

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Monument Street	Study Period	Kother
Date Prepared	12/1/2023 10:58:32 AM	From	Cumberland Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	16th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 146 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	3569	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.094	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.601	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	202	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	134	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.14	Density	N/A	PTSF	59.1	ATS	33.4	% FFS	83.6
FFS Delay	8.9	LOS Thresh. Delay	17.9	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	200	450	740	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	340	750	1240	2370
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	3700	8000	13200	25300

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Cicero Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Field Drive	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Logan Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 147 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	15676	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.083	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.760	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	989	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	312	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.69	Density	N/A	PTSF	96.1	ATS	35.1	% FFS	70.1
FFS Delay	24.5	LOS Thresh. Delay	24.5	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	130	400	730	1150	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	530	970	1520	1870
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2200	6400	11700	18400	22600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Cicero Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Field Drive	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Logan Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 147 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	15676	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.100	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.680	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	1066	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	502	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.75	Density	N/A	PTSF	92.4	ATS	33.6	% FFS	67.1
FFS Delay	28.2	LOS Thresh. Delay	28.2	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	110	320	710	1080	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	480	1050	1590	2090
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1800	4800	10600	16000	21000
4					
6					
8					

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Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Cicero Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Field Drive	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Logan Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 147 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	16480	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.088	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.775	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	1124	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	326	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.79	Density	N/A	PTSF	96.9	ATS	33.8	% FFS	67.6
FFS Delay	27.6	LOS Thresh. Delay	27.6	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	130	420	740	1160	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	550	960	1500	1840
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2000	6300	11000	17100	21000
4					
6					
8					

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HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Cicero Road	Study Period	Kother
Date Prepared	12/1/2023 10:58:32 AM	From	Field Drive	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Logan Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 147 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	16480	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.100	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.686	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	1131	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	517	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.79	Density	N/A	PTSF	93.3	ATS	32.9	% FFS	65.7
FFS Delay	30.0	LOS Thresh. Delay	30.0	Service Measure	PctFFS	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	120	330	720	1090	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	490	1050	1590	2070
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1800	5000	10600	16000	20800
4					
6					
8					

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Project Information

Analyst	Danah	Highway Name	10th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Monument Street	Analysis Type	Two-Lane Segment
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Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 148 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	7222	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.064	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.580	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	268	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	194	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.19	Density	N/A	PTSF	65.4	ATS	31.9	% FFS	79.7
FFS Delay	6.9	LOS Thresh. Delay	12.3	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	190	450	720	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	330	780	1250	2450
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1500	5200	12200	19600	38300
4					
6					
8					

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HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	10th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Monument Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Logan Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 148 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	7222	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.117	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.610	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	515	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	330	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.36	Density	N/A	PTSF	78.0	ATS	29.4	% FFS	73.5
FFS Delay	9.7	LOS Thresh. Delay	15.1	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	210	450	750	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	350	740	1230	2330
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	800	3000	6400	10600	20000
4					
6					
8					

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Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	10th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Monument Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Logan Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 148 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	7222	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.064	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.576	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	266	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	196	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.19	Density	N/A	PTSF	65.1	ATS	31.9	% FFS	79.8
FFS Delay	6.8	LOS Thresh. Delay	12.2	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	190	450	720	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	330	790	1250	2470
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1500	5200	12400	19600	38600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	10th Street	Study Period	Kother
Date Prepared	12/1/2023 10:58:32 AM	From	Monument Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Logan Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 148 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	7222	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.117	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.607	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	513	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	332	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.36	Density	N/A	PTSF	77.9	ATS	29.4	% FFS	73.6
FFS Delay	9.7	LOS Thresh. Delay	15.1	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	200	450	740	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	330	750	1220	2340
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	800	2900	6500	10500	20000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	16th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Monument Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Logan Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 149 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	2465	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.063	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.650	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	101	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	54	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.07	Density	N/A	PTSF	47.2	ATS	36.1	% FFS	90.3
FFS Delay	2.9	LOS Thresh. Delay	8.3	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	230	460	770	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	360	710	1190	2190
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1600	5800	11300	18900	34800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	16th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Monument Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Logan Street	Program	HIGHPLAN 2012
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User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	2465	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.140	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.610	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	211	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	135	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.15	Density	N/A	PTSF	60.1	ATS	33.3	% FFS	83.3
FFS Delay	5.4	LOS Thresh. Delay	10.8	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	210	450	750	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	350	740	1230	2330
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	700	2500	5300	8800	16700
4					
6					
8					

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Project Information

Analyst	TR	Highway Name	16th Street	Study Period	Kother
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Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	2465	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.063	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.654	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	102	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	54	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.07	Density	N/A	PTSF	47.3	ATS	36.1	% FFS	90.3
FFS Delay	2.9	LOS Thresh. Delay	8.3	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	230	460	770	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	360	710	1180	2180
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1600	5800	11300	18800	34700
4					
6					
8					

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User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	2465	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.140	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.610	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	211	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	135	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.15	Density	N/A	PTSF	60.1	ATS	33.3	% FFS	83.3
FFS Delay	5.4	LOS Thresh. Delay	10.8	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	210	450	750	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	350	740	1230	2330
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	700	2500	5300	8800	16700
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Cumberland Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Monument Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Conner Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 150 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	Yes	AADT	10814	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.064	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.550	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	381	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	311	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.26	Density	N/A	PTSF	69.0	ATS	30.9	% FFS	77.1
FFS Delay	10.7	LOS Thresh. Delay	17.9	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	180	460	730	1490
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	330	840	1330	2710
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1600	5200	13200	20800	42400

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Cumberland Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Monument Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Conner Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 150 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	Yes	AADT	10814	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.089	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.620	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	597	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	366	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.40	Density	N/A	PTSF	80.6	ATS	28.8	% FFS	72.1
FFS Delay	13.9	LOS Thresh. Delay	21.1	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	220	480	790	1490
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	360	780	1280	2410
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1200	4100	8800	14400	27100

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Cumberland Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Monument Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Conner Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 150 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	Yes	AADT	10814	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.064	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.555	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	384	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	308	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.26	Density	N/A	PTSF	69.3	ATS	30.8	% FFS	77.1
FFS Delay	10.7	LOS Thresh. Delay	17.9	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	180	460	730	1490
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	330	830	1320	2690
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1600	5200	13000	20700	42100

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Cumberland Road	Study Period	Kother
Date Prepared	12/1/2023 10:58:32 AM	From	Monument Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Conner Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 150 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	Yes	AADT	10814	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.089	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.619	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	596	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	367	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.40	Density	N/A	PTSF	80.6	ATS	28.9	% FFS	72.1
FFS Delay	13.9	LOS Thresh. Delay	21.1	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	220	480	790	1490
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	360	780	1280	2410
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1200	4100	8800	14400	27100

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Promise Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 32	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	181st Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 151 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	6480	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.078	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.650	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	329	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	177	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.23	Density	N/A	PTSF	70.7	ATS	41.4	% FFS	82.7
FFS Delay	7.5	LOS Thresh. Delay	7.5	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	110	300	690	1050	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	470	1070	1620	2190
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2200	6100	13800	20800	28100
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Promise Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 32	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	181st Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 151 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	6480	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.114	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.540	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	399	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	340	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.28	Density	N/A	PTSF	70.9	ATS	40.4	% FFS	80.9
FFS Delay	8.5	LOS Thresh. Delay	8.5	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	90	280	620	900	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	520	1150	1670	2630
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1500	4600	10100	14700	23100
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Promise Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 32	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	181st Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 151 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	18965	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.081	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.731	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	1123	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	413	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.79	Density	N/A	PTSF	94.8	ATS	33.4	% FFS	66.8
FFS Delay	17.9	LOS Thresh. Delay	17.9	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	120	370	730	1130	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	510	1000	1550	1950
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2100	6300	12400	19200	24100
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Promise Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	SR 32	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	181st Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 151 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	18965	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.114	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.588	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	1271	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	891	Adjusted Capacity	0

LOS Results

v/c Ratio	0.89	Density	N/A	PTSF	94.8	ATS	28.9	% FFS	57.8
FFS Delay	26.3	LOS Thresh. Delay	26.3	Service Measure	PctFFS	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	290	650	970	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	500	1110	1650	2420
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1600	4400	9800	14500	21300
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Presley Drive	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Union Chapel Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 162 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.100	Median	Yes	AADT	6625	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.061	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.570	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	230	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	174	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.08	Density	3.2	PTSF	N/A	ATS	45.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	22.0	Service Measure	Density	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	710	1220	1720	2220	2710
3	1070	1830	2580	3330	4060
4	1430	2440	3440	4450	5420
Lanes	Hourly Volume In Both Directions				
2					
4	1250	2150	3020	3900	4760
6	1880	3220	4530	5850	7130
8	2510	4290	6040	7810	9510
Lanes	Annual Average Daily Traffic				
2					

4	20500	35300	49600	64000	78100
6	30900	52800	74300	96000	116900
8	41200	70400	99100	128100	156000

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Presley Drive	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Union Chapel Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 162 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.100	Median	Yes	AADT	6625	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.130	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.620	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	534	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	327	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.18	Density	7.4	PTSF	N/A	ATS	45.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	22.0	Service Measure	Density	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	710	1220	1720	2220	2710
3	1070	1830	2580	3330	4060
4	1430	2440	3440	4450	5420
Lanes	Hourly Volume In Both Directions				
2					
4	1150	1970	2780	3590	4380
6	1730	2960	4170	5380	6550
8	2310	3940	5550	7180	8750
Lanes	Annual Average Daily Traffic				
2					

4	8900	15200	21400	27700	33700
6	13400	22800	32100	41400	50400
8	17800	30400	42700	55300	67400

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Presley Drive	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Union Chapel Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 162 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.100	Median	Yes	AADT	7361	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.061	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.588	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	264	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	185	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.09	Density	3.7	PTSF	N/A	ATS	45.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	22.0	Service Measure	Density	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	710	1220	1720	2220	2710
3	1070	1830	2580	3330	4060
4	1430	2440	3440	4450	5420
Lanes	Hourly Volume In Both Directions				
2					
4	1210	2080	2930	3780	4610
6	1820	3120	4390	5670	6910
8	2440	4150	5860	7570	9220
Lanes	Annual Average Daily Traffic				
2					

4	19900	34100	48100	62000	75600
6	29900	51200	72000	93000	113300
8	40000	68100	96100	124100	151200

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Presley Drive	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Union Chapel Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 162 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.100	Median	Yes	AADT	7361	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.133	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.636	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	623	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	356	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.21	Density	8.7	PTSF	N/A	ATS	45.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	22.0	Service Measure	Density	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	710	1220	1720	2220	2710
3	1070	1830	2580	3330	4060
4	1430	2440	3440	4450	5420
Lanes	Hourly Volume In Both Directions				
2					
4	1120	1920	2710	3500	4270
6	1690	2880	4060	5240	6390
8	2250	3840	5410	7000	8530
Lanes	Annual Average Daily Traffic				
2					

4	8500	14500	20400	26400	32200
6	12800	21700	30600	39400	48100
8	17000	28900	40700	52700	64200

