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**COMPASS**  
COMMUNITY PLANNING ASSOCIATION  
of Southwest Idaho

*Northern Ada County  
FY2006-2010 TIP  
Conformity Amendment*

Report No. 10-2006

Adopted by the COMPASS Board on June 19, 2006

Resolution No. 08-2006

**THIS DOCUMENT IS SUBMITTED TO THE U.S. DEPARTMENT OF  
TRANSPORTATION IN FULFILLMENT OF THE REQUIREMENTS OF  
THE 1990 CLEAN AIR ACT AMENDMENTS (CAAA), THE FEDERAL  
TRANSPORTATION AIR QUALITY CONFORMITY RULES (40CFR93),  
AND THE STATE OF IDAHO ADMINISTRATIVE CODE ON  
TRANSPORTATION CONFORMITY (IDAPA 58-01.01.563-574).**

RESOLUTION No. 08-2006

FOR THE PURPOSE OF AMENDING THE FY2006-2010  
NORTHERN ADA COUNTY AND NAMPA URBANIZED AREA  
TRANSPORTATION IMPROVEMENT PROGRAMS AND APPLICABLE  
AIR QUALITY CONFORMITY DEMONSTRATION



**COMPASS**  
COMMUNITY PLANNING ASSOCIATION  
of Southwest Idaho

**WHEREAS**, the Community Planning Association has been designated by the Governor of Idaho as the Metropolitan Planning Organization responsible for transportation planning in Northern Ada County and the Nampa Urbanized Area; and

**WHEREAS**, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – a Legacy for Users and 23 United States Code Section 134 require Metropolitan Planning Organizations to develop and approve a Transportation Improvement Program; and

**WHEREAS**, the 1990 Clean Air Act Amendment requires all transportation plans and programs in nonattainment areas demonstrate conformity to applicable state implementation plans for air quality improvements; and

**WHEREAS**, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – a Legacy for Users and 23 United States Code Section 134 requires projects contained in the Transportation Improvement Program to be financially constrained; and

**WHEREAS**, a public comment period was held for the new project and projects changing from a study to a construction project as required for this type of amendment to the Transportation Improvement Program; and

**WHEREAS**, the Community Planning Association desires to amend the FY2006-2010 Northern Ada County and Nampa Urbanized Area Transportation Improvement Programs when significant changes occur as part of timely reviews; and

**WHEREAS**, the Community Planning Association desires to take timely action to insure the availability of Federal Funds; and

**WHEREAS**, the attached tables dated June 19, 2006, detail the adjustments to the FY2006-2010 Northern Ada County and Nampa Urbanized Area Transportation Improvement Programs due to the Legislative action to approve the GARVEE program and adjustments through regular program review.

**NOW, THEREFORE, BE IT RESOLVED**, that the Community Planning Association Board adopts this amendment and the associated Air Quality Conformity Demonstration to the FY2006-2010 Northern Ada County and Nampa Urbanized Area Transportation Improvement Programs.

**Dated** this 26th day of June 2006.

APPROVED:

By: 

Tammy de Weerd, Chair  
Community Planning Association Board

ATTEST:

By: 

Matthew J. Stoll, Executive Director  
Community Planning Association

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**TABLE 1**  
**Amendment to FY2006-2010 Northern Ada County Transportation Improvement Program**  
**June 19, 2006**  
(costs in \$1,000)

