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May 9, 2016

Mr. Dennis Simpson  
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Subject: Traffic and Revenue Forecast Update, Legacy Facilities

Dear Mr. Simpson:

As requested via email dated April 21, 2016, we are pleased to submit this “high-level” update of systemwide traffic and revenue projections for the seven Legacy bridges, tunnels and highways operated by the Maryland Transportation Authority. It is our understanding that these updated forecasts may be used in the July Financial Forecast provided to the Maryland legislature and could be the basis for annual surveillance reviews with rating agencies.

This update has been based on actual FY 2016 in-lane transaction and revenue data contained within the Traffic Volume and Toll Income (TVI) reports from July 2015 through March 2016 provided by the Authority. We have used this data to adjust the FY 2016 forecasts contained in our January 2016 report and with this “re-benchmarking”, adjusted the FY 2017 through FY 2025 forecasts using the year-over-year growth rates developed during the more in-depth facility-by-facility analyses conducted in developing the forecasts in the January report. As requested in the April 21<sup>st</sup> email, these “high-level” forecasts are being provided on a systemwide basis and not individually for each of the seven Legacy facilities. Also, in addition to the toll revenue forecasts, we have developed forecasts of total revenue using the “Other Revenue” forecast as is from our January 2016 study.

The product of this work effort is presented in the three tables to follow. These include **Table 1**, Historical and Forecasted Transaction and In-Lane Toll Revenue, **Table 2**, In-Lane and Other Toll Revenue Forecasts, and **Table 3**, Comparison of January 2016 versus May 2016 Forecasts of Total Revenue.

Based on nine months of actual data, FY 2016 systemwide transactions are now forecasted at 117.87 million, an increase of 0.4 percent or 490,000 transactions over our January forecast. Annual transactions in each of the subsequent years have also been estimated to increase in the range of 0.3 to 0.4 percent over our prior forecast. FY 2016 in-lane toll revenue has been forecasted at \$574.10 million, an increase of slightly less than 2.3 percent or \$12.7 million over the forecast in our January report. The



**Table 1**  
**Historical and Forecasted Transactions and In-Lane Toll Revenue**  
**Total Legacy System**

| Fiscal Year            | Transactions (Millions) | Percent Growth | In-Lane Toll Revenue (\$ Millions) | Percent Growth |
|------------------------|-------------------------|----------------|------------------------------------|----------------|
| 2005 <sup>(1)</sup>    | 117.90                  |                | \$ 278.40                          |                |
| 2006                   | 118.65                  | 0.6            | 278.80                             | 0.1            |
| 2007                   | 120.10                  | 1.2            | 282.29                             | 1.3            |
| 2008                   | 119.91                  | (0.2)          | 279.33                             | (1.0)          |
| 2009                   | 116.45                  | (2.9)          | 276.63                             | (1.0)          |
| 2010 <sup>(1)</sup>    | 116.33                  | (0.1)          | 308.47                             | 11.5           |
| 2011                   | 121.47                  | 4.4            | 311.93                             | 1.1            |
| 2012 <sup>(1)</sup>    | 118.09                  | (2.8)          | 372.98                             | 19.6           |
| 2013 <sup>(1)</sup>    | 113.61                  | (3.8)          | 411.63                             | 10.4           |
| 2014 <sup>(1)</sup>    | 112.53                  | (1.0)          | 574.08                             | 39.5           |
| 2015                   | 115.67                  | 2.8            | 594.58                             | 3.6            |
| 2016 <sup>(2)(3)</sup> | 117.87                  | 1.9            | 574.40                             | (3.4)          |
| 2017                   | 118.46                  | 0.5            | 577.79                             | 0.6            |
| 2018                   | 119.04                  | 0.5            | 580.48                             | 0.5            |
| 2019                   | 119.41                  | 0.3            | 583.06                             | 0.4            |
| 2020                   | 120.08                  | 0.6            | 586.08                             | 0.5            |
| 2021                   | 120.76                  | 0.6            | 589.20                             | 0.5            |
| 2022                   | 122.24                  | 1.2            | 593.76                             | 0.8            |
| 2023                   | 123.03                  | 0.6            | 597.19                             | 0.6            |
| 2024                   | 123.78                  | 0.6            | 600.42                             | 0.5            |
| 2025                   | 124.55                  | 0.6            | 603.67                             | 0.5            |

<sup>(1)</sup> Year of toll increase.  
<sup>(2)</sup> Year of toll decrease.  
<sup>(3)</sup> Includes actual data through March 2016.  
 - Represents actual data.

higher percent increase in toll revenue is the combined result of a higher growth in commercial vehicle transactions than in the prior forecast and slight differences in the method of payment (MOP) distributions between those assumed in late 2015 when the forecasts in the January report were prepared and those that have actually occurred following the July 1, 2015 toll reductions. The MOP distribution differences resulted in higher actual average tolls. It should be noted that the MOP traffic distributions in the prior forecasts were the product of only two months of actual data following the toll rate changes. The months immediately following rate changes tend to be a bit more volatile as customers react to the changes. These reactions tend to be a bit more temperate in later months. Annual in-lane revenue in each of the subsequent forecast years has been estimated to increase by 2.2 percent versus the prior forecast.

Table 2 provides both In-Lane and Other Toll Revenue. The in-lane toll revenue from Table 1 was carried forward into Table 2, along with the forecasts of Other Toll Revenue from the January report.



**Table 2**  
**In-Lane and Other Toll Revenue Forecasts**

| Fiscal Year | In-Lane Toll Revenue     | Other Toll Revenue              |                              |                   |                      |                        |                         |                     |                |                     |                         |                      |   |                   |                      |                |                 | Total Other Revenue | Total Revenue <sup>(7)</sup> |
|-------------|--------------------------|---------------------------------|------------------------------|-------------------|----------------------|------------------------|-------------------------|---------------------|----------------|---------------------|-------------------------|----------------------|---|-------------------|----------------------|----------------|-----------------|---------------------|------------------------------|
|             |                          | Legacy Facilities (\$ millions) |                              |                   |                      |                        |                         |                     |                |                     |                         |                      | New Facilities Other Revenue <sup>(5) (6)</sup> (\$ millions) |                   |                      |                |                 |                     |                              |
|             |                          | Service Fees and Sales          |                              |                   |                      |                        | Violation Recovery      |                     |                |                     |                         |                      | Service Fees and Sales  |                   | Violation Recovery   |                |                 |                     |                              |
|             |                          | Total for Legacy Facilities     | Unused Pre-Paid Trip Revenue | Transponder Sales | Monthly Account Fees | Hatem E-Z Pass Program | Notice of Toll Due Fees | Civil Penalties (3) | Violation Fees | Post-Usage Discount | High Frequency Discount | Over-size Permit Fee | Concession Revenue <sup>(4)</sup>                             | Transponder Sales | Monthly Account Fees | Violation Fees | Civil Penalties |                     |                              |
| 2004        | <sup>(1)</sup> \$ 251.30 | \$ 2.00                         | \$ -                         | \$ -              | \$ -                 | \$ -                   | \$ -                    | \$ 0.80             | \$ (2.30)      | \$ -                | \$ -                    | \$ 8.10              | \$ -  | \$ -              | \$ -                 | \$ -           | \$ 8.60         | \$ 259.90           |                              |
| 2005        | <sup>(1)</sup> 278.40    | 2.80                            | -                            | -                 | -                    | -                      | -                       | 1.50                | (3.90)         | -                   | -                       | 8.00                 | -   | -                 | -                    | -              | 8.40            | 286.80              |                              |
| 2006        | 278.80                   | 3.50                            | -                            | -                 | -                    | -                      | -                       | 2.80                | (4.50)         | -                   | -                       | 7.80                 | -   | -                 | -                    | -              | 9.60            | 288.40              |                              |
| 2007        | 282.29                   | 4.00                            | -                            | -                 | -                    | -                      | -                       | 3.00                | (4.80)         | -                   | -                       | 8.10                 | -   | -                 | -                    | -              | 10.30           | 292.59              |                              |
| 2008        | 279.33                   | 4.30                            | -                            | -                 | -                    | -                      | -                       | 3.00                | (5.00)         | -                   | -                       | 8.00                 | -   | -                 | -                    | -              | 10.30           | 289.63              |                              |
| 2009        | 276.63                   | 4.50                            | -                            | -                 | -                    | -                      | -                       | 1.90                | (4.80)         | -                   | -                       | 8.00                 | -   | -                 | -                    | -              | 9.60            | 286.23              |                              |
| 2010        | <sup>(1)</sup> 308.47    | 6.60                            | 1.40                         | 9.60              | -                    | 1.10                   | -                       | 2.30                | (6.60)         | (0.20)              | 1.00                    | 8.20                 | -   | -                 | -                    | -              | 23.40           | 331.87              |                              |
| 2011        | 311.93                   | 6.50                            | 1.90                         | 9.90              | -                    | 1.30                   | -                       | 1.30                | (6.70)         | (0.30)              | 1.20                    | 7.90                 | -   | -                 | -                    | -              | 23.00           | 334.93              |                              |
| 2012        | <sup>(1)</sup> 372.98    | 9.10                            | 1.70                         | 4.70              | 0.30                 | 0.80                   | -                       | 2.80                | (5.90)         | (0.20)              | 1.30                    | 7.60                 | -   | -                 | -                    | -              | 22.20           | 395.18              |                              |
| 2013        | <sup>(1)</sup> 411.63    | 11.50                           | 1.30                         | 5.30              | 0.80                 | 0.10                   | -                       | 4.00                | (4.60)         | (0.70)              | 1.30                    | 4.10                 | -   | -                 | -                    | -              | 23.10           | 434.73              |                              |
| 2014        | <sup>(1)</sup> 574.08    | 18.69                           | 1.22                         | 5.75              | 1.49                 | -                      | 4.55                    | 0.04                | (5.89)         | (0.64)              | 1.04                    | 3.23                 | 0.16  | 0.76              | 0.10                 | 2.35           | 32.85           | 606.93              |                              |
| 2015        | 594.58                   | 16.81                           | 1.44                         | 5.87              | 1.52                 | -                      | 10.75                   | 0.01                | (6.34)         | (0.62)              | 1.15                    | 5.07                 | 0.19  | 0.79              | 0.01                 | 5.73           | 42.38           | 636.96              |                              |
| 2016        | <sup>(2)</sup> 574.40    | 16.90                           | 1.45                         | -                 | 1.53                 | -                      | 7.39                    | -                   | (6.37)         | (0.98)              | 1.16                    | 5.72                 | 0.20  | -                 | -                    | 3.97           | 30.96           | 605.37              |                              |
| 2017        | 577.79                   | 16.98                           | 1.45                         | -                 | 1.54                 | -                      | 8.14                    | -                   | (6.40)         | (0.99)              | 1.17                    | 5.80                 | 0.20  | -                 | -                    | 4.35           | 32.25           | 610.04              |                              |
| 2018        | 580.48                   | 17.07                           | 1.46                         | -                 | 1.55                 | -                      | 8.22                    | -                   | (6.43)         | (0.99)              | 1.19                    | 5.87                 | 0.20  | -                 | -                    | 4.37           | 32.50           | 612.98              |                              |
| 2019        | 583.06                   | 17.15                           | 1.47                         | -                 | 1.55                 | -                      | 8.31                    | -                   | (6.46)         | (1.00)              | 1.20                    | 5.95                 | 0.20  | -                 | -                    | 4.39           | 32.76           | 615.82              |                              |
| 2020        | 586.08                   | 17.24                           | 1.48                         | -                 | 1.56                 | -                      | 8.39                    | -                   | (6.50)         | (1.00)              | 1.21                    | 6.03                 | 0.20  | -                 | -                    | 4.41           | 33.02           | 619.10              |                              |
| 2021        | 589.20                   | 17.33                           | 1.48                         | -                 | 1.57                 | -                      | 8.47                    | -                   | (6.53)         | (1.01)              | 1.22                    | 6.10                 | 0.20  | -                 | -                    | 4.43           | 33.28           | 622.48              |                              |
| 2022        | 593.76                   | 17.41                           | 1.49                         | -                 | 1.58                 | -                      | 8.56                    | -                   | (6.56)         | (1.01)              | 1.23                    | 6.48                 | 0.20  | -                 | -                    | 4.46           | 33.84           | 627.60              |                              |
| 2023        | 597.19                   | 17.50                           | 1.50                         | -                 | 1.58                 | -                      | 8.64                    | -                   | (6.59)         | (1.02)              | 1.25                    | 7.38                 | 0.20  | -                 | -                    | 4.48           | 34.93           | 632.12              |                              |
| 2024        | 600.42                   | 17.59                           | 1.51                         | -                 | 1.59                 | -                      | 8.73                    | -                   | (6.63)         | (1.02)              | 1.26                    | 7.48                 | 0.20  | -                 | -                    | 4.50           | 35.21           | 635.63              |                              |
| 2025        | 603.67                   | 17.67                           | 1.51                         | -                 | 1.60                 | -                      | 8.82                    | -                   | (6.66)         | (1.03)              | 1.27                    | 7.58                 | 0.20  | -                 | -                    | 4.52           | 35.50           | 639.17              |                              |

Source: Historical data from MDTA

Note: "In-Lane Toll Revenue" is based on the current updated estimate; "Other Toll Revenue" has not been updated and is the same as in the January 2016 Traffic and Toll Revenue Forecast Update Report.

<sup>(1)</sup> Year of toll increase.

<sup>(2)</sup> Year of toll decrease.

<sup>(3)</sup> Civil Penalties actuals and estimates provided by MDTA.

<sup>(4)</sup> Concession Revenue Forecast is 87% of the estimated concession revenue as previously prepared by Areas Inc.; other projections by CDM Smith.

<sup>(5)</sup> InterCounty Connector and I-95 ETLs

<sup>(6)</sup> Notice of toll due fees were not collected to date, and therefore no revenue was forecasted through the study period.

<sup>(7)</sup> Summation of individual categories may not equal total due to rounding.

- Represents actual data.



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For purposes of this traffic and revenue update, it was determined that given the relatively small portion of overall revenue generated by Other Toll Revenue sources, a detailed analysis of these trends was not warranted.

Finally, Table 3 presents a comparison of the 10-year total revenue forecast from the January report versus those in this update. Revenues presented in the table include both in-lane and "other" toll revenue. From FY 2016 to FY 2025, the latest forecast of total revenue is 2.1 percent or \$127.54 million higher than the January forecast.

**Table 3**  
**Comparison of January 2016 versus May 2016 Forecasts**  
**of Total Revenue (In-Lane and "Other" Toll Revenue)**

| Fiscal<br>Year | Total Revenue      |                    |                  | Percent    |
|----------------|--------------------|--------------------|------------------|------------|
|                | January 2016       | April 2016         | Difference       | Difference |
| 2016           | \$ 592.64          | \$ 605.37          | \$ 12.73         | 2.1        |
| 2017           | 597.32             | 610.04             | 12.71            | 2.1        |
| 2018           | 600.31             | 612.98             | 12.67            | 2.1        |
| 2019           | 603.29             | 615.82             | 12.53            | 2.1        |
| 2020           | 606.55             | 619.10             | 12.55            | 2.1        |
| 2021           | 609.90             | 622.48             | 12.58            | 2.1        |
| 2022           | 614.69             | 627.60             | 12.91            | 2.1        |
| 2023           | 619.18             | 632.12             | 12.93            | 2.1        |
| 2024           | 622.67             | 635.63             | 12.96            | 2.1        |
| 2025           | 626.20             | 639.17             | 12.97            | 2.1        |
| <b>Total</b>   | <b>\$ 6,092.76</b> | <b>\$ 6,220.29</b> | <b>\$ 127.54</b> | <b>2.1</b> |

Respectfully submitted,

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 CDM Smith Inc.

