

Toll Pricing Strategies for the Bella Vista Bypass

All Toll Pricing strategies are contingent upon the full funding of the ARRA TIGER Grant. The AHTD is looking at three Toll Pricing Strategies to improve the livability for the region. These three strategies are: a) green car discount; b) elderly driver discount; c) low income driver discount. Users eligible for more than one discount must choose a single incentive.

Green Car Incentives

For the Bella Vista Bypass there will be a toll discount implemented for green cars. The EPA's definition of green cars as shown in <http://www.epa.gov/greenvehicles/Index.do> will be used to determine eligible vehicles. Factors for the EPA's definition for green cars are as follows:

- a) Fuel Economy (combined the city and highway miles per gallon estimates).
- b) Air Pollution (vehicle tailpipe emissions that contribute to local and regional air pollution, creating problems such as smog, haze, and health issues); and
- c) Greenhouse Gas (emissions of carbon dioxide (CO₂) and other greenhouse gases).

Types of vehicles that are meeting the EPA's definition include the Chevrolet Cobalt, Toyota Prius, Honda Fit, and the Chrysler PT Cruiser. In order to estimate the loss of revenue due to the green car incentives the AHTD conducted a green vehicle survey of the traffic within the existing corridor on July 9, 2009 thru July 10, 2009. Based on this survey it was determined that seventeen percent of the traffic meets the EPA's definition of green cars.

Assuming a \$0.50 discount applied in the toll rate, the following table shows the total toll savings associated with "Green" vehicles. Based on anticipated industry trends, fuel costs, and fleet turnover, it is assumed that "Green" vehicles within the fleet will increase at a rate of 5.2%. This is higher than the anticipated traffic growth of 1.84%.

| Year | "Green" Vehicles per Day | "Green" Vehicles per Year | Cost-Average Discount Toll | Revenues for "Green" Vehicle Discount | Savings for "Green" Vehicles |
|---|--------------------------|---------------------------|----------------------------|---------------------------------------|------------------------------|
| 2012 | 0 | 0 | \$1.00 | \$0.00 | \$0.00 |
| 2013 | 273 | 99,645 | \$1.00 | \$99,645.00 | \$49,822.50 |
| 2014 | 287 | 104,827 | \$1.00 | \$104,826.54 | \$52,413.27 |
| 2015 | 302 | 110,278 | \$1.00 | \$110,277.52 | \$55,138.76 |
| 2016 | 318 | 116,012 | \$1.00 | \$116,011.95 | \$58,005.98 |
| 2017 | 334 | 122,045 | \$1.00 | \$122,044.57 | \$61,022.29 |
| 2018 | 352 | 128,391 | \$1.00 | \$128,390.89 | \$64,195.45 |
| 2019 | 370 | 135,067 | \$1.00 | \$135,067.22 | \$67,533.61 |
| 2020 | 389 | 142,091 | \$1.00 | \$142,090.71 | \$71,045.36 |
| 2021 | 410 | 149,479 | \$1.00 | \$149,479.43 | \$74,739.71 |
| 2022 | 431 | 157,252 | \$1.00 | \$157,252.36 | \$78,626.18 |
| 2023 | 453 | 165,429 | \$1.00 | \$165,429.48 | \$82,714.74 |
| 2024 | 477 | 174,032 | \$1.00 | \$174,031.81 | \$87,015.91 |
| 2025 | 502 | 183,081 | \$1.00 | \$183,081.47 | \$91,540.73 |
| 2026 | 528 | 192,602 | \$1.00 | \$192,601.71 | \$96,300.85 |
| 2027 | 555 | 202,617 | \$1.00 | \$202,616.99 | \$101,308.50 |
| 2028 | 584 | 213,153 | \$1.00 | \$213,153.08 | \$106,576.54 |
| 2029 | 614 | 224,237 | \$1.00 | \$224,237.04 | \$112,118.52 |
| 2030 | 646 | 235,897 | \$1.00 | \$235,897.36 | \$117,948.68 |
| 2031 | 680 | 248,164 | \$1.00 | \$248,164.03 | \$124,082.01 |
| 2032 | 715 | 261,069 | \$1.00 | \$261,068.56 | \$130,534.28 |
| 2033 | 752 | 274,644 | \$1.00 | \$274,644.12 | \$137,322.06 |
| 2034 | 792 | 288,926 | \$1.00 | \$288,925.62 | \$144,462.81 |
| 2035 | 833 | 303,950 | \$1.00 | \$303,949.75 | \$151,974.87 |
| 2036 | 876 | 319,755 | \$1.00 | \$319,755.13 | \$159,877.57 |
| 2037 | 922 | 336,382 | \$1.00 | \$336,382.40 | \$168,191.20 |
| 2038 | 970 | 353,874 | \$1.00 | \$353,874.29 | \$176,937.14 |
| 2039 | 1,020 | 372,276 | \$1.00 | \$372,275.75 | \$186,137.87 |
| 2040 | 1,073 | 391,634 | \$1.00 | \$391,634.09 | \$195,817.04 |
| 2041 | 1,129 | 411,999 | \$1.00 | \$411,999.06 | \$205,999.53 |
| 2042 | 1,187 | 433,423 | \$1.00 | \$433,423.01 | \$216,711.51 |
| 2043 | 1,249 | 455,961 | \$1.00 | \$455,961.01 | \$227,980.50 |
| 2044 | 1,314 | 479,671 | \$1.00 | \$479,670.98 | \$239,835.49 |
| 2045 | 1,383 | 504,614 | \$1.00 | \$504,613.87 | \$252,306.94 |
| 2046 | 1,454 | 530,854 | \$1.00 | \$530,853.79 | \$265,426.90 |
| 2047 | 1,530 | 558,458 | \$1.00 | \$558,458.19 | \$279,229.10 |
| 2048 | 1,610 | 587,498 | \$1.00 | \$587,498.02 | \$293,749.01 |
| 2049 | 1,693 | 618,048 | \$1.00 | \$618,047.91 | \$309,023.96 |
| 2050 | 1,781 | 650,186 | \$1.00 | \$650,186.41 | \$325,093.20 |
| Total "Green" Vehicle Toll Savings | | | | | \$5,618,760.56 |

