{D_{7307}} \right)$
7408	Total	3	$\left(\frac{D'_{7307}}{D_{7307}} \right) V_{7408}$
	7503	3	$L_{7503-7408} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	7507	3	$L_{7507-7408} \left(\frac{D'_{7307}}{D_{7307}} \right)$
7410	Total	1	$\left(\frac{D'_{7403}}{D_{7403}} \right) V_{7410}$

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DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-150 7503	6502	5	$L_{6502-7410} \left(\frac{D'_N}{D_N} \right)$
	6503	3	$L_{6503-7410} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	6507	5	$L_{6507-7410} \left(\frac{D'_N}{D_N} \right)$
	Total	3	$\left(\frac{D'_{5703}}{D_{5703}} \right) V_{7503}$
	7003	3	$L_{7003-7503} \left(\frac{D'_{5703}}{D_{5703}} \right)$
	7005	5	$L_{7005-7503} \left(\frac{D'_N}{D_N} \right)$
	7007	5	$L_{7007-7503} \left(\frac{D'_N}{D_N} \right)$
7504	Total	3	$\left(\frac{D'_{5703}}{D_{5703}} \right) V_{7504}$
	7003		$L_{7003-7504} \left(\frac{D'_{5703}}{D_{5703}} \right)$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
E-151	7005	5	$L_{7005-7504} \left(\frac{D'_N}{D_N} \right)$
	7007	5	$L_{7007-7504} \left(\frac{D'_N}{D_N} \right)$
	7505	Total	$\left(\frac{D'_{7305}}{D_{7305}} \right) V_{7505}$
	7401	5	$L_{7401-7505} \left(\frac{D'_N}{D_N} \right)$
	7404	1	$L_{7404-7505} \left(\frac{D'_{7403}}{D_{7403}} \right)$
	7405	3	$L_{7405-7505} \left(\frac{D'_{7305}}{D_{7305}} \right)$
	7506	Total	$\left(\frac{D'_{7305}}{D_{7305}} \right) V_{7306}$
	7401	5	$L_{7401-7506} \left(\frac{D'_N}{D_N} \right)$
	7404	1	$L_{7404-7506} \left(\frac{D'_{7403}}{D_{7403}} \right)$

DETECTOR SCENARIO E

<u>Link</u>	<u>Input Link</u>	<u>Rule Number</u>	<u>Equation</u>
	7405	3	$L_{7405-7506} \left(\frac{D'_{7305}}{D_{7305}} \right)$
7507	Total	3	$\left(\frac{D'_{7307}}{D_{7307}} \right) V_{7507}$

