

MAG Conformity Analysis Executive Summary

**FY 2001-2005
MAG Transportation Improvement Program**

**MAG Long Range Transportation Plan
Summary and 2000 Update**



EXECUTIVE SUMMARY

This report presents the 2000 Conformity Analysis for the Fiscal Year 2001 to 2005 MAG Transportation Improvement Program (TIP) and the Long Range Transportation Plan Summary and 2000 Update (LRTP). The Maricopa Association of Governments (MAG) is the designated Metropolitan Planning Organization (MPO) in Maricopa County, Arizona, and is responsible for regional transportation and air quality planning. The analysis demonstrates that the criteria specified in the federal conformity rule for a conformity determination are satisfied by the TIP and LRTP. A finding of conformity for the TIP and LRTP is therefore supported.

Summarized below are the applicable federal criteria or requirements for conformity determinations, the conformity tests applied, the results of the conformity assessment of the TIP and LRTP, and an overview of the organization of this report. Figures presenting the conformity test results are provided at the end of the Executive Summary.

CONFORMITY REQUIREMENTS

The federal Transportation Conformity Final Rule (40 CFR Parts 51 and 93) specifies criteria or requirements for conformity determinations for transportation plans, programs, and projects and their respective amendments. The federal conformity rule was first promulgated in 1993 by the U.S. Environmental Protection Agency (EPA), following the passage of Amendments to the federal Clean Air Act in 1990. The federal transportation conformity rule has been revised three times since its initial release. On March 2, 1999, the U.S. Court of Appeals for the District of Columbia issued an opinion in *Environmental Defense Fund versus Environmental Protection Agency* involving the 1997 transportation conformity amendments. The rule will have to be amended again to reflect the court ruling. The rule and the recent court ruling are discussed in detail in Chapter 1.

The rule applies nationwide to “all nonattainment and maintenance areas for transportation-related criteria pollutants for which the area is designated nonattainment or has a maintenance plan” (40 CFR 93.102). Currently, portions of Maricopa County are designated as nonattainment areas with respect to the national ambient air quality standards for three criteria pollutants, carbon monoxide (CO), ozone (O₃), and particulate matter under ten microns in diameter (PM-10). Therefore, transportation plans and programs for the Maricopa County nonattainment area must satisfy the requirements of the federal transportation conformity rule.

Under the federal conformity rule, the principal criteria for a determination of conformity for transportation plans and programs are:

- (1) the TIP and LRTP must pass an emission budget test with a budget that has been found to be adequate by EPA for transportation conformity purposes, or emission reduction tests;
- (2) the latest planning assumptions and emission models specified for use in air quality implementation plans must be employed;
- (3) the TIP and LRTP must provide for the timely implementation of transportation control measures (TCMs) specified in the applicable air quality implementation plans; and,
- (4) consultation.

Consultation generally occurs at the beginning of the conformity analysis process, on the proposed methodologies for the upcoming analysis and the projects to be assessed, and at the end of the process, on the draft report. The final determination of conformity for the TIP and LRTP is the responsibility of the Federal Highway Administration and the Federal Transit Administration.

CONFORMITY TESTS

Conformity tests specified in the federal conformity rule are: (1) emission budget tests [40 CFR 93.118], and (2) emission reduction tests [40 CFR 93.119]. For budget tests, predicted emissions for the TIP and LRTP must be less than or equal to the motor vehicle emissions budget specified in the approved air quality implementation plan or emissions budget found to be adequate for transportation conformity purposes. If there is no approved air quality plan for a pollutant for which the region is in nonattainment or an emissions budget found to be adequate for transportation conformity purposes, the emission reduction test applies. The emission reduction test has two components, a “Build/No-Build” component and/or a “less than 1990 emissions” component. For the “Build/No-Build” component, emissions predicted to occur following the implementation of the TIP and LRTP (the “Build” scenario) must be less than the emissions predicted to occur if the TIP and LRTP were not implemented (the “No-Build” scenario). For the “less than 1990 emissions” component, emissions for the “Build” scenario must be less than emission levels in the year 1990.