Elderly Driver Incentives

For the Bella Vista Bypass there will be a toll discount implemented for elderly drivers. It is defined as a \$0.50 discount for a vehicle containing a driver that is over the age of 65. To obtain this special pass, the user must apply and show proof of age. The figure collected for elderly drivers taking the Bella Vista Bypass assumes current demographic characteristics of Benton, Washington and McDonald Counties will persist. The calculation takes the latest Census population multiplied by the percentage of drivers and the percentage of those who commute outside of their state of residence, assuming a continuation in behavioral patterns, which is then adjusted for the projected population growth expected by 2012 and 2032.

The following table shows the total toll savings for the discounted elderly driver incentive.

| Year | "Elderly Drivers" Vehicles per Day | "Elderly Drivers" Vehicles per Year | Cost Average Discount Toll | Revenues for "Elderly Drivers" Discount | Savings for "Elderly Drivers" Toll |
|---|------------------------------------|-------------------------------------|----------------------------|---|------------------------------------|
| 2012 | 0 | 0 | \$1.00 | \$0.00 | \$0.00 |
| 2013 | 264 | 96,416 | \$1.00 | \$96,416.15 | \$48,208.08 |
| 2014 | 337 | 122,883 | \$1.00 | \$122,883.33 | \$61,441.67 |
| 2015 | 373 | 136,117 | \$1.00 | \$136,116.92 | \$68,058.46 |
| 2016 | 420 | 153,132 | \$1.00 | \$153,131.54 | \$76,565.77 |
| 2017 | 430 | 156,913 | \$1.00 | \$156,912.56 | \$78,456.28 |
| 2018 | 440 | 160,694 | \$1.00 | \$160,693.59 | \$80,346.79 |
| 2019 | 456 | 166,365 | \$1.00 | \$166,365.13 | \$83,182.56 |
| 2020 | 482 | 175,818 | \$1.00 | \$175,817.69 | \$87,908.85 |
| 2021 | 492 | 179,599 | \$1.00 | \$179,598.72 | \$89,799.36 |
| 2022 | 497 | 181,489 | \$1.00 | \$181,489.23 | \$90,744.62 |
| 2023 | 508 | 185,270 | \$1.00 | \$185,270.26 | \$92,635.13 |
| 2024 | 518 | 189,051 | \$1.00 | \$189,051.28 | \$94,525.64 |
| 2025 | 528 | 192,832 | \$1.00 | \$192,832.31 | \$96,416.15 |
| 2026 | 533 | 194,723 | \$1.00 | \$194,722.82 | \$97,361.41 |
| 2027 | 544 | 198,504 | \$1.00 | \$198,503.85 | \$99,251.92 |
| 2028 | 549 | 200,394 | \$1.00 | \$200,394.36 | \$100,197.18 |
| 2029 | 559 | 204,175 | \$1.00 | \$204,175.38 | \$102,087.69 |
| 2030 | 570 | 207,956 | \$1.00 | \$207,956.41 | \$103,978.21 |
| 2031 | 575 | 209,847 | \$1.00 | \$209,846.92 | \$104,923.46 |
| 2032 | 580 | 211,737 | \$1.00 | \$211,737.44 | \$105,868.72 |
| 2033 | 585 | 213,628 | \$1.00 | \$213,627.95 | \$106,813.97 |
| 2034 | 590 | 215,518 | \$1.00 | \$215,518.46 | \$107,759.23 |
| 2035 | 596 | 217,409 | \$1.00 | \$217,408.97 | \$108,704.49 |
| 2036 | 601 | 219,299 | \$1.00 | \$219,299.49 | \$109,649.74 |
| 2037 | 606 | 221,190 | \$1.00 | \$221,190.00 | \$110,595.00 |
| 2038 | 611 | 223,081 | \$1.00 | \$223,080.51 | \$111,540.26 |
| 2039 | 622 | 226,862 | \$1.00 | \$226,861.54 | \$113,430.77 |
| 2040 | 622 | 226,862 | \$1.00 | \$226,861.54 | \$113,430.77 |
| 2041 | 632 | 230,643 | \$1.00 | \$230,642.56 | \$115,321.28 |
| 2042 | 637 | 232,533 | \$1.00 | \$232,533.08 | \$116,266.54 |
| 2043 | 642 | 234,424 | \$1.00 | \$234,423.59 | \$117,211.79 |
| 2044 | 663 | 241,986 | \$1.00 | \$241,985.64 | \$120,992.82 |
| 2045 | 668 | 243,876 | \$1.00 | \$243,876.15 | \$121,938.08 |
| 2046 | 673 | 245,767 | \$1.00 | \$245,766.67 | \$122,883.33 |
| 2047 | 684 | 249,548 | \$1.00 | \$249,547.69 | \$124,773.85 |
| 2048 | 694 | 253,329 | \$1.00 | \$253,328.72 | \$126,664.36 |
| 2049 | 694 | 253,329 | \$1.00 | \$253,328.72 | \$126,664.36 |
| 2050 | 704 | 257,110 | \$1.00 | \$257,109.74 | \$128,554.87 |
| Total "Elderly Drivers" Toll Savings | | | | | \$3,865,153.46 |

