

Appendix C: 2040 Volume Forecast Calculations



USER INPUT

OPTIONAL INPUT

FINAL REFINED FORECAST

		COL 1	COL 2	COL 3	COL 4	COL 5	COL 6	COL 7	COL 8	COL 8.5	COL 9	COL 10	COL 10.5	COL 11	COL 12	COL 13	COL 14	COL 15	COL 16	COL 17	COL 18	COL 19	COL 20	
		NCHRP255 adjustment process										Interpolate opening & design year & adjust for more recent count												
		near base model										delta												
		Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	
		Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	
		SLRATIO	RATIO	DIFF	MRATIO	RAI	Adjustment	Volume	count year	count data	delta	opening year	design yr	opening yr	design year	opening yr	design year	opening yr	design year	opening yr	design year	opening yr	design year	
(east leg)	Home Road	0.5	2	Dis	2016	13244	7265	7264	7256	12058	13229	13236	13229	13233	RAI	13233		0	13233	13233	0.999	0.999		
(north leg)	Limestone Street	0.5	2	Dis	2016	16427	8837	8809	8642	14362	16116	16260	16116	16188	RAI	16188		0	16188	16188	0.986	0.986		
(west leg)	Home Road	0.5	2	Dis	2016	10559	9963	10454	17373	11002	10980	11001	10991	RAI	10991		0	10991	10991	1.041	1.041			
(south leg)	Limestone Street	0.5	2	Dis	2016	15994	7771	7726	7458	12394	15439	15726	15439	15583	DIFF	15726		0	15726	15726	0.983	0.983		
Total		56224										33832												

Optional Capacity Adjuster
Use this for screenlines, not intersection approaches

Capacity	opening yr	design year	opening yr	design year	opening yr	design year
	-13233	-13233	13233	13233	13233	0.999
	-16188	-16188	16188	16188	16188	0.986
	-10991	-10991	10991	10991	10991	1.041
	-15726	-15726	15726	15726	15726	0.983
0	0	0	0	0	0	0

There are hidden rows if you want more roads in your intersection/screenline

There are hidden columns for opening year model results if you have them

Year

Model Base	2012
Model Opening (opt)	
Model Forecast	2040
Project Opening	2040
Project Design	2040

General Notes

General rule: if MR<1 then if RATIO <= 1.0 then use RAT
OR if RATIO >= 2 then use DIFF else use Raf,
if MR>1 then if RATIO <=0.5 then use MRATIO, OR
if RATIO >=2 then use DIFF, else use Raf(based on MRATIO)

Which you can change if it makes sense,
make both of columns 2-3 very large to force ratios,
make them 0 to force differences

Make sure model opening year (if used)
is greater existing and less than forecast
EXCEPT...

If you want to use a base year build run
to establish trends, set AI-ON=Ab
set model open year=base year=count year
Place build run in AI-OB
Do not use cols 14-15 in this case

If you have a non-model forecast you
want to enter to interpolate and calculate
growth rate, put it in column 8 (Af) then copy
column 5 to column 6 and set model base
to count year (Type toggle does this for you on TM sheet

Design year no build is a separate alternative
create a new sheet for i

You can omit open year model, have just an
open year no build or both no build and
build, but don't have a build without
a no build unless it's a new link.

Field Definitions	COLUMN	VARIABLE	DEFINITION
1	Road/Link		The name/route number of each facility bisected by the screenline and/or the link (node) numbers from the network.
2	Min Diff		Minimum Count/Model Ratio for using differences, below this use ratios alone
3	Max Rat		Maximum Count/Model Ratio for using ratios, above this use differences alone
3.5	Use SL		Set to "Enable" to allow use of screen line adjustments for this leg if no count available, set to "Disable" to disable giving no adjustment of model result, set to "Force" to force SL adjustment
4	COUNT year		year of the actual base year traffic count
5	COUNT		actual base year traffic count
6	Ab		base year traffic assignment - user to input year
7	Ab ^{interpolate}		interpolation between base and future year assignment - used when year of count data differs from base year assignment, will use open-nobuild to base interp if open nobuild exists, otherwise will use design to base interp
7.1	R		Calculated Ratio (COUNT/Ab)
7.2	D		Calculated Difference (COUNT-Ab)
7.3	MR		Model Ratio (Af/Ab)
7.4	SLR		Screenline Ratio (D/COUNT/Ab)
8	Af		future year traffic assignment - Af-D= (near) design yr model run, AI-ON=optional (near) opening year no build model run, AI-OB=optional (near) opening year build model run
8.5	SLRATIO		adjusted future year traffic forecast (COUNT/Ab)*Af
9	RATIO		adjusted future year traffic forecast (COUNT/Ab) * Af
10	DIFF		adjusted future year traffic forecast COUNT - Ab + Af
10.5	MRATIO		adjusted future year traffic forecast modified "ratio method" to weight towards DIFF method for large model increases: if MR<1 = RATIO else = ((MR-1)*DIFF + RATIO)/MR
11	RAI		adjusted future year traffic forecast (AVERAGE(RATIO, DIFF))
12	Selected Adjustme		Selects the type of future year adjustment based on the ratio of actual base year traffic count to interpolated base year traffic assignment general rule: if MR<1 then if RATIO <= 1.0 then use RATIO, OR if RATIO >= 2 then use DIFF else use Raf, if MR>1 then if RATIO <=0.5 then use MRATIO, OR if RATIO >=2 then use DIFF, i
13	Selected Volume		The selected adjusted forecast year model volume
14	most recent cou		year of the most recently available actual count data (should be <Yo, if Yo=Yb generally won't use)
15	most recent cou		most recently available actual count data for the facility
16	cent Count Del		Forecast adjustment based on difference of more recent count from interpolation resulting from base count and first forecast yr
17	opening year		final refined forecast for the opening year - user to input yea
18	design year		final refined forecast for the design year - user to input yea
19	growth factorop		growth factor to apply to most recent count to obtain opening year (SET to 1.0 if no count given)
20	growth factorode		growth factor to apply to most recent count to obtain design year (SET to 1.0 if no count given)

Columns 8-13 repeated for open year build and nobuild (hidden)

If you have a new link it will get a growth rate of 1.1
To get forecast turn movements for new links you must
enter the model turns in section 2 of the turn movement sheets

A value of zero in a field usually means zero, leave fields blank if you want them
ignored. If link doesn't exist in base, counts=Ab=blank. If link doesn't exist in build
make zero, not blank in this case (AI-OB actually controls this)

There is no guarantee a forecast volume of zero will
be respected as zero by the 255 adjustments

If you have an existing intersection link that wasn't in the mode
enter its counts in the appropriate places here and on the
TM sheets. You will need to over-ride columns 9-20
of this sheet with an exogenously supplied growth rate

If you have a new intersection on an existing road you can
enter the main line counts/model volumes (Ab and AI-ON
here and on the TM sheets (as Thru movements) and then
the full set of volumes/turns for AI-OB and AI-C
You may want to disable screenlines in this case

- Four Interpolation Cases**
1. Have base count and open yr model run and interp year= model open yr THUS interpolate btwn base count and adj open yr model run except for open yr= model open yr which uses case 2.
 2. Have open yr model run and interp yr= open model yr (or interpolating any opening year) THUS interpolate btwn adj open yr and adj design yr model run
 3. (standard) Have base count and NO open yr model run THUS interpolate btwn count and adj design yr model run
 4. Have no base count THUS interpolate calculate growth from Unadj base and design yr model runs and apply growth rate to number of years different from model design

Screenline Options (see field 3.5 description)

Enable
Disable
Force

INTERSECTION: Home Road and Limestone Street

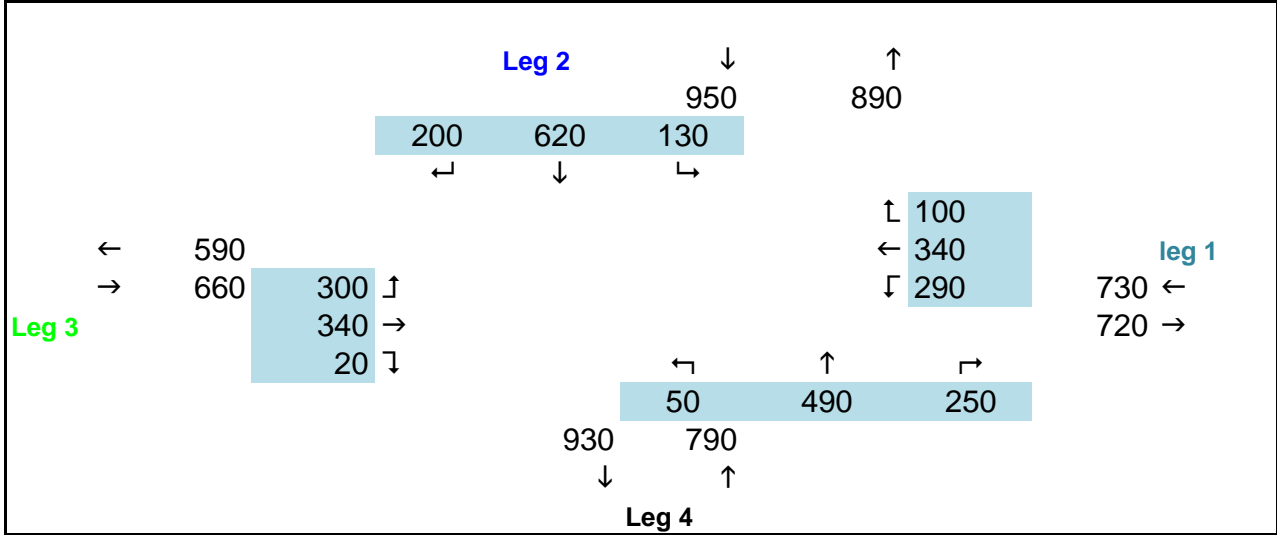
P.M. peak hour 3:30 PM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	existing "K"	existing D	existing T24	existing P.M. TD	CHOSEN PM K*	dhv factor*	link growth open	link growth design
Home Road	E LEG	13244	0	0.090	0.504	0.000	0.000	0.110	1.23	0.999	0.999
Limestone Stre	N LEG	16427	0	0.092	0.515	0.000	0.000	0.113	1.23	0.986	0.986
Home Road	W LEG	10559	0	0.092	0.528	0.000	0.000	0.114	1.23	1.041	1.041
Limestone Stre	S LEG	15994	0	0.089	0.538	0.000	0.000	0.110	1.23	0.983	0.983

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Home Road	0.00%
Home Road and Limestone Str	N LEG	Leg 2	Limestone St	0.00%
P.M. peak hour	W LEG	Leg 3	Home Road	0.00%
3:30 PM	S LEG	Leg 4	Limestone St	0.00%



INTERSECTION: Home Road and Limestone Street

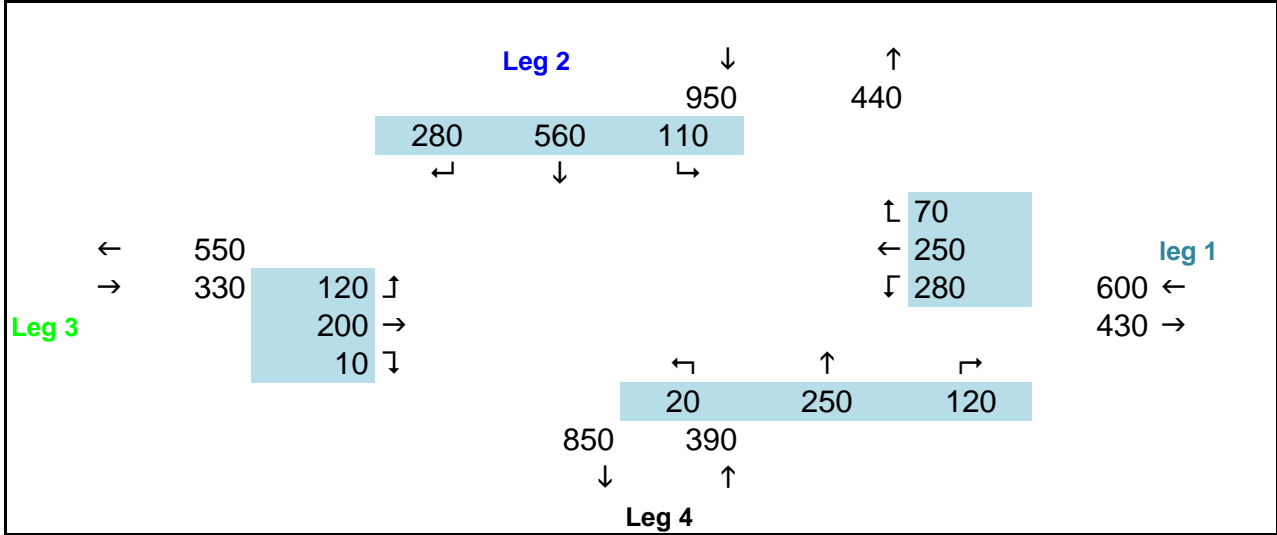
A.M. peak hour 7:30 AM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	existing "K"	existing D	existing T24	existing P.M. TD	CHOSEN PM K*	dhv factor*	link growth open	link growth design
Home Road	E LEG	13244	0	0.063	0.574	0.000	0.000	0.11	1.230	0.999	0.999
Limestone Stre	N LEG	16427	0	0.069	0.683	0.000	0.000	0.11	1.230	0.986	0.986
Home Road	W LEG	10559	0	0.065	0.618	0.000	0.000	0.11	1.230	1.041	1.041
Limestone Stre	S LEG	15994	0	0.064	0.686	0.000	0.000	0.11	1.230	0.983	0.983

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Home Road	1.00%
Home Road and Limestone Str	N LEG	Leg 2	Limestone St	0.00%
A.M. peak hour	W LEG	Leg 3	Home Road	0.00%
7:30 AM	S LEG	Leg 4	Limestone St	0.00%



USER INPUT

OPTIONAL INPUT

FINAL REFINED FORECAST

		NCHRP255 adjustment process										Interpolate opening & design year & adjust for more recent count												
		COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL		
		1	2	3	4	5	6	7	8	8.5	9	10	10.5	11	12	13	14	15	16	17	18	19	20	
		near base model										Selected	Selected	most recent	most recent	recent count	2040	2040	growth factors					
		Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	
		Ab	Ab ^{interpolate}	Af-D	SLRATIO	RATIO	DIFF	MRATIO	RAF	Adjustment	Volume	count year	count data	delta	opening year	design yr	opening yr	design year	opening yr	design year	opening yr	design year		
(east leg)	Home Road	0.5	2	Dis	2016	13408	6609	6610	6618	10327	13424	13416	13424	13420	13420	13420	13416	13416	1.001	1.001				
(north leg)	Kroger	0.5	2	Dis	2016	1286	2008	2016	2063	3219	1316	1333	1316	1325	RAF	1325			0	1325	1325	1.030	1.030	
(west leg)	Home Road	0.5	2	Dis	2016	13171	7265	7264	7256	11323	13156	13163	13156	13160	RAF	13160			0	13160	13160	0.999	0.999	
(south leg)	Grube Street	0.5	2	Dis	2016	2069	3337	3337	3027	4723	1902	1803	1902	1853	RATIO	1902			0	1902	1902	0.919	0.919	
Total						29934			19183															

There are hidden rows if you want more roads in your intersection/screenline

Year	2012
Model Base	2012
Model Opening (opt)	
Model Forecast	2040
Project Opening	2040
Project Design	2040

There are hidden columns for opening year model results if you have them

Optional Capacity Adjuster
Use this for screenlines, not intersection approaches

Capacity	opening yr	design yr	opening yr	design yr	opening yr	design yr
	-13416	-13416	13416	13416	1.001	1.001
	-1325	-1325	1325	1325	1.030	1.030
	-13160	-13160	13160	13160	0.999	0.999
	-1902	-1902	1902	1902	0.919	0.919
0	0	0				
	-29803	-29803				

General Notes

General rule: if MR<1 then if RATIO <= 1.0 then use RAT COLUM

OR if RATIO >= 2 then use DIFF else use Raf, if MR>1 then if RATIO <=0.5 then use MRATIO, OR if RATIO >=2 then use DIFF, else use Raf/based on MRATIO

Which you can change if it makes sense, make both of columns 2-3 very large to force ratios, make them 0 to force differences

Make sure model opening year (if used) is greater existing and less than forecast

EXCEPT...

