

One Renner Ridge
9801 Renner Boulevard
Lenexa, Kansas 66219
Phone: 913-492-0400
Fax: 913-577-8380

Project Name: VH Dr / VH Pkwy / Paragon Pkwy
GBA Project No.: 12720
Client Project No.:
Calculated By: JRH
Date: 6/15/2020
Checked By:
Date:

User must insert data into yellow shaded areas.

References:

NCHRP Report 672, Equation 6-1 & 6-2
AASHTO 2011 "Green Book," Equation 3-7

Roundabout Design Speed =

25

Step 1 - Calculate initial V and f values

$$f = \frac{V^2}{15 R} - 0.01e$$

Approach	Radius Location	Radius (ft) (Meas. value)	e (%) (Pvm't Slope)	V (mph) (Eq. 6-1 or Eq. 6-2)	f (Eq. 3-7)
NB View High Dr	R ₁	172.99	2.00	25.2	0.22
	R ₂	146.80	-2.00	21.6	0.23
	R ₃	200.03	2.00	26.6	0.22
	R ₄	59.50	-2.00	15.5	0.29
	R ₅	95.24	2.00	20.0	0.26
WB Paragon Pkwy	R ₁	164.05	2.00	24.7	0.23
	R ₂	73.95	-2.00	16.8	0.27
	R ₃	122.82	2.00	22.1	0.25
	R ₄	59.50	-2.00	15.5	0.29
	R ₅	150.25	2.00	23.8	0.23
SB View High Pkwy	R ₁	167.75	2.00	24.9	0.23
	R ₂	76.99	-2.00	17.1	0.27
	R ₃	167.11	2.00	24.8	0.23
	R ₄	59.50	-2.00	15.5	0.29
	R ₅	99.37	2.00	20.3	0.26
EB View High Dr	R ₁	164.88	2.00	24.7	0.23
	R ₂	68.60	-2.00	16.4	0.28
	R ₃	166.77	2.00	24.8	0.23
	R ₄	59.50	-2.00	15.5	0.29
	R ₅	164.88	2.00	24.7	0.23

One Renner Ridge
9801 Renner Boulevard
Lenexa, Kansas 66219
Phone: 913-492-0400
Fax: 913-577-8380

Project Name:	VH Dr / VH Pkwy / Paragon Pkwy
GBA Project No.:	12720
Client Project No.:	
Calculated By:	JRH
Date:	6/15/2020
Checked By:	
Date:	

User must insert data into yellow shaded areas.

References:

NCHRP Report 672, Equation 6-1 & 6-2
AASHTO 2011 "Green Book," Equation 3-7

Roundabout Design Speed =

25

Step 2 - Recalculate V based on calculated f values

$$V = \sqrt{15(R)(0.01e + f)}$$

Approach	Radius Location	Radius (ft)	e	f	V (mph)
		(Meas. value)	(Pvm't Slope)	(From above)	(Eq. 3-7)
NB View High Dr	R ₁	172.99	2.00	0.22	25.0
	R ₂	146.8	-2.00	0.23	21.5
	R ₃	200.03	2.00	0.22	26.8
	R ₄	59.5	-2.00	0.29	15.5
	R ₅	95.24	2.00	0.26	20.0
WB Paragon Pkwy	R ₁	164.05	2.00	0.23	24.8
	R ₂	73.95	-2.00	0.27	16.7
	R ₃	122.82	2.00	0.25	22.3
	R ₄	59.5	-2.00	0.29	15.5
	R ₅	150.25	2.00	0.23	23.7
SB View High Pkwy	R ₁	167.75	2.00	0.23	25.1
	R ₂	76.99	-2.00	0.27	17.0
	R ₃	167.11	2.00	0.23	25.0
	R ₄	59.5	-2.00	0.29	15.5
	R ₅	99.37	2.00	0.26	20.4
EB View High Dr	R ₁	164.88	2.00	0.23	24.9
	R ₂	68.6	-2.00	0.28	16.4
	R ₃	166.77	2.00	0.23	25.0
	R ₄	59.5	-2.00	0.29	15.5
	R ₅	164.88	2.00	0.23	24.9

Step 4 - Calculate V₃ exit speed

Approach	Radius Location	V ₂	V _{3base}	Eq. 6-4	V ₃
NB View High Dr	R ₃	21.5	26.8	31.3	26.8
WB Paragon Pkwy	R ₃	16.7	22.3	30.5	22.3
SB View High Pkwy	R ₃	17.0	25.0	31.1	25.0
EB View High Dr	R ₃	16.4	25.0	32.1	25.0

One Renner Ridge
9801 Renner Boulevard
Lenexa, Kansas 66219
Phone: 913-492-0400
Fax: 913-577-8380

Project Name:	VH Dr / VH Pkwy / Paragon Pkwy
GBA Project No.:	12720
Client Project No.:	
Calculated By:	JRH
Date:	6/15/2020
Checked By:	
Date:	

User must insert data into yellow shaded areas.