Chapter 1 summarizes the applicable air quality implementation plans and conformity tests for CO, O₃, and PM-10. For the 2000 Conformity Analysis, both the emission budget and emission reduction tests were applied for CO. An emission budget test was applied for volatile organic compounds (VOC), which is a precursor to ozone. Both the emission budget and one component of the emission reduction test, the “Build/No-Build” test, were applied for PM-10. Both an emission reduction and emission budget tests are applied in this conformity analysis for all years, since EPA has not taken final approval action on the

MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area or the Revised MAG 1999 Serious Area Particulate Plan for PM-10. However, EPA has announced its proposed approval of provisions in the Revised MAG 1999 Serious Area Particulate Plan for PM-10 in an April 13, 2000 *Federal Register* notice.

The CO and PM-10 budgets submitted in the Serious Area Plans have been found to be adequate by EPA. A notice of adequacy effective December 14, 1999 was issued by EPA in the *Federal Register* finding that the submitted CO motor vehicle emissions budget contained in the MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area was adequate for transportation conformity purposes (EPA, 1999b). The EPA also issued a notice of adequacy, effective April 21, 2000 in the *Federal Register* finding that the submitted PM-10 motor vehicle emissions budget contained in the Revised MAG 1999 Serious Area Particulate Plan for PM-10 was adequate for transportation conformity purposes (EPA, 2000a).

RESULTS OF THE CONFORMITY ANALYSIS

A regional emission analysis was conducted for the years 2001, 2010, and 2020 for each pollutant. All analyses were conducted using the latest planning assumptions and emission models. The major conclusions of the 2000 Conformity Analysis are:

- For CO, the total regional vehicle-related emissions associated with implementation of the TIP and LRTP for all years tested are projected to be less than the corresponding “No-Build” scenarios, less than 1990 emission levels, and less than the emission budget found to be adequate for transportation conformity purposes from the MAG 1999 Serious Area Plan for Carbon Monoxide. The conformity tests for CO are therefore satisfied. The results of the regional emission analysis for CO are presented in Figure ES-1.
- For VOC, the total regional vehicle-related emissions associated with implementation of the TIP and LRTP for all years tested are projected to be less than the emission budget specified in the applicable Revised 1998 15 Percent Rate of Progress Federal Implementation Plan for ozone. The conformity test for VOC (i.e. ozone) is therefore satisfied. The results of the regional emission analysis for VOC are presented in Figure ES-2.
- For PM-10, the total regional vehicle-related emissions associated with implementation of the TIP and LRTP for all years tested are projected to be less than the corresponding “No-Build” scenarios. In addition, the total regional vehicle-related emissions associated with implementation of the TIP and LRTP for years 2010 and 2020 are projected to be less than the 2006 emission budget found to be adequate for transportation conformity purposes from the Revised MAG 1999 Serious Area Particulate Plan for PM-10. The conformity tests for PM-10 are therefore satisfied. The results of the regional emission analysis for PM-10 are presented in Figure ES-3.

- Implementation of the TIP and LRTP will support and not impede the implementation of the TCMs that have been adopted as part of applicable air quality implementation plans. The current status of TCM implementation is documented in Chapter 4 of this report. Figure ES-4 presents the total funding programmed in the TIP for transportation projects that implement or provide for the timely implementation of transportation control measures.
- Consultation has been conducted in accordance with federal requirements.

REPORT ORGANIZATION

The report contains five chapters which provide: (1) a review of the applicable conformity rules, air quality implementation plans and conformity tests, (2) an overview of the emission modeling methodology applied for the conformity analysis, (3) documentation required under the federal conformity rule of socioeconomic projections and transportation modeling, (4) documentation required under the federal conformity rule for transportation control measures, and, (5) the results of the conformity analysis for the TIP and LRTP.

Excerpts from the applicable air quality implementation plans, consultation documentation and other related information are contained in two volumes of appendices. The appendices include copies of memos (methodology, and list of regionally significant projects) previously circulated for consultation and responses to comments received through July 10, 2000. Appendix Q includes the public hearing notice and transcript of the public hearing conducted on June 26, 2000 for the Draft TIP, LRTP and 2000 Conformity Analysis. The comments received and responses made as part of public comment process are included in Appendix R.