Key No.	Project	Description	Year	Total	PE	PEC	Right-of-Way	Utilities	CE	CN	Funding Source	Requesting Agency
07192	Maple Grove Road, Franklin Road to Fairview Avenue	Widen roadway to five (5) lanes with bike lanes, sidewalk, railroad crossing improvement, and conduit for future signal at Irving Street. This includes rebuilding Bridge #151 and the intersection of Fairview Avenue and Maple Grove Road. The Fairview Avenue intersection will include double left turns on all legs, two (2) through lanes on all legs, and right turn lanes on the east and west bound legs.	2006	8,972			1,000			3,747 7,972	STP-TMA and Non-Participating	ACHD
09502	Federal Aid Overlay Arterials and Collectors - FY 2006	Supplement the local overlay program.	2006	2,100		44			190	1,966 1,866	STP-TMA	ACHD
08048	Locust Grove Road, Grade Separation at I-84	Construct new interstate overpass 500 feet north of Overland Road to Central Way and Bentley Avenue. Build to four (4) to five (5) lanes.	2006	4,157						4,807 4,157	STP-TMA and Non-Participating	ACHD
09202	Federal Aid Overlay Arterials and Collectors FY 2007 and FY 2008	Supplement the local overlay program.	2006	0	50	200					STP-TMA	ACHD
09814	I-84, Gowen Road to Isaacs Canyon Rebuild	Reconstruct I-84 between Gowen Road and Isaacs Canyon interchanges.	2006	500	100	900					GARVEE	ITD
09816	I-84, Ten Mile Road Interchange	Construct new I-84 interchange at Ten Mile Road.	2006	400	40	360					GARVEE	ITD
09820	I-84, Orchard Street to Vista Avenue Widening	Widen I-84 to eight (8) lanes.	2006	1,100	110	990					GARVEE	ITD
09980	I-84, Eagle Interchange Ramp Study	Widen westbound off-ramps at Eagle Road interchange. Extend ramp length on I-84, add additional right turn lane, and additional signals for right turns. (Changed from a study to a construction project.)	2006	250	25	225					GARVEE	ITD
10002	I-84, Junction SH 44 to Five Mile Road Study	This project is being converted from a study to an environmental analysis and preliminary project scoping on the entire corridor. (50% Ada County and 50% Canyon County.)	2006	310	27	283					GARVEE	ITD
NEW	I-84, Garrity to Meridian	Add third lane east and west bound on I-84 between the Garrity Interchange and the Meridian Interchange. (67% Ada County and 33% Canyon County.)	2006	871	87	784					GARVEE	ITD
<b>Total for 2006</b>				<b>18,660</b>	<b>339</b>	<b>3,136</b>	<b>1,000</b>	<b>0</b>	<b>190</b>	<b>13,995</b>		

PE= Preliminary Engineering    PEC = Preliminary Engineering Consultant    CE = Consultant Engineering    CN = Construction

**TABLE 2**  
**Amendment to the FY2006-2010 Nampa Urbanized Area Transportation Improvement Program**  
**June 19, 2006**  
(costs in \$1,000)

Key No.	Project	Description	Year	Total	PE	PEC	Right-of-Way	Utilities	CE	CN	Funding Source	Requesting Agency
10002	i-84, Junction SH 44 to Five Mile Road Study	This project is being converted from a study to an environmental analysis and preliminary project scoping on the entire corridor. (50% Ada County and 50% Canyon County.)	2006	310	28	282					GARVEE	ITD
NEW	i-84, Garrity to Meridian	Add third lane east and west bound on I-84 between the Garrity Interchange and the Meridian Interchange. (67% Ada County and 33% Canyon County.)	2006	429	43	386					GARVEE	ITD
<b>Total for Balance</b>				<b>739</b>	<b>71</b>	<b>668</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		

PE= Preliminary Engineering    PEC = Preliminary Engineering Consultant    CE = Consultant Engineering    CN = Construction

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## SUMMARY

A transportation air quality conformity demonstration with budget tests was originally approved for the FY2006-2010 Northern Ada County Transportation Improvement Program (TIP) in December 2005. The Environmental Protection Agency's (EPA) MOBILE6 emissions model and COMPASS' most current travel demand model were used to estimate pollutant emissions from transportation sources. The Northern Ada County Interagency Consultation Committee on Transportation Conformity (ICC) approved the modeling methodologies and assumptions for the original regional emissions analyses.