References:

NCHRP Report 672, Equation 6-1 & 6-2
AASHTO 2011 "Green Book," Equation 3-7

Roundabout Design Speed =

25

Step 5 - Compare estimated speeds to calculated speeds.

Approach	Radius Location	V (mph) (Eq. 6-1 or Eq. 6-2)	V (mph) (Eq. 3-7)	Difference (Calc.)	Conclusion (User Input)
NB View High Dr	R ₁	25.2	25.0	-0.2	
	R ₂	21.6	21.5	-0.1	
	R ₃	26.6	26.8	0.2	
	R ₄	15.5	15.5	0.0	
	R ₅	20.0	20.0	0.0	
WB Paragon Pkwy	R ₁	24.7	24.8	0.1	
	R ₂	16.8	16.7	-0.1	
	R ₃	22.1	22.3	0.2	
	R ₄	15.5	15.5	0.0	
	R ₅	23.8	23.7	-0.1	
SB View High Pkwy	R ₁	24.9	25.1	0.2	
	R ₂	17.1	17.0	-0.1	
	R ₃	24.8	25.0	0.2	
	R ₄	15.5	15.5	0.0	
	R ₅	20.3	20.4	0.1	
EB View High Dr	R ₁	24.7	24.9	0.2	
	R ₂	16.4	16.4	0.0	
	R ₃	24.8	25.0	0.2	
	R ₄	15.5	15.5	0.0	
	R ₅	24.7	24.9	0.2	

One Renner Ridge
9801 Renner Boulevard
Lenexa, Kansas 66219
Phone: 913-492-0400
Fax: 913-577-8380

Project Name:	VH Dr / VH Pkwy / Paragon Pkwy
GBA Project No.:	12720
Client Project No.:	
Calculated By:	JRH
Date:	6/15/2020
Checked By:	
Date:	

User must insert data into yellow shaded areas.

References:

NCHRP Report 672, Equation 6-1 & 6-2
AASHTO 2011 "Green Book," Equation 3-7

Roundabout Design Speed =

25

Step 6 - Compare V to Design V

Approach	Radius Location	V (mph)	Design V (mph)	Difference	Conclusion
		(From above)	(From above)	(Calc.)	(User Input)
NB View High Dr	R ₁	25.0	25	0.0	
	R ₂	21.5	25	-3.5	
	R ₃	26.8	25	1.8	
	R ₄	15.5	25	-9.5	
	R ₅	20.0	25	-5.0	
WB Paragon Pkwy	R ₁	24.8	25	-0.2	
	R ₂	16.7	25	-8.3	
	R ₃	22.3	25	-2.7	
	R ₄	15.5	25	-9.5	
	R ₅	23.7	25	-1.3	
SB View High Pkwy	R ₁	25.1	25	0.1	
	R ₂	17.0	25	-8.0	
	R ₃	25.0	25	0.0	
	R ₄	15.5	25	-9.5	
	R ₅	20.4	25	-4.6	
EB View High Dr	R ₁	24.9	25	-0.1	
	R ₂	16.4	25	-8.6	
	R ₃	25.0	25	0.0	
	R ₄	15.5	25	-9.5	
	R ₅	24.9	25	-0.1	

One Renner Ridge
9801 Renner Boulevard
Lenexa, Kansas 66219
Phone: 913-492-0400
Fax: 913-577-8380

Project Name:	VH Dr / VH Pkwy / Paragon Pkwy
GBA Project No.:	12720
Client Project No.:	
Calculated By:	JRH
Date:	6/15/2020
Checked By:	
Date:	

User must insert data into yellow shaded areas.