If you want to use a base year build run to establish trends, set AI-ON=Ab

set model open year=base year=count year

Place build run in AI-OB

Do not use cols 14-15 in this case

Field Definitions

FIELD	DEFINITION
1	Road/Link
2	Min Diff
3	Max Rat
3.5	Use SL
4	COUNT year
4	COUNT
6	Ab
7	Ab ^{interpolate}
7.1	R
7.2	D
7.3	MR
7.4	SLR
8	Af
8.5	SLRATIO
9	RATIO
10	DIFF
10.5	MRATIO
11	RAF
12	Selected Adjustme
13	Selected Volume
14	most recent cou
15	most recent cou
16	cent Count Del
17	opening year
18	design year
19	growth factorop
20	growth factorde

Screenline Ratio (COUNT/Ab)

future year traffic assignment - Af-D= (near) design yr model run, AI-ON=optional (near) opening year no build model run, AI-OB=optional (near) opening year build model run

adjusted future year traffic forecast (COUNT/Ab) * Af

adjusted future year traffic forecast (COUNT/Ab) * Af

adjusted future year traffic forecast COUNT - Ab + Af

adjusted future year traffic forecast modified "ratio method" to weight towards DIFF method for large model increases: if MR<1 = RATIO else = ((MR-1)*DIFF + RATIO)/MR

adjusted future year traffic forecast (AVERAGE(RATIO, DIFF))

Selects the type of future year adjustment based on the ratio of actual base year traffic count to interpolated base year traffic assignment

general rule: if MR<1 then if RATIO <= 1.0 then use RATIO, OR if RATIO >= 2 then use DIFF else use Raf, if MR>1 then if RATIO <=0.5 then use MRATIO, OR if RATIO >=2 then use DIFF, i

The selected adjusted forecast year model volume

year of the actual base year traffic count

actual base year traffic count

base year traffic assignment - user to input year

interpolation between base and future year assignment - used when year of count data differs from base year assignment, will use open-nobuild to base interp if open nobuild exists, otherwise will use design to base interp

Calculated Ratio (COUNT/Ab)

Calculated Difference (COUNT-Ab)

Model Ratio (Af/D)

Screenline Ratio (COUNT/Ab)

future year traffic assignment - Af-D= (near) design yr model run, AI-ON=optional (near) opening year no build model run, AI-OB=optional (near) opening year build model run

adjusted future year traffic forecast (COUNT/Ab) * Af

adjusted future year traffic forecast (COUNT/Ab) * Af

adjusted future year traffic forecast COUNT - Ab + Af

adjusted future year traffic forecast modified "ratio method" to weight towards DIFF method for large model increases: if MR<1 = RATIO else = ((MR-1)*DIFF + RATIO)/MR

adjusted future year traffic forecast (AVERAGE(RATIO, DIFF))

Selects the type of future year adjustment based on the ratio of actual base year traffic count to interpolated base year traffic assignment

general rule: if MR<1 then if RATIO <= 1.0 then use RATIO, OR if RATIO >= 2 then use DIFF else use Raf, if MR>1 then if RATIO <=0.5 then use MRATIO, OR if RATIO >=2 then use DIFF, i

The selected adjusted forecast year model volume

year of the most recently available actual count data (should be <Yc, if Yc=Yb generally won't use)

most recently available actual count data for the facility

Forecast adjustment based on difference of more recent count from interpolation resulting from base count and first forecast yr

final refined forecast for the opening year - user to input year

final refined forecast for the design year - user to input year

growth factor to apply to most recent count to obtain opening year (SET to 1.0 if no count given)

growth factor to apply to most recent count to obtain design year (SET to 1.0 if no count given)

Columns 8-13 repeated for open year build and nobuild (hidden)

If you have a new link it will get a growth rate of 1.1

To get forecast turn movements for new links you must enter the model turns in section 2 of the turn movement sheets

A value of zero in a field usually means zero, leave fields blank if you want them ignored. If link doesn't exist in base, counts=Ab=blank. If link doesn't exist in build make zero, not blank in this case (AI-OB actually controls this)

There is no guarantee a forecast volume of zero will be respected as zero by the 255 adjustments

If you have an existing intersection link that wasn't in the mode enter its counts in the appropriate places here and on the TM sheets. You will need to over-ride columns 9-20 of this sheet with an exogenously supplied growth rate

If you have a new intersection on an existing road you can enter the main line counts/model volumes (Ab and AI-ON here and on the TM sheets (as Thru movements) and then the full set of volumes/turns for AI-OB and AI-C. You may want to disable screenlines in this case

Four Interpolation Cases

1. Have base count and open yr model run and interp. year= model open yr THUS interpolate bwn base count and adj open yr model run except for open yr= model open yr which uses case 2.
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3. (standard) Have base count and NO open yr model run THUS interpolate bwn count and adj design yr model run
4. Have no base count THUS interpolate calculate growth from Unadj base and design yr model runs and apply growth rate to number of years different from model design

Screenline Options (see field 3.5 description)

- Enable
- Disable
- Force

INTERSECTION: Home Road and Grube Street

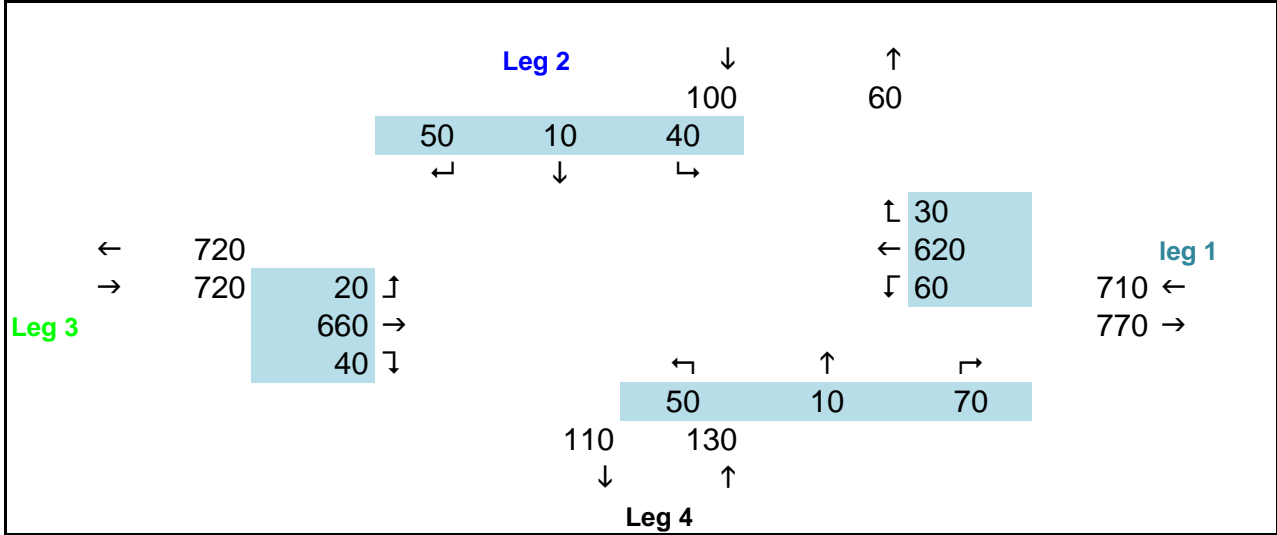
P.M. peak hour 3:30 PM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	"K"	D	T24	P.M. TD	CHOSEN PM K*	dhv factor*	link growth	
				existing	existing	existing	existing			open	design
Home Road	E LEG	13408	0	0.090	0.521	0.000	0.000	0.110	1.23	1.001	1.001
Kroger	N LEG	1286	0	0.093	0.675	0.000	0.000	0.115	1.23	1.030	1.030
Home Road	W LEG	13171	0	0.089	0.502	0.000	0.000	0.110	1.23	0.999	0.999
Grube Street	S LEG	2069	0	0.099	0.529	0.000	0.000	0.121	1.23	0.919	0.919

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Home Road	0.00%
Home Road and Grube Street	N LEG	Leg 2	Kroger	-1.00%
P.M. peak hour	W LEG	Leg 3	Home Road	0.00%
3:30 PM	S LEG	Leg 4	Grube Street	1.00%



INTERSECTION: Home Road and Grube Street

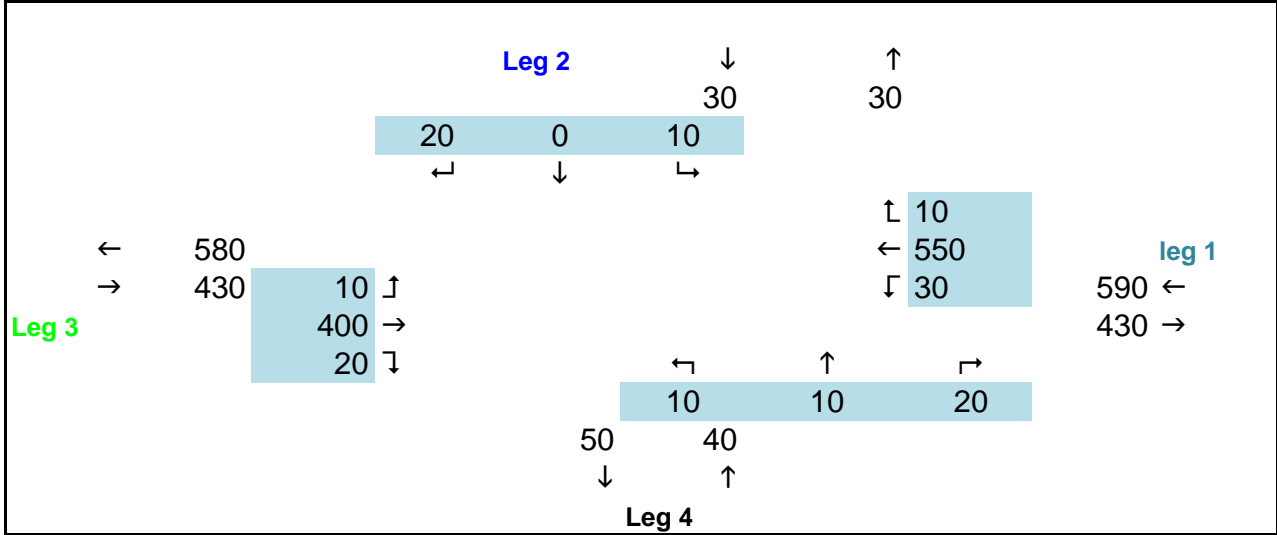
A.M. peak hour 7:30 AM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	existing "K"	existing D	existing T24	existing P.M. TD	CHOSEN PM K*	dhv factor*	link growth open	link growth design
Home Road	E LEG	13408	0	0.062	0.583	0.000	0.000	0.11	1.230	1.001	1.001
Kroger	N LEG	1286	0	0.029	0.622	0.000	0.000	0.11	1.230	1.030	1.030
Home Road	W LEG	13171	0	0.062	0.574	0.000	0.000	0.11	1.230	0.999	0.999
Grube Street	S LEG	2069	0	0.035	0.681	0.000	0.000	0.12	1.230	0.919	0.919

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Home Road	0.00%
Home Road and Grube Street	N LEG	Leg 2	Kroger	-1.00%
A.M. peak hour	W LEG	Leg 3	Home Road	0.00%
7:30 AM	S LEG	Leg 4	Grube Street	0.00%



USER INPUT

OPTIONAL INPUT

FINAL REFINED FORECAST

											NCHRP255 adjustment process					Interpolate opening & design year & adjust for more recent count							
COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL			
1	2	3	4	5	6	7	8	8.5	9	10	10.5	11	12	13	14	15	16	17	18	19	20		
near base model											2012	2040		Selected	Selected	most recent	most recent	recent count	2040	2040	growth factors		
Road/Link	in	Dix	Rse	S	count year	count data	Ab	Ab ^{interpolate}	AI-D	SLRATIO	RATIO	DIFF	MRATIO	RAI	Adjustment	Volume	count year	count data	delta	opening year	design yr	opening yr	design year
(east leg)	Home Road	0.5	2	Dis	2016	15640	7469	7478	7535	16433	15759	15697	15759	15728	DIFF	15697			0	15697	15697	1.004	1.004
(north leg)		0.5	2	Dis			0	0	0	0	0	0	0	0	NONE	0			0	#DIV/0!	#DIV/0!	1.000	1.000
(west leg)	Home Road	0.5	2	Dis	2016	14258	6239	6253	6334	13814	14443	14339	14442	14391	DIFF	14339			0	14339	14339	1.006	1.006
(south leg)	N High School Place	0.5	2	Dis	2016	3225	1460	1457	1439	3138	3185	3207	3185	3196	DIFF	3207			0	3207	3207	0.994	0.994
Total							33123		15188														

Optional Capacity Adjuster

Use this for screenlines, not intersection approaches

Capacity	opening yr	design yr	opening yr	design yr	opening yr	design yr
delta	revised volume	growth factors				
	-15697	-15697	15697	15697	1.004	1.004
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.000	1.000
	-14339	-14339	14339	14339	1.006	1.006
	-3207	-3207	3207	3207	0.994	0.994
0	0	0	0	0	-33243	-33243

There are hidden rows if you want more roads in your intersection/screenline

There are hidden columns for opening year model results if you have them

Year **2012**

Model Base **2012**

Model Opening (opt) **2040** if Yc=Yb then also must = Yc (col4)

Model Forecast **2040** must be > Yb

Project Opening **2040**

Project Design **2040**

General Notes

General rule: if MR<1 then if RATIO <= 1.0 then use RAT COLUM

OR if RATIO >= 2 then use DIFF else use Raf

if MR>1 then if RATIO <= 0.5 then use MRATIO, OR

if RATIO >= 2 then use DIFF, else use Raf (based on MRATIO)

Which you can change if it makes sense,

make both of columns 2-3 very large to force ratios,

make them 0 to force differences

Make sure model opening year (if used)

is greater existing and less than forecast

EXCEPT...