In March of 2006, the Idaho Transportation Department (ITD) received the authority from the Idaho Legislature to bond \$200 million as part of the *Connecting Idaho* (GARVEE) program. As a result, ITD is requesting the FY2006-2010 Northern Ada County TIP be amended to include a widening project on Interstate 84 between the Garrity Road and Meridian Road interchanges. ITD's request triggers the need to re-demonstrate air quality conformity.

Emissions budget tests for coarse particulate matter (PM<sub>10</sub>), oxides of nitrogen (NO<sub>x</sub>), and volatile organic compounds (VOCs), as required by 40CFR93.118, demonstrate conformity of the amended FY2006-2010 Northern Ada County TIP (one that includes ITD's I-84 widening project) from 2006 to the year 2030. This document contains the amended information. Along with the original document (*Particulate Matter Air Quality Conformity Demonstration of the FY 2006-2010 Northern Ada County TIP* – COMPASS Report No. 11-2005), this amended conformity demonstration provides the information necessary for the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) to make a conformity finding on the amended FY2006-2010 Northern Ada County TIP.

The Carbon Monoxide (CO) Limited Maintenance Plan (*Limited Maintenance Plan and Request for Redesignation to Attainment for the Northern Ada County Carbon Monoxide Not-Classified Nonattainment Area*) does not contain any motor vehicle emissions budgets. This is because, per the Environmental Protection Agency (EPA), areas under a "Limited Maintenance Plan" are not required to conduct regional emissions analyses to demonstrate conformity. However, COMPASS conducts a CO emissions analysis as requested by the Idaho Department of Environmental Quality (IDEQ) to aid in the regional air quality planning. COMPASS is committed to working through the ICC to identify and implement mitigation measures that will counteract CO emissions increases resulting from the amended FY2006-2010 Northern Ada County TIP, should they be requested by IDEQ.

## EMISSIONS ESTIMATION - AMENDED

### Particulate Matter (PM<sub>10</sub>), Oxides of Nitrogen (NO<sub>x</sub>), and Volatile Organic Compounds (VOC)

#### 2006 Baseline Scenario

The amended baseline scenario uses the same assumptions used in the original conformity demonstration (*Particulate Matter Air Quality Conformity Demonstration of the FY 2006-2010 Northern Ada County TIP – COMPASS Report No. 11-2005*), with an additional roadway widening project; ITD's widening of I-84 to three lanes in each direction between the Garrity and Meridian Interchanges. This change in the model network assumption was approved by the ICC on June 1, 2006. Table II-1 in the original demonstration provides a list of the other roadway projects used in the 2006 baseline model network to estimate PM<sub>10</sub>, NO<sub>x</sub>, and VOC emissions.

**Table A-1** shows the updated VMT and PM<sub>10</sub> emissions estimates for the 2006 baseline scenario. Emissions estimates were developed using emissions factors from MOBILE 6.2 and the Treasure Valley Road Dust Study: Final Report as described in the original demonstration.

<b>Table A-1: Updated 2006 Paved Road PM<sub>10</sub> Estimated Emissions Data</b>				
Road Type	Paved Average Weekday VMT	Paved Road Dust Emissions	Tailpipe, Tire, and Brakewear Emissions	Total Paved Road PM <sub>10</sub> Emitted
	<i>[VMT/day]</i>	<i>[Tons/day]</i>	<i>[Tons/day]</i>	<i>[Tons/day]</i>
Interstate	2,058,460	13.92	0.13	14.05
Ramps	105,942	0.96	0.01	0.97
Principal Arterial	2,435,931	19.86	0.15	20.01
Minor Arterial	1,809,049	14.86	0.11	14.97
Collector	558,947	4.92	0.03	4.95
Local	14,547	0.23	<0.01	0.24
Centroid Connectors	609,260	5.12	0.04	5.16
<b>Totals</b>	<b>7,592,136</b>	<b>59.87</b>	<b>0.48</b>	<b>60.35</b>

**Table A-2** shows the updated 2006 average daily VMT and VOC emissions estimates developed using MOBILE 6.2 generated emissions factors. Updated VOC emissions factors were adjusted so that evaporative and refueling emissions are not included in the estimated emissions. This is consistent with the methodology used to establish the VOC emissions budgets. Updated estimates of NO<sub>x</sub> emissions are given in **Table A-3**.