References:

NCHRP Report 672, Equation 6-1 & 6-2
AASHTO 2011 "Green Book," Equation 3-7

Roundabout Design Speed =

25

Step 7 - Compare V within approach

Approach	Radius Location	V (mph) (From above)	Relative V Diff. * (mph) (Calc.)	Results (Calc.)	Comments (User Input)
NB View High Dr	R ₁	25.0	9.4	Acceptable Design	
	R ₂	21.5	6.0	Acceptable Design	
	R ₃	26.8	11.3	Acceptable Design	
	R ₄	15.5	-	-	
	R ₅	20.0	4.5	Acceptable Design	
WB Paragon Pkwy	R ₁	24.8	9.3	Acceptable Design	
	R ₂	16.7	1.1	Acceptable Design	
	R ₃	22.3	6.8	Acceptable Design	
	R ₄	15.5	-	-	
	R ₅	23.7	8.2	Acceptable Design	
SB View High Pkwy	R ₁	25.1	9.6	Acceptable Design	
	R ₂	17.0	1.5	Acceptable Design	
	R ₃	25.0	9.5	Acceptable Design	
	R ₄	15.5	-	-	
	R ₅	20.4	4.9	Acceptable Design	
EB View High Dr	R ₁	24.9	9.3	Acceptable Design	
	R ₂	16.4	0.8	Acceptable Design	
	R ₃	25.0	9.5	Acceptable Design	
	R ₄	15.5	-	-	
	R ₅	24.9	9.3	Acceptable Design	

*Relative difference is from minimum speed within roundabout approach (typicall R₄ speed).

One Renner Ridge
9801 Renner Boulevard
Lenexa, Kansas 66219
Phone: 913-492-0400
Fax: 913-577-8380

Project Name: VH Pkwy / River Rd
GBA Project No.: 12720
Client Project No.:
Calculated By: JRH
Date: 6/15/2020
Checked By:
Date:

User must insert data into yellow shaded areas.

References:

NCHRP Report 672, Equation 6-1 & 6-2
AASHTO 2011 "Green Book," Equation 3-7

Roundabout Design Speed =

25

Step 1 - Calculate initial V and f values

$$f = \frac{V^2}{15 R} - 0.01e$$

Approach	Radius Location	Radius (ft) (Meas. value)	e (%) (Pvm't Slope)	V (mph) (Eq. 6-1 or Eq. 6-2)	f (Eq. 3-7)
NB River Rd	R ₁	142.20	2.00	23.3	0.23
	R ₂	66.57	-2.00	16.2	0.28
	R ₃	174.57	2.00	25.3	0.22
	R ₄	61.00	-2.00	15.7	0.29
	R ₅	173.53	2.00	25.2	0.22
WB View High Pkwy	R ₁	180.39	2.00	25.6	0.22
	R ₂	109.09	-2.00	19.4	0.25
	R ₃	174.57	2.00	25.3	0.22
	R ₄	61.00	-2.00	15.7	0.29
	R ₅	-	-	-	-
EB View High Pkwy	R ₁	175.88	2.00	25.3	0.22
	R ₂	81.92	-2.00	17.5	0.27
	R ₃	152.62	2.00	24.0	0.23
	R ₄	61.00	-2.00	15.7	0.29
	R ₅	131.88	2.00	22.7	0.24

One Renner Ridge
9801 Renner Boulevard
Lenexa, Kansas 66219
Phone: 913-492-0400
Fax: 913-577-8380

Project Name: VH Pkwy / River Rd
GBA Project No.: 12720
Client Project No.:
Calculated By: JRH
Date: 6/15/2020
Checked By:
Date:

User must insert data into yellow shaded areas.

References:

NCHRP Report 672, Equation 6-1 & 6-2
AASHTO 2011 "Green Book," Equation 3-7

Roundabout Design Speed =

25

Step 2 - Recalculate V based on calculated f values

$$V = \sqrt{15(R)(0.01e + f)}$$

Approach	Radius Location	Radius (ft)	e	f	V (mph)
		(Meas. value)	(Pvm't Slope)	(From above)	(Eq. 3-7)
NB River Rd	R ₁	142.2	2.00	0.23	23.1
	R ₂	66.57	-2.00	0.28	16.1
	R ₃	174.57	2.00	0.22	25.1
	R ₄	61	-2.00	0.29	15.7
	R ₅	173.53	2.00	0.22	25.0
WB View High Pkwy	R ₁	180.39	2.00	0.22	25.5
	R ₂	109.09	-2.00	0.25	19.4
	R ₃	174.57	2.00	0.22	25.1
	R ₄	61	-2.00	0.29	15.7
	R ₅	-	-	-	-
EB View High Pkwy	R ₁	175.88	2.00	0.22	25.2
	R ₂	81.92	-2.00	0.27	17.5
	R ₃	152.62	2.00	0.23	23.9
	R ₄	61	-2.00	0.29	15.7
	R ₅	131.88	2.00	0.24	22.7