If you want to use a base year build run

to establish trends, set AI-ON=Ab

set model open year=base year=count year

Place build run in AI-OB

Do not use cols 14-15 in this case

If you have a non-model forecast you

want to enter to interpolate and calculate

growth rate, put it in column 8 (AI) then copy

column 5 to column 6 and set model base

to count year (Type toggle does this for you on TM sheet)

Design year no build is a separate alternative

create a new sheet for i

You can omit open year model, have just an

open year no build or both no build and

build, but don't have a build without

a no build unless it's a new link.

If you have a new link it will get a growth rate of 1.1

To get forecast turn movements for new links you must

enter the model turns in section 2 of the turn movement sheets

A value of zero in a field usually means zero, leave fields blank if you want them

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If you have an existing intersection link that wasn't in the mode

enter its counts in the appropriate places here and on the

TM sheets. You will need to over-ride columns (9-20

of this sheet with an exogenously supplied growth rate

If you have a new intersection on an existing road you can

enter the main line counts/model volumes (Ab and AI-ON

here and on the TM sheets (as Thru movements) and then

the full set of volumes/turns for AI-OB and AI-C

You may want to disable screenlines in this case

Four Interpolation Cases

1. Have base count and open yr model run and interp year= model open yr THUS interpolate btwn base count and adj open yr model run except for open yr= model open yr which uses case

2. Have open yr model run and interp yr= open model yr (or interpolating any opening year) THUS interpolate btwn adj open yr and adj design yr model run

3. (standard) Have base count and NO open yr model run THUS interpolate btwn count and adj design yr model run

4. Have no base count THUS interpolate calculate growth from Unadj base and design yr model runs and apply growth rate to number of years different from model design

Screenline Options (see field 3.5 description)

Enable

Disable

Force

Field	DEFINITION
1	Road/Link The name/route number of each facility bisected by the screenline and/or the link (node) numbers from the network.
2	Min Diff Minimum Count/Model Ratio for using differences, below this use ratios alone
3	Max Rat Maximum Count/Model Ratio for using ratios, above this use differences alone
3.5	Use SL Set to "Enable" to allow use of screen line adjustments for this leg if no count available, set to "Disable" to disable giving no adjustment of model result, set to "Force" to force SL adjustment
4	COUNT year year of the actual base year traffic count
5	COUNT actual base year traffic count
6	Ab base year traffic assignment - user to input year.
7	Ab ^{interpolate} interpolation between base and future year assignment - used when year of count data differs from base year assignment, will use open-nobuild to base interp if open nobuild exists, otherwise will use design to base interp
7.1	R Calculated Ratio (COUNT/Ab)
7.2	D Calculated Difference (COUNT-Ab)
7.3	MR Model Ratio (AI-D/Ab)
7.4	SLR Screenline Ratio (DCOUNT/Ab)
8	AI future year traffic assignment - AI-D= (near) design yr model run, AI-ON=optional (near) opening year no build model run, AI-OB=optional (near) opening year build model run
8.5	SLRATIO adjusted future year traffic forecast (COUNT/Ab) * AI
9	RATIO adjusted future year traffic forecast (COUNT/Ab) * Af
10	DIFF adjusted future year traffic forecast COUNT - Ab + Af
10.5	MRATIO adjusted future year traffic forecast modified "ratio method" to weight towards DIFF method for large model increases: if MR<1 = RATIO else = ((MR-1)*DIFF + RATIO)/MR
11	RAI adjusted future year traffic forecast (AVERAGE(RATIO, DIFF))
12	Selected Adjustme Selects the type of future year adjustment based on the ratio of actual base year traffic count to interpolated base year traffic assignment general rule: if MR<1 then if RATIO <= 1.0 then use RATIO, OR if RATIO >= 2 then use DIFF else use Raf, if MR>1 then if RATIO <= 0.5 then use MRATIO, OR if RATIO >= 2 then use DIFF, if
13	Selected Volume The selected adjusted forecast year model volume
14	most recent cou year of the most recently available actual count data (should be <Yc, if Yc=Yb generally won't use)
15	most recent cou most recently available actual count data for the facility
16	Recent Count Del Forecast adjustment based on difference of more recent count from interpolation resulting from base count and first forecast yr
17	opening year final refined forecast for the opening year - user to input yea
18	design year final refined forecast for the design year - user to input yea
19	growth factor growth factor to apply to most recent count to obtain opening year (SET to 1.0 if no count given)
20	growth factor design growth factor to apply to most recent count to obtain design year (SET to 1.0 if no count given)

Columns 8-13 repeated for open year build and nobuild (hidden)

INTERSECTION: Home Road and N High School Place

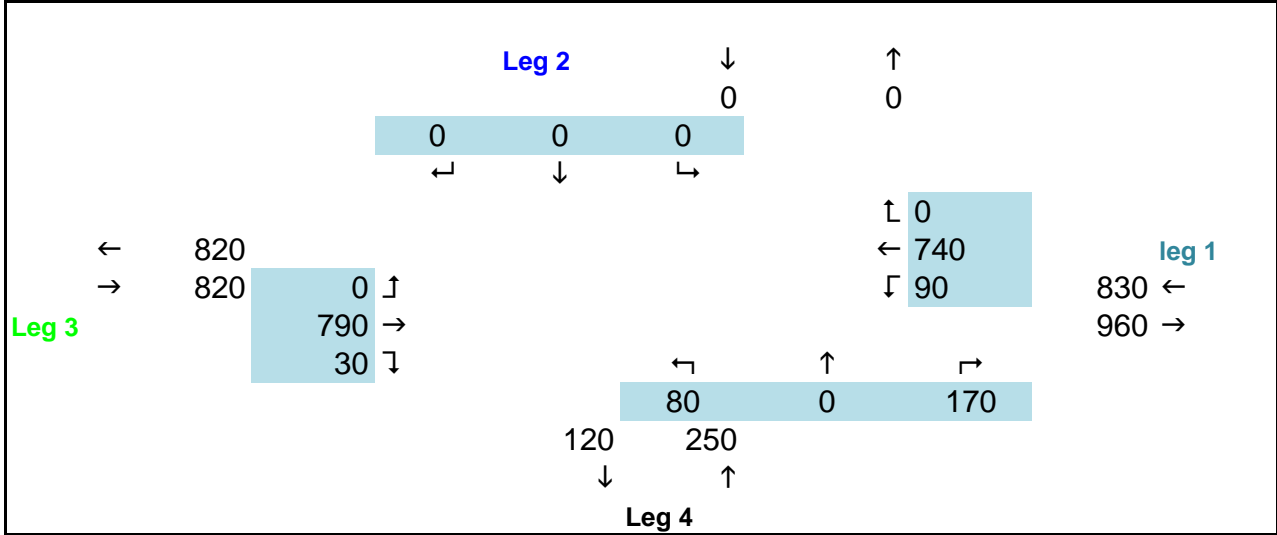
P.M. peak hour 3:30 PM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	existing "K"	existing D	existing T24	existing P.M. TD	CHOSEN PM K*	dhv factor*	link growth open	link growth design
Home Road	E LEG	15640	0	0.092	0.538	0.000	0.000	0.113	1.23	1.004	1.004
0.000	N LEG	0	0	1.000	#DIV/0!	#DIV/0!	#DIV/0!		0.00	1.000	1.000
Home Road	W LEG	14258	0	0.092	0.501	0.000	0.000	0.114	1.23	1.006	1.006
N High School	S LEG	3225	0	0.091	0.688	0.000	0.000	0.111	1.23	0.994	0.994

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Home Road	0.00%
Home Road and N High School	N LEG	Leg 2	0	0.00%
P.M. peak hour	W LEG	Leg 3	Home Road	0.00%
3:30 PM	S LEG	Leg 4	N High School	0.00%



INTERSECTION: Home Road and N High School Place

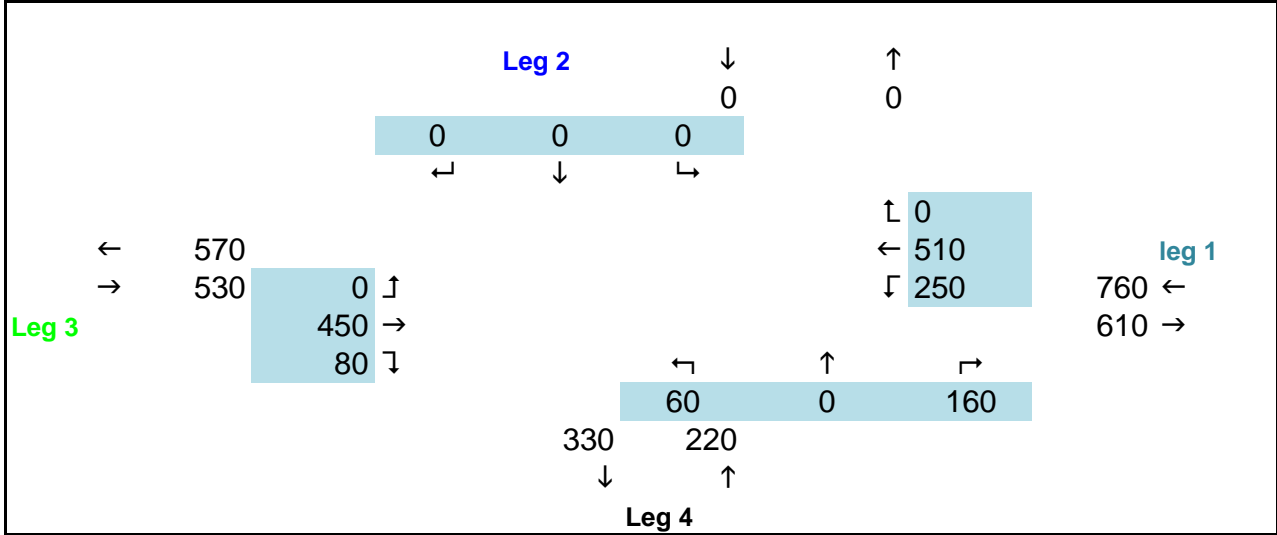
A.M. peak hour 7:30 AM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	existing "K"	existing D	existing T24	existing P.M. TD	CHOSEN PM K*	dhv factor*	link growth open	link growth design
Home Road	E LEG	15640	0	0.071	0.551	0.000	0.000	0.11	1.230	1.004	1.004
	0.000 N LEG	0	0	1.000	#DIV/0!	#DIV/0!	#DIV/0!	0.00	0.000	1.000	1.000
Home Road	W LEG	14258	0	0.062	0.512	0.000	0.000	0.11	1.230	1.006	1.006
N High School	S LEG	3225	0	0.139	0.602	0.000	0.000	0.11	1.230	0.994	0.994

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Home Road	0.00%
Home Road and N High School	N LEG	Leg 2	0	0.00%
A.M. peak hour	W LEG	Leg 3	Home Road	0.00%
7:30 AM	S LEG	Leg 4	N High School	0.00%



USER INPUT

OPTIONAL INPUT

FINAL REFINED FORECAST

		NCHRP255 adjustment process											Interpolate opening & design year & adjust for more recent count												
		COL 1	COL 2	COL 3	COL 4	COL 5	COL 6	COL 7	COL 8	COL 8.5	COL 9	COL 10	COL 10.5	COL 11	COL 12	COL 13	COL 14	COL 15	COL 16	COL 17	COL 18	COL 19	COL 20		
		near base model				2012											2040								
		delta	revised volume	growth factors	delta	revised volume	growth factors	delta	revised volume	growth factors	delta	revised volume	growth factors	delta	revised volume	growth factors	delta	revised volume	growth factors	delta	revised volume	growth factors	delta	revised volume	growth factors
		opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr
		design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year
(east leg)	RoadLink	in	Dix	Rse	S	count year	count data	Ab	Ab ^{interpolate}	Af-D	SLRATIO	RATIO	DIFF	MRATIO	RAf	Adjustment	Volume	count year	count data	delta	opening year	design yr	opening yr	design year	
	Home Road	0.5	2	Dis	2016	15096	7715	7734	7845	15785	15313	15207	15312	15260	RAf	15260	0	15260	15260	1.011	1.011				
(north leg)	Northmoor Drive	0.5	2	Dis	2016	1273	632	640	690	1388	1372	1323	1368	1346	RAf	1346	0	1346	1346	1.057	1.057				
(west leg)	Home Road	0.5	2	Dis	2016	15526	7469	7478	7535	15161	15644	15583	15644	15614	DIFF	15583	0	15583	15583	1.004	1.004				
(south leg)		0.5	2	Disable			0			0	0	0	0	0	NONE	0		0	#DIV/0!	#DIV/0!	1.000	1.000			
Total							31895	15852																	

Optional Capacity Adjuster
Use this for screenlines, not intersection approaches

Capacity	opening yr	design year	opening yr	design year	opening yr	design year	opening yr	design year
	-15260	-15260	15260	15260	1.011	1.011		
	-1346	-1346	1346	1346	1.057	1.057		
	-15583	-15583	15583	15583	1.004	1.004		
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.000	1.000		
0	0	0						
	-32189	-32189						

There are hidden rows if you want more roads in your intersection/screenline

There are hidden columns for opening year model results if you have them

Model Base	2012
Model Opening (opt)	
Model Forecast	2040
Project Opening	2040
Project Design	2040

