
Appendix F

Highway Capacity Analysis Printouts



ALL-WAY STOP CONTROL ANALYSIS

| General Information | | Site Information | |
|----------------------|---------------------|------------------|-------------------------------|
| Analyst | UBT | Intersection | Lower Valley Pike & Osborn Rd |
| Agency/Co. | ms consultants, inc | Jurisdiction | Clark County Engineer |
| Date Performed | 11/14/2008 | Analysis Year | 2008 |
| Analysis Time Period | AM Peak | | |

Project ID *Clark County - Lower Valley Pike Safety Study*

East/West Street: *Lower Valley Pike*

North/South Street: *Osborn Rd*

Volume Adjustments and Site Characteristics

| Approach | Eastbound | | | Westbound | | |
|------------------|-----------|---|---|-----------|---|---|
| | L | T | R | L | T | R |
| Movement | | | | | | |
| Volume (veh/h) | 2 | 1 | 1 | 52 | 2 | 3 |
| %Thrus Left Lane | | | | | | |

| Approach | Northbound | | | Southbound | | |
|------------------|------------|----|----|------------|----|---|
| | L | T | R | L | T | R |
| Movement | | | | | | |
| Volume (veh/h) | 1 | 11 | 33 | 13 | 55 | 0 |
| %Thrus Left Lane | | | | | | |

| | Eastbound | | Westbound | | Northbound | | Southbound | |
|-------------------|-------------|----|-------------|----|-------------|----|-------------|----|
| | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 |
| Configuration | <i>LTR</i> | | <i>LTR</i> | | <i>LTR</i> | | <i>LTR</i> | |
| PHF | <i>0.90</i> | | <i>0.90</i> | | <i>0.90</i> | | <i>0.90</i> | |
| Flow Rate (veh/h) | <i>4</i> | | <i>62</i> | | <i>49</i> | | <i>75</i> | |
| % Heavy Vehicles | <i>0</i> | | <i>0</i> | | <i>0</i> | | <i>0</i> | |
| No. Lanes | <i>1</i> | | <i>1</i> | | <i>1</i> | | <i>1</i> | |
| Geometry Group | <i>1</i> | | <i>1</i> | | <i>1</i> | | <i>1</i> | |
| Duration, T | <i>0.25</i> | | | | | | | |

Saturation Headway Adjustment Worksheet

| | | | | | | | | |
|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Prop. Left-Turns | <i>0.5</i> | | <i>0.9</i> | | <i>0.0</i> | | <i>0.2</i> | |
| Prop. Right-Turns | <i>0.3</i> | | <i>0.0</i> | | <i>0.7</i> | | <i>0.0</i> | |
| Prop. Heavy Vehicle | <i>0.0</i> | | <i>0.0</i> | | <i>0.0</i> | | <i>0.0</i> | |
| hL-T-adj | <i>0.2</i> | <i>0.2</i> | <i>0.2</i> | <i>0.2</i> | <i>0.2</i> | <i>0.2</i> | <i>0.2</i> | <i>0.2</i> |
| hRT-adj | <i>-0.6</i> | <i>-0.6</i> | <i>-0.6</i> | <i>-0.6</i> | <i>-0.6</i> | <i>-0.6</i> | <i>-0.6</i> | <i>-0.6</i> |
| hHV-adj | <i>1.7</i> | <i>1.7</i> | <i>1.7</i> | <i>1.7</i> | <i>1.7</i> | <i>1.7</i> | <i>1.7</i> | <i>1.7</i> |
| hadj, computed | <i>-0.1</i> | | <i>0.2</i> | | <i>-0.4</i> | | <i>0.0</i> | |

Departure Headway and Service Time

| | | | | | | | | |
|----------------------------------|-------------|--|-------------|--|-------------|--|-------------|--|
| hd, initial value (s) | <i>3.20</i> | | <i>3.20</i> | | <i>3.20</i> | | <i>3.20</i> | |
| x, initial | <i>0.00</i> | | <i>0.06</i> | | <i>0.04</i> | | <i>0.07</i> | |
| hd, final value (s) | <i>4.18</i> | | <i>4.32</i> | | <i>3.69</i> | | <i>4.13</i> | |
| x, final value | <i>0.00</i> | | <i>0.07</i> | | <i>0.05</i> | | <i>0.09</i> | |
| Move-up time, m (s) | <i>2.0</i> | | <i>2.0</i> | | <i>2.0</i> | | <i>2.0</i> | |
| Service Time, t _s (s) | <i>2.2</i> | | <i>2.3</i> | | <i>1.7</i> | | <i>2.1</i> | |

Capacity and Level of Service

| | Eastbound | | Westbound | | Northbound | | Southbound | |
|----------------------------|-------------|----|-------------|----|-------------|----|-------------|----|
| | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 |
| Capacity (veh/h) | <i>254</i> | | <i>312</i> | | <i>299</i> | | <i>325</i> | |
| Delay (s/veh) | <i>7.20</i> | | <i>7.67</i> | | <i>6.88</i> | | <i>7.52</i> | |
| LOS | <i>A</i> | | <i>A</i> | | <i>A</i> | | <i>A</i> | |
| Approach: Delay (s/veh) | <i>7.20</i> | | <i>7.67</i> | | <i>6.88</i> | | <i>7.52</i> | |
| LOS | <i>A</i> | | <i>A</i> | | <i>A</i> | | <i>A</i> | |
| Intersection Delay (s/veh) | <i>7.40</i> | | | | | | | |
| Intersection LOS | <i>A</i> | | | | | | | |

ALL-WAY STOP CONTROL ANALYSIS

General Information

| | |
|----------------------|---------------------|
| Analyst | UBT |
| Agency/Co. | ms consultants, inc |
| Date Performed | 11/14/2008 |
| Analysis Time Period | PM Peak |

Site Information

| | |
|---------------|-------------------------------|
| Intersection | Lower Valley Pike & Osborn Rd |
| Jurisdiction | Clark County Engineer |
| Analysis Year | 2008 |

Project ID Clark County - Lower Valley Pike Safety Study

East/West Street: Lower Valley Pike

North/South Street: Osborn Rd

Volume Adjustments and Site Characteristics

| Approach | Eastbound | | | Westbound | | |
|-------------------|-----------|---|---|-----------|---|----|
| | L | T | R | L | T | R |
| Movement | | | | | | |
| Volume (veh/h) | 2 | 2 | 1 | 29 | 4 | 17 |
| % Thrus Left Lane | | | | | | |

| Approach | Northbound | | | Southbound | | |
|-------------------|------------|----|-----|------------|----|---|
| | L | T | R | L | T | R |
| Movement | | | | | | |
| Volume (veh/h) | 3 | 69 | 117 | 21 | 24 | 4 |
| % Thrus Left Lane | | | | | | |

| | Eastbound | | Westbound | | Northbound | | Southbound | |
|-------------------|-----------|----|-----------|----|------------|----|------------|----|
| | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 |
| Configuration | LTR | | LTR | | LTR | | LTR | |
| PHF | 0.90 | | 0.90 | | 0.90 | | 0.90 | |
| Flow Rate (veh/h) | 5 | | 54 | | 209 | | 53 | |
| % Heavy Vehicles | 0 | | 0 | | 0 | | 0 | |
| No. Lanes | 1 | | 1 | | 1 | | 1 | |
| Geometry Group | 1 | | 1 | | 1 | | 1 | |
| Duration, T | 0.25 | | | | | | | |