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Presley Drive	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 32	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Pleasant Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 163 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.600	Median	Yes	AADT	1560	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.200	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.540	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	168	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	144	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.11	Density	N/A	PTSF	53.1	ATS	33.7	% FFS	84.3
FFS Delay	10.0	LOS Thresh. Delay	20.8	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	180	450	720	1490
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	340	840	1340	2760
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	600	1800	4200	6800	13800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Presley Drive	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 32	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Pleasant Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 163 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.600	Median	Yes	AADT	1560	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.200	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.910	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	284	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	28	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.19	Density	N/A	PTSF	67.2	ATS	34.8	% FFS	87.0
FFS Delay	8.0	LOS Thresh. Delay	18.8	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	90	430	780	1080	1490
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	480	860	1190	1640
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	600	2400	4400	6000	8200
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Presley Drive	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 32	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Pleasant Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 163 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.600	Median	Yes	AADT	1591	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.200	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.547	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	174	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	144	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.12	Density	N/A	PTSF	54.1	ATS	33.7	% FFS	84.2
FFS Delay	10.1	LOS Thresh. Delay	20.9	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	180	450	720	1490
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	330	830	1320	2730
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	600	1700	4200	6600	13700
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Presley Drive	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	SR 32	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Pleasant Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 163 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.600	Median	Yes	AADT	1591	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.200	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.904	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	288	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	31	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.19	Density	N/A	PTSF	67.0	ATS	34.7	% FFS	86.9
FFS Delay	8.2	LOS Thresh. Delay	19.0	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	90	430	770	1060	1490
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	480	860	1180	1650
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	600	2400	4400	6000	8300
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	19th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Clover Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 164 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	Yes	AADT	10153	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.053	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.510	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	274	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	264	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.19	Density	N/A	PTSF	62.6	ATS	31.9	% FFS	79.7
FFS Delay	4.6	LOS Thresh. Delay	8.2	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	160	440	690	1490
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	320	870	1360	2930
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1900	6100	16500	25700	55300
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	19th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Clover Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 164 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	Yes	AADT	10153	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.096	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.590	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	575	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	400	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.39	Density	N/A	PTSF	79.8	ATS	28.9	% FFS	72.3
FFS Delay	6.9	LOS Thresh. Delay	10.5	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	200	470	770	1490
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	110	340	800	1310	2530
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1200	3600	8400	13700	26400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	19th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Clover Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 164 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	Yes	AADT	10646	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.054	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.513	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	295	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	280	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.20	Density	N/A	PTSF	64.0	ATS	31.7	% FFS	79.2
FFS Delay	4.7	LOS Thresh. Delay	8.3	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	160	440	690	1490
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	320	860	1350	2910
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1900	6000	16000	25000	53900
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	19th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Clover Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 164 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	Yes	AADT	10646	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.096	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.590	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	603	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	419	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.40	Density	N/A	PTSF	81.0	ATS	28.6	% FFS	71.5
FFS Delay	7.2	LOS Thresh. Delay	10.8	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	200	470	770	1490
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	110	340	800	1310	2530
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1200	3600	8400	13700	26400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Cherry Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	16th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	19th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 165 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.090	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.510	Base Capacity	1700
Posted Speed	35	% NPZ	0	Peak Dir. Hrly. Vol.	46	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	44	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.03	Density	N/A	PTSF	11.4	ATS	39.0	% FFS	97.6
FFS Delay	0.7	LOS Thresh. Delay	6.1	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	140	310	520	710	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	280	610	1020	1400	2790
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3200	6800	11400	15600	31000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Cherry Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	16th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	19th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 165 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.151	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.540	Base Capacity	1700
Posted Speed	35	% NPZ	0	Peak Dir. Hrly. Vol.	82	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	69	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.06	Density	N/A	PTSF	16.8	ATS	38.5	% FFS	96.2
FFS Delay	1.1	LOS Thresh. Delay	6.5	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	150	330	550	750	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	280	620	1020	1390	2630
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1900	4200	6800	9300	17500
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Cherry Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	16th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	19th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 165 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.090	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.511	Base Capacity	1700
Posted Speed	35	% NPZ	0	Peak Dir. Hrly. Vol.	46	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	44	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.03	Density	N/A	PTSF	11.4	ATS	39.0	% FFS	97.6
FFS Delay	0.7	LOS Thresh. Delay	6.1	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	140	310	520	710	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	280	610	1020	1390	2780
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3200	6800	11400	15500	30900
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Cherry Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	16th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	19th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 165 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.151	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.543	Base Capacity	1700
Posted Speed	35	% NPZ	0	Peak Dir. Hrly. Vol.	82	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	69	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.06	Density	N/A	PTSF	16.8	ATS	38.5	% FFS	96.2
FFS Delay	1.1	LOS Thresh. Delay	6.5	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	150	330	550	760	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	280	610	1020	1400	2620
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1900	4100	6800	9300	17400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Cherry Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	10th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	16th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 166 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.057	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.700	Base Capacity	1700
Posted Speed	35	% NPZ	0	Peak Dir. Hrly. Vol.	40	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	17	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.03	Density	N/A	PTSF	12.8	ATS	39.4	% FFS	98.4
FFS Delay	0.6	LOS Thresh. Delay	7.8	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	220	430	680	950	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	320	620	980	1360	2030
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	5700	10900	17200	23900	35700
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Cherry Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	10th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	16th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 166 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.095	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.590	Base Capacity	1700
Posted Speed	35	% NPZ	0	Peak Dir. Hrly. Vol.	56	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	39	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.04	Density	N/A	PTSF	14.4	ATS	39.0	% FFS	97.5
FFS Delay	0.9	LOS Thresh. Delay	8.1	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	170	360	590	820	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	290	620	1000	1390	2410
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3100	6600	10600	14700	25400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Cherry Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	10th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	16th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 166 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.057	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.702	Base Capacity	1700
Posted Speed	35	% NPZ	0	Peak Dir. Hrly. Vol.	40	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	17	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.03	Density	N/A	PTSF	12.8	ATS	39.4	% FFS	98.4
FFS Delay	0.6	LOS Thresh. Delay	7.8	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	230	430	680	950	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	330	620	970	1360	2030
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	5800	10900	17100	23900	35700
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Cherry Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	10th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	16th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 166 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.095	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.589	Base Capacity	1700
Posted Speed	35	% NPZ	0	Peak Dir. Hrly. Vol.	56	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	39	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.04	Density	N/A	PTSF	14.4	ATS	39.0	% FFS	97.5
FFS Delay	0.9	LOS Thresh. Delay	8.1	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	170	360	590	820	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	290	620	1010	1400	2420
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3100	6600	10700	14800	25500
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	16th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	10th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 167 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	10174	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.044	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.650	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	291	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	157	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.21	Density	N/A	PTSF	67.4	ATS	31.9	% FFS	79.9
FFS Delay	9.1	LOS Thresh. Delay	16.3	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	230	460	770	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	360	710	1190	2190
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2300	8200	16200	27100	49800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	16th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	10th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 167 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	10174	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.090	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.600	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	549	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	366	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.39	Density	N/A	PTSF	79.9	ATS	29.0	% FFS	72.4
FFS Delay	13.7	LOS Thresh. Delay	20.9	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	200	450	740	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	340	760	1240	2370
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	3800	8500	13800	26400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	16th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	10th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 167 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	10733	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.045	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.603	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	291	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	192	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.21	Density	N/A	PTSF	68.0	ATS	31.7	% FFS	79.2
FFS Delay	9.5	LOS Thresh. Delay	16.7	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	200	450	740	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	340	750	1230	2360
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2000	7600	16700	27400	52500
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	16th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	10th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 167 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	10733	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.090	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.602	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	582	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	384	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.41	Density	N/A	PTSF	81.4	ATS	28.6	% FFS	71.5
FFS Delay	14.4	LOS Thresh. Delay	21.6	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	200	450	740	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	340	750	1230	2360
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	3800	8400	13700	26300
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	8th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	10th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 168a AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.100	Median	No	AADT	5693	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.044	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.600	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	150	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	100	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.11	Density	N/A	PTSF	52.6	ATS	34.9	% FFS	87.2
FFS Delay	1.3	LOS Thresh. Delay	3.1	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	200	450	740	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	340	760	1240	2370
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2100	7800	17300	28200	53900
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	8th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	10th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 168a PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.100	Median	No	AADT	5693	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.087	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.510	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	253	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	243	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.18	Density	N/A	PTSF	62.1	ATS	32.0	% FFS	79.9
FFS Delay	2.3	LOS Thresh. Delay	4.1	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	40	150	420	650	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	80	300	830	1280	2790
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	3500	9600	14800	32100
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	8th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	10th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 168a AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.100	Median	No	AADT	18310	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.071	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.584	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	759	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	541	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.53	Density	N/A	PTSF	86.3	ATS	26.3	% FFS	65.7
FFS Delay	4.7	LOS Thresh. Delay	6.5	Service Measure	PctFFS	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	190	450	720	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	330	780	1240	2440
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1300	4700	11000	17500	34400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	8th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	10th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 168a PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.100	Median	No	AADT	18310	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.097	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.565	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	1003	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	773	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.70	Density	N/A	PTSF	91.1	ATS	22.4	% FFS	56.0
FFS Delay	7.1	LOS Thresh. Delay	8.9	Service Measure	PctFFS	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	180	440	710	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	320	780	1260	2520
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	3300	8100	13000	26000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	2nd Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	8th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 168b AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	5693	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.044	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.600	Base Capacity	1700
Posted Speed	35	% NPZ	0	Peak Dir. Hrly. Vol.	150	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	100	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.11	Density	N/A	PTSF	27.3	ATS	37.4	% FFS	93.4
FFS Delay	1.9	LOS Thresh. Delay	7.3	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	180	370	590	830	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	300	620	990	1390	2370
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	6900	14100	22500	31600	53900
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	2nd Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	8th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 168b PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	5693	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.087	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.510	Base Capacity	1700
Posted Speed	35	% NPZ	0	Peak Dir. Hrly. Vol.	253	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	243	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.18	Density	N/A	PTSF	41.1	ATS	34.4	% FFS	86.1
FFS Delay	4.4	LOS Thresh. Delay	9.8	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	140	310	520	710	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	280	610	1020	1400	2790
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3300	7100	11800	16100	32100
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	2nd Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	8th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 168b AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	18310	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.071	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.584	Base Capacity	1700
Posted Speed	35	% NPZ	0	Peak Dir. Hrly. Vol.	759	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	541	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.53	Density	N/A	PTSF	78.3	ATS	27.6	% FFS	68.9
FFS Delay	12.2	LOS Thresh. Delay	17.6	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	170	360	580	810	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	300	620	1000	1390	2440
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	4300	8800	14100	19600	34400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Pleasant Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	2nd Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	8th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 168b PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	18310	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.087	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.565	Base Capacity	1700
Posted Speed	35	% NPZ	0	Peak Dir. Hrly. Vol.	900	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	693	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.63	Density	N/A	PTSF	83.7	ATS	24.9	% FFS	62.3
FFS Delay	16.3	LOS Thresh. Delay	21.7	Service Measure	PctFFS	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	160	340	570	790	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	290	610	1010	1400	2520
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3400	7100	11700	16100	29000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Cherry Tree Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 32	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	171st Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 169 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	2576	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.035	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.700	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	63	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	27	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.05	Density	N/A	PTSF	43.3	ATS	41.7	% FFS	92.8
FFS Delay	5.0	LOS Thresh. Delay	11.4	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	90	300	590	950	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	130	430	850	1360	2030
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3800	12300	24300	38900	58000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Cherry Tree Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 32	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	171st Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 169 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	2576	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.109	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.550	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	154	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	126	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.11	Density	N/A	PTSF	52.3	ATS	39.1	% FFS	86.9
FFS Delay	9.7	LOS Thresh. Delay	16.1	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	70	200	540	810	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	130	370	990	1480	2590
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1200	3400	9100	13600	23800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Cherry Tree Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 32	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	171st Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 169 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	3239	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.038	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.623	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	77	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	46	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.06	Density	N/A	PTSF	43.6	ATS	41.4	% FFS	92.1
FFS Delay	5.5	LOS Thresh. Delay	11.9	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	80	240	570	890	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	130	390	920	1430	2280
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3500	10300	24300	37700	60000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Cherry Tree Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	SR 32	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	171st Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 169 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	3239	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.109	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.581	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	205	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	148	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.15	Density	N/A	PTSF	59.2	ATS	38.0	% FFS	84.4
FFS Delay	11.8	LOS Thresh. Delay	18.2	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	80	220	550	850	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	380	950	1470	2450
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1300	3500	8800	13500	22500
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Willowview Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	171st Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 32	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 170 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1473	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.042	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.710	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	44	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	18	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.03	Density	N/A	PTSF	41.1	ATS	46.9	% FFS	93.8
FFS Delay	2.4	LOS Thresh. Delay	2.4	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	120	350	720	1110	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	500	1020	1570	2000
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	4100	12000	24300	37400	47700
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Willowview Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	171st Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 32	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 170 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1473	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.070	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.560	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	58	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	45	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.04	Density	N/A	PTSF	38.2	ATS	46.5	% FFS	93.0
FFS Delay	2.7	LOS Thresh. Delay	2.7	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	90	280	630	930	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	500	1130	1670	2540
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2500	7200	16200	23900	36300
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Willowview Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	171st Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 32	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 170 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1905	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.042	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.763	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	61	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	19	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.04	Density	N/A	PTSF	45.5	ATS	46.7	% FFS	93.5
FFS Delay	2.5	LOS Thresh. Delay	2.5	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	130	400	730	1150	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	530	960	1510	1870
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	4300	12700	22900	36000	44600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Willowview Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	171st Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 32	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 170 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1905	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.073	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.514	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	71	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	68	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.05	Density	N/A	PTSF	37.0	ATS	46.2	% FFS	92.4
FFS Delay	3.0	LOS Thresh. Delay	3.0	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	80	280	590	860	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	160	550	1150	1680	2770
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2200	7600	15800	23100	38000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Mill Creek Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 32	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	171st Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 171 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1415	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.059	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.720	Base Capacity	1700
Posted Speed	45	% NPZ	18	Peak Dir. Hrly. Vol.	60	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	23	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.04	Density	N/A	PTSF	28.0	ATS	49.0	% FFS	98.0
FFS Delay	0.7	LOS Thresh. Delay	0.7	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	270	550	880	1240	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	380	770	1230	1730	1980
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	6500	13100	20900	29400	33600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Mill Creek Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 32	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	171st Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 171 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1415	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.079	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.590	Base Capacity	1700
Posted Speed	45	% NPZ	18	Peak Dir. Hrly. Vol.	66	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	46	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.05	Density	N/A	PTSF	26.7	ATS	48.7	% FFS	97.5
FFS Delay	0.9	LOS Thresh. Delay	0.9	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	200	450	750	1030	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	340	770	1280	1750	2410
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	4400	9800	16300	22200	30600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Mill Creek Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 32	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	171st Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 171 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	5119	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.059	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.675	Base Capacity	1700
Posted Speed	45	% NPZ	18	Peak Dir. Hrly. Vol.	204	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	98	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.15	Density	N/A	PTSF	46.0	ATS	46.8	% FFS	93.5
FFS Delay	2.5	LOS Thresh. Delay	2.5	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	250	520	840	1170	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	380	780	1250	1740	2110
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	6500	13300	21200	29500	35800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Mill Creek Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	SR 32	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	171st Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 171 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	5119	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.080	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.588	Base Capacity	1700
Posted Speed	45	% NPZ	18	Peak Dir. Hrly. Vol.	241	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	169	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.17	Density	N/A	PTSF	50.6	ATS	45.0	% FFS	89.9
FFS Delay	4.0	LOS Thresh. Delay	4.0	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	200	450	750	1030	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	350	770	1280	1760	2420
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	4400	9700	16000	22000	30300
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	169th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Hazel Dell Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Gray Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 173 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	3158	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.065	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.590	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	121	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	84	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.09	Density	N/A	PTSF	48.3	ATS	45.5	% FFS	91.0
FFS Delay	6.7	LOS Thresh. Delay	6.7	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	290	650	970	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	500	1110	1650	2410
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2700	7700	17100	25400	37100
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	169th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Hazel Dell Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Gray Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 173 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	3158	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.120	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.530	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	201	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	178	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.14	Density	N/A	PTSF	58.1	ATS	42.5	% FFS	85.1
FFS Delay	12.0	LOS Thresh. Delay	12.0	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	90	280	610	880	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	530	1160	1670	2680
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1500	4500	9700	14000	22400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	169th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Hazel Dell Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Gray Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 173 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	4600	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.066	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.616	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	187	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	117	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.13	Density	N/A	PTSF	57.4	ATS	44.0	% FFS	88.0
FFS Delay	9.3	LOS Thresh. Delay	9.3	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	290	670	1010	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	480	1090	1640	2310
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2600	7300	16600	24900	35000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	169th Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Hazel Dell Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Gray Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 173 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	4600	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.135	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.500	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	311	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	311	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.22	Density	N/A	PTSF	64.9	ATS	41.3	% FFS	82.6
FFS Delay	14.4	LOS Thresh. Delay	14.4	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	80	270	580	830	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	160	540	1160	1660	2840
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1200	4000	8600	12300	21100
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	169th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Hazel Dell Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Semoiole Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 174 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1441	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.076	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.650	Base Capacity	1700
Posted Speed	45	% NPZ	75	Peak Dir. Hrly. Vol.	71	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	38	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.05	Density	N/A	PTSF	42.7	ATS	46.7	% FFS	93.4
FFS Delay	2.6	LOS Thresh. Delay	2.6	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	120	320	710	1060	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	190	500	1100	1640	2190
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2600	6600	14500	21600	28900

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	169th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Hazel Dell Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Semoiole Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 174 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1441	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.108	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.530	Base Capacity	1700
Posted Speed	45	% NPZ	75	Peak Dir. Hrly. Vol.	82	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	73	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.06	Density	N/A	PTSF	38.4	ATS	46.2	% FFS	92.5
FFS Delay	2.9	LOS Thresh. Delay	2.9	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	90	300	630	900	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	570	1190	1700	2680
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1600	5300	11100	15800	24900

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	169th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Hazel Dell Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Semoiole Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 174 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1908	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.076	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.690	Base Capacity	1700
Posted Speed	45	% NPZ	75	Peak Dir. Hrly. Vol.	100	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	45	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.07	Density	N/A	PTSF	47.3	ATS	46.3	% FFS	92.7
FFS Delay	2.8	LOS Thresh. Delay	2.8	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	130	340	740	1110	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	190	500	1080	1610	2060
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2600	6600	14300	21200	27200

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	169th Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Hazel Dell Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Semoiole Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 174 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1908	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.111	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.588	Base Capacity	1700
Posted Speed	45	% NPZ	75	Peak Dir. Hrly. Vol.	125	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	87	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.09	Density	N/A	PTSF	47.9	ATS	45.6	% FFS	91.2
FFS Delay	3.5	LOS Thresh. Delay	3.5	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	110	310	670	980	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	190	530	1140	1670	2420
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1800	4800	10300	15100	21900

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	171st Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Seminole Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Willowview Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 175 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1578	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.091	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.680	Base Capacity	1700
Posted Speed	35	% NPZ	85	Peak Dir. Hrly. Vol.	98	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	46	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.07	Density	N/A	PTSF	47.1	ATS	36.4	% FFS	91.0
FFS Delay	4.5	LOS Thresh. Delay	13.5	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	70	260	480	800	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	110	390	710	1180	2090
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1300	4300	7900	13000	23000

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	171st Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Seminole Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Willowview Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 175 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1578	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.124	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.530	Base Capacity	1700
Posted Speed	35	% NPZ	85	Peak Dir. Hrly. Vol.	104	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	92	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.07	Density	N/A	PTSF	42.6	ATS	35.7	% FFS	89.2
FFS Delay	5.4	LOS Thresh. Delay	14.4	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	170	430	680	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	120	330	820	1290	2680
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	2700	6700	10500	21700