General Notes

- General rule: if MR<1 then if RATIO <= 1.0 then use RAT COLUMNS VARIABLE DEFINITION
- OR if RATIO >= 2 then use DIFF else use Raf, 1 RoadLink The name/route number of each facility bisected by the screenline and/or the link (node) numbers from the network.
 - if MR<1 then if RATIO <= 0.5 then use MRATIO, OR 2 Min Diff Minimum Count/Model Ratio for using differences, below this use ratios alone
 - if RATIO >= 2 then use DIFF, else use Raf/(based on MRAT) 3 Max Rat Maximum Count/Model Ratio for using ratios, above this use differences alone
 - Which you can change if it makes sense, 3.5 Use SL Set to "Enable" to allow use of screen line adjustments for this leg if no count available, set to "Disable" to disable giving no adjustment of model result, set to "Force" to force SL adjustment
 - make both of columns 2-3 very large to force ratios, 4 COUNT year year of the actual base year traffic count
 - make them 0 to force differences 4 COUNT actual base year traffic count
 - 6 Ab base year traffic assignment - user to input year
 - Make sure model opening year (if used) 7 Ab^{interpolate} interpolation between base and future year assignment - used when year of count data differs from base year assignment, will use open-nobuild to base interp if open nobuild exists, otherwise will use design to base interp
 - is greater existing and less than forecast 7.1 R Calculated Ratio (COUNT/Ab)
 - EXCEPT... 7.2 D Calculated Difference (COUNT-Ab)
 - If you want to use a base year build run 7.3 MR Model Ratio (Af/D/Ab)
 - to establish trends, set Af-ON=Ab 7.4 SLR Screenline Ratio (COUNT/Ab)
 - set model open year=base year=count year 8 Af future year traffic assignment - Af-D= (near) design yr model run, Af-ON=optional (near) opening year no build model run, Af-OB=optional (near) opening year build model run
 - Place build run in Af-OB 8.5 SLRATIO adjusted future year traffic forecast (COUNT/Ab) * Af
 - Do not use cols 14-15 in this case 9 RATIO adjusted future year traffic forecast (COUNT/Ab) * Af
 - 10 DIFF adjusted future year traffic forecast COUNT - Ab + Af
 - 10.5 MRATIO adjusted future year traffic forecast modified "ratio method" to weight towards DIFF method for large model increases: if MR<1 = RATIO else = ((MR-1)*DIFF + RATIO)/MR
 - want to enter to interpolate and calculate 11 RAf adjusted future year traffic forecast (AVERAGE(RATIO, DIFF))
 - growth rate, put it in column 8 (Af) then copy 12 Selected Adjustme Selects the type of future year adjustment based on the ratio of actual base year traffic count to interpolated base year traffic assignment general rule: if MR<1 then if RATIO <= 1.0 then use RATIO, OR if RATIO >= 2 then use DIFF else use Raf, if MR>1 then if RATIO <= 0.5 then use MRATIO, OR if RATIO >= 2 then use DIFF, if
 - column 5 to column 6 and set model base to 13 Selected Volume The selected adjusted forecast year model volume
 - count year (Type toggle does this for you on TM sheet 14 most recent cou year of the most recently available actual count data (should be <Yo, if Yo=Yb generally won't use)
 - 15 most recent cou most recently available actual count data for the facility
 - Design year no build is a separate alternative 16 recent Count Del Forecast adjustment based on difference of more recent count from interpolation resulting from base count and first forecast yr
 - create a new sheet for i 17 opening year final refined forecast for the opening year - user to input yea
 - You can omit open year model, have just an open year no build or both no build and build, but don't have a build without a no build unless it's a new link. 18 design year final refined forecast for the design year - user to input yea
 - 19 growth factorop growth factor to apply to most recent count to obtain opening year (SET to 1.0 if no count given)
 - 20 growth factorode growth factor to apply to most recent count to obtain design year (SET to 1.0 if no count given)
- Columns 8-13 repeated for open year build and nobuild (hidden)

If you have a new link it will get a growth rate of 1.1. To get forecast turn movements for new links you must enter the model turns in section 2 of the turn movement sheets

A value of zero in a field usually means zero, leave fields blank if you want them ignored. If link doesn't exist in base, counts=Ab=blank. If link doesn't exist in build make zero, not blank in this case (Af-OB actually controls this)

There is no guarantee a forecast volume of zero will be respected as zero by the 255 adjustments

If you have an existing intersection link that wasn't in the mode enter its counts in the appropriate places here and on the TM sheets. You will need to over-ride columns 9-20 of this sheet with an exogenously supplied growth rate

If you have a new intersection on an existing road you can enter the main line counts/model volumes (Ab and Af-ON here and on the TM sheets (as Thru movements) and then the full set of volumes/turns for Af-OB and Af-C. You may want to disable screenlines in this case

Four Interpolation Cases

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Screenline Options (see field 3.5 description)

- Enable
- Disable
- Force

INTERSECTION: Home Road and Northmoor Drive

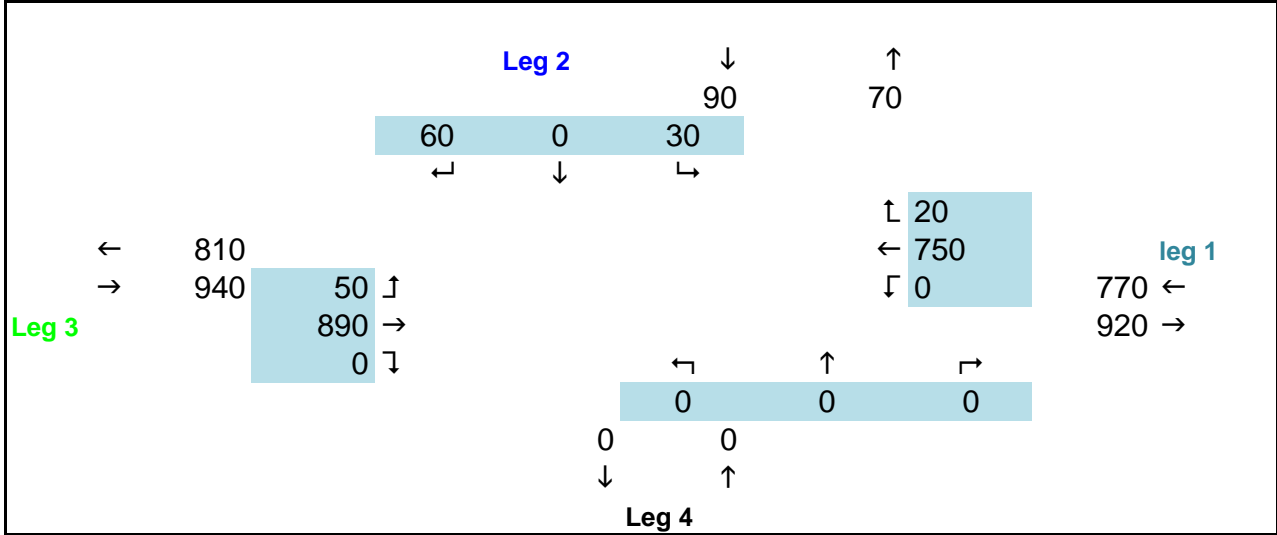
P.M. peak hour 3:30 PM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	existing "K"	existing D	existing T24	existing P.M. TD	CHOSEN PM K*	dhv factor*	link growth open	link growth design
Home Road	E LEG	15096	0	0.090	0.542	0.000	0.000	0.111	1.23	1.011	1.011
Northmoor Drive	N LEG	1273	0	0.095	0.603	0.000	0.000	0.117	1.23	1.057	1.057
Home Road	W LEG	15526	0	0.091	0.532	0.000	0.000	0.112	1.23	1.004	1.004
0.000	S LEG	0	0	1.000	#DIV/0!	#DIV/0!	#DIV/0!		0.00	1.000	1.000

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Home Road	-1.00%
Home Road and Northmoor Drive	N LEG	Leg 2	Northmoor Drive	-1.00%
P.M. peak hour	W LEG	Leg 3	Home Road	1.00%
3:30 PM	S LEG	Leg 4	0	0.00%



INTERSECTION: Home Road and Northmoor Drive

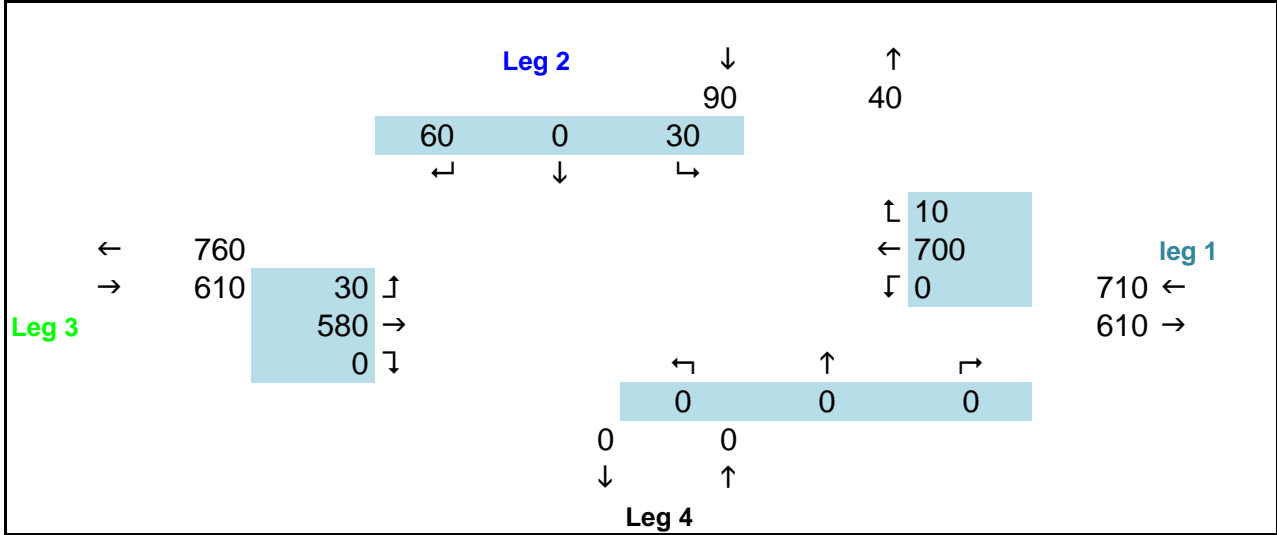
A.M. peak hour 7:30 AM *enter start time of peak hour*

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Home Road	W LEG	15526	0	0.071	0.553	0.000	0.000	0.11	1.230	1.004	1.004
	S LEG	0	0	1.000	#DIV/0!	#DIV/0!	#DIV/0!	0.00	0.000	1.000	1.000

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Home Road	-1.00%
Home Road and Northmoor Drive	N LEG	Leg 2	Northmoor D	-2.00%
A.M. peak hour	W LEG	Leg 3	Home Road	1.00%
7:30 AM	S LEG	Leg 4	0	0.00%



USER INPUT

OPTIONAL INPUT

FINAL REFINED FORECAST

		NCHRP255 adjustment process										Interpolate opening & design year & adjust for more recent count										
		COL 1	COL 2	COL 3	COL 4	COL 5	COL 6	COL 7	COL 8	COL 9	COL 10	COL 11	COL 12	COL 13	COL 14	COL 15	COL 16	COL 17	COL 18	COL 19	COL 20	
		near base model					2012					2040					Selected					
		delta	revised volume	growth factors	delta	revised volume	growth factors	delta	revised volume	growth factors	delta	revised volume	growth factors	delta	revised volume	growth factors	delta	revised volume	growth factors	delta	revised volume	growth factors
		opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr	opening yr
		design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year	design year
(east leg)	Home Road	0.5	2	Dis	2016	13087	9735	9598	8775	12593	11965	12264	11965	12115	RAI	12115		0	12115	12115	0.926	0.926
(north leg)	Derr Road	0.5	2	Dis	2016	12127	10876	10658	9353	13422	10642	10822	10642	10732	RAI	10732		0	10732	10732	0.885	0.885
(west leg)	Home Road	0.5	2	Dis	2016	14661	7511	7530	7641	10965	14877	14772	14875	14824	RAI	14824		0	14824	14824	1.011	1.011
(south leg)	Driveway	0.5	2	Disable						0	0	0	0	0	NONE	0		0	#DIV/0!	#DIV/0!	1.000	1.000
Total							39875					27786										

There are hidden rows if you want more roads in your intersection/screenline

There are hidden columns for opening year model results if you have them

Model Base	2012
Model Opening (opt)	
Model Forecast	2040
Project Opening	2040
Project Design	2040

General Notes

General rule: if MR<1 then if RATIO <= 1.0 then use RAT
 OR if RATIO >= 2 then use DIFF else use Raf,
 if MR>1 then if RATIO <=0.5 then use MRATIO, OR
 if RATIO >=2 then use DIFF, else use Raf/based on MRATIO

Which you can change if it makes sense,
 make both of columns 2-3 very large to force ratios,
 make them 0 to force differences

Make sure model opening year (if used)
 is greater existing and less than forecast
 EXCEPT...

If you want to use a base year build run
 to establish trends, set AI-ON=Ab
 set model open year=base year=count year
 Place build run in AI-OB
 Do not use cols 14-15 in this case

If you have a non-model forecast you
 want to enter to interpolate and calculate
 growth rate, put it in column 8 (Af) then copy
 column 5 to column 6 and set model base
 to count year (Type toggle does this for you on TM sheet

Design year no build is a separate alternative
 create a new sheet for i

You can omit open year model, have just an
 open year no build or both no build and
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 a no build unless it's a new link.