APPENDIX F**Detailed Detector
Scenario Comparisons**

UPDATED:
10-Feb-87
01:46 PM

FHWA 1.5 GC STUDY
L.A. TEST SITE

RESULTS OF ANALYSIS

INTERSECT.	NODE	INR	DIRB	HOVR VOLUMES (VEH/HR) / MAXIMUM DEGREE OF SAT. (%)					TOTAL DELAY (VEH-H/H)					AVERAGE DELAY (SEC/VEH)					UNIFORM STOPS (%)					PERFORMANCE INDEX				
				A	C	E	OPT		DIRB	A	C	E	OPT	DIRB	A	C	E	OPT	DIRB	A	C	E	OPT	DIRB	A	C	E	OPT
WASHINGTON @ HOOVER	24	IAN	4288/661	5361/771	5361/781	5033/821	3437/601		14.6	22.90	27.68	24.30	11.42	12.3	15.40	18.60	17.40	12.00	621	661	671	581	521	24.4	33.2	39.1	32.6	17.5
		IOFF	3300/661	3813/811	3754/791	3733/671	2411/341		11.61	16.65	15.43	13.95	7.06	12.7	15.70	14.80	13.50	10.50	611	661	651	621	551	18.6	25.4	24.0	22.0	12.2
WASHINGTON @ UNION	25	IAN	2338/591	2871/601	3003/841	3273/691	2917/601		4.89	6.97	1.34	13.30	6.54	7.5	8.70	10.90	14.40	8.10	331	431	331	541	411	7.9	11.4	11.7	18.6	10.8
		IOFF	2216/581	1830/421	2182/511	2247/471	1915/471		6.47	5.50	5.68	4.76	3.38	10.5	10.80	9.40	7.60	6.30	621	581	531	471	321	11	8.9	9.4	6.4	5.4
WASHINGTON @ OAK	26	IAN	1974/421	2462/501	2451/441	2325/411	2429/501		3.46	4.70	3.80	2.89	4.89	6.3	6.90	5.60	4.50	7.20	441	431	312	291	491	7.3	9.4	7.0	5.8	10.2
		IOFF	1892/381	1773/311	1325/291	1921/381	1815/321		1.47	1.48	1.15	1.45	3.19	2.8	3.00	3.10	2.70	6.30	221	191	181	211	451	3.3	2.9	2.1	3.2	6.9
20th @ Fwy Ramps	35	IAN	1621/671	1199/811	1049/571	1222/601	1129/811		2.69	4.39	4.47	5.52	4.30	10	13.20	15.30	16.30	13.70	391	461	511	531	461	3.9	6.1	5.9	7.3	5.9
		IOFF	1132/641	1209/711	1145/681	1195/721	1176/901		2.79	3.93	3.09	3.92	5.20	8.9	11.70	9.70	11.80	15.60	361	461	331	481	431	4.2	5.7	4.2	5.8	6.5
20th @ HOOVER	36	IAN	2770/771	3299/831	2983/741	3090/791	3377/791		6.46	8.00	6.16	8.22	10.15	8.4	8.70	7.40	9.60	10.80	421	341	271	331	481	9.5	10.6	7.8	10.2	13.9
		IOFF	2179/731	2773/961	2385/771	2561/821	2616/911		6.65	12.94	9.04	9.91	10.15	11	16.80	13.60	13.90	14.00	501	501	541	531	531	9.3	15.0	11.8	12.8	12.9
NORTHDALE @ Fwy NFR	38	IAN	2500/671	3350/711	3454/841	2898/791	3123/771		9.58	12.14	14.41	14.05	11.17	13.8	12.30	15.00	17.40	12.90	581	461	421	681	461	14.8	16.3	17.2	19.4	14.6
		IOFF	1949/541	2347/671	2223/631	2338/671	2064/521		6.67	9.55	9.02	9.10	7.22	12.3	14.60	14.60	14.00	12.60	491	501	541	491	521	9.1	12.4	12.0	11.9	10.2
VERMONT @ Fwy NFR	39	IAN	2878/751	3338/741	3318/671	2878/491	3250/701		6.35	8.02	8.50	8.17	7.57	8.2	8.60	9.20	10.20	8.40	371	391	341	381	411	10.5	11.6	11.5	10.8	11.4
		IOFF	2212/641	2458/501	2361/771	2369/531	2429/621		5.29	7.27	6.40	6.90	5.45	8.6	10.60	9.90	10.50	7.90	411	451	411	461	381	8.6	10.2	9.1	9.8	8.0
NORTHDALE @ Fwy SFR	40	IAN	2178/801	2703/931	2957/881	2749/751	2992/971		8.25	17.37	15.27	12.93	17.34	13.6	23.10	18.60	16.90	21.10	571	841	641	501	641	12.7	24.6	20.8	16.9	23.0
		IOFF	1700/701	1932/951	2392/1011	1882/751	1585/501		5.4	15.66	19.85	7.15	4.62	11.4	29.20	29.90	13.70	10.50	561	661	551	611	441	9.0	18.2	21.5	11.5	7.0
VERMONT @ Fwy SFR	41	IAN	2839/721	3250/741	3151/811	2707/761	3239/881		8.1	7.73	11.44	11.15	12.56	10.3	8.60	13.10	14.00	13.90	451	371	461	491	531	12	11.2	15.0	14.2	17.6
		IOFF	2839/771	2852/771	2792/721	2850/781	2638/781		8.41	8.22	8.04	8.22	9.29	10.7	10.40	10.40	10.40	12.70	481	351	391	371	601	12.5	10.8	11.0	11.0	14.3
HOOVER @ Fwy SFR	42	IAN	2948/821	3188/861	3188/751	2840/771	3279/821		10.16	10.74	15.48	12.52	11.91	12.4	12.10	17.50	15.90	13.10	431	441	621	511	441	13.8	14.6	20.6	16.3	16.0
		IOFF	1967/711	2452/781	2452/821	2146/821	2314/601		6.17	8.87	7.80	7.36	6.34	11.3	13.00	11.50	12.40	9.90	471	491	411	481	441	9.0	12.1	10.3	10.2	9.3
23rd @ HOOVER	43	IAN	1936/501	3330/641	2456/561	2688/601	2334/491		2.66	4.11	3.31	2.90	2.34	4.9	4.40	4.80	3.90	3.60	271	301	211	201	191	4.1	7.7	4.5	4.3	3.6
		IOFF	1533/391	1778/371	1994/421	1820/371	1781/371		1.9	1.99	3.05	2.62	2.21	4.5	4.00	3.50	5.20	4.50	251	221	301	301	281	3.0	3.1	4.8	4.2	3.7
23rd @ UNION	44	IAN	380/381	717/351	636/261	727/251	720/401		1.95	1.90	2.11	2.89	2.13	12.1	9.50	11.60	14.30	10.60	561	421	461	581	411	2.7	2.6	2.7	3.8	2.7
		IOFF	516/431	424/241	521/291	393/251	424/501		1.71	1.61	1.54	1.34	1.39	11.9	13.60	16.60	12.30	11.80	501	561	471	511	511	2.3	2.1	2.1	1.8	1.9
23rd @ DAYS	45	IAN	1820/191	488/181	560/241	476/191	700/381		0.83	0.66	1.24	0.97	1.93	3.6	4.80	8.00	7.30	9.90	211	251	301	261	501	1.5	1.1	1.8	1.4	3.1
		IOFF	732/221	339/181	515/371	393/261	534/131		0.77	0.59	1.47	0.74	0.94	3.8	6.30	10.30	6.80	5.90	211	291	401	271	531	1.4	0.9	2.1	1.1	1.0
24th @ VERMONT	51	IAN	2224/341	2333/451	2502/611	2318/501	2421/641		3.45	4.04	2.80	3.00	3.92	5.6	5.70	4.00	4.70	3.80	411	361	221	221	351	6.2	6.7	4.3	4.3	6.4
		IOFF	1654/521	1658/511	1852/531	1794/511	1620/431		4.59	4.13	4.14	4.61	2.46	10.0	9.00	8.10	9.30	5.50	591	451	431	461	341	7.3	6.1	6.3	6.8	4.1
24th @ HOOVER	52	IAN	1842/391	2462/451	1787/381	1999/481	2277/451		2.48	3.77	2.45	4.67	3.03	4.8	5.50	4.90	8.40	4.80	321	281	241	441	251	4.5	5.8	3.8	8.2	4.7
		IOFF	1561/401	1561/361	1754/411	1818/421	1571/311		2.45	2.60	3.35	2.82	1.50	5.6	6.00	6.90	5.60	3.40	391	391	381	341	211	4.6	4.9	5.8	5.1	2.5