Road Type	Average Daily VMT [VMT/day]	Ada County Vehicle VOC Emissions Factor [g/mile]	Canyon County Vehicle VOC Emissions Factor [g/mile]	% Of Ada VMT by Canyon County Vehicles <sup>1</sup>	Estimated VOC Emitted <sup>2</sup> [Tons/day]
Interstate	1,852,614	0.51	0.63	7.20	1.05
Ramps	95,348	0.64	0.80		0.07
Principal Arterials	2,192,338	0.53	0.66		1.29
Minor Arterials	1,628,144	0.53	0.67		0.97
Collectors	503,052	0.54	0.69		0.31
Local	13,093	0.54	0.68		0.01
Centroid Connectors	548,334	0.73	0.94		0.45
<b>Totals</b>	<b>6,832,923</b>	<b>NA</b>	<b>NA</b>		<b>7.20</b>

<sup>1</sup> Refer to Appendix E in the original demonstration for specific estimation methodologies.

<sup>2</sup> A conversion factor of 907,184.74 grams per ton was used.

Road Type	Average Daily VMT [VMT/day]	Ada County Vehicle NO <sub>x</sub> Emissions Factor [g/mile]	Canyon County Vehicle NO <sub>x</sub> Emissions Factor [g/mile]	% Of Ada VMT by Canyon County Vehicles <sup>1</sup>	NO <sub>x</sub> Emitted <sup>2</sup> [Tons/day]
Interstate	1,852,614	2.22	2.35	7.20	4.55
Ramps	95,348	1.88	2.02		0.20
Principal Arterials	2,192,338	1.76	1.89		4.28
Minor Arterials	1,628,144	1.75	1.88		3.16
Collectors	503,052	1.74	1.87		0.97
Local	13,093	1.51	1.62		0.02
Centroid Connectors	548,334	2.08	2.23		1.26
<b>Totals</b>	<b>6,832,923</b>	<b>NA</b>	<b>NA</b>		<b>7.20</b>

<sup>1</sup> Refer to Appendix E in the original demonstration for specific estimation methodologies.

<sup>2</sup> A conversion factor of 907,184.74 grams per ton was used.

## 2010 Scenario

The amended 2010 scenario uses the same assumptions used in the original conformity demonstration (*Particulate Matter Air Quality Conformity Demonstration of the FY 2006-2010 Northern Ada County TIP – COMPASS Report No. 11-2005*), with an additional roadway widening project; ITD's widening of I-84 to three lanes in each direction between the Garrity and Meridian Interchanges. This change in the model network assumption was approved by the ICC on June 1, 2006. Table II-5 in

the original demonstration provides a list of the other roadway projects used in the 2010 model network to estimate PM<sub>10</sub>, NO<sub>x</sub>, and VOC emissions.

**Table A-4** shows the updated VMT and PM<sub>10</sub> emissions estimates for the 2010. **Tables A-5** and **A-6** display the updated VOC and NO<sub>x</sub> emissions estimates respectively. Emissions estimates were developed using emissions factors from MOBILE 6.2 and the Treasure Valley Road Dust Study: Final Report as described in the original demonstration. Updated VOC emissions factors were adjusted so that evaporative and refueling emissions are not included in the estimated emissions. This seems consistent with the methodology used to establish the VOC emissions budgets.