Step 4 - Calculate V₃ exit speed

Approach	Radius Location	V ₂	V _{3pbase}	Eq. 6-4	V ₃
NB River Rd	R ₃	16.1	25.1	30.6	25.1
WB View High Pkwy	R ₃	19.4	25.1	30.9	25.1
EB View High Pkwy	R ₃	17.5	23.9	28.7	23.9

One Renner Ridge
9801 Renner Boulevard
Lenexa, Kansas 66219
Phone: 913-492-0400
Fax: 913-577-8380

Project Name: VH Pkwy / River Rd
GBA Project No.: 12720
Client Project No.:
Calculated By: JRH
Date: 6/15/2020
Checked By:
Date:

User must insert data into yellow shaded areas.

References:

NCHRP Report 672, Equation 6-1 & 6-2
AASHTO 2011 "Green Book," Equation 3-7

Roundabout Design Speed =

25

Step 5 - Compare estimated speeds to calculated speeds.

Approach	Radius Location	V (mph) (Eq. 6-1 or Eq. 6-2)	V (mph) (Eq. 3-7)	Difference (Calc.)	Conclusion (User Input)
NB River Rd	R ₁	23.3	23.1	-0.2	
	R ₂	16.2	16.1	-0.1	
	R ₃	25.3	25.1	-0.2	
	R ₄	15.7	15.7	0.0	
	R ₅	25.2	25.0	-0.2	
WB View High Pkwy	R ₁	25.6	25.5	-0.1	
	R ₂	19.4	19.4	0.0	
	R ₃	25.3	25.1	-0.2	
	R ₄	15.7	15.7	0.0	
	R ₅	-	-	-	
EB View High Pkwy	R ₁	25.3	25.2	-0.1	
	R ₂	17.5	17.5	0.0	
	R ₃	24.0	23.9	-0.1	
	R ₄	15.7	15.7	0.0	
	R ₅	22.7	22.7	0.0	

One Renner Ridge
9801 Renner Boulevard
Lenexa, Kansas 66219
Phone: 913-492-0400
Fax: 913-577-8380

Project Name:	VH Pkwy / River Rd
GBA Project No.:	12720
Client Project No.:	
Calculated By:	JRH
Date:	6/15/2020
Checked By:	
Date:	

User must insert data into yellow shaded areas.

References:

NCHRP Report 672, Equation 6-1 & 6-2
AASHTO 2011 "Green Book," Equation 3-7

Roundabout Design Speed =

25

Step 6 - Compare V to Design V

Approach	Radius Location	V (mph)	Design V (mph)	Difference	Conclusion
		(From above)	(From above)	(Calc.)	(User Input)
NB River Rd	R ₁	23.1	25	-1.9	
	R ₂	16.1	25	-8.9	
	R ₃	25.1	25	0.1	
	R ₄	15.7	25	-9.3	
	R ₅	25.0	25	0.0	
WB View High Pkwy	R ₁	25.5	25	0.5	
	R ₂	19.4	25	-5.6	
	R ₃	25.1	25	0.1	
	R ₄	15.7	25	-9.3	
	R ₅	-	25	-	
EB View High Pkwy	R ₁	25.2	25	0.2	
	R ₂	17.5	25	-7.5	
	R ₃	23.9	25	-1.1	
	R ₄	15.7	25	-9.3	
	R ₅	22.7	25	-2.3	

One Renner Ridge
9801 Renner Boulevard
Lenexa, Kansas 66219
Phone: 913-492-0400
Fax: 913-577-8380

Project Name:	VH Pkwy / River Rd
GBA Project No.:	12720
Client Project No.:	
Calculated By:	JRH
Date:	6/15/2020
Checked By:	
Date:	

User must insert data into yellow shaded areas.

References:

NCHRP Report 672, Equation 6-1 & 6-2
AASHTO 2011 "Green Book," Equation 3-7

Roundabout Design Speed =

25

Step 7 - Compare V within approach

Approach	Radius Location	V (mph)	Relative V Diff. *	Results	Comments
		(From above)	(Calc.)	(Calc.)	(User Input)
NB River Rd	R ₁	23.1	7.4	Acceptable Design	
	R ₂	16.1	0.4	Acceptable Design	
	R ₃	25.1	9.4	Acceptable Design	
	R ₄	15.7	-	-	
	R ₅	25.0	9.3	Acceptable Design	
WB View High Pkwy	R ₁	25.5	9.8	Acceptable Design	
	R ₂	19.4	3.7	Acceptable Design	
	R ₃	25.1	9.4	Acceptable Design	
	R ₄	15.7	-	-	
	R ₅	-	-	-	
EB View High Pkwy	R ₁	25.2	9.4	Acceptable Design	
	R ₂	17.5	1.8	Acceptable Design	
	R ₃	23.9	8.2	Acceptable Design	
	R ₄	15.7	-	-	
	R ₅	22.7	7.0	Acceptable Design	

*Relative difference is from minimum speed within roundabout approach (typicall R₄ speed).