Saturation Headway Adjustment Worksheet

| | | | | | | | | |
|---------------------|------|------|------|------|------|------|------|------|
| Prop. Left-Turns | 0.4 | | 0.6 | | 0.0 | | 0.4 | |
| Prop. Right-Turns | 0.2 | | 0.3 | | 0.6 | | 0.1 | |
| Prop. Heavy Vehicle | 0.0 | | 0.0 | | 0.0 | | 0.0 | |
| hLT-adj | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| hRT-adj | -0.6 | -0.6 | -0.6 | -0.6 | -0.6 | -0.6 | -0.6 | -0.6 |
| hHV-adj | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 |
| hadj, computed | -0.0 | | -0.1 | | -0.4 | | 0.0 | |

Departure Headway and Service Time

| | | | | | | | | |
|----------------------------------|------|--|------|--|------|--|------|--|
| hd, initial value (s) | 3.20 | | 3.20 | | 3.20 | | 3.20 | |
| x, initial | 0.00 | | 0.05 | | 0.19 | | 0.05 | |
| hd, final value (s) | 4.45 | | 4.35 | | 3.72 | | 4.26 | |
| x, final value | 0.01 | | 0.07 | | 0.22 | | 0.06 | |
| Move-up time, m (s) | 2.0 | | 2.0 | | 2.0 | | 2.0 | |
| Service Time, t _s (s) | 2.5 | | 2.4 | | 1.7 | | 2.3 | |

Capacity and Level of Service

| | Eastbound | | Westbound | | Northbound | | Southbound | |
|----------------------------|-----------|----|-----------|----|------------|----|------------|----|
| | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 |
| Capacity (veh/h) | 255 | | 304 | | 459 | | 303 | |
| Delay (s/veh) | 7.48 | | 7.66 | | 7.74 | | 7.55 | |
| LOS | A | | A | | A | | A | |
| Approach: Delay (s/veh) | 7.48 | | 7.66 | | 7.74 | | 7.55 | |
| LOS | A | | A | | A | | A | |
| Intersection Delay (s/veh) | 7.69 | | | | | | | |
| Intersection LOS | A | | | | | | | |

TWO-WAY STOP CONTROL SUMMARY

| General Information | | | | Site Information | | | | |
|--|---------------------|-----------|------------|--|-------------------------------|------------|-----------|----|
| Analyst | UBT | | | Intersection | Lower Valley Pk & Gerlaugh Rd | | | |
| Agency/Co. | ms consultants, inc | | | Jurisdiction | Clark County Engineer | | | |
| Date Performed | 11/14/2008 | | | Analysis Year | 2008 | | | |
| Analysis Time Period | AM Peak | | | | | | | |
| Project Description <i>Clark County - Lower Valley Pike Safety Study</i> | | | | | | | | |
| East/West Street: <i>Lower Valley Pike</i> | | | | North/South Street: <i>Gerlaugh Rd</i> | | | | |
| Intersection Orientation: <i>East-West</i> | | | | Study Period (hrs): <i>0.25</i> | | | | |
| Vehicle Volumes and Adjustments | | | | | | | | |
| Major Street | Eastbound | | | Westbound | | | | |
| Movement | 1 | 2 | 3 | 4 | 5 | 6 | | |
| | L | T | R | L | T | R | | |
| Volume (veh/h) | 17 | 44 | | | 41 | 86 | | |
| Peak-Hour Factor, PHF | 0.90 | 0.90 | 1.00 | 1.00 | 0.90 | 0.90 | | |
| Hourly Flow Rate, HFR (veh/h) | 18 | 48 | 0 | 0 | 45 | 95 | | |
| Percent Heavy Vehicles | 0 | -- | -- | 0 | -- | -- | | |
| Median Type | <i>Undivided</i> | | | | | | | |
| RT Channelized | | | 0 | | | 0 | | |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 | | |
| Configuration | <i>LT</i> | | | | | <i>TR</i> | | |
| Upstream Signal | | 0 | | | 0 | | | |
| Minor Street | Northbound | | | Southbound | | | | |
| Movement | 7 | 8 | 9 | 10 | 11 | 12 | | |
| | L | T | R | L | T | R | | |
| Volume (veh/h) | | | | 174 | | 14 | | |
| Peak-Hour Factor, PHF | 1.00 | 1.00 | 1.00 | 0.90 | 1.00 | 0.90 | | |
| Hourly Flow Rate, HFR (veh/h) | 0 | 0 | 0 | 193 | 0 | 15 | | |
| Percent Heavy Vehicles | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Percent Grade (%) | | 0 | | | 0 | | | |
| Flared Approach | | <i>N</i> | | | <i>N</i> | | | |
| Storage | | 0 | | | 0 | | | |
| RT Channelized | | | 0 | | | 0 | | |
| Lanes | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Configuration | | | | | <i>LR</i> | | | |
| Delay, Queue Length, and Level of Service | | | | | | | | |
| Approach | Eastbound | Westbound | Northbound | | | Southbound | | |
| Movement | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | <i>LT</i> | | | | | | <i>LR</i> | |
| v (veh/h) | 18 | | | | | | 208 | |
| C (m) (veh/h) | 1456 | | | | | | 818 | |
| v/c | 0.01 | | | | | | 0.25 | |
| 95% queue length | 0.04 | | | | | | 1.01 | |
| Control Delay (s/veh) | 7.5 | | | | | | 10.9 | |
| LOS | <i>A</i> | | | | | | <i>B</i> | |
| Approach Delay (s/veh) | -- | -- | | | | | 10.9 | |
| Approach LOS | -- | -- | | | | | <i>B</i> | |

TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|----------------------|---------------------|------------------|-------------------------------|
| Analyst | UBT | Intersection | Lower Valley Pk & Gerlaugh Rd |
| Agency/Co. | ms consultants, inc | Jurisdiction | Clark County Engineer |
| Date Performed | 11/14/2008 | Analysis Year | 2008 |
| Analysis Time Period | PM Peak | | |

| | |
|--|---------------------------------|
| Project Description: Clark County - Lower Valley Pike Safety Study | |
| East/West Street: Lower Valley Pike | North/South Street: Gerlaugh Rd |
| Intersection Orientation: East-West | Study Period (hrs): 0.25 |

Vehicle Volumes and Adjustments

| Major Street Movement | Eastbound | | | Westbound | | |
|-------------------------------|-----------|------|------|-----------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 51 | 81 | | | 61 | 262 |
| Peak-Hour Factor, PHF | 0.90 | 0.90 | 1.00 | 1.00 | 0.90 | 0.90 |
| Hourly Flow Rate, HFR (veh/h) | 56 | 90 | 0 | 0 | 67 | 291 |
| Percent Heavy Vehicles | 0 | -- | -- | 0 | -- | -- |
| Median Type | Undivided | | | | | |
| RT Channelized | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | LT | | | TR | | |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street Movement | Northbound | | | Southbound | | |
|-------------------------------|------------|------|------|------------|------|------|
| | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | | | | 163 | | 11 |
| Peak-Hour Factor, PHF | 1.00 | 1.00 | 1.00 | 0.90 | 1.00 | 0.90 |
| Hourly Flow Rate, HFR (veh/h) | 0 | 0 | 0 | 181 | 0 | 12 |
| Percent Heavy Vehicles | 0 | 0 | 0 | 0 | 0 | 0 |
| Percent Grade (%) | 0 | | | 0 | | |
| Flared Approach | | N | | | N | |
| Storage | | 0 | | | 0 | |
| RT Channelized | | | 0 | | | 0 |
| Lanes | 0 | 0 | 0 | 0 | 0 | 0 |
| Configuration | | | | LR | | |