<b>Table A-4: Updated 2010 Paved Road PM<sub>10</sub> Estimated Emissions</b>				
Road Type	Paved Average Weekday VMT <i>[VMT/day]</i>	Paved Road Dust Emissions <i>[Tons/day]</i>	Tailpipe, Tire, and Brakewear Emissions <i>[Tons/day]</i>	Total Paved Road PM <sub>10</sub> Emitted <i>[Tons/day]</i>
Interstate	2,252,170	15.19	0.11	15.30
Ramps	111,073	1.00	0.01	1.01
Principal Arterial	2,678,281	22.71	0.13	22.84
Minor Arterial	2,140,728	17.83	0.10	17.93
Collector	626,364	5.57	0.03	5.60
Local	16,713	0.28	<0.01	0.29
Centroid Connectors	676,934	5.81	0.03	5.84
<b>Totals</b>	<b>8,502,263</b>	<b>68.39</b>	<b>0.42</b>	<b>68.81</b>

<b>Table A-5: Updated 2010 VOC Estimated Emissions Data</b>					
Road Type	Average Daily VMT <i>[VMT/day]</i>	Ada County Vehicle VOC Emissions Factor <i>[g/mile]</i>	Canyon County Vehicle VOC Emissions Factor <i>[g/mile]</i>	% Of Ada VMT by Canyon County Vehicles <sup>1</sup>	Estimated VOC Emitted <sup>2</sup> <i>[Tons/day]</i>
Interstate	2,026,953	0.31	0.43	6.95	0.72
Ramps	99,966	0.38	0.52		0.04
Principal Arterials	2,410,452	0.33	0.45		0.89
Minor Arterials	1,926,655	0.33	0.45		0.71
Collectors	563,728	0.33	0.47		0.21
Local	15,041	0.33	0.47		0.01
Centroid Connectors	609,241	0.45	0.63		0.31
<b>Totals</b>	<b>7,652,036</b>	<b>NA</b>	<b>NA</b>		<b>6.95</b>

<sup>1</sup> Refer to Appendix E in the original demonstration for specific estimation methodologies.

<sup>2</sup> A conversion factor of 907,184.74 grams per ton was used.

Table A-6: Updated 2010 NO <sub>x</sub> Estimated Emissions Data					
Road Type	Average Daily VMT	Ada County Vehicle NO <sub>x</sub> Emissions Factor	Canyon County Vehicle NO <sub>x</sub> Emissions Factor	% Of Ada VMT by Canyon County Vehicles <sup>1</sup>	NO <sub>x</sub> Emitted <sup>2</sup>
	[VMT/day]	[g/mile]	[g/mile]		[Tons/day]
Interstate	2,026,953	1.35	1.50	6.95	3.04
Ramps	99,966	1.18	1.34		0.13
Principal Arterials	2,410,452	1.12	1.26		3.00
Minor Arterials	1,926,655	1.12	1.26		2.39
Collectors	563,728	1.11	1.25		0.69
Local	15,041	0.99	1.11		0.02
Centroid Connectors	609,241	1.33	1.49		0.90
<b>Totals</b>	<b>7,652,036</b>	<b>NA</b>	<b>NA</b>		<b>6.95</b>

<sup>1</sup> Refer to Appendix E in the original demonstration for specific estimation methodologies.

<sup>2</sup> A conversion factor of 907,184.74 grams per ton was used.

## 2015 Scenario

The amended 2015 scenario uses the same assumptions used in the original conformity demonstration (*Particulate Matter Air Quality Conformity Demonstration of the FY 2006-2010 Northern Ada County TIP – COMPASS Report No. 11-2005*), with an additional roadway widening project; ITD's widening of I-84 to three lanes in each direction between the Garrity and Meridian Interchanges. This change in the model network assumption was approved by the ICC on June 1, 2006. Table II-9 in the original demonstration provides a list of the other roadway projects used in the 2015 model network to estimate PM<sub>10</sub>, NO<sub>x</sub>, and VOC emissions.

