

# Updating Transportation Conformity Budgets for Ozone (NO<sub>x</sub> and VOC)

*Stacy Allen, Environmental Scientist  
Inter Agency Consulting Group Meeting  
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# Transportation Conformity Budgets

## 2008 Ozone Standard

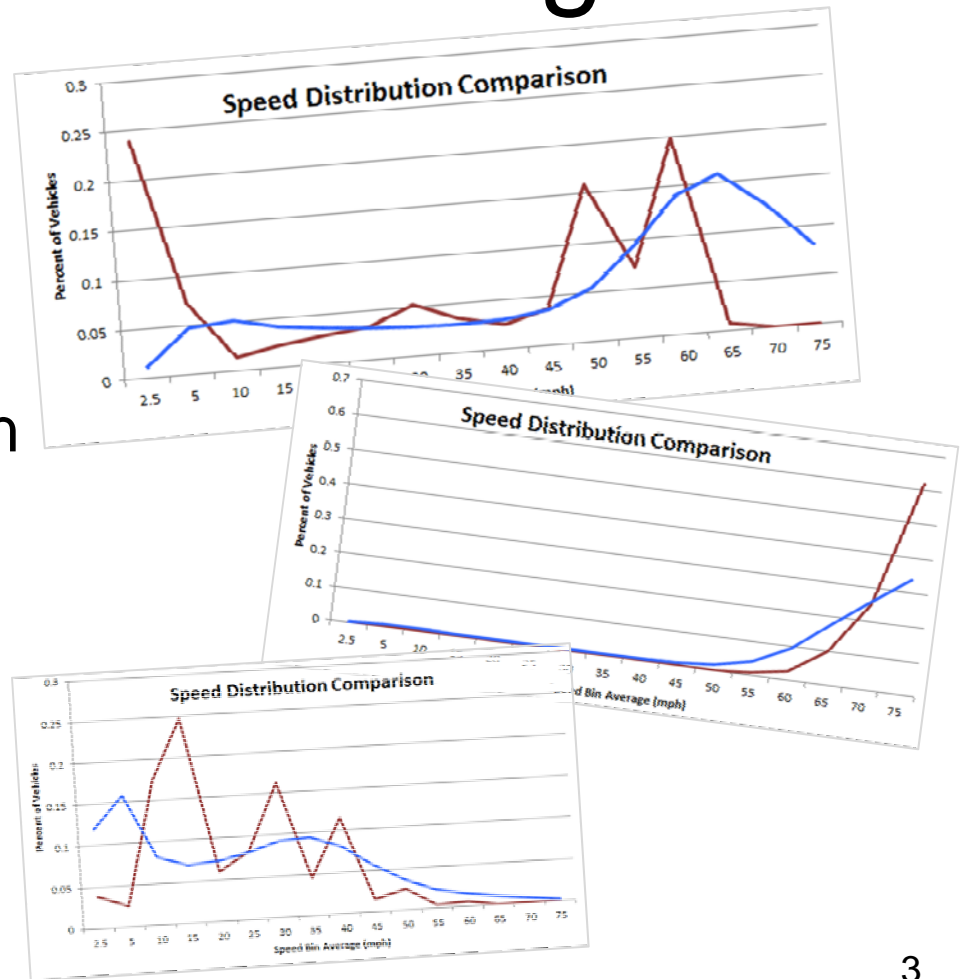
- Redesignation request and maintenance plan included budget for 2030
- Budgets adequate April 2017

## 1997 PM<sub>2.5</sub> Standard

- Supplement/Revision to redesignation request and maintenance plan submitted to EPA March 2014
- Budgets not yet approved

# 2008 Ozone Standard Budgets

- EPA asked questions regarding the maintenance plan.
- Review of 2014 MOVES model inputs revealed an erroneous table that inflated 2014 onroad emissions.



# Correspondence with EPA

- On July 27, 2017, the air program responded to EPA's emissions question with corrected 2014 emissions.
- 2030 emissions are unchanged, but the budgets need revision

| 2011           |                 |           |
|----------------|-----------------|-----------|
| Onroad         | NO <sub>x</sub> | VOC       |
| Franklin       | 7.83            | 2.4       |
| Jefferson      | 12.45           | 4.24      |
| St. Charles    | 21.04           | 6.73      |
| St. Louis Co   | 66.34           | 20.17     |
| St. Louis City | 16.55           | 4.46      |
| <b>Total</b>   | <b>124.21</b>   | <b>38</b> |

| 2014            |              |
|-----------------|--------------|
| NO <sub>x</sub> | VOC          |
| 8               | 2.57         |
| 12.87           | 4.65         |
| 19.68           | 7.75         |
| 118.61          | 73.21        |
| 10.92           | 4.23         |
| <b>170.08</b>   | <b>92.41</b> |

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|----------------|-----------------|-----------|
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|-----------------|--------------|
| 8               | 2.57         |
| 12.87           | 4.65         |
| 19.68           | 7.75         |
| <b>60.29</b>    | <b>19.01</b> |
| 10.92           | 4.23         |
| <b>111.76</b>   | <b>38.21</b> |

# Budget Revision

- Start with new emissions difference from 2014 to 2030

| Source Category       | 2014          |               | 2030          |               | Difference    |               |
|-----------------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                       | VOC           | NOx           | VOC           | NOx           | VOC           | NOx           |
| Point Sources         | 13.86         | 81.7          | 14.31         | 93.08         | 0.45          | 11.38         |
| Area Sources          | 69.81         | 6.47          | 68.80         | 13.03         | -1.01         | 6.56          |
| Onroad Mobile Sources | 38.21         | 111.76        | 18.42         | 25.57         | -19.79        | -86.19        |
| Nonroad Sources       | 33.42         | 38.44         | 30.01         | 29.90         | -3.41         | -8.54         |
| <b>Total</b>          | <b>155.30</b> | <b>238.37</b> | <b>131.54</b> | <b>161.58</b> | <b>-23.76</b> | <b>-76.79</b> |

- Reduce by banked emissions

|                                  |       |       |
|----------------------------------|-------|-------|
| Area Total 2030 Banked Emissions | 2.85  | 0.01  |
| Reduced Revised Safety Margin    | 20.91 | 76.78 |

- Determine the budgets for 2030 onroad sources

Today's Budget Discussion

# Budget Revision Analysis

- The budgets for 2030 will decrease as a result of the correction to 2014 emissions error.
- The goal is to reach consensus on the final budgets.

# Budget Revision Analysis

- Latest conformity analysis:

| Table 3<br>Regional Emissions Analysis: Conformity Tests - MISSOURI<br>Based on Conformity Requirements for 2008 Eight-Hour Ozone Standard<br>(US tons per day) |                            |             |                    |             |
|---|----------------------------|-------------|--------------------|-------------|
| Analysis<br>Year  | Volatile Organic Compounds |             | Oxides of Nitrogen |             |
|   | Emissions                  | 2015 Budget | Emissions          | 2015 Budget |
| 2020  | 15.41                      | 32.70       | 28.85              | 76.70       |
| 2025  | 11.53                      | 32.70       | 18.08              | 76.70       |
| Analysis<br>Year  | 2030 Budget                |             | 2030 Budget        |             |
|   | Emissions                  | 2030 Budget | Emissions          | 2030 Budget |
| 2030  | 9.68                       | 78.49       | 13.04              | 133.65      |
| 2035  | 7.41                       | 78.49       | 10.62              | 133.65      |
| 2045  | 6.44                       | 78.49       | 9.63               | 133.65      |
| All tests have been passed for all years.   |                            |             |                    |             |

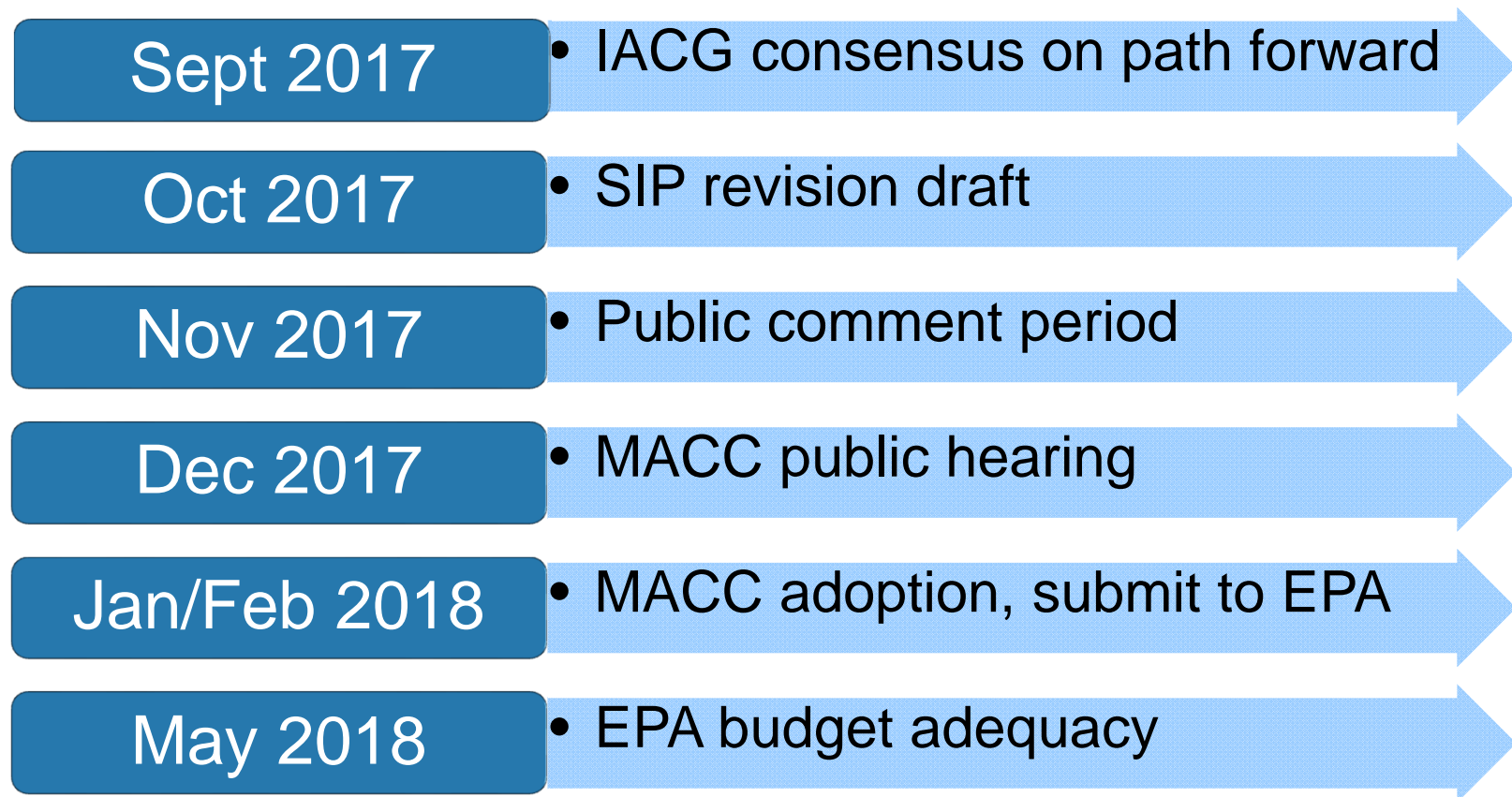
# Budget Revision Recommendation

| Table 3<br>Regional Emissions Analysis: Conformity Tests - MISSOURI<br>Based on Conformity Requirements for 2008 Eight-Hour Ozone Standard<br>(US tons per day) |                            |             |                    |             |
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| 2045  | 6.44                       |             | 9.63               |             |
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- Proposing budgets: 18.42 tons VOC and 25.57 tons NO<sub>x</sub> per ozone season day in 2030



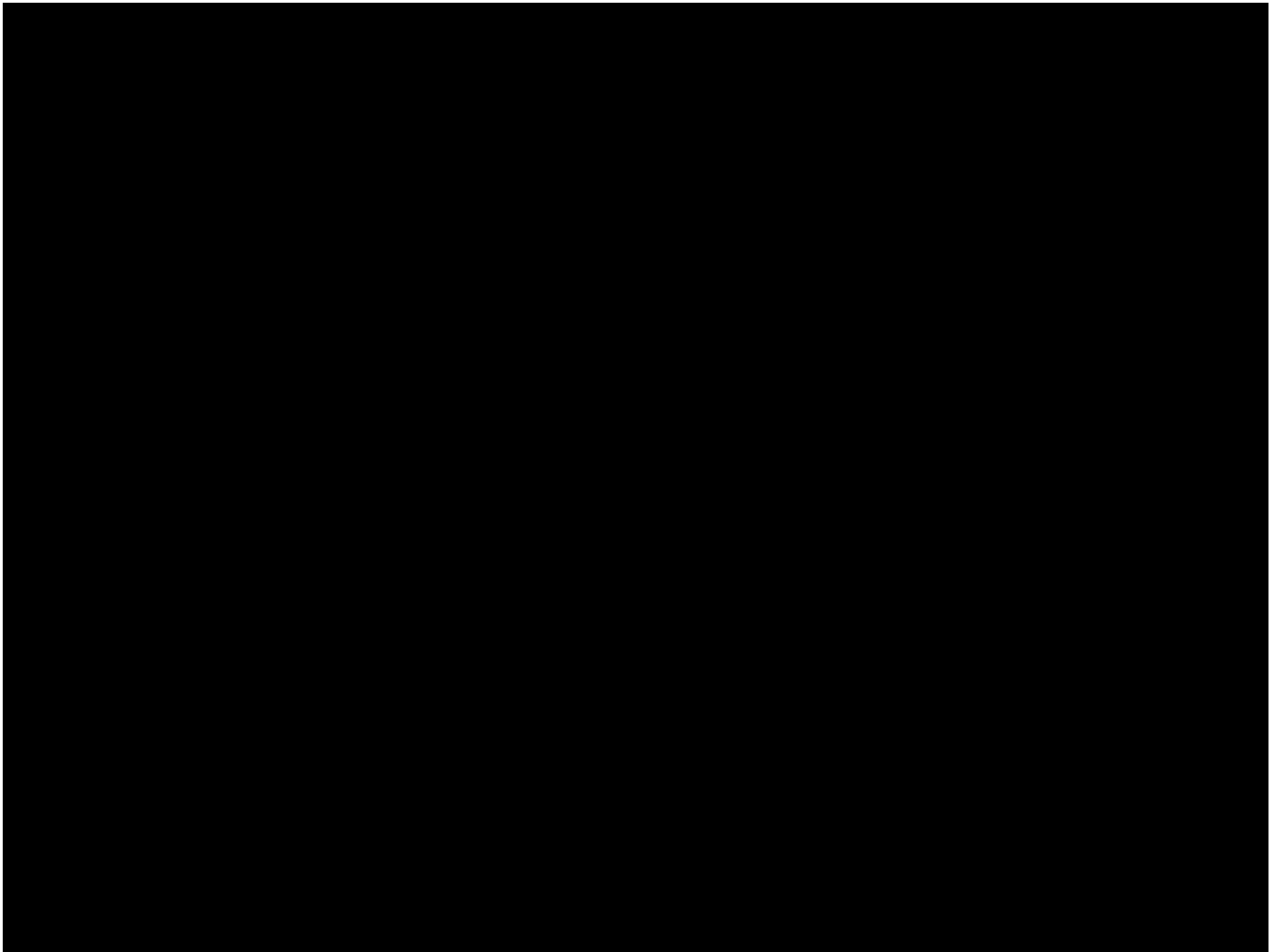
# Budget Revision Timeline



## In conclusion...

- The air program welcomes comments ...preferably before Oct. 13, 2017.
- The comment period on the full SIP document will be in October and November
- Questions: [stacy.allen@dnr.mo.gov](mailto:stacy.allen@dnr.mo.gov)





## 40 CFR 93.124

(a) In interpreting an applicable implementation plan (or implementation plan submission) with respect to its motor vehicle emissions budget(s), the MPO and DOT may not infer additions to the budget(s) that are not explicitly intended by the implementation plan (or submission). Unless the implementation plan explicitly quantifies the amount by which motor vehicle emissions could be higher while still allowing a demonstration of compliance with the milestone, attainment, or maintenance requirement and explicitly states an intent that some or all of this additional amount should be available to the MPO and DOT in the emissions budget for conformity purposes, the MPO may not interpret the budget to be higher than the implementation plan's estimate of future emissions.

|      | VOC Budget | Remaining<br>Safety Margin<br>VOC | NOx Budget | Remaining<br>Safety Margin<br>NOx |
|------|------------|-----------------------------------|------------|-----------------------------------|
| 0%   | 18.42      | 20.91                             | 25.57      | 76.78                             |
| 10%  | 20.51      | 18.82                             | 33.25      | 69.11                             |
| 20%  | 22.60      | 16.73                             | 40.93      | 61.43                             |
| 30%  | 24.69      | 14.64                             | 48.61      | 53.75                             |
| 40%  | 26.78      | 12.55                             | 56.28      | 46.07                             |
| 50%  | 28.88      | 10.46                             | 63.96      | 38.39                             |
| 60%  | 30.97      | 8.36                              | 71.64      | 30.71                             |
| 70%  | 33.06      | 6.27                              | 79.32      | 23.04                             |
| 80%  | 35.15      | 4.18                              | 87.00      | 15.36                             |
| 90%  | 37.24      | 2.09                              | 94.68      | 7.68                              |
| 100% | 39.33      | 0.00                              | 102.35     | 0.00                              |