Low Income Incentives

For the Bella Vista Bypass there will be a toll discount implemented for drivers from low income families. These motorists must submit an application to verify their income status to receive a discount pass. For the Bypass, the toll will be reduced by \$1.00 per trip for the qualified motorist. To estimate the savings, it was estimated that 30% of the bypass traffic could be realized as low income drivers. The estimated 30% is based on the commuter population and the estimated traffic diversion to the proposed Bypass. This estimate is based on an analysis of the free and reduced lunch program from schools that are geographically relevant to the proposed bypass. If full funding of the ARRA TIGER Grant is received, this incentive will be further defined regarding the eligibility mechanism.

The following figures show the free and reduced lunch data and the potential bypass users.

| County | Free Lunch | Reduced Lunch | Enrollment | % of Free/Reduced |
|------------------------------------|-------------------|----------------------|-------------------|--------------------------|
| Benton County School Districts | 11,522 | 3,259 | 36,365 | 40.6% |
| Carroll County School Districts | 1,724 | 441 | 3,757 | 57.6% |
| Madison County School Districts | 1,132 | 202 | 2,510 | 53.1% |
| Washington County School Districts | 12,455 | 2,963 | 33,754 | 45.7% |
| McDonald County School Districts | 2,021 | 431 | 4,250 | 57.7% |

| Potential "Low Income" Bypass Users | | |
|---|---|---|
| County Schools | Percentage of Free/Reduced Lunch | Percentage of Bypass Users Considered "Low Income" |
| Benton | 40.60% | 20% |
| McDonald | 57.70% | 10% |
| Total Percent of Bypass "Low Income" | | 30% |

The following table shows the total toll savings for the low income incentives.

| Year | Low Income Vehicles per Day | Low Income Vehicles per Year | Cost Average Discount Toll | Revenues for Low Income Vehicles Discount | Savings for "Low Income" Toll |
|--|-----------------------------|------------------------------|----------------------------|---|-------------------------------|
| 2012 | 0 | 0 | \$0.50 | \$0.00 | \$0.00 |
| 2013 | 55 | 20,130 | \$0.50 | \$10,064.98 | \$20,129.96 |
| 2014 | 43 | 15,794 | \$0.50 | \$7,897.14 | \$15,794.28 |
| 2015 | 39 | 14,259 | \$0.50 | \$7,129.36 | \$14,258.73 |
| 2016 | 35 | 12,674 | \$0.50 | \$6,337.21 | \$12,674.42 |
| 2017 | 34 | 12,369 | \$0.50 | \$6,184.51 | \$12,369.01 |
| 2018 | 33 | 12,078 | \$0.50 | \$6,038.99 | \$12,077.98 |
| 2019 | 32 | 11,666 | \$0.50 | \$5,833.11 | \$11,666.23 |
| 2020 | 30 | 11,039 | \$0.50 | \$5,519.51 | \$11,039.01 |
| 2021 | 30 | 10,807 | \$0.50 | \$5,403.31 | \$10,806.61 |
| 2022 | 29 | 10,694 | \$0.50 | \$5,347.02 | \$10,694.04 |
| 2023 | 29 | 10,476 | \$0.50 | \$5,237.90 | \$10,475.80 |
| 2024 | 28 | 10,266 | \$0.50 | \$5,133.14 | \$10,266.28 |
| 2025 | 28 | 10,065 | \$0.50 | \$5,032.49 | \$10,064.98 |
| 2026 | 27 | 9,967 | \$0.50 | \$4,983.63 | \$9,967.26 |
| 2027 | 27 | 9,777 | \$0.50 | \$4,888.71 | \$9,777.41 |
| 2028 | 27 | 9,685 | \$0.50 | \$4,842.59 | \$9,685.17 |
| 2029 | 26 | 9,506 | \$0.50 | \$4,752.91 | \$9,505.82 |
| 2030 | 26 | 9,333 | \$0.50 | \$4,666.49 | \$9,332.98 |
| 2031 | 25 | 9,249 | \$0.50 | \$4,624.45 | \$9,248.90 |
| 2032 | 25 | 9,166 | \$0.50 | \$4,583.16 | \$9,166.32 |
| 2033 | 25 | 9,085 | \$0.50 | \$4,542.60 | \$9,085.21 |
| 2034 | 25 | 9,006 | \$0.50 | \$4,502.76 | \$9,005.51 |
| 2035 | 24 | 8,927 | \$0.50 | \$4,463.60 | \$8,927.20 |
| 2036 | 24 | 8,850 | \$0.50 | \$4,425.12 | \$8,850.24 |
| 2037 | 24 | 8,775 | \$0.50 | \$4,387.30 | \$8,774.60 |
| 2038 | 24 | 8,700 | \$0.50 | \$4,350.12 | \$8,700.24 |
| 2039 | 23 | 8,555 | \$0.50 | \$4,277.62 | \$8,555.24 |
| 2040 | 23 | 8,555 | \$0.50 | \$4,277.62 | \$8,555.24 |
| 2041 | 23 | 8,415 | \$0.50 | \$4,207.49 | \$8,414.99 |
| 2042 | 23 | 8,347 | \$0.50 | \$4,173.29 | \$8,346.57 |
| 2043 | 23 | 8,279 | \$0.50 | \$4,139.63 | \$8,279.26 |
| 2044 | 22 | 8,021 | \$0.50 | \$4,010.27 | \$8,020.53 |
| 2045 | 22 | 7,958 | \$0.50 | \$3,979.18 | \$7,958.36 |
| 2046 | 22 | 7,897 | \$0.50 | \$3,948.57 | \$7,897.14 |
| 2047 | 21 | 7,777 | \$0.50 | \$3,888.74 | \$7,777.49 |
| 2048 | 21 | 7,661 | \$0.50 | \$3,830.70 | \$7,661.40 |
| 2049 | 21 | 7,661 | \$0.50 | \$3,830.70 | \$7,661.40 |
| 2050 | 21 | 7,549 | \$0.50 | \$3,774.37 | \$7,548.74 |
| Total "Low Income" Vehicle Toll Savings | | | | | \$379,020.57 |

The following table shows the present value of all of the Toll Pricing Incentives savings.

| Savings for Toll Pricing Incentives | | | |
|--|------------------------|----------------------------------|---------------------------|
| | "Green" Vehicle | "Elderly Drivers" Vehicle | Low Income Vehicle |
| Present Value* | \$4,648,686 | \$3,197,838 | \$313,583 |
| Total Savings | | | \$8,160,106 |
| * - Present Value over the life of the toll. | | | |

Research conducted by the AHTD has shown that there is substantial economic impact associated with interstate connectivity. The AHTD studied the economic performance of Louisiana, Texas, Mississippi, and Arkansas by county/parish area and related economic indicators to interstate access. It was found that the Per Capita Income and Unemployment rate of counties/parishes with direct interstate access where much improved over counties that had no access to facilities and counties with four-lane facilities linking to interstate-like facilities. Per capita income was found to be improved by 32% and unemployment rate was improved by 1.09%. This information is shown in detail on the map on the next page.

