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Traffic Study Memorandum

Project # 231351.000

TO: Brandon L. Kline, Architect

CC:

FROM: Dave Meyer, P.E.

DATE: April 11, 2024

RE: Weinland Park Development – Preliminary Traffic Study

The following summarizes a preliminary traffic study analysis performed for the proposed Weinland Park Development to be located on the northwest corner of the 5th Avenue intersection with 4th Street (US 23) in Columbus, Ohio. This analysis was performed without direct coordination with the City of Columbus but is in accordance with our knowledge of typical City of Columbus and Ohio standards. Direct coordination with Columbus will need to occur before preparing and submitting a traffic impact study to Columbus for review and approval.

Development Description

The development will include approximately 186 apartment residential dwelling units and approximately 4,740 SF of commercial/retail space. The development site will utilize 6th Avenue to access 4th Street as its primary site access. A secondary right-turn exit-only access to 5th Avenue is being considered.

Study Area and Traffic Count Data

The following four intersections were analyzed in this study.

- 5th Avenue at 4th Street
- 6th Avenue at 4th Street
- 7th Avenue at 4th Street
- Right-turn exit-only access to 5th Avenue

Traffic count data for the 5th Avenue and 7th Avenue intersections with 4th street is available on the Mid-Ohio Regional Planning Commission's (MORPC) website for the typical weekday AM and PM peak periods. The count data is from 2017 for 7th Avenue and 2019 for 5th Avenue. The count data at both intersections is included in summary tables attached to this memo. The AM and PM peak hour traffic volumes are presented in the attached Figure A.

Background Traffic Volumes

An annual growth rate was applied to counted traffic volumes to project opening year (2026) and horizon year (2036) background traffic volumes. The Ohio Department of Transportation's (ODOT) TIMS website contains future car growth rate projections along state and federal routes. On US 23 near the development site projected annual growth rates range from 0.97% to 1.84%. Therefore, a 1.50% annual growth rate was used to project background traffic volumes in the study area.





According to count data on MORPC's website, traffic volumes in the area of the development decreased between 2018 and 2022. For this analysis, we are assuming the 2017 and 2019 traffic count data is similar to existing (2024) traffic volumes. Therefore, the 1.5% annual growth rate was applied to the count data (Figure A) from 2024 to 2026 (1.03 factor) and from 2024 to 2036 (1.18 factor) to estimate future background volumes. The 2026 background volumes are presented in Figure B and the 2036 background volumes are presented in Figure C. These volumes represent the No-Build scenario condition for the traffic analyses.

Estimated Site Generated Trips

Site-generated trips for the proposed development were estimated using the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition) data. Data from ITE land use code 822 (Strip Retail Plaza) was used to estimate trips for 4,740 SF of commercial/retail space and data from land use code 221 (Multifamily Housing Mid-Rise) was used to estimate trips for 186 apartment units. Charts and calculations from the ITE Trip Generation Manual (OTISS Pro program) are attached to this memo.

Development trips were distributed at the study intersections. Since 4th Street is one-way northbound, all entering development trips will pass through the 5th Avenue signal and all exiting development trips will travel through the 7th Avenue signal. Development trips are presented in Figure D.

Total Traffic Volumes

The development trips were added to the projected background traffic volumes to derive the total traffic volumes. The projected 2026 total traffic volumes are presented in Figure E and the projected 2036 total traffic volumes are presented in Figure F. These volumes represent the Build scenario for the traffic analyses.

Traffic Analysis

HCS capacity analyses software was used to estimate delay and level of service at the three study intersections for the no-build and build scenarios. The LOS represents an intersection's measure of effectiveness and is used to determine the impacts on the intersection from the proposed development. LOS values range from "A" (best) to "F" (failing) and are based on the seconds delay an average vehicle experiences.

The two signalized intersections (5th Avenue and 7th Avenue) were analyzed with the projected No-Build and Build scenario traffic volumes in 2026 and in 2036. The tables on the following page summarize the results of the analysis. Note that in 2026 the 5th Avenue intersection is analyzed with one westbound approach lane as it currently exists due to construction. In 2036, a second westbound lane is analyzed.

According to the 2026 analysis, both signalized intersections are expected to operate effectively with the exception of the 5th Avenue intersection during the PM peak hour. During the PM peak hour, the westbound and northbound approaches to the 5th Avenue intersection are modeled to have unacceptable delays. However, in all scenarios the development traffic is not expected to have significant impact on the existing operation of the signalized intersections.

The unsignalized intersection of 6th Avenue was only analyzed with the 2036 build scenario traffic volumes. The analysis shows that the intersection is expected to operate acceptably with the development traffic volumes.



According to the 2036 analysis, both signalized intersections are expected to operate effectively during the AM peak hour but are modeled to have elevated delays during the PM peak hour. Again, in all scenarios the development traffic is not expected to have significant impact on the existing operation of the signalized intersections.

2026		Ea	astbound	Westbound	No	rthbour	nd	So	uthbound	INT.
2020		LT	THRU RT	LT THRU RT	LT	THRU	RT	LT	THRU RT	IIVI.
5th Avenue at	AM	13.6	10.0	32.1	22.4	22.6	25.8			24.0
4th Street	Aivi	В	В	С	С	С	С			С
No-Build	РМ	32.5	19.6	108.6	20.5	68.4	20.3			62.2
NO-Dalia	1 101	С	В	F	С	F	С			Е
5th Avenue at	AM	13.9	10.0	33.0	22.4	22.7	25.8			24.3
4th Street	Aivi	В	В	С	С	С	С			С
Build	PM	35.2	19.6	125.4	20.5	73.5	20.3			70.6
Dullu	FIVI	D	В	F	С	F	С			Е
7th Avenue at	AM		25.9	24.5	7.5		7.6			10.9
4th Street	Aivi		С	С	Α		Α			В
No-Build	РМ		45.9	31.1	22.2		22.3			25.3
NO-Dalia	1 101		D	С	С		С			С
7th Avenue at	AM		26.5	24.6	7.8		7.9			11.2
4th Street	_\IVI		С	С	Α		Α			В
Build	PM		45.9	31.1	24.6		25.2			27.2
Bulla	FIVI		D	С	С		С			С

Table A: 2026, Capacity Analyses Summary

2036		E	astbound	V	Vestbou	nd	No	rthbou	nd	Sc	uthbou	nd	INT.
2030		LT	THRU RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	1141.
5th Avenue at	AM	15.4	14.9		27.2	27.5	17.4	17.4	19.8				20.7
4th Street	Aivi	В	В		С	С	В	В	В				С
No-Build	РМ	35.8	31.4		62.0	64.6	14.4	37.0	14.3				39.3
No-Balla	1 101	D	С		E	Ε	В	D	В				D
5th Avenue at	AM	15.6	14.9		27.4	27.7	17.4	17.5	19.8				20.8
4th Street	7 (17)	В	В		С	С	В	В	В				С
Build	PM	39.6	31.4		67.4	70.2	14.4	40.9	14.3				42.7
Dalla	1 101	D	С		Е	E	В	D	В				D
6th Avenue at	AM	11.1					8.2						
4th Street	Aivi	В					Α						
Build	РМ	39.1					8.3						
Dalla	1 101	Е					Α						
7th Avenue at	AM		26.5		24.7		7.8		7.9				11.2
4th Street	Aivi		С		С		Α		Α				В
No-Build	PM		64.8		33.3		31.1		32.5				35.2
No-Build	FIVI		E		С		С		С				D
741 A	Δ N. #		26.5		24.7		8.0		8.2				11.2
7th Avenue at	AM		С		С		Α		Α				В
4th Street	DM		76.6		34.8		31.4		32.2				36.4
Build	PM		E		С		С		С				D

 Table B:
 2036, Capacity Analyses Summary

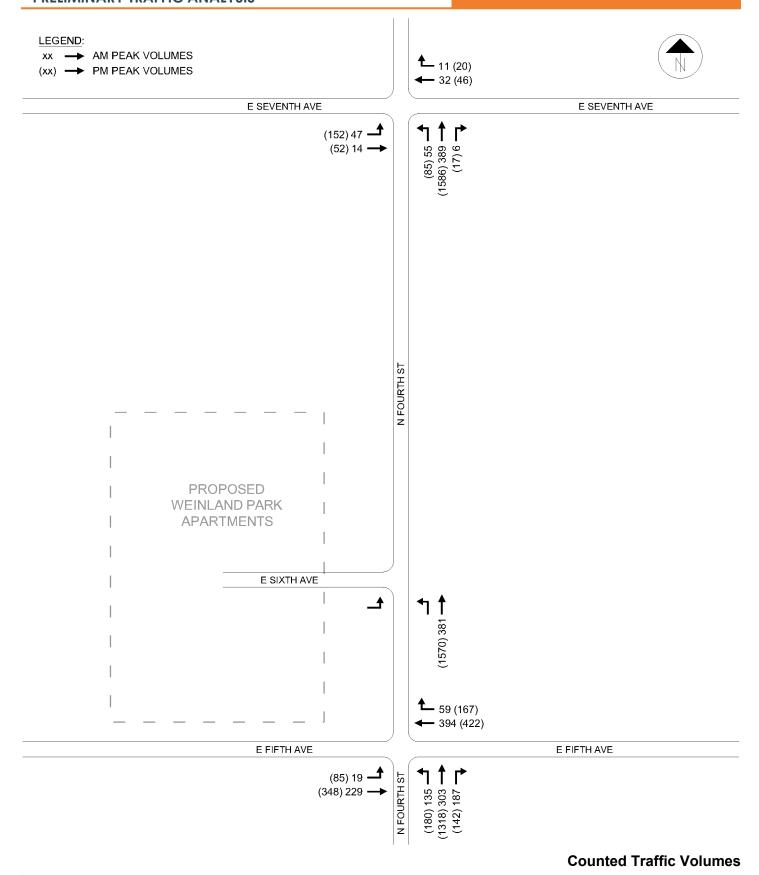




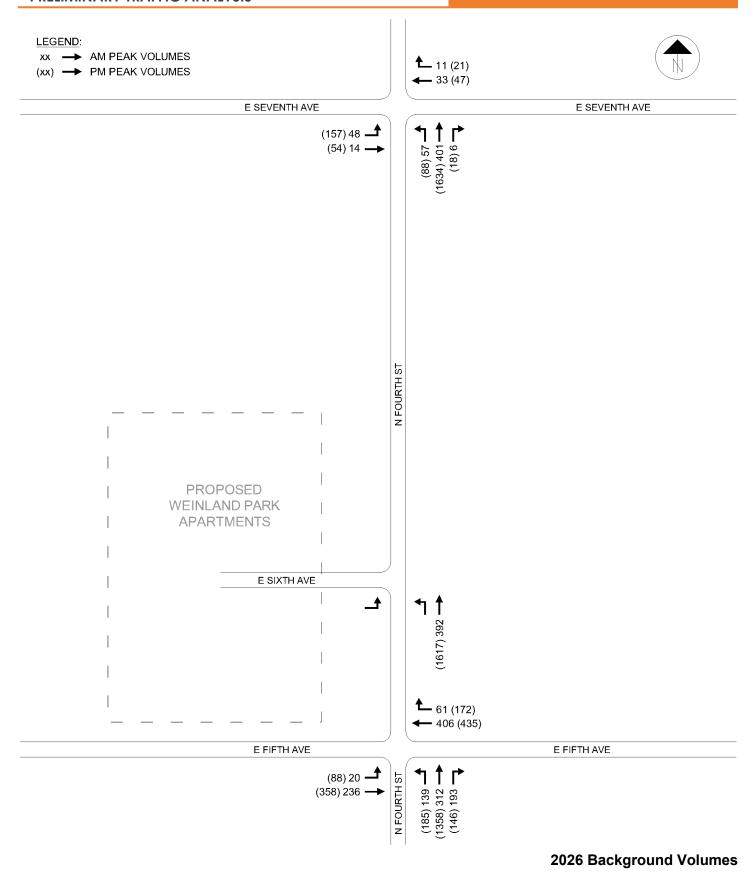
Conclusions

The following conclusions are determined from an evaluation of projected development traffic volumes.

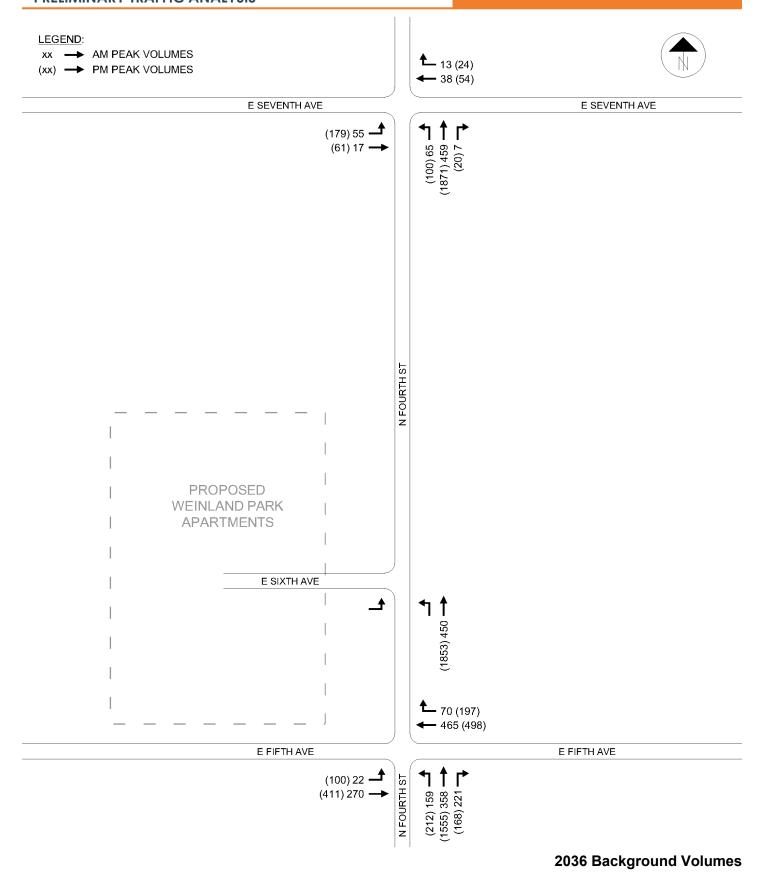
- 1. The 6th Avenue intersection with 4th Street will serve as the primary roadway access for the development. According to the analysis, the intersection will operate effectively with stop control where traffic on 4th Street does not stop. On-street parking is currently restricted on the west side of 4th Street south of 6th Avenue. The on-street parking restriction should remain in place for a distance of at least 50 feet south of the southern edge of 6th Avenue to provide visibility of northbound vehicles and bicycles and to generally maintain smooth access to 6th Avenue.
- 2. The development traffic is not expected to have significant impact to the signalized intersections of 5th Avenue and 7th Avenue near the development site. No changes to those intersections are recommended as part of this development.
- 3. A desire for a right-turn exit-only access driveway onto 5th Avenue has been expressed for the development. Presuming that the driveway can be effectively restricted as planned, installing the driveway will not have a negative impact to the operations of 5th Avenue. The driveway will have not impact on the operations of the 5th Avenue intersection with 4th Street. The greatest impact of the driveway will be the reduction in development trip on 7th Avenue westbound from 4th Street. This study estimated those trips to be 24 in the AM peak hour and 17 during the PM peak hour. If provided, the driveway should be properly signed as exit only including "Do Not Enter" (R5-1) signs facing 5th Avenue. Due to geometric restrictions, it will likely be difficult to construct a proper right turn only driveway. Signs should direct drivers not to turn left.



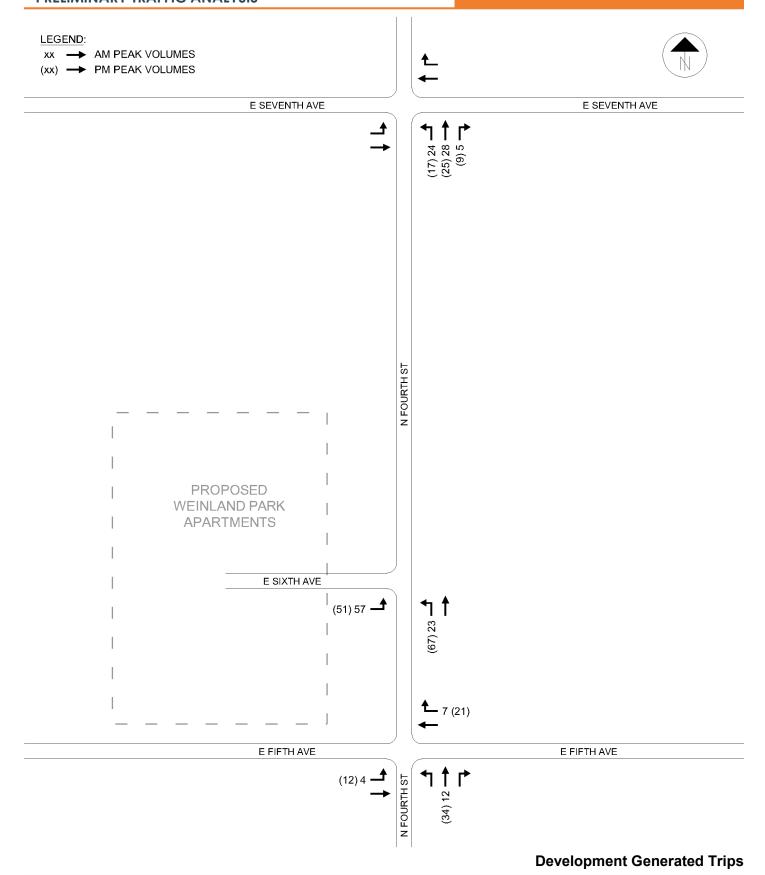




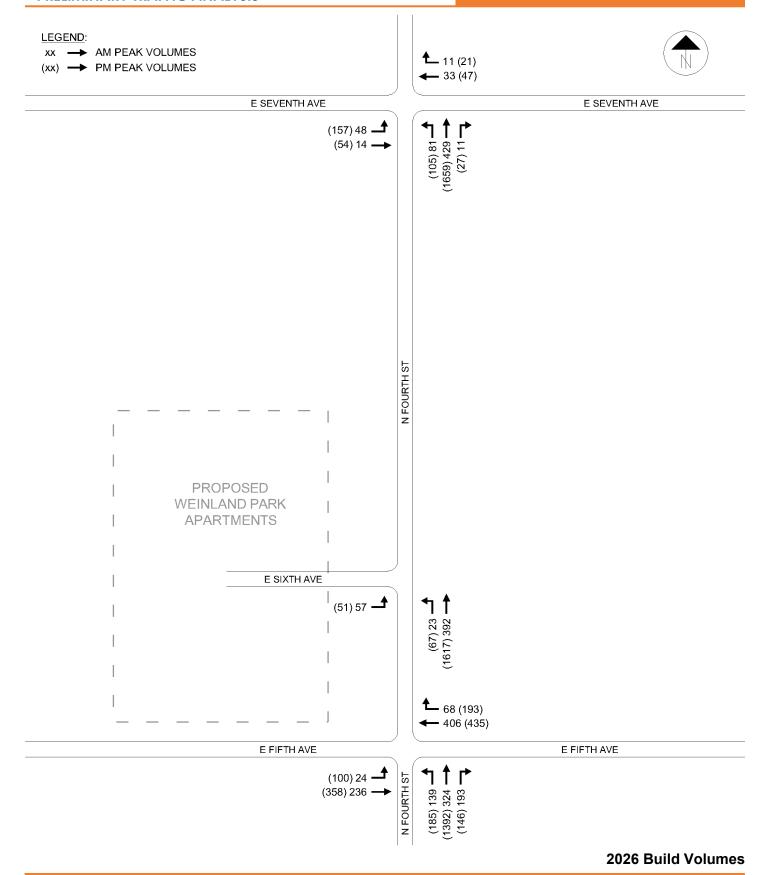




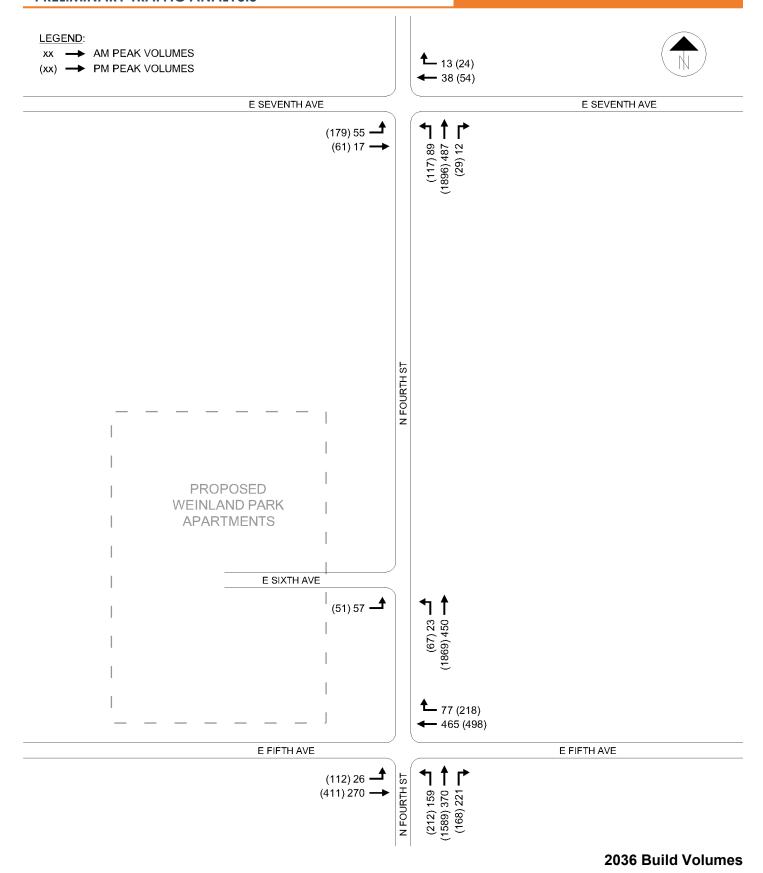














MORPC Counts Summary Table

Location: 5th Ave @ 4th Street Date of Counts: 7/9/2019



The Kleingers Group

6219 Centre Park Drive, West Chester, OH 45069 513-779-7851

Data from: MORPC

AM		EB 5th	n Ave			WB 5tl	n Ave		1	NB 4th	Street			SE	3	
AIVI	LEFT	THRU	RIGHT	PED	LEFT	THRU	RIGHT	PED	LEFT	THRU	RIGHT	PED	LEFT	THRU	RIGHT	PED
7:00 to 7:15 am	1	45	0		0	66	6		27	67	24					
7:15 to 7:30 am	12	36	0		0	99	22		39	81	24					
7:30 to 7:45 am	1	50	0		0	99	17		33	69	47					
7:45 to 8:00 am	4	69	0		0	107	19		31	70	40					
8:00 to 8:15 am	8	66	0		0	89	11		36	82	53					
8:15 to 8:30 am	6	44	0		0	99	12		35	82	47					
8:30 to 8:45 am	3	69	0		0	114	9		31	81	54					
8:45 to 9:00 am	3	59	0		0	103	9		26	82	42					
AM Peak Hr Vol.	19	229	0	0	0	394	59	0	135	303	187	0	0	0	0	0
Peak Hr Factor	0.59	0.83			·	0.92	0.78		0.94	0.92	0.88	·				

РМ		EB 5th	n Ave			WB 5t	h Ave		1	NB 4th	Street			SI	3	
P IVI	LEFT	THRU	RIGHT	PED	LEFT	THRU	RIGHT	PED	LEFT	THRU	RIGHT	PED	LEFT	THRU	RIGHT	PED
4:00 to 4:15 pm	12	96	0		0	90	34		41	266	45					
4:15 to 4:30 pm	10	88	0		0	83	34		42	301	47					
4:30 to 4:45 pm	15	87	0		0	94	38		48	332	35					
4:45 to 5:00 pm	27	98	0		0	90	43		54	320	43					
5:00 to 5:15 pm	20	88	0		0	113	39		41	328	37					
5:15 to 5:30 pm	23	75	0		0	125	47		37	338	27					
5:30 to 5:45 pm	29	76	0		0	114	59		46	312	41					
5:45 to 6:00 pm	16	58	0		0	105	42		65	298	44					
PM Peak Hr Vol.	85	348	0	0	0	422	167	0	180	1318	142	0	0	0	0	0
			3	0	- 0			0				U	- 0	- 0	0	-
Peak Hr Factor	0.79	0.89				0.84	0.89		0.83	0.97	0.83					

Peak Hour Times: AM 7:30 to 8:30 PM 4:30 to 5:30

Heavy	Vehicle	Volum	nes		-											
HV - AM		EB 5th	n Ave			WB 5t	h Ave			NB 4th	Street			SE	3	
	LEFT	THRU	RIGHT		LEFT	THRU	RIGHT		LEFT	THRU	RIGHT		LEFT	THRU	RIGHT	
7:00 to 7:15 am																
7:15 to 7:30 am																
7:30 to 7:45 am																
7:45 to 8:00 am																
8:00 to 8:15 am																
8:15 to 8:30 am																
8:30 to 8:45 am																
8:45 to 9:00 am																
AM Peak HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peak HV																
	ī		_				_								_	
HV - PM		EB 5th	_			WB 5t	_			NB 4th				SE		
	LEFT		n Ave RIGHT		LEFT		h Ave RIGHT		LEFT		Street RIGHT		LEFT		3 RIGHT	
4:00 to 4:15 pm	LEFT		_		LEFT		_						LEFT			
4:00 to 4:15 pm 4:15 to 4:30 pm	LEFT		_		LEFT		_						LEFT			
4:00 to 4:15 pm 4:15 to 4:30 pm 4:30 to 4:45 pm	LEFT		_		LEFT		_						LEFT			
4:00 to 4:15 pm 4:15 to 4:30 pm 4:30 to 4:45 pm 4:45 to 5:00 pm	LEFT		_		LEFT		_						LEFT			
4:00 to 4:15 pm 4:15 to 4:30 pm 4:30 to 4:45 pm 4:45 to 5:00 pm 5:00 to 5:15 pm	LEFT		_		LEFT		_						LEFT			
4:00 to 4:15 pm 4:15 to 4:30 pm 4:30 to 4:45 pm 4:45 to 5:00 pm 5:00 to 5:15 pm 5:15 to 5:30 pm	LEFT		_		LEFT		_						LEFT			
4:00 to 4:15 pm 4:15 to 4:30 pm 4:30 to 4:45 pm 4:45 to 5:00 pm 5:00 to 5:15 pm 5:15 to 5:30 pm 5:30 to 5:45 pm	LEFT		_		LEFT		_						LEFT			
4:00 to 4:15 pm 4:15 to 4:30 pm 4:30 to 4:45 pm 4:45 to 5:00 pm 5:00 to 5:15 pm 5:15 to 5:30 pm 5:30 to 5:45 pm 5:45 to 6:00 pm		THRU	RIGHT			THRU	RIGHT		LEFT	THRU	RIGHT			THRU	RIGHT	
4:00 to 4:15 pm 4:15 to 4:30 pm 4:30 to 4:45 pm 4:45 to 5:00 pm 5:00 to 5:15 pm 5:15 to 5:30 pm 5:30 to 5:45 pm	LEFT		_	0	LEFT		_	0				0	LEFT			0

MORPC Counts Summary Table

Location: 7th Ave at 4th street Date of Counts: 10/10/2017



The Kleingers Group

6219 Centre Park Drive, West Chester, OH 45069 513-779-7851

Data from: MORPC

AM		EB 7th	ı Ave			WB 7tl	n Ave		1	NB 4th	Street			SI	В	
Alvi	LEFT	THRU	RIGHT	PED	LEFT	THRU	RIGHT	PED	LEFT	THRU	RIGHT	PED	LEFT	THRU	RIGHT	PED
7:00 to 7:15 am	8	3	0		0	7	0		9	60	0		0	0	0	
7:15 to 7:30 am	5	4	0		0	9	0		7	74	0		0	0	0	
7:30 to 7:45 am	11	2	0		0	7	2		10	111	0		0	0	0	
7:45 to 8:00 am	11	6	0		0	6	1		13	95	0		0	0	0	
8:00 to 8:15 am	12	0	0		0	5	1		15	90	0		0	0	0	
8:15 to 8:30 am	13	6	0		0	14	7		17	93	6		0	0	0	
8:30 to 8:45 am	19	8	0		0	26	1		22	121	11		0	0	0	
8:45 to 9:00 am	22	16	0		0	8	1		19	113	6		0	0	0	
AM Peak Hr Vol.	47	14	0	0	0	32	11	0	55	389	6	0	0	0	0	0
Peak Hr Factor	0.90	0.58				0.57	0.39		0.81	0.88	0.25					

РМ		EB 7th	n Ave			WB 7t	h Ave		1	NB 4th	Street			SE	3	
P IVI	LEFT	THRU	RIGHT	PED	LEFT	THRU	RIGHT	PED	LEFT	THRU	RIGHT	PED	LEFT	THRU	RIGHT	PED
4:00 to 4:15 pm	35	12	0		0	6	4		15	332	7		0	0	0	
4:15 to 4:30 pm	41	15	0		0	5	2		22	310	10		0	0	0	
4:30 to 4:45 pm	36	15	0		0	3	3		19	378	3		0	0	0	
4:45 to 5:00 pm	36	16	0		0	13	3		13	415	1		0	0	0	
5:00 to 5:15 pm	41	11	0		0	13	6		21	394	8		0	0	0	
5:15 to 5:30 pm	39	10	0		0	17	8		32	399	5		0	0	0	
5:30 to 5:45 pm	46	18	0		0	9	3		20	412	3		0	0	0	
5:45 to 6:00 pm	35	6	0		0	12	3		16	311	1		0	0	0	
PM Peak Hr Vol.	152	52	0	0	0	46	20	0	85	1586	17	0	0	0	0	0
Peak Hr Factor	0.93	0.81				0.68	0.63		0.66	0.96	0.53					

Peak Hour Times: AM 7:30 to 8:30 PM 4:30 to 5:30

Heavy	Vehicle	· Volum	nes													
HV - AM		EB 7th	n Ave			WB 7t	h Ave			NB 4th	Street			SI	В	
	LEFT	THRU	RIGHT		LEFT	THRU	RIGHT		LEFT	THRU	RIGHT		LEFT	THRU	RIGHT	
7:00 to 7:15 am																
7:15 to 7:30 am																
7:30 to 7:45 am																
7:45 to 8:00 am																
8:00 to 8:15 am																
8:15 to 8:30 am																
8:30 to 8:45 am																
8:45 to 9:00 am																
AM Peak HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peak HV																
	•															
HV - PM	l	EB 7th	_		l	WB 7t	_		l	NB 4th			l	SI		
HV - PM	LEFT		n Ave RIGHT		LEFT		h Ave RIGHT		LEFT		Street RIGHT		LEFT		B RIGHT	
4:00 to 4:15 pm	LEFT		_		LEFT		_		LEFT				LEFT			
4:00 to 4:15 pm 4:15 to 4:30 pm	LEFT		_		LEFT		_		LEFT				LEFT			
4:00 to 4:15 pm 4:15 to 4:30 pm 4:30 to 4:45 pm	LEFT		_		LEFT		_		LEFT				LEFT			
4:00 to 4:15 pm 4:15 to 4:30 pm 4:30 to 4:45 pm 4:45 to 5:00 pm	LEFT		_		LEFT		_		LEFT				LEFT			
4:00 to 4:15 pm 4:15 to 4:30 pm 4:30 to 4:45 pm	LEFT		_		LEFT		_		LEFT				LEFT			
4:00 to 4:15 pm 4:15 to 4:30 pm 4:30 to 4:45 pm 4:45 to 5:00 pm	LEFT		_		LEFT		_		LEFT				LEFT			
4:00 to 4:15 pm 4:15 to 4:30 pm 4:30 to 4:45 pm 4:45 to 5:00 pm 5:00 to 5:15 pm	LEFT		_		LEFT		_		LEFT				LEFT			
4:00 to 4:15 pm 4:15 to 4:30 pm 4:30 to 4:45 pm 4:45 to 5:00 pm 5:00 to 5:15 pm 5:15 to 5:30 pm	LEFT		_		LEFT		_		LEFT				LEFT			
4:00 to 4:15 pm 4:15 to 4:30 pm 4:30 to 4:45 pm 4:45 to 5:00 pm 5:00 to 5:15 pm 5:15 to 5:30 pm 5:30 to 5:45 pm	LEFT		_	0	LEFT		_	0	LEFT			0	LEFT			0

		PROJECT DETAILS
Project Name:	Weinland Park	Type of Project:
Project No:		City:
Country:		Built-up Area(Sq.ft):
Analyst Name:	Travis Hunt	Clients Name:
Date:	3/22/2024	ZIP/Postal Code:
State/Province:		No. of Scenarios: 3
Analysis Region:		

SCENARIO SUMMARY

Scenarios	Name	No. of Land Uses	Phases of	No. of Years to Project	User Group	Estin	nated New Vehicle Tr	ips
Scenarios	ivarrie	No. of Land Oses	Development	Traffic	Oser Group	Entry	Exit	Total
Scenario - 1	Weekday Daily	2	1	0		637	637	1274
Scenario - 2	AM Peak	2	1	0		23	57	80
Scenario - 3	PM Peak	2	1	0		67	51	118

Scenario - 1		
Scenario Name: Weekday Daily	User Group:	
Dev. phase: 1	No. of Years to Project 0 Traffic :	
Dev. phase. 1	Traffic: Č	
Analyst Note:		· ·
		· ·

Warning: VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
Land Ose & Data Source	LOCALION	IV	3126	Time Periou	Rate/Equation	Split%	Split%	IOLAI
221 - Multifamily Housing (Mid-Rise) - Not Close	General	Dwelling Units	186	Weekday	Average	422	422	844
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	Dwelling Offics	100	weekuay	4.54	50%	50%	044
822 - Strip Retail Plaza (<40k)	General	1000 Sg. Ft. GLA	4.74	Weekday	Best Fit (LIN)	215	215	430
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	1000 3q. Ft. GLA	4./4	weekuay	T = 42.20(X) + 229.68	50%	50%	430

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
Land OSE	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	100	100	1	1	50	50
822 - Strip Retail Plaza (<40k)	100	100	1	1	50	50

ESTIMATED BASELINE SITE PERSON TRIPS:

and Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
Land OSE	Entry	Exit	Entry	Exit	Entry	Exit
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	422	422	0	0	422	422
221 - Multifallify Housing (Mid-Rise) - Not Close to Rail Halisit	844		0		844	
822 - Strip Retail Plaza (<40k)	215	215	0	0	215	215
022 - Strip Netali Flaza (~+0K)	430		0		430	

VEHICLE TRIPS AFTER MULTI-MODAL ADJUSTMENT

MODE SHARE:

Land Use	Personal Passenger Vehicle		Truck		Other Modes	
	Entry (%)	Exit (%)	Entry (%)	Exit (%)	Entry (%)	Exit (%)
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	100%	100%	0%	0%	0%	0%
822 - Strip Retail Plaza (<40k)	100%	100%	0%	0%	0%	0%

OCCUPANCY:

Land Use	Vehicle		
u use	Entry	Exit	
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	1.00	1.00	
822 - Strip Retail Plaza (<40k)	1.00	1.00	

ADJUSTED VEHICLE TRIPS:

	Entry				Exit				
Land Use	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips	
221 - Multifamily Housing (Mid-Rise) - Not Close	422	100%	1.00	422	422	100%	1.00	422	
822 - Strip Retail Plaza (<40k)	215	100%	1.00	215	215	100%	1.00	215	

Generated By OTISS Pro v2.1

NEW VEHICLE TRIPS New Vehicle Trips Land Use Exit 221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit 422 422 844 822 - Strip Retail Plaza (<40k) 215 215 430 New Vehicle Trips (PPV) Land Use Entry Exit Total 221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit 422 422 844 822 - Strip Retail Plaza (<40k) 215 215 430 New Vehicle Trips (Truck) Land Use Entry Total 221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit 822 - Strip Retail Plaza (<40k) 0 0 0 RESULTS

637

637

637

637

637

0

0

637

637

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Vehicle Trips Before Reduction

Person Trips by Other Modes

External Vehicle Trips

New Vehicle Trips

PPV

Truck

Vehicle Trips After Multi-modal Adjustment

User Group:	
No. of Years to Project 0 Traffic :	
	User Group: No. of Years to Project O Traffic :

Warning: VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source Location	Location	IV Size	Time Period	Method	Entry	Exit	Total	
Land Ose & Data Source	LOCATION	IV.	3126	Tillie Periou	Rate/Equation	Split%	Split%	IOLAI
221 - Multifamily Housing (Mid-Rise) - Not Close	General	Dwelling Units	186	Weekday, Peak Hour of	Average	16	53	60
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	Dwelling Units	180	Adjacent Street Traffic,	0.37	23%	77%	09
822 - Strip Retail Plaza (<40k)	General	1000 Sg. Ft. GLA	4.74	Weekday, Peak Hour of	Average	7	4	11
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	1000 Sq. Ft. GLA	4.74	Adjacent Street Traffic,	2.36	60%	40%	11

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
Land OSE	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	100	100	1	1	23	77
822 - Strip Retail Plaza (<40k)	100	100	1	1	60	40

ESTIMATED BASELINE SITE PERSON TRIPS:

and Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
Land USE	Entry	Exit	Entry	Exit	Entry	Exit
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	16	53	0	0	16	53
221 - Multifallity Housing (Mid-Nise) - Not Close to Kall Hallsit	69		0		69	
822 - Strip Retail Plaza (<40k)	7	4	0	0	7	4
822 - Strip Retail Plaza (\$40K)		11	0		11	

VEHICLE TRIPS AFTER MULTI-MODAL ADJUSTMENT

MODE SHARE:

Land Use	Personal Passenger Vehicle		Truck		Other Modes	
	Entry (%)	Exit (%)	Entry (%)	Exit (%)	Entry (%)	Exit (%)
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	100%	100%	0%	0%	0%	0%
822 - Strip Retail Plaza (<40k)	100%	100%	0%	0%	0%	0%

OCCUPANCY:

Land Hea	Veh	icle
Land Use	Entry	Exit
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	1.00	1.00
822 - Strip Retail Plaza (<40k)	1.00	1.00

ADJUSTED VEHICLE TRIPS:

	Entry				Exit			
Land Use	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips
221 - Multifamily Housing (Mid-Rise) - Not Close	16	100%	1.00	16	53	100%	1.00	53
822 - Strip Retail Plaza (<40k)	7	100%	1.00	7	4	100%	1.00	4

Generated By OTISS Pro v2.1

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips				
	Entry	Exit	Total		
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	16	53	69		
822 - Strip Retail Plaza (<40k)	7	4	11		

Land Use	New Vehicle Trips (PPV)				
	Entry	Exit	Total		
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	16	53	69		
822 - Strip Retail Plaza (<40k)	7	4	11		

Land Use	New Vehicle Trips (Truck)				
	Entry	Exit	Total		
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	0	0	0		
822 - Strip Retail Plaza (<40k)	0	0	0		

RESULTS

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	23	57	80
Vehicle Trips After Multi-modal Adjustment	23	57	80
External Vehicle Trips	23	57	80
New Vehicle Trips	23	57	80
PPV PPV	23	57	80
Truck	0	0	0
Person Trips by Other Modes	0	0	0

Scenario - 3		
Scenario Name: PM Peak	User Group:	
Dev. phase: 1	No. of Years to Project 0 Traffic :	
Dev. pilase. 1	Traffic: ^U	
Analyst Note:		
Warning:		

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location IV	IV.	Size	Time Period	Method	Entry	Exit	Total
		Size	Tillie Periou	Rate/Equation	Split%	Split%	TOLAI	
221 - Multifamily Housing (Mid-Rise) - Not Close	General	Dwelling Units	186	Weekday, Peak Hour of	Best Fit (LIN)	44	28	72
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	Dweiling Units	180	Adjacent Street Traffic,	T = 0.39(X) + 0.34	61%	39%	72
822 - Strip Retail Plaza (<40k)	General	1000 Sg. Ft. GLA	4.74	Weekday, Peak Hour of	Best Fit (LOG)	23	23	46
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban	1000 3q. Ft. GLA		Adjacent Street Traffic,	Ln(T) =0.71Ln(X) + 2.72	50%	50%	40

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
Land OSE	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	100	100	1	1	61	39
822 - Strip Retail Plaza (<40k)	100	100	1	1	50	50

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	44	28	0	0	44	28
	72		0		72	
822 - Strip Retail Plaza (<40k)	23	23	0	0	23	23
	46		0		46	

VEHICLE TRIPS AFTER MULTI-MODAL ADJUSTMENT

MODE SHARE:

Land Use	Personal Passenger Vehicle		Truck		Other Modes	
Latiu OSE	Entry (%)	Exit (%)	Entry (%)	Exit (%)	Entry (%)	Exit (%)
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	100%	100%	0%	0%	0%	0%
822 - Strip Retail Plaza (<40k)	100%	100%	0%	0%	0%	0%

OCCUPANCY:

and the		nicle
Land Use	Entry	Exit
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	1.00	1.00
822 - Strip Retail Plaza (<40k)	1.00	1.00

ADJUSTED VEHICLE TRIPS:

		Enti	ry		Exit			
Land Use	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips	Person Trips	Vehicle Mode Share (%)	Vehicle Occupancy	Vehical Trips
221 - Multifamily Housing (Mid-Rise) - Not Close	44	100%	1.00	44	28	100%	1.00	28
822 - Strip Retail Plaza (<40k)	23	100%	1.00	23	23	100%	1.00	23

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips					
	Entry	Exit	Total			
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit		44	28	72		
822 - Strip Retail Plaza (<40k)		23	23	46		

Land Use		New Vehicle Trips (PPV)	
Land Ose	Entry	Exit	Total
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	44	28	72
822 - Strip Retail Plaza (<40k)	23	23	46

Land Use		New Vehicle Trips (Truck	
Lanu Use	Entry	Exit	Total
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit	0	0	0
822 - Strip Retail Plaza (<40k)	0	0	0

RESULTS

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	67	51	118
Vehicle Trips After Multi-modal Adjustment	67	51	118
External Vehicle Trips	67	51	118
New Vehicle Trips	67	51	118
PPV	67	51	118
Truck	0	0	0
Person Trips by Other Modes	0	0	0

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Jurisdiction	Columbus		Time F				Build		PHF		<u> </u>	0.90			8 8	-
Urban Street	N 4th Street		Analys								Period	1> 7:0)0			7
Intersection	E 5th Ave		File Na	ame	202	26 a	No Bld	_5th <i>F</i>	Ave_	AM.xı	us ———			- 1	5 † † ሶ	
Project Description	2026 No Build AM				-					-	-				ነ 4 ነ ቀ ነ	FI
Demand Information				EB	3		T	W	В		T	NB		T	SB	
Approach Movement			L	Т		R	L	Т	- T	R	L	Т	R	L	Т	R
Demand (v), veh/h			20	236	3			40)6	61	139	312	193	0	0	0
Cianal Information			ı-	1111			_		1		-					
Signal Information	Tp (p)		-	1	ہے ا			\exists						rt z		ж
Cycle, s 80.0	Reference Phase	2		R	7		-						1	Y	3	→ 4
Offset, s 0	Reference Point	End	Green		9.0	0	29.0	0.0)	0.0	0.0					
Uncoordinated No	Simult. Gap E/W	On	Yellow		4.0		4.0	0.0		0.0	0.0		4	<u> </u>	- ≻	
Force Mode Fixed	Simult. Gap N/S	On	Red	2.0	2.0	0	2.0	0.0)	0.0	0.0		5	6	7	8
Timer Results			EBI		EBT		WBI		WE	ВТ	NBI		NBT	SB	ı	SBT
Assigned Phase			7		4	-	***	_	8		NO		2	OB	_	6
Case Number			1.0		4.0	-			8.3				5.0			8.0
Phase Duration, s			15.0	_	50.0	-		-	35.	_			30.0			30.0
Change Period, (Y+R	2 \ 2		6.0	_	6.0	-		-	6.0	_		_	6.0			6.0
<u>-</u>	· · · · · · · · · · · · · · · · · · ·			-		-		-		_				-	_	
Max Allow Headway (· · · · · · · · · · · · · · · · · · ·		3.1	-	3.1	-		-	3.				0.0	_		0.0
Queue Clearance Time Green Extension Time	, - ,		2.5 0.0	_	7.9	-		-	22. 1.			-	0.0		_	0.0
Phase Call Probability	, - ,		1.00	_	1.00	-		+	1.0	_			0.0			0.0
Max Out Probability			0.00		0.00	_		-	0.2							
Max Out 1 Tobability			0.00	,	0.00				0.2							
Movement Group Re	sults			EB		П		WB	3			NB			SB	
Approach Movement			L	Т	R	1	L	Т		R	L	Т	R	L	T	R
Assigned Movement			7	4				8		18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		22	262				519			154	347	214		0	
Adjusted Saturation F	low Rate (s), veh/h/l	n	1767	1856	3	T		1813	3		1767	1766	1572		0	
Queue Service Time (g s), S		0.5	5.9				20.5	5		5.4	6.1	8.8		0.0	
Cycle Queue Clearan	ce Time ($g \ \varepsilon$), s		0.5	5.9		T		20.5	5		5.4	6.1	8.8		0.0	
Green Ratio (g/C)			0.50	0.55	5	\neg		0.36	3	\neg	0.30	0.30	0.30			1
Capacity (c), veh/h			382	102	1			657	,		620	1060	472			
Volume-to-Capacity R	atio (X)		0.058	0.25	_			0.79	_		0.249	0.327	0.455		0.000	
Back of Queue (Q),		:)	10	105	_			380	_		105	116	161		0	
Back of Queue (Q),	· · · · · · · · · · · · · · · · · · ·	,	0.4	4.1				14.9	_		4.1	4.5	6.3		0.0	
Queue Storage Ratio	<u>`</u>	•	0.00	0.00		7		0.00	_		0.70	0.00	2.15		0.00	
Uniform Delay (d 1),		,	13.4	9.4	_	\neg		22.8	_		21.5	21.7	22.7			
Incremental Delay (d			0.3	0.6	_			9.4	_		1.0	0.8	3.1		0.0	
Initial Queue Delay (0.0	0.0				0.0	_		0.0	0.0	0.0		0.0	
Control Delay (d), s/v			13.6	10.0	_	7		32.1	_		22.4	22.6	25.8			
Level of Service (LOS			В	В				C			C	C	C			
Approach Delay, s/vel	<u>, </u>		10.3		В		32.1		С	;	23.5		С	0.0		
Intersection Delay, s/v						24								C		
Multimodal Results				EB				WB	3			NB			SB	
Pedestrian LOS Score	e / LOS		2.24	1	В		1.91		В	3	1.69		В	1.92	2	В
Bicycle LOS Score / L	OS		0.96	3	Α		1.34	1_	Α	\	1.08	3	Α	0.49	9	Α

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Project Descrip	tion	2026 No Build PM							_					14147	F C
Demand Inform	nation				EB		7	WI	3	7	NB			SB	
Approach Move				L	Т	R	L	Т		L	T	R	L	Т	R
Demand (v), v				88	358	_	<u> </u>	43	_			_	0	0	0
									• =		1000				
Signal Informa	tion				1										
Cycle, s	100.0	Reference Phase	2		RA	, ≓	=3						Ψ		
Offset, s	0	Reference Point	End	Green	41.0	7.0	34.0	0.0	0.0	0.0	_	1	2	3	
Uncoordinated	No	Simult. Gap E/W	On	Yellow		4.0	4.0	0.0		0.0		1		1	4
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	2.0	2.0	0.0		0.0		5	6	7	
Timer Results				EBI	-	EBT	WB	L	WBT	NB		NBT	SB	L	SBT
Assigned Phase	e			7	_	4	—	_	8	_	\rightarrow	2	_	-	6
Case Number				1.0		4.0	-	_	8.3		\perp	5.0		\blacksquare	8.0
Phase Duration	·			13.0	_	53.0	╄	\rightarrow	40.0			47.0	lacksquare		47.0
Change Period,		•		6.0		6.0			6.0		\rightarrow	6.0			6.0
Max Allow Head				3.1	_	3.1	╄	\rightarrow	3.1		$-\!$	0.0	<u> </u>		0.0
Queue Clearan		, - ,		5.3	_	16.5	-	_	36.0				_	_	
Green Extensio		(g e), s		0.0	_	2.3	ـــــــ	\rightarrow	0.0		\rightarrow	0.0			0.0
Phase Call Prol				1.00)	1.00	_		1.00						
Max Out Proba	bility			1.00)	0.00			1.00						
Movement Gro	un Res	sults			EB		_	WB			NB			SB	
Approach Move		Juito		-	T	R	L	T	R		T	R		T	R
Assigned Move				7	4	1	 -	8	18	5	2	12	1	6	16
Adjusted Flow F		() veh/h		98	398	+	_	674	_	206	1509	162	<u> </u>	0	10
-		ow Rate (s), veh/h/l	n	1767	1856		-	1765		1767	1766	1572	-	0	+
Queue Service		· , , , , , , , , , , , , , , , , , , ,	111	3.3	14.5		_	34.0		7.8	41.0	6.8	_	0.0	+
Cycle Queue C		- ,		3.3	14.5			34.0	_	7.8	41.0	6.8		0.0	
Green Ratio (g		e fille (g c), S		0.43	0.47			0.34		0.41	0.41	0.8		0.0	+
Capacity (c), v				196	872			600		797	1449	645			
Volume-to-Capa		atio (V)								_	1.042	0.252		0.000	+
<u>.</u>		t/In (95 th percentile	,)	0.500	0.456 266			1.12 ⁴ 963		0.258 151	826	118		0.000	
		eh/ln (95 th percentile	,	3.2	10.4			37.6		5.9	32.3	4.6		0.0	+
		RQ) (95 th percent	-	0.00	0.00			0.00		1.00	0.00	1.58		0.00	
Uniform Delay (, ,	uic)	23.7	17.9			33.0		19.7	29.5	1.58		0.00	+
Incremental De								75.6	_	_	-			0.0	
	_ • •	·		8.8	0.0					0.8	35.3	0.9		0.0	+
Initial Queue De		· ·		0.0	_			0.0	2		0.0	-		0.0	+
Control Delay (32.5 C	19.6 B		-	108.6 F)	20.5 C	64.8 F	20.3			
Level of Service							100					С	0.0		
Approach Delay				22.1		С	108.	0	F	56.		Е	0.0		
Intersection Del	iay, S/VE	лі / LUS				6	2.2						E		
Multimodal Re	sulte				EB			WB			NB			SB	
Pedestrian LOS		/I OS		2.26		В	1.92		В	1.69		В	1.9		В
		,		2.20		<u> </u>	1.32			1.08			1.3	·	

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Demand Information				EB	.		T	W	В			NB			SB	
Approach Movement			L	Т		R	L	Т	· T	R	L	Т	R	L	Т	R
Demand (v), veh/h			24	236	3			40	6	68	139	324	193	0	0	0
Cinnal Information				111:			_				-					
Signal Information	(DI		-	1	را			\exists						кtя		ж
- , ,	eference Phase	2		- R	7		-						1	Y	3	→ 4
	eference Point	End	Green				29.0	0.0		0.0	0.0					
	mult. Gap E/W	On	Yellow		4.		4.0	0.0		0.0	0.0		4	<u> </u>	→	
Force Mode Fixed Sir	mult. Gap N/S	On	Red	2.0	2.	0	2.0	0.0)	0.0	0.0		5	6	7	8
Timer Results			EBI		EBT	-	WBI	L	WB	вт	NBL		NBT	SBI	L	SBT
Assigned Phase			7		4	_			8		.,		2			6
Case Number			1.0		4.0	-		_	8.3	3			5.0			8.0
Phase Duration, s			15.0	_	50.0				35.0	-			30.0	_		30.0
Change Period, (Y+R c), s			6.0		6.0				6.0	$\overline{}$		_	6.0			6.0
Max Allow Headway (MAH			3.1	-	3.1	-		-	3.1				0.0			0.0
			2.6		7.9	-		+	22.9	-			0.0	_		0.0
Queue Clearance Time (g Green Extension Time (g	,		0.0		1.5	-		-	1.0	_			0.0			0.0
Phase Call Probability	,, 0		1.00	_	1.00				1.0	-			0.0			0.0
Max Out Probability			0.00		0.00			_	0.2							
man out roducinty			0.00													
Movement Group Results	s			EB				WB	3			NB			SB	
Approach Movement			L	T	F	₹	L	T		R	L	T	R	L	T	R
Assigned Movement			7	4	\perp	_		8		18	5	2	12	1	6	16
Adjusted Flow Rate (v), v	eh/h		27	262				527			154	360	214		0	
Adjusted Saturation Flow F	Rate (s), veh/h/li	n	1767	1856	3			1809	9		1767	1766	1572		0	
Queue Service Time (g s)	, S		0.6	5.9				20.9)		5.4	6.4	8.8		0.0	
Cycle Queue Clearance Tir	me (<i>g с</i>), s		0.6	5.9				20.9)		5.4	6.4	8.8		0.0	
Green Ratio (g/C)			0.50	0.55		П		0.36	3	П	0.30	0.30	0.30			
Capacity (c), veh/h			376	1021				656			620	1060	472			
Volume-to-Capacity Ratio ((X)		0.071	0.25	7			0.80	3		0.249	0.340	0.455		0.000	
Back of Queue (Q), ft/ln ((95 th percentile)	12	105				390			105	121	161		0	
Back of Queue (Q), veh/lr		_	0.5	4.1				15.2	2		4.1	4.7	6.3		0.0	
Queue Storage Ratio (RQ	<u> </u>		0.00	0.00				0.00	_		0.70	0.00	2.15		0.00	
Uniform Delay (d 1), s/veh	, ,		13.5	9.4				22.9	\rightarrow		21.5	21.8	22.7			
Incremental Delay (d 2), s			0.4	0.6				10.1	_		1.0	0.9	3.1		0.0	
Initial Queue Delay (d 3),			0.0	0.0				0.0	_		0.0	0.0	0.0		0.0	
Control Delay (d), s/veh			13.9	10.0				33.0	\rightarrow		22.4	22.7	25.8			
Level of Service (LOS)			В	В				С			С	С	С			
Approach Delay, s/veh / LC	os		10.4		В		33.0		С		23.6		С	0.0		
Intersection Delay, s/veh /						24								С		
										أري						
Multimodal Results				EB				WB	3			NB			SB	
Pedestrian LOS Score / LO	os		2.24	1	В		1.91		В		1.69)	В	1.92	2	В
Bicycle LOS Score / LOS			0.96	6	Α		1.36	6	Α		1.09)	Α	0.49	9	Α

HCS Sig	gnalize	d Int	ersect	ion R	esul	ts Sun	nmary	,				
General Information						Intersec	tion Inf	ormatic	\n	T	4.44.1	یا دا
					_			0.250			4	
Agency The Kleingers Group	A m m h re	ia Dat	4/4/00	224		Duration				7		
Analyst Dave M Jurisdiction Columbus			e 4/4/20 PM B			Area Typ PHF	е	Other 0.90			wĬ.	
	Time F		_	ulia			Davisal		20			-
Urban Street N 4th Street	Analys			D :: 1 = 6		Analysis		1> 7:0	JU	-		2
Intersection E 5th Ave	File N	ame	2026	Build_5t	th Ave	_PM.xus					ጎተተ	
Project Description 2026 Build PM											N T WY	r r
Demand Information	Т	EB		T	WE	3	T	NB			SB	
Approach Movement	L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), veh/h	100	358	3		43	5 193	185	1392	146	0	0	0
Signal Information	_	1	7	7 4						-+-		-
Cycle, s 100.0 Reference Phase 2		R4	7 F	-					1	Y	3	- → ₄
Offset, s 0 Reference Point En	Green	41.0	7.0	34.0	0.0	0.0	0.0					
Uncoordinated No Simult. Gap E/W Or	Yellow	4.0	4.0	4.0	0.0	0.0	0.0		4	<u> </u>	→	-
Force Mode Fixed Simult. Gap N/S Or	Red	2.0	2.0	2.0	0.0	0.0	0.0		5	6	7	8
Timer Results	EBI		EBT	WB		WBT	NBI		NBT	SBI		SBT
Assigned Phase	7	-	4	VVD	_	8	INDI		2	361		6
Case Number	1.0	_	4.0	-		8.3			5.0	\vdash	_	8.0
	_	_		-				_		-	-	
Phase Duration, s	13.0		53.0	_		40.0			47.0	_		47.0
Change Period, (Y+R c), s	6.0	-	6.0	-	_	6.0	_		6.0		-	6.0
Max Allow Headway (MAH), s	3.1	_	3.1	_	_	3.1	_	-	0.0	_	\rightarrow	0.0
Queue Clearance Time (g s), s	5.8		16.5 2.4		-	36.0	_	_	0.0	_	-	0.0
Green Extension Time (g_e), s Phase Call Probability	1.00	_	1.00	_		1.00			0.0		-	0.0
Max Out Probability	1.00		0.00	_		1.00	_	-			+	
Max Out Probability	1.00	,	0.00		-	1.00						
Movement Group Results	т	EB			WB			NB			SB	
Approach Movement	L	Т	R	L	Т	R	L	Т	R	L	Т	R
Assigned Movement	7	4			8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	111	398			698		206	1547	162		0	
Adjusted Saturation Flow Rate (s), veh/h/ln	1767	1856	;		1758		1767	1766	1572		0	
Queue Service Time (g s), s	3.8	14.5			34.0		7.8	41.0	6.8		0.0	
Cycle Queue Clearance Time (g c), s	3.8	14.5	Ť T		34.0		7.8	41.0	6.8		0.0	
Green Ratio (g/C)	0.43	0.47	1		0.34		0.41	0.41	0.41			
Capacity (c), veh/h	196	872			598		797	1449	645			
Volume-to-Capacity Ratio (X)	0.568	0.456			1.167	,	0.258	1.068	0.252		0.000	
Back of Queue (Q), ft/ln (95 th percentile)	98	266			1072		151	896	118		0	
Back of Queue (Q), veh/ln (95 th percentile)	3.8	10.4			41.9		5.9	35.0	4.6		0.0	
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00			0.00		1.00	0.00	1.58		0.00	
Uniform Delay (d 1), s/veh	23.8	17.9			33.0		19.7	29.5	19.4			
Incremental Delay (d 2), s/veh	11.4	1.7			92.4	_	0.8	44.0	0.9		0.0	
Initial Queue Delay (d 2), s/veh	0.0	0.0			0.0		0.0	0.0	0.0		0.0	
Control Delay (d), s/veh	35.2	19.6			125.4	1	20.5	73.5	20.3		- 1 -	
Level of Service (LOS)	D	В			F		C	F	C			
Approach Delay, s/veh / LOS	23.0		C	125.		F	63.3		E	0.0		
Intersection Delay, s/veh / LOS				0.6						E		
,, <u></u>												
Multimodal Results		EB			WB			NB			SB	
Pedestrian LOS Score / LOS	2.26	3	В	1.92	2	В	1.69)	В	1.9 ²		В
		_			_						-	

		HCS	S Sigr	nalize	d Int	ter	sect	ion R	esu	lts	Sum	nmary					
Conoral Inform	aation									lmt	0.0000	lian Inf	0 mm 04i	•••		4741	ام ا
General Inform	nation	Th - 1/1-i								-		ion Inf	_		É	4	
Agency		The Kleingers Grou	ıp							-	ıration,		0.250				
Analyst		Dave M		Analys		\rightarrow				-	ea Typ	<u>e</u>	Othe	<u>r </u>			٠. ا
Jurisdiction		Columbus		Time F		_		Build		PH			0.90		₹ →	W+E	←
Urban Street		N 4th Street		Analys		\rightarrow					alysis		1> 7:	00	7		7
Intersection		E 5th Ave		File Na	ame		2036 a	aNo Bld	_5th	Ave	_AM.x	us				511	
Project Descrip	tion	2036 No Build AM					-				-		-			14144	7 1
Demand Inform	nation				EE	3		1	٧	VB		T	NB		T	SB	
Approach Move	ement			L	Т		R	L	Τ.	Т	R	L	T	R	L	T	R
Demand (v), v	eh/h			22	270	0			4	65	70	159	358	221	0	0	0
Signal Informa	tion				ĮĮ,			_	× -			7					
Cycle, s	80.0	Reference Phase	2	1	K+7		_₹		=						KÎZ.		А
Offset, s	0	Reference Point	End		K	î"								1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Green)	7.0	24.0	0.		0.0	0.0	_			_	~
Force Mode	Fixed	Simult. Gap E/W	On	Yellow Red	2.0	-	4.0 2.0	4.0 2.0	0.		0.0	0.0		_	_	-	8
Force wode	rixeu	Simult. Gap 14/5	OII	reu	2.0		2.0	2.0	0.	U	0.0	0.0		3	•	1	8
Timer Results				EBI	-	Е	ВТ	WBI	L	W	/BT	NBI	L	NBT	SBI	L	SBT
Assigned Phase	е			7			4				8			2			6
Case Number				1.0		4	.0			8	3.3			5.0			8.0
Phase Duration	ı, s			13.0		43	3.0			30	0.0			37.0			37.0
Change Period,	, (Y+R	c), S		6.0		6	5.0			6	6.0			6.0			6.0
Max Allow Head	dway (/	<i>MAH</i>), s		3.1		3	3.1			3	3.1			0.0			0.0
Queue Clearan	ce Time	e (g s), s		2.7		10	0.3			13	3.0						
Green Extensio	n Time	(g e), s		0.0		1	.7		\neg	1.5				0.0			0.0
Phase Call Prol	bability	· - /		1.00)	1.	.00			1.	.00						
Max Out Proba	bility			0.09)	0.	.00			0.	.04						
Movement Gro	un Res	sults			EB				W	R			NB			SB	
Approach Move		74110		1	T	\top	R	L	T	-	R		T	R	-	T	R
Assigned Move				7	4	+	-1	_	8	+	18	5	2	12	1	6	16
Adjusted Flow F) veh/h		24	300	+			30	3	291	177	398	246	H-	0	10
		ow Rate (s), veh/h/l	n	1767	1856	_			185	_	1770	1767	1766	1572	-	0	
Queue Service				0.7	8.3	_			10.	_	11.0	5.4	6.2	9.1	_	0.0	
Cycle Queue C		- ,		0.7	8.3	_			10.	_	11.0	5.4	6.2	9.1		0.0	
Green Ratio (g		5 mile (g c), 3		0.41	0.46	_			0.3	_	0.30	0.39	0.2	0.39		0.0	
Capacity (c), v				377	858	_			55	_	531	775	1369	609			
Volume-to-Capa		atio (X)		0.065	0.35	_			0.54	\rightarrow	0.548	0.228	0.291	0.403		0.000	
		t/ln(95 th percentile	:)	13	158	_			22	-	214	102	113	156		0.000	
		eh/In (95 th percenti	-	0.5	6.2	_			8.8	_	8.6	4.0	4.4	6.1		0.0	
	• ,	RQ) (95 th percent		0.00	0.00	_			0.0	_	0.00	0.68	0.00	2.08		0.00	
Uniform Delay (,	15.1	13.8	_			23.	_	23.5	16.7	16.9	17.8		,,,,,	
Incremental De	lay (d 2), s/veh		0.3	1.1	T			3.8	3	4.0	0.7	0.5	2.0		0.0	
Initial Queue De	ue Delay (d 3), s/veh			0.0	0.0				0.0)	0.0	0.0	0.0	0.0		0.0	
	ntrol Delay (<i>d</i>), s/veh			15.4	14.9	9			27.	2	27.5	17.4	17.4	19.8			
	evel of Service (LOS)			В	В				С		С	В	В	В			
Approach Delay	Approach Delay, s/veh / LOS						В	27.4			С	18.1	1	В	0.0		
Intersection Del	lay, s/ve	eh / LOS					20).7							С		
Multimodal Re	oulte				EB				W	D			NB			SB	
Pedestrian LOS		/108		2.26			В	1.92	_		В	1.91		В	2.10		В
Bicycle LOS Sc				1.02	_			0.98	_						0.49		
Dicycle LOS SC	OIE / LC	,,		1.02	-	- 1	A	0.98	,	-	A	1.16	,	Α	0.48	7	Α

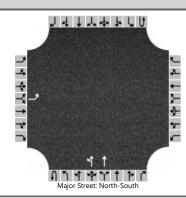
HCS Signalized Intersection Results Summary ياط بالمؤملية أمالي Intersection Information **General Information** Duration, h The Kleingers Group 0.250 Agency Analysis Date 4/4/2024 Analyst Dave M Area Type Other PHF Jurisdiction Time Period PM No Build 0.90 Columbus **Urban Street** N 4th Street Analysis Year 2036 **Analysis Period** 1> 7:00 E 5th Ave File Name 2036 aNo Bld 5th Ave PM.xus Intersection **Project Description** 2036 No Build PM WB **Demand Information** EB NB SB Approach Movement L R L R L R R 100 411 498 Demand (v), veh/h 197 212 1555 168 0 0 0 **Signal Information** JI. Cycle, s 100.0 Reference Phase 2 Offset, s 0 Reference Point End Green 51.0 24.0 0.0 7.0 0.0 0.0 Uncoordinated No Simult. Gap E/W On Yellow 4.0 4.0 4.0 0.0 0.0 0.0 Force Mode Fixed Simult. Gap N/S 2.0 0.0 On Red 2.0 2.0 0.0 0.0 **Timer Results EBL EBT WBL WBT** NBL **NBT** SBL SBT **Assigned Phase** 4 8 2 6 7 Case Number 1.0 4.0 8.3 5.0 8.0 Phase Duration, s 13.0 43.0 30.0 57.0 57.0 6.0 6.0 6.0 6.0 6.0 Change Period, (Y+Rc), s Max Allow Headway (MAH), s 3.1 3.1 3.1 0.0 0.0 Queue Clearance Time (g_s), s 6.5 22.6 23.3 Green Extension Time (g_e), s 0.0 2.3 0.3 0.0 0.0 Phase Call Probability 1.00 1.00 1.00 1.00 0.04 1.00 Max Out Probability WB **Movement Group Results** EΒ NB SB Approach Movement L Т R L Т R L Т R Т L R **Assigned Movement** 7 4 8 18 5 2 12 1 6 16 111 457 405 367 236 1728 187 0 Adjusted Flow Rate (v), veh/h 1767 1856 1856 1767 1766 1572 0 Adjusted Saturation Flow Rate (s), veh/h/ln 1676 4.5 20.6 20.7 21.3 7.5 46.9 0.0 Queue Service Time (g_s), s 6.6 Cycle Queue Clearance Time (g c), s 4.5 20.6 20.7 21.3 7.5 46.9 6.6 0.0 Green Ratio (g/C) 0.33 0.37 0.24 0.24 0.51 0.51 0.51 Capacity (c), veh/h 214 687 445 402 973 1802 802 Volume-to-Capacity Ratio (X) 0.519 0.665 0.909 0.913 0.242 0.959 0.233 0.000 Back of Queue (Q), ft/ln (95 th percentile) 108 378 466 428 139 733 109 0 Back of Queue (Q), veh/ln (95 th percentile) 4.2 14.8 18.2 17.1 5.4 28.6 4.3 0.0 Queue Storage Ratio (RQ) (95 th percentile) 0.00 0.00 0.00 0.00 0.93 0.00 1.46 0.00 Uniform Delay (d 1), s/veh 27.1 26.3 36.9 37.0 13.9 23.5 13.6 Incremental Delay (d 2), s/veh 8.7 5.0 25.1 27.6 0.6 13.5 0.7 0.0 Initial Queue Delay (d 3), s/veh 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Control Delay (d), s/veh 35.8 31.4 62.0 64.6 14.4 37.0 14.3 Level of Service (LOS) D С F Ε В D В 32.2 С 63.2 Е 32.5 С 0.0 Approach Delay, s/veh / LOS Intersection Delay, s/veh / LOS 39.3 D **Multimodal Results** ΕB WB NB Pedestrian LOS Score / LOS 2.28 В 1.93 В 1.90 2.09 В В Bicycle LOS Score / LOS 1.42 Α 1.12 Α 2.26 В 0.49 Α

	HCS	Sigr	nalize	d Int	ersec	tic	on Re	esul	ts Sur	nmary	/				
General Information									Interse	ction Inf	ormatic	\n		14741	ا ال
	Th - 1/1-i O					_							- 1	+	
Agency	The Kleingers Grou	p	Δ.		4/4/6	200			Duration		0.250		-		
Analyst	Dave M		_		te 4/4/2				Area Ty	pe	Other				- A-
Jurisdiction	Columbus		Time F		_		IIa		PHF	<u> </u>	0.90			W † E	-
Urban Street	N 4th Street		Analys						Analysis		1> 7:0	JO	7		7
Intersection	E 5th Ave		File Na	ame	2036	3 B	uild_5t	h Ave	_AM.xus	5			- 1	ጎተተሰ	
Project Description	2036 Build AM			-			-							ነ ቀ ነ ቀ ነ	7
Demand Information				EB	.			W	В	T	NB		T	SB	
Approach Movement			L	Т	R		L	Т	R	L	Т	R	L	Т	R
Demand (v), veh/h			26	270)			46	5 77	159	370	221	0	0	0
Ciamal Information				1111											
Signal Information	Tp (p)		-	1	٠ 🚚			=					KŤ2		ж
Cycle, s 80.0	Reference Phase	2		R	7		-					1	Y	3	→ 4
Offset, s 0	Reference Point	End	Green				24.0	0.0		0.0					
Uncoordinated No	Simult. Gap E/W	On	Yellow		4.0		4.0	0.0		0.0		4	<u> </u>	→	
Force Mode Fixed	Simult. Gap N/S	On	Red	2.0	2.0		2.0	0.0	0.0	0.0		5	6	7	8
Timer Results			EBI	T	EBT	T	WBI		WBT	NB	L	NBT	SB	L	SBT
Assigned Phase			7		4	Ť	,,,_,		8	1	_	2			6
Case Number			1.0	+	4.0	t		_	8.3	-		5.0			8.0
Phase Duration, s			13.0	_	43.0	٠		-	30.0	-		37.0	_		37.0
Change Period, (Y+R	- \ c		6.0		6.0	t			6.0	-		6.0			6.0
Max Allow Headway (3.1	-	3.1	+		-	3.1	-	_	0.0			0.0
			2.8	_	10.3	+		_	13.2	-	_	0.0	_		0.0
Queue Clearance Time Green Extension Time	, - ,		0.0	_	1.7	+		+	1.5	-		0.0			0.0
Phase Call Probability	(90),0		1.00	_	1.00	t			1.00			0.0			0.0
Max Out Probability			0.12		0.00	+		-	0.05	1					
Wax out 1 Tobability			0.12		0.00	ò			0.00						
Movement Group Res	sults			EB		1		WE	3		NB			SB	
Approach Movement			L	Т	R	1	L	Т	R	L	Т	R	L	Т	R
Assigned Movement			7	4		1		8	18	5	2	12	1	6	16
Adjusted Flow Rate (v	'), veh/h		29	300		Ι		308	295	177	411	246		0	
Adjusted Saturation Flo	ow Rate (s), veh/h/l	n	1767	1856	6	Т		1856	1763	1767	1766	1572		0	
Queue Service Time (g s), s		0.8	8.3	Т	Т		11.1	11.2	5.4	6.5	9.1		0.0	
Cycle Queue Clearanc	e Time (<i>g c</i>), s		0.8	8.3		Т		11.1	11.2	5.4	6.5	9.1		0.0	
Green Ratio (g/C)			0.41	0.46		Т		0.30	0.30	0.39	0.39	0.39			
Capacity (c), veh/h			374	858		T		557	529	775	1369	609			
Volume-to-Capacity Ra	atio (X)		0.077	0.35)	T		0.55	3 0.557	0.228	0.300	0.403		0.000	
Back of Queue (Q), f)	15	158		Ť		229	_	102	117	156		0	
Back of Queue (Q), v	· · · · · · · · · · · · · · · · · · ·	,	0.6	6.2		1		8.9	8.7	4.0	4.6	6.1		0.0	
Queue Storage Ratio (<u></u>		0.00	0.00	_	T		0.00		0.68	0.00	2.08		0.00	
Uniform Delay (d 1), s	, ,		15.2	13.8		T		23.5	23.5	16.7	17.0	17.8			
Incremental Delay (d a			0.4	1.1		Ť		3.9		0.7	0.6	2.0		0.0	
Initial Queue Delay (d	·		0.0	0.0		1		0.0		0.0	0.0	0.0		0.0	
Control Delay (d), s/v	· ·		15.6	14.9		1		27.4		17.4	17.5	19.8			
Level of Service (LOS)			В	В		1		С	С	В	В	В			
Approach Delay, s/veh			15.0		В	Ť	27.6		С	18.2		В	0.0		
Intersection Delay, s/ve						20.							С		
Multimodal Results				EB		I		WE	3		NB			SB	
Pedestrian LOS Score	/LOS		2.26	6	В	I	1.92		В	1.9	1	В	2.10)	В
Bicycle LOS Score / LO	OS		1.03	3	Α		0.98		Α	1.18	3	Α	0.49	9	Α

HCS Signalized Intersection Results Summary ياط بالمؤملية أمالي Intersection Information **General Information** Duration, h The Kleingers Group 0.250 Agency Analysis Date 4/4/2024 Analyst Dave M Area Type Other PHF Jurisdiction Columbus Time Period PM Build 0.90 **Urban Street** N 4th Street Analysis Year 2036 Analysis Period 1> 7:00 E 5th Ave File Name 2036 Build 5th Ave PM.xus Intersection **Project Description** 2036 Build PM WB **Demand Information** EB NB SB Approach Movement L R L R L R R 411 498 Demand (v), veh/h 112 218 212 1589 168 0 0 0 **Signal Information** JI. Cycle, s 100.0 Reference Phase 2 Offset, s 0 Reference Point End Green 51.0 24.0 0.0 7.0 0.0 0.0 Uncoordinated No Simult. Gap E/W On Yellow 4.0 4.0 4.0 0.0 0.0 0.0 Force Mode Fixed Simult. Gap N/S 2.0 0.0 On Red 2.0 2.0 0.0 0.0 **Timer Results EBL EBT WBL WBT** NBL **NBT** SBL SBT **Assigned Phase** 4 8 2 6 7 Case Number 1.0 4.0 8.3 5.0 8.0 Phase Duration, s 13.0 43.0 30.0 57.0 57.0 6.0 6.0 6.0 6.0 6.0 Change Period, (Y+Rc), s Max Allow Headway (MAH), s 3.1 3.1 3.1 0.0 0.0 Queue Clearance Time (g_s), s 7.1 22.6 24.3 Green Extension Time (g_e), s 0.0 2.4 0.0 0.0 0.0 Phase Call Probability 1.00 1.00 1.00 1.00 0.05 1.00 Max Out Probability WB **Movement Group Results** EΒ NB SB Approach Movement L Т R L Т R L Т R Т L R **Assigned Movement** 7 4 8 18 5 2 12 1 6 16 124 457 419 377 236 1766 187 0 Adjusted Flow Rate (v), veh/h 1767 1856 1856 1767 1766 1572 0 Adjusted Saturation Flow Rate (s), veh/h/ln 1663 5.1 21.5 22.3 7.5 48.9 0.0 Queue Service Time (g_s), s 20.6 6.6 Cycle Queue Clearance Time (g c), s 5.1 20.6 21.5 22.3 7.5 48.9 6.6 0.0 0.24 Green Ratio (g/C) 0.33 0.37 0.24 0.51 0.51 0.51 Capacity (c), veh/h 208 687 445 399 973 1802 802 Volume-to-Capacity Ratio (X) 0.600 0.665 0.941 0.944 0.242 0.980 0.233 0.000 Back of Queue (Q), ft/ln (95 th percentile) 128 378 498 455 139 783 109 0 Back of Queue (Q), veh/ln (95 th percentile) 5.0 14.8 19.5 18.2 5.4 30.6 4.3 0.0 Queue Storage Ratio (RQ) (95 th percentile) 0.00 0.00 0.00 0.00 0.93 0.00 1.46 0.00 Uniform Delay (d 1), s/veh 27.4 26.3 37.3 37.3 13.9 24.0 13.6 Incremental Delay (d 2), s/veh 12.2 5.0 30.1 32.9 0.6 16.9 0.7 0.0 Initial Queue Delay (d 3), s/veh 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Control Delay (d), s/veh 39.6 31.4 67.4 70.2 14.4 40.9 14.3 Level of Service (LOS) D С F Ε В D В 33.1 С 68.7 Е 35.8 D 0.0 Approach Delay, s/veh / LOS Intersection Delay, s/veh / LOS 42.7 D **Multimodal Results** ΕB WB NB Pedestrian LOS Score / LOS 2.28 В 1.93 В 1.90 2.09 В В Bicycle LOS Score / LOS 1.45 Α 1.14 Α 2.29 В 0.49 Α

HCS Two-Way Stop-Control Report										
General Information		Site Information								
Analyst	D Meyer	Intersection	4th Street at 6th Ave							
Agency/Co.	The Kleingers Group	Jurisdiction	Columbus							
Date Performed	4/11/2024	East/West Street	6th Avenue							
Analysis Year	2036	North/South Street	4th Street							
Time Analyzed	AM Peak Build	Peak Hour Factor	0.92							
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25							
Project Description	2036 Build AM									

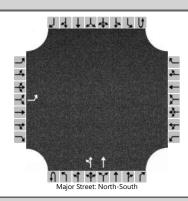
Lanes



Approach	T	Fasth	ound			Westh	oound			North	bound			South	bound		
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		1	0	0		0	0	0	0	0	2	0	0	0	0	0	
Configuration	+	L LT T									0						
Volume (veh/h)		57								23	450						
	_									_	450						
Percent Heavy Vehicles (%)	-	3								3							
Proportion Time Blocked	_																
Percent Grade (%))														
Right Turn Channelized																	
Median Type Storage				Undi	vided												
Critical and Follow-up H	eadwa	ys															
Base Critical Headway (sec)		7.5								5.3							
Critical Headway (sec)		6.86								5.36							
Base Follow-Up Headway (sec)		3.5								3.1							
Follow-Up Headway (sec)		3.53								3.13							
Delay, Queue Length, an	d Leve	l of Se	ervice														
Flow Rate, v (veh/h)	Т	62								25							
Capacity, c (veh/h)		653								1150							
v/c Ratio		0.09								0.02							
95% Queue Length, Q ₉₅ (veh)		0.3								0.1							
95% Queue Length, Q ₉₅ (ft)		7.7								2.6							
Control Delay (s/veh)		11.1								8.2	0.2						
Level of Service (LOS)		В								Α	А						
Approach Delay (s/veh)		11.1								0.	.6						
Approach LOS			<u></u> В								Α						

HCS Two-Way Stop-Control Report										
General Information		Site Information								
Analyst	D Meyer	Intersection	4th Street at 6th Ave							
Agency/Co.	The Kleingers Group	Jurisdiction	Columbus							
Date Performed	4/11/2024	East/West Street	6th Avenue							
Analysis Year	2036	North/South Street	4th Street							
Time Analyzed	PM Peak Build	Peak Hour Factor	0.92							
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25							
Project Description	2036 Build PM									

Lanes



Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	0		0	0	0	0	0	2	0	0	0	0	0
Configuration		L								LT	T					
Volume (veh/h)		51								67	1869					
Percent Heavy Vehicles (%)		3								3						
Proportion Time Blocked																
Percent Grade (%)		(0													
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.5								5.3						
Critical Headway (sec)		6.86								5.36						
Base Follow-Up Headway (sec)		3.5								3.1						
Follow-Up Headway (sec)		3.53								3.13						
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)	T	55								73						
Capacity, c (veh/h)		160								1150						
v/c Ratio		0.35								0.06						
95% Queue Length, Q ₉₅ (veh)		1.4								0.2						
95% Queue Length, Q ₉₅ (ft)		35.8								5.1						
Control Delay (s/veh)		39.1								8.3	1.1					
Level of Service (LOS)		E								А	А					
Approach Delay (s/veh)		39	9.1							1	.4					
Approach LOS			E							,	4					

		HCS	S Sigr	nalize	d Int	ersect	tion R	esul	ts Sun	nmary	•					
General Inform	aation								Intoroco	tion Info			Т.			
	nation	The 1/1-in man 0 0000						_	Intersec				- 1	4		
Agency		The Kleingers Grou	ıp			4/4/0	20.4	_	Duration		0.250		-			
Analyst		Dave M				e 4/4/20			Area Typ	е	Other				, D	
Jurisdiction		Columbus		Time F		_	lo Build		PHF		0.90		14	W+E 8		
Urban Street		4th Street		Analys					Analysis		1> 7:0	00	7		4	
Intersection		7th Avenue		File Na	ame	2026	aNo Blo	1_7th A	ve_AM.>	KUS				11		
Project Descrip	tion	2026 No Build AM	_					_			_			ነ ተ ተ ቀ ነ	MI	
Demand Inforn	nation				EB			WE	3	T	NB			SB		
Approach Move	ement			L	T	R	L	Т	R	L	Т	R	L	Т	R	
Demand (v), v	eh/h			48	14			33	11	57	401	6	0	0	0	
Signal Informa	tion			Г					T	_						
	80.0	Reference Phase	2		24.7		Ħ						KÎZ		7	
Cycle, s	0	Reference Point	End		*1	7 7						1	Y 2	3	4	
Offset, s				Green			0.0	0.0		0.0						
Uncoordinated	No	Simult. Gap E/W	On	Yellow		4.0	0.0	0.0		0.0	_	Z,	Z	_		
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	2.0	0.0	0.0	0.0	0.0		5	6	7	8	
Timer Results				EBI	-	EBT	WB	SL	WBT	NBL	.	NBT	SBI	L	SBT	
Assigned Phase	e					4			8			2			6	
Case Number	ase Number					8.0			8.0			8.0			8.0	
Phase Duration	Phase Duration, s					25.0			25.0			55.0			55.0	
Change Period,	Change Period, (Y+R c), s					6.0			6.0			6.0			6.0	
Max Allow Head		·				3.1		\neg	3.1			0.0			0.0	
Queue Clearan	- '					6.1			3.7							
Green Extensio		, - ,			\neg	0.1		\neg	0.2		\neg	0.0			0.0	
Phase Call Prob		(0).				1.00			1.00							
Max Out Probal						0.00			0.00							
Movement Gro	un Boo	oulto.			EB			WB			NB			SB		
		SuitS		.	_	T D	- -	_	T D		_		-	_		
Approach Move				_ L	T	R	₽	T	R	L	T	R	L	Т	R	
Assigned Move		. \ - -		7	4		-	8	18	5	2	12	1	6	16	
Adjusted Flow F		,			69		-	49		266	_	250	_	0		
-		ow Rate (s), veh/h/l	n	_	1362		-	1776		1741		1680		0		
Queue Service		- ,			2.4		-	1.7		0.0		5.4		0.0		
Cycle Queue C		se Time (g c), s			4.1		-	1.7		5.2		5.4		0.0	-	
Green Ratio (g					0.24		_	0.24		0.61		0.61		-		
Capacity (c), v				_	403	_	-	422		1122		1029	_	0.000		
Volume-to-Capa			\		0.171			0.116		0.237		0.243		0.000		
	·	t/ln (95 th percentile	,		52		-	35		86		82		0		
	· ,	eh/ln (95 th percenti			2.0			1.4	-	3.4		3.2		0.0		
		RQ) (95 th percent	tile)		0.00		-	0.00		0.00		0.00		0.00		
Uniform Delay (25.0		_	23.9		7.0		7.1				
Incremental De	- '	•			0.9			0.6		0.5		0.6		0.0		
	itial Queue Delay (d ȝ), s/veh				0.0			0.0		0.0		0.0		0.0		
	ontrol Delay (d), s/veh				25.9		_	24.5		7.5		7.6	_			
	evel of Service (LOS)				С			С		Α		A		<u></u>	<u></u>	
	Approach Delay, s/veh / LOS)	С	24.	5	С	7.6		Α	0.0			
Intersection Del	Intersection Delay, s/veh / LOS					1	0.9					В				
Multimodal Re	eulte				EB			WB			NB			SB		
		/108		1.92		В	1.9		В	1.64	-	В	1.64		В	
					_		_	-						_		
Bicycle LOS Sc	destrian LOS Score / LOS cycle LOS Score / LOS			0.60)	Α	0.5	7	Α	0.91		Α	0.49	9	Α	

	HCS	S Sigr	nalize	d Int	ersect	ion R	esul	ts Sun	nmary						
General Information								Intorcoo	tion Info	rmatic	n n	T I	14741	ابد لر	
	The Klainman Cuar						\rightarrow						4		
Agency	The Kleingers Grou	ıp	A I	EBL EBT WBL WBT 4 8 8.0 30.0 6.0 3.2 20.6 0.2 1.00 0.80 47 22 47 22 47 22 47 22 47 22 47 22 47 22 47 22 47 22 47 22 47 22 47 22 47 47						0.250		-			
Analyst	Dave M		_						е	Other			_ii.		
Jurisdiction	Columbus				_	o Bulla			<u> </u>	0.90	20	3	","		
Urban Street	4th Street					N. 51.				1> 7:0	JU	-			
Intersection	7th Avenue		File Na	ame	2026	aNo Bid	_/th A	ve_PM.>	KUS				11		
Project Description	2026 No Build PM												ነ ተ ተ ቀ ነ	P C	
Demand Information	1			EB		7	WE	3	1	NB			SB		
Approach Movement			L	T	R	L	T	R	L	Т	R	L	Т	R	
Demand (v), veh/h			157	54			47	21	88	1634	18	0	0	0	
Oi ann al lunfa ann ati an				1111			<u> </u>								
Signal Information	D (D)		-	717	, n	=						ET 2		ж	
Cycle, s 100.0		2	-	F 1	۳ 🖰	-					1	Y	3	- → 4	
Offset, s 0	Reference Point	End			24.0		0.0	0.0	0.0					5_	
Uncoordinated No	Simult. Gap E/W	On							0.0		4				
Force Mode Fixed	Simult. Gap N/S	On	Red	2.0	2.0	0.0	0.0	0.0	0.0		5	6	7	8	
Timer Results			FRI	$\overline{}$	FRT	WR	1	WRT	NBL	_	NBT	SBI		SBT	
Assigned Phase						11.5			1100		2			6	
Case Number											8.0			8.0	
	Phase Duration, s						_		-	_	70.0	-		70.0	
								_		6.0			6.0		
	Change Period, (<i>Y+R c</i>), s Max Allow Headway (<i>MAH</i>), s					_	-		_	-	0.0			0.0	
- '	· · · · · · · · · · · · · · · · · · ·		_	_		-			_		0.0	_		0.0	
Queue Clearance Time Green Extension Time	, - ,		-	+		-	-		-	-	0.0	-	-	0.0	
Phase Call Probability	, - ,		_	_					_		0.0	_		0.0	
Max Out Probability			_	-		_			_						
Wax Out 1 Tobability					0.00			0.00	_						
Movement Group Re	sults			EB			WB			NB			SB		
Approach Movement			L	Т	R	L	Т	R	L	Т	R	L	Т	R	
Assigned Movement			7	4			8	18	5	2	12	1	6	16	
Adjusted Flow Rate (v), veh/h			234			76		1013		920		0		
Adjusted Saturation F	low Rate (s), veh/h/l	n		1245			1758	3	1807		1682		0		
Queue Service Time (g s), s			15.2			3.4		37.3		43.5		0.0		
Cycle Queue Clearan	ce Time (<i>g с</i>), s			18.6			3.4		45.8		43.5		0.0		
Green Ratio (g/C)				0.24			0.24		0.64		0.64				
Capacity (c), veh/h				362			422		1196		1076				
Volume-to-Capacity R	atio (X)			0.648			0.179	9	0.847		0.855		0.000		
Back of Queue (Q),		:)		261			70		649		595		0		
Back of Queue (Q),	· · · · · · · · · · · · · · · · · · ·	,		10.2			2.8		25.3		23.2		0.0		
Queue Storage Ratio				0.00			0.00		0.00		0.00		0.00		
Uniform Delay (d 1),	. , ,	,		37.2			30.2		14.6		14.3				
Incremental Delay (d				8.7			0.9		7.5		8.7		0.0		
Initial Queue Delay (·			0.0	1		0.0		0.0		0.0		0.0		
Control Delay (d), s/v	• • •			45.9			31.1		22.2		23.0				
Level of Service (LOS	· · · /				1		С		C		C				
·	pproach Delay, s/veh / LOS				D	31.1		С	22.5		С	0.0			
	ntersection Delay, s/veh / LOS					5.3		-				C			
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score	e / LOS		1.93	3	В	1.93	3	В	1.65		В	1.6	5	В	
D:	cycle LOS Score / LOS			,	Α	0.61	1	Α	2.08		В	0.49	9	Α	

		HCS	S Sigr	nalize	d Int	ersect	ion R	esul	ts Sun	nmary					
General Inform	action								Intersec	tion Info	. www. c. 61	•••		4.4.4.1	
	ation	Th - 1/1-i									_		Í	4	
Agency		The Kleingers Grou	ıp			1,,,,			Duration	·	0.250				
Analyst		Dave M		_		e 4/4/20			Area Typ	е	Other	<u> </u>		₩ ¹ E	2
Jurisdiction		Columbus		Time F		AM B	uild		PHF		0.90		100	W+E	
Urban Street		4th Street		-		r 2026			Analysis		1> 7:	00	T.		4
Intersection		7th Avenue		File Na	ame	2026	Build_7	th Ave	_AM.xus					11	
Project Descrip	tion	2026 Build AM											1	14144	MI
Demand Inform	nation				EB		7	W	В	7	NB		T	SB	
Approach Move	ment			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), v	eh/h			55	17			38	3 11	81	429	11	0	0	0
Signal Informa	tion				111:										
Cycle, s	80.0	Reference Phase	2		1	7							KÍZ		7
Offset, s	0.0	Reference Point	End		N 1							1	2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Green		19.0	0.0	0.0		0.0					4
	Fixed	Simult. Gap E/W	On	Yellow Red	-	4.0	0.0	0.0		0.0	_	Z	X	_	
Force Mode	ice Mode Fixed Simult. Gap N/S C				2.0	2.0	0.0	0.0	0.0	0.0		5	6	7	8
Timer Results						EBT	WB	L	WBT	NBL	.	NBT	SBI	L	SBT
Assigned Phase	ssigned Phase					4			8			2			6
Case Number	•					8.0			8.0			8.0			8.0
Phase Duration	Phase Duration, s				\neg	25.0	_		25.0			55.0			55.0
Change Period,	(Y+R	c). S				6.0			6.0			6.0			6.0
Max Allow Head						3.1			3.1			0.0			0.0
Queue Clearan		· · · · · · · · · · · · · · · · · · ·				6.8			3.9			0.0			
Green Extensio		, = ,			_	0.2	_	_	0.2	_		0.0			0.0
Phase Call Prol		(90),0				1.00			1.00			0.0			0.0
Max Out Probal					_	0.00		\neg	0.00						
Manager 4 One	D				ED			\A/D			ND			0.0	
Movement Gro		Suits		-	EB	Τ.		WB			NB		-	SB	
Approach Move				<u> </u>	T	R	L	T	R	L	T	R	<u> </u>	T	R
Assigned Move		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		7	4	+	-	8	18	5	2	12	1	6	16
Adjusted Flow F		, · · · · · · · · · · · · · · · · · · ·		_	80	+	_	54		296		283	_	0	
Queue Service		ow Rate (s), veh/h/l	n	-	1349 2.9		-	1783 1.9		1707 1.5		1675 6.3	-	0.0	
Cycle Queue C		- ,			4.8			1.9		6.0		6.3		0.0	
Green Ratio (g		$e^{-11111}e^{-\left(\frac{1}{2}g^{2}\right)}$, s		_	0.24	+	_	0.24		0.61		0.61	_	0.0	
Capacity (c), v					400			424	_	1104		1026			
Volume-to-Capa		atio (X)			0.200			0.12		0.268		0.275		0.000	
		t/ln(95 th percentile	,)		61			39	5	98		95		0.000	
		eh/In (95 th percentile	-		2.4			1.5		3.8		3.7		0.0	
		RQ) (95 th percent	,		0.00			0.00		0.00		0.00		0.00	
Uniform Delay (25.3			24.0		7.2		7.2		0.00	
Incremental De	, ,				1.1			0.6		0.6		0.7		0.0	
Initial Queue De	- \	,			0.0		_	0.0		0.0		0.0		0.0	
	control Delay (d), s/veh				26.5			24.6		7.8		7.9			
	evel of Service (LOS)				C			С		A		A			
Approach Delay				26.5		С	24.6		С	7.8		Α	0.0		
Intersection Del							1.2						В		
Multimodal Re					EB			WB			NB			SB	
				1.92		В	1.92	_	В	1.64	_	В	1.64		В
Bicycle LOS Sc	lestrian LOS Score / LOS /cle LOS Score / LOS			0.62	2	Α	0.58	3	Α	0.97		Α	0.49	9	Α

		HCS	S Sigr	nalize	d Int	ersect	ion R	esul	lts Sur	nmary					
General Inform	otion								Intoroo	tion Info		<u> </u>		4.4.4.1	امار
	iation	Th - 1/1-i									_	on	Í	4	
Agency		The Kleingers Grou	ıp			44404			Duration	·	0.250				
Analyst		Dave M		_		te 4/4/20			Area Typ	oe	Other			₩ ¹ E	. 2
Jurisdiction		Columbus		Time F		РМ В	uild		PHF		0.90	-	100	W+E	
Urban Street		4th Street		-		ar 2026			Analysis		1> 7:0	00	7		4
Intersection		7th Avenue		File Na	ame	2026	Build_7	th Ave	_PM.xus					11	
Project Descrip	tion	2026 Build PM											1	14144	11
Demand Inform	nation				EB			W	В	T	NB		T	SB	
Approach Move	ment			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), v	eh/h			157	54			4	7 21	105	1659	27	0	0	0
Signal Informa	tion						.		Г	_					
Cycle, s	100.0	Reference Phase	2	1	1		Ħ						KŤ2		7
	0	Reference Point	End	-	51	7						1	7 2	3	4
Offset, s Uncoordinated	No	Simult. Gap E/W	-	Green			0.0	0.0		0.0					4
	Fixed	<u> </u>	On On	Yellow Red	-	4.0	0.0	0.0		0.0	_	Z	X	_	
Force Mode	rce Mode Fixed Simult. Gap N/S 0				2.0	2.0	0.0	0.0	0.0	0.0		5	ь	1	8
Timer Results	mer Results					EBT	WB	L	WBT	NBL	.	NBT	SBI	L	SBT
Assigned Phase						4			8			2			6
Case Number	•					8.0			8.0			8.0			8.0
Phase Duration	Phase Duration, s					30.0			30.0			70.0			70.0
Change Period,	(Y+R	c), S				6.0			6.0			6.0			6.0
Max Allow Head						3.2		\neg	3.2			0.0			0.0
Queue Clearan		· · · · · · · · · · · · · · · · · · ·				20.6			5.4						
Green Extensio		, = ,				0.2	_		0.5			0.0		$\overline{}$	0.0
Phase Call Prob		(3-),-				1.00			1.00						-
Max Out Probal						0.80			0.00						
Movement Gre	un Bos	aulte.			EB			WE)		NID			SB	
Movement Gro		Suits		-	_	T D		_		 	NB		.	_	
Approach Move				_ L	T	R	L	Т	R	L	T	R	L	T	R
Assigned Move		·		7	4		-	8	18	5	2	12	1	6	16
Adjusted Flow F		,			234			76	2	1044		946	_	0	
Queue Service		ow Rate (s), veh/h/l	n	-	1245 15.2		-	1758 3.4		1798 43.5		1679 46.5	-	0.0	
Cycle Queue C		- ,			18.6		_	3.4		49.7		46.5	_	0.0	
Green Ratio (g		e mile (<i>g c)</i> , s			0.24			0.24		0.64		0.64		0.0	
Capacity (c), v					362			422		1191		1075			
Volume-to-Capa		atio (X)			0.648			0.17		0.877		0.881		0.000	
		t/ln(95 th percentile	<i>)</i>		261			70	9	701		640		0.000	
		eh/In (95 th percentile	-		10.2			2.8		27.4		25.0		0.0	
	• ,	RQ) (95 th percent			0.00	_		0.00		0.00		0.00		0.00	
Uniform Delay (uic)		37.2			30.2		15.3		14.8		0.00	
Incremental De	,				8.7			0.9		9.2		10.4		0.0	
		,			0.0			0.0		0.0		0.0		0.0	
	nitial Queue Delay (d 3), s/veh				45.9			31.1		24.6		25.2		5.0	
	evel of Service (LOS)				D 70.3			C		C C		C C			
Approach Delay				45.9	<u> </u>	D	31.		С	24.9		С	0.0		
Intersection Del				10.0			7.2						C 0.0		
Multimodal Re					EB			WE			NB			SB	
Pedestrian LOS				1.93	_	В	1.93	-	В	1.65		В	1.65		В
Bicycle LOS Sc	cycle LOS Score / LOS			0.87	7	Α	0.6	1	Α	2.13		В	0.49	9	Α

	HCS	S Sigr	nalize	d Int	ersect	ion R	esul	ts Sun	nmary					
General Information								Intersec	tion Info	rmotic	\n	T .	14141.	ام ل
	The Kleinman Cres						\rightarrow						4	
Agency	The Kleingers Grou	ıp	Δ.		4/4/0/	20.4		Duration		0.250		-		
Analyst	Dave M				e 4/4/20			Area Typ	е	Other				
Jurisdiction	Columbus		Time F			o Build		PHF		0.90			77	
Urban Street	4th Street		Analys					Analysis		1> 7:0	00	7		
Intersection	7th Avenue		File Na	ame	2036	aNo Bld	1_7th A	ve_AM.>	(us				11	
Project Description	2036 No Build AM			-			-			-			ነላ ተቀኘ፣	FIT
Demand Information				EB			WE	3	1	NB			SB	
Approach Movement			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), veh/h			55	17			38	13	65	459	7	0	0	0
Cianal Information				Ш			-		-					
Signal Information	D (D)		-	4	7	Ħ						KŤ2		ж
Cycle, s 80.0	Reference Phase	2		F	۳ 🔿						1	Y2	3	→ 4
Offset, s 0	Reference Point	End	Green		19.0	0.0	0.0	0.0	0.0					
Uncoordinated No	Simult. Gap E/W	On	Yellow		4.0	0.0	0.0	0.0	0.0		4	△		
Force Mode Fixed	Simult. Gap N/S	On	Red	2.0	2.0	0.0	0.0	0.0	0.0		5	6	7	8
Timer Results			EBI	\top	EBT	WB	1	WBT	NBL	$\overline{}$	NBT	SBI		SBT
Assigned Phase					4			8			2			6
Case Number					8.0			8.0			8.0			8.0
Phase Duration, s			_	25.0	_		25.0		_	55.0		_	55.0	
Change Period, (Y+R				6.0			6.0			6.0			6.0	
Max Allow Headway (· · · · · · · · · · · · · · · · · · ·			_	3.1			3.1	+-		0.0	_	_	0.0
Queue Clearance Time	· · · · · · · · · · · · · · · · · · ·				6.9			4.0			0.0			0.0
Green Extension Time	, - ,			-	0.9	-		0.2	-	_	0.0		+	0.0
Phase Call Probability	, - ,		_		1.00			1.00			0.0			0.0
Max Out Probability				_	0.00	_		0.00					_	
Wax Out 1 Tobability					0.00			0.00						
Movement Group Res	sults			EB			WB			NB			SB	
Approach Movement			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Assigned Movement			7	4			8	18	5	2	12	1	6	16
Adjusted Flow Rate (v	/), veh/h			80			57		303		287		0	
Adjusted Saturation FI	ow Rate (s), veh/h/l	n		1339			1774		1742		1680		0	
Queue Service Time (g s), S			2.9			2.0		0.0		6.4		0.0	
Cycle Queue Clearand	ce Time (g c), s			4.9			2.0		6.1		6.4		0.0	
Green Ratio (g/C)	, ,			0.24	1		0.24		0.61		0.61			
Capacity (c), veh/h				397			421		1122		1029			
Volume-to-Capacity Ra	atio (X)			0.201			0.134	ı	0.270		0.279		0.000	
Back of Queue (Q), 1		:)		61			41		100		96		0	
Back of Queue (Q), v	· · · · · · · · · · · · · · · · · · ·	_		2.4			1.6		3.9		3.8		0.0	
Queue Storage Ratio (-		0.00			0.00		0.00		0.00		0.00	
Uniform Delay (d 1), s		,		25.4			24.0		7.2		7.2			
Incremental Delay (d)				1.1			0.7		0.6		0.7		0.0	
Initial Queue Delay (d				0.0			0.0		0.0		0.0		0.0	
Control Delay (d), s/v	• • • •			26.5			24.7		7.8		7.9		5.5	
Level of Service (LOS)	* ' '						C C		7.0 A		A			
,	, ,				С	24.7		С	7.8		A	0.0		
	Approach Delay, s/veh / LOS Intersection Delay, s/veh / LOS					1.2		9	7.0			B		
microcolion Delay, S/V				'										
Multimodal Results				EB			WB			NB			SB	
Pedestrian LOS Score	/10S		1.92	2	В	1.92		В	1.64		В	1.64	1	В
i odobilali Eoo obbio	cycle LOS Score / LOS													

	HCS	S Sigr	nalize	d Int	ersec	tion R	esul	ts Sun	nmary					
General Information								Intersec	tion Info	rmatic	n n		14741	ابد لر
	Klain nana Cuar						_			0.250			4	
	Kleingers Grou	ıb	A b	is Da	4/4/0	004		Duration,				- 4		K.
Analyst Dav			_		e 4/4/2			Area Typ PHF	e	Other 0.90			, "I.	
	umbus		Time F		_	lo Build			Daniad	_	20			
	Street		Analys					Analysis		1> 7:	00	-		2
	Avenue		File Na	ame	2036	aNo Bio	1_7th A	ve_PM.x	cus				11	
Project Description 203	6 No Build PM												ነላ ተቀጥ	P C
Demand Information				EB			WE	3		NB			SB	
Approach Movement			L	Т	R	L	Т	R	L	Т	R	L	T	R
Demand (v), veh/h			179	61			54	24	100	1871	20	0	0	0
Signal Information		г		4	7							-+-		-
	ference Phase	2		R	7 -						1	Y	3	- → ₄
· ·	ference Point	End	Green	66.0	22.0	0.0	0.0	0.0	0.0					5
	nult. Gap E/W	On	Yellow	4.0	4.0	0.0	0.0	0.0	0.0		4	N		-
Force Mode Fixed Sim	nult. Gap N/S	On	Red	2.0	2.0	0.0	0.0	0.0	0.0		5	6	7	8
Timer Results			EBI		EBT	WB	1	WBT	NBL		NBT	SBI		SBT
Assigned Phase			EBI	-	4	VVD	, <u> </u>	8	INDL	-	2	361		6
			_			-			-			_	_	
Case Number	hase Duration, s				8.0	-		8.0	_		8.0		_	8.0
		_	_	28.0	-	_		28.0		72.0		\rightarrow	72.0	
Change Period, (Y+Rc), s		_	-	6.0	-	_	6.0	_		6.0	├─	-	6.0	
Max Allow Headway (MAH	·			_	3.2	-		3.2			0.0	<u> </u>		0.0
Queue Clearance Time (g s			_	_	24.0	-		6.0	_		0.0	<u> </u>	-	
Green Extension Time (g e), S		_	_	0.0	-		0.6	_		0.0		\rightarrow	0.0
Phase Call Probability				_	1.00	-	_	1.00		_				
Max Out Probability			_		1.00	_	_	0.00	_	_			_	
Movement Group Results				EB		$\overline{}$	WB			NB			SB	
Approach Movement			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Assigned Movement			7	4			8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), ve	eh/h			267	_	-	87		1160		1052		0	
Adjusted Saturation Flow R		ln		1149			1758		1806		1682		0	
Queue Service Time (g s),	· ,,			18.0		-	4.0		53.8		56.8		0.0	
Cycle Queue Clearance Tin				22.0	_		4.0		61.0		56.8		0.0	
Green Ratio (g/C)	(3 -), -			0.22		_	0.22		0.66		0.66			
Capacity (c), veh/h				316			387		1232		1110			
Volume-to-Capacity Ratio (X)			0.845	_		0.224	1	0.942		0.948		0.000	
Back of Queue (Q), ft/ln (e)		340			84		865		791		0.000	
Back of Queue (Q), veh/ln		,		13.3			3.3		33.8		30.9		0.0	
Queue Storage Ratio (RQ	<u> </u>			0.00	_		0.00		0.00		0.00		0.00	
Uniform Delay (d 1), s/veh	, , .			41.5			32.0		16.1		15.4		5.55	
Incremental Delay (d 2), s/				23.3		1	1.3		15.0		17.1		0.0	
• • • • • • • • • • • • • • • • • • • •				0.0			0.0		0.0		0.0		0.0	
Control Delay (d), s/veh	itial Queue Delay (d 3), s/veh			64.8			33.3		31.1		32.5		3.0	
Level of Service (LOS)	· · · /			04.0 E		1	33.3 C		C C		32.5 C			
Approach Delay, s/veh / LO	, , ,				E	33.3		С	31.7		С	0.0		
Intersection Delay, s/veh / L			64.8	<u> </u>		5.2	J	U	31.7			D 0.0		
microcouon Delay, S/Ven / L					3	J.Z								
Multimodal Results				EB			WB			NB			SB	
				D	4.04		В	1.04		В	4.0		_	
Pedestrian LOS Score / LO	S		1.93	3	В	1.93	3 I	D 1	1.64		D 1	1.64	1 1	В

	HCS	Sigr	nalize	d Inte	ersect	ion R	esul	ts Sur	nmary	,				
General Information								Intersec	tion Infe	rmatic	n n		14741	الد لر
		n						Duration		0.250			4	
Agency	The Kleingers Grou	þ	A ls	ia Dat	- 4/4/00	20.4	_					- A		
Analyst	Dave M				e 4/4/20 AM B			Area Typ PHF	Эе	Other 0.90	-		"Ï.	
Jurisdiction	Columbus		Time F		_	ulia			Davisal	_	20	1		
Urban Street	4th Street		Analys			D ::		Analysis		1> 7:0	JU	-		7
Intersection	7th Avenue		File Na	ame	2036	Build_71	th Ave	_AM.xus	i			- 1	11	
Project Description	2036 Build AM							_	_				ነ ተ ተ ቀ ነ	7 1
Demand Information	1			EB		7	WI	В	7	NB		7	SB	
Approach Movement			L	Т	R		Т	_	L	Т	R	L	Т	R
Demand (v), veh/h			55	17		╅	38		89	487	12	0	0	0
2 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1														
Signal Information				1										
Cycle, s 80.0	Reference Phase	2		RA	<i>,</i> ⇔ `	- 2						Ψ		
Offset, s 0	Reference Point	End	Green	49 N	19.0	0.0	0.0	0.0	0.0		1	2	3	4
Uncoordinated No	Simult. Gap E/W	On	Yellow		4.0	0.0	0.0		0.0		4			~
Force Mode Fixed	Simult. Gap N/S	On	Red	2.0	2.0	0.0	0.0		0.0		5	6	7	8
Timer Results			EBI	- -	EBT	WB	L	WBT	NBL	-	NBT	SB	L L	SBT
Assigned Phase					4			8			2			6
Case Number					8.0			8.0			8.0			8.0
Phase Duration, s	·				25.0			25.0			55.0			55.0
Change Period, (Y+F				6.0			6.0			6.0			6.0	
Max Allow Headway (· · · · · · · · · · · · · · · · · · ·				3.1			3.1			0.0			0.0
Queue Clearance Tim	, - ,				6.9		_	4.0						
Green Extension Time	· - /				0.2			0.2			0.0			0.0
Phase Call Probability	/				1.00			1.00						
Max Out Probability					0.00			0.00						
Movement Group Re	aculte			EB			WB			NB			SB	
Approach Movement	Juito		-	T	R	L	T	R		T	R		T	R
Assigned Movement			7	4	1	<u> </u>	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v) veh/h		-	80		_	57	10	334		319	<u> </u>	0	10
Adjusted Saturation F		n		1339			1774	1	1711		1676		0	
Queue Service Time (11		2.9		_	2.0		2.3		7.3	_	0.0	
Cycle Queue Clearan	/			4.9		_	2.0		7.0		7.3		0.0	
Green Ratio (g/C)	cc iiiic (g t), 3			0.24		-	0.24		0.61		0.61	-	0.0	
Capacity (c), veh/h				397			421		1106		1027			
Volume-to-Capacity R	Patio (Y)			0.201		-	0.134		0.302		0.311	-	0.000	
Back of Queue (Q),)		61			41	7	113		110		0.000	
Back of Queue (Q),				2.4			1.6		4.4		4.3		0.0	
Queue Storage Ratio	<u> </u>			0.00			0.00		0.00		0.00		0.00	
Uniform Delay (d 1),	· / · ·	()		25.4			24.0		7.3		7.4		0.00	
Incremental Delay (d				1.1			0.7		0.7		0.8		0.0	
	<u>'</u>			0.0			0.0	_	0.0		0.0		0.0	
Control Delay (d), s/	itial Queue Delay (d 3), s/veh			26.5			24.7	_	8.0		8.2		0.0	
Level of Service (LOS	• , ,			20.5 C			24.7 C		A		A			
<u> </u>	, , ,				С	24.7		С	8.1		A	0.0		
	Approach Delay, s/veh / LOS ntersection Delay, s/veh / LOS					1.2		J	0.1			B		
microcollon Delay, S/V	,				'									
Multimodal Results				EB			WB			NB			SB	
Pedestrian LOS Score	e / LOS		1.92		В	1.92		В	1.64		В	1.64		В
Bicycle LOS Score / L	_OS		0.62		Α	0.58	_	Α	1.03		Α	0.49	9	Α

General Information Agency The Kleingers Group														
							Intore	octic	n Info	rmatio	n	T I	4741	الد ل
Agency The Kleingers Group							Durati			0.250	ori	Í	4	
Analyst Davis M		ند، دا د د،	- Data	4/4/20	24	_						4		4
Analyst Dave M				4/4/20 PM Bu			Area T	ype		Other 0.90			wi.	
Jurisdiction Columbus		ime P			IIIa			:- D	!!	-	\ <u>\</u>	1		-
Urban Street 4th Street			s Year				Analys		eriod	1> 7:0	00			-
Intersection 7th Avenue	F	ile Na	me	2036 E	Build_7t	h Ave	_PM.x	us					11	
Project Description 2036 Build PM													4144	Pr C
Demand Information			EB		T	W	 В			NB		T	SB	
Approach Movement		L	Т	□ R	L	Т		₹	L	Т	R	L	Т	R
Demand (v), veh/h		179	61		┿	54	_	4	117	1896	_	0	0	0
												بيط		
Signal Information			1											
Cycle, s 100.0 Reference Phase	2		医食2	, iii								Ψ		-4 ,
Offset, s 0 Reference Point I	End	Green	67.5	20.5	0.0	0.0	0.	0	0.0			4	3	E
Uncoordinated No Simult. Gap E/W		'ellow		4.0	0.0	0.0			0.0		4			4
Force Mode Fixed Simult. Gap N/S		Red	2.0	2.0	0.0	0.0			0.0		5	6	7	8
								ų.						
Timer Results	-	EBL	_	EBT	WBI	<u> </u>	WBT	4	NBL		NBT	SBI	-	SBT
Assigned Phase	-		_	4		\rightarrow	8	4		_	2		_	6
Case Number	-		_	8.0			8.0	4		_	8.0			8.0
Phase Duration, s	_			26.5		_	26.5	4			73.5			73.5
Change Period, (Y+R c), s			_	6.0		_	6.0	_			6.0			6.0
Max Allow Headway (<i>MAH</i>), s	_		_	3.2		_	3.2	4			0.0			0.0
Queue Clearance Time (g s), s	_		_	22.5		_	6.1	4						
Green Extension Time (g e), s	_		_	0.0		\perp	0.6	4			0.0			0.0
Phase Call Probability	_			1.00			1.00	4						
Max Out Probability	_			1.00			0.00	_						
Movement Group Results	$\overline{}$		EB			WB		т		NB			SB	
Approach Movement	_	т	T	R	L	T	R	+	L	T	R		T	R
Assigned Movement	_	7	4			8	18		5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	-		267			87	+ 10	_	1190		1079	H-	0	10
Adjusted Saturation Flow Rate (s), veh/h/ln	_		1124			1758	2	_	1798		1680		0	
Queue Service Time (g_s), s	-	-	16.4			4.1		_	58.2		58.4		0.0	+
Cycle Queue Clearance Time ($g \circ j$, s	_		20.5			4.1		_	63.6		58.4		0.0	1
Green Ratio (g/C)	-	-	0.20			0.20	,	_	0.68		0.68		0.0	_
Capacity (c), veh/h	-		293			360	_	_	1254		1134			
Volume-to-Capacity Ratio (X)			0.909			0.24	_	_).949		0.952		0.000	
Back of Queue (Q), ft/ln (95 th percentile)			366			87		_	884		800		0.000	
Back of Queue (Q), V (95 th percentile)			14.3			3.4		_	34.5		31.2		0.0	
Queue Storage Ratio (RQ) (95 th percentile)			0.00			0.00	_	_	0.00		0.00		0.00	
Uniform Delay (d_1), s/veh)		_			33.2		_	15.5				0.00	
			42.9			_	_	_	_		14.8		0.0	
Incremental Delay (d 2), s/veh	-		0.0			1.6 0.0	_	_	0.0		17.4 0.0		0.0	
Initial Queue Delay (d 3), s/veh	_							_	_				0.0	
Control Delay (d), s/veh			76.6 E			34.8 C		-	31.4 C		32.2			
Level of Service (LOS)		76.0			24.0	_		+			С	0.0		
Approach Delay, s/veh / LOS	-	76.6		E	34.8		С	+	31.8		С	0.0		
Intersection Delay, s/veh / LOS				36	.4							D		
Multimodal Results			EB			WB		T		NB			SB	
Pedestrian LOS Score / LOS		1.94		В	1.94		В	+	1.64		В	1.64		В
Bicycle LOS Score / LOS		0.93		A	0.63	_	A	+	2.36		В	0.49	_	A