Figure ES-1: Carbon Monoxide Results for Conformity Budget Test and Emission Reduction (less than 1990 and Build/No Build) Tests

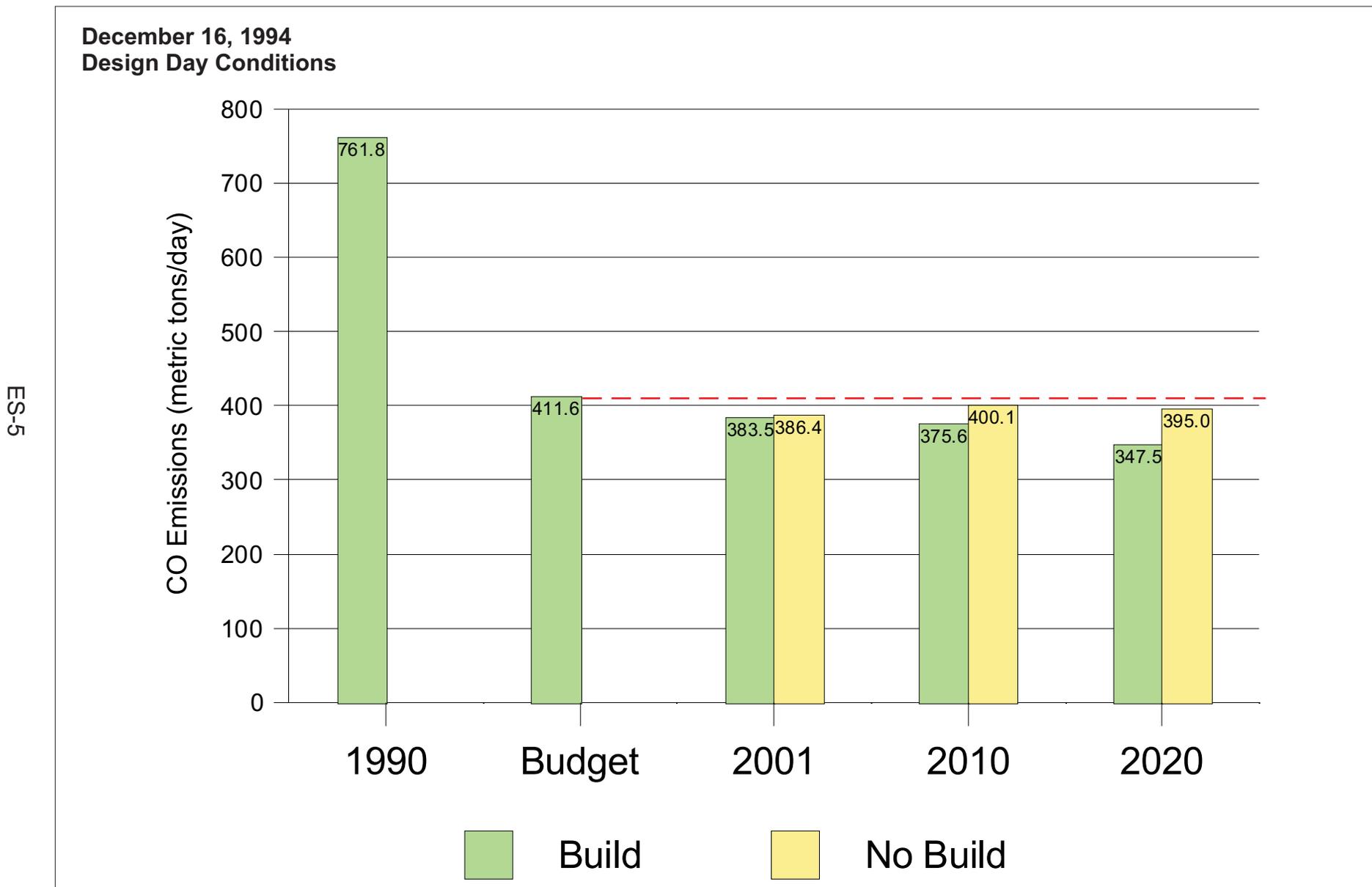


Figure ES-2: Volatile Organic Compounds (VOC) Results for Conformity Budget Test

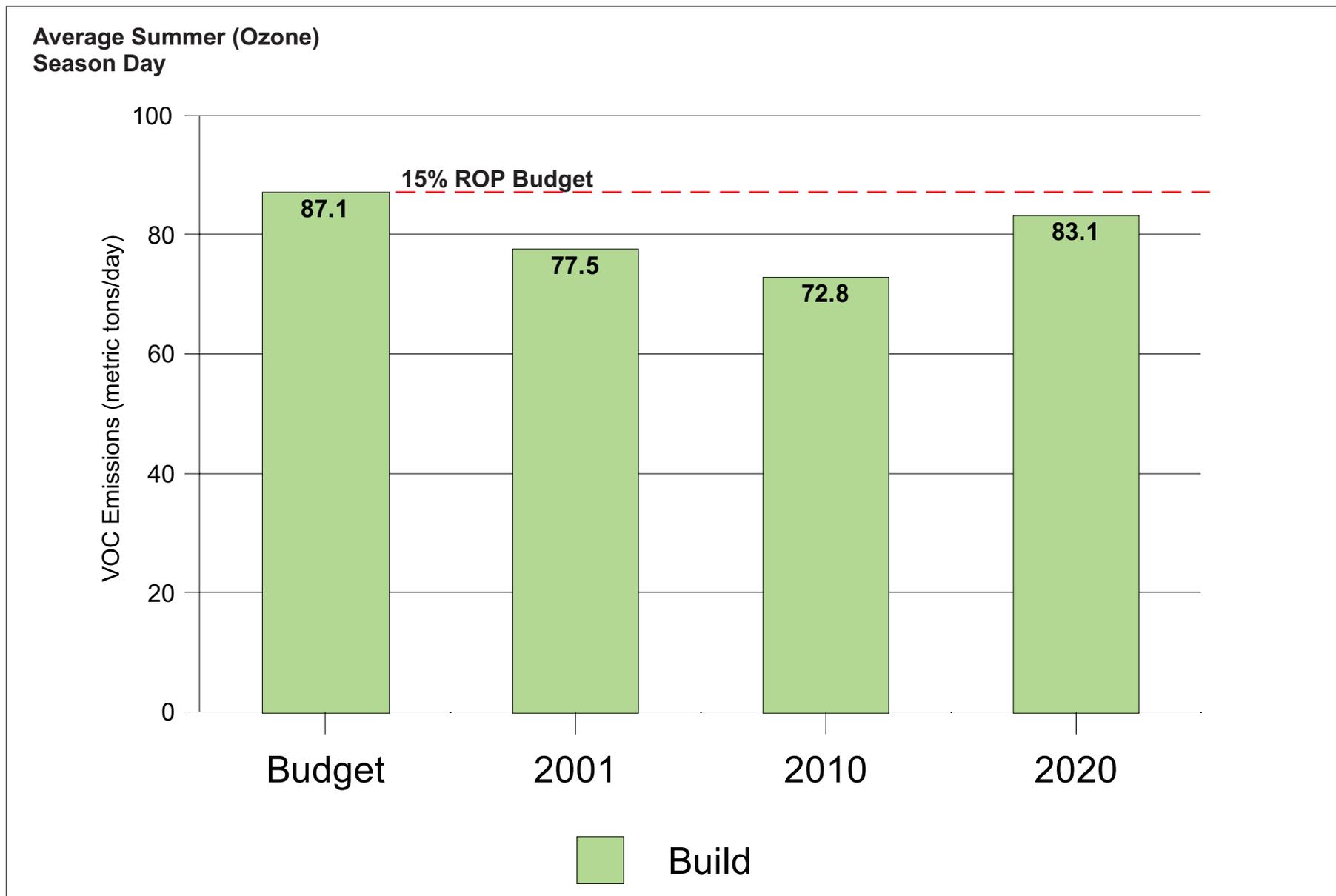


Figure ES-3: PM-10 Results for Conformity Budget Test and Emission Reduction (Build/No Build) Test

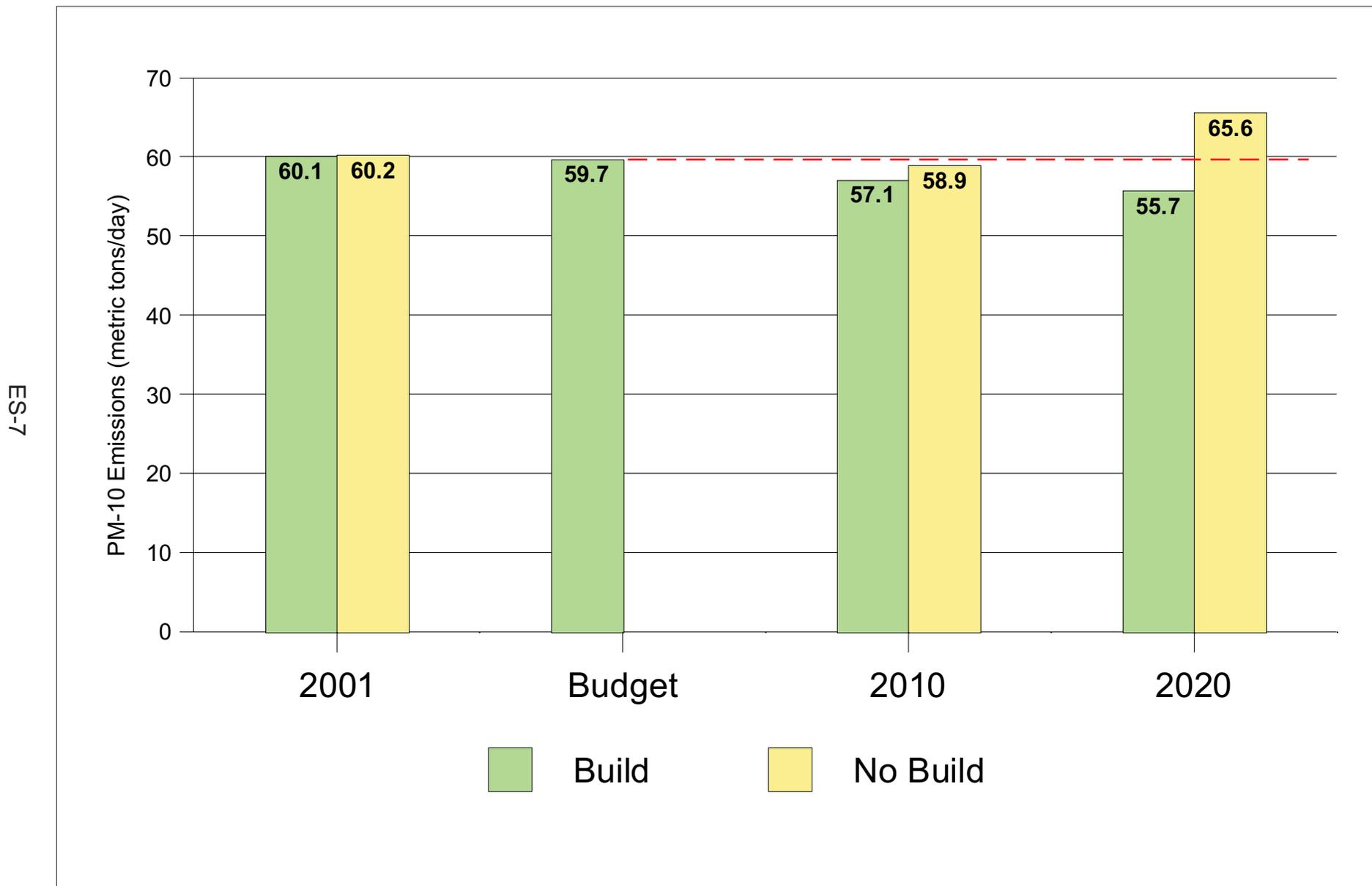
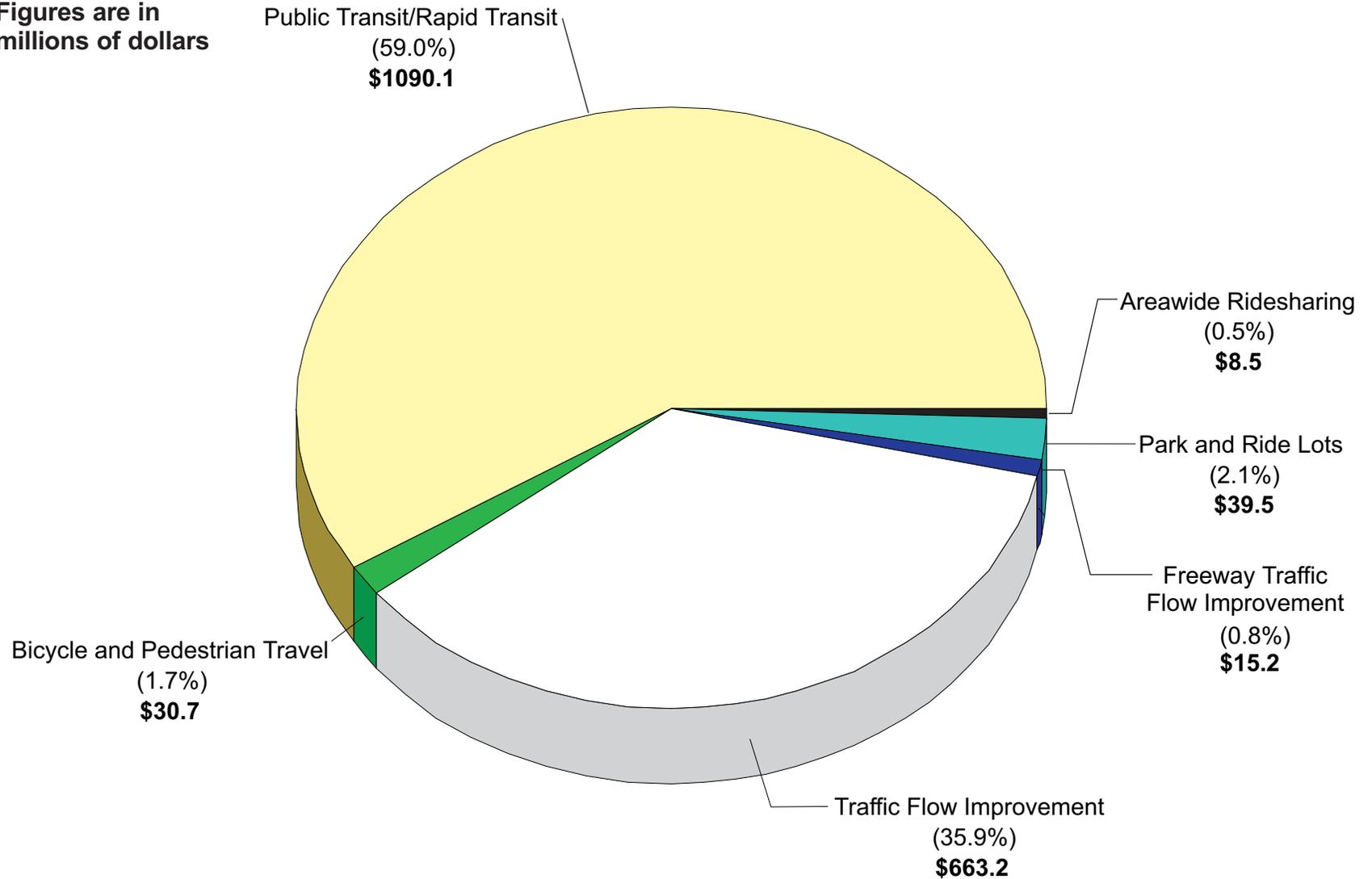


Figure ES-4: Transportation Control Measure Funding in the Draft FY 2001-2005 MAG Transportation Improvement Program

ES-8

Figures are in millions of dollars



Total = \$1847.2 million.

An additional \$699.5 million is programmed for paving of streets, shoulders, and alleys