Table A-7 shows the updated weekday VMT and PM<sub>10</sub> emissions estimate for the 2015 scenario. Tables A-8 and A-9 display the updated VOC and NO<sub>x</sub> emissions estimates respectively. Emissions estimates were developed using emissions factors from MOBILE 6.2 and the *Treasure Valley Road Dust Study: Final Report*. Updated VOC emissions factors were adjusted so that evaporative and refueling emissions are not included in the estimated emissions. This seems consistent with the methodology used to establish the VOC emissions budgets.

<b>Table A-7: Updated 2015 Paved Road PM<sub>10</sub> Estimated Emissions</b>				
Road Type	Paved Average Weekday VMT <i>[VMT/day]</i>	Paved Road Dust Emissions <i>[Tons/day]</i>	Tailpipe, Tire, and Brakewear Emissions <i>[Tons/day]</i>	Total Paved Road PM <sub>10</sub> Emitted <i>[Tons/day]</i>
Interstate	2,435,660	16.43	0.08	16.51
Ramps	117,805	1.06	<0.01	1.07
Principal Arterial	2,970,008	25.52	0.10	25.62
Minor Arterial	2,731,637	23.63	0.10	23.73
Collector	796,598	7.13	0.03	7.16
Local	24,490	0.45	<0.01	0.46
Centroid Connectors	788,915	6.72	0.03	6.75
<b>Totals</b>	<b>9,865,113</b>	<b>80.94</b>	<b>0.36</b>	<b>81.30</b>

<b>Table A –8: Updated 2015 VOC Estimated Emissions Data</b>					
Road Type	Average Daily VMT <i>[VMT/day]</i>	Ada County Vehicle VOC Emissions Factor <i>[g/mile]</i>	Canyon County Vehicle VOC Emissions Factor <i>[g/mile]</i>	% Of Ada VMT by Canyon County Vehicles <sup>1</sup>	Estimated VOC Emitted <sup>2</sup> <i>[Tons/day]</i>
Interstate	2,192,094	0.21	0.32	6.74	0.52
Ramps	106,024	0.24	0.37		0.03
Principal Arterials	2,673,007	0.21	0.33		0.65
Minor Arterials	2,458,473	0.21	0.33		0.60
Collectors	716,938	0.21	0.34		0.18
Local	22,041	0.21	0.34		0.01
Centroid Connectors	710,024	0.29	0.46		0.24
<b>Totals</b>	<b>8,878,601</b>	<b>NA</b>	<b>NA</b>	<b>6.74</b>	<b>2.23</b>

<sup>1</sup> Refer to Appendix E in the original demonstration for specific estimation methodologies.

<sup>2</sup> A conversion factor of 907,184.74 grams per ton was used.

Table A-9: Updated 2015 NO <sub>x</sub> Estimated Emissions Data					
Road Type	Average Daily VMT [VMT/day]	Ada County Vehicle NO <sub>x</sub> Emissions Factor [g/mile]	Canyon County Vehicle NO <sub>x</sub> Emissions Factor [g/mile]	% Of Ada VMT by Canyon County Vehicles <sup>1</sup>	NO <sub>x</sub> Emitted <sup>2</sup> [Tons/day]
Interstate	2,192,094	0.71	0.87	6.74	1.74
Ramps	106,024	0.64	0.82		0.08
Principal Arterials	2,673,007	0.60	0.76		1.81
Minor Arterials	2,458,473	0.61	0.76		1.67
Collectors	716,938	0.60	0.76		0.48
Local	22,041	0.60	0.65		0.01
Centroid Connectors	710,024	0.72	0.90		0.57
<b>Totals</b>	<b>8,878,601</b>	<b>NA</b>	<b>NA</b>		<b>6.74</b>

<sup>1</sup> Refer to Appendix E in the original demonstration for specific estimation methodologies.

<sup>2</sup> A conversion factor of 907,184.74 grams per ton was used.