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	171st Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Seminole Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Willowview Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 175 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	2110	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.091	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.604	Base Capacity	1700
Posted Speed	35	% NPZ	85	Peak Dir. Hrly. Vol.	116	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	76	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.08	Density	N/A	PTSF	47.6	ATS	35.9	% FFS	89.8
FFS Delay	5.1	LOS Thresh. Delay	14.1	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	210	470	750	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	350	780	1250	2360
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1100	3900	8600	13800	26000

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	171st Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Seminole Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Willowview Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 175 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	2110	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.140	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.554	Base Capacity	1700
Posted Speed	35	% NPZ	85	Peak Dir. Hrly. Vol.	164	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	132	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.12	Density	N/A	PTSF	53.2	ATS	34.0	% FFS	85.0
FFS Delay	8.0	LOS Thresh. Delay	17.0	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	180	450	700	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	110	330	820	1270	2570
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	800	2400	5900	9100	18400

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	171st Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Willowview Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Cherry Tree Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 176 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1570	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.075	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.670	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	79	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	39	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.06	Density	N/A	PTSF	44.8	ATS	36.5	% FFS	91.2
FFS Delay	4.3	LOS Thresh. Delay	13.3	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	240	460	780	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	360	690	1170	2120
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1200	4800	9200	15600	28300

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	171st Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Willowview Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Cherry Tree Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 176 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1570	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.141	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.580	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	128	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	93	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.09	Density	N/A	PTSF	48.9	ATS	35.3	% FFS	88.2
FFS Delay	6.0	LOS Thresh. Delay	15.0	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	190	450	720	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	330	780	1250	2450
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	700	2400	5600	8900	17400

4
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* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	171st Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Willowview Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Cherry Tree Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 176 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1973	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.075	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.649	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	96	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	52	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.07	Density	N/A	PTSF	46.5	ATS	36.2	% FFS	90.5
FFS Delay	4.7	LOS Thresh. Delay	13.7	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	230	460	770	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	360	710	1190	2190
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1400	4800	9500	15900	29200

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	171st Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Willowview Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Cherry Tree Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 176 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1973	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.145	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.613	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	175	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	111	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.12	Density	N/A	PTSF	55.9	ATS	34.3	% FFS	85.8
FFS Delay	7.4	LOS Thresh. Delay	16.4	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	210	450	750	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	350	740	1230	2320
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	700	2500	5200	8500	16100

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Allisonville Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Pleasant Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Christian Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 177 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	9908	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.063	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.660	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	412	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	212	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.29	Density	N/A	PTSF	73.3	ATS	30.5	% FFS	76.3
FFS Delay	8.4	LOS Thresh. Delay	13.8	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	240	460	780	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	370	700	1190	2160
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1600	5900	11200	18900	34300

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Allisonville Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Pleasant Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Christian Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 177 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	9908	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.102	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.640	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	647	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	364	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.46	Density	N/A	PTSF	83.7	ATS	28.1	% FFS	70.1
FFS Delay	11.5	LOS Thresh. Delay	16.9	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	220	460	760	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	350	720	1190	2220
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	3500	7100	11700	21800

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Allisonville Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Pleasant Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Christian Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 177 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	20137	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.082	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.501	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	827	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	824	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.58	Density	N/A	PTSF	86.9	ATS	23.6	% FFS	59.0
FFS Delay	18.8	LOS Thresh. Delay	24.2	Service Measure	PctFFS	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	40	150	410	640	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	80	300	820	1280	2840
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	3700	10100	15700	34700

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Allisonville Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Pleasant Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Christian Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 177 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	20137	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.102	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.624	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	1282	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	772	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.90	Density	N/A	PTSF	93.9	ATS	19.8	% FFS	49.6
FFS Delay	27.5	LOS Thresh. Delay	32.9	Service Measure	PctFFS	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	210	450	750	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	340	730	1210	2280
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	3400	7200	11900	22400

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	16th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Greenfield Avenue	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Pleasant Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 178 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.600	Median	No	AADT	1322	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.059	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.580	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	45	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	33	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.03	Density	N/A	PTSF	37.3	ATS	36.9	% FFS	92.1
FFS Delay	4.6	LOS Thresh. Delay	15.4	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	190	450	720	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	330	780	1250	2450
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1600	5600	13300	21200	41600

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	16th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Greenfield Avenue	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Pleasant Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 178 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.600	Median	No	AADT	1322	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.083	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.600	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	66	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	44	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.05	Density	N/A	PTSF	41.5	ATS	36.6	% FFS	91.4
FFS Delay	5.1	LOS Thresh. Delay	15.9	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	200	450	740	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	340	760	1240	2370
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1100	4100	9200	15000	28600

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	16th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Greenfield Avenue	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Pleasant Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 178 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.600	Median	No	AADT	1322	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.059	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.577	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	45	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	33	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.03	Density	N/A	PTSF	37.3	ATS	36.9	% FFS	92.1
FFS Delay	4.6	LOS Thresh. Delay	15.4	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	190	450	720	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	330	780	1250	2470
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1600	5600	13300	21200	41900

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	16th Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Greenfield Avenue	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Pleasant Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 178 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.600	Median	No	AADT	1322	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.083	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.600	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	66	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	44	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.05	Density	N/A	PTSF	41.5	ATS	36.6	% FFS	91.4
FFS Delay	5.1	LOS Thresh. Delay	15.9	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	200	450	740	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	340	760	1240	2370
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1100	4100	9200	15000	28600

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Mercantile Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Town and Country Blvd	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Pleasant Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 179 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	Yes	AADT	8790	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.055	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.540	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	261	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	222	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.18	Density	N/A	PTSF	62.8	ATS	32.0	% FFS	80.1
FFS Delay	8.9	LOS Thresh. Delay	16.1	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	180	450	720	1490
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	340	840	1340	2760
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1900	6200	15300	24400	50200

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Mercantile Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Town and Country Blvd	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Pleasant Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 179 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	Yes	AADT	8790	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.108	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.520	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	494	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	456	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.33	Density	N/A	PTSF	74.9	ATS	29.4	% FFS	73.6
FFS Delay	12.9	LOS Thresh. Delay	20.1	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	170	440	700	1490
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	330	850	1350	2870
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	3100	7900	12500	26600

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Mercantile Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Town and Country Blvd	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Pleasant Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 179 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	Yes	AADT	9120	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.056	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.520	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	266	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	245	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.18	Density	N/A	PTSF	62.6	ATS	32.0	% FFS	79.9
FFS Delay	9.0	LOS Thresh. Delay	16.2	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	170	440	700	1490
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	330	850	1350	2870
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1800	5900	15200	24200	51300

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Mercantile Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Town and Country Blvd	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Pleasant Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 179 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	Yes	AADT	9120	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.108	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.518	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	510	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	475	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.34	Density	N/A	PTSF	75.4	ATS	29.2	% FFS	73.0
FFS Delay	13.3	LOS Thresh. Delay	20.5	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	160	440	690	1490
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	310	850	1340	2880
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	2900	7900	12500	26700

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	166th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 38	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Olio Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 185 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.032	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.530	Base Capacity	1700
Posted Speed	45	% NPZ	46	Peak Dir. Hrly. Vol.	17	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	15	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.01	Density	N/A	PTSF	26.4	ATS	48.6	% FFS	97.3
FFS Delay	1.0	LOS Thresh. Delay	1.0	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	130	370	660	920	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	250	700	1250	1740	2680
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	7900	21900	39100	54400	83800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	166th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 38	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Olio Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 185 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.061	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.870	Base Capacity	1700
Posted Speed	45	% NPZ	46	Peak Dir. Hrly. Vol.	53	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	8	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.04	Density	N/A	PTSF	40.3	ATS	48.4	% FFS	96.7
FFS Delay	1.2	LOS Thresh. Delay	1.2	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	280	650	970	1350	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	330	750	1120	1560	1640
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	5500	12300	18400	25600	26900
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	166th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 38	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Olio Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 185 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1333	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.060	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.800	Base Capacity	1700
Posted Speed	45	% NPZ	46	Peak Dir. Hrly. Vol.	64	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	16	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.05	Density	N/A	PTSF	41.2	ATS	48.2	% FFS	96.4
FFS Delay	1.4	LOS Thresh. Delay	1.4	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	260	540	880	1270	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	330	680	1100	1590	1780
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	5600	11400	18400	26600	29700
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	166th Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	SR 38	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Olio Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 185 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	1333	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.200	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.961	Base Capacity	1700
Posted Speed	45	% NPZ	46	Peak Dir. Hrly. Vol.	256	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	10	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.18	Density	N/A	PTSF	62.6	ATS	46.4	% FFS	92.9
FFS Delay	2.8	LOS Thresh. Delay	2.8	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	310	750	1180	1420	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	330	790	1230	1480	1480
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1700	4000	6200	7400	7400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Olio Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 38	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	166th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 186 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	No	AADT	4038	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.085	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.610	Base Capacity	1700
Posted Speed	55	% NPZ	35	Peak Dir. Hrly. Vol.	209	Local Adj. Factor	0.91
Free Flow Speed	60	Class	3	Off Peak Dir. Hrly. Vol.	134	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.15	Density	N/A	PTSF	51.7	ATS	54.6	% FFS	90.9
FFS Delay	1.2	LOS Thresh. Delay	0.0	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	190	530	910	1270	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	320	870	1500	2090	2330
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3800	10300	17700	24600	27500
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Olio Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 38	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	166th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 186 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	No	AADT	4038	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.102	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.540	Base Capacity	1700
Posted Speed	55	% NPZ	35	Peak Dir. Hrly. Vol.	222	Local Adj. Factor	0.91
Free Flow Speed	60	Class	3	Off Peak Dir. Hrly. Vol.	189	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.16	Density	N/A	PTSF	53.5	ATS	53.6	% FFS	89.3
FFS Delay	1.4	LOS Thresh. Delay	0.0	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	150	490	820	1120	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	280	910	1520	2080	2630
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2800	9000	15000	20400	25800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Olio Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 38	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	166th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 186 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	No	AADT	11824	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.085	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.629	Base Capacity	1700
Posted Speed	55	% NPZ	35	Peak Dir. Hrly. Vol.	632	Local Adj. Factor	0.91
Free Flow Speed	60	Class	3	Off Peak Dir. Hrly. Vol.	373	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.45	Density	N/A	PTSF	78.9	ATS	48.9	% FFS	81.6
FFS Delay	2.7	LOS Thresh. Delay	0.3	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	200	540	940	1300	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	320	860	1500	2070	2260
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3800	10200	17700	24400	26600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Olio Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	SR 38	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	166th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 186 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	No	AADT	11824	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.109	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.573	Base Capacity	1700
Posted Speed	55	% NPZ	35	Peak Dir. Hrly. Vol.	738	Local Adj. Factor	0.91
Free Flow Speed	60	Class	3	Off Peak Dir. Hrly. Vol.	550	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.52	Density	N/A	PTSF	82.6	ATS	46.9	% FFS	78.2
FFS Delay	3.3	LOS Thresh. Delay	0.9	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	170	510	870	1190	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	300	900	1520	2080	2480
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2800	8300	14000	19100	22800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	166th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Boden Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Olio Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 187 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	1408	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.078	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.630	Base Capacity	1700
Posted Speed	45	% NPZ	17	Peak Dir. Hrly. Vol.	69	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	41	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.05	Density	N/A	PTSF	27.5	ATS	48.8	% FFS	97.5
FFS Delay	1.7	LOS Thresh. Delay	1.7	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	220	480	800	1100	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	350	770	1270	1750	2260
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	4500	9900	16300	22500	29000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	166th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Boden Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Olio Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 187 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	1408	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.099	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.600	Base Capacity	1700
Posted Speed	45	% NPZ	17	Peak Dir. Hrly. Vol.	84	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	56	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.06	Density	N/A	PTSF	29.1	ATS	48.5	% FFS	96.9
FFS Delay	2.2	LOS Thresh. Delay	2.2	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	200	460	770	1050	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	340	770	1290	1760	2370
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3500	7800	13100	17800	24000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	166th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Boden Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Olio Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 187 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	4774	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.078	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.557	Base Capacity	1700
Posted Speed	45	% NPZ	17	Peak Dir. Hrly. Vol.	207	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	165	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.15	Density	N/A	PTSF	46.2	ATS	45.3	% FFS	90.6
FFS Delay	7.1	LOS Thresh. Delay	7.1	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	180	430	710	970	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	330	780	1280	1750	2550
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	4300	10000	16500	22500	32700
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	166th Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Boden Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Olio Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 187 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	4774	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.166	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.741	Base Capacity	1700
Posted Speed	45	% NPZ	17	Peak Dir. Hrly. Vol.	587	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	205	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.41	Density	N/A	PTSF	71.7	ATS	41.4	% FFS	82.9
FFS Delay	14.1	LOS Thresh. Delay	14.1	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	290	560	900	1260	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	400	760	1220	1710	1920
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2500	4600	7400	10400	11600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Boden Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 38	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 188 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	5507	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.058	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.750	Base Capacity	1700
Posted Speed	45	% NPZ	48	Peak Dir. Hrly. Vol.	240	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	80	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.17	Density	N/A	PTSF	59.2	ATS	45.8	% FFS	91.6
FFS Delay	2.6	LOS Thresh. Delay	2.6	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	230	470	840	1220	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	310	630	1120	1630	1900
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	5400	10900	19400	28200	32800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Boden Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 38	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 188 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	5507	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.096	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.580	Base Capacity	1700
Posted Speed	45	% NPZ	48	Peak Dir. Hrly. Vol.	307	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	222	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.22	Density	N/A	PTSF	64.2	ATS	42.8	% FFS	85.5
FFS Delay	4.9	LOS Thresh. Delay	4.9	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	150	390	710	1000	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	260	680	1230	1730	2450
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2800	7100	12900	18100	25600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Boden Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 38	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 188 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	13875	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.062	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.665	Base Capacity	1700
Posted Speed	45	% NPZ	48	Peak Dir. Hrly. Vol.	572	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	288	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.40	Density	N/A	PTSF	77.6	ATS	40.0	% FFS	79.9
FFS Delay	7.2	LOS Thresh. Delay	7.2	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	190	420	780	1120	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	290	640	1180	1690	2140
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	4700	10400	19100	27300	34600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Boden Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 38	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 188 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	13875	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.096	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.580	Base Capacity	1700
Posted Speed	45	% NPZ	48	Peak Dir. Hrly. Vol.	773	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	559	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.54	Density	N/A	PTSF	84.9	ATS	36.7	% FFS	73.3
FFS Delay	10.5	LOS Thresh. Delay	10.5	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	150	390	710	1000	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	260	680	1230	1730	2450
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2800	7100	12900	18100	25600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	166th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Summer Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Boden Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 189 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	3846	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.067	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.530	Base Capacity	1700
Posted Speed	45	% NPZ	30	Peak Dir. Hrly. Vol.	137	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	121	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.10	Density	N/A	PTSF	41.3	ATS	46.6	% FFS	93.1
FFS Delay	5.1	LOS Thresh. Delay	5.1	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	160	400	670	920	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	310	760	1270	1740	2680
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	4700	11400	19000	26000	40000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	166th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Summer Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Boden Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 189 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	3846	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.119	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.550	Base Capacity	1700
Posted Speed	45	% NPZ	30	Peak Dir. Hrly. Vol.	252	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	206	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.18	Density	N/A	PTSF	55.8	ATS	44.2	% FFS	88.3
FFS Delay	9.0	LOS Thresh. Delay	9.0	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	170	410	700	960	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	310	750	1280	1750	2590
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2700	6400	10800	14800	21800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	166th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Summer Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Boden Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 189 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	7955	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.067	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.662	Base Capacity	1700
Posted Speed	45	% NPZ	30	Peak Dir. Hrly. Vol.	353	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	180	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.25	Density	N/A	PTSF	63.3	ATS	43.4	% FFS	86.9
FFS Delay	10.3	LOS Thresh. Delay	10.3	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	220	480	810	1140	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	340	730	1230	1730	2150
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	5100	10900	18400	25900	32100
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	166th Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Summer Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Boden Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 189 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	7955	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.121	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.593	Base Capacity	1700
Posted Speed	45	% NPZ	30	Peak Dir. Hrly. Vol.	571	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	392	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.40	Density	N/A	PTSF	76.0	ATS	39.9	% FFS	79.8
FFS Delay	17.3	LOS Thresh. Delay	17.3	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	190	440	750	1030	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	330	750	1270	1740	2400
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2800	6200	10500	14400	19900
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	166th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Summer Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 190 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	6266	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.061	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.690	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	264	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	118	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.19	Density	N/A	PTSF	65.4	ATS	43.2	% FFS	86.5
FFS Delay	10.7	LOS Thresh. Delay	10.7	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	120	330	720	1090	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	480	1050	1580	2060
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3000	7900	17300	26000	33800

