

14th Street Bridge Corridor EIS
Traffic Needs and Safety Report, DRAFT - NOT FINAL

LOS RESULTS

Option 1 CONSTRUCT GEOMETRIC IMPROVEMENTS AT I-395 AND 9TH STREET

| Code | Roadway | Location | Weave Type | 2006 EXISTING | | 2030 NO BUILD | | 2030 BUILD | | |
|------|----------|---|------------|--------------------|------|--------------------|------|--------------------|------|-------|
| | | | | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS | |
| W5 | NB I-395 | Entrance from EB Maine Avenue, Split to NB I-395 | C | 41.26(56.20) | E(F) | 40.54(54.27) | E(F) | 43.15(59.61) | F(F) | |
| W6 | NB I-395 | Entrance from 9th Street Expressway, Split to NB I-395 | C | 42.46(72.27) | E(F) | 46.36(71.52) | F(F) | 26.0(42.3) | C(F) | R101* |
| W7 | NB I-395 | Entrance from 7th Street, Split to EB Southeast Freeway | C | 46.65(49.94) | F(F) | 44.11(52.63) | F(F) | 27.5(22.4) | C(C) | R102 |

* For major merges and diverges, analysis is limited to a pass/fail (P/F) check upstream, downstream, and ramp capacities.

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Option 2 GEOMETRIC IMPROVEMENTS AT I-395 AND GWMP

| Code | Roadway | Location | 2006 EXISTING | | 2030 NO BUILD | | 2030 BUILD | |
|------|----------|--|-----------------------|------|-----------------------|------|-----------------------|------|
| | | | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS |
| R104 | SB I-395 | Exit to NB GW Parkway from SB I-395 | 32.9(39.9) | D(E) | 33.7(46.1) | D(F) | 32.1(44.5) | D(F) |
| R7 | NB I-395 | Entrance from SB GW Parkway to NB I-395 | 46.0(37.2) | F(E) | 44.0(38.8) | F(F) | 30.9(30.1) | D(D) |
| R105 | NB I-395 | Entrance from NB GW Parkway to NB I-395* | -(-) | F(P) | -(-) | F(F) | 32.3(31.9) | D(D) |

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Option 3A REDUCE INTERSTATE ACCESS POINTS AT BOUNDARY CHANNEL DRIVE AND GWMP

| Code | Roadway | Location | Weave Type | 2006 EXISTING | | 2030 NO BUILD | | 2030 BUILD | |
|------|----------|---|------------|-----------------------|------|-----------------------|------|-----------------------|------|
| | | | | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS |
| W15 | SB I-395 | From SB I-395 (HOV) slip ramp to SB Route U.S. 1 | B | 28.69(38.19) | D(E) | 34.00(54.80) | D(F) | 22.95(34.25) | C(D) |
| W16 | SB I-395 | From SB Boundary Channel, Exit to NB VA 110 (Jefferson Davis Highway) | A | 20.77(26.50) | C(C) | 27.05(26.21) | C(C) | 26.09(35.61) | C(E) |

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Option 3B REDUCE INTERSTATE ACCESS POINTS AT BOUNDARY CHANNEL DRIVE AND GWMP (FLYOVER), SCENARIOS #1, #2

When the SCENARIO is indicated next to the table, the results only apply to that scenario.

| Code | Roadway | Location | Weave Type | 2006 EXISTING | | 2030 NO BUILD | | 2030 BUILD | | SCENARIO #1 R108 SCENARIO #2 |
|------|---------------|--|------------|-----------------------|------|-----------------------|------|-----------------------|----------|------------------------------------|
| | | | | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS | |
| R41 | NB I-395 | Entrance from NB I-395 to SB GW Parkway | n/a | 20.0(25.5) | C(C) | 19.1(27.4) | B(C) | 26.0(37.6) | C(E) | |
| R111 | NB I-395 | Ramp from I-395 NB/I-395 SB/Boundary Channel Drive to GWMP SB* | n/a | n/a | n/a | n/a | n/a | -(-) | P(F) | |
| W12 | SB I-395 | GWMP Interchange (CD) | A | 42.14(52.13) | F(F) | 47.22(60.34) | F(F) | n/a(n/a) | n/a(n/a) | |
| W13 | SB I-395 | From SB GW Parkway to NB Boundary Channel | A | 24.07(32.85) | C(D) | 26.61(40.99) | C(E) | 34.72(55.48) | D(F) | |
| W14 | SB I-395 | Boundary Channel Interchange | A | 24.29(35.65) | C(E) | 32.81(51.62) | D(F) | n/a(n/a) | n/a(n/a) | |
| W15 | SB I-395 | From SB I-395 (HOV) slip ramp to SB Route U.S. 1 | B | 28.69(38.19) | D(E) | 34.00(54.80) | D(F) | 32.27(49.64) | D(F) | SCENARIO #1 |
| W20 | SB GWMP | Entrance from SB I-395, Exit to NB I-395 | A | 48.45(58.40) | F(F) | 41.18(55.21) | E(F) | 14.20(19.00) | B(B) | R108 |
| W30 | SB B.C. Drive | Entrance from SB I-395, Exit to SB GWMP | A | n/a | n/a | n/a | n/a | 30.41(41.59) | D(E) | SCENARIO #2 |