Delay, Queue Length, and Level of Service

| Approach | Eastbound | Westbound | Northbound | | | Southbound | | |
|------------------------|-----------|-----------|------------|---|---|------------|------|----|
| | | | 7 | 8 | 9 | 10 | 11 | 12 |
| Movement | 1 | 4 | | | | | | |
| Lane Configuration | LT | | | | | | LR | |
| v (veh/h) | 56 | | | | | | 193 | |
| C (m) (veh/h) | 1212 | | | | | | 582 | |
| v/c | 0.05 | | | | | | 0.33 | |
| 95% queue length | 0.15 | | | | | | 1.45 | |
| Control Delay (s/veh) | 8.1 | | | | | | 14.2 | |
| LOS | A | | | | | | B | |
| Approach Delay (s/veh) | -- | -- | | | | | 14.2 | |
| Approach LOS | -- | -- | | | | | B | |

Analyst: UBT
 Agency: ms consultants, inc
 Date: 11/20/2008
 Period: AM Peak
 Project ID: Clark County - Lower Valley Pike Safety Study
 E/W St: Lower Valley Pike

Inter.: Lower Valley Pk & Gerlaugh Rd
 Area Type: All other areas
 Jurisd: Clark County Engineer
 Year : 2008
 N/S St: Gerlaugh Road

SIGNALIZED INTERSECTION SUMMARY

| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|------------|-----------|----|---|-----------|----|---|------------|---|---|------------|---|----|
| | L | T | R | L | T | R | L | T | R | L | T | R |
| No. Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LGConfig | LT | | | TR | | | | | | LR | | |
| Volume | 17 | 44 | | 41 | 86 | | | | | 174 | | 14 |
| Lane Width | 12.0 | | | 12.0 | | | | | | 12.0 | | |
| RTOR Vol | | | | 0 | | | | | | 0 | | |

Duration 0.25 Area Type: All other areas

Signal Operations

| Phase Combination | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------------------|------|---|---|---|----------|---|---|---|
| EB Left | | P | | | NB Left | | | |
| Thru | | P | | | Thru | | | |
| Right | | | | | Right | | | |
| Peds | | | | | Peds | | | |
| WB Left | | | | | SB Left | P | | |
| Thru | | P | | | Thru | | | |
| Right | | P | | | Right | P | | |
| Peds | | | | | Peds | | | |
| NB Right | | | | | EB Right | | | |
| SB Right | | | | | WB Right | | | |
| Green | 25.0 | | | | 25.0 | | | |
| Yellow | 3.5 | | | | 3.5 | | | |
| All Red | 1.5 | | | | 1.5 | | | |

Cycle Length: 60.0 secs

Intersection Performance Summary

| Appr/ Lane Grp | Lane Group Capacity | Adj Sat Flow Rate (s) | Ratios | | Lane Group | | Approach | |
|----------------------|---------------------------|-----------------------------|--------|------|------------|-----|----------|-----|
| | | | v/c | g/C | Delay | LOS | Delay | LOS |
| Eastbound | | | | | | | | |
| LT | 730 | 1753 | 0.09 | 0.42 | 10.9 | B | 10.9 | B |
| Westbound | | | | | | | | |
| TR | 720 | 1727 | 0.20 | 0.42 | 11.7 | B | 11.7 | B |
| Northbound | | | | | | | | |
| Southbound | | | | | | | | |
| LR | 749 | 1797 | 0.28 | 0.42 | 12.5 | B | 12.5 | B |

Intersection Delay = 12.0 (sec/veh) Intersection LOS = B

Analyst: UBT
 Agency: ms consultants, inc
 Date: 11/20/2008
 Period: PM Peak
 Project ID: Clark County - Lower Valley Pike Safety Study
 E/W St: Lower Valley Pike

Inter.: Lower Valley Pk & Gerlaugh Rd
 Area Type: All other areas
 Jurisd: Clark County Engineer
 Year : 2008
 N/S St: Gerlaugh Road

SIGNALIZED INTERSECTION SUMMARY

| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|------------|-----------|----|---|-----------|----|-----|------------|---|---|------------|---|----|
| | L | T | R | L | T | R | L | T | R | L | T | R |
| No. Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LGConfig | LT | | | TR | | | | | | LR | | |
| Volume | 51 | 81 | | | 61 | 262 | | | | 163 | | 11 |
| Lane Width | 12.0 | | | 12.0 | | | | | | 12.0 | | |
| RTOR Vol | | | | | | | 0 | | | 0 | | |

Duration 0.25 Area Type: All other areas

Signal Operations

| Phase Combination | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------------------|------|---|---|---|----------|---|---|---|
| EB Left | | P | | | NB Left | | | |
| Thru | | P | | | Thru | | | |
| Right | | | | | Right | | | |
| Peds | | | | | Peds | | | |
| WB Left | | | | | SB Left | P | | |
| Thru | | P | | | Thru | | | |
| Right | | P | | | Right | P | | |
| Peds | | | | | Peds | | | |
| NB Right | | | | | EB Right | | | |
| SB Right | | | | | WB Right | | | |
| Green | 25.0 | | | | 25.0 | | | |
| Yellow | 3.5 | | | | 3.5 | | | |
| All Red | 1.5 | | | | 1.5 | | | |

Cycle Length: 60.0 secs

Intersection Performance Summary

| Appr/ Lane Grp | Lane Group Capacity | Adj Sat Flow Rate (s) | Ratios | | Lane Group | | Approach | |
|----------------------|---------------------------|-----------------------------|--------|-----|------------|-----|----------|-----|
| | | | v/c | g/C | Delay | LOS | Delay | LOS |

Eastbound

LT 622 1493 0.24 0.42 12.2 B 12.2 B

Westbound

TR 705 1692 0.51 0.42 15.6 B 15.6 B

Northbound

Southbound

LR 750 1800 0.26 0.42 12.3 B 12.3 B

Intersection Delay = 14.0 (sec/veh) Intersection LOS = B

Analyst: UBT
 Agency: ms consultants, inc
 Date: 11/14/2008
 Period: AM Peak
 Project ID: Clark County - Lower Valley Pike Safety Study
 E/W St: Lower Valley Pike

Inter.: Lower Valley Pk & Spangler Rd
 Area Type: All other areas
 Jurisd: Clark County Engineer
 Year : 2008
 N/S St: Spangler Rd

SIGNALIZED INTERSECTION SUMMARY

| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|------------|-----------|----|-----|-----------|----|----|------------|-----|---|------------|-----|----|
| | L | T | R | L | T | R | L | T | R | L | T | R |
| No. Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| LGConfig | LTR | | | LTR | | | LTR | | | LTR | | |
| Volume | 18 | 52 | 140 | 29 | 57 | 19 | 45 | 100 | 5 | 16 | 371 | 16 |
| Lane Width | 12.0 | | | 12.0 | | | 12.0 | | | 12.0 | | |
| RTOR Vol | 0 | | | 0 | | | 0 | | | 0 | | |

Duration 0.25 Area Type: All other areas

Signal Operations

| Phase Combination | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------------------|------|---|---|---|----------|---|------|---|
| EB Left | | P | | | NB Left | | P | |
| Thru | | P | | | Thru | | P | |
| Right | | P | | | Right | | P | |
| Peds | | | | | Peds | | | |
| WB Left | | P | | | SB Left | P | P | |
| Thru | | P | | | Thru | P | P | |
| Right | | P | | | Right | P | P | |
| Peds | | | | | Peds | | | |
| NB Right | | | | | EB Right | | | |
| SB Right | | | | | WB Right | | | |
| Green | 25.0 | | | | 10.0 | | 25.0 | |
| Yellow | 3.5 | | | | 3.5 | | 3.5 | |
| All Red | 1.5 | | | | 1.5 | | 1.5 | |