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INTERSECT.	MODE	IHR	HOURLY VOLUMES (VEH/HRI) MAXIMUM DEGREE OF SAT. (%)					TOTAL DELAY (VEH-H/H)					AVERAGE DELAY (SEC/VEH)					UNIFORM STOPS (X)					PERFORMANCE INDEX				
			ORIG	A	C	E	OPT	ORIG	A	C	E	OPT	ORIG	A	C	E	OPT	ORIG	A	C	E	OPT	ORIG	A	C	E	OPT
ADAMS @ NORMANDIE	53	IAM	2689/341	3463/631	3463/651	3421/721	2914/911	6.59	10.11	14.01	15.12	12.96	8.8	10.50	14.60	15.90	16.00	471	511	461	521	551	12.1	17.5	19.3	21.3	18.7
		IOFF	2076/361	2266/411	2232/351	2383/461	1718/601	5.66	10.50	6.46	8.01	4.97	9.8	10.50	10.40	12.10	10.40	541	511	531	621	471	10.6	11.4	11.5	14.3	8.3
ADAMS @ BUDLONG	54	IAM	1354/541	1470/431	1369/701	1488/551	1292/431	1.36	1.13	2.26	1.41	1.26	3.6	2.80	5.90	5.40	3.50	151	131	171	121	191	2	1.9	3.0	2.0	2.3
		IOFF	1026/461	1016/231	934/431	1092/331	966/281	1.05	3.20	0.98	0.80	0.78	3.7	3.20	3.80	2.60	2.90	171	151	151	131	181	1.6	1.5	1.4	1.4	1.6
ADAMS @ VERMONT	55	IAM	2985/621	3441/881	3441/871	3292/731	3593/711	7.78	14.54	13.65	10.01	13.50	9.4	14.40	13.50	11.80	13.50	471	611	461	451	601	13.1	22.5	18.8	16.1	21.4
		IOFF	2404/591	2503/631	2502/631	2592/671	2535/511	7.3	7.78	8.41	8.83	6.70	10.9	11.20	12.10	12.30	9.50	501	491	491	521	471	11.7	12.1	12.7	13.7	11.1
ADAMS @ NASHOLIA	56	IAM	950/231	1073/241	1568/401	1238/261	1184/271	0.45	1.58	0.86	0.64	1.59	1.7	5.30	2.00	1.90	4.80	101	391	101	81	371	0.9	3.5	1.5	1.0	3.6
		IOFF	906/311	917/251	1134/341	950/281	839/201	1.49	0.79	0.99	0.95	0.43	6.0	3.10	3.10	3.60	1.90	411	201	191	251	141	3.2	1.6	1.9	2.0	1.0
ADAMS @ HOOVER	57	IAM	2554/671	3008/741	3008/631	2716/631	2715/721	8.18	11.59	12.09	12.85	10.22	11.5	13.90	14.50	17.00	13.50	601	551	571	641	541	14.8	18.0	18.6	19.3	15.9
		IOFF	2257/621	2536/551	2536/571	2543/571	2601/581	6.38	9.12	8.58	8.37	8.76	10.2	12.90	12.20	11.90	12.10	561	591	591	561	621	11.8	15.1	14.7	14.2	15.6
29th @ NORMANDIE	63	IAM	1802/391	1804/491	1676/431	2268/511	1799/491	0.72	1.01	0.99	1.47	1.01	1.4	2.00	2.10	2.30	2.00	81	91	81	91	91	1.5	1.7	1.5	2.2	1.6
		IOFF	1464/331	1379/281	1298/241	1645/301	1354/391	1.15	1.21	1.20	1.15	0.98	2.8	3.20	3.50	2.50	2.60	151	181	181	121	111	2.0	2.2	2.2	23.0	1.6
29th @ VERMONT	64	IAM	4075/521	4258/751	4196/911	4086/1521	2237/531	2.56	8.00	33.98	249.25	2.16	2.3	6.80	29.20	219.60	3.50	131	501	851	701	201	4.9	17.8	44.9	198.7	4.1
		IOFF	3020/401	3264/401	3151/421	3250/421	1736/431	1.8	3.90	3.81	3.33	1.75	2.1	4.30	4.30	3.70	3.60	131	301	271	221	221	3.5	8.3	7.6	6.6	3.5