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	166th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Summer Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 190 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	6266	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.061	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.690	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	264	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	118	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.19	Density	N/A	PTSF	65.4	ATS	43.2	% FFS	86.5
FFS Delay	10.7	LOS Thresh. Delay	10.7	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	120	330	720	1090	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	480	1050	1580	2060
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3000	7900	17300	26000	33800

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	166th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Summer Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 190 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	12099	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.063	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.751	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	572	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	190	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.40	Density	N/A	PTSF	80.0	ATS	39.1	% FFS	78.2
FFS Delay	19.1	LOS Thresh. Delay	19.1	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	130	390	730	1140	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	520	980	1520	1900
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2900	8300	15600	24200	30200

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	166th Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Summer Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 190 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	12099	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.111	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.593	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	796	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	547	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.56	Density	N/A	PTSF	87.5	ATS	35.8	% FFS	71.6
FFS Delay	27.1	LOS Thresh. Delay	27.1	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	290	660	980	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	490	1120	1660	2400
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1600	4500	10100	15000	21700

4
6
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* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	166th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Mercantile Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 191 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	3103	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.076	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.740	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	175	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	61	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.12	Density	N/A	PTSF	57.9	ATS	45.3	% FFS	90.5
FFS Delay	7.1	LOS Thresh. Delay	7.1	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	130	380	730	1130	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	520	990	1530	1920
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2400	6900	13100	20200	25300

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* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	166th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Mercantile Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 191 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	3103	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.122	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.600	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	227	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	151	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.16	Density	N/A	PTSF	61.5	ATS	42.7	% FFS	85.4
FFS Delay	11.7	LOS Thresh. Delay	11.7	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	290	660	990	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	490	1100	1660	2370
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1400	4100	9100	13700	19500

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* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	166th Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Mercantile Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 191 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	8303	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.077	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.723	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	462	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	177	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.33	Density	N/A	PTSF	74.5	ATS	40.1	% FFS	80.3
FFS Delay	16.8	LOS Thresh. Delay	16.8	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	120	360	730	1120	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	500	1010	1550	1970
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2300	6500	13200	20200	25600

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6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	166th Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Mercantile Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 191 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	8303	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.122	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.657	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	666	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	347	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.47	Density	N/A	PTSF	84.1	ATS	37.9	% FFS	75.9
FFS Delay	21.8	LOS Thresh. Delay	21.8	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	110	300	700	1050	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	460	1070	1600	2170
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1400	3800	8800	13200	17800

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6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Town and Country Blvd	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Mercantile Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 192 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.900	Median	No	AADT	4754	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.048	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.710	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	162	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	66	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.12	Density	N/A	PTSF	55.6	ATS	40.4	% FFS	89.9
FFS Delay	8.1	LOS Thresh. Delay	15.3	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	310	590	960	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	150	440	840	1360	2000
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3200	9200	17600	28400	41700

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Town and Country Blvd	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Mercantile Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 192 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.900	Median	No	AADT	4754	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.105	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.610	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	304	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	195	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.22	Density	N/A	PTSF	69.3	ATS	36.6	% FFS	81.2
FFS Delay	16.6	LOS Thresh. Delay	23.8	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	80	240	570	880	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	400	940	1450	2330
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1400	3900	9000	13900	22200

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Town and Country Blvd	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Mercantile Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 192 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.900	Median	No	AADT	6143	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.055	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.604	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	204	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	134	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.15	Density	N/A	PTSF	59.3	ATS	38.4	% FFS	85.3
FFS Delay	12.4	LOS Thresh. Delay	19.6	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	80	230	560	870	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	390	930	1450	2360
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2600	7100	17000	26400	43000

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Town and Country Blvd	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Mercantile Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 192 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.900	Median	No	AADT	6143	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.105	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.561	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	362	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	283	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.26	Density	N/A	PTSF	69.4	ATS	35.9	% FFS	79.7
FFS Delay	18.3	LOS Thresh. Delay	25.5	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	70	210	540	830	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	130	380	970	1480	2540
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1300	3700	9300	14100	24200

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	16th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Allisonville Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 193 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	14100	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.067	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.530	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	501	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	444	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.35	Density	N/A	PTSF	76.5	ATS	29.1	% FFS	72.8
FFS Delay	16.8	LOS Thresh. Delay	25.8	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	160	420	670	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	310	800	1270	2680
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1500	4700	12000	19000	40000

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	16th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Allisonville Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 193 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	14100	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.110	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.620	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	962	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	589	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.68	Density	N/A	PTSF	91.1	ATS	24.1	% FFS	60.3
FFS Delay	29.6	LOS Thresh. Delay	38.6	Service Measure	PctFFS	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	210	450	750	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	340	730	1210	2300
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	3100	6700	11000	21000

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	16th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Allisonville Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 193 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	34245	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.077	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.654	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	1725	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	912	Adjusted Capacity	1428

LOS Results

v/c Ratio	1.21	Density	N/A	PTSF	100.0	ATS	0.0	% FFS	0.0
FFS Delay	Infinity	LOS Thresh. Delay	Infinity	Service Measure	vcRatio	LOS	F		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	230	460	770	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	360	710	1180	2180
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1300	4700	9300	15400	28400

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	16th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Allisonville Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 193 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	34245	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.110	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.504	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	1899	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	1868	Adjusted Capacity	1428

LOS Results

v/c Ratio	1.33	Density	N/A	PTSF	100.0	ATS	0.0	% FFS	0.0
FFS Delay	Infinity	LOS Thresh. Delay	Infinity	Service Measure	vcRatio	LOS	F		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	40	150	410	650	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	80	300	820	1290	2820
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	800	2800	7500	11800	25700

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	16th Street	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Allisonville Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\AM\Fu 193 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	34245	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.077	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.654	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	1725	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	912	Adjusted Capacity	1565

LOS Results

v/c Ratio	0.60	Density	25.3	PTSF	N/A	ATS	45.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	10.0	Service Measure	Density	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	830	1410	2000	2530	2800
3	1250	2120	3000	3790	4200
4	1660	2830	4000	5060	5600
Lanes	Hourly Volume In Both Directions				
2					
4	1270	2160	3060	3870	4290
6	1920	3250	4590	5800	6430
8	2540	4330	6120	7740	8570
Lanes	Annual Average Daily Traffic				
2					

4	16500	28100	39800	50300	55800
6	25000	42300	59700	75400	83600
8	33000	56300	79500	100600	111300

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	16th Street	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Allisonville Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\PM\Fu 193 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.500	Median	No	AADT	34245	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.110	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.504	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	1899	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	1868	Adjusted Capacity	1565

LOS Results

v/c Ratio	0.66	Density	27.8	PTSF	N/A	ATS	45.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	10.0	Service Measure	Density	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	680	1150	1630	2110	2570
3	1020	1730	2450	3170	3860
4	1360	2310	3270	4220	5150
Lanes	Hourly Volume In Both Directions				
2					
4	1350	2290	3240	4190	5100
6	2030	3440	4870	6290	7660
8	2700	4590	6490	8380	10220
Lanes	Annual Average Daily Traffic				
2					

4	12300	20900	29500	38100	46400
6	18500	31300	44300	57200	69700
8	24600	41800	59000	76200	93000

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Cherry Tree Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	161st Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	171st Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 194 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	2498	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.065	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.710	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	115	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	47	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.08	Density	N/A	PTSF	50.2	ATS	41.1	% FFS	91.3
FFS Delay	7.3	LOS Thresh. Delay	14.9	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	310	590	960	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	150	440	840	1360	2000
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2400	6800	13000	21000	30800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Cherry Tree Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	161st Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	171st Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 194 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	2498	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.108	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.510	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	138	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	132	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.10	Density	N/A	PTSF	49.0	ATS	39.1	% FFS	86.8
FFS Delay	11.5	LOS Thresh. Delay	19.1	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	70	200	510	760	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	400	1000	1500	2790
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1300	3800	9300	13900	25900
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Cherry Tree Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	161st Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	171st Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 194 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	2554	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.065	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.711	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	118	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	48	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.08	Density	N/A	PTSF	50.6	ATS	41.0	% FFS	91.2
FFS Delay	7.4	LOS Thresh. Delay	15.0	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	310	600	960	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	150	440	850	1360	2000
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2400	6800	13100	21000	30800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Cherry Tree Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	161st Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	171st Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 194 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	2554	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.108	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.516	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	142	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	134	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.10	Density	N/A	PTSF	49.7	ATS	39.0	% FFS	86.6
FFS Delay	11.7	LOS Thresh. Delay	19.3	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	70	200	520	760	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	390	1010	1480	2760
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1300	3700	9400	13800	25600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	161st Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Gray Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Hazel Dell Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 196 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	4975	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.073	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.640	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	232	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	131	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.17	Density	N/A	PTSF	62.3	ATS	38.2	% FFS	85.0
FFS Delay	13.5	LOS Thresh. Delay	21.1	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	90	260	580	910	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	150	410	910	1430	2220
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2100	5700	12500	19600	30500
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	161st Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Gray Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Hazel Dell Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 196 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	4975	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.125	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.530	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	330	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	292	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.23	Density	N/A	PTSF	67.1	ATS	36.2	% FFS	80.4
FFS Delay	18.6	LOS Thresh. Delay	26.2	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	70	200	520	780	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	380	990	1480	2680
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1200	3100	8000	11900	21500
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	161st Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Gray Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Hazel Dell Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 196 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	7768	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.073	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.525	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	298	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	269	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.21	Density	N/A	PTSF	65.4	ATS	36.5	% FFS	81.1
FFS Delay	17.7	LOS Thresh. Delay	25.3	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	70	200	520	780	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	390	1000	1490	2710
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2000	5400	13700	20500	37200
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	161st Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Gray Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Hazel Dell Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 196 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	7768	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.125	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.507	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	492	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	479	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.35	Density	N/A	PTSF	75.1	ATS	34.1	% FFS	75.7
FFS Delay	24.4	LOS Thresh. Delay	32.0	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	70	200	510	750	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	400	1010	1480	2810
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1200	3200	8100	11900	22500
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	161st Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Hazel Dell Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Seminole Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 197 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	2872	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.060	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.720	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	124	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	48	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.09	Density	N/A	PTSF	51.8	ATS	41.0	% FFS	91.0
FFS Delay	3.1	LOS Thresh. Delay	6.3	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	320	600	970	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	450	840	1350	1980
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2400	7600	14000	22600	33000

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	161st Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Hazel Dell Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Seminole Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 197 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	2872	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.060	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.720	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	124	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	48	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.09	Density	N/A	PTSF	51.8	ATS	41.0	% FFS	91.0
FFS Delay	3.1	LOS Thresh. Delay	6.3	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	320	600	970	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	450	840	1350	1980
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2400	7600	14000	22600	33000

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	161st Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Hazel Dell Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Seminole Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 197 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	3500	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.060	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.662	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	139	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	71	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.10	Density	N/A	PTSF	52.1	ATS	40.6	% FFS	90.2
FFS Delay	3.5	LOS Thresh. Delay	6.7	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	90	270	590	930	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	410	900	1410	2150
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2400	6900	15000	23600	35900

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	161st Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Hazel Dell Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Seminole Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 197 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	3500	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.141	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.640	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	316	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	178	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.22	Density	N/A	PTSF	69.9	ATS	36.5	% FFS	81.0
FFS Delay	7.5	LOS Thresh. Delay	10.7	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	90	260	580	910	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	150	410	910	1430	2220
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1100	3000	6500	10200	15800

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	161st Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Seminole Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Cherry Tree Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 198 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.100	Median	No	AADT	2864	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.034	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.590	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	57	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	40	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.04	Density	N/A	PTSF	39.6	ATS	41.7	% FFS	92.6
FFS Delay	7.0	LOS Thresh. Delay	15.8	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	80	220	560	860	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	380	950	1460	2410
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	4200	11200	28000	43000	70900

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	161st Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Seminole Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Cherry Tree Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 198 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.100	Median	No	AADT	2864	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.173	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.510	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	253	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	243	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.18	Density	N/A	PTSF	62.1	ATS	37.0	% FFS	82.1
FFS Delay	19.2	LOS Thresh. Delay	28.0	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	70	200	510	760	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	400	1000	1500	2790
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	900	2400	5800	8700	16200

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	161st Street	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Seminole Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Cherry Tree Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 198 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.100	Median	No	AADT	5913	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.073	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.806	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	348	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	84	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.25	Density	N/A	PTSF	72.3	ATS	38.5	% FFS	85.6
FFS Delay	14.9	LOS Thresh. Delay	23.7	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	110	410	640	1000	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	510	800	1250	1770
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2000	7000	11000	17200	24300

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	161st Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Seminole Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Cherry Tree Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 198 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.100	Median	No	AADT	5913	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.173	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.587	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	600	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	422	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.42	Density	N/A	PTSF	81.8	ATS	33.3	% FFS	73.9
FFS Delay	31.0	LOS Thresh. Delay	39.8	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	80	220	550	850	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	380	940	1450	2420
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	900	2200	5500	8400	14000

