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July 1, 2020

VIA EMAIL

Mr. Kenneth Kovalchik
Town Planner
Town of Guilderland
P.O. Box 339
Guilderland, NY 12084

Re: Western Avenue/Crossgates
MC Project No. 19002502A

Dear Mr. Kovalchik:

The following items are in response to the GPI letter to you dated May 8, 2020. Note that GPI has accepted our responses to Comments No. 1, 2, 3, 7, 9, 12, and 13 (Maser Consulting P.A. - Response Letter dated April 10, 2020) and the following items are responded to below.

GPI Response to Maser Comment 4:

We accept the response and suggest the traffic redistribution noted be included in any subsequent traffic analysis provided.

Response: These redistributions have been included in our sensitivity analysis to NYSDOT. (See July 1, 2020 Maser Consulting P.A. Response Letter).

GPI Response to Maser Comment 5:

Typically, all identified traffic mitigation required is to be in place on the day of opening of the new facility. The Town of Guilderland would have to accept and enforce any monitoring and/or phased mitigation plan. The applicant should identify the specific mitigation needed at this location for each development site.

Response: The Applicant proposes the following improvements and modifications:

Crossgates Mall Road and Rapp Road

- ***Restripe Crossgates Mall Road in the vicinity of Rapp Road to three lanes to provide a center turn lane.***

- *Elimination of the channelized right turns. These turns will now be made at lower speeds under signal control to improve safety as per the VHB safety study.*
- *Modify detection and signal head locations as needed.*

Crossgates Mall Road and Fuller Road Alternate (I-87/I-90 Ramps)

- *The roundabout has been part of the Capital District Transit Authority (CDTA) Bus Rapid Transit (purple line) for several years and has been previously examined from a SEQRA perspective. As part of the Project, the Town of Guilderland and other key stakeholders have agreed to work with the Applicant to implement the planned roundabout at Crossgates Mall and the Fuller Road Alternate ramps to/from I-87/I-90. Thus, the roundabout will be constructed and operational prior to the opening of Costco to customers on Site 2.*

Western Avenue and Johnston/Rapp Road

- *For the 2022 Design Year, signal timing adjustments will be required to maintain similar operations conditions. However, to provide a means to adjust these timings or provide coordination, it is suggested that the Applicant provide a modem for this location.*
- *For the 2025 Design Year, in addition to signal timing changes, the Applicant is proposing to construct a westbound right turn lane on Western Avenue. This will maintain similar operating conditions compared to No-Build Conditions.*

Western Avenue and Gabriel Terrace

- *It is recommended that left turn entering and exiting movements at this location be prohibited on the north side of Western Avenue.*

GPI Response to Maser Comment 6:

The Planning Board will determine if the Site 1 concept plan provides enough detail to properly evaluate this connection.

Response: Comment noted.



GPI Response to Maser Comment 8:

We acknowledge that DEIS Figure CN-2 presents a reasonable concept plan for bicycle and pedestrian connectivity in the Crossgates mall area although it would seem appropriate to include bike racks in the site 1 area. It would also seem appropriate for the Town to conduct a review of each proposed component of this plan and its implementation during Site Plan Review of each site area.

Response: Comment noted.

GPI Response to Maser Comment 10:

The response does not adequately address the issue of potentially having 4 traffic signals within 2300 feet along the Mall Ring Road. Stating only that signals will need to be coordinated is not sufficient. We believe the applicant should provide an analysis of this corridor's operation (consisting of the four traffic signalized intersections including the proposed signal at Gabriel Terrace) with the ultimate buildout traffic volumes including site 3. A Synchro/SimTraffic model could provide an indication on the ability to coordinate these closely spaced intersections. Additionally, the Town is considering a "Complete Streets" approach to the Mall Ring Road that may include roundabouts in lieu of signalized intersections.

Response: Based on consultation with the Town and to avoid turn prohibition, the Gabriel Terrace Connector Road will be relocated to the east resulting in two "T" intersections. As part of the design, a center turn-lane will be provided on Crossgates Mall Road. The primary access to Site 3 (hypothetical Mixed-Use Development), would also be from Crossgates Mall Road via the Gabriel Terrace Connector Road and Hotel Connector Road. Attached as Exhibit 1.

GPI Response to Maser Comment 11:

The response to comment 9 only addressed the conditions at intersection # 10, the Mall Ring Road and the I-87 Ramps and is not an appropriate response to this comment. The Town of Guilderland is responsible for determining the appropriate mitigation for the Mall Ring Road, not NYSDOT. The applicant should confirm that they intend to pursue additional improvements along the Mall Ring Road as part of the site 3 application if the CDTA improvements are delayed.

Response: The roundabout has been part of the Capital District Transit Authority (CDTA) Bus Rapid Transit (purple line) for several years and has been previously examined from a SEQRA perspective. As part of the Project, the Town of Guilderland and other key stakeholders have agreed to work with



the Applicant to implement the planned roundabout at Crossgates Mall and the Fuller Road Alternate ramps to/from I-87/I-90. Thus, the roundabout will be constructed and operational prior to the opening of Costco to customers on Site 2.

If you have any questions regarding the above, please do not hesitate to contact us.

Very truly yours,

MASER CONSULTING P.A.

A handwritten signature in blue ink, appearing to read 'John T. Collins', is written over the printed name.

John T. Collins, Ph.D., P.E.
Executive Principal

RPRces
Enclosures



***RAPP ROAD RESIDENTIAL
COSTCO
WESTERN AVENUE MIXED-USE DEVELOPMENT***

EXHIBIT 1

INTERSECTION #11

**CROSSGATES MALL ROAD
MALL DRIVEWAY #1**

INTERSECTION #111

**CROSSGATES MALL ROAD
GABRIEL TERRACE CONNECTOR ROAD**

TABLE NO. 3A

LEVEL OF SERVICE SUMMARY TABLE

| | LOCATION | YEAR 2022 BUILD | | | | | | | | |
|-----|---|-----------------|-------|-------|------------|-------|-------|----------|-------|-------|
| | | WEEKDAY AM | | | WEEKDAY PM | | | SATURDAY | | |
| | | LOS | DELAY | V/C | LOS | DELAY | V/C | LOS | DELAY | V/C |
| 11 | CROSSGATES MALL ROAD & MALL DRIVEWAY #1 <u>UNSIGNALIZED</u> CROSSGATES MALL ROAD EB L MALL DRIVEWAY #1 SB L-R | A | 7.5 | 0.009 | A | 8.4 | 0.026 | A | 8.6 | 0.089 |
| | | B | 10.1 | 0.038 | C | 17.1 | 0.349 | C | 24.9 | 0.578 |
| 111 | CROSSGATES MALL ROAD GABRIEL TERRACE CONNECTOR ROAD <u>UNSIGNALIZED</u> CROSSGATES MALL ROAD WB L GABRIEL TERRACE CONNECTOR ROAD NB L-R | A | 8.2 | 0.052 | A | 8.7 | 0.143 | A | 9.5 | 0.208 |
| | | B | 10.9 | 0.100 | C | 17.2 | 0.483 | D | 33.7 | 0.781 |

THE ABOVE REPRESENTS THE LEVELS OF SERVICE, VEHICLE DELAY IN SECONDS AND VOLUME-TO-CAPACITY (V/C) RATIO FOR THE ABOVE INTERSECTIONS.

TABLE NO. 6A

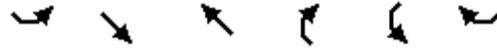
LEVEL OF SERVICE SUMMARY TABLE

| | LOCATION | YEAR 2025 BUILD | | | | | | | | |
|-----|---|-----------------|-------|-------|------------|-------|-------|----------|-------|-------|
| | | WEEKDAY AM | | | WEEKDAY PM | | | SATURDAY | | |
| | | LOS | DELAY | V/C | LOS | DELAY | V/C | LOS | DELAY | V/C |
| 11 | CROSSGATES MALL ROAD & MALL DRIVEWAY #1 | | | | | | | | | |
| | <u>UNSIGNALIZED</u> | | | | | | | | | |
| | CROSSGATES MALL ROAD EB L | A | 7.6 | 0.009 | A | 8.8 | 0.030 | A | 9.0 | 0.098 |
| | MALL DRIVEWAY #1 SB L-R | B | 10.4 | 0.042 | C | 21.4 | 0.437 | E | 37.4 | 0.716 |
| 111 | CROSSGATES MALL ROAD | | | | | | | | | |
| | GABRIEL TERRACE CONNECTOR ROAD | | | | | | | | | |
| | <u>UNSIGNALIZED</u> | | | | | | | | | |
| | CROSSGATES MALL ROAD WB L | A | 8.4 | 0.066 | A | 9.1 | 0.169 | B | 10.2 | 0.252 |
| | GABRIEL TERRACE CONNECTOR ROAD NB L-R | B | 12.0 | 0.153 | D | 42.9 | 0.845 | F | 151.1 | 1.224 |

THE ABOVE REPRESENTS THE LEVELS OF SERVICE, VEHICLE DELAY IN SECONDS AND VOLUME-TO-CAPACITY (V/C) RATIO FOR THE ABOVE INTERSECTIONS.

Year 2022 Build Traffic Volumes
 11: Crossgates Mall Road & Mall Entrance #1

AM Peak Hour
 06/29/2020



| Lane Group | SEL | SET | NWT | NWR | SWL | SWR |
|----------------------------|-------|------|-------|-------|-------|-------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 12 | 349 | 125 | 5 | 8 | 19 |
| Future Volume (vph) | 12 | 349 | 125 | 5 | 8 | 19 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 15 | 15 |
| Grade (%) | | -2% | 2% | | 4% | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.995 | | 0.904 | |
| Flt Protected | 0.950 | | | | 0.986 | |
| Satd. Flow (prot) | 1787 | 1881 | 1835 | 0 | 1790 | 0 |
| Flt Permitted | 0.950 | | | | 0.986 | |
| Satd. Flow (perm) | 1787 | 1881 | 1835 | 0 | 1790 | 0 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 785 | 261 | | 287 | |
| Travel Time (s) | | 17.8 | 5.9 | | 6.5 | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 13 | 367 | 132 | 5 | 8 | 20 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 13 | 367 | 137 | 0 | 28 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(ft) | | 12 | 12 | | 15 | |
| Link Offset(ft) | | 0 | 0 | | 0 | |
| Crosswalk Width(ft) | | 16 | 16 | | 16 | |
| Two way Left Turn Lane | | Yes | Yes | | | |
| Headway Factor | 0.99 | 0.99 | 1.01 | 1.01 | 0.91 | 0.91 |
| Turning Speed (mph) | 15 | | | 9 | 15 | 9 |
| Sign Control | | Free | Free | | Stop | |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Year 2022 Build Traffic Volumes
 11: Crossgates Mall Road & Mall Entrance #1

AM Peak Hour
 06/29/2020

Intersection

Int Delay, s/veh 0.7

Movement SEL SET NWT NWR SWL SWR

| | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 12 | 349 | 125 | 5 | 8 | 19 |
| Future Vol, veh/h | 12 | 349 | 125 | 5 | 8 | 19 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | -2 | 2 | - | 4 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 13 | 367 | 132 | 5 | 8 | 20 |

Major/Minor Major1 Major2 Minor2

| | | | | | | |
|----------------------|-------|---|---|---|-------|-------|
| Conflicting Flow All | 137 | 0 | - | 0 | 528 | 135 |
| Stage 1 | - | - | - | - | 135 | - |
| Stage 2 | - | - | - | - | 393 | - |
| Critical Hdwy | 4.12 | - | - | - | 7.22 | 6.62 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.22 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.22 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1447 | - | - | - | 454 | 900 |
| Stage 1 | - | - | - | - | 865 | - |
| Stage 2 | - | - | - | - | 625 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1447 | - | - | - | 450 | 900 |
| Mov Cap-2 Maneuver | - | - | - | - | 522 | - |
| Stage 1 | - | - | - | - | 857 | - |
| Stage 2 | - | - | - | - | 625 | - |

Approach SE NW SW

| | | | |
|----------------------|-----|---|------|
| HCM Control Delay, s | 0.2 | 0 | 10.1 |
| HCM LOS | | | B |

Minor Lane/Major Mvmt NWT NWR SEL SETSWLn1

| | | | | | |
|-----------------------|---|---|-------|---|-------|
| Capacity (veh/h) | - | - | 1447 | - | 741 |
| HCM Lane V/C Ratio | - | - | 0.009 | - | 0.038 |
| HCM Control Delay (s) | - | - | 7.5 | - | 10.1 |
| HCM Lane LOS | - | - | A | - | B |
| HCM 95th %tile Q(veh) | - | - | 0 | - | 0.1 |

Year 2022 Build Traffic Volumes
 111: Gabriel Terrace & Crossgates Mall Road

AM Peak Hour
 06/29/2020



| Lane Group | NBL | NBR | SET | SER | NWL | NWT |
|----------------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 6 | 58 | 306 | 51 | 58 | 124 |
| Future Volume (vph) | 6 | 58 | 306 | 51 | 58 | 124 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 15 | 15 | 12 | 12 | 12 | 12 |
| Grade (%) | 0% | | -2% | | | 2% |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.877 | | 0.981 | | | |
| Flt Protected | 0.996 | | | | 0.950 | |
| Satd. Flow (prot) | 1790 | 0 | 1846 | 0 | 1752 | 1844 |
| Flt Permitted | 0.996 | | | | 0.950 | |
| Satd. Flow (perm) | 1790 | 0 | 1846 | 0 | 1752 | 1844 |
| Link Speed (mph) | 30 | | 30 | | | 30 |
| Link Distance (ft) | 299 | | 261 | | | 345 |
| Travel Time (s) | 6.8 | | 5.9 | | | 7.8 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 6 | 61 | 322 | 54 | 61 | 131 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 67 | 0 | 376 | 0 | 61 | 131 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Right | Left | Left |
| Median Width(ft) | 15 | | 12 | | | 12 |
| Link Offset(ft) | 0 | | 0 | | | 0 |
| Crosswalk Width(ft) | 16 | | 16 | | | 16 |
| Two way Left Turn Lane | | | Yes | | | Yes |
| Headway Factor | 0.88 | 0.88 | 0.99 | 0.99 | 1.01 | 1.01 |
| Turning Speed (mph) | 15 | 9 | | 9 | 15 | |
| Sign Control | Stop | | Free | | | Free |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.9 | | | | | |
| Movement | NBL | NBR | SET | SER | NWL | NWT |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 6 | 58 | 306 | 51 | 58 | 124 |
| Future Vol, veh/h | 6 | 58 | 306 | 51 | 58 | 124 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | -2 | - | - | 2 |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 6 | 61 | 322 | 54 | 61 | 131 |

| Major/Minor | Minor1 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 602 | 349 | 0 | 0 | 376 |
| Stage 1 | 349 | - | - | - | - |
| Stage 2 | 253 | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 |
| Pot Cap-1 Maneuver | 463 | 694 | - | - | 1182 |
| Stage 1 | 714 | - | - | - | - |
| Stage 2 | 789 | - | - | - | - |
| Platoon blocked, % | | | - | - | - |
| Mov Cap-1 Maneuver | 439 | 694 | - | - | 1182 |
| Mov Cap-2 Maneuver | 534 | - | - | - | - |
| Stage 1 | 714 | - | - | - | - |
| Stage 2 | 748 | - | - | - | - |

| Approach | NB | SE | NW |
|----------------------|------|----|-----|
| HCM Control Delay, s | 10.9 | 0 | 2.6 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBLn1 | NWL | NWT | SET | SER |
|-----------------------|-------|-------|-----|-----|-----|
| Capacity (veh/h) | 675 | 1182 | - | - | - |
| HCM Lane V/C Ratio | 0.1 | 0.052 | - | - | - |
| HCM Control Delay (s) | 10.9 | 8.2 | - | - | - |
| HCM Lane LOS | B | A | - | - | - |
| HCM 95th %tile Q(veh) | 0.3 | 0.2 | - | - | - |

Year 2022 Build Traffic Volumes
 11: Crossgates Mall Road & Mall Entrance #1

PM Peak Hour
 06/29/2020



| Lane Group | SEL | SET | NWT | NWR | SWL | SWR |
|----------------------------|-------|------|-------|-------|-------|-------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 27 | 316 | 388 | 76 | 89 | 62 |
| Future Volume (vph) | 27 | 316 | 388 | 76 | 89 | 62 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 15 | 15 |
| Grade (%) | | -2% | 2% | | 4% | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Fr _t | | | 0.978 | | 0.945 | |
| Fl _t Protected | 0.950 | | | | 0.971 | |
| Satd. Flow (prot) | 1787 | 1881 | 1804 | 0 | 1843 | 0 |
| Fl _t Permitted | 0.950 | | | | 0.971 | |
| Satd. Flow (perm) | 1787 | 1881 | 1804 | 0 | 1843 | 0 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 785 | 261 | | 287 | |
| Travel Time (s) | | 17.8 | 5.9 | | 6.5 | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 28 | 333 | 408 | 80 | 94 | 65 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 28 | 333 | 488 | 0 | 159 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(ft) | | 12 | 12 | | 15 | |
| Link Offset(ft) | | 0 | 0 | | 0 | |
| Crosswalk Width(ft) | | 16 | 16 | | 16 | |
| Two way Left Turn Lane | | Yes | Yes | | | |
| Headway Factor | 0.99 | 0.99 | 1.01 | 1.01 | 0.91 | 0.91 |
| Turning Speed (mph) | 15 | | | 9 | 15 | 9 |
| Sign Control | | Free | Free | | Stop | |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 2.9

Movement SEL SET NWT NWR SWL SWR

| | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 27 | 316 | 388 | 76 | 89 | 62 |
| Future Vol, veh/h | 27 | 316 | 388 | 76 | 89 | 62 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | -2 | 2 | - | 4 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 28 | 333 | 408 | 80 | 94 | 65 |

Major/Minor Major1 Major2 Minor2

| | | | | | | |
|----------------------|-------|---|---|---|-------|-------|
| Conflicting Flow All | 488 | 0 | - | 0 | 837 | 448 |
| Stage 1 | - | - | - | - | 448 | - |
| Stage 2 | - | - | - | - | 389 | - |
| Critical Hdwy | 4.12 | - | - | - | 7.22 | 6.62 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.22 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.22 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1075 | - | - | - | 280 | 581 |
| Stage 1 | - | - | - | - | 583 | - |
| Stage 2 | - | - | - | - | 628 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1075 | - | - | - | 273 | 581 |
| Mov Cap-2 Maneuver | - | - | - | - | 396 | - |
| Stage 1 | - | - | - | - | 568 | - |
| Stage 2 | - | - | - | - | 628 | - |

Approach SE NW SW

| | | | |
|----------------------|-----|---|------|
| HCM Control Delay, s | 0.7 | 0 | 17.1 |
| HCM LOS | | | C |

Minor Lane/Major Mvmt NWT NWR SEL SETSWLn1

| | | | | | |
|-----------------------|---|---|-------|---|-------|
| Capacity (veh/h) | - | - | 1075 | - | 456 |
| HCM Lane V/C Ratio | - | - | 0.026 | - | 0.349 |
| HCM Control Delay (s) | - | - | 8.4 | - | 17.1 |
| HCM Lane LOS | - | - | A | - | C |
| HCM 95th %tile Q(veh) | - | - | 0.1 | - | 1.5 |

Year 2022 Build Traffic Volumes
 111: Gabriel Terrace & Crossgates Mall Road

PM Peak Hour
 06/29/2020



| Lane Group | NBL | NBR | SET | SER | NWL | NWT |
|----------------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 49 | 210 | 254 | 151 | 154 | 415 |
| Future Volume (vph) | 49 | 210 | 254 | 151 | 154 | 415 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 15 | 15 | 12 | 12 | 12 | 12 |
| Grade (%) | 0% | | -2% | | | 2% |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.891 | | 0.950 | | | |
| Flt Protected | 0.991 | | | | 0.950 | |
| Satd. Flow (prot) | 1809 | 0 | 1787 | 0 | 1752 | 1844 |
| Flt Permitted | 0.991 | | | | 0.950 | |
| Satd. Flow (perm) | 1809 | 0 | 1787 | 0 | 1752 | 1844 |
| Link Speed (mph) | 30 | | 30 | | | 30 |
| Link Distance (ft) | 299 | | 261 | | | 345 |
| Travel Time (s) | 6.8 | | 5.9 | | | 7.8 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 52 | 221 | 267 | 159 | 162 | 437 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 273 | 0 | 426 | 0 | 162 | 437 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Right | Left | Left |
| Median Width(ft) | 15 | | 12 | | | 12 |
| Link Offset(ft) | 0 | | 0 | | | 0 |
| Crosswalk Width(ft) | 16 | | 16 | | | 16 |
| Two way Left Turn Lane | | | Yes | | | Yes |
| Headway Factor | 0.88 | 0.88 | 0.99 | 0.99 | 1.01 | 1.01 |
| Turning Speed (mph) | 15 | 9 | | 9 | 15 | |
| Sign Control | Stop | | Free | | | Free |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.7 | | | | | |
| Movement | NBL | NBR | SET | SER | NWL | NWT |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 49 | 210 | 254 | 151 | 154 | 415 |
| Future Vol, veh/h | 49 | 210 | 254 | 151 | 154 | 415 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | -2 | - | - | 2 |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 52 | 221 | 267 | 159 | 162 | 437 |

| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 1108 | 347 | 0 | 0 | 426 | 0 |
| Stage 1 | 347 | - | - | - | - | - |
| Stage 2 | 761 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 232 | 696 | - | - | 1133 | - |
| Stage 1 | 716 | - | - | - | - | - |
| Stage 2 | 461 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 199 | 696 | - | - | 1133 | - |
| Mov Cap-2 Maneuver | 311 | - | - | - | - | - |
| Stage 1 | 716 | - | - | - | - | - |
| Stage 2 | 395 | - | - | - | - | - |

| Approach | NB | SE | NW |
|----------------------|------|----|-----|
| HCM Control Delay, s | 17.2 | 0 | 2.4 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBLn1 | NWL | NWT | SET | SER |
|-----------------------|-------|-------|-----|-----|-----|
| Capacity (veh/h) | 564 | 1133 | - | - | - |
| HCM Lane V/C Ratio | 0.483 | 0.143 | - | - | - |
| HCM Control Delay (s) | 17.2 | 8.7 | - | - | - |
| HCM Lane LOS | C | A | - | - | - |
| HCM 95th %tile Q(veh) | 2.6 | 0.5 | - | - | - |

Year 2022 Build Traffic Volumes
 11: Crossgates Mall Road & Mall Entrance #1

Saturday Peak Hour
 06/29/2020



| Lane Group | SEL | SET | NWT | NWR | SWL | SWR |
|----------------------------|-------|------|-------|-------|-------|-------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 92 | 397 | 259 | 184 | 132 | 96 |
| Future Volume (vph) | 92 | 397 | 259 | 184 | 132 | 96 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 15 | 15 |
| Grade (%) | | -2% | 2% | | 4% | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Fr _t | | | 0.944 | | 0.943 | |
| Fl _t Protected | 0.950 | | | | 0.972 | |
| Satd. Flow (prot) | 1787 | 1881 | 1741 | 0 | 1841 | 0 |
| Fl _t Permitted | 0.950 | | | | 0.972 | |
| Satd. Flow (perm) | 1787 | 1881 | 1741 | 0 | 1841 | 0 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 785 | 261 | | 287 | |
| Travel Time (s) | | 17.8 | 5.9 | | 6.5 | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 97 | 418 | 273 | 194 | 139 | 101 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 97 | 418 | 467 | 0 | 240 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(ft) | | 12 | 12 | | 15 | |
| Link Offset(ft) | | 0 | 0 | | 0 | |
| Crosswalk Width(ft) | | 16 | 16 | | 16 | |
| Two way Left Turn Lane | | Yes | Yes | | | |
| Headway Factor | 0.99 | 0.99 | 1.01 | 1.01 | 0.91 | 0.91 |
| Turning Speed (mph) | 15 | | | 9 | 15 | 9 |
| Sign Control | | Free | Free | | Stop | |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 5.6

Movement SEL SET NWT NWR SWL SWR

| | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 92 | 397 | 259 | 184 | 132 | 96 |
| Future Vol, veh/h | 92 | 397 | 259 | 184 | 132 | 96 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | -2 | 2 | - | 4 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 97 | 418 | 273 | 194 | 139 | 101 |

Major/Minor Major1 Major2 Minor2

| | | | | | | |
|----------------------|-------|---|---|---|-------|-------|
| Conflicting Flow All | 467 | 0 | - | 0 | 982 | 370 |
| Stage 1 | - | - | - | - | 370 | - |
| Stage 2 | - | - | - | - | 612 | - |
| Critical Hdwy | 4.12 | - | - | - | 7.22 | 6.62 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.22 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.22 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1094 | - | - | - | 222 | 648 |
| Stage 1 | - | - | - | - | 643 | - |
| Stage 2 | - | - | - | - | 472 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1094 | - | - | - | 202 | 648 |
| Mov Cap-2 Maneuver | - | - | - | - | 329 | - |
| Stage 1 | - | - | - | - | 586 | - |
| Stage 2 | - | - | - | - | 472 | - |

Approach SE NW SW

| | | | |
|----------------------|-----|---|------|
| HCM Control Delay, s | 1.6 | 0 | 24.9 |
| HCM LOS | | | C |

Minor Lane/Major Mvmt NWT NWR SEL SETSWLn1

| | | | | | |
|-----------------------|---|---|-------|---|-------|
| Capacity (veh/h) | - | - | 1094 | - | 415 |
| HCM Lane V/C Ratio | - | - | 0.089 | - | 0.578 |
| HCM Control Delay (s) | - | - | 8.6 | - | 24.9 |
| HCM Lane LOS | - | - | A | - | C |
| HCM 95th %tile Q(veh) | - | - | 0.3 | - | 3.5 |

Year 2022 Build Traffic Volumes
 111: Gabriel Terrace & Crossgates Mall Road

Saturday Peak Hour
 06/29/2020

| |  |  |  |  |  |  |
|----------------------------|---|---|---|---|---|---|
| Lane Group | NBL | NBR | SET | SER | NWL | NWT |
| Lane Configurations |  | |  | |  |  |
| Traffic Volume (vph) | 64 | 302 | 332 | 197 | 201 | 379 |
| Future Volume (vph) | 64 | 302 | 332 | 197 | 201 | 379 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 15 | 15 | 12 | 12 | 12 | 12 |
| Grade (%) | 0% | | -2% | | | 2% |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.888 | | 0.950 | | | |
| Flt Protected | 0.991 | | | | 0.950 | |
| Satd. Flow (prot) | 1803 | 0 | 1787 | 0 | 1752 | 1844 |
| Flt Permitted | 0.991 | | | | 0.950 | |
| Satd. Flow (perm) | 1803 | 0 | 1787 | 0 | 1752 | 1844 |
| Link Speed (mph) | 30 | | 30 | | | 30 |
| Link Distance (ft) | 299 | | 261 | | | 345 |
| Travel Time (s) | 6.8 | | 5.9 | | | 7.8 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 67 | 318 | 349 | 207 | 212 | 399 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 385 | 0 | 556 | 0 | 212 | 399 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Right | Left | Left |
| Median Width(ft) | 15 | | 12 | | | 12 |
| Link Offset(ft) | 0 | | 0 | | | 0 |
| Crosswalk Width(ft) | 16 | | 16 | | | 16 |
| Two way Left Turn Lane | | | Yes | | | Yes |
| Headway Factor | 0.88 | 0.88 | 0.99 | 0.99 | 1.01 | 1.01 |
| Turning Speed (mph) | 15 | 9 | | 9 | 15 | |
| Sign Control | Stop | | Free | | | Free |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 9.7 | | | | | |
| Movement | NBL | NBR | SET | SER | NWL | NWT |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 64 | 302 | 332 | 197 | 201 | 379 |
| Future Vol, veh/h | 64 | 302 | 332 | 197 | 201 | 379 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | -2 | - | - | 2 |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 67 | 318 | 349 | 207 | 212 | 399 |

| Major/Minor | Minor1 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 1276 | 453 | 0 | 0 | 556 |
| Stage 1 | 453 | - | - | - | - |
| Stage 2 | 823 | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 |
| Pot Cap-1 Maneuver | 184 | 607 | - | - | 1015 |
| Stage 1 | 640 | - | - | - | - |
| Stage 2 | 431 | - | - | - | - |
| Platoon blocked, % | | | | | |
| Mov Cap-1 Maneuver | 146 | 607 | - | - | 1015 |
| Mov Cap-2 Maneuver | 261 | - | - | - | - |
| Stage 1 | 640 | - | - | - | - |
| Stage 2 | 341 | - | - | - | - |

| Approach | NB | SE | NW |
|----------------------|------|----|-----|
| HCM Control Delay, s | 33.7 | 0 | 3.3 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBLn1 | NWL | NWT | SET | SER |
|-----------------------|-------|-------|-----|-----|-----|
| Capacity (veh/h) | 493 | 1015 | - | - | - |
| HCM Lane V/C Ratio | 0.781 | 0.208 | - | - | - |
| HCM Control Delay (s) | 33.7 | 9.5 | - | - | - |
| HCM Lane LOS | D | A | - | - | - |
| HCM 95th %tile Q(veh) | 7 | 0.8 | - | - | - |

Year 2025 Build Traffic Volumes
 11: Crossgates Mall Road & Mall Entrance #1

AM Peak Hour
 06/29/2020



| Lane Group | SEL | SET | NWT | NWR | SWL | SWR |
|----------------------------|-------|------|-------|-------|-------|-------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 12 | 406 | 153 | 5 | 8 | 20 |
| Future Volume (vph) | 12 | 406 | 153 | 5 | 8 | 20 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 15 | 15 |
| Grade (%) | | -2% | 2% | | 4% | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Fr _t | | | 0.996 | | 0.902 | |
| Fl _t Protected | 0.950 | | | | 0.986 | |
| Satd. Flow (prot) | 1787 | 1881 | 1837 | 0 | 1786 | 0 |
| Fl _t Permitted | 0.950 | | | | 0.986 | |
| Satd. Flow (perm) | 1787 | 1881 | 1837 | 0 | 1786 | 0 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 785 | 261 | | 287 | |
| Travel Time (s) | | 17.8 | 5.9 | | 6.5 | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 13 | 427 | 161 | 5 | 8 | 21 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 13 | 427 | 166 | 0 | 29 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(ft) | | 12 | 12 | | 15 | |
| Link Offset(ft) | | 0 | 0 | | 0 | |
| Crosswalk Width(ft) | | 16 | 16 | | 16 | |
| Two way Left Turn Lane | | Yes | Yes | | | |
| Headway Factor | 0.99 | 0.99 | 1.01 | 1.01 | 0.91 | 0.91 |
| Turning Speed (mph) | 15 | | | 9 | 15 | 9 |
| Sign Control | | Free | Free | | Stop | |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 0.6

Movement SEL SET NWT NWR SWL SWR

| | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 12 | 406 | 153 | 5 | 8 | 20 |
| Future Vol, veh/h | 12 | 406 | 153 | 5 | 8 | 20 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | -2 | 2 | - | 4 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 13 | 427 | 161 | 5 | 8 | 21 |

Major/Minor Major1 Major2 Minor2

| | | | | | | |
|----------------------|-------|---|---|---|-------|-------|
| Conflicting Flow All | 166 | 0 | - | 0 | 617 | 164 |
| Stage 1 | - | - | - | - | 164 | - |
| Stage 2 | - | - | - | - | 453 | - |
| Critical Hdwy | 4.12 | - | - | - | 7.22 | 6.62 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.22 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.22 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1412 | - | - | - | 395 | 865 |
| Stage 1 | - | - | - | - | 834 | - |
| Stage 2 | - | - | - | - | 579 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1412 | - | - | - | 391 | 865 |
| Mov Cap-2 Maneuver | - | - | - | - | 477 | - |
| Stage 1 | - | - | - | - | 826 | - |
| Stage 2 | - | - | - | - | 579 | - |

Approach SE NW SW

| | | | |
|----------------------|-----|---|------|
| HCM Control Delay, s | 0.2 | 0 | 10.4 |
| HCM LOS | | | B |

Minor Lane/Major Mvmt NWT NWR SEL SETSWLn1

| | | | | | |
|-----------------------|---|---|-------|---|-------|
| Capacity (veh/h) | - | - | 1412 | - | 702 |
| HCM Lane V/C Ratio | - | - | 0.009 | - | 0.042 |
| HCM Control Delay (s) | - | - | 7.6 | - | 10.4 |
| HCM Lane LOS | - | - | A | - | B |
| HCM 95th %tile Q(veh) | - | - | 0 | - | 0.1 |

Year 2025 Build Traffic Volumes
 111: Gabriel Terrace & Crossgates Mall Road

AM Peak Hour
 06/29/2020



| Lane Group | NBL | NBR | SET | SER | NWL | NWT |
|----------------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 23 | 65 | 332 | 82 | 71 | 135 |
| Future Volume (vph) | 23 | 65 | 332 | 82 | 71 | 135 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 15 | 15 | 12 | 12 | 12 | 12 |
| Grade (%) | 0% | | -2% | | | 2% |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.900 | | 0.973 | | | |
| Flt Protected | 0.987 | | | | 0.950 | |
| Satd. Flow (prot) | 1820 | 0 | 1831 | 0 | 1752 | 1844 |
| Flt Permitted | 0.987 | | | | 0.950 | |
| Satd. Flow (perm) | 1820 | 0 | 1831 | 0 | 1752 | 1844 |
| Link Speed (mph) | 30 | | 30 | | | 30 |
| Link Distance (ft) | 299 | | 261 | | | 345 |
| Travel Time (s) | 6.8 | | 5.9 | | | 7.8 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 24 | 68 | 349 | 86 | 75 | 142 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 92 | 0 | 435 | 0 | 75 | 142 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Right | Left | Left |
| Median Width(ft) | 15 | | 12 | | | 12 |
| Link Offset(ft) | 0 | | 0 | | | 0 |
| Crosswalk Width(ft) | 16 | | 16 | | | 16 |
| Two way Left Turn Lane | | | Yes | | | Yes |
| Headway Factor | 0.88 | 0.88 | 0.99 | 0.99 | 1.01 | 1.01 |
| Turning Speed (mph) | 15 | 9 | | 9 | 15 | |
| Sign Control | Stop | | Free | | | Free |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.3 | | | | | |
| Movement | NBL | NBR | SET | SER | NWL | NWT |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 23 | 65 | 332 | 82 | 71 | 135 |
| Future Vol, veh/h | 23 | 65 | 332 | 82 | 71 | 135 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | -2 | - | - | 2 |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 24 | 68 | 349 | 86 | 75 | 142 |

| Major/Minor | Minor1 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 684 | 392 | 0 | 0 | 435 |
| Stage 1 | 392 | - | - | - | - |
| Stage 2 | 292 | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 |
| Pot Cap-1 Maneuver | 414 | 657 | - | - | 1125 |
| Stage 1 | 683 | - | - | - | - |
| Stage 2 | 758 | - | - | - | - |
| Platoon blocked, % | | | | | |
| Mov Cap-1 Maneuver | 386 | 657 | - | - | 1125 |
| Mov Cap-2 Maneuver | 493 | - | - | - | - |
| Stage 1 | 683 | - | - | - | - |
| Stage 2 | 707 | - | - | - | - |

| Approach | NB | SE | NW |
|----------------------|----|----|-----|
| HCM Control Delay, s | 12 | 0 | 2.9 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBLn1 | NWL | NWT | SET | SER |
|-----------------------|-------|-------|-----|-----|-----|
| Capacity (veh/h) | 604 | 1125 | - | - | - |
| HCM Lane V/C Ratio | 0.153 | 0.066 | - | - | - |
| HCM Control Delay (s) | 12 | 8.4 | - | - | - |
| HCM Lane LOS | B | A | - | - | - |
| HCM 95th %tile Q(veh) | 0.5 | 0.2 | - | - | - |

Year 2025 Build Traffic Volumes
 11: Crossgates Mall Road & Mall Entrance #1

PM Peak Hour
 06/29/2020



| Lane Group | SEL | SET | NWT | NWR | SWL | SWR |
|----------------------------|-------|------|-------|-------|-------|-------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 28 | 386 | 482 | 84 | 97 | 63 |
| Future Volume (vph) | 28 | 386 | 482 | 84 | 97 | 63 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 15 | 15 |
| Grade (%) | | -2% | 2% | | 4% | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Fr _t | | | 0.980 | | 0.947 | |
| Fl _t Protected | 0.950 | | | | 0.971 | |
| Satd. Flow (prot) | 1787 | 1881 | 1807 | 0 | 1846 | 0 |
| Fl _t Permitted | 0.950 | | | | 0.971 | |
| Satd. Flow (perm) | 1787 | 1881 | 1807 | 0 | 1846 | 0 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 785 | 261 | | 287 | |
| Travel Time (s) | | 17.8 | 5.9 | | 6.5 | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 29 | 406 | 507 | 88 | 102 | 66 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 29 | 406 | 595 | 0 | 168 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(ft) | | 12 | 12 | | 15 | |
| Link Offset(ft) | | 0 | 0 | | 0 | |
| Crosswalk Width(ft) | | 16 | 16 | | 16 | |
| Two way Left Turn Lane | | Yes | Yes | | | |
| Headway Factor | 0.99 | 0.99 | 1.01 | 1.01 | 0.91 | 0.91 |
| Turning Speed (mph) | 15 | | | 9 | 15 | 9 |
| Sign Control | | Free | Free | | Stop | |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 3.2

Movement SEL SET NWT NWR SWL SWR

| | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 28 | 386 | 482 | 84 | 97 | 63 |
| Future Vol, veh/h | 28 | 386 | 482 | 84 | 97 | 63 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | -2 | 2 | - | 4 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 29 | 406 | 507 | 88 | 102 | 66 |

Major/Minor Major1 Major2 Minor2

| | | | | | | |
|----------------------|-------|---|---|---|-------|-------|
| Conflicting Flow All | 595 | 0 | - | 0 | 1015 | 551 |
| Stage 1 | - | - | - | - | 551 | - |
| Stage 2 | - | - | - | - | 464 | - |
| Critical Hdwy | 4.12 | - | - | - | 7.22 | 6.62 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.22 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.22 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 981 | - | - | - | 211 | 502 |
| Stage 1 | - | - | - | - | 511 | - |
| Stage 2 | - | - | - | - | 571 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 981 | - | - | - | 205 | 502 |
| Mov Cap-2 Maneuver | - | - | - | - | 335 | - |
| Stage 1 | - | - | - | - | 496 | - |
| Stage 2 | - | - | - | - | 571 | - |

Approach SE NW SW

| | | | |
|----------------------|-----|---|------|
| HCM Control Delay, s | 0.6 | 0 | 21.4 |
| HCM LOS | | | C |

Minor Lane/Major Mvmt NWT NWR SEL SETSWLn1

| | | | | | |
|-----------------------|---|---|------|---|-------|
| Capacity (veh/h) | - | - | 981 | - | 385 |
| HCM Lane V/C Ratio | - | - | 0.03 | - | 0.437 |
| HCM Control Delay (s) | - | - | 8.8 | - | 21.4 |
| HCM Lane LOS | - | - | A | - | C |
| HCM 95th %tile Q(veh) | - | - | 0.1 | - | 2.2 |

Year 2025 Build Traffic Volumes
 111: Gabriel Terrace & Crossgates Mall Road

PM Peak Hour
 06/29/2020



| Lane Group | NBL | NBR | SET | SER | NWL | NWT |
|----------------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 115 | 252 | 275 | 208 | 170 | 451 |
| Future Volume (vph) | 115 | 252 | 275 | 208 | 170 | 451 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 15 | 15 | 12 | 12 | 12 | 12 |
| Grade (%) | 0% | | -2% | | | 2% |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.907 | | 0.942 | | | |
| Flt Protected | 0.985 | | | | 0.950 | |
| Satd. Flow (prot) | 1831 | 0 | 1772 | 0 | 1752 | 1844 |
| Flt Permitted | 0.985 | | | | 0.950 | |
| Satd. Flow (perm) | 1831 | 0 | 1772 | 0 | 1752 | 1844 |
| Link Speed (mph) | 30 | | 30 | | | 30 |
| Link Distance (ft) | 299 | | 261 | | | 345 |
| Travel Time (s) | 6.8 | | 5.9 | | | 7.8 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 121 | 265 | 289 | 219 | 179 | 475 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 386 | 0 | 508 | 0 | 179 | 475 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Right | Left | Left |
| Median Width(ft) | 15 | | 12 | | | 12 |
| Link Offset(ft) | 0 | | 0 | | | 0 |
| Crosswalk Width(ft) | 16 | | 16 | | | 16 |
| Two way Left Turn Lane | | | Yes | | | Yes |
| Headway Factor | 0.88 | 0.88 | 0.99 | 0.99 | 1.01 | 1.01 |
| Turning Speed (mph) | 15 | 9 | | 9 | 15 | |
| Sign Control | Stop | | Free | | | Free |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 11.8 | | | | | |
| Movement | NBL | NBR | SET | SER | NWL | NWT |
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 115 | 252 | 275 | 208 | 170 | 451 |
| Future Vol, veh/h | 115 | 252 | 275 | 208 | 170 | 451 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | -2 | - | - | 2 |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 121 | 265 | 289 | 219 | 179 | 475 |

| Major/Minor | Minor1 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 1232 | 399 | 0 | 0 | 508 |
| Stage 1 | 399 | - | - | - | - |
| Stage 2 | 833 | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 |
| Pot Cap-1 Maneuver | 196 | 651 | - | - | 1057 |
| Stage 1 | 678 | - | - | - | - |
| Stage 2 | 427 | - | - | - | - |
| Platoon blocked, % | | | - | - | - |
| Mov Cap-1 Maneuver | 163 | 651 | - | - | 1057 |
| Mov Cap-2 Maneuver | 276 | - | - | - | - |
| Stage 1 | 678 | - | - | - | - |
| Stage 2 | 355 | - | - | - | - |

| Approach | NB | SE | NW |
|----------------------|------|----|-----|
| HCM Control Delay, s | 42.9 | 0 | 2.5 |
| HCM LOS | E | | |

| Minor Lane/Major Mvmt | NBLn1 | NWL | NWT | SET | SER |
|-----------------------|-------|-------|-----|-----|-----|
| Capacity (veh/h) | 457 | 1057 | - | - | - |
| HCM Lane V/C Ratio | 0.845 | 0.169 | - | - | - |
| HCM Control Delay (s) | 42.9 | 9.1 | - | - | - |
| HCM Lane LOS | E | A | - | - | - |
| HCM 95th %tile Q(veh) | 8.4 | 0.6 | - | - | - |

Year 2025 Build Traffic Volumes
 11: Crossgates Mall Road & Mall Entrance #1

Saturday Peak Hour
 06/29/2020



| Lane Group | SEL | SET | NWT | NWR | SWL | SWR |
|----------------------------|-------|------|-------|-------|-------|-------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 94 | 490 | 342 | 193 | 140 | 98 |
| Future Volume (vph) | 94 | 490 | 342 | 193 | 140 | 98 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 15 | 15 |
| Grade (%) | | -2% | 2% | | 4% | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.951 | | 0.944 | |
| Flt Protected | 0.950 | | | | 0.971 | |
| Satd. Flow (prot) | 1787 | 1881 | 1754 | 0 | 1841 | 0 |
| Flt Permitted | 0.950 | | | | 0.971 | |
| Satd. Flow (perm) | 1787 | 1881 | 1754 | 0 | 1841 | 0 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 785 | 261 | | 287 | |
| Travel Time (s) | | 17.8 | 5.9 | | 6.5 | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 99 | 516 | 360 | 203 | 147 | 103 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 99 | 516 | 563 | 0 | 250 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(ft) | | 12 | 12 | | 15 | |
| Link Offset(ft) | | 0 | 0 | | 0 | |
| Crosswalk Width(ft) | | 16 | 16 | | 16 | |
| Two way Left Turn Lane | | Yes | Yes | | | |
| Headway Factor | 0.99 | 0.99 | 1.01 | 1.01 | 0.91 | 0.91 |
| Turning Speed (mph) | 15 | | | 9 | 15 | 9 |
| Sign Control | | Free | Free | | Stop | |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Int Delay, s/veh 7.2

Movement SEL SET NWT NWR SWL SWR

| | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 94 | 490 | 342 | 193 | 140 | 98 |
| Future Vol, veh/h | 94 | 490 | 342 | 193 | 140 | 98 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | -2 | 2 | - | 4 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 99 | 516 | 360 | 203 | 147 | 103 |

Major/Minor Major1 Major2 Minor2

| | | | | | | |
|----------------------|-------|---|---|---|-------|-------|
| Conflicting Flow All | 563 | 0 | - | 0 | 1176 | 462 |
| Stage 1 | - | - | - | - | 462 | - |
| Stage 2 | - | - | - | - | 714 | - |
| Critical Hdwy | 4.12 | - | - | - | 7.22 | 6.62 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.22 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.22 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1008 | - | - | - | 163 | 570 |
| Stage 1 | - | - | - | - | 572 | - |
| Stage 2 | - | - | - | - | 414 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1008 | - | - | - | ~ 147 | 570 |
| Mov Cap-2 Maneuver | - | - | - | - | 276 | - |
| Stage 1 | - | - | - | - | 516 | - |
| Stage 2 | - | - | - | - | 414 | - |

Approach SE NW SW

| | | | |
|----------------------|-----|---|------|
| HCM Control Delay, s | 1.4 | 0 | 37.4 |
| HCM LOS | | | E |

Minor Lane/Major Mvmt NWT NWR SEL SETSWLn1

| | | | | | |
|-----------------------|---|---|-------|---|-------|
| Capacity (veh/h) | - | - | 1008 | - | 350 |
| HCM Lane V/C Ratio | - | - | 0.098 | - | 0.716 |
| HCM Control Delay (s) | - | - | 9 | - | 37.4 |
| HCM Lane LOS | - | - | A | - | E |
| HCM 95th %tile Q(veh) | - | - | 0.3 | - | 5.3 |

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Year 2025 Build Traffic Volumes
 111: Gabriel Terrace & Crossgates Mall Road

Saturday Peak Hour
 06/29/2020



| Lane Group | NBL | NBR | SET | SER | NWL | NWT |
|----------------------------|-------|-------|-------|-------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 123 | 341 | 361 | 269 | 222 | 412 |
| Future Volume (vph) | 123 | 341 | 361 | 269 | 222 | 412 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 15 | 15 | 12 | 12 | 12 | 12 |
| Grade (%) | 0% | | -2% | | | 2% |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.901 | | 0.942 | | | |
| Flt Protected | 0.987 | | | | 0.950 | |
| Satd. Flow (prot) | 1822 | 0 | 1772 | 0 | 1752 | 1844 |
| Flt Permitted | 0.987 | | | | 0.950 | |
| Satd. Flow (perm) | 1822 | 0 | 1772 | 0 | 1752 | 1844 |
| Link Speed (mph) | 30 | | 30 | | | 30 |
| Link Distance (ft) | 299 | | 261 | | | 345 |
| Travel Time (s) | 6.8 | | 5.9 | | | 7.8 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 129 | 359 | 380 | 283 | 234 | 434 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 488 | 0 | 663 | 0 | 234 | 434 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Right | Left | Left |
| Median Width(ft) | 15 | | 12 | | | 12 |
| Link Offset(ft) | 0 | | 0 | | | 0 |
| Crosswalk Width(ft) | 16 | | 16 | | | 16 |
| Two way Left Turn Lane | | | Yes | | | Yes |
| Headway Factor | 0.88 | 0.88 | 0.99 | 0.99 | 1.01 | 1.01 |
| Turning Speed (mph) | 15 | 9 | | 9 | 15 | |
| Sign Control | Stop | | Free | | | Free |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 41.9 | | | | | |
| Movement | NBL | NBR | SET | SER | NWL | NWT |
| Lane Configurations | Y | | P | | Y | ↑ |
| Traffic Vol, veh/h | 123 | 341 | 361 | 269 | 222 | 412 |
| Future Vol, veh/h | 123 | 341 | 361 | 269 | 222 | 412 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | -2 | - | - | 2 |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 129 | 359 | 380 | 283 | 234 | 434 |

| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 1424 | 522 | 0 | 0 | 663 | 0 |
| Stage 1 | 522 | - | - | - | - | - |
| Stage 2 | 902 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 150 | 555 | - | - | 926 | - |
| Stage 1 | 595 | - | - | - | - | - |
| Stage 2 | 396 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | ~ 112 | 555 | - | - | 926 | - |
| Mov Cap-2 Maneuver | 224 | - | - | - | - | - |
| Stage 1 | 595 | - | - | - | - | - |
| Stage 2 | 296 | - | - | - | - | - |

| Approach | NB | SE | NW |
|----------------------|-------|----|-----|
| HCM Control Delay, s | 151.1 | 0 | 3.6 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBLn1 | NWL | NWT | SET | SER |
|-----------------------|-------|-------|-----|-----|-----|
| Capacity (veh/h) | 399 | 926 | - | - | - |
| HCM Lane V/C Ratio | 1.224 | 0.252 | - | - | - |
| HCM Control Delay (s) | 151.1 | 10.2 | - | - | - |
| HCM Lane LOS | F | B | - | - | - |
| HCM 95th %tile Q(veh) | 20.2 | 1 | - | - | - |

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



LEVEL OF SERVICE CRITERIA
FOR TWO-WAY STOP-CONTROLLED (TWSC) UNSIGNALIZED INTERSECTIONS

Level of Service (LOS) for a two-way stop-controlled (TWSC) intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. LOS is not defined for the intersection as a whole or for major-street approaches.

The Level of Service Criteria for TWSC unsignalized intersections are given in Exhibit 19-1 from the *2010 Highway Capacity Manual* published by the Transportation Research Board.

Exhibit 19-1

| Control Delay (s/veh) | LOS by Volume-to-Capacity Ratio | |
|-----------------------|---------------------------------|----------|
| | v/c ≤1.0 | v/c >1.0 |
| 0-10 | A | F |
| >10-15 | B | F |
| >15-25 | C | F |
| >25-35 | D | F |
| >35-50 | E | F |
| >50 | F | F |

The LOS criteria apply to each lane on a given approach and to each approach on the minor street.
 LOS is not calculated for major-street approaches or for the intersection as a whole.

As Exhibit 19-1 notes, LOS F is assigned to the movement if the volume-to-capacity ratio for the movement exceeds 1.0, regardless of the control delay.

The Level of Service Criteria for unsignalized intersections are somewhat different from the criteria for signalized intersections.