Cycle Length: 75.0 secs

Intersection Performance Summary

| Appr/ Lane Grp | Lane Group Capacity | Adj Sat Flow Rate (s) | Ratios | | Lane Group | | Approach | |
|----------------------|---------------------------|-----------------------------|--------|------|------------|-----|----------|-----|
| | | | v/c | g/C | Delay | LOS | Delay | LOS |
| Eastbound | | | | | | | | |
| LTR | 561 | 1683 | 0.42 | 0.33 | 21.6 | C | 21.6 | C |
| Westbound | | | | | | | | |
| LTR | 544 | 1633 | 0.21 | 0.33 | 18.8 | B | 18.8 | B |
| Northbound | | | | | | | | |
| LTR | 501 | 1502 | 0.33 | 0.33 | 20.5 | C | 20.5 | C |
| Southbound | | | | | | | | |
| LTR | 983 | 1886 | 0.46 | 0.53 | 12.3 | B | 12.3 | B |

Intersection Delay = 16.8 (sec/veh) Intersection LOS = B

Analyst: UBT
 Agency: ms consultants, inc
 Date: 11/14/2008
 Period: PM Peak
 Project ID: Clark County - Lower Valley Pike Safety Study
 E/W St: Lower Valley Pike

Inter.: Lower Valley Pk & Spangler Rd
 Area Type: All other areas
 Jurisd: Clark County Engineer
 Year : 2008
 N/S St: Spangler Rd

SIGNALIZED INTERSECTION SUMMARY

| | Eastbound | | | Westbound | | | Northbound | | | Southbound | | |
|------------|-----------|-----|----|-----------|-----|----|------------|-----|----|------------|-----|----|
| | L | T | R | L | T | R | L | T | R | L | T | R |
| No. Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| LGConfig | LTR | | | LTR | | | LTR | | | LTR | | |
| Volume | 35 | 140 | 85 | 13 | 127 | 20 | 164 | 386 | 23 | 28 | 229 | 21 |
| Lane Width | 12.0 | | | 12.0 | | | 12.0 | | | 12.0 | | |
| RTOR Vol | 0 | | | 0 | | | 0 | | | 0 | | |

Duration 0.25 Area Type: All other areas

Signal Operations

| Phase Combination | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------------------|------|---|---|---|----------|---|------|---|
| EB Left | | P | | | NB Left | P | P | |
| Thru | | P | | | Thru | P | P | |
| Right | | P | | | Right | P | P | |
| Peds | | | | | Peds | | | |
| WB Left | | P | | | SB Left | | P | |
| Thru | | P | | | Thru | | P | |
| Right | | P | | | Right | | P | |
| Peds | | | | | Peds | | | |
| NB Right | | | | | EB Right | | | |
| SB Right | | | | | WB Right | | | |
| Green | 20.0 | | | | 15.0 | | 25.0 | |
| Yellow | 3.5 | | | | 3.5 | | 3.5 | |
| All Red | 1.5 | | | | 1.5 | | 1.5 | |

Cycle Length: 75.0 secs

Intersection Performance Summary

| Appr/ Lane Grp | Lane Group Capacity | Adj Sat Flow Rate (s) | Ratios | | Lane Group | | Approach | |
|----------------------|---------------------------|-----------------------------|--------|------|------------|-----|----------|-----|
| | | | v/c | g/C | Delay | LOS | Delay | LOS |
| Eastbound | | | | | | | | |
| LTR | 454 | 1703 | 0.64 | 0.27 | 31.0 | C | 31.0 | C |
| Westbound | | | | | | | | |
| LTR | 481 | 1802 | 0.37 | 0.27 | 24.5 | C | 24.5 | C |
| Northbound | | | | | | | | |
| LTR | 864 | 1863 | 0.74 | 0.60 | 16.3 | B | 16.3 | B |
| Southbound | | | | | | | | |
| LTR | 567 | 1701 | 0.54 | 0.33 | 24.1 | C | 24.1 | C |

Intersection Delay = 22.0 (sec/veh) Intersection LOS = C

TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|----------------------|---------------------|------------------|------------------------------|
| Analyst | UBT | Intersection | Lower Valley Pike & Union Rd |
| Agency/Co. | ms consultants, inc | Jurisdiction | Clark County Engineer |
| Date Performed | 11/14/2008 | Analysis Year | 2008 |
| Analysis Time Period | AM Peak | | |

| | |
|--|-------------------------------------|
| Project Description <i>Clark County - Lower Valley Pike Safety Study</i> | |
| East/West Street: <i>Lower Valley Pike</i> | North/South Street: <i>Union Rd</i> |
| Intersection Orientation: <i>East-West</i> | Study Period (hrs): <i>0.25</i> |

Vehicle Volumes and Adjustments

| Major Street Movement | Eastbound | | | Westbound | | |
|-------------------------------|------------------|------|------|------------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 6 | 56 | 4 | 41 | 48 | 7 |
| Peak-Hour Factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly Flow Rate, HFR (veh/h) | 6 | 62 | 4 | 45 | 53 | 7 |
| Percent Heavy Vehicles | 0 | -- | -- | 0 | -- | -- |
| Median Type | <i>Undivided</i> | | | | | |
| RT Channelized | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | <i>LTR</i> | | | <i>LTR</i> | | |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street Movement | Northbound | | | Southbound | | |
|-------------------------------|------------|------------|------|------------|------------|------|
| | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 1 | 3 | 5 | 6 | 14 | 7 |
| Peak-Hour Factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly Flow Rate, HFR (veh/h) | 1 | 3 | 5 | 6 | 15 | 7 |
| Percent Heavy Vehicles | 0 | 0 | 0 | 0 | 0 | 0 |
| Percent Grade (%) | 0 | | | 0 | | |
| Flared Approach | | N | | | N | |
| Storage | | 0 | | | 0 | |
| RT Channelized | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | | <i>LTR</i> | | | <i>LTR</i> | |

Delay, Queue Length, and Level of Service

| Approach | Eastbound | Westbound | Northbound | | | Southbound | | |
|------------------------|------------|------------|------------|------------|---|------------|------------|----|
| | | | 7 | 8 | 9 | 10 | 11 | 12 |
| Movement | 1 | 4 | | | | | | |
| Lane Configuration | <i>LTR</i> | <i>LTR</i> | | <i>LTR</i> | | | <i>LTR</i> | |
| v (veh/h) | 6 | 45 | | 9 | | | 28 | |
| C (m) (veh/h) | 1556 | 1549 | | 818 | | | 732 | |
| v/c | 0.00 | 0.03 | | 0.01 | | | 0.04 | |
| 95% queue length | 0.01 | 0.09 | | 0.03 | | | 0.12 | |
| Control Delay (s/veh) | 7.3 | 7.4 | | 9.4 | | | 10.1 | |
| LOS | A | A | | A | | | B | |
| Approach Delay (s/veh) | -- | -- | | 9.4 | | | 10.1 | |
| Approach LOS | -- | -- | | A | | | B | |

TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|--|----------------------------|-------------------------------------|---|
| Analyst | <i>UBT</i> | Intersection | <i>Lower Valley Pike & Union Rd</i> |
| Agency/Co. | <i>ms consultants, inc</i> | Jurisdiction | <i>Clark County Engineer</i> |
| Date Performed | <i>11/14/2008</i> | Analysis Year | <i>2008</i> |
| Analysis Time Period | <i>PM Peak</i> | | |
| Project Description <i>Clark County - Lower Valley Pike Safety Study</i> | | | |
| East/West Street: <i>Lower Valley Pike</i> | | North/South Street: <i>Union Rd</i> | |
| Intersection Orientation: <i>East-West</i> | | Study Period (hrs): <i>0.25</i> | |