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Option 3C REDUCE INTERSTATE ACCESS POINTS AT BOUNDARY CHANNEL DRIVE AND GWMP (4 LANES)

| Code | Roadway | Location | Weave Type | 2006 EXISTING | | 2030 NO BUILD | | 2030 BUILD | |
|------|----------|---|------------|-----------------------|----------|-----------------------|----------|-----------------------|----------|
| | | | | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS |
| R8 | NB I-395 | Exit 10C (To NB GW Parkway) | n/a | 69.9(64.4) | F(E) | 69.2(69.9) | F(F) | n/a(n/a) | n/a(n/a) |
| R40 | NB GWMP | Exit to SB I-395 | n/a | 30.3(35.1) | D(E) | 27.2(32.6) | C(D) | n/a(n/a) | n/a(n/a) |
| W2 | NB I-395 | Boundary Channel Interchange | A | 28.81(27.79) | D(C) | 31.95(35.57) | D(E) | 32.38(36.60) | D(E) |
| W12 | SB I-395 | GWMP Interchange (CD) | A | 42.14(52.13) | F(F) | 47.22(60.34) | F(F) | 52.53(76.88) | F(F) |
| W13 | SB I-395 | From SB GWMP, Exit to NB Boundary Channel | A | 24.07(32.85) | C(D) | 26.61(40.99) | C(E) | n/a(n/a) | n/a(n/a) |
| W14 | SB I-395 | Boundary Channel Interchanges | A | 24.29(35.65) | C(E) | 32.81(51.62) | D(F) | 16.0(15.3) | B(B) |
| W15 | SB I-395 | From SB I-395 (HOV) slip ramp to SB Route U.S. 1 | B | 28.69(38.19) | D(E) | 34.00(54.80) | D(F) | 23.6(33.1) | C(D) |
| W16 | SB I-395 | From SB Boundary Channel, Exit to NB VA 110 (Jefferson Davis Highway) | A | 20.77(26.50) | C(C) | 27.05(26.21) | C(C) | 36.77(47.93) | E(F) |
| W17 | SB I-395 | From SB Boundary Channel, Exit to VA 27/Pentagon | B | 15.72(25.40) | B(C) | 22.63(28.90) | C(D) | n/a(n/a) | n/a(n/a) |
| W19 | NB GWMP | Entrance from NB I-395, Exit to SB I-395 | A | 23.74(35.34) | C(E) | 35.80(30.42) | E(D) | 29.4(26.3) | D(C) |
| S44 | n/a | Boundary Channel Drive @ ramp to I-395 SB | n/a | n/a(n/a) | n/a(n/a) | n/a0(n/a) | n/a(n/a) | 0.8(1.1)* | A(A) |

R110

R109

R103

* Delay (sec/veh)

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G-4A GRADE SEPARATE 14TH STREET BETWEEN THE BRIDGE AND CONSTITUTION AVENUE

| Code | Location | 2006 EXISTING | | 2030 NO BUILD | | 2030 BUILD | |
|------|---|------------------|------|------------------|------|-----------------|------|
| | | delay (sec/veh) | LOS | delay (sec/veh) | LOS | delay (sec/veh) | LOS |
| S1 | 14th Street, S.W. @ C Street, S.W. | 61.6(95.7) | E(F) | 164.3(389.6) | F(F) | 11.7(167.5) | B(F) |
| S2 | 14th Street, S.W. @ Independence Avenue, S.W. | 38.9(30.7) | D(C) | 145.2(148.3) | F(F) | 21.4(31.8) | C(C) |
| | | | | | | | |

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LOS RESULTS

Option 4C NO LEFT TURNS AT 14TH STREET @ C STREET

| Code | Location | 2006 EXISTING | | 2030 NO BUILD | | 2030 BUILD | |
|------|---|------------------|------|------------------|------|-----------------|------|
| | | delay (sec/veh) | LOS | delay (sec/veh) | LOS | delay (sec/veh) | LOS |
| S1 | 14th Street, S.W. @ C Street, S.W. | 61.6(95.7) | E(F) | 164.3(389.6) | F(F) | 50.0(13.3) | D(B) |
| S2 | 14th Street, S.W. @ Independence Avenue, S.W. | 38.9(30.7) | D(C) | 145.2(148.3) | F(F) | 195.0(109.2) | F(F) |
| S7 | 12th Street, S.W. @ Maiden Lane, S.W. | 15.9(25.2) | B(C) | 15.8(25.5) | B(C) | 42.7(236.5) | D(F) |
| S9 | 12th Street, S.W. @ C Street, S.W. | 19.5(31.6) | B(C) | 22.4(35.0) | C(C) | 26.6(54.5) | C(D) |
| S34 | 12th Street, S.W. @ Independence Avenue, S.W. | 25.2(36.9) | C(D) | 80.9(80.1) | F(F) | 48.7(33.1) | D(C) |
| S37 | East Basin Drive, S.W. @ Maine Avenue, S.W. | 15.4(12.3) | B(B) | 44.6(66.3) | D(E) | 30.9(159.0) | C(F) |

