

# Appendix H

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## Traffic Impact Analysis



HCM 6th TWSC  
1: Victoria Avenue & Northeastern Driveway

Existing + Project  
Timing Plan: AM Peak Hour

| Intersection             |                                                                                   |      |      |                                                                                   |                                                                                   |      |
|--------------------------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 0.5                                                                               |      |      |                                                                                   |                                                                                   |      |
| Movement                 | EBL                                                                               | EBR  | NBL  | NBT                                                                               | SBT                                                                               | SBR  |
| Lane Configurations      |  |      |      |  |  |      |
| Traffic Vol, veh/h       | 4                                                                                 | 6    | 20   | 163                                                                               | 341                                                                               | 13   |
| Future Vol, veh/h        | 4                                                                                 | 6    | 20   | 163                                                                               | 341                                                                               | 13   |
| 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                                                                                 | -    | -    | -                                                                                 | -                                                                                 | -    |
| Veh in Median Storage, # | 0                                                                                 | -    | -    | 0                                                                                 | 0                                                                                 | -    |
| Grade, %                 | 0                                                                                 | -    | -    | 0                                                                                 | 0                                                                                 | -    |
| Peak Hour Factor         | 92                                                                                | 92   | 92   | 92                                                                                | 92                                                                                | 92   |
| Heavy Vehicles, %        | 0                                                                                 | 0    | 0    | 0                                                                                 | 0                                                                                 | 0    |
| Mvmt Flow                | 4                                                                                 | 7    | 22   | 177                                                                               | 371                                                                               | 14   |

| Major/Minor          | Minor2 | Major1 | Major2 |   |   |   |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 511    | 193    | 385    | 0 | - | 0 |
| Stage 1              | 378    | -      | -      | - | - | - |
| Stage 2              | 133    | -      | -      | - | - | - |
| Critical Hdwy        | 6.8    | 6.9    | 4.1    | - | - | - |
| Critical Hdwy Stg 1  | 5.8    | -      | -      | - | - | - |
| Critical Hdwy Stg 2  | 5.8    | -      | -      | - | - | - |
| Follow-up Hdwy       | 3.5    | 3.3    | 2.2    | - | - | - |
| Pot Cap-1 Maneuver   | 497    | 822    | 1185   | - | - | - |
| Stage 1              | 669    | -      | -      | - | - | - |
| Stage 2              | 885    | -      | -      | - | - | - |
| Platoon blocked, %   |        |        |        | - | - | - |
| Mov Cap-1 Maneuver   | 487    | 822    | 1185   | - | - | - |
| Mov Cap-2 Maneuver   | 487    | -      | -      | - | - | - |
| Stage 1              | 655    | -      | -      | - | - | - |
| Stage 2              | 885    | -      | -      | - | - | - |

| Approach             | EB   | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 10.7 | 1  | 0  |
| HCM LOS              | B    |    |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h)      | 1185  | -   | 645   | -   | -   |
| HCM Lane V/C Ratio    | 0.018 | -   | 0.017 | -   | -   |
| HCM Control Delay (s) | 8.1   | 0.1 | 10.7  | -   | -   |
| HCM Lane LOS          | A     | A   | B     | -   | -   |
| HCM 95th %tile Q(veh) | 0.1   | -   | 0.1   | -   | -   |

HCM 6th TWSC  
1: Victoria Avenue & Northeastern Driveway

Existing + Project  
Timing Plan: PM Peak Hour

| Intersection             |                                                                                   |        |       |                                                                                   |                                                                                   |      |
|--------------------------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 0.7                                                                               |        |       |                                                                                   |                                                                                   |      |
| Movement                 | EBL                                                                               | EBR    | NBL   | NBT                                                                               | SBT                                                                               | SBR  |
| Lane Configurations      |  |        |       |  |  |      |
| Traffic Vol, veh/h       | 14                                                                                | 21     | 8     | 383                                                                               | 245                                                                               | 5    |
| Future Vol, veh/h        | 14                                                                                | 21     | 8     | 383                                                                               | 245                                                                               | 5    |
| 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                                                                                 | -      | -     | -                                                                                 | -                                                                                 | -    |
| Veh in Median Storage, # | 0                                                                                 | -      | -     | 0                                                                                 | 0                                                                                 | -    |
| Grade, %                 | 0                                                                                 | -      | -     | 0                                                                                 | 0                                                                                 | -    |
| Peak Hour Factor         | 92                                                                                | 92     | 92    | 92                                                                                | 92                                                                                | 92   |
| Heavy Vehicles, %        | 0                                                                                 | 0      | 0     | 0                                                                                 | 0                                                                                 | 0    |
| Mvmt Flow                | 15                                                                                | 23     | 9     | 416                                                                               | 266                                                                               | 5    |
| Major/Minor              | Minor2                                                                            | Major1 |       | Major2                                                                            |                                                                                   |      |
| Conflicting Flow All     | 495                                                                               | 136    | 271   | 0                                                                                 | -                                                                                 | 0    |
| Stage 1                  | 269                                                                               | -      | -     | -                                                                                 | -                                                                                 | -    |
| Stage 2                  | 226                                                                               | -      | -     | -                                                                                 | -                                                                                 | -    |
| Critical Hdwy            | 6.8                                                                               | 6.9    | 4.1   | -                                                                                 | -                                                                                 | -    |
| Critical Hdwy Stg 1      | 5.8                                                                               | -      | -     | -                                                                                 | -                                                                                 | -    |
| Critical Hdwy Stg 2      | 5.8                                                                               | -      | -     | -                                                                                 | -                                                                                 | -    |
| Follow-up Hdwy           | 3.5                                                                               | 3.3    | 2.2   | -                                                                                 | -                                                                                 | -    |
| Pot Cap-1 Maneuver       | 509                                                                               | 894    | 1304  | -                                                                                 | -                                                                                 | -    |
| Stage 1                  | 758                                                                               | -      | -     | -                                                                                 | -                                                                                 | -    |
| Stage 2                  | 796                                                                               | -      | -     | -                                                                                 | -                                                                                 | -    |
| Platoon blocked, %       |                                                                                   |        |       | -                                                                                 | -                                                                                 | -    |
| Mov Cap-1 Maneuver       | 504                                                                               | 894    | 1304  | -                                                                                 | -                                                                                 | -    |
| Mov Cap-2 Maneuver       | 504                                                                               | -      | -     | -                                                                                 | -                                                                                 | -    |
| Stage 1                  | 751                                                                               | -      | -     | -                                                                                 | -                                                                                 | -    |
| Stage 2                  | 796                                                                               | -      | -     | -                                                                                 | -                                                                                 | -    |
| Approach                 | EB                                                                                | NB     |       | SB                                                                                |                                                                                   |      |
| HCM Control Delay, s     | 10.6                                                                              | 0.2    |       | 0                                                                                 |                                                                                   |      |
| HCM LOS                  | B                                                                                 |        |       |                                                                                   |                                                                                   |      |
| Minor Lane/Major Mvmt    | NBL                                                                               | NBT    | EBLn1 | SBT                                                                               | SBR                                                                               |      |
| Capacity (veh/h)         | 1304                                                                              | -      | 683   | -                                                                                 | -                                                                                 |      |
| HCM Lane V/C Ratio       | 0.007                                                                             | -      | 0.056 | -                                                                                 | -                                                                                 |      |
| HCM Control Delay (s)    | 7.8                                                                               | 0      | 10.6  | -                                                                                 | -                                                                                 |      |
| HCM Lane LOS             | A                                                                                 | A      | B     | -                                                                                 | -                                                                                 |      |
| HCM 95th %tile Q(veh)    | 0                                                                                 | -      | 0.2   | -                                                                                 | -                                                                                 |      |

HCM 6th TWSC  
1: Victoria Avenue & Northeastern Driveway

2040 + Project  
Timing Plan: AM Peak Hour

| Intersection             |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |      |
|--------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 0.4                                                                               |      |                                                                                   |                                                                                   |                                                                                   |      |
| Movement                 | EBL                                                                               | EBR  | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR  |
| Lane Configurations      |  |      |  |  |  |      |
| Traffic Vol, veh/h       | 4                                                                                 | 6    | 20                                                                                | 183                                                                               | 491                                                                               | 13   |
| Future Vol, veh/h        | 4                                                                                 | 6    | 20                                                                                | 183                                                                               | 491                                                                               | 13   |
| 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                                                                                 | -    | 50                                                                                | -                                                                                 | -                                                                                 | -    |
| Veh in Median Storage, # | 1                                                                                 | -    | -                                                                                 | 0                                                                                 | 0                                                                                 | -    |
| Grade, %                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | 0                                                                                 | -    |
| Peak Hour Factor         | 92                                                                                | 92   | 92                                                                                | 92                                                                                | 92                                                                                | 92   |
| Heavy Vehicles, %        | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0    |
| Mvmt Flow                | 4                                                                                 | 7    | 22                                                                                | 199                                                                               | 534                                                                               | 14   |

| Major/Minor          | Minor2 | Major1 | Major2 |   |   |   |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 685    | 274    | 548    | 0 | - | 0 |
| Stage 1              | 541    | -      | -      | - | - | - |
| Stage 2              | 144    | -      | -      | - | - | - |
| Critical Hdwy        | 6.8    | 6.9    | 4.1    | - | - | - |
| Critical Hdwy Stg 1  | 5.8    | -      | -      | - | - | - |
| Critical Hdwy Stg 2  | 5.8    | -      | -      | - | - | - |
| Follow-up Hdwy       | 3.5    | 3.3    | 2.2    | - | - | - |
| Pot Cap-1 Maneuver   | 386    | 730    | 1032   | - | - | - |
| Stage 1              | 553    | -      | -      | - | - | - |
| Stage 2              | 874    | -      | -      | - | - | - |
| Platoon blocked, %   |        |        |        | - | - | - |
| Mov Cap-1 Maneuver   | 378    | 730    | 1032   | - | - | - |
| Mov Cap-2 Maneuver   | 457    | -      | -      | - | - | - |
| Stage 1              | 541    | -      | -      | - | - | - |
| Stage 2              | 874    | -      | -      | - | - | - |

| Approach             | EB   | NB  | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 11.2 | 0.8 | 0  |
| HCM LOS              | B    |     |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h)      | 1032  | -   | 589   | -   | -   |
| HCM Lane V/C Ratio    | 0.021 | -   | 0.018 | -   | -   |
| HCM Control Delay (s) | 8.6   | -   | 11.2  | -   | -   |
| HCM Lane LOS          | A     | -   | B     | -   | -   |
| HCM 95th %tile Q(veh) | 0.1   | -   | 0.1   | -   | -   |

HCM 6th TWSC  
1: Victoria Avenue & Northeastern Driveway

2040 + Project  
Timing Plan: PM Peak Hour

| Intersection             |                                                                                   |        |                                                                                   |                                                                                   |                                                                                   |      |
|--------------------------|-----------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 0.5                                                                               |        |                                                                                   |                                                                                   |                                                                                   |      |
| Movement                 | EBL                                                                               | EBR    | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR  |
| Lane Configurations      |  |        |  |  |  |      |
| Traffic Vol, veh/h       | 14                                                                                | 21     | 8                                                                                 | 548                                                                               | 315                                                                               | 5    |
| Future Vol, veh/h        | 14                                                                                | 21     | 8                                                                                 | 548                                                                               | 315                                                                               | 5    |
| 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                                                                                 | -      | 50                                                                                | -                                                                                 | -                                                                                 | -    |
| Veh in Median Storage, # | 1                                                                                 | -      | -                                                                                 | 0                                                                                 | 0                                                                                 | -    |
| Grade, %                 | 0                                                                                 | -      | -                                                                                 | 0                                                                                 | 0                                                                                 | -    |
| Peak Hour Factor         | 92                                                                                | 92     | 92                                                                                | 92                                                                                | 92                                                                                | 92   |
| Heavy Vehicles, %        | 0                                                                                 | 0      | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0    |
| Mvmt Flow                | 15                                                                                | 23     | 9                                                                                 | 596                                                                               | 342                                                                               | 5    |
| Major/Minor              | Minor2                                                                            | Major1 |                                                                                   | Major2                                                                            |                                                                                   |      |
| Conflicting Flow All     | 661                                                                               | 174    | 347                                                                               | 0                                                                                 | -                                                                                 | 0    |
| Stage 1                  | 345                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -    |
| Stage 2                  | 316                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -    |
| Critical Hdwy            | 6.8                                                                               | 6.9    | 4.1                                                                               | -                                                                                 | -                                                                                 | -    |
| Critical Hdwy Stg 1      | 5.8                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -    |
| Critical Hdwy Stg 2      | 5.8                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -    |
| Follow-up Hdwy           | 3.5                                                                               | 3.3    | 2.2                                                                               | -                                                                                 | -                                                                                 | -    |
| Pot Cap-1 Maneuver       | 400                                                                               | 846    | 1223                                                                              | -                                                                                 | -                                                                                 | -    |
| Stage 1                  | 694                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -    |
| Stage 2                  | 718                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -    |
| Platoon blocked, %       |                                                                                   |        |                                                                                   | -                                                                                 | -                                                                                 | -    |
| Mov Cap-1 Maneuver       | 397                                                                               | 846    | 1223                                                                              | -                                                                                 | -                                                                                 | -    |
| Mov Cap-2 Maneuver       | 502                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -    |
| Stage 1                  | 689                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -    |
| Stage 2                  | 718                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -    |
| Approach                 | EB                                                                                | NB     |                                                                                   | SB                                                                                |                                                                                   |      |
| HCM Control Delay, s     | 10.8                                                                              | 0.1    |                                                                                   | 0                                                                                 |                                                                                   |      |
| HCM LOS                  | B                                                                                 |        |                                                                                   |                                                                                   |                                                                                   |      |
| Minor Lane/Major Mvmt    | NBL                                                                               | NBT    | EBLn1                                                                             | SBT                                                                               | SBR                                                                               |      |
| Capacity (veh/h)         | 1223                                                                              | -      | 664                                                                               | -                                                                                 | -                                                                                 |      |
| HCM Lane V/C Ratio       | 0.007                                                                             | -      | 0.057                                                                             | -                                                                                 | -                                                                                 |      |
| HCM Control Delay (s)    | 8                                                                                 | -      | 10.8                                                                              | -                                                                                 | -                                                                                 |      |
| HCM Lane LOS             | A                                                                                 | -      | B                                                                                 | -                                                                                 | -                                                                                 |      |
| HCM 95th %tile Q(veh)    | 0                                                                                 | -      | 0.2                                                                               | -                                                                                 | -                                                                                 |      |

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Intersection: 1: Victoria Avenue & Northeastern Driveway

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| Movement              | EB  | NB  |
|-----------------------|-----|-----|
| Directions Served     | LR  | LT  |
| Maximum Queue (ft)    | 31  | 43  |
| Average Queue (ft)    | 7   | 6   |
| 95th Queue (ft)       | 27  | 29  |
| Link Distance (ft)    | 236 | 342 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

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Intersection: 1: Victoria Avenue & Northeastern Driveway

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| Movement              | EB  | NB  |
|-----------------------|-----|-----|
| Directions Served     | LR  | LT  |
| Maximum Queue (ft)    | 54  | 22  |
| Average Queue (ft)    | 24  | 2   |
| 95th Queue (ft)       | 50  | 15  |
| Link Distance (ft)    | 236 | 342 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

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Network Summary

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Network wide Queuing Penalty: 0

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Intersection: 1: Victoria Avenue & Northeastern Driveway

| Movement              | EB  | NB |
|-----------------------|-----|----|
| Directions Served     | LR  | L  |
| Maximum Queue (ft)    | 36  | 37 |
| Average Queue (ft)    | 8   | 7  |
| 95th Queue (ft)       | 30  | 29 |
| Link Distance (ft)    | 230 |    |
| Upstream Blk Time (%) |     |    |
| Queuing Penalty (veh) |     |    |
| Storage Bay Dist (ft) |     | 50 |
| Storage Blk Time (%)  |     | 0  |
| Queuing Penalty (veh) |     | 0  |

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Intersection: 1: Victoria Avenue & Northeastern Driveway

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| Movement              | EB  | NB |
|-----------------------|-----|----|
| Directions Served     | LR  | L  |
| Maximum Queue (ft)    | 57  | 30 |
| Average Queue (ft)    | 22  | 4  |
| 95th Queue (ft)       | 52  | 20 |
| Link Distance (ft)    | 230 |    |
| Upstream Blk Time (%) |     |    |
| Queuing Penalty (veh) |     |    |
| Storage Bay Dist (ft) |     | 50 |
| Storage Blk Time (%)  |     |    |
| Queuing Penalty (veh) |     |    |

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Network Summary

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|                                 |
|---------------------------------|
| Network wide Queuing Penalty: 0 |
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