Vehicle Volumes and Adjustments

| Major Street | Eastbound | | | Westbound | | |
|-------------------------------|------------------|-------------|-------------|-------------|-------------|-------------|
| Movement | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | <i>10</i> | <i>101</i> | <i>118</i> | <i>18</i> | <i>115</i> | <i>4</i> |
| Peak-Hour Factor, PHF | <i>0.90</i> | <i>0.90</i> | <i>0.90</i> | <i>0.90</i> | <i>0.90</i> | <i>0.90</i> |
| Hourly Flow Rate, HFR (veh/h) | <i>11</i> | <i>112</i> | <i>131</i> | <i>20</i> | <i>127</i> | <i>4</i> |
| Percent Heavy Vehicles | <i>0</i> | -- | -- | <i>0</i> | -- | -- |
| Median Type | <i>Undivided</i> | | | | | |
| RT Channelized | | | <i>0</i> | | | <i>0</i> |
| Lanes | <i>0</i> | <i>1</i> | <i>0</i> | <i>0</i> | <i>1</i> | <i>0</i> |
| Configuration | <i>LTR</i> | | | <i>LTR</i> | | |
| Upstream Signal | | <i>0</i> | | | <i>0</i> | |
| Minor Street | Northbound | | | Southbound | | |
| Movement | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | <i>83</i> | <i>60</i> | <i>45</i> | <i>4</i> | <i>15</i> | <i>12</i> |
| Peak-Hour Factor, PHF | <i>0.90</i> | <i>0.90</i> | <i>0.90</i> | <i>0.90</i> | <i>0.90</i> | <i>0.90</i> |
| Hourly Flow Rate, HFR (veh/h) | <i>92</i> | <i>66</i> | <i>50</i> | <i>4</i> | <i>16</i> | <i>13</i> |
| Percent Heavy Vehicles | <i>0</i> | <i>0</i> | <i>0</i> | <i>0</i> | <i>0</i> | <i>0</i> |
| Percent Grade (%) | <i>0</i> | | | <i>0</i> | | |
| Flared Approach | | <i>N</i> | | | <i>N</i> | |
| Storage | | <i>0</i> | | | <i>0</i> | |
| RT Channelized | | | <i>0</i> | | | <i>0</i> |
| Lanes | <i>0</i> | <i>1</i> | <i>0</i> | <i>0</i> | <i>1</i> | <i>0</i> |
| Configuration | | <i>LTR</i> | | | <i>LTR</i> | |

Delay, Queue Length, and Level of Service

| Approach | Eastbound | Westbound | Northbound | | | Southbound | | |
|------------------------|-------------|-------------|------------|-------------|---|------------|-------------|----|
| Movement | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | <i>LTR</i> | <i>LTR</i> | | <i>LTR</i> | | | <i>LTR</i> | |
| v (veh/h) | <i>11</i> | <i>20</i> | | <i>208</i> | | | <i>33</i> | |
| C (m) (veh/h) | <i>1467</i> | <i>1335</i> | | <i>600</i> | | | <i>605</i> | |
| v/c | <i>0.01</i> | <i>0.01</i> | | <i>0.35</i> | | | <i>0.05</i> | |
| 95% queue length | <i>0.02</i> | <i>0.05</i> | | <i>1.54</i> | | | <i>0.17</i> | |
| Control Delay (s/veh) | <i>7.5</i> | <i>7.7</i> | | <i>14.1</i> | | | <i>11.3</i> | |
| LOS | <i>A</i> | <i>A</i> | | <i>B</i> | | | <i>B</i> | |
| Approach Delay (s/veh) | -- | -- | | <i>14.1</i> | | | <i>11.3</i> | |
| Approach LOS | -- | -- | | <i>B</i> | | | <i>B</i> | |

TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|----------------------|---------------------|------------------|-----------------------------|
| Analyst | UBT | Intersection | Lower Valley Pk & Lammes Ln |
| Agency/Co. | ms consultants, inc | Jurisdiction | Clark County Engineer |
| Date Performed | 11/14/2008 | Analysis Year | 2008 |
| Analysis Time Period | AM Peak | | |

| | |
|--|--|
| Project Description <i>Clark County - Lower Valley Pike Safety Study</i> | |
| East/West Street: <i>Lower Valley Pike</i> | North/South Street: <i>Lammes Lane</i> |
| Intersection Orientation: <i>East-West</i> | Study Period (hrs): <i>0.25</i> |

Vehicle Volumes and Adjustments

| Major Street | Eastbound | | | Westbound | | |
|-------------------------------|------------------|------|------|-----------|------|------|
| Movement | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 4 | 89 | | | 91 | 1 |
| Peak-Hour Factor, PHF | 0.90 | 0.90 | 1.00 | 1.00 | 0.90 | 0.90 |
| Hourly Flow Rate, HFR (veh/h) | 4 | 98 | 0 | 0 | 101 | 1 |
| Percent Heavy Vehicles | 0 | -- | -- | 0 | -- | -- |
| Median Type | <i>Undivided</i> | | | | | |
| RT Channelized | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | LT | | | | | TR |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street | Northbound | | | Southbound | | |
|-------------------------------|------------|------|------|------------|------|------|
| Movement | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | | | | 4 | | 8 |
| Peak-Hour Factor, PHF | 1.00 | 1.00 | 1.00 | 0.90 | 1.00 | 0.90 |
| Hourly Flow Rate, HFR (veh/h) | 0 | 0 | 0 | 4 | 0 | 8 |
| Percent Heavy Vehicles | 0 | 0 | 0 | 0 | 0 | 0 |
| Percent Grade (%) | 0 | | | 0 | | |
| Flared Approach | | N | | | N | |
| Storage | | 0 | | | 0 | |
| RT Channelized | | | 0 | | | 0 |
| Lanes | 0 | 0 | 0 | 0 | 0 | 0 |
| Configuration | | | | | LR | |

Delay, Queue Length, and Level of Service

| Approach | Eastbound | Westbound | Northbound | | | Southbound | | |
|------------------------|-----------|-----------|------------|---|---|------------|------|----|
| Movement | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | LT | | | | | | LR | |
| v (veh/h) | 4 | | | | | | 12 | |
| C (m) (veh/h) | 1503 | | | | | | 892 | |
| v/c | 0.00 | | | | | | 0.01 | |
| 95% queue length | 0.01 | | | | | | 0.04 | |
| Control Delay (s/veh) | 7.4 | | | | | | 9.1 | |
| LOS | A | | | | | | A | |
| Approach Delay (s/veh) | -- | -- | | | | | 9.1 | |
| Approach LOS | -- | -- | | | | | A | |

TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|----------------------|---------------------|------------------|-----------------------------|
| Analyst | UBT | Intersection | Lower Valley Pk & Lammes Ln |
| Agency/Co. | ms consultants, inc | Jurisdiction | Clark County Engineer |
| Date Performed | 11/14/2008 | Analysis Year | 2008 |
| Analysis Time Period | PM Peak | | |

| | |
|--|--|
| Project Description <i>Clark County - Lower Valley Pike Safety Study</i> | |
| East/West Street: <i>Lower Valley Pike</i> | North/South Street: <i>Lammes Lane</i> |
| Intersection Orientation: <i>East-West</i> | Study Period (hrs): <i>0.25</i> |