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Option 6A CONVERT SHOULDERS ON ROCHAMBEAU BRIDGE TO GENERAL PURPOSE LANES

| Code | Roadway | Location | 2006 EXISTING | | 2030 NO BUILD | | 2030 BUILD | |
|------|----------------|---|-----------------------|------|-----------------------|------|-----------------------|------|
| | | | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS |
| R46 | NB I-395 (HOV) | Split to NB U.S. 1 (14th St.) and NB I-395* | -(-) | F(F) | -(-) | P(P) | -(-) | P(P) |
| R47 | SB I-395 (HOV) | Merge Ramps from SB U.S. 1 (14th St.) and SB I-395* | -(-) | P(P) | -(-) | P(F) | -(-) | P(F) |
| R106 | NB 14th St. | Merge with NB I-395 (HOV)* | -(-) | P(P) | -(-) | P(P) | -(-) | P(P) |
| R107 | SB 14th St. | Split to SB I-395 (HOV)* | -(-) | P(P) | -(-) | P(F) | -(-) | P(P) |

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Option 9 REVERSIBLE LANES ACROSS ROCHAMBEAU BRIDGE WITH MOVEABLE BARRIER

| Code | Roadway | Location | 2006 EXISTING | | 2030 NO BUILD | | 2030 BUILD | |
|------|----------------|---|-----------------------|------|-----------------------|------|-----------------------|------|
| | | | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS |
| R46 | NB I-395 (HOV) | Split to NB U.S. 1 (14th St.) and NB I-395* | -(-) | F(F) | -(-) | P(P) | -(-) | P(P) |
| R47 | SB I-395 (HOV) | Merge Ramps from SB U.S. 1 (14th St.) and SB I-395* | -(-) | P(P) | -(-) | P(F) | -(-) | P(P) |
| R106 | NB 14th St. | Merge with NB I-395 (HOV)* | -(-) | P(P) | -(-) | P(P) | -(-) | P(P) |
| R107 | SB 14th St. | Split to SB I-395 (HOV)* | -(-) | P(P) | -(-) | P(F) | -(-) | P(P) |
| S1 | - | 14th Street, S.W. @ C Street, S.W. | 61.6(95.7)** | E(F) | 164.3(389.6)** | F(F) | 40.5(153.0)** | D(F) |
| S2 | - | 14th Street, S.W. @ Independence Avenue, S.W. | 38.9(30.7)** | D(C) | 145.2(148.3)** | F(F) | 117.6(96.8)** | F(F) |

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** delay (sec/veh)

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Option 11 CONGESTION PRICING

The 20% reduction in daily vehicle trips converts to a 8.0% trip reduction during the AM peak and a 7.4% reduction during the PM peak.

| Code* | Roadway | Location | Weave Type | 2006 EXISTING | | 2030 NO BUILD | | 2030 BUILD | |
|-------|------------------|--|------------|-----------------------|------|-----------------------|------|-----------------------|------|
| | | | | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS |
| S1 | 14th St./ U.S. 1 | 14th Street, S.W. @ C Street, S.W. | n/a | 61.6(95.7)** | E(F) | 164.3(389.6)** | F(F) | 62.9(237.0)** | E(F) |
| R46 | NB I-395 (HOV) | Split to US 1 (14th St.)/I-395 * | n/a | -(-) | F(F) | -(-) | P(P) | -(-) | P(P) |
| R47 | SB I-395 (HOV) | Merge US 1 (14th St.)/I-395 * | n/a | -(-) | P(P) | -(-) | P(F) | -(-) | P(F) |
| W3 | NB I-395 | Entrance from NB GWMP, Split to US 1 (14th St.)/I-395 | B | 74.89(68.19) | F(F) | 72.62(71.75) | F(F) | 64.98(65.85) | F(F) |
| W4 | NB I-395 | Entrance from NB I-395 (HOV), Exit to 12th Street Expressway | C | 68.68(74.81) | F(F) | 70.26(71.18) | F(F) | 24.30(65.73) | C(F) |
| W10 | SB I-395 | Entrance from 9th Street Expressway, Split to SB I-395 (HOV) | C | 59.46(61.83) | F(F) | 56.63(73.16) | F(F) | 51.95(67.09) | F(F) |
| W11 | SB I-395 | Entrance from SB US 1 (14th St.), To SB I-395 | C | 44.83(58.09) | F(F) | 52.06(84.59) | F(F) | 46.59(77.59) | F(F) |

* MAJOR DIVERGE, ** MAJOR MERGE (THE % REDUCTION MAY OR MAY NOT BE CONSIDERED FOR ROCHAMBEAU BRIDGE DUE TO HOT/HOV LANES)

** delay (sec/veh)