Field	DEFINITION
1	Road/Link The name/route number of each facility bisected by the screenline and/or the link (node) numbers from the network.
2	Min Diff Minimum Count/Model Ratio for using differences, below this use ratios alone
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If you have a new link it will get a growth rate of 1.1
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Four Interpolation Cases

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4. Have no base count THUS interpolate calculate growth from Unadj base and design yr model runs and apply growth rate to number of years different from model design

Screenline Options (see field 3.5 description)

- Enable
- Disable
- Force

Optional Capacity Adjuster
 Use this for screenlines, not intersection approaches

Capacity	opening yr	design yr	opening yr	design yr	opening yr	design yr
	-12115	-12115	12115	12115	0.926	0.926
	-10732	-10732	10732	10732	0.885	0.885
	-14824	-14824	14824	14824	1.011	1.011
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.000	1.000
0	0	0	0	0	-37671	-37671

INTERSECTION: Home Road and Derr Road

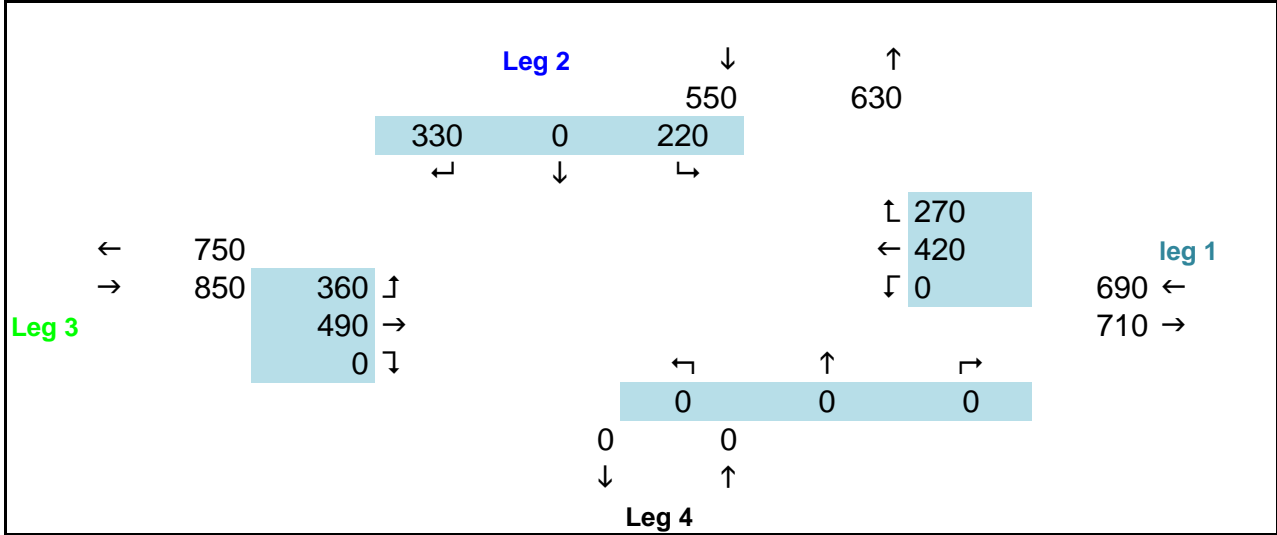
P.M. peak hour 3:30 PM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	"K"	D	T24	P.M. TD	CHOSEN PM K*	dhv factor*	link growth	
				existing	existing	existing	existing			open	design
Home Road	E LEG	13087	0	0.094	0.506	0.000	0.000	0.116	1.23	0.926	0.926
Derr Road	N LEG	12127	0	0.090	0.534	0.000	0.000	0.110	1.23	0.885	0.885
Home Road	W LEG	14661	0	0.088	0.534	0.000	0.000	0.108	1.23	1.011	1.011
Driveway	S LEG	0	0	1.000	#DIV/0!	#DIV/0!	#DIV/0!	0.000		1.000	1.000

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Home Road	0.00%
Home Road and Derr Road	N LEG	Leg 2	Derr Road	-1.00%
P.M. peak hour	W LEG	Leg 3	Home Road	-1.00%
3:30 PM	S LEG	Leg 4	Driveway	0.00%



INTERSECTION: Home Road and Derr Road

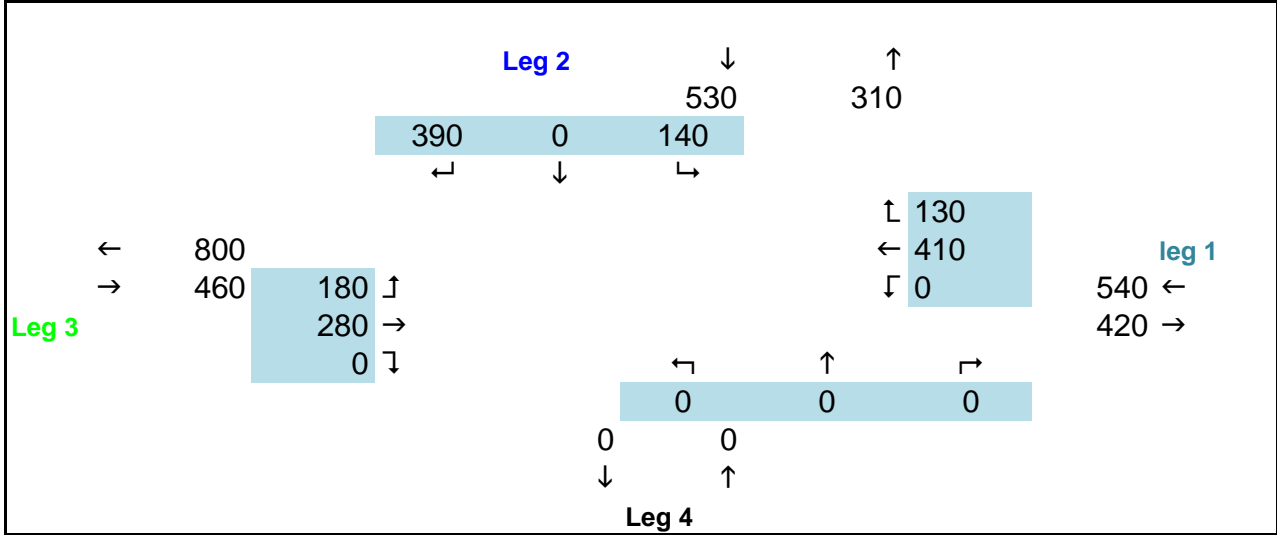
A.M. peak hour 7:30 AM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	existing "K"	existing D	existing T24	existing P.M. TD	CHOSEN PM K*	dhv factor*	link growth open	link growth design
Home Road	E LEG	13087	0	0.063	0.553	0.000	0.000	0.12	1.230	0.926	0.926
Derr Road	N LEG	12127	0	0.063	0.625	0.000	0.000	0.11	1.230	0.885	0.885
Home Road	W LEG	14661	0	0.069	0.639	0.000	0.000	0.11	1.230	1.011	1.011
Driveway	S LEG	0	0	1.000	#DIV/0!	#DIV/0!	#DIV/0!	0.00	0.000	1.000	1.000

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Home Road	3.00%
Home Road and Derr Road	N LEG	Leg 2	Derr Road	3.00%
A.M. peak hour	W LEG	Leg 3	Home Road	2.00%
7:30 AM	S LEG	Leg 4	Driveway	0.00%



USER INPUT

OPTIONAL INPUT

FINAL REFINED FORECAST

		COL 1	COL 2	COL 3	COL 4	COL 5	COL 6	COL 7	COL 8	COL 8.5	COL 9	COL 10	COL 10.5	COL 11	COL 12	COL 13	COL 14	COL 15	COL 16	COL 17	COL 18	COL 19	COL 20	
		NCHRP255 adjustment process										Interpolate opening & design year & adjust for more recent count												
		near base model										delta												
		2012	2040		2040		2040		2040		2040		2040		2040		2040		2040		2040		2040	
		Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	Ab	Ab ^{interpolate}	
		SLRATIO	RATIO	DIFF	MRATIO	RAI	DIFF	Volume	count year	count data	delta	opening year	design yr	opening yr	design year	opening yr	design year	opening yr	design year	opening yr	design year	opening yr	design year	
(east leg)	Home Road	0.5	2	Dis	2016	5757		2325	3378	9901	8364	6810	7880	7345	DIFF	6810		0	6810	6810	1.183	1.183		
(north leg)		0.5	2	Dis			0	0	0	0	0	0	0	0	NONE	0		0	#DIV/0!	#DIV/0!	1.000	1.000		
(west leg)	Home Road	0.5	2	Dis	2016	11103	3974	3949	3801	11141	10687	10955	10687	10821	DIFF	10955		0	10955	10955	0.987	0.987		
(south leg)	Belmont Avenue	0.5	2	Dis	2016	6799	1997	1798	607	1779	2295	5608	2295	3952	DIFF	5608		0	5608	5608	0.825	0.825		
Total							23659						8072											

There are hidden rows if you want more roads in your intersection/screenline

There are hidden columns for opening year model results if you have them

Year	2012
Model Base	2012
Model Opening (opt)	
Model Forecast	2040
Project Opening	2040
Project Design	2040

if Yc=Yb then also must = Yc (col4) must be > Yb

Field Definitions

General rule: if MR<1 then if RATIO <= 1.0 then use RAT

OR if RATIO >= 2 then use DIFF else use Raf

if MR>1 then if RATIO <=0.5 then use MRATIO, OR

if RATIO >=2 then use DIFF, else use Raf/based on MRATIO

Which you can change if it makes sense,

make both of columns 2-3 very large to force ratios,

make them 0 to force differences

Make sure model opening year (if used)

is greater existing and less than forecast

EXCEPT...

If you want to use a base year build run

to establish trends, set AI-ON=Ab

set model open year=base year=count year

Place build run in AI-OB

Do not use cols 14-15 in this case

If you have a non-model forecast you

want to enter to interpolate and calculate

growth rate, put it in column 8 (Af) then copy

column 5 to column 6 and set model base

to count year (Type toggle does this for you on TM sheet

Design year no build is a separate alternative

create a new sheet for i

You can omit open year model, have just an

open year no build or both no build and

build, but don't have a build without

a no build unless it's a new link.

If you have a new link it will get a growth rate of 1.1

To get forecast turn movements for new links you must

enter the model turns in section 2 of the turn movement sheets

A value of zero in a field usually means zero, leave fields blank if you want them

ignored. If link doesn't exist in base, counts=Ab=blank. If link doesn't exist in build

make zero, not blank in this case (AI-OB actually controls this)

There is no guarantee a forecast volume of zero will

be respected as zero by the 255 adjustments

If you have an existing intersection link that wasn't in the mode

enter its counts in the appropriate places here and on the

TM sheets. You will need to over-ride columns 9-20

of this sheet with an exogenously supplied growth rate

If you have a new intersection on an existing road you can

enter the main line counts/model volumes (Ab and AI-ON

here and on the TM sheets (as Thru movements) and then

the full set of volumes/turns for AI-OB and AI-C

You may want to disable screenlines in this case

Four Interpolation Cases

1. Have base count and open yr model run and interp year= model open yr THUS interpolate bwn base count and adj open yr model run except for open yr= model open yr which uses case

2. Have open yr model run and interp yr= open model yr (or interpolating any opening year) THUS interpolate bwn adj open yr and adj design yr model run

3. (standard) Have base count and NO open yr model run THUS interpolate bwn count and adj design yr model run

4. Have no base count THUS interpolate calculate growth from Unadj base and design yr model runs and apply growth rate to number of years different from model design

Screenline Options (see field 3.5 description)

Enable

Disable

Force

Optional Capacity Adjuster

Use this for screenlines, not intersection approaches

delta revised volume growth factors

Capacity	opening yr	design yr	opening yr	design yr	opening yr	design yr
	-6810	-6810	6810	6810	1.183	1.183
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.000	1.000
	-10955	-10955	10955	10955	0.987	0.987
	-5608	-5608	5608	5608	0.825	0.825
0	0	0	0	0	-23373	-23373

INTERSECTION: Home Road and Belmont Avenue

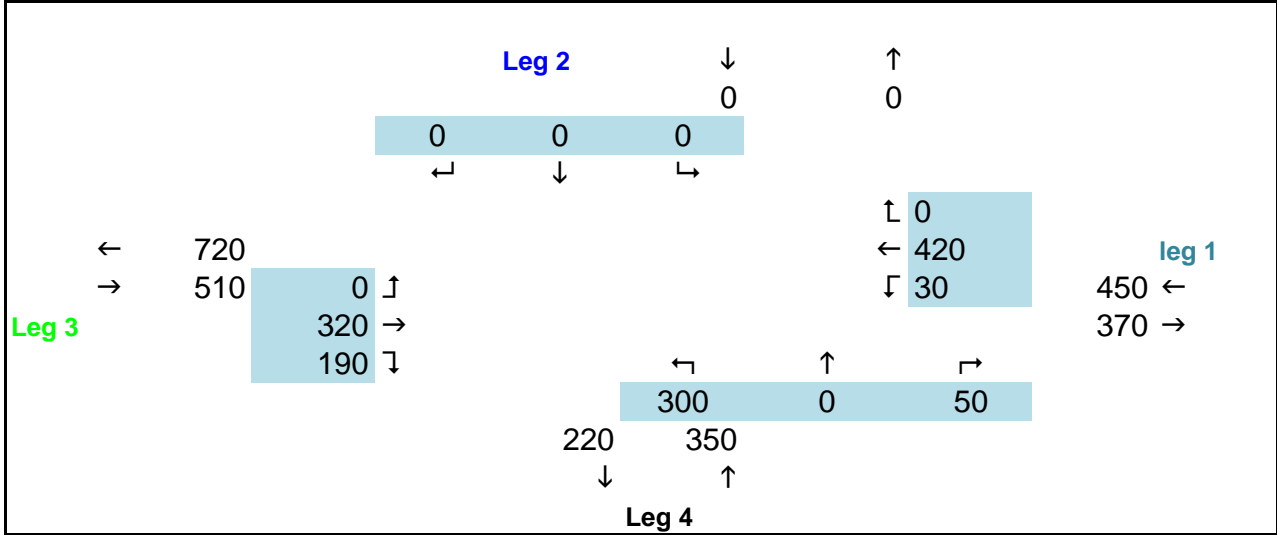
P.M. peak hour 3:30 PM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	"K"	D	T24	P.M. TD	CHOSEN PM K*	dhv factor*	link growth	
										open	design
Home Road	E LEG	5757	0	0.098	0.553	0.000	0.000	0.120	1.23	1.183	1.183
	0.000 N LEG	0	0	1.000	#DIV/0!	#DIV/0!	#DIV/0!			1.000	1.000
Home Road	W LEG	11103	0	0.090	0.590	0.000	0.000	0.111	1.23	0.987	0.987
Belmont Avenue	S LEG	6799	0	0.081	0.608	0.000	0.000	0.100	1.23	0.825	0.825

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Home Road	0.00%
Home Road and Belmont Avenue	N LEG	Leg 2	0	0.00%
P.M. peak hour	W LEG	Leg 3	Home Road	2.00%
3:30 PM	S LEG	Leg 4	Belmont Ave	0.00%



INTERSECTION: Home Road and Belmont Avenue

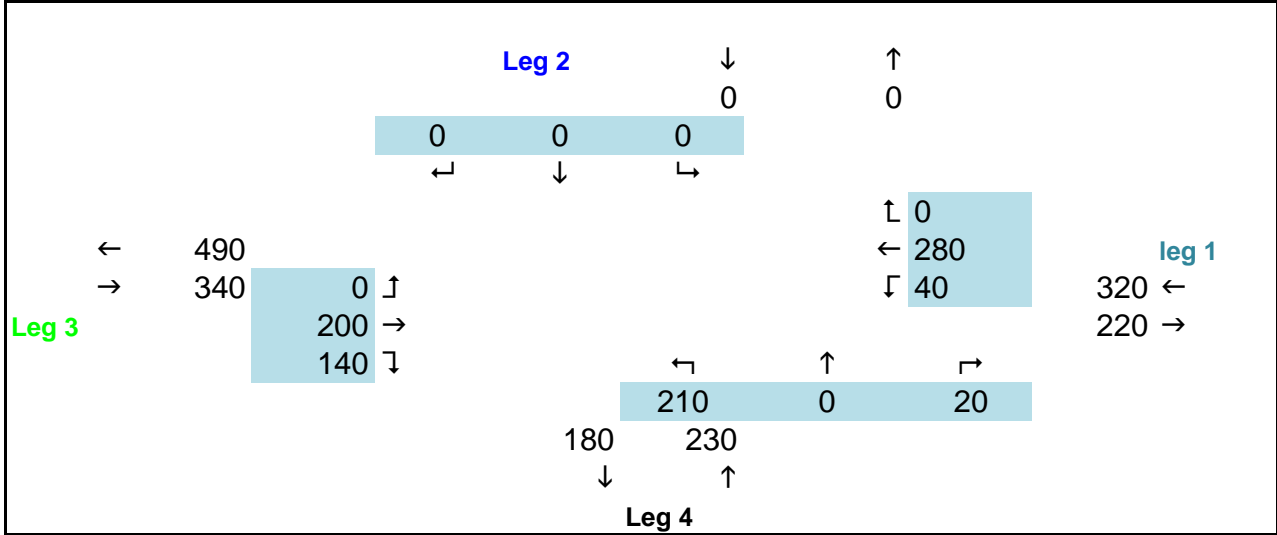
A.M. peak hour 7:30 AM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	existing "K"	existing D	existing T24	existing P.M. TD	CHOSEN PM K*	dhv factor*	link growth	
										open	design
Home Road	E LEG	5757	0	0.064	0.605	0.000	0.000	0.12	1.230	1.183	1.183
	0.000 N LEG	0	0	1.000	#DIV/0!	#DIV/0!	#DIV/0!	0.00	0.000	1.000	1.000
Home Road	W LEG	11103	0	0.061	0.598	0.000	0.000	0.11	1.230	0.987	0.987
Belmont Avenue	S LEG	6799	0	0.058	0.571	0.000	0.000	0.10	1.230	0.825	0.825

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Home Road	-1.00%
Home Road and Belmont Avenue	N LEG	Leg 2	0	0.00%
A.M. peak hour	W LEG	Leg 3	Home Road	0.00%
7:30 AM	S LEG	Leg 4	Belmont Ave	-1.00%



USER INPUT

OPTIONAL INPUT

FINAL REFINED FORECAST

Table with columns for COL 1-20, ROADLINK, lin, dia, rise, count year, count data, Ab, Ab^interpolate, A-F, SLRATIO, RATIO, DIFF, MRATIO, RAF, Adjustment, Volume, count year, count data, delta, opening year, design yr, opening yr, design year. Includes rows for Croft Road, Mechanicsburg Road, Home Road, and Mechanicsburg Road.

There are hidden rows if you want more roads in your intersection/screenline

There are hidden columns for opening year model results if you have them

Form fields for Year (2012), Model Base, Model Opening (opt), Model Forecast (2040), Project Opening (2040), Project Design (2040).

General Notes

General rule: if MR<1 then if RATIO <= 1.0 then use RAT... OR if RATIO >= 2 then use DIFF else use Raf... if MR>1 then if RATIO <= 0.5 then use MRATIO, OR... if RATIO >= 2 then use DIFF, else use Raf... Make sure model opening year (if used) is greater existing and less than forecast EXCEPT... If you want to use a base year build run to establish trends, set AI-ON=Ab... set model open year=base year=count year... Place build run in AI-OB... Do not use cols 14-15 in this case... If you have a non-model forecast you want to enter to interpolate and calculate growth rate, put it in column 8 (Af) then copy column 5 to column 6 and set model base to count year... Design year no build is a separate alternative create a new sheet for i... You can omit open year model, have just an open year no build or both no build and build, but don't have a build without a no build unless it's a new link... Columns 8-13 repeated for open year build and nobuild (hidden)

If you have a new link it will get a growth rate of 1.1. To get forecast turn movements for new links you must enter the model turns in section 2 of the turn movement sheets... A value of zero in a field usually means zero, leave fields blank if you want them ignored... There is no guarantee a forecast volume of zero will be respected as zero by the 255 adjustments... If you have an existing intersection link that wasn't in the mode enter its counts in the appropriate places here and on the TM sheets... If you have a new intersection on an existing road you can enter the main line counts/model volumes (Ab and AI-ON here and on the TM sheets (as Thru movements) and then the full set of volumes/turns for AI-OB and AI-C... You may want to disable screenlines in this case

Four Interpolation Cases

- 1. Have base count and open yr model run and interp. year= model open yr THUS interpolate btwn base count and adj open yr model run except for open yr= model open yr which uses case 2.
2. Have open yr model run and interp yr= open model yr (or interpolating any opening year) THUS interpolate btwn adj open yr and adj design yr model run
3. (standard) Have base count and NO open yr model run THUS interpolate btwn count and adj design yr model run
4. Have no base count THUS interpolate calculate growth from Unadj base and design yr model runs and apply growth rate to number of years different from model design

Screenline Options (see field 3.5 description)

- Enable
Disable
Force

Optional Capacity Adjuster table with columns: Capacity, opening yr, design yr, opening yr, design yr, opening yr, design yr. Includes rows for delta, revised volume, growth factors, and capacity adjustments.

INTERSECTION: Home Road and Mechanicsburg Road

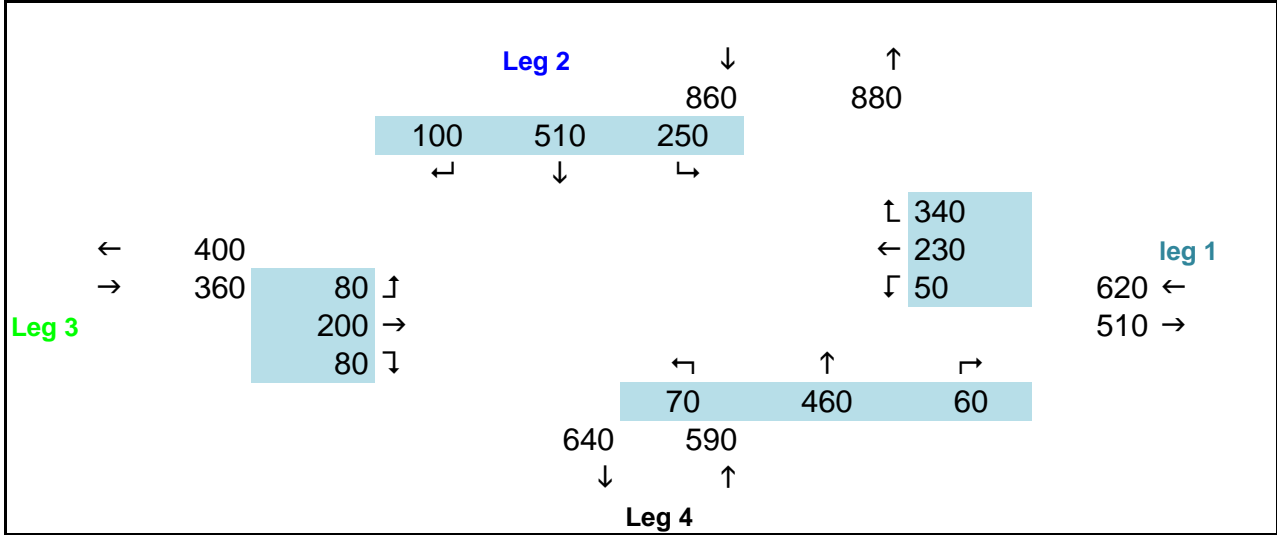
P.M. peak hour 3:30 PM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	existing "K"	existing D	existing T24	existing P.M. TD	CHOSEN PM K*	dhv factor*	link growth open	link growth design
Croft Road	E LEG	8490	0	0.106	0.547	0.000	0.000	0.130	1.23	1.013	1.013
Mechanicsburg	N LEG	10457	0	0.101	0.510	0.000	0.000	0.124	1.23	1.320	1.320
Home Road	W LEG	4933	0	0.100	0.533	0.000	0.000	0.123	1.23	1.216	1.216
Mechanicsburg	S LEG	5701	0	0.100	0.526	0.000	0.000	0.123	1.23	1.738	1.738

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Croft Road	1.00%
Home Road and Mechanicsburg	N LEG	Leg 2	Mechanicsbu	2.00%
P.M. peak hour	W LEG	Leg 3	Home Road	2.00%
3:30 PM	S LEG	Leg 4	Mechanicsbu	2.00%



INTERSECTION: Home Road and Mechanicsburg Road

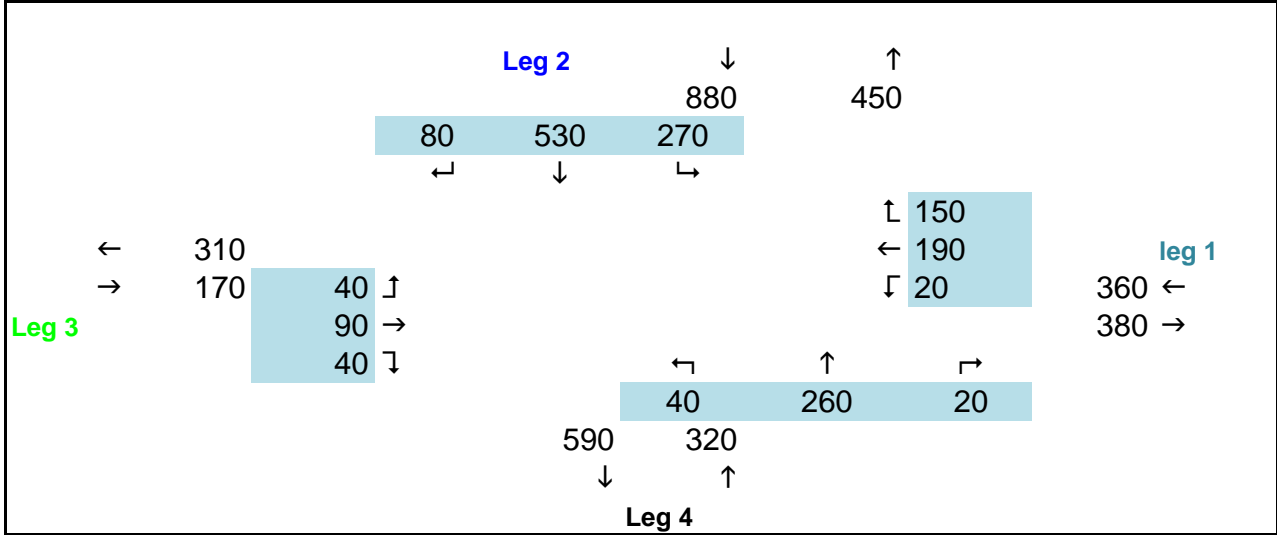
A.M. peak hour 7:30 AM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	existing "K"	existing D	existing T24	existing P.M. TD	CHOSEN PM K*	dhv factor*	link growth open	link growth design
Croft Road	E LEG	8490	0	0.069	0.519	0.000	0.000	0.13	1.230	1.013	1.013
Mechanicsburg	N LEG	10457	0	0.076	0.658	0.000	0.000	0.12	1.230	1.320	1.320
Home Road	W LEG	4933	0	0.063	0.654	0.000	0.000	0.12	1.230	1.216	1.216
Mechanicsburg	S LEG	5701	0	0.075	0.656	0.000	0.000	0.12	1.230	1.738	1.738

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Croft Road	2.00%
Home Road and Mechanicsburg	N LEG	Leg 2	Mechanicsbu	3.00%
A.M. peak hour	W LEG	Leg 3	Home Road	3.00%
7:30 AM	S LEG	Leg 4	Mechanicsbu	2.00%



USER INPUT

OPTIONAL INPUT

FINAL REFINED FORECAST

NCHRP255 adjustment process										Interpolate opening & design year & adjust for more recent count											
COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL		
1	2	3	4	5	6	7	8	8.5	9	10	10.5	11	12	13	14	15	16	17	18		
near base model										delta											
Road/Link	in	Dix	Rse	count year	count data	Ab	Ab ^{interpolate}	AI-D	SLRATIO	RATIO	DIFF	MRATIO	RAI	Adjustment	Volume	count year	count data	delta	opening year		
2012											2040	Selected	Selected	most recent	most recent	recent count	2040	2040	growth factors		
(east leg)	Providence Avenue	0.5	2	Dis	2016	3060	1679	1699	1821	2223	3280	3182	3273	3228	RAI	10845		0	3228		
(north leg)	Derr Road	0.5	2	Dis	2016	11655	9574	9453	8727	10652	10760	10929	10760	10845	RAI	10845		0	10845		
(west leg)		0.5	2	Disable					0	0	0	0	0	NONE	0		0	#DIV/0!	#DIV/0!		
(south leg)	Derr Road	0.5	2	Dis	2016	11454	10496	10287	9034	11027	10059	10201	10059	10130	RAI	10130		0	10130		
Total						26169		21439													

Optional Capacity Adjuster

Use this for screenlines, not intersection approaches

Capacity	opening yr	design yr	opening yr	design yr	opening yr	design yr
	-3228	-3228	3228	3228	1.055	1.055
	-10845	-10845	10845	10845	0.931	0.931
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.000	1.000
	-10130	-10130	10130	10130	0.884	0.884
0	0	0	0	0	0	0
	-24203	-24203				

There are hidden rows if you want more roads in your intersection/screenline

There are hidden columns for opening year model results if you have them

Year

Model Base	2012
Model Opening (opt)	
Model Forecast	2040
Project Opening	2040
Project Design	2040

if Yc=Yo then also must = Yc (col4)

must be > Yb

Field Definitions

General rule: if MR<1 then if RATIO <= 1.0 then use RAT

OR if RATIO >= 2 then use DIFF else use Rat

if MR>1 then if RATIO <=0.5 then use MRATIO, OR

if RATIO >=2 then use DIFF, else use Rat/based on MRAT1

Which you can change if it makes sense,

make both of columns 2-3 very large to force ratios,

make them 0 to force differences

Make sure model opening year (if used)

is greater existing and less than forecast

EXCEPT...

If you want to use a base year build run

to establish trends, set AI-ON=Ab

set model open year=base year=count year

Place build run in AI-OB

Do not use cols 14-15 in this case

If you have a non-model forecast you

want to enter to interpolate and calculate

growth rate, put it in column 8 (AI) then copy

column 5 to column 6 and set model base

to count year (Type toggle does this for you on TM sheet

Design year no build is a separate alternative

create a new sheet for i

You can omit open year model, have just an

open year no build or both no build and

build, but don't have a build without

a no build unless it's a new link.