Vehicle Volumes and Adjustments

| Major Street | Eastbound | | | Westbound | | |
|-------------------------------|------------------|------|------|-----------|------|-----------|
| Movement | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 3 | 154 | | | 122 | 10 |
| Peak-Hour Factor, PHF | 0.90 | 0.90 | 1.00 | 1.00 | 0.90 | 0.90 |
| Hourly Flow Rate, HFR (veh/h) | 3 | 171 | 0 | 0 | 135 | 11 |
| Percent Heavy Vehicles | 0 | -- | -- | 0 | -- | -- |
| Median Type | <i>Undivided</i> | | | | | |
| RT Channelized | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | <i>LT</i> | | | | | <i>TR</i> |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street | Northbound | | | Southbound | | |
|-------------------------------|------------|----------|------|------------|-----------|------|
| Movement | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | | | | 4 | | 2 |
| Peak-Hour Factor, PHF | 1.00 | 1.00 | 1.00 | 0.90 | 1.00 | 0.90 |
| Hourly Flow Rate, HFR (veh/h) | 0 | 0 | 0 | 4 | 0 | 2 |
| Percent Heavy Vehicles | 0 | 0 | 0 | 0 | 0 | 0 |
| Percent Grade (%) | 0 | | | 0 | | |
| Flared Approach | | <i>N</i> | | | <i>N</i> | |
| Storage | | 0 | | | 0 | |
| RT Channelized | | | 0 | | | 0 |
| Lanes | 0 | 0 | 0 | 0 | 0 | 0 |
| Configuration | | | | | <i>LR</i> | |

Delay, Queue Length, and Level of Service

| Approach | Eastbound | Westbound | Northbound | | | Southbound | | |
|------------------------|-----------|-----------|------------|---|---|------------|-----------|----|
| Movement | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | <i>LT</i> | | | | | | <i>LR</i> | |
| v (veh/h) | 3 | | | | | | 6 | |
| C (m) (veh/h) | 1448 | | | | | | 742 | |
| v/c | 0.00 | | | | | | 0.01 | |
| 95% queue length | 0.01 | | | | | | 0.02 | |
| Control Delay (s/veh) | 7.5 | | | | | | 9.9 | |
| LOS | A | | | | | | A | |
| Approach Delay (s/veh) | -- | -- | | | | | 9.9 | |
| Approach LOS | -- | -- | | | | | A | |

TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|----------------------|---------------------|------------------|-------------------------------|
| Analyst | UBT | Intersection | Lower Valley Pike & Snider Rd |
| Agency/Co. | ms consultants, inc | Jurisdiction | Clark County Engineer |
| Date Performed | 11/14/2008 | Analysis Year | 2008 |
| Analysis Time Period | AM Peak | | |

| | |
|--|--------------------------------------|
| Project Description <i>Clark County - Lower Valley Pike Safety Study</i> | |
| East/West Street: <i>Lower Valley Pike</i> | North/South Street: <i>Snider Rd</i> |
| Intersection Orientation: <i>East-West</i> | Study Period (hrs): <i>0.25</i> |

Vehicle Volumes and Adjustments

| Major Street Movement | Eastbound | | | Westbound | | |
|-------------------------------|------------------|------|------|------------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 2 | 55 | 7 | 16 | 114 | 4 |
| Peak-Hour Factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly Flow Rate, HFR (veh/h) | 2 | 61 | 7 | 17 | 126 | 4 |
| Percent Heavy Vehicles | 0 | -- | -- | 0 | -- | -- |
| Median Type | <i>Undivided</i> | | | | | |
| RT Channelized | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | <i>LTR</i> | | | <i>LTR</i> | | |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street Movement | Northbound | | | Southbound | | |
|-------------------------------|------------|------------|------|------------|------------|------|
| | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 6 | 17 | 9 | 4 | 9 | 5 |
| Peak-Hour Factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly Flow Rate, HFR (veh/h) | 6 | 18 | 10 | 4 | 10 | 5 |
| Percent Heavy Vehicles | 0 | 0 | 0 | 0 | 0 | 0 |
| Percent Grade (%) | 0 | | | 0 | | |
| Flared Approach | | <i>N</i> | | | <i>N</i> | |
| Storage | | 0 | | | 0 | |
| RT Channelized | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | | <i>LTR</i> | | | <i>LTR</i> | |

Delay, Queue Length, and Level of Service

| Approach | Eastbound | Westbound | Northbound | | | Southbound | | |
|------------------------|------------|------------|------------|---|---|------------|----|----|
| | | | 7 | 8 | 9 | 10 | 11 | 12 |
| Movement | 1 | 4 | | | | | | |
| Lane Configuration | <i>LTR</i> | <i>LTR</i> | <i>LTR</i> | | | <i>LTR</i> | | |
| v (veh/h) | 2 | 17 | 34 | | | 19 | | |
| C (m) (veh/h) | 1468 | 1546 | 745 | | | 721 | | |
| v/c | 0.00 | 0.01 | 0.05 | | | 0.03 | | |
| 95% queue length | 0.00 | 0.03 | 0.14 | | | 0.08 | | |
| Control Delay (s/veh) | 7.5 | 7.4 | 10.1 | | | 10.1 | | |
| LOS | <i>A</i> | <i>A</i> | <i>B</i> | | | <i>B</i> | | |
| Approach Delay (s/veh) | -- | -- | 10.1 | | | 10.1 | | |
| Approach LOS | -- | -- | <i>B</i> | | | <i>B</i> | | |

TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|----------------------|---------------------|------------------|-------------------------------|
| Analyst | UBT | Intersection | Lower Valley Pike & Snider Rd |
| Agency/Co. | ms consultants, inc | Jurisdiction | Clark County Engineer |
| Date Performed | 11/14/2008 | Analysis Year | 2008 |
| Analysis Time Period | PM Peak | | |

| | |
|--|--------------------------------------|
| Project Description <i>Clark County - Lower Valley Pike Safety Study</i> | |
| East/West Street: <i>Lower Valley Pike</i> | North/South Street: <i>Snider Rd</i> |
| Intersection Orientation: <i>East-West</i> | Study Period (hrs): <i>0.25</i> |

Vehicle Volumes and Adjustments

| Major Street Movement | Eastbound | | | Westbound | | |
|-------------------------------|------------------|--------|--------|------------|--------|--------|
| | 1 L | 2 T | 3 R | 4 L | 5 T | 6 R |
| Volume (veh/h) | 11 | 112 | 14 | 16 | 105 | 1 |
| Peak-Hour Factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly Flow Rate, HFR (veh/h) | 12 | 124 | 15 | 17 | 116 | 1 |
| Percent Heavy Vehicles | 0 | -- | -- | 0 | -- | -- |
| Median Type | <i>Undivided</i> | | | | | |
| RT Channelized | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | <i>LTR</i> | | | <i>LTR</i> | | |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street Movement | Northbound | | | Southbound | | |
|-------------------------------|------------|--------|--------|------------|---------|---------|
| | 7 L | 8 T | 9 R | 10 L | 11 T | 12 R |
| Volume (veh/h) | 22 | 13 | 20 | 1 | 20 | 3 |
| Peak-Hour Factor, PHF | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly Flow Rate, HFR (veh/h) | 24 | 14 | 22 | 1 | 22 | 3 |
| Percent Heavy Vehicles | 0 | 0 | 0 | 0 | 0 | 0 |
| Percent Grade (%) | 0 | | | 0 | | |
| Flared Approach | <i>N</i> | | | <i>N</i> | | |
| Storage | 0 | | | 0 | | |
| RT Channelized | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | <i>LTR</i> | | | <i>LTR</i> | | |

Delay, Queue Length, and Level of Service

| Approach Movement | Eastbound | Westbound | Northbound | | | Southbound | | |
|------------------------|------------|------------|------------|---|---|------------|----|----|
| | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | <i>LTR</i> | <i>LTR</i> | <i>LTR</i> | | | <i>LTR</i> | | |
| v (veh/h) | 12 | 17 | 60 | | | 26 | | |
| C (m) (veh/h) | 1484 | 1457 | 692 | | | 620 | | |
| v/c | 0.01 | 0.01 | 0.09 | | | 0.04 | | |
| 95% queue length | 0.02 | 0.04 | 0.28 | | | 0.13 | | |
| Control Delay (s/veh) | 7.4 | 7.5 | 10.7 | | | 11.1 | | |
| LOS | <i>A</i> | <i>A</i> | <i>B</i> | | | <i>B</i> | | |
| Approach Delay (s/veh) | -- | -- | 10.7 | | | 11.1 | | |
| Approach LOS | -- | -- | <i>B</i> | | | <i>B</i> | | |

TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|----------------------|---------------------|------------------|------------------------------|
| Analyst | UBT | Intersection | Lower Valley & South Hampton |
| Agency/Co. | ms consultants, inc | Jurisdiction | Clark County Engineer |
| Date Performed | 11/14/2008 | Analysis Year | 2008 |
| Analysis Time Period | AM Peak | | |

| | |
|--|---|
| Project Description <i>Clark County - Lower Valley Pike Safety Study</i> | |
| East/West Street: <i>Lower Valley Pike</i> | North/South Street: <i>South Hampton Rd</i> |
| Intersection Orientation: <i>East-West</i> | Study Period (hrs): <i>0.25</i> |

Vehicle Volumes and Adjustments

| Major Street Movement | Eastbound | | | Westbound | | |
|-------------------------------|------------------|--------|--------|-----------|--------|--------|
| | 1 L | 2 T | 3 R | 4 L | 5 T | 6 R |
| Volume (veh/h) | 14 | 57 | | | 50 | 2 |
| Peak-Hour Factor, PHF | 0.90 | 0.90 | 1.00 | 1.00 | 0.90 | 0.90 |
| Hourly Flow Rate, HFR (veh/h) | 15 | 63 | 0 | 0 | 55 | 2 |
| Percent Heavy Vehicles | 0 | -- | -- | 0 | -- | -- |
| Median Type | <i>Undivided</i> | | | | | |
| RT Channelized | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | <i>LT</i> | | | <i>TR</i> | | |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street Movement | Northbound | | | Southbound | | |
|-------------------------------|------------|----------|--------|------------|----------|---------|
| | 7 L | 8 T | 9 R | 10 L | 11 T | 12 R |
| Volume (veh/h) | | | | 5 | | 47 |
| Peak-Hour Factor, PHF | 1.00 | 1.00 | 1.00 | 0.90 | 1.00 | 0.90 |
| Hourly Flow Rate, HFR (veh/h) | 0 | 0 | 0 | 5 | 0 | 52 |
| Percent Heavy Vehicles | 0 | 0 | 0 | 0 | 0 | 0 |
| Percent Grade (%) | 0 | | | 0 | | |
| Flared Approach | | <i>N</i> | | | <i>N</i> | |
| Storage | | 0 | | | 0 | |
| RT Channelized | | | 0 | | | 0 |
| Lanes | 0 | 0 | 0 | 0 | 0 | 0 |
| Configuration | | | | <i>LR</i> | | |

Delay, Queue Length, and Level of Service

| Approach | Eastbound | Westbound | Northbound | | | Southbound | | |
|------------------------|-----------|-----------|------------|---|---|------------|-----------|----|
| | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | <i>LT</i> | | | | | | <i>LR</i> | |
| v (veh/h) | 15 | | | | | | 57 | |
| C (m) (veh/h) | 1560 | | | | | | 998 | |
| v/c | 0.01 | | | | | | 0.06 | |
| 95% queue length | 0.03 | | | | | | 0.18 | |
| Control Delay (s/veh) | 7.3 | | | | | | 8.8 | |
| LOS | <i>A</i> | | | | | | <i>A</i> | |
| Approach Delay (s/veh) | -- | -- | | | | 8.8 | | |
| Approach LOS | -- | -- | | | | <i>A</i> | | |

TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|--|---------------------|---|------------------------------|
| Analyst | UBT | Intersection | Lower Valley & South Hampton |
| Agency/Co. | ms consultants, inc | Jurisdiction | Clark County Engineer |
| Date Performed | 11/14/2008 | Analysis Year | 2008 |
| Analysis Time Period | PM Peak | | |
| Project Description <i>Clark County - Lower Valley Pike Safety Study</i> | | | |
| East/West Street: <i>Lower Valley Pike</i> | | North/South Street: <i>South Hampton Rd</i> | |
| Intersection Orientation: <i>East-West</i> | | Study Period (hrs): <i>0.25</i> | |

Vehicle Volumes and Adjustments

| Major Street Movement | Eastbound | | | Westbound | | |
|-------------------------------|------------------|--------|--------|-----------|--------|--------|
| | 1 L | 2 T | 3 R | 4 L | 5 T | 6 R |
| Volume (veh/h) | 65 | 101 | | | 72 | 6 |
| Peak-Hour Factor, PHF | 0.90 | 0.90 | 1.00 | 1.00 | 0.90 | 0.90 |
| Hourly Flow Rate, HFR (veh/h) | 72 | 112 | 0 | 0 | 80 | 6 |
| Percent Heavy Vehicles | 0 | -- | -- | 0 | -- | -- |
| Median Type | <i>Undivided</i> | | | | | |
| RT Channelized | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | <i>LT</i> | | | <i>TR</i> | | |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street Movement | Northbound | | | Southbound | | |
|-------------------------------|------------|--------|--------|------------|---------|---------|
| | 7 L | 8 T | 9 R | 10 L | 11 T | 12 R |
| Volume (veh/h) | | | | 4 | | 25 |
| Peak-Hour Factor, PHF | 1.00 | 1.00 | 1.00 | 0.90 | 1.00 | 0.90 |
| Hourly Flow Rate, HFR (veh/h) | 0 | 0 | 0 | 4 | 0 | 27 |
| Percent Heavy Vehicles | 0 | 0 | 0 | 0 | 0 | 0 |
| Percent Grade (%) | 0 | | | 0 | | |
| Flared Approach | <i>N</i> | | | <i>N</i> | | |
| Storage | | 0 | | | 0 | |
| RT Channelized | | | 0 | | | 0 |
| Lanes | 0 | 0 | 0 | 0 | 0 | 0 |
| Configuration | | | | <i>LR</i> | | |

Delay, Queue Length, and Level of Service

| Approach | Eastbound | Westbound | Northbound | | | Southbound | | |
|------------------------|-----------|-----------|------------|---|---|------------|-----------|----|
| | | | 7 | 8 | 9 | 10 | 11 | 12 |
| Movement | 1 | 4 | | | | | | |
| Lane Configuration | <i>LT</i> | | | | | | <i>LR</i> | |
| v (veh/h) | 72 | | | | | | 31 | |
| C (m) (veh/h) | 1523 | | | | | | 916 | |
| v/c | 0.05 | | | | | | 0.03 | |
| 95% queue length | 0.15 | | | | | | 0.10 | |
| Control Delay (s/veh) | 7.5 | | | | | | 9.1 | |
| LOS | <i>A</i> | | | | | | <i>A</i> | |
| Approach Delay (s/veh) | -- | -- | | | | | 9.1 | |
| Approach LOS | -- | -- | | | | | <i>A</i> | |

ALL-WAY STOP CONTROL ANALYSIS

| General Information | | Site Information | |
|----------------------|---------------------|------------------|-----------------------------|
| Analyst | UBT | Intersection | Lower Valley Pike & Enon Rd |
| Agency/Co. | ms consultants, inc | Jurisdiction | Clark County Engineer |
| Date Performed | 11/17/2008 | Analysis Year | 2008 |
| Analysis Time Period | AM Peak | | |

Project ID *Clark County - Lower Valley Pike Safety Study*

East/West Street: *Lower Valley Pike* North/South Street: *Enon Rd*

Volume Adjustments and Site Characteristics

| Approach | Eastbound | | | Westbound | | |
|------------------|-----------|----|----|-----------|----|---|
| | L | T | R | L | T | R |
| Movement | | | | | | |
| Volume (veh/h) | 5 | 40 | 36 | 19 | 36 | 0 |
| %Thrus Left Lane | | | | | | |

| Approach | Northbound | | | Southbound | | |
|------------------|------------|----|----|------------|-----|---|
| | L | T | R | L | T | R |
| Movement | | | | | | |
| Volume (veh/h) | 16 | 35 | 10 | 4 | 112 | 5 |
| %Thrus Left Lane | | | | | | |

| | Eastbound | | Westbound | | Northbound | | Southbound | |
|-------------------|------------|----|------------|----|------------|----|------------|----|
| | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 |
| Configuration | <i>LTR</i> | | <i>LTR</i> | | <i>LTR</i> | | <i>LTR</i> | |
| PHF | 0.90 | | 0.90 | | 0.90 | | 0.90 | |
| Flow Rate (veh/h) | 89 | | 61 | | 66 | | 133 | |
| % Heavy Vehicles | 0 | | 0 | | 0 | | 0 | |
| No. Lanes | 1 | | 1 | | 1 | | 1 | |
| Geometry Group | 1 | | 1 | | 1 | | 1 | |
| Duration, T | 0.25 | | | | | | | |

Saturation Headway Adjustment Worksheet

| | | | | | | | | |
|---------------------|------|------|------|------|------|------|------|------|
| Prop. Left-Turns | 0.1 | | 0.3 | | 0.3 | | 0.0 | |
| Prop. Right-Turns | 0.4 | | 0.0 | | 0.2 | | 0.0 | |
| Prop. Heavy Vehicle | 0.0 | | 0.0 | | 0.0 | | 0.0 | |
| hLT-adj | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| hRT-adj | -0.6 | -0.6 | -0.6 | -0.6 | -0.6 | -0.6 | -0.6 | -0.6 |
| hHV-adj | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 |
| hadj, computed | -0.3 | | 0.1 | | -0.0 | | -0.0 | |

Departure Headway and Service Time

| | | | | | | | | |
|----------------------------------|------|--|------|--|------|--|------|--|
| hd, initial value (s) | 3.20 | | 3.20 | | 3.20 | | 3.20 | |
| x, initial | 0.08 | | 0.05 | | 0.06 | | 0.12 | |
| hd, final value (s) | 4.17 | | 4.52 | | 4.34 | | 4.30 | |
| x, final value | 0.10 | | 0.08 | | 0.08 | | 0.16 | |
| Move-up time, m (s) | 2.0 | | 2.0 | | 2.0 | | 2.0 | |
| Service Time, t _s (s) | 2.2 | | 2.5 | | 2.3 | | 2.3 | |

Capacity and Level of Service

| | Eastbound | | Westbound | | Northbound | | Southbound | |
|----------------------------|-----------|----|-----------|----|------------|----|------------|----|
| | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 |
| Capacity (veh/h) | 339 | | 311 | | 316 | | 383 | |
| Delay (s/veh) | 7.64 | | 7.89 | | 7.71 | | 8.11 | |
| LOS | A | | A | | A | | A | |
| Approach: Delay (s/veh) | 7.64 | | 7.89 | | 7.71 | | 8.11 | |
| LOS | A | | A | | A | | A | |
| Intersection Delay (s/veh) | 7.88 | | | | | | | |
| Intersection LOS | A | | | | | | | |

ALL-WAY STOP CONTROL ANALYSIS

| General Information | | Site Information | |
|----------------------|---------------------|------------------|-----------------------------|
| Analyst | UBT | Intersection | Lower Valley Pike & Enon Rd |
| Agency/Co. | ms consultants, inc | Jurisdiction | Clark County Engineer |
| Date Performed | 11/17/2008 | Analysis Year | 2008 |
| Analysis Time Period | PM Peak | | |

Project ID Clark County - Lower Valley Pike Safety Study

East/West Street: Lower Valley Pike

North/South Street: Enon Rd

Volume Adjustments and Site Characteristics

| Approach | Eastbound | | | Westbound | | |
|------------------|-----------|----|----|-----------|----|---|
| | L | T | R | L | T | R |
| Movement | | | | | | |
| Volume (veh/h) | 14 | 48 | 32 | 10 | 55 | 3 |
| %Thrus Left Lane | | | | | | |

| Approach | Northbound | | | Southbound | | |
|------------------|------------|-----|---|------------|----|---|
| | L | T | R | L | T | R |
| Movement | | | | | | |
| Volume (veh/h) | 35 | 121 | 7 | 0 | 63 | 8 |
| %Thrus Left Lane | | | | | | |

| | Eastbound | | Westbound | | Northbound | | Southbound | |
|-------------------|-----------|----|-----------|----|------------|----|------------|----|
| | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 |
| Configuration | LTR | | LTR | | LTR | | LTR | |
| PHF | 0.90 | | 0.90 | | 0.90 | | 0.90 | |
| Flow Rate (veh/h) | 103 | | 75 | | 179 | | 78 | |
| % Heavy Vehicles | 0 | | 0 | | 0 | | 0 | |
| No. Lanes | 1 | | 1 | | 1 | | 1 | |
| Geometry Group | 1 | | 1 | | 1 | | 1 | |
| Duration, T | 0.25 | | | | | | | |

Saturation Headway Adjustment Worksheet

| | | | | | | | | |
|---------------------|------|------|------|------|------|------|------|------|
| Prop. Left-Turns | 0.1 | | 0.1 | | 0.2 | | 0.0 | |
| Prop. Right-Turns | 0.3 | | 0.0 | | 0.0 | | 0.1 | |
| Prop. Heavy Vehicle | 0.0 | | 0.0 | | 0.0 | | 0.0 | |
| hLT-adj | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| hRT-adj | -0.6 | -0.6 | -0.6 | -0.6 | -0.6 | -0.6 | -0.6 | -0.6 |
| hHV-adj | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 |
| hadj, computed | -0.2 | | 0.0 | | 0.0 | | -0.1 | |

Departure Headway and Service Time

| | | | | | | | | |
|----------------------------------|------|--|------|--|------|--|------|--|
| hd, initial value (s) | 3.20 | | 3.20 | | 3.20 | | 3.20 | |
| x, initial | 0.09 | | 0.07 | | 0.16 | | 0.07 | |
| hd, final value (s) | 4.42 | | 4.63 | | 4.43 | | 4.47 | |
| x, final value | 0.13 | | 0.10 | | 0.22 | | 0.10 | |
| Move-up time, m (s) | 2.0 | | 2.0 | | 2.0 | | 2.0 | |
| Service Time, t _s (s) | 2.4 | | 2.6 | | 2.4 | | 2.5 | |

Capacity and Level of Service

| | Eastbound | | Westbound | | Northbound | | Southbound | |
|----------------------------|-----------|----|-----------|----|------------|----|------------|----|
| | L1 | L2 | L1 | L2 | L1 | L2 | L1 | L2 |
| Capacity (veh/h) | 353 | | 325 | | 429 | | 328 | |
| Delay (s/veh) | 8.06 | | 8.12 | | 8.68 | | 7.95 | |
| LOS | A | | A | | A | | A | |
| Approach: Delay (s/veh) | 8.06 | | 8.12 | | 8.68 | | 7.95 | |
| LOS | A | | A | | A | | A | |
| Intersection Delay (s/veh) | 8.31 | | | | | | | |
| Intersection LOS | A | | | | | | | |