## 2025 Scenario

The amended 2025 scenario uses the same assumptions used in the original conformity demonstration (*Particulate Matter Air Quality Conformity Demonstration of the FY 2006-2010 Northern Ada County TIP – COMPASS Report No. 11-2005*), with an additional roadway widening project; ITD's widening of I-84 to three lanes in each direction between the Garrity and Meridian Interchanges. This change in the model network assumption was approved by the ICC on June 1, 2006. Table II-13 in the original demonstration provides a list of the other roadway projects used in the 2025 model network to estimate PM<sub>10</sub>, NO<sub>x</sub>, and VOC emissions.

**Table A-10** shows the updated weekday VMT and PM<sub>10</sub> emissions estimate for the 2025 scenario. **Tables A-11 and A-12** display the updated VOC and NO<sub>x</sub> emissions estimates respectively. Emissions estimates were developed using emissions factors from MOBILE6.2 and the *Treasure Valley Road Dust Study: Final Report* as described in the original demonstration. Updated VOC emissions factors were adjusted so that evaporative and refueling emissions are not included in the estimated emissions. This seems consistent with the methodology used to establish the VOC emissions budgets.

<b>Table A-10: Updated 2025 Paved Road PM<sub>10</sub> Estimated Emissions</b>				
Road Type	Paved Average Weekday VMT [VMT/day]	Paved Road Dust Emissions [Tons/day]	Tailpipe, Tire, and Brakewear Emissions [Tons/day]	Total Paved Road PM <sub>10</sub> Emitted [Tons/day]
Interstate	2,829,412	18.88	0.09	18.97
Ramps	129,820	1.17	<0.01	1.18
Principal Arterial	3,519,749	30.32	0.11	30.43
Minor Arterial	4,067,921	34.51	0.12	34.63
Collector	1,231,702	10.80	0.04	10.84
Local	45,692	0.88	<0.01	0.89
Centroid Connectors	1,046,537	8.79	0.03	8.82
<b>Totals</b>	<b>12,870,833</b>	<b>105.35</b>	<b>0.41</b>	<b>105.76</b>

<b>Table A-11: Updated 2025 VOC Estimated Emissions Data</b>					
Road Type	Average Daily VMT [VMT/day]	Ada County Vehicle VOC Emissions Factor [g/mile]	Canyon County Vehicle VOC Emissions Factor [g/mile]	% Of Ada VMT by Canyon County Vehicles <sup>1</sup>	Estimated VOC Emitted <sup>2</sup> [Tons/day]
Interstate	2,546,471	0.14	0.25	6.43	0.41
Ramps	116,838	0.15	0.29		0.02
Principal Arterials	3,167,775	0.14	0.27		0.53
Minor Arterials	3,661,129	0.14	0.26		0.59
Collectors	1,108,532	0.14	0.27		0.18
Local	41,123	0.14	0.25		0.01
Centroid Connectors	941,883	0.19	0.36		0.21
<b>Totals</b>	<b>11,583,751</b>	<b>NA</b>	<b>NA</b>		<b>6.43</b>

<sup>1</sup> Refer to Appendix E in the original demonstration for specific estimation methodologies.

<sup>2</sup> A conversion factor of 907,184.74 grams per ton was used.

**Table A-12: Updated 2025 NO<sub>x</sub> Estimated Emissions Data**

Road Type	Average Daily VMT <i>[VMT/day]</i>	Ada County Vehicle NO <sub>x</sub> Emissions Factor <i>[g/mile]</i>	Canyon County Vehicle NO <sub>x</sub> Emissions Factor <i>[g/mile]</i>	% Of Ada VMT by Canyon County Vehicles <sup>1</sup>	NO <sub>x</sub> Emitted <sup>2</sup> <i>[Tons/day]</i>
Interstate	2,546,471	0.28	0.45	6.43	0.81
Ramps	116,838	0.29	0.48		0.04
Principal Arterials	3,167,775	0.26	0.42		0.94
Minor Arterials	3,661,129	0.26	0.42		1.08
Collectors	1,108,532	0.26	0.42		0.33
Local	41,123	0.22	0.35		0.01
Centroid Connectors	941,883	0.31	0.50		0.33
<b>Totals</b>	<b>11,583,751</b>	<b>NA</b>	<b>NA</b>		<b>6.43</b>

<sup>1</sup> Refer to Appendix E in the original demonstration for specific estimation methodologies.