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	River Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	160th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 32	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 199a AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.900	Median	No	AADT	4809	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.087	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.610	Base Capacity	1700
Posted Speed	40	% NPZ	42	Peak Dir. Hrly. Vol.	255	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	163	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.18	Density	N/A	PTSF	57.9	ATS	39.4	% FFS	87.4
FFS Delay	10.3	LOS Thresh. Delay	17.5	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	170	420	700	960	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	280	690	1150	1580	2330
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3300	8000	13300	18200	26800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	River Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	160th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 32	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 199a PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.900	Median	No	AADT	4809	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.108	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.630	Base Capacity	1700
Posted Speed	40	% NPZ	42	Peak Dir. Hrly. Vol.	327	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	192	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.23	Density	N/A	PTSF	64.6	ATS	38.6	% FFS	85.7
FFS Delay	12.0	LOS Thresh. Delay	19.2	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	180	420	720	990	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	290	670	1150	1580	2260
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2700	6300	10700	14700	21000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	River Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	160th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 32	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 199a AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.900	Median	No	AADT	4920	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.087	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.617	Base Capacity	1700
Posted Speed	40	% NPZ	42	Peak Dir. Hrly. Vol.	264	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	164	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.19	Density	N/A	PTSF	58.7	ATS	39.2	% FFS	87.2
FFS Delay	10.6	LOS Thresh. Delay	17.8	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	180	420	710	970	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	300	690	1160	1580	2310
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3500	8000	13400	18200	26600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	River Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	160th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 32	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 199a PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.900	Median	No	AADT	4920	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.110	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.636	Base Capacity	1700
Posted Speed	40	% NPZ	42	Peak Dir. Hrly. Vol.	344	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	197	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.24	Density	N/A	PTSF	65.4	ATS	38.4	% FFS	85.3
FFS Delay	12.4	LOS Thresh. Delay	19.6	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	190	420	730	1000	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	300	670	1150	1580	2240
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2800	6100	10500	14400	20400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	River Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	160th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 32	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 199b AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.600	Median	No	AADT	4809	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.087	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.610	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	255	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	163	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.18	Density	N/A	PTSF	64.0	ATS	32.1	% FFS	80.3
FFS Delay	13.3	LOS Thresh. Delay	24.1	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	210	450	750	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	350	740	1230	2330
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1100	4100	8600	14200	26800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	River Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	160th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 32	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 199b PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.600	Median	No	AADT	4809	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.108	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.630	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	327	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	192	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.23	Density	N/A	PTSF	70.5	ATS	31.3	% FFS	78.4
FFS Delay	14.9	LOS Thresh. Delay	25.7	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	220	460	760	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	350	740	1210	2260
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	3300	6900	11300	21000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	River Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	160th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 32	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 199b AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.600	Median	No	AADT	4920	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.087	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.617	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	264	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	164	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.19	Density	N/A	PTSF	64.9	ATS	32.0	% FFS	80.0
FFS Delay	13.5	LOS Thresh. Delay	24.3	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	210	450	750	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	350	730	1220	2310
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1200	4100	8400	14100	26600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	River Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	160th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 32	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 199b PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.600	Median	No	AADT	4920	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.110	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.636	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	344	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	197	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.24	Density	N/A	PTSF	71.1	ATS	31.2	% FFS	78.0
FFS Delay	15.3	LOS Thresh. Delay	26.1	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	220	460	760	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	350	730	1200	2240
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	3200	6700	11000	20400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	River Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	160th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 32	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 199c AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	No	AADT	4809	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.087	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.610	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	255	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	163	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.18	Density	N/A	PTSF	64.0	ATS	32.1	% FFS	80.3
FFS Delay	4.4	LOS Thresh. Delay	8.0	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	210	450	750	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	350	740	1230	2330
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1100	4100	8600	14200	26800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	River Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	160th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 32	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 199c PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	No	AADT	4809	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.108	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.630	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	327	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	192	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.23	Density	N/A	PTSF	70.5	ATS	31.3	% FFS	78.4
FFS Delay	5.0	LOS Thresh. Delay	8.6	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	220	460	760	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	350	740	1210	2260
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	3300	6900	11300	21000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	River Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	160th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 32	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 199c AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	No	AADT	4920	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.087	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.617	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	264	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	164	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.19	Density	N/A	PTSF	64.9	ATS	32.0	% FFS	80.0
FFS Delay	4.5	LOS Thresh. Delay	8.1	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	210	450	750	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	350	730	1220	2310
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1200	4100	8400	14100	26600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	River Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	160th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 32	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 199c PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	No	AADT	4920	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.110	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.636	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	344	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	197	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.24	Density	N/A	PTSF	71.1	ATS	31.2	% FFS	78.0
FFS Delay	5.1	LOS Thresh. Delay	8.7	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	220	460	760	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	350	730	1200	2240
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	3200	6700	11000	20400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Allisonville Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	146th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Christian Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 200 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.500	Median	No	AADT	10669	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.074	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.590	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	466	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	324	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.33	Density	N/A	PTSF	75.4	ATS	39.9	% FFS	79.7
FFS Delay	45.7	LOS Thresh. Delay	45.7	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	290	650	970	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	500	1110	1650	2410
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2300	6800	15000	22300	32600

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Allisonville Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	146th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Christian Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 200 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.500	Median	No	AADT	10669	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.103	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.600	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	659	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	440	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.46	Density	N/A	PTSF	84.0	ATS	37.6	% FFS	75.2
FFS Delay	59.4	LOS Thresh. Delay	59.4	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	290	660	990	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	490	1100	1660	2370
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1700	4800	10700	16200	23100

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Allisonville Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	146th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Christian Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 200 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.500	Median	No	AADT	10748	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.075	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.588	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	474	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	332	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.33	Density	N/A	PTSF	75.7	ATS	39.8	% FFS	79.6
FFS Delay	46.2	LOS Thresh. Delay	46.2	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	290	650	970	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	500	1110	1650	2420
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2400	6700	14800	22000	32300

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Allisonville Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	146th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Christian Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 200 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	2.500	Median	No	AADT	10748	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.103	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.598	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	662	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	445	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.47	Density	N/A	PTSF	84.0	ATS	37.5	% FFS	75.1
FFS Delay	59.8	LOS Thresh. Delay	59.8	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	290	660	980	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	490	1110	1640	2380
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1700	4800	10800	16000	23200

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	16th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Herriman Blvd	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 201 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	14267	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.065	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.590	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	547	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	380	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.39	Density	N/A	PTSF	79.8	ATS	28.9	% FFS	72.3
FFS Delay	13.8	LOS Thresh. Delay	21.0	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	190	450	730	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	330	770	1240	2410
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1400	5100	11900	19100	37100

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	16th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Herriman Blvd	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 201 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	14267	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.100	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.580	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	827	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	599	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.58	Density	N/A	PTSF	88.1	ATS	25.3	% FFS	63.3
FFS Delay	20.9	LOS Thresh. Delay	28.1	Service Measure	PctFFS	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	190	450	720	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	330	780	1250	2450
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	3400	7800	12600	24600

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	16th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Herriman Blvd	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 201 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	36400	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.072	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.634	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	1662	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	959	Adjusted Capacity	1428

LOS Results

v/c Ratio	1.17	Density	N/A	PTSF	100.0	ATS	0.0	% FFS	0.0
FFS Delay	Infinity	LOS Thresh. Delay	Infinity	Service Measure	vcRatio	LOS	F		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	220	460	760	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	350	730	1200	2240
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1400	4900	10200	16700	31200

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	16th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Herriman Blvd	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 201 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	36400	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.100	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.524	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	1907	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	1733	Adjusted Capacity	1428

LOS Results

v/c Ratio	1.34	Density	N/A	PTSF	100.0	ATS	0.0	% FFS	0.0
FFS Delay	Infinity	LOS Thresh. Delay	Infinity	Service Measure	vcRatio	LOS	F		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	160	420	670	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	310	810	1280	2710
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	3200	8200	12800	27200

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	16th Street	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Herriman Blvd	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\AM\Fu 201 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	36400	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.072	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.634	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	1662	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	959	Adjusted Capacity	1565

LOS Results

v/c Ratio	0.58	Density	24.4	PTSF	N/A	ATS	45.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	8.0	Service Measure	Density	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	680	1150	1630	2110	2570
3	1020	1730	2450	3170	3860
4	1360	2310	3270	4220	5150
Lanes	Hourly Volume In Both Directions				
2					
4	1080	1820	2580	3330	4060
6	1610	2730	3870	5000	6090
8	2150	3650	5160	6660	8130
Lanes	Annual Average Daily Traffic				
2					

4	15000	25300	35900	46300	56400
6	22400	38000	53800	69500	84600
8	29900	50700	71700	92500	113000

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	16th Street	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Herriman Blvd	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\PM\Fu 201 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	36400	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.100	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.524	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	1907	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	1733	Adjusted Capacity	1565

LOS Results

v/c Ratio	0.66	Density	28.0	PTSF	N/A	ATS	45.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	8.0	Service Measure	Density	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	680	1150	1630	2110	2570
3	1020	1730	2450	3170	3860
4	1360	2310	3270	4220	5150
Lanes	Hourly Volume In Both Directions				
2					
4	1300	2200	3120	4030	4910
6	1950	3310	4680	6050	7370
8	2600	4410	6250	8060	9830
Lanes	Annual Average Daily Traffic				
2					

4	13000	22000	31200	40400	49200
6	19600	33200	46800	60600	73800
8	26000	44200	62600	80600	98400

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Herriman Boulevard	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Before Curve Heading	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 202 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	3383	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.084	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.560	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	159	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	125	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.11	Density	N/A	PTSF	53.1	ATS	34.1	% FFS	85.2
FFS Delay	14.9	LOS Thresh. Delay	32.0	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	180	440	700	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	330	790	1250	2540
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1100	4000	9500	14900	30300

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Herriman Boulevard	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Before Curve Heading	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 202 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	3383	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.163	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.570	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	314	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	237	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.22	Density	N/A	PTSF	68.2	ATS	31.4	% FFS	78.5
FFS Delay	23.4	LOS Thresh. Delay	40.5	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	180	440	710	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	320	780	1250	2500
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	600	2000	4800	7700	15400

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Herriman Boulevard	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	Before Curve Heading	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 202 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	3383	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.084	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.562	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	160	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	124	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.11	Density	N/A	PTSF	53.4	ATS	34.1	% FFS	85.2
FFS Delay	14.8	LOS Thresh. Delay	31.9	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	180	440	700	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	330	790	1250	2530
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1100	4000	9500	14900	30200

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Herriman Boulevard	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Before Curve Heading	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 202 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	3383	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.163	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.565	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	312	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	240	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.22	Density	N/A	PTSF	67.9	ATS	31.4	% FFS	78.5
FFS Delay	23.4	LOS Thresh. Delay	40.5	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	180	440	710	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	320	780	1260	2520
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	600	2000	4800	7800	15500

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 37	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Herriman Blvd	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 203 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	14892	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.065	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.570	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	552	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	416	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.39	Density	N/A	PTSF	79.7	ATS	28.7	% FFS	71.8
FFS Delay	10.6	LOS Thresh. Delay	16.0	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	180	440	710	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	320	780	1250	2500
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1400	5000	12000	19300	38500

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 37	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Herriman Blvd	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 203 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	14892	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.108	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.590	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	949	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	659	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.67	Density	N/A	PTSF	90.4	ATS	23.8	% FFS	59.6
FFS Delay	18.3	LOS Thresh. Delay	23.7	Service Measure	PctFFS	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	190	450	730	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	330	770	1240	2410
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	900	3100	7200	11500	22400

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	SR 37	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Herriman Blvd	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 203 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	35426	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.075	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.638	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	1695	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	962	Adjusted Capacity	1428

LOS Results

v/c Ratio	1.19	Density	N/A	PTSF	100.0	ATS	0.0	% FFS	0.0
FFS Delay	Infinity	LOS Thresh. Delay	Infinity	Service Measure	vcRatio	LOS	F		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	220	460	760	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	350	730	1200	2230
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1400	4700	9800	16000	29800

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	SR 37	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Herriman Blvd	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 203 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	35426	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.108	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.514	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	1967	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	1859	Adjusted Capacity	1428

LOS Results

v/c Ratio	1.38	Density	N/A	PTSF	100.0	ATS	0.0	% FFS	0.0
FFS Delay	Infinity	LOS Thresh. Delay	Infinity	Service Measure	vcRatio	LOS	F		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	160	420	660	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	320	820	1290	2770
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	3000	7600	12000	25700

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	SR 37	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Herriman Blvd	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\AM\Fu 203 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	35426	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.075	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.638	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	1695	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	962	Adjusted Capacity	1565

LOS Results

v/c Ratio	0.59	Density	24.9	PTSF	N/A	ATS	45.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	6.0	Service Measure	Density	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	680	1150	1630	2110	2570
3	1020	1730	2450	3170	3860
4	1360	2310	3270	4220	5150
Lanes	Hourly Volume In Both Directions				
2					
4	1070	1810	2560	3310	4030
6	1600	2720	3850	4970	6060
8	2140	3630	5130	6620	8080
Lanes	Annual Average Daily Traffic				
2					

4	14300	24200	34200	44200	53800
6	21400	36300	51400	66300	80800
8	28600	48400	68400	88300	107800

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	SR 37	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Herriman Blvd	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\PM\Fu 203 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	35426	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.108	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.514	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	1967	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	1859	Adjusted Capacity	1565

LOS Results

v/c Ratio	0.68	Density	28.8	PTSF	N/A	ATS	45.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	6.0	Service Measure	Density	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	680	1150	1630	2110	2570
3	1020	1730	2450	3170	3860
4	1360	2310	3270	4220	5150
Lanes	Hourly Volume In Both Directions				
2					
4	1330	2240	3180	4110	5000
6	1990	3370	4770	6170	7510
8	2650	4500	6370	8220	10020
Lanes	Annual Average Daily Traffic				
2					

4	12400	20800	29500	38100	46300
6	18500	31300	44200	57200	69600
8	24600	41700	59000	76200	92800

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Cumberland Road	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 204 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.600	Median	No	AADT	4794	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.066	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.560	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	177	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	139	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.13	Density	N/A	PTSF	55.9	ATS	33.5	% FFS	83.8
FFS Delay	10.4	LOS Thresh. Delay	21.2	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	180	440	700	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	330	790	1250	2540
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1400	5000	12000	19000	38500

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Cumberland Road	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 204 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.600	Median	No	AADT	5267	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.121	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.580	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	370	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	268	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.26	Density	N/A	PTSF	70.4	ATS	30.8	% FFS	77.1
FFS Delay	16.0	LOS Thresh. Delay	26.8	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	50	190	450	720	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	330	780	1250	2450
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	800	2800	6500	10400	20300

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Cumberland Road	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 204 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.600	Median	No	AADT	9298	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.075	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.713	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	497	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	200	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.35	Density	N/A	PTSF	76.2	ATS	29.8	% FFS	74.4
FFS Delay	18.5	LOS Thresh. Delay	29.3	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	270	470	810	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	90	380	660	1140	2000
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1200	5100	8800	15200	26700

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Cumberland Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 204 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.600	Median	No	AADT	9298	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.121	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.658	Base Capacity	1700
Posted Speed	35	% NPZ	100	Peak Dir. Hrly. Vol.	740	Local Adj. Factor	0.91
Free Flow Speed	40	Class	3	Off Peak Dir. Hrly. Vol.	385	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.52	Density	N/A	PTSF	86.5	ATS	27.1	% FFS	67.8
FFS Delay	25.6	LOS Thresh. Delay	36.4	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	60	240	460	780	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	100	370	700	1190	2160
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	900	3100	5800	9900	17900

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Union Chapel Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 205 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.100	Median	No	AADT	8993	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.062	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.560	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	312	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	245	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.22	Density	N/A	PTSF	67.7	ATS	36.4	% FFS	80.9
FFS Delay	20.8	LOS Thresh. Delay	29.6	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	70	210	540	820	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	130	380	970	1470	2540
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2100	6200	15700	23800	41000

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Union Chapel Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 205 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.100	Median	No	AADT	8993	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.119	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.560	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	599	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	471	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.42	Density	N/A	PTSF	80.8	ATS	33.1	% FFS	73.5
FFS Delay	31.7	LOS Thresh. Delay	40.5	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	70	210	540	820	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	130	380	970	1470	2540
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1100	3200	8200	12400	21400

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Union Chapel Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 205 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.100	Median	No	AADT	16277	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.080	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.639	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	832	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	470	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.58	Density	N/A	PTSF	88.6	ATS	31.0	% FFS	68.8
FFS Delay	39.9	LOS Thresh. Delay	48.7	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	90	260	580	910	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	150	410	910	1430	2230
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1900	5200	11400	17900	27900

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Union Chapel Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 205 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.100	Median	No	AADT	16277	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.119	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.585	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	1133	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	804	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.80	Density	N/A	PTSF	93.2	ATS	25.9	% FFS	57.6
FFS Delay	64.7	LOS Thresh. Delay	73.5	Service Measure	PctFFS	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	80	220	550	850	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	380	950	1460	2430
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1200	3200	8000	12300	20500

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Summer Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	166h Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 206 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	3156	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.084	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.760	Base Capacity	1700
Posted Speed	45	% NPZ	85	Peak Dir. Hrly. Vol.	201	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	64	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.14	Density	N/A	PTSF	60.5	ATS	45.1	% FFS	90.2
FFS Delay	7.5	LOS Thresh. Delay	7.5	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	130	410	740	1160	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	540	980	1530	1870
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2200	6500	11700	18300	22300
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Summer Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	166h Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 206 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	3156	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.135	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.560	Base Capacity	1700
Posted Speed	45	% NPZ	85	Peak Dir. Hrly. Vol.	239	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	187	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.17	Density	N/A	PTSF	61.5	ATS	42.2	% FFS	84.5
FFS Delay	12.6	LOS Thresh. Delay	12.6	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	290	640	930	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	520	1150	1670	2540
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1400	3900	8600	12400	18900
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Summer Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	166h Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 206 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	3238	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.084	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.765	Base Capacity	1700
Posted Speed	45	% NPZ	85	Peak Dir. Hrly. Vol.	208	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	64	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.15	Density	N/A	PTSF	61.3	ATS	45.0	% FFS	90.0
FFS Delay	7.6	LOS Thresh. Delay	7.6	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	140	410	740	1160	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	190	540	970	1520	1860
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2300	6500	11600	18100	22200
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Summer Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	166h Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 206 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	3238	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.136	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.546	Base Capacity	1700
Posted Speed	45	% NPZ	85	Peak Dir. Hrly. Vol.	240	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	200	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.17	Density	N/A	PTSF	61.3	ATS	42.2	% FFS	84.4
FFS Delay	12.6	LOS Thresh. Delay	12.6	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	90	290	630	910	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	540	1160	1670	2610
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1300	4000	8600	12300	19200
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Boden Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 207 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	8383	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.049	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.790	Base Capacity	1700
Posted Speed	45	% NPZ	6	Peak Dir. Hrly. Vol.	325	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	86	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.23	Density	N/A	PTSF	46.5	ATS	45.9	% FFS	91.8
FFS Delay	6.1	LOS Thresh. Delay	6.1	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	320	600	960	1330	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	410	760	1220	1690	1800
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	8400	15600	24900	34500	36800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Boden Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 207 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	8383	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.102	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.540	Base Capacity	1700
Posted Speed	45	% NPZ	6	Peak Dir. Hrly. Vol.	462	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	393	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.33	Density	N/A	PTSF	63.9	ATS	41.1	% FFS	82.2
FFS Delay	14.8	LOS Thresh. Delay	14.8	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	170	420	690	940	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	320	780	1280	1750	2630
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3200	7700	12600	17200	25800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Boden Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 207 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	19676	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.057	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.719	Base Capacity	1700
Posted Speed	45	% NPZ	6	Peak Dir. Hrly. Vol.	806	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	315	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.57	Density	N/A	PTSF	78.0	ATS	38.5	% FFS	76.9
FFS Delay	20.5	LOS Thresh. Delay	20.5	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	270	550	880	1240	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	380	770	1230	1730	1980
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	6700	13600	21600	30400	34800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Boden Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 207 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	19676	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.102	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.548	Base Capacity	1700
Posted Speed	45	% NPZ	6	Peak Dir. Hrly. Vol.	1100	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	907	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.77	Density	N/A	PTSF	89.9	ATS	31.0	% FFS	62.0
FFS Delay	41.9	LOS Thresh. Delay	41.9	Service Measure	PctFFS	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	180	420	700	960	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	330	770	1280	1760	2600
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3300	7600	12600	17300	25500
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Olio Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 208 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	5010	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.079	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.570	Base Capacity	1700
Posted Speed	55	% NPZ	10	Peak Dir. Hrly. Vol.	226	Local Adj. Factor	0.91
Free Flow Speed	60	Class	3	Off Peak Dir. Hrly. Vol.	170	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.16	Density	N/A	PTSF	42.9	ATS	54.4	% FFS	90.7
FFS Delay	5.9	LOS Thresh. Delay	0.0	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	200	530	880	1190	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	360	930	1550	2090	2500
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	4600	11800	19700	26500	31700
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	Danah	Highway Name	Olio Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 208 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	5010	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.104	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.560	Base Capacity	1700
Posted Speed	55	% NPZ	10	Peak Dir. Hrly. Vol.	292	Local Adj. Factor	0.91
Free Flow Speed	60	Class	3	Off Peak Dir. Hrly. Vol.	229	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.21	Density	N/A	PTSF	51.0	ATS	53.4	% FFS	89.0
FFS Delay	7.0	LOS Thresh. Delay	0.0	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	190	520	860	1170	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	340	930	1540	2090	2540
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3300	9000	14900	20100	24500
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Olio Road	Study Period	Kother
Date Prepared	9/20/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 208 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	25981	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.082	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.720	Base Capacity	1700
Posted Speed	55	% NPZ	10	Peak Dir. Hrly. Vol.	1534	Local Adj. Factor	0.91
Free Flow Speed	60	Class	3	Off Peak Dir. Hrly. Vol.	597	Adjusted Capacity	1428

LOS Results

v/c Ratio	1.08	Density	N/A	PTSF	100.0	ATS	0.0	% FFS	0.0
FFS Delay	Infinity	LOS Thresh. Delay	Infinity	Service Measure	vcRatio	LOS	F		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	290	640	1060	1420	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	410	890	1480	1980	1980
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	5100	10900	18100	24200	24200
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Olio Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	166th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 208 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	25981	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.104	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.562	Base Capacity	1700
Posted Speed	55	% NPZ	10	Peak Dir. Hrly. Vol.	1519	Local Adj. Factor	0.91
Free Flow Speed	60	Class	3	Off Peak Dir. Hrly. Vol.	1183	Adjusted Capacity	1428

LOS Results

v/c Ratio	1.07	Density	N/A	PTSF	100.0	ATS	0.0	% FFS	0.0
FFS Delay	Infinity	LOS Thresh. Delay	Infinity	Service Measure	vcRatio	LOS	F		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	190	520	870	1170	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	340	930	1550	2090	2530
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3300	9000	15000	20100	24400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Olio Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	166th Street	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\PM\Fu 208 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.000	Median	No	AADT	25981	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.104	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.577	Base Capacity	2200
Posted Speed	55	% NPZ	N/A	Peak Dir. Hrly. Vol.	1559	Local Adj. Factor	0.88
Free Flow Speed	60	Class	3	Off Peak Dir. Hrly. Vol.	1143	Adjusted Capacity	1812

LOS Results

v/c Ratio	0.47	Density	17.1	PTSF	N/A	ATS	60.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	0.0	Service Measure	Density	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	900	1540	2170	2720	2930
3	1360	2310	3260	4080	4400
4	1810	3090	4350	5440	5870
Lanes	Hourly Volume In Both Directions				
2					
4	1560	2670	3770	4720	5080
6	2360	4010	5650	7080	7630
8	3140	5360	7540	9430	10180
Lanes	Annual Average Daily Traffic				
2					
4	15000	25700	36300	45400	48900
6	22700	38600	54400	68100	73400
8	30200	51600	72600	90700	97900

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Olio Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	166th Street	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\AM\Fu 208 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	1.000	Median	No	AADT	25981	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.082	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.720	Base Capacity	2200
Posted Speed	55	% NPZ	N/A	Peak Dir. Hrly. Vol.	1534	Local Adj. Factor	0.88
Free Flow Speed	60	Class	3	Off Peak Dir. Hrly. Vol.	597	Adjusted Capacity	1812

LOS Results

v/c Ratio	0.46	Density	16.9	PTSF	N/A	ATS	60.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	0.0	Service Measure	Density	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	900	1540	2170	2720	2930
3	1360	2310	3260	4080	4400
4	1810	3090	4350	5440	5870
Lanes	Hourly Volume In Both Directions				
2					
4	1260	2140	3020	3780	4070
6	1890	3210	4530	5670	6120
8	2520	4300	6050	7560	8160
Lanes	Annual Average Daily Traffic				
2					
4	15400	26100	36900	46100	49700
6	23100	39200	55300	69200	74700
8	30800	52500	73800	92200	99600

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Prairie Baptist Road	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	156th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 38	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 209 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.900	Median	No	AADT	1820	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.078	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.720	Base Capacity	1700
Posted Speed	50	% NPZ	10	Peak Dir. Hrly. Vol.	102	Local Adj. Factor	0.91
Free Flow Speed	55	Class	3	Off Peak Dir. Hrly. Vol.	40	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.07	Density	N/A	PTSF	27.5	ATS	53.2	% FFS	96.6
FFS Delay	2.0	LOS Thresh. Delay	0.0	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	280	590	970	1350	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	390	820	1350	1880	1980
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	5000	10600	17400	24200	25400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Prairie Baptist Road	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	156th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 38	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 209 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.900	Median	No	AADT	1820	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.078	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.720	Base Capacity	1700
Posted Speed	50	% NPZ	10	Peak Dir. Hrly. Vol.	102	Local Adj. Factor	0.91
Free Flow Speed	55	Class	3	Off Peak Dir. Hrly. Vol.	40	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.07	Density	N/A	PTSF	27.5	ATS	53.2	% FFS	96.6
FFS Delay	2.0	LOS Thresh. Delay	0.0	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	280	590	970	1350	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	390	820	1350	1880	1980
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	5000	10600	17400	24200	25400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Prairie Baptist Road	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	156th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 38	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 209 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.900	Median	No	AADT	15531	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.101	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.813	Base Capacity	1700
Posted Speed	50	% NPZ	10	Peak Dir. Hrly. Vol.	1275	Local Adj. Factor	0.91
Free Flow Speed	55	Class	3	Off Peak Dir. Hrly. Vol.	293	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.90	Density	N/A	PTSF	89.0	ATS	39.1	% FFS	71.1
FFS Delay	24.0	LOS Thresh. Delay	18.1	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	350	670	1080	1420	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	440	830	1330	1750	1750
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	4400	8300	13200	17400	17400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Prairie Baptist Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	156th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	SR 38	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 209 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.900	Median	No	AADT	15531	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.128	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.620	Base Capacity	1700
Posted Speed	50	% NPZ	10	Peak Dir. Hrly. Vol.	1233	Local Adj. Factor	0.91
Free Flow Speed	55	Class	3	Off Peak Dir. Hrly. Vol.	755	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.87	Density	N/A	PTSF	91.3	ATS	36.1	% FFS	65.6
FFS Delay	30.9	LOS Thresh. Delay	25.0	Service Measure	PctFFS	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	220	520	860	1190	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	360	840	1390	1920	2300
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2900	6600	10900	15000	18000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Cyntheanne Road	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	SR 38	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 210 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.700	Median	No	AADT	1875	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.081	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.660	Base Capacity	1700
Posted Speed	50	% NPZ	25	Peak Dir. Hrly. Vol.	100	Local Adj. Factor	0.91
Free Flow Speed	55	Class	3	Off Peak Dir. Hrly. Vol.	52	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.07	Density	N/A	PTSF	34.5	ATS	52.9	% FFS	96.1
FFS Delay	1.8	LOS Thresh. Delay	0.0	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	230	540	900	1260	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	350	820	1370	1910	2160
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	4400	10200	17000	23600	26700
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Cyntheanne Road	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	SR 38	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 210 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.700	Median	No	AADT	1875	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.103	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.500	Base Capacity	1700
Posted Speed	50	% NPZ	25	Peak Dir. Hrly. Vol.	97	Local Adj. Factor	0.91
Free Flow Speed	55	Class	3	Off Peak Dir. Hrly. Vol.	97	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.07	Density	N/A	PTSF	30.6	ATS	52.3	% FFS	95.1
FFS Delay	2.4	LOS Thresh. Delay	0.0	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	150	420	710	960	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	300	840	1420	1920	2840
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3000	8200	13800	18700	27600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Cyntheanne Road	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	SR 38	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 210 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.700	Median	No	AADT	2670	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.090	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.540	Base Capacity	1700
Posted Speed	50	% NPZ	25	Peak Dir. Hrly. Vol.	130	Local Adj. Factor	0.91
Free Flow Speed	55	Class	3	Off Peak Dir. Hrly. Vol.	111	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.09	Density	N/A	PTSF	37.2	ATS	51.7	% FFS	93.9
FFS Delay	3.0	LOS Thresh. Delay	0.0	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	170	450	760	1030	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	320	840	1410	1910	2630
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3600	9400	15700	21300	29300
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Cyntheanne Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	SR 38	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 210 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.700	Median	No	AADT	2670	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.103	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.505	Base Capacity	1700
Posted Speed	50	% NPZ	25	Peak Dir. Hrly. Vol.	139	Local Adj. Factor	0.91
Free Flow Speed	55	Class	3	Off Peak Dir. Hrly. Vol.	136	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.10	Density	N/A	PTSF	38.6	ATS	51.0	% FFS	92.8
FFS Delay	3.6	LOS Thresh. Delay	0.0	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	150	430	710	970	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	300	860	1410	1930	2820
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3000	8400	13700	18800	27400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Atlantic Road	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	SR 38	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 211 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.020	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.550	Base Capacity	1700
Posted Speed	45	% NPZ	0	Peak Dir. Hrly. Vol.	11	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	9	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.01	Density	N/A	PTSF	7.2	ATS	49.6	% FFS	99.2
FFS Delay	0.2	LOS Thresh. Delay	0.2	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	180	430	710	960	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	330	790	1300	1750	2590
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	16600	39600	65000	87600	129600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Atlantic Road	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	SR 38	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 211 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.053	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.830	Base Capacity	1700
Posted Speed	45	% NPZ	0	Peak Dir. Hrly. Vol.	44	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	9	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.03	Density	N/A	PTSF	12.7	ATS	49.3	% FFS	98.6
FFS Delay	0.4	LOS Thresh. Delay	0.4	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	350	660	1010	1380	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	430	800	1220	1670	1720
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	8200	15100	23100	31600	32500
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Atlantic Road	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	SR 38	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 211 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.032	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.594	Base Capacity	1700
Posted Speed	45	% NPZ	0	Peak Dir. Hrly. Vol.	19	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	13	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.01	Density	N/A	PTSF	9.3	ATS	49.5	% FFS	99.0
FFS Delay	0.3	LOS Thresh. Delay	0.3	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	200	460	760	1040	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	340	780	1280	1760	2400
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	10700	24400	40000	55000	75000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Atlantic Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	SR 38	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 211 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.076	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.789	Base Capacity	1700
Posted Speed	45	% NPZ	0	Peak Dir. Hrly. Vol.	60	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	16	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.04	Density	N/A	PTSF	15.7	ATS	49.1	% FFS	98.2
FFS Delay	0.5	LOS Thresh. Delay	0.5	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	320	600	960	1320	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	410	770	1220	1680	1800
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	5400	10200	16100	22200	23700
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Cyntheanne Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Atlantic Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 212 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.010	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	1.000	Base Capacity	1700
Posted Speed	45	% NPZ	0	Peak Dir. Hrly. Vol.	10	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	0	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.01	Density	N/A	PTSF	6.2	ATS	49.7	% FFS	99.4
FFS Delay	0.4	LOS Thresh. Delay	0.4	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	420	870	1320	1420	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	420	880	1320	1420	1420
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	42000	88000	132000	142000	142000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Cyntheanne Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Atlantic Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 212 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.010	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	1.000	Base Capacity	1700
Posted Speed	45	% NPZ	0	Peak Dir. Hrly. Vol.	10	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	0	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.01	Density	N/A	PTSF	6.2	ATS	49.7	% FFS	99.4
FFS Delay	0.4	LOS Thresh. Delay	0.4	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	420	870	1320	1420	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	420	880	1320	1420	1420
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	42000	88000	132000	142000	142000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Cyntheanne Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Atlantic Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 212 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.010	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	1.000	Base Capacity	1700
Posted Speed	45	% NPZ	0	Peak Dir. Hrly. Vol.	10	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	0	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.01	Density	N/A	PTSF	6.2	ATS	49.7	% FFS	99.4
FFS Delay	0.4	LOS Thresh. Delay	0.4	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	420	870	1320	1420	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	420	880	1320	1420	1420
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	42000	88000	132000	142000	142000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	156th Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Cyntheanne Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Atlantic Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 212 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.010	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	1.000	Base Capacity	1700
Posted Speed	45	% NPZ	0	Peak Dir. Hrly. Vol.	10	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	0	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.01	Density	N/A	PTSF	6.2	ATS	49.7	% FFS	99.4
FFS Delay	0.4	LOS Thresh. Delay	0.4	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	420	870	1320	1420	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	420	880	1320	1420	1420
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	42000	88000	132000	142000	142000
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Prairie Baptist Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Cyntheanne Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 213 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.010	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.830	Base Capacity	1700
Posted Speed	45	% NPZ	0	Peak Dir. Hrly. Vol.	8	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	2	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.01	Density	N/A	PTSF	7.3	ATS	49.7	% FFS	99.4
FFS Delay	0.4	LOS Thresh. Delay	0.4	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	350	660	1010	1380	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	430	800	1220	1670	1720
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	43000	80000	122000	167000	172000

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Prairie Baptist Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Cyntheanne Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 213 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.026	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.540	Base Capacity	1700
Posted Speed	45	% NPZ	0	Peak Dir. Hrly. Vol.	14	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	12	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.01	Density	N/A	PTSF	7.4	ATS	49.6	% FFS	99.1
FFS Delay	0.6	LOS Thresh. Delay	0.6	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	170	420	690	940	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	320	780	1280	1750	2630
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	12400	30000	49300	67400	101200

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Prairie Baptist Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Cyntheanne Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 213 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.013	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.692	Base Capacity	1700
Posted Speed	45	% NPZ	0	Peak Dir. Hrly. Vol.	9	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	4	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.01	Density	N/A	PTSF	8.3	ATS	49.7	% FFS	99.4
FFS Delay	0.4	LOS Thresh. Delay	0.4	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	260	530	860	1200	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	380	770	1250	1740	2060
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	29300	59300	96200	133900	158500

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	156th Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Prairie Baptist Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Cyntheanne Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 213 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.051	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.667	Base Capacity	1700
Posted Speed	45	% NPZ	0	Peak Dir. Hrly. Vol.	34	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	17	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.02	Density	N/A	PTSF	11.9	ATS	49.3	% FFS	98.6
FFS Delay	1.0	LOS Thresh. Delay	1.0	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	240	510	830	1160	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	360	770	1250	1740	2130
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	7100	15100	24600	34200	41800

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Prairie Baptist Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Olio Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 214 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.012	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.920	Base Capacity	1700
Posted Speed	40	% NPZ	10	Peak Dir. Hrly. Vol.	11	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	1	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.01	Density	N/A	PTSF	14.9	ATS	44.8	% FFS	99.5
FFS Delay	0.4	LOS Thresh. Delay	8.0	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	350	730	1090	1420	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	390	800	1190	1550	1550
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	32600	66700	99200	129200	129200
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Prairie Baptist Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Olio Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 214 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.021	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.620	Base Capacity	1700
Posted Speed	40	% NPZ	10	Peak Dir. Hrly. Vol.	13	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	8	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.01	Density	N/A	PTSF	14.7	ATS	44.7	% FFS	99.3
FFS Delay	0.5	LOS Thresh. Delay	8.1	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	210	430	710	970	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	340	700	1150	1570	2300
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	16200	33400	54800	74800	109600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Prairie Baptist Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Olio Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 214 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	6200	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.045	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.728	Base Capacity	1700
Posted Speed	45	% NPZ	10	Peak Dir. Hrly. Vol.	203	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	76	Adjusted Capacity	1547

LOS Results

v/c Ratio	0.14	Density	N/A	PTSF	39.3	ATS	47.2	% FFS	94.3
FFS Delay	4.1	LOS Thresh. Delay	4.1	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	280	550	890	1250	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	390	760	1230	1720	1960
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	8700	16900	27400	38300	43600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	156th Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Prairie Baptist Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Olio Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 214 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	6200	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.103	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.563	Base Capacity	1700
Posted Speed	45	% NPZ	10	Peak Dir. Hrly. Vol.	360	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	279	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.25	Density	N/A	PTSF	56.9	ATS	42.9	% FFS	85.8
FFS Delay	11.3	LOS Thresh. Delay	11.3	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	190	430	720	980	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	340	770	1280	1750	2530
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	3400	7500	12500	17000	24600
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Boden Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Olio Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 215 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.041	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.630	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	26	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	15	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.02	Density	N/A	PTSF	37.0	ATS	47.1	% FFS	94.2
FFS Delay	4.2	LOS Thresh. Delay	4.2	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	110	290	680	1020	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	470	1080	1620	2260
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	4400	11500	26400	39600	55200
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Boden Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Olio Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 215 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	1000	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.063	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.570	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	36	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	27	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.03	Density	N/A	PTSF	35.7	ATS	46.9	% FFS	93.8
FFS Delay	4.5	LOS Thresh. Delay	4.5	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	280	640	940	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	500	1130	1650	2500
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2900	8000	18000	26200	39700
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Boden Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Olio Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 215 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	12651	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.063	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.630	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	502	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	295	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.35	Density	N/A	PTSF	77.5	ATS	39.6	% FFS	79.2
FFS Delay	18.0	LOS Thresh. Delay	18.0	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	110	290	680	1020	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	470	1080	1620	2260
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2900	7500	17200	25800	35900
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	156th Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Boden Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Olio Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\230775-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 215 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	12651	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.109	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.582	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	803	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	576	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.56	Density	N/A	PTSF	87.6	ATS	35.6	% FFS	71.1
FFS Delay	27.7	LOS Thresh. Delay	27.7	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	290	650	960	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	500	1120	1650	2440
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1700	4600	10300	15200	22400
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Boden Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Summer Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 216 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	2038	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.110	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.730	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	164	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	61	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.12	Density	N/A	PTSF	56.4	ATS	45.4	% FFS	90.8
FFS Delay	7.0	LOS Thresh. Delay	7.0	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	120	370	730	1130	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	510	1000	1550	1950
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1600	4700	9100	14100	17800
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Boden Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Summer Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 216 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	2038	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.144	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.540	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	158	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	135	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.11	Density	N/A	PTSF	52.8	ATS	43.8	% FFS	87.5
FFS Delay	9.7	LOS Thresh. Delay	9.7	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	90	280	620	900	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	520	1150	1670	2630
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1200	3700	8000	11600	18300
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Boden Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Summer Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 216 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	5355	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.110	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.581	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	342	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	247	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.24	Density	N/A	PTSF	69.6	ATS	41.1	% FFS	82.3
FFS Delay	14.8	LOS Thresh. Delay	14.8	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	280	650	960	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	490	1120	1660	2450
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1700	4500	10200	15100	22300
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	156th Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Boden Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Summer Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 216 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.950	Median	No	AADT	5355	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.166	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.529	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	470	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	419	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.33	Density	N/A	PTSF	75.1	ATS	39.4	% FFS	78.9
FFS Delay	18.3	LOS Thresh. Delay	18.3	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	90	280	610	880	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	530	1160	1670	2690
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1100	3200	7000	10100	16300
4					
6					
8					

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Summer Road	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	156th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 217 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	2519	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.081	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.890	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	182	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	22	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.13	Density	N/A	PTSF	61.2	ATS	45.6	% FFS	91.2
FFS Delay	2.8	LOS Thresh. Delay	2.8	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	150	550	900	1230	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	620	1020	1390	1600
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2100	7700	12600	17200	19800

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Summer Road	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	156th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 217 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	2519	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.093	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.630	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	148	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	87	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.11	Density	N/A	PTSF	52.7	ATS	45.2	% FFS	90.4
FFS Delay	3.1	LOS Thresh. Delay	3.1	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	110	290	680	1020	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	470	1080	1620	2260
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2000	5100	11700	17500	24400

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Summer Road	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	156th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Southbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 217 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	2605	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.081	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.896	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	189	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	22	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.13	Density	N/A	PTSF	61.6	ATS	45.5	% FFS	91.0
FFS Delay	2.8	LOS Thresh. Delay	2.8	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	150	560	920	1250	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	630	1030	1400	1590
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2100	7800	12800	17300	19700

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Summer Road	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	156th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Northbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 217 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.400	Median	No	AADT	2605	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.096	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.592	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	148	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	102	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.11	Density	N/A	PTSF	52.1	ATS	44.8	% FFS	89.5
FFS Delay	3.4	LOS Thresh. Delay	3.4	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	290	660	980	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	490	1120	1660	2400
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1800	5200	11700	17300	25000

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Summer Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 218 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	10805	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.077	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.720	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	599	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	233	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.42	Density	N/A	PTSF	81.8	ATS	38.8	% FFS	77.6
FFS Delay	16.7	LOS Thresh. Delay	16.7	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	120	360	720	1120	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	500	1000	1560	1980
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2300	6500	13000	20300	25800

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Summer Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 218 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	10805	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.134	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.590	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	854	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	594	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.60	Density	N/A	PTSF	88.9	ATS	35.0	% FFS	70.0
FFS Delay	24.7	LOS Thresh. Delay	24.7	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	290	650	970	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	500	1110	1650	2410
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1300	3800	8300	12400	18000

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Summer Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 218 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	29978	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.088	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.546	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	1440	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	1198	Adjusted Capacity	1428

LOS Results

v/c Ratio	1.01	Density	N/A	PTSF	100.0	ATS	0.0	% FFS	0.0
FFS Delay	Infinity	LOS Thresh. Delay	Infinity	Service Measure	vcRatio	LOS	F		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	90	280	620	910	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	520	1140	1670	2610
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2000	6000	13000	19000	29700

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Summer Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 218 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	29978	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.134	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.557	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	2237	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	1780	Adjusted Capacity	1428

LOS Results

v/c Ratio	1.57	Density	N/A	PTSF	100.0	ATS	0.0	% FFS	0.0
FFS Delay	Infinity	LOS Thresh. Delay	Infinity	Service Measure	vcRatio	LOS	F		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	90	280	630	920	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	510	1140	1660	2550
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1300	3900	8600	12400	19100

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Summer Road	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\AM\Fu 218 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	29978	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.088	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.546	Base Capacity	2000
Posted Speed	45	% NPZ	N/A	Peak Dir. Hrly. Vol.	1440	Local Adj. Factor	0.88
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	1198	Adjusted Capacity	1647

LOS Results

v/c Ratio	0.48	Density	19.0	PTSF	N/A	ATS	50.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	9.6	Service Measure	Density	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	750	1280	1810	2320	2690
3	1130	1930	2720	3480	4040
4	1510	2570	3630	4650	5390
Lanes	Hourly Volume In Both Directions				
2					
4	1380	2350	3320	4250	4930
6	2070	3540	4990	6380	7400
8	2770	4710	6650	8520	9880
Lanes	Annual Average Daily Traffic				
2					

4	15700	26800	37800	48300	56100
6	23600	40300	56800	72600	84100
8	31500	53600	75600	96900	112300

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Summer Road	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	156th Street	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\PM\Fu 218 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	29978	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.134	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.557	Base Capacity	2000
Posted Speed	45	% NPZ	N/A	Peak Dir. Hrly. Vol.	2237	Local Adj. Factor	0.88
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	1780	Adjusted Capacity	1647

LOS Results

v/c Ratio	0.74	Density	29.7	PTSF	N/A	ATS	49.8	% FFS	99.5
FFS Delay	0.3	LOS Thresh. Delay	9.9	Service Measure	Density	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	750	1280	1810	2320	2690
3	1130	1930	2720	3480	4040
4	1510	2570	3630	4650	5390
Lanes	Hourly Volume In Both Directions				
2					
4	1350	2300	3250	4170	4830
6	2030	3470	4890	6250	7260
8	2720	4620	6520	8350	9680
Lanes	Annual Average Daily Traffic				
2					

4	10100	17200	24300	31200	36100
6	15200	25900	36500	46700	54200
8	20300	34500	48700	62400	72300

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Summer Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 219 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.900	Median	No	AADT	1434	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.117	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.780	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	131	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	37	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.09	Density	N/A	PTSF	55.0	ATS	45.9	% FFS	91.8
FFS Delay	5.8	LOS Thresh. Delay	5.8	Service Measure	PctFFS	LOS	A		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	130	420	740	1170	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	540	950	1500	1830
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1500	4700	8200	12900	15700

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Summer Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 219 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.900	Median	No	AADT	1434	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.171	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.630	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	154	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	91	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.11	Density	N/A	PTSF	53.4	ATS	45.0	% FFS	90.0
FFS Delay	7.2	LOS Thresh. Delay	7.2	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	110	290	680	1020	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	470	1080	1620	2260
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1100	2800	6400	9500	13300

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* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	156th Street	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Summer Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 219 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.900	Median	No	AADT	4547	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.117	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.776	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	413	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	119	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.29	Density	N/A	PTSF	75.1	ATS	41.8	% FFS	83.7
FFS Delay	12.6	LOS Thresh. Delay	12.6	Service Measure	PctFFS	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	130	420	740	1160	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	550	960	1500	1830
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1500	4800	8300	12900	15700

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* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	156th Street	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Summer Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Greenfield Avenue	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 219 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.900	Median	No	AADT	4547	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.185	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.581	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	489	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	352	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.34	Density	N/A	PTSF	76.7	ATS	39.6	% FFS	79.1
FFS Delay	17.1	LOS Thresh. Delay	17.1	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	280	650	960	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	180	490	1120	1660	2450
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1000	2700	6100	9000	13300

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* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	156th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Union Chapel Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 220 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	13143	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.064	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.720	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	606	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	236	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.43	Density	N/A	PTSF	82.2	ATS	38.7	% FFS	77.4
FFS Delay	6.3	LOS Thresh. Delay	6.3	Service Measure	PctFFS	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	120	360	720	1120	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	500	1000	1560	1980
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2700	7900	15700	24400	31000

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* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	156th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Union Chapel Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 220 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	13143	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.111	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.590	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	861	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	598	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.60	Density	N/A	PTSF	89.1	ATS	34.9	% FFS	69.8
FFS Delay	9.3	LOS Thresh. Delay	9.3	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	290	650	970	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	500	1110	1650	2410
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1600	4600	10000	14900	21800

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	156th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Union Chapel Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 220 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	41468	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.070	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.504	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	1463	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	1440	Adjusted Capacity	1428

LOS Results

v/c Ratio	1.03	Density	N/A	PTSF	100.0	ATS	0.0	% FFS	0.0
FFS Delay	Infinity	LOS Thresh. Delay	Infinity	Service Measure	vcRatio	LOS	F		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	80	270	590	840	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	160	540	1180	1670	2820
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2300	7800	16900	23900	40300

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	156th Street	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Union Chapel Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 220 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	41468	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.111	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.541	Base Capacity	1700
Posted Speed	45	% NPZ	100	Peak Dir. Hrly. Vol.	2490	Local Adj. Factor	0.91
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	2113	Adjusted Capacity	1428

LOS Results

v/c Ratio	1.75	Density	N/A	PTSF	100.0	ATS	0.0	% FFS	0.0
FFS Delay	Infinity	LOS Thresh. Delay	Infinity	Service Measure	vcRatio	LOS	F		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	90	280	620	900	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	170	520	1150	1670	2630
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1600	4700	10400	15100	23700

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	156th Street	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Union Chapel Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\AM\Fu 220 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	41468	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.070	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.504	Base Capacity	2000
Posted Speed	45	% NPZ	N/A	Peak Dir. Hrly. Vol.	1463	Local Adj. Factor	0.88
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	1440	Adjusted Capacity	1647

LOS Results

v/c Ratio	0.48	Density	19.3	PTSF	N/A	ATS	50.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	3.6	Service Measure	Density	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	750	1280	1810	2320	2690
3	1130	1930	2720	3480	4040
4	1510	2570	3630	4650	5390
Lanes	Hourly Volume In Both Directions				
2					
4	1490	2540	3600	4610	5340
6	2250	3830	5400	6910	8020
8	3000	5100	7210	9230	10700
Lanes	Annual Average Daily Traffic				
2					

4	21300	36300	51500	65900	76300
6	32200	54800	77200	98800	114600
8	42900	72900	103000	131900	152900

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	156th Street	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Union Chapel Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\PM\Fu 220 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	41468	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.111	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.541	Base Capacity	2000
Posted Speed	45	% NPZ	N/A	Peak Dir. Hrly. Vol.	2490	Local Adj. Factor	0.88
Free Flow Speed	50	Class	3	Off Peak Dir. Hrly. Vol.	2113	Adjusted Capacity	1647

LOS Results

v/c Ratio	0.82	Density	33.6	PTSF	N/A	ATS	48.9	% FFS	97.9
FFS Delay	0.5	LOS Thresh. Delay	4.1	Service Measure	Density	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	750	1280	1810	2320	2690
3	1130	1930	2720	3480	4040
4	1510	2570	3630	4650	5390
Lanes	Hourly Volume In Both Directions				
2					
4	1390	2370	3350	4290	4980
6	2090	3570	5030	6440	7470
8	2800	4760	6710	8600	9970
Lanes	Annual Average Daily Traffic				
2					

4	12600	21400	30200	38700	44900
6	18900	32200	45400	58100	67300
8	25300	42900	60500	77500	89900

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Howe Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 221 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	12073	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.074	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.710	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	634	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	259	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.45	Density	N/A	PTSF	83.2	ATS	33.4	% FFS	74.2
FFS Delay	8.3	LOS Thresh. Delay	10.7	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	310	590	960	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	150	440	840	1360	2000
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2100	6000	11400	18400	27100

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Howe Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 221 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	12073	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.123	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.600	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	891	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	594	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.63	Density	N/A	PTSF	89.8	ATS	29.8	% FFS	66.1
FFS Delay	12.3	LOS Thresh. Delay	14.7	Service Measure	PctFFS	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	80	230	560	870	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	390	940	1460	2370
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1200	3200	7700	11900	19300

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Howe Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 221 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	37374	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.077	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.510	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	1468	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	1410	Adjusted Capacity	1428

LOS Results

v/c Ratio	1.03	Density	N/A	PTSF	100.0	ATS	0.0	% FFS	0.0
FFS Delay	Infinity	LOS Thresh. Delay	Infinity	Service Measure	vcRatio	LOS	F		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	70	200	510	760	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	400	1000	1500	2790
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1900	5200	13000	19500	36300

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Howe Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 221 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	37374	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.123	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.534	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	2455	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	2142	Adjusted Capacity	1428

LOS Results

v/c Ratio	1.72	Density	N/A	PTSF	100.0	ATS	0.0	% FFS	0.0
FFS Delay	Infinity	LOS Thresh. Delay	Infinity	Service Measure	vcRatio	LOS	F		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	70	200	530	790	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	380	1000	1480	2660
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1200	3100	8200	12100	21700

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Howe Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\AM\Fu 221 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	37374	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.077	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.510	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	1468	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	1410	Adjusted Capacity	1565

LOS Results

v/c Ratio	0.51	Density	21.5	PTSF	N/A	ATS	45.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	6.0	Service Measure	Density	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	680	1150	1630	2110	2570
3	1020	1730	2450	3170	3860
4	1360	2310	3270	4220	5150
Lanes	Hourly Volume In Both Directions				
2					
4	1340	2260	3200	4140	5040
6	2000	3400	4810	6220	7570
8	2670	4530	6420	8280	10100
Lanes	Annual Average Daily Traffic				
2					

4	17500	29400	41600	53800	65500
6	26000	44200	62500	80800	98400
8	34700	58900	83400	107600	131200

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Union Chapel Road	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Howe Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\PM\Fu 221 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.300	Median	No	AADT	37374	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.123	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.534	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	2455	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	2142	Adjusted Capacity	1565

LOS Results

v/c Ratio	0.85	Density	36.8	PTSF	N/A	ATS	44.1	% FFS	97.9
FFS Delay	0.5	LOS Thresh. Delay	6.5	Service Measure	Density	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	680	1150	1630	2110	2570
3	1020	1730	2450	3170	3860
4	1360	2310	3270	4220	5150
Lanes	Hourly Volume In Both Directions				
2					
4	1280	2160	3060	3960	4820
6	1920	3240	4590	5940	7230
8	2550	4330	6130	7910	9650
Lanes	Annual Average Daily Traffic				
2					

4	10500	17600	24900	32200	39200
6	15700	26400	37400	48300	58800
8	20800	35300	49900	64400	78500

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Howe Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Cumberland Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 222 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	13269	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.065	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.730	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	630	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	233	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.44	Density	N/A	PTSF	83.5	ATS	33.5	% FFS	74.4
FFS Delay	22.0	LOS Thresh. Delay	28.4	Service Measure	PctFFS	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	100	330	600	970	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	460	830	1330	1950
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2200	7100	12800	20500	30000

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Howe Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Cumberland Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 222 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	13269	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.112	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.570	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	847	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	639	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.60	Density	N/A	PTSF	88.3	ATS	29.9	% FFS	66.5
FFS Delay	32.3	LOS Thresh. Delay	38.7	Service Measure	PctFFS	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	80	210	550	840	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	150	370	970	1480	2500
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1400	3400	8700	13300	22400

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	Howe Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Cumberland Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 222 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	42116	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.070	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.519	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	1530	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	1418	Adjusted Capacity	1428

LOS Results

v/c Ratio	1.08	Density	N/A	PTSF	100.0	ATS	0.0	% FFS	0.0
FFS Delay	Infinity	LOS Thresh. Delay	Infinity	Service Measure	vcRatio	LOS	F		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	70	200	520	770	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	140	390	1010	1490	2740
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	2000	5600	14500	21300	39200

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Howe Road	Analysis Type	Two-Lane Segment
Agency	A & F Engineering LLC	To	Cumberland Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 222 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	42116	PHF	0.920
# Thru Lanes	2	Left Turn Impact	No	K	0.112	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.539	Base Capacity	1700
Posted Speed	40	% NPZ	100	Peak Dir. Hrly. Vol.	2542	Local Adj. Factor	0.91
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	2175	Adjusted Capacity	1428

LOS Results

v/c Ratio	1.79	Density	N/A	PTSF	100.0	ATS	0.0	% FFS	0.0
FFS Delay	Infinity	LOS Thresh. Delay	Infinity	Service Measure	vcRatio	LOS	F		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1650 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	70	200	530	800	1420
2					
3					
4					
Lanes	Hourly Volume In Both Directions				
2	130	380	990	1490	2640
4					
6					
8					
Lanes	Annual Average Daily Traffic				
2	1200	3400	8900	13400	23600

4
6
8

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Howe Road	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Cumberland Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\AM\Fu 222 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	42116	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.070	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.519	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	1530	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	1418	Adjusted Capacity	1565

LOS Results

v/c Ratio	0.53	Density	22.4	PTSF	N/A	ATS	45.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	16.0	Service Measure	Density	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	680	1150	1630	2110	2570
3	1020	1730	2450	3170	3860
4	1360	2310	3270	4220	5150
Lanes	Hourly Volume In Both Directions				
2					
4	1320	2220	3150	4070	4960
6	1970	3340	4730	6110	7440
8	2630	4460	6310	8140	9930
Lanes	Annual Average Daily Traffic				
2					

4	18900	31800	45000	58200	70900
6	28200	47800	67600	87300	106300
8	37600	63800	90200	116300	141900

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	Howe Road	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Cumberland Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\PM\Fu 222 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.800	Median	No	AADT	42116	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.112	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.539	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	2542	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	2175	Adjusted Capacity	1565

LOS Results

v/c Ratio	0.88	Density	38.4	PTSF	N/A	ATS	43.7	% FFS	97.1
FFS Delay	1.9	LOS Thresh. Delay	17.9	Service Measure	Density	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	680	1150	1630	2110	2570
3	1020	1730	2450	3170	3860
4	1360	2310	3270	4220	5150
Lanes	Hourly Volume In Both Directions				
2					
4	1270	2140	3030	3920	4770
6	1900	3210	4550	5890	7170
8	2530	4290	6070	7830	9560
Lanes	Annual Average Daily Traffic				
2					

4	11400	19200	27100	35000	42600
6	17000	28700	40700	52600	64100
8	22600	38400	54200	70000	85400

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	SR 37	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Cumberland Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 223 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	Yes	AADT	20708	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.062	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.570	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	732	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	552	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.24	Density	10.2	PTSF	N/A	ATS	45.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	4.0	Service Measure	Density	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	710	1220	1720	2220	2710
3	1070	1830	2580	3330	4060
4	1430	2440	3440	4450	5420
Lanes	Hourly Volume In Both Directions				
2					
4	1250	2150	3020	3900	4760
6	1880	3220	4530	5850	7130
8	2510	4290	6040	7810	9510
Lanes	Annual Average Daily Traffic				
2					

4	20200	34700	48800	63000	76800
6	30400	52000	73100	94400	115000
8	40500	69200	97500	126000	153400

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	SR 37	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Cumberland Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Existing\Ex 223 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	Yes	AADT	20708	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.095	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.510	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	1003	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	964	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.33	Density	14.0	PTSF	N/A	ATS	45.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	4.0	Service Measure	Density	LOS	B		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	710	1220	1720	2220	2710
3	1070	1830	2580	3330	4060
4	1430	2440	3440	4450	5420
Lanes	Hourly Volume In Both Directions				
2					
4	1400	2400	3380	4360	5320
6	2100	3590	5060	6530	7970
8	2810	4790	6750	8730	10630
Lanes	Annual Average Daily Traffic				
2					

4	14800	25300	35600	45900	56000
6	22200	37800	53300	68800	83900
8	29600	50500	71100	91900	111900

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	TR	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	9/13/2023 10:58:32 AM	From	SR 37	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Cumberland Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\AM\Fu 223 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	Yes	AADT	59905	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.062	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.625	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	2321	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	1393	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.77	Density	32.4	PTSF	N/A	ATS	44.8	% FFS	99.7
FFS Delay	0.1	LOS Thresh. Delay	4.1	Service Measure	Density	LOS	E		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	710	1220	1720	2220	2710
3	1070	1830	2580	3330	4060
4	1430	2440	3440	4450	5420
Lanes	Hourly Volume In Both Directions				
2					
4	1140	1960	2760	3560	4340
6	1720	2930	4130	5330	6500
8	2290	3910	5510	7120	8680
Lanes	Annual Average Daily Traffic				
2					

4	18400	31700	44600	57500	70000
6	27800	47300	66700	86000	104900
8	37000	63100	88900	114900	140000

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	SR 37	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Cumberland Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future\PM\Fu 223 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	Yes	AADT	59905	PHF	0.920
# Thru Lanes	4	Left Turn Impact	No	K	0.095	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.574	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	3267	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	2424	Adjusted Capacity	1428

LOS Results

v/c Ratio	1.08	Density	49.8	PTSF	N/A	ATS	41.1	% FFS	91.3
FFS Delay	1.5	LOS Thresh. Delay	5.5	Service Measure	Density	LOS	F		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	710	1220	1720	2220	2710
3	1070	1830	2580	3330	4060
4	1430	2440	3440	4450	5420
Lanes	Hourly Volume In Both Directions				
2					
4	1240	2130	3000	3870	4730
6	1870	3190	4500	5810	7080
8	2500	4260	6000	7760	9450
Lanes	Annual Average Daily Traffic				
2					

4	13100	22500	31600	40800	49800
6	19700	33600	47400	61200	74600
8	26400	44900	63200	81700	99500

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.

HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	SR 37	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Cumberland Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Eastbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\AM\Fu 223 AM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	Yes	AADT	59905	PHF	0.920
# Thru Lanes	6	Left Turn Impact	No	K	0.062	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.625	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	2321	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	1393	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.51	Density	21.6	PTSF	N/A	ATS	45.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	4.0	Service Measure	Density	LOS	C		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	710	1220	1720	2220	2710
3	1070	1830	2580	3330	4060
4	1430	2440	3440	4450	5420
Lanes	Hourly Volume In Both Directions				
2					
4	1140	1960	2760	3560	4340
6	1720	2930	4130	5330	6500
8	2290	3910	5510	7120	8680
Lanes	Annual Average Daily Traffic				
2					

4	18400	31700	44600	57500	70000
6	27800	47300	66700	86000	104900
8	37000	63100	88900	114900	140000

* Cannot be achieved based on input data provided.

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HIGHPLAN 2012 Conceptual Planning Analysis

Project Information

Analyst	SK	Highway Name	Greenfield Avenue	Study Period	Kother
Date Prepared	12/4/2023 10:58:32 AM	From	SR 37	Analysis Type	Multilane Segment
Agency	A & F Engineering LLC	To	Cumberland Road	Program	HIGHPLAN 2012
Area Type	Transitioning/Urban	Peak Direction	Westbound	Version Date	12/12/2012
File Name	Z:\2023\23077S-City of Noblesville, Road Impact Fee Update, Noblesville\Capacity Analysis\HCS\Future Mitigated\PM\Fu 223 PM.xhp				
User Notes					

Highway Data

Roadway Variables				Traffic Variables			
Segment Length	0.200	Median	Yes	AADT	59905	PHF	0.920
# Thru Lanes	6	Left Turn Impact	No	K	0.095	% Heavy Vehicles	3.0
Terrain	Level	Pass Lane Length	N/A	D	0.574	Base Capacity	1900
Posted Speed	40	% NPZ	N/A	Peak Dir. Hrly. Vol.	3267	Local Adj. Factor	0.88
Free Flow Speed	45	Class	3	Off Peak Dir. Hrly. Vol.	2424	Adjusted Capacity	1428

LOS Results

v/c Ratio	0.72	Density	30.3	PTSF	N/A	ATS	45.0	% FFS	100.0
FFS Delay	0.0	LOS Thresh. Delay	4.0	Service Measure	Density	LOS	D		

Service Volumes

Note: The maximum normally acceptable directional service volume for LOS E in Florida for this facility type and area type is 1850 veh/h/ln.

	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1					
2	710	1220	1720	2220	2710
3	1070	1830	2580	3330	4060
4	1430	2440	3440	4450	5420
Lanes	Hourly Volume In Both Directions				
2					
4	1240	2130	3000	3870	4730
6	1870	3190	4500	5810	7080
8	2500	4260	6000	7760	9450
Lanes	Annual Average Daily Traffic				
2					

4	13100	22500	31600	40800	49800
6	19700	33600	47400	61200	74600
8	26400	44900	63200	81700	99500

* Cannot be achieved based on input data provided.

Performance measure results are no longer applicable with the presence of passing lanes. Refer to the service volume tables to obtain the LOS.