One Renner Ridge
9801 Renner Boulevard
Lenexa, Kansas 66219
Phone: 913-492-0400
Fax: 913-577-8380

Project Name:	Paragon Pkwy / River Rd / Parking
GBA Project No.:	12720
Client Project No.:	
Calculated By:	JRH/DGL
Date:	8/5/2020
Checked By:	
Date:	

User must insert data into yellow shaded areas.

References:

NCHRP Report 672, Equation 6-1 & 6-2
AASHTO 2011 "Green Book," Equation 3-7

Roundabout Design Speed =

20

Step 1 - Calculate initial V and f values

$$f = \frac{V^2}{15 R} - 0.01e$$

Approach	Radius Location	Radius (ft) (Meas. value)	e (%) (Pvm't Slope)	V (mph) (Eq. 6-1 or Eq. 6-2)	f (Eq. 3-7)
WB Parking	R ₁	57.94	2.00	16.5	0.29
	R ₂	54.59	-2.00	15.0	0.29
	R ₃	95.17	2.00	20.0	0.26
	R ₄	46.00	-2.00	14.1	0.31
	R ₅	74.92	2.00	18.2	0.27
SB River Rd	R ₁	87.94	2.00	19.4	0.27
	R ₂	44.50	-2.00	14.0	0.31
	R ₃	73.43	2.00	18.1	0.28
	R ₄	46.00	-2.00	14.1	0.31
	R ₅	93.78	2.00	19.9	0.26
EB Paragon Pkwy	R ₁	95.17	2.00	20.0	0.26
	R ₂	60.68	-2.00	15.6	0.29
	R ₃	55.51	2.00	16.2	0.30
	R ₄	46.00	-2.00	14.1	0.31
	R ₅	-	-	-	-

One Renner Ridge
9801 Renner Boulevard
Lenexa, Kansas 66219
Phone: 913-492-0400
Fax: 913-577-8380

Project Name:	Paragon Pkwy / River Rd / Parking
GBA Project No.:	12720
Client Project No.:	
Calculated By:	JRH/DGL
Date:	8/5/2020
Checked By:	
Date:	

User must insert data into yellow shaded areas.

References:

NCHRP Report 672, Equation 6-1 & 6-2
AASHTO 2011 "Green Book," Equation 3-7

Roundabout Design Speed =

20

Step 2 - Recalculate V based on calculated f values

$$V = \sqrt{15(R)(0.01e + f)}$$

Approach	Radius Location	Radius (ft)	e	f	V (mph)
		(Meas. value)	(Pvm't Slope)	(From above)	(Eq. 3-7)
WB Parking	R ₁	57.94	2.00	0.29	16.4
	R ₂	54.59	-2.00	0.29	14.9
	R ₃	95.17	2.00	0.26	20.0
	R ₄	46	-2.00	0.31	14.1
	R ₅	74.92	2.00	0.27	18.1
SB River Rd	R ₁	87.94	2.00	0.27	19.6
	R ₂	44.5	-2.00	0.31	13.9
	R ₃	73.43	2.00	0.28	18.2
	R ₄	46	-2.00	0.31	14.1
	R ₅	93.78	2.00	0.26	19.8
EB Paragon Pkwy	R ₁	95.17	2.00	0.26	20.0
	R ₂	60.68	-2.00	0.29	15.7
	R ₃	55.51	2.00	0.30	16.3
	R ₄	46	-2.00	0.31	14.1
	R ₅	-	-	-	-

Step 4 - Calculate V₃ exit speed

Approach	Radius Location	V ₂	V _{3pbase}	Eq. 6-4	V ₃
WB Parking	R ₃	14.9	20.0	29.9	20.0
SB River Rd	R ₃	13.9	18.2	27.7	18.2
EB Paragon Pkwy	R ₃	15.7	16.3	27.6	16.3

One Renner Ridge
9801 Renner Boulevard
Lenexa, Kansas 66219
Phone: 913-492-0400
Fax: 913-577-8380

Project Name:	Paragon Pkwy / River Rd / Parking
GBA Project No.:	12720
Client Project No.:	
Calculated By:	JRH/DGL
Date:	8/5/2020
Checked By:	
Date:	

User must insert data into yellow shaded areas.