<sup>2</sup> A conversion factor of 907,184.74 grams per ton was used.

### 2030 Scenario

Table II-17 in the original 2030 scenario included ITD’s widening of I-84 to at least three lanes in each direction between the Garrity (e.g. County Line) and Meridian Interchanges. Therefore, there is no need to update the emissions estimates for the amended TIP. Emission estimates for the 2030 scenario can be found in Tables II-18 through II-20 of the original demonstration.

### Unpaved Roads

ITD’s widening project should not increase emissions from unpaved roads in Ada County. Therefore, unpaved road emissions estimates do not need to be updated. Emission estimates for unpaved roads can be found in Table II-21 of the original demonstration.

## Carbon Monoxide Emissions

To satisfy IDEQ requirements, an update to the regional CO emissions analysis was conducted as part of this conformity demonstration amendment. It was done in accordance with the CO emissions estimating methodologies used in the original analysis; *Carbon Monoxide Air Quality Planning Analysis the FY2006-2010 Northern Ada County TIP* (COMPASS Report No. 12-2005). “Build” emissions were estimated and compared to “no build” emissions estimates. A “build” scenario estimates emissions for a given analysis year assuming the appropriate programmed/planned roadway projects have been constructed. Conversely, a “no build” scenario estimates emissions for a given analysis year using the transportation system as it exists in the base year (e.g. before programmed or planned projects are built). Specific information on the models, their inputs, and CO emissions estimating methodologies can be found in the *Carbon Monoxide Air Quality Planning Analysis the FY2006-2010 Northern Ada County TIP* (COMPASS Report No. 12-2005).

### 2006 (Baseline) Scenario

The amended baseline scenario uses the same assumptions used in the original CO emissions analysis with an additional roadway widening project; ITD’s widening of I-84 to three lanes in each direction between the Garrity and Meridian Interchanges. This change in the model network assumption was approved by the ICC on June 1, 2006.

**Table A-13** shows the updated VMT and CO emissions estimates for the 2006 baseline scenario. Emissions estimates were developed using emissions factors from MOBILE 6.2 as described in the original demonstration.

<b>TABLE A-13: Updated 2006 CO Emissions Estimation</b>					
Road Type	Average Daily VMT	Ada County Vehicle CO Emissions Factor <sup>2</sup>	Canyon County Vehicle CO Emissions Factor <sup>2</sup>	% Of Canyon County Vehicles VMT in Ada <sup>3</sup>	Estimated CO Emitted <sup>1</sup>
	[VMT/day]	[g/mile]	[g/mile]		[Ton/day]
Interstate	1,852,614	17.73	21.02	7.20	36.69
Ramps	95,348	21.31	24.85		2.27
Principal Arterials	2,192,338	16.10	19.07		39.42
Minor Arterials	1,628,144	15.99	18.95		29.08
Collector	503,052	15.71	18.63		8.83
Local	13,093	13.61	16.38		0.20
Centroid Connectors	548,334	17.64	21.47		10.83
<b>Totals:</b>	<b>6,832,923</b>	<b>NA</b>	<b>NA</b>		<b>7.20</b>

<sup>1</sup> A conversion factor of 907,184.74 grams per ton was used.

<sup>2</sup> CO emissions factors used are 2007-winter. Refer to the PM<sub>10</sub> Maintenance Plan, Appendix A, pg 4-5.

<sup>3</sup> Refer to Appendix E the original demonstration for specific estimation methodologies.

### Build Scenarios

The “build” scenarios use transportation networks and demographic assumption specific to the analysis year. These are the same scenarios used to amend the PM<sub>10</sub>, NO<sub>x</sub>, and VOC emissions estimates. