

LEVEL OF SERVICE CALCULATION WORKSHEETS  
YEAR 2010 NO PROJECT CONDITIONS  
WITH MITIGATIONS

Uptown Project Traffic Impact Analysis
2010 No Project - PM Peak Hour
MITIGATED

Level Of Service Computation Report
1997 HCM Operations Method (Future Volume Alternative)

Intersection #23 Frontage Rd./ W. Grand Ave.

Cycle (sec): 105 Critical Vol./Cap. (X): 0.842
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 38.2
Optimal Cycle: 99 Level Of Service: D

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound), Movement (L-T-R), Control (Split Phase, Protected), and Rights (Include). Includes Min. Green and Lanes.

Volume Module table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduced Vol, PCE Adj, MLF Adj, and Final Vol.

Saturation Flow Module table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module table with columns for Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, and DesignQueue.

Uptown Project Traffic Impact Analysis
Year 2010 No Project - AM Peak Hour
MITIGATED

Level Of Service Computation Report
1997 HCM Operations Method (Future Volume Alternative)

Intersection #23 Frontage Rd./ W. Grand Ave.

Cycle (sec): 60 Critical Vol./Cap. (X): 0.679
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 27.2
Optimal Cycle: OPTIMIZED Level Of Service: C

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound), Movement (L-T-R), Control (Split Phase, Protected), and Rights (Include). Includes Min. Green and Lanes.

Volume Module table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduced Vol, PCE Adj, MLF Adj, and Final Vol.

Saturation Flow Module table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module table with columns for Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, and DesignQueue.

LEVEL OF SERVICE CALCULATION WORKSHEETS  
YEAR 2010 PLUS PROJECT CONDITIONS  
WITH MITIGATIONS

Uptown Project Traffic Impact Analysis  
Year 2010 plus Project - AM Peak Hour  
MITIGATED

Level Of Service Computation Report  
1997 HCM Operations Method (Future Volume Alternative)

Intersection #23 Frontage Rd./ W. Grand Ave.

Cycle (sec): 65 Critical Vol./Cap. (X): 0.699  
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 27.5  
Optimal Cycle:OPTIMIZED Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	7	0	0	4	0	0
Lanes:	1	0	1	1	0	0	2	0	1	1	0	2

Volume Module:

Base Vol:	51	127	138	156	122	49	56	308	48	104	532	244
Growth Adj:	1.02	1.02	1.02	1.20	1.20	1.20	1.02	1.02	1.02	1.14	1.14	1.14
Initial Bse:	52	130	141	187	146	59	57	314	49	119	606	278
Added Vol:	0	0	0	0	0	0	0	24	0	0	99	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	52	130	141	187	146	59	57	338	49	119	705	278
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	55	136	148	197	154	62	60	356	52	125	743	293
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	55	136	148	197	154	62	60	356	52	125	743	293
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	55	136	148	197	154	62	60	356	52	125	743	293

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.83	0.83	0.93	0.93	0.81	0.88	0.89	0.89	0.90	0.90	0.81
Lanes:	1.00	1.00	1.00	0.56	0.44	1.00	2.00	1.75	0.25	1.00	2.00	1.00
Final Sat.:	1718	1584	1584	988	772	1537	3334	2945	426	1718	3437	1537

Capacity Analysis Module:

Vol/Sat:	0.03	0.09	0.09	0.20	0.20	0.04	0.02	0.12	0.12	0.07	0.22	0.19
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green/Cycle:	0.12	0.12	0.12	0.25	0.25	0.25	0.11	0.24	0.24	0.14	0.27	0.27
Volume/Cap:	0.27	0.73	0.79	0.79	0.79	0.16	0.17	0.51	0.51	0.51	0.79	0.69
Delay/Veh:	26.8	34.2	38.9	31.7	31.7	19.1	26.6	22.0	22.0	27.4	26.3	26.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.8	34.2	38.9	31.7	31.7	19.1	26.6	22.0	22.0	27.4	26.3	26.1
DesignQueue:	2	4	5	6	4	2	2	10	1	4	21	8

Uptown Project Traffic Impact Analysis  
Year 2010 Plus Project - PM Peak Hour  
MITIGATED

Level Of Service Computation Report  
1997 HCM Operations Method (Future Volume Alternative)

Intersection #23 Frontage Rd./ W. Grand Ave.

Cycle (sec): 105 Critical Vol./Cap. (X): 0.861  
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 38.4  
Optimal Cycle:OPTIMIZED Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	7	0	0	7	0	0
Lanes:	1	0	1	1	0	0	2	0	1	1	0	2

Volume Module:

Base Vol:	28	157	172	84	62	5	381	309	61	95	914	298
Growth Adj:	1.00	1.00	1.00	1.13	1.13	1.13	1.41	1.41	1.41	1.18	1.18	1.18
Initial Bse:	28	157	172	95	70	6	537	436	86	112	1079	352
Added Vol:	0	0	0	0	0	0	0	101	0	0	55	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	157	172	95	70	6	537	537	86	112	1134	352
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	29	165	181	100	74	6	565	565	91	118	1193	370
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	165	181	100	74	6	565	565	91	118	1193	370
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	29	165	181	100	74	6	565	565	91	118	1193	370

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.83	0.83	0.93	0.93	0.81	0.88	0.89	0.89	0.90	0.90	0.81
Lanes:	1.00	1.00	1.00	0.58	0.42	1.00	2.00	1.72	0.28	1.00	2.00	1.00
Final Sat.:	1718	1584	1584	1012	747	1537	3334	2900	465	1718	3437	1537

Capacity Analysis Module:

Vol/Sat:	0.02	0.10	0.11	0.10	0.10	0.00	0.17	0.19	0.19	0.07	0.35	0.24
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green/Cycle:	0.13	0.13	0.13	0.11	0.11	0.11	0.20	0.44	0.44	0.16	0.40	0.40
Volume/Cap:	0.13	0.79	0.86	0.86	0.86	0.03	0.86	0.44	0.44	0.44	0.86	0.60
Delay/Veh:	40.4	53.1	61.6	75.0	75.0	41.4	52.0	20.4	20.4	41.3	34.4	26.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.4	53.1	61.6	75.0	75.0	41.4	52.0	20.4	20.4	41.3	34.4	26.2
DesignQueue:	1	9	9	5	4	0	28	19	3	6	45	14

LEVEL OF SERVICE CALCULATION WORKSHEETS  
YEAR 2025 NO PROJECT CONDITIONS  
WITH MITIGATIONS

Uptown Project Traffic Impact Analysis
Year 2025 No Project - AM Peak Hour
MITIGATED

Level of Service Computation Report
1997 HCM Operations Method (Future Volume Alternative)

Intersection #14 Telegraph Ave./ 19th St.

Cycle (sec): 70 Critical Vol./Cap. (X): 0.785
Loss Time (sec): 8 (Y+R = 6 sec) Average Delay (sec/veh): 19.2
Optimal Cycle: 56 Level of Service: B

Table with columns for Approach (North Bound, South Bound, East Bound, West Bound) and Movement (L, T, R). Rows include Control, Rights, Min. Green, and Lanes.

Volume Module table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Vol.

Saturation Flow Module table with columns for Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module table with columns for Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, DesignQueue.

Uptown Project Traffic Impact Analysis
Year 2025 No Project - AM Peak Hour
MITIGATED

Level of Service Computation Report
1997 HCM Operations Method (Future Volume Alternative)

Intersection #23 Frontage Rd./ W. Grand Ave.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.799
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 37.5
Optimal Cycle: 86 Level of Service: D

Table with columns for Approach (North Bound, South Bound, East Bound, West Bound) and Movement (L, T, R). Rows include Control, Rights, Min. Green, and Lanes.

Volume Module table with columns for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Vol.

Saturation Flow Module table with columns for Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module table with columns for Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, DesignQueue.

Uptown Project Traffic Impact Analysis  
Year 2025 No Project - PM Peak Hour  
MITIGATED

Level Of Service Computation Report  
1997 HCM Operations Method (Future Volume Alternative)

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Intersection #14 Telegraph Ave./ 19th St.  
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Cycle (sec): 120 Critical Vol./Cap. (X): 0.966  
Loss Time (sec): 8 (Y+R = 6 sec) Average Delay (sec/veh): 43.5  
Optimal Cycle: 176 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	0	0	1	0	0	0	0	1	1
Volume Module:												
Base Vol:	57	355	0	0	377	46	0	0	0	28	552	122
Growth Adj:	1.06	1.06	1.06	1.32	1.32	1.32	1.00	1.00	1.00	2.38	2.38	2.38
Initial Bse:	60	376	0	0	498	61	0	0	0	67	1314	290
Added Vol:	0	2	0	0	4	0	0	0	0	0	1	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	60	378	0	0	502	61	0	0	0	67	1315	292
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.93	0.93	0.93	1.00	1.00	1.00	0.94	0.94	0.94
PHF Volume:	62	390	0	0	539	65	0	0	0	71	1399	311
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	62	390	0	0	539	65	0	0	0	71	1399	311
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	62	390	0	0	539	65	0	0	0	71	1399	311
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.68	0.85	1.00	1.00	0.75	0.75	1.00	1.00	1.00	0.81	0.81	0.72
Lanes:	1.00	1.00	0.00	0.00	0.89	0.11	0.00	0.00	0.00	0.10	1.90	1.00
Final Sat.:	1283	1615	0	0	1275	154	0	0	0	148	2920	1373
Capacity Analysis Module:												
Vol/Sat:	0.05	0.24	0.00	0.00	0.42	0.42	0.00	0.00	0.00	0.48	0.48	0.23
Crit Moves:	****											
Green/Cycle:	0.44	0.44	0.00	0.00	0.44	0.44	0.00	0.00	0.00	0.50	0.50	0.50
Volume/Cap:	0.11	0.55	0.00	0.00	0.97	0.97	0.00	0.00	0.00	0.97	0.97	0.46
Delay/Veh:	20.3	28.1	0.0	0.0	61.5	61.5	0.0	0.0	0.0	45.7	45.7	21.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.3	28.1	0.0	0.0	61.5	61.5	0.0	0.0	0.0	45.7	45.7	21.9
DesignQueue:	2	15	0	0	22	3	0	0	0	3	52	11

Uptown Project Traffic Impact Analysis  
Year 2025 No Project - PM Peak Hour  
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Level Of Service Computation Report  
1997 HCM Operations Method (Future Volume Alternative)

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Intersection #23 Frontage Rd./ W. Grand Ave.  
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Cycle (sec): 115 Critical Vol./Cap. (X): 1.003  
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 56.5  
Optimal Cycle: 180 Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	7	0	0	7	0	0
Lanes:	1	0	1	1	0	1	2	0	2	1	1	0
Volume Module:												
Base Vol:	28	157	172	84	62	5	381	309	61	95	914	298
Growth Adj:	1.00	1.00	1.00	1.87	1.87	1.87	2.23	2.23	2.23	1.37	1.37	1.37
Initial Bse:	28	157	172	157	116	9	850	689	136	130	1252	408
Added Vol:	0	0	0	0	0	0	0	4	0	0	3	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	157	172	157	116	9	850	693	136	130	1255	408
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	29	165	181	165	122	10	894	730	143	137	1321	430
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	165	181	165	122	10	894	730	143	137	1321	430
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	29	165	181	165	122	10	894	730	143	137	1321	430
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.83	0.83	0.90	0.94	0.94	0.88	0.90	0.81	0.90	0.90	0.81
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1718	1584	1584	1718	1789	1789	3334	3437	1537	1718	3437	1537
Capacity Analysis Module:												
Vol/Sat:	0.02	0.10	0.11	0.10	0.07	0.01	0.27	0.21	0.09	0.08	0.38	0.28
Crit Moves:	****											
Green/Cycle:	0.11	0.11	0.11	0.10	0.10	0.10	0.27	0.47	0.47	0.18	0.38	0.38
Volume/Cap:	0.15	0.92	1.00	1.00	0.71	0.06	1.00	0.45	0.20	0.45	1.00	0.73
Delay/Veh:	46.3	76.7	100.1	122.8	62.6	47.3	72.9	20.5	17.7	43.3	60.9	34.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.3	76.7	100.1	122.8	62.6	47.3	72.9	20.5	17.7	43.3	60.9	34.9
DesignQueue:	2	10	11	10	7	1	45	26	5	7	57	18

LEVEL OF SERVICE CALCULATION WORKSHEETS  
YEAR 2025 PLUS PROJECT CONDITIONS  
WITH MITIGATIONS

Uptown Project Traffic Impact Analysis
Year 2025 plus Project - AM Peak Hour
MITIGATED

Level Of Service Computation Report

1997 HCM Operations Method (Future Volume Alternative)

Intersection #14 Telegraph Ave./ 19th St.

Cycle (sec): 70 Critical Vol./Cap. (X): 0.936
Loss Time (sec): 8 (Y+R = 6 sec) Average Delay (sec/veh): 27.0
Optimal Cycle:OPTIMIZED Level Of Service: C

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Permitted Permitted Permitted
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 1 0 0 0 0 1 0 0 0 0 0 0 1 1 0 1

Volume Module:
Base Vol: 146 275 0 0 321 41 0 0 0 31 174 133
Growth Adj: 1.04 1.04 1.04 1.57 1.57 1.57 1.00 1.00 1.00 1.75 1.75 1.75
Initial Bse: 152 286 0 0 504 64 0 0 0 54 305 233
Added Vol: 5 54 0 0 59 80 0 0 0 0 6 12
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 157 340 0 0 563 144 0 0 0 54 311 245
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.81 0.81 0.81 0.82 0.82 0.82 0.90 0.90 0.90 0.83 0.83 0.83
PHF Volume: 194 420 0 0 687 176 0 0 0 66 375 296
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 194 420 0 0 687 176 0 0 0 66 375 296
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 194 420 0 0 687 176 0 0 0 66 375 296

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.48 0.85 1.00 1.00 0.74 0.74 1.00 1.00 1.00 0.81 0.81 0.72
Lanes: 1.00 1.00 0.00 0.00 0.80 0.20 0.00 0.00 0.00 0.30 1.70 1.00
Final Sat.: 908 1615 0 0 1121 287 0 0 0 456 2612 1373

Capacity Analysis Module:
Vol/Sat: 0.21 0.26 0.00 0.00 0.61 0.61 0.00 0.00 0.00 0.14 0.14 0.22
Crit Moves: \*\*\*\*
Green/Cycle: 0.66 0.66 0.00 0.00 0.66 0.66 0.00 0.00 0.00 0.23 0.23 0.23
Volume/Cap: 0.33 0.40 0.00 0.00 0.94 0.94 0.00 0.00 0.00 0.62 0.62 0.94
Delay/Veh: 6.7 6.7 0.0 0.0 28.3 28.3 0.0 0.0 0.0 28.3 28.3 63.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 6.7 6.7 0.0 0.0 28.3 28.3 0.0 0.0 0.0 28.3 28.3 63.0
DesignQueue: 3 6 0 0 10 3 0 0 0 2 12 9

Uptown Project Traffic Impact Analysis
Year 2025 plus Project - AM Peak Hour
MITIGATED

Level Of Service Computation Report

1997 HCM Operations Method (Future Volume Alternative)

Intersection #23 Frontage Rd./ W. Grand Ave.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.834
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 41.2
Optimal Cycle: 95 Level Of Service: D

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Split Phase Split Phase Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 7 0 0 0 4 0 0 0
Lanes: 1 0 0 1 1 1 0 0 0 1 1 2 0 2 0 1 1 0 2 0 1

Volume Module:
Base Vol: 51 127 138 156 122 49 56 308 48 104 532 244
Growth Adj: 1.02 1.02 1.02 3.34 3.34 3.34 1.02 1.02 1.02 1.52 1.52 1.52
Initial Bse: 52 130 141 521 407 164 57 314 49 158 809 371
Added Vol: 0 0 0 0 0 0 0 24 0 0 99 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 52 130 141 521 407 164 57 338 49 158 908 371
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 55 136 148 548 429 172 60 356 52 166 955 390
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 55 136 148 548 429 172 60 356 52 166 955 390
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 55 136 148 548 429 172 60 356 52 166 955 390

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.90 0.88 0.88 0.90 0.91 0.91 0.88 0.90 0.81 0.90 0.90 0.81
Lanes: 1.00 0.96 1.04 1.00 1.00 1.00 2.00 2.00 1.00 1.00 2.00 1.00
Final Sat.: 1718 1598 1737 1718 1731 1731 3334 3437 1537 1718 3437 1537

Capacity Analysis Module:
Vol/Sat: 0.03 0.09 0.09 0.32 0.25 0.10 0.02 0.10 0.03 0.10 0.28 0.25
Crit Moves: \*\*\*\*
Green/Cycle: 0.10 0.10 0.10 0.36 0.36 0.36 0.07 0.20 0.20 0.19 0.31 0.31
Volume/Cap: 0.33 0.89 0.89 0.89 0.69 0.28 0.26 0.52 0.17 0.52 0.89 0.81
Delay/Veh: 43.4 68.9 68.9 44.5 29.5 22.8 44.6 36.6 33.5 38.3 41.7 41.5
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 43.4 68.9 68.9 44.5 29.5 22.8 44.6 36.6 33.5 38.3 41.7 41.5
DesignQueue: 3 7 8 21 16 6 3 16 2 8 39 16

Uptown Project Traffic Impact Analysis  
Year 2025 plus Project - PM Peak  
MITIGATED

Level of Service Computation Report  
1997 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #14 Telegraph Ave. / 19th St.  
\*\*\*\*\*

Cycle (sec): 120 Critical Vol./Cap. (X): 1.076  
Loss Time (sec): 8 (Y+R = 6 sec) Average Delay (sec/veh): 66.5  
Optimal Cycle: 180 Level Of Service: E

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	17	0	0	17	0	0	0	0	0	22	0
Lanes:	1	0	1	0	0	1	0	0	0	0	1	1

Volume Module:

Base Vol:	57	355	0	0	377	46	0	0	0	28	552	122
Growth Adj:	1.06	1.06	1.06	1.32	1.32	1.32	1.00	1.00	1.00	2.38	2.38	2.38
Initial Bse:	60	376	0	0	498	61	0	0	0	67	1314	290
Added Vol:	23	62	0	0	50	69	0	0	0	0	28	47
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	83	438	0	0	548	130	0	0	0	67	1342	337
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.93	0.93	0.93	1.00	1.00	1.00	0.94	0.94	0.94
PHF Volume:	86	452	0	0	589	139	0	0	0	71	1427	359
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	452	0	0	589	139	0	0	0	71	1427	359
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	86	452	0	0	589	139	0	0	0	71	1427	359

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.64	0.85	1.00	1.00	0.74	0.74	1.00	1.00	1.00	0.81	0.81	0.72
Lanes:	1.00	1.00	0.00	0.00	0.81	0.19	0.00	0.00	0.00	0.09	1.91	1.00
Final Sat.:	1216	1615	0	0	1141	270	0	0	0	145	2923	1373

Capacity Analysis Module:

Vol/Sat:	0.07	0.28	0.00	0.00	0.52	0.52	0.00	0.00	0.00	0.49	0.49	0.26
Crit Moves:	****											
Green/Cycle:	0.48	0.48	0.00	0.00	0.48	0.48	0.00	0.00	0.00	0.45	0.45	0.45
Volume/Cap:	0.15	0.58	0.00	0.00	1.08	1.08	0.00	0.00	0.00	1.08	1.08	0.58
Delay/Veh:	18.0	25.8	0.0	0.0	88.1	88.1	0.0	0.0	0.0	80.2	80.2	28.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.0	25.8	0.0	0.0	88.1	88.1	0.0	0.0	0.0	80.2	80.2	28.1
DesignQueue:	3	17	0	0	23	5	0	0	0	3	58	14

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Uptown Project Traffic Impact Analysis  
Year 2025 plus Project - PM Peak  
MITIGATED

Level of Service Computation Report  
1997 HCM Operations Method (Future Volume Alternative)

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Intersection #23 Frontage Rd. / W. Grand Ave.  
\*\*\*\*\*

Cycle (sec): 115 Critical Vol./Cap. (X): 1.021  
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 58.4  
Optimal Cycle: OPTIMIZED Level Of Service: E

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	7	0	0	7	0	0
Lanes:	1	0	1	1	0	1	2	0	2	1	0	2

Volume Module:

Base Vol:	28	157	172	84	62	5	381	309	61	95	914	298
Growth Adj:	1.00	1.00	1.00	1.87	1.87	1.87	2.23	2.23	2.23	1.37	1.37	1.37
Initial Bse:	28	157	172	157	116	9	850	689	136	130	1252	408
Added Vol:	0	0	0	0	0	0	0	101	0	0	55	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	157	172	157	116	9	850	790	136	130	1307	408
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	29	165	181	165	122	10	894	832	143	137	1376	430
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	165	181	165	122	10	894	832	143	137	1376	430
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	29	165	181	165	122	10	894	832	143	137	1376	430

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.83	0.83	0.90	0.94	0.94	0.88	0.90	0.81	0.90	0.90	0.81
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1718	1584	1584	1718	1789	1789	3334	3437	1537	1718	3437	1537

Capacity Analysis Module:

Vol/Sat:	0.02	0.10	0.11	0.10	0.07	0.01	0.27	0.24	0.09	0.08	0.40	0.28
Crit Moves:	****											
Green/Cycle:	0.11	0.11	0.11	0.09	0.09	0.09	0.26	0.49	0.49	0.16	0.39	0.39
Volume/Cap:	0.15	0.93	1.02	1.02	0.72	0.06	1.02	0.49	0.19	0.49	1.02	0.71
Delay/Veh:	46.5	80.6	105.5	128.5	64.1	47.4	78.3	19.8	16.5	45.2	65.0	33.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.5	80.6	105.5	128.5	64.1	47.4	78.3	19.8	16.5	45.2	65.0	33.5
DesignQueue:	2	10	11	10	7	1	45	29	5	7	59	18

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