30th @ HOOVER	65	IAM	1842/591	1830/551	1436/431	1953/371	1804/501	3.59	3.03	3.76	2.58	3.97	7	6.00	9.40	6.00	7.90	321	251	351	211	351	5.6	4.4	5.3	3.4	6.0
		IOFF	1471/541	1627/511	1418/491	1585/501	1396/401	4.63	4.71	4.76	5.19	2.89	11.3	10.40	12.10	11.80	7.50	521	461	591	591	391	7.5	7.4	7.9	8.8	5.0
32nd @ HOOVER	70	IAM	1222/371	1400/441	1253/571	1146/571	1161/391	1.45	1.22	1.77	2.57	1.07	4.3	3.10	5.10	8.10	3.30	191	151	191	351	171	2.3	2.1	2.5	4.0	1.9
		IOFF	1065/401	1279/651	890/461	1205/411	883/291	1.51	6.60	1.45	1.56	1.18	5.1	6.60	5.90	4.70	4.80	231	241	251	201	271	2.4	3.3	2.2	2.4	2.1
JEFFERSON @ NORMANDIE	71	IAM	2854/621	2917/531	3435/661	3353/841	2960/641	9.09	9.81	16.68	17.68	9.86	11.5	12.10	17.50	17.90	11.80	591	621	641	611	581	13.9	17.4	24.8	25.3	16.9
		IOFF	2214/711	2015/561	2014/531	2155/391	1881/391	7.45	14.40	7.41	6.98	5.18	11.8	14.40	13.30	11.70	9.90	611	651	651	551	521	13.3	13.4	12.8	11.9	9.3
JEFFERSON @ BUDLONG	72	IAM	1308/351	1810/481	1647/411	1690/411	1810/481	1.27	1.98	2.33	2.12	1.94	3.5	3.90	5.10	4.50	3.90	171	181	241	181	181	2.1	3.2	3.9	3.2	3.3
		IOFF	1072/711	1048/251	921/411	849/371	952/201	1.89	4.70	1.57	1.62	0.97	6.3	4.70	6.10	6.90	3.70	191	201	261	321	191	2.4	2.1	2.4	2.6	1.7
JEFFERSON @ VERMONT	73	IAM	3303/621	4087/881	4087/731	3728/781	6178/881	10.44	16.91	16.17	19.17	17.48	11.4	16.90	14.20	18.50	15.10	621	641	551	641	711	19.1	27.2	24.7	27.6	29.6
		IOFF	3006/771	3114/881	3167/921	2796/811	2821/801	11.94	20.48	21.38	17.27	9.94	14.3	23.70	24.30	22.20	12.70	701	791	781	771	631	20.6	29.0	29.7	24.8	17.4
JEFFERSON @ McCLINTOCK	74	IAM	2287/551	2381/491	2413/491	2875/601	2453/491	4.87	4.68	6.45	5.90	6.07	7.7	7.10	9.60	7.40	8.90	411	381	391	301	471	8.5	8.1	9.6	8.8	10.5
		IOFF	1974/641	1988/781	2096/711	1659/731	1819/391	4.76	5.02	4.73	4.63	3.63	8.7	9.10	8.10	10.00	7.20	461	381	391	421	371	8.2	7.6	7.7	6.9	6.0
JEFFERSON @ HOOVER	75	IAM	1828/581	2289/611	2229/631	2051/571	2533/971	5.06	6.96	8.42	5.63	13.49	10.0	11.20	13.60	9.90	19.00	541	581	511	421	571	9.3	12.4	12.4	9.0	18.1
		IOFF	1880/591	1770/531	1771/731	1631/621	1963/591	6.34	6.72	5.98	5.70	4.27	12.5	13.70	12.10	12.60	11.50	591	601	531	501	581	11.0	10.8	9.6	8.7	11.1
SYSTEM-WIDE		AM	62,878	76,122	74,297	72,328	70,299	149.31	210.01	261.66	474.46	297.80	8.39	9.93	12.68	23.62	10.84	411	451	451	451	451	247.9	332.6	364.9	515.9	315.5
TOTALS		OFF	33,273	34,127	35,711	35,795	30,177	135.91	180.00	176.90	159.26	124.35	12.5	11.59	11.43	10.28	8.92	451	471	461	451	431	223.0	264.6	261.1	245.8	201.5

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