If you have a new link it will get a growth rate of 1.1

To get forecast turn movements for new links you must

enter the model turns in section 2 of the turn movement sheets

A value of zero in a field usually means zero, leave fields blank if you want them

ignored. If link doesn't exist in base, counts=Ab=blank. If link doesn't exist in build

make zero, not blank in this case (AI-OB actually controls this)

There is no guarantee a forecast volume of zero will

be respected as zero by the 255 adjustments

If you have an existing intersection link that wasn't in the mode

enter its counts in the appropriate places here and on the

TM sheets. You will need to over-ride columns 9-20

of this sheet with an exogenously supplied growth rate

If you have a new intersection on an existing road you can

enter the main line counts/model volumes (Ab and AI-ON

here and on the TM sheets (as Thru movements) and then

the full set of volumes/turns for AI-OB and AI-C

You may want to disable screenlines in this case

Four Interpolation Cases

1. Have base count and open yr model run and interp year= model open yr THUS interpolate bwn base count and adj open yr model run except for open yr= model open yr which uses case

2. Have open yr model run and interp yr= open model yr (or interpolating any opening year) THUS interpolate bwn adj open yr and adj design yr model run

3. (standard) Have base count and NO open yr model run THUS interpolate bwn count and adj design yr model run

4. Have no base count THUS interpolate calculate growth from Unadj base and design yr model runs and apply growth rate to number of years different from model design

Screenline Options (see field 3.5 description)

Enable

Disable

Force

INTERSECTION: Derr Road and Providence Avenue

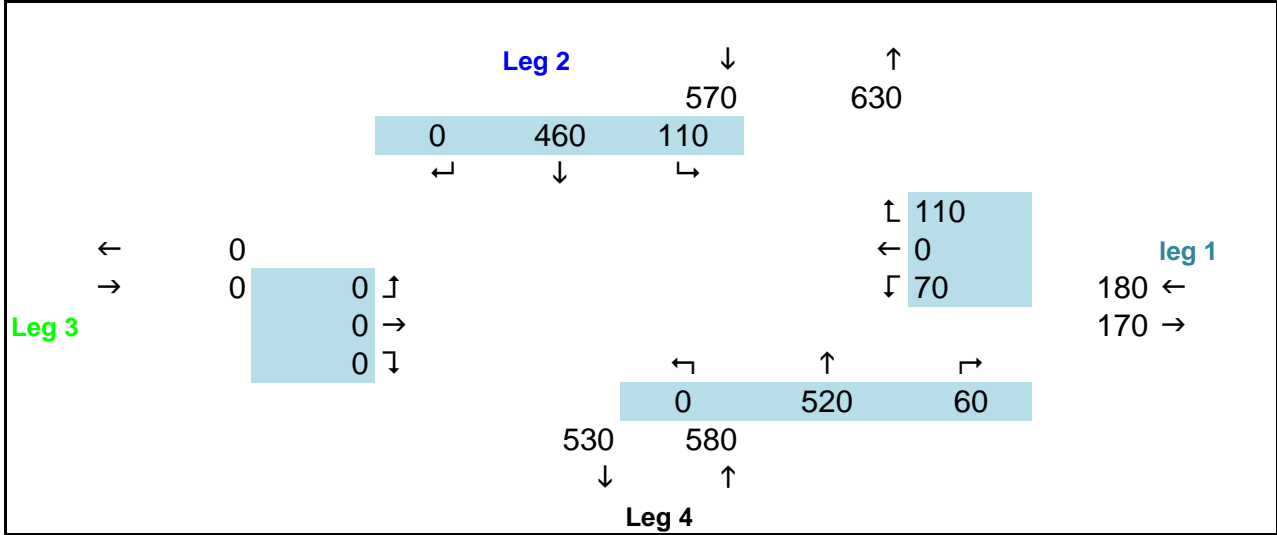
P.M. peak hour 3:30 PM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	existing "K"	existing D	existing T24	existing P.M. TD	CHOSEN PM K*	dhv factor*	link growth open	link growth design
Providence Ave	E LEG	3060	0	0.088	0.515	0.000	0.000	0.108	1.23	1.055	1.055
Derr Road	N LEG	11655	0	0.090	0.521	0.000	0.000	0.090	1.23	0.931	0.931
	0.000 W LEG	0	0	1.000	#DIV/0!	#DIV/0!	#DIV/0!		0.00	1.000	1.000
Derr Road	S LEG	11454	0	0.089	0.518	0.000	0.000	0.089	1.23	0.884	0.884

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Providence A	1.00%
Derr Road and Providence Ave	N LEG	Leg 2	Derr Road	-1.00%
P.M. peak hour	W LEG	Leg 3	0	0.00%
3:30 PM	S LEG	Leg 4	Derr Road	1.00%



INTERSECTION: Derr Road and Providence Avenue

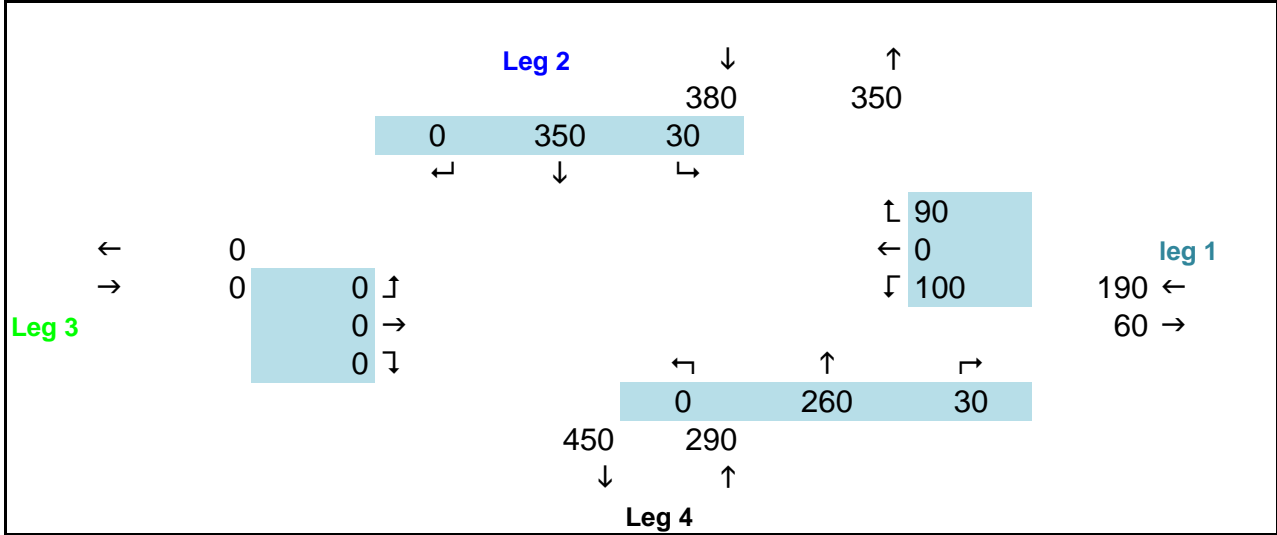
A.M. peak hour 7:30 AM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	existing "K"	existing D	existing T24	existing P.M. TD	CHOSEN PM K*	dhv factor*	link growth open	link growth design
Providence Ave	E LEG	3060	0	0.063	0.751	0.000	0.000	0.11	1.230	1.055	1.055
Derr Road	N LEG	11655	0	0.056	0.535	0.000	0.000	0.09	1.230	0.931	0.931
	0.000 W LEG	0	0	1.000	#DIV/0!	#DIV/0!	#DIV/0!	0.00	0.000	1.000	1.000
Derr Road	S LEG	11454	0	0.060	0.603	0.000	0.000	0.09	1.230	0.884	0.884

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Providence A	-3.00%
Derr Road and Providence Ave	N LEG	Leg 2	Derr Road	-4.00%
A.M. peak hour	W LEG	Leg 3	0	0.00%
7:30 AM	S LEG	Leg 4	Derr Road	-1.00%



USER INPUT

OPTIONAL INPUT

FINAL REFINED FORECAST

		COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL	COL		
		1	2	3	4	5	6	7	8	8.5	9	10	10.5	11	12	13	14	15	16	17	18	19	20	
		NCHRP255 adjustment process													Interpolate opening & design year & adjust for more recent count									
		near base model													Selected Selected most recent most recent recent count 2040 2040 growth factors									
		RoadLink in Dix Rse S count year count data													Volume count year count data delta opening year design yr opening yr design year									
(east leg)	Norhtland Plaza	0.5	2	Dis	2016	2716	2746	2720	2566	2430	2562	2562	2562	2562	2562	2562	2562	2562	2562	2562	2562	0.943	0.943	
(north leg)	Derr Road	0.5	2	Dis	2016	7593	8752	8628	7887	7469	6941	6852	6941	6897	RATIO	6941		0	6941	6941	0.914	0.914		
(west leg)	Norhtland Plaza	0.5	2	Dis	2016	2365	3231	3249	3360	3182	2446	2476	2447	2462	RAF	2462		0	2462	2462	1.041	1.041		
(south leg)	Derr Road	0.5	2	Dis	2016	10135	9619	9488	8703	8242	9296	9350	9296	9323	RAF	9323		0	9323	9323	0.920	0.920		
Total							22809						24085											

Optional Capacity Adjuster

Use this for screenlines, not intersection approaches

Capacity	delta	opening yr	design yr	opening yr	design yr	opening yr	design yr
		-2562	-2562	2562	2562	0.943	0.943
		-6941	-6941	6941	6941	0.914	0.914
		-2462	-2462	2462	2462	1.041	1.041
		-9323	-9323	9323	9323	0.920	0.920
0	0	0	0	0	0	0	0
		-21288	-21288				

There are hidden rows if you want more roads in your intersection/screenline

There are hidden columns for opening year model results if you have them

Year **2012**

Model Base **2012**

Model Opening (opt) **2040** if Yc=Yb then also must = Yc (col4)

Model Forecast **2040** must be > Yb

Project Opening **2040**

Project Design **2040**

Field Definitions

GENERAL RULE:	IF MR<1 then if RATIO <= 1.0 then use RAT	COLUMN	VARIABLE	DEFINITION
OR if RATIO >= 2 then use DIFF else use Raf,	1	RoadLink		The name/route number of each facility bisected by the screenline and/or the link (node) numbers from the network.
if MR>1 then if RATIO <=0.5 then use MRATIO, OR	2	Min Diff		Minimum Count/Model Ratio for using differences, below this use ratios alone
if RATIO >=2 then use DIFF, else use Raf(based on MRATIO)	3	Max Rat		Maximum Count/Model Ratio for using ratios, above this use differences alone
Which you can change if it makes sense,	3.5	Use SL		Set to "Enable" to allow use of screen line adjustments for this leg if no count available, set to "Disable" to disable giving no adjustment of model result, set to "Force" to force SL adjustment
make both of columns 2-3 very large to force ratios,	4	COUNT year		year of the actual base year traffic count
make them 0 to force differences	4	COUNT		actual base year traffic count
	6	Ab		base year traffic assignment - user to input year
Make sure model opening year (if used)	7	Ab ^{interpolate}		interpolation between base and future year assignment - used when year of count data differs from base year assignment, will use open-nobuild to base interp if open nobuild exists, otherwise will use design to base interp
is greater existing and less than forecast	7.1	R		Calculated Ratio (COUNT/Ab)
EXCEPT...	7.2	D		Calculated Difference (COUNT-Ab)
If you want to use a base year build run	7.3	MR		Model Ratio (Af/D)
to establish trends, set Af=ON=Ab	7.4	SLR		Screenline Ratio (COUNT/Ab)
set model open year=base year=count year	8	Af		future year traffic assignment - Af=D= (near) design yr model run, Af=ON=optional (near) opening year no build model run, Af=OB=optional (near) opening year build model run
Place build run in Af=OB	8.5	SLRATIO		adjusted future year traffic forecast (COUNT/Ab) * Af
Do not use cols 14-15 in this case	9	RATIO		adjusted future year traffic forecast (COUNT/Ab) * Af
	10	DIFF		adjusted future year traffic forecast (COUNT - Ab) + Af
If you have a non-model forecast you	10.5	MRATIO		adjusted future year traffic forecast modified "ratio method" to weight towards DIFF method for large model increases: if MR<1 = RATIO else = ((MR-1)*DIFF + RATIO)/MR
want to enter to interpolate and calculate	11	RAF		adjusted future year traffic forecast (AVERAGE(RATIO, DIFF))
growth rate, put it in column 8 (Af) then copy	12	Selected Adjustm		Selects the type of future year adjustment based on the ratio of actual base year traffic count to interpolated base year traffic assignment general rule: if MR<1 then if RATIO <= 1.0 then use RATIO, OR if RATIO >= 2 then use DIFF else use Raf, if MR>1 then if RATIO <=0.5 then use MRATIO, OR if RATIO >=2 then use DIFF, if
column 5 to column 6 and set model base	13	Selected Volume		The selected adjusted forecast year model volume
to count year (Type toggle does this for you on TM sheet	14	most recent cou		year of the most recently available actual count data (should be <Yc, if Yc=Yb generally won't use)
	15	most recent cou		most recently available actual count data for the facility
Design year no build is a separate alternative	16	excent Count Del		Forecast adjustment based on difference of more recent count from interpolation resulting from base count and first forecast yr
create a new sheet for i	17	opening year		final refined forecast for the opening year - user to input year
You can omit open year model, have just an	18	design year		final refined forecast for the design year - user to input year
open year no build or both no build and	19	growth factorop		growth factor to apply to most recent count to obtain opening year (SET to 1.0 if no count given)
build, but don't have a build without	20	growth factorde		growth factor to apply to most recent count to obtain design year (SET to 1.0 if no count given)
a no build unless it's a new link.				Columns 8-13 repeated for open year build and nobuild (hidden)

If you have a new link it will get a growth rate of 1.1
To get forecast turn movements for new links you must enter the model turns in section 2 of the turn movement sheets

A value of zero in a field usually means zero, leave fields blank if you want them ignored. If link doesn't exist in base, counts=Ab=blank. If link doesn't exist in build make zero, not blank in this case (Af=OB actually controls this)

There is no guarantee a forecast volume of zero will be respected as zero by the 255 adjustments

If you have an existing intersection link that wasn't in the mode enter its counts in the appropriate places here and on the TM sheets. You will need to over-ride columns 9-20 of this sheet with an exogenously supplied growth rate

If you have a new intersection on an existing road you can enter the main line counts/model volumes (Ab and Af=ON here and on the TM sheets (as Thru movements) and then the full set of volumes/turns for Af=OB and Af=C. You may want to disable screenlines in this case

Four Interpolation Cases

1. Have base count and open yr model run and interp year=model open yr THUS interpolate btwn base count and adj open yr model run except for open yr=model open yr which uses case 4.
2. Have open yr model run and interp yr= open model yr (or interpolating any opening year) THUS interpolate btwn adj open yr and adj design yr model run
3. (standard) Have base count and NO open yr model run THUS interpolate btwn count and adj design yr model run
4. Have no base count THUS interpolate calculate growth from Unadj base and design yr model runs and apply growth rate to number of years different from model design

Screenline Options (see field 3.5 description)

- Enable
- Disable
- Force

INTERSECTION: Derr Road and Northland Plaza Shopping Center

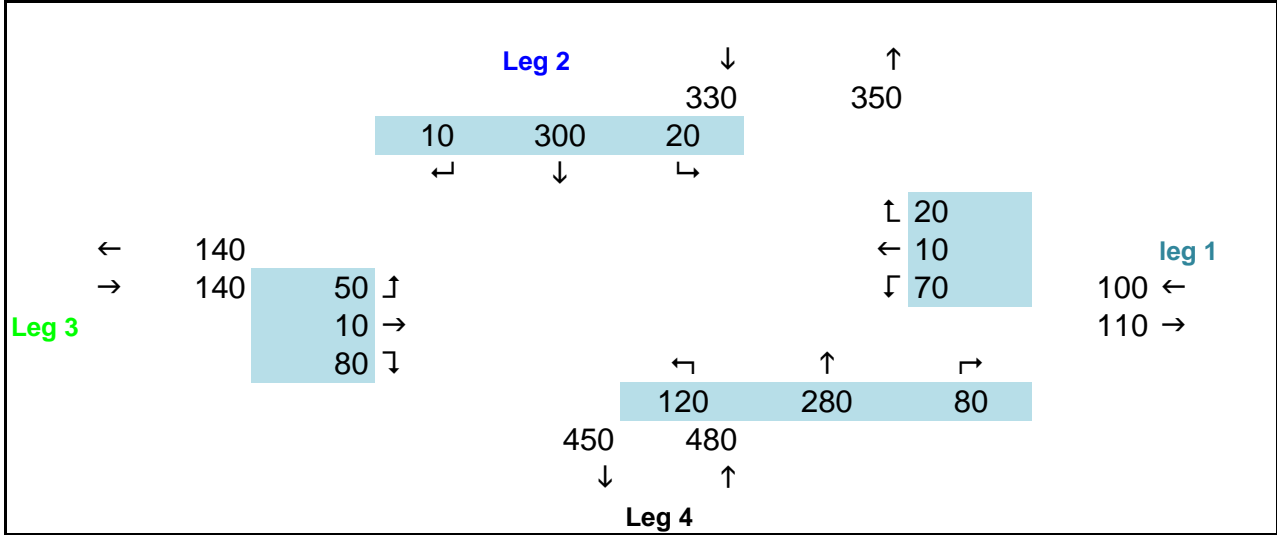
P.M. peak hour 3:30 PM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	"K"	D	T24	P.M. TD	CHOSEN PM K*	dhv factor*	link growth	
				existing	existing	existing	existing			open	design
Norhtland Plaz	E LEG	2716	0	0.065	0.517	0.000	0.000	0.080	1.23	0.943	0.943
Derr Road	N LEG	7593	0	0.081	0.515	0.000	0.000	0.100	1.23	0.914	0.914
Norhtland Plaz	W LEG	2365	0	0.094	0.523	0.000	0.000	0.115	1.23	1.041	1.041
Derr Road	S LEG	10135	0	0.081	0.514	0.000	0.000	0.100	1.23	0.920	0.920

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Norhtland Pl:	-1.00%
Derr Road and Northland Plaza	N LEG	Leg 2	Derr Road	-1.00%
P.M. peak hour	W LEG	Leg 3	Norhtland Pl:	-1.00%
3:30 PM	S LEG	Leg 4	Derr Road	1.00%



INTERSECTION: Derr Road and Northland Plaza Shopping Center

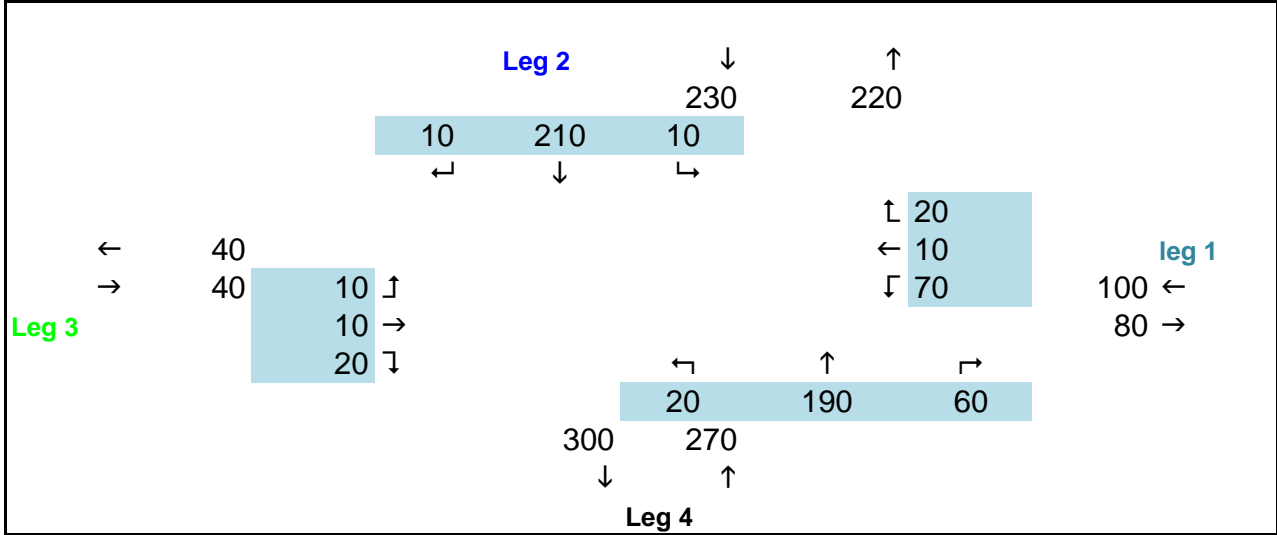
A.M. peak hour 7:30 AM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	existing "K"	existing D	existing T24	existing P.M. TD	CHOSEN PM K*	dhv factor*	link growth open	link growth design
Norhtland Plaz	E LEG	2716	0	0.050	0.577	0.000	0.000	0.08	1.230	0.943	0.943
Derr Road	N LEG	7593	0	0.052	0.501	0.000	0.000	0.10	1.230	0.914	0.914
Norhtland Plaz	W LEG	2365	0	0.016	0.514	0.000	0.000	0.12	1.230	1.041	1.041
Derr Road	S LEG	10135	0	0.049	0.521	0.000	0.000	0.10	1.230	0.920	0.920

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Norhtland Pl:	-1.00%
Derr Road and Northland Plaza	N LEG	Leg 2	Derr Road	-1.00%
A.M. peak hour	W LEG	Leg 3	Norhtland Pl:	0.00%
7:30 AM	S LEG	Leg 4	Derr Road	1.00%



USER INPUT

OPTIONAL INPUT

FINAL REFINED FORECAST

Table with columns for Road/Link, in, Dia, Rse, S, count year, count data, Ab, Ab^interpolate, Af-D, SLRATIO, RATIO, DIFF, MRATIO, RAf, Adjustment, Volume, count year, count data, delta, opening year, design yr, opening yr, design year. Includes rows for Villa Road, Derr Road, and Derr Road (south leg).

Total 32929 21675

There are hidden rows if you want more roads in your intersection/screenline

There are hidden columns for opening year model results if you have them

Table with columns for Model Base, Model Opening (opt), Model Forecast, Project Opening, Project Design, and General Notes.

General Notes: General rule: if MR<1 then if RATIO <= 1.0 then use RAT... OR if RATIO >= 2 then use DIFF else use Raf... if MR>1 then if RATIO <= 0.5 then use MRATIO, OR... if RATIO >= 2 then use DIFF, else use Raf(based on MRATIO)...

Field Definitions table with columns for COLUMNS, VARIABLE, DEFINITION. Includes rows for Road/Link, Min Diff, Max Rat, Use SL, COUNT year, COUNT, Ab, Ab^interpolate, R, D, MR, SLR, Af, SLRATIO, RATIO, DIFF, MRATIO, RAf, Selected Adjustme, Selected Volume, most recent cou, most recent cou, recent Count Del, opening year, design year, growth factor, growth factor.

Design year no build is a separate alternative create a new sheet for i... You can omit open year model, have just an open year no build or both no build and build, but don't have a build without a no build unless it's a new link... If you have a new link it will get a growth rate of 1.1... A value of zero in a field usually means zero, leave fields blank if you want them ignored... There is no guarantee a forecast volume of zero will be respected as zero by the 255 adjustments... If you have an existing intersection link that wasn't in the mode enter its counts in the appropriate places here and on the TM sheets... If you have a new intersection on an existing road you can enter the main line counts/model volumes (Ab and Af-ON here and on the TM sheets (as Thru movements) and then the full set of volumes/turns for Af-OB and Af-C... You may want to disable screenlines in this case

Four Interpolation Cases

- 1. Have base count and open yr model run and interp_year=modal open yr THUS interpolate btwn base count and adj open yr model run except for open yr=modal open yr which uses case 2.
2. Have open yr model run and interp_year= open model yr (or interpolating any opening year) THUS interpolate btwn adj open yr and adj design yr model run
3. (standard) Have base count and NO open yr model run THUS interpolate btwn count and adj design yr model run
4. Have no base count THUS interpolate calculate growth from Unadj base and design yr model runs and apply growth rate to number of years different from model design

Screenline Options (see field 3.5 description)

- Enable
Disable
Force

Optional Capacity Adjuster
Use this for screenlines, not intersection approaches

Table with columns for Capacity, opening yr, design yr, year opening yr, design yr, opening yr, design yr, growth factors. Includes rows for delta, revised volume, growth factors.

INTERSECTION: Derr Road and Villa Road

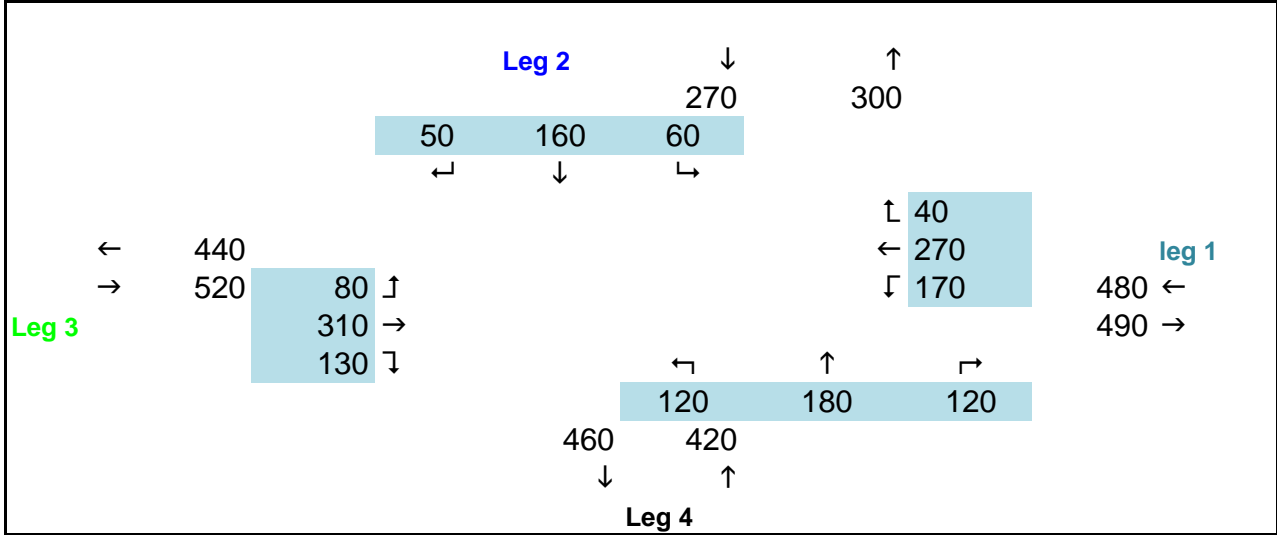
P.M. peak hour 3:30 PM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	existing "K"	existing D	existing T24	existing P.M. TD	CHOSEN PM K*	dhv factor*	link growth open	link growth design
Villa Road	E LEG	8356	0	0.090	0.501	0.000	0.000	0.111	1.23	1.051	1.051
Derr Road	N LEG	6942	0	0.079	0.526	0.000	0.000	0.098	1.23	0.854	0.854
Villa Road	W LEG	8632	0	0.092	0.542	0.000	0.000	0.113	1.23	0.998	0.998
Derr Road	S LEG	8999	0	0.087	0.522	0.000	0.000	0.107	1.23	0.916	0.916

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Villa Road	-1.00%
Derr Road and Villa Road	N LEG	Leg 2	Derr Road	0.00%
P.M. peak hour	W LEG	Leg 3	Villa Road	0.00%
3:30 PM	S LEG	Leg 4	Derr Road	-1.00%



INTERSECTION: Derr Road and Villa Road

A.M. peak hour 7:30 AM *enter start time of peak hour*

If AM is the design hour you can rename this sheet AM, other to PM and change the above 2 cells to reflect th

Road		ADT	B&C	existing "K"	existing D	existing T24	existing P.M. TD	CHOSEN PM K*	dhv factor*	link growth open	link growth design
Villa Road	E LEG	8356	0	0.050	0.501	0.000	0.000	0.11	1.230	1.051	1.051
Derr Road	N LEG	6942	0	0.057	0.652	0.000	0.000	0.10	1.230	0.854	0.854
Villa Road	W LEG	8632	0	0.052	0.518	0.000	0.000	0.11	1.230	0.998	0.998
Derr Road	S LEG	8999	0	0.053	0.608	0.000	0.000	0.11	1.230	0.916	0.916

result from iteration #10 Rounded to nearest 10 vehicles

DESIGN YEAR	E LEG	leg 1	Villa Road	1.00%
Derr Road and Villa Road	N LEG	Leg 2	Derr Road	1.00%
A.M. peak hour	W LEG	Leg 3	Villa Road	1.00%
7:30 AM	S LEG	Leg 4	Derr Road	1.00%