References:

NCHRP Report 672, Equation 6-1 & 6-2
AASHTO 2011 "Green Book," Equation 3-7

Roundabout Design Speed =

20

Step 5 - Compare estimated speeds to calculated speeds.

Approach	Radius Location	V (mph) (Eq. 6-1 or Eq. 6-2)	V (mph) (Eq. 3-7)	Difference (Calc.)	Conclusion (User Input)
WB Parking	R ₁	16.5	16.4	-0.1	
	R ₂	15.0	14.9	-0.1	
	R ₃	20.0	20.0	0.0	
	R ₄	14.1	14.1	0.0	
	R ₅	18.2	18.1	-0.1	
SB River Rd	R ₁	19.4	19.6	0.2	
	R ₂	14.0	13.9	-0.1	
	R ₃	18.1	18.2	0.1	
	R ₄	14.1	14.1	0.0	
	R ₅	19.9	19.8	-0.1	
EB Paragon Pkwy	R ₁	20.0	20.0	0.0	
	R ₂	15.6	15.7	0.1	
	R ₃	16.2	16.3	0.1	
	R ₄	14.1	14.1	0.0	
	R ₅	-	-	-	

One Renner Ridge
9801 Renner Boulevard
Lenexa, Kansas 66219
Phone: 913-492-0400
Fax: 913-577-8380

Project Name:	Paragon Pkwy / River Rd / Parking
GBA Project No.:	12720
Client Project No.:	
Calculated By:	JRH/DGL
Date:	8/5/2020
Checked By:	
Date:	

User must insert data into yellow shaded areas.

References:

NCHRP Report 672, Equation 6-1 & 6-2
AASHTO 2011 "Green Book," Equation 3-7

Roundabout Design Speed =

20

Step 6 - Compare V to Design V

Approach	Radius Location	V (mph)	Design V (mph)	Difference	Conclusion
		(From above)	(From above)	(Calc.)	(User Input)
WB Parking	R ₁	16.4	20	-3.6	
	R ₂	14.9	20	-5.1	
	R ₃	20.0	20	0.0	
	R ₄	14.1	20	-5.9	
	R ₅	18.1	20	-1.9	
SB River Rd	R ₁	19.6	20	-0.4	
	R ₂	13.9	20	-6.1	
	R ₃	18.2	20	-1.8	
	R ₄	14.1	20	-5.9	
	R ₅	19.8	20	-0.2	
EB Paragon Pkwy	R ₁	20.0	20	0.0	
	R ₂	15.7	20	-4.3	
	R ₃	16.3	20	-3.7	
	R ₄	14.1	20	-5.9	
	R ₅	-	-	-	

One Renner Ridge
9801 Renner Boulevard
Lenexa, Kansas 66219
Phone: 913-492-0400
Fax: 913-577-8380

Project Name:	Paragon Pkwy / River Rd / Parking
GBA Project No.:	12720
Client Project No.:	
Calculated By:	JRH/DGL
Date:	8/5/2020
Checked By:	
Date:	

User must insert data into yellow shaded areas.

References:

NCHRP Report 672, Equation 6-1 & 6-2
AASHTO 2011 "Green Book," Equation 3-7

Roundabout Design Speed =

20

Step 7 - Compare V within approach

Approach	Radius Location	V (mph)	Relative V Diff. *	Results	Comments
		(From above)	(Calc.)	(Calc.)	(User Input)
WB Parking	R ₁	16.4	2.3	Acceptable Design	
	R ₂	14.9	0.7	Acceptable Design	
	R ₃	20.0	5.8	Acceptable Design	
	R ₄	14.1	-	-	
	R ₅	18.1	3.9	Acceptable Design	
SB River Rd	R ₁	19.6	5.4	Acceptable Design	
	R ₂	13.9	-0.2	Acceptable Design	
	R ₃	18.2	4.0	Acceptable Design	
	R ₄	14.1	-	-	
	R ₅	19.8	5.7	Acceptable Design	
EB Paragon Pkwy	R ₁	20.0	5.8	Acceptable Design	
	R ₂	15.7	1.5	Acceptable Design	
	R ₃	16.3	2.2	Acceptable Design	
	R ₄	14.1	-	-	
	R ₅	-	-	-	

*Relative difference is from minimum speed within roundabout approach (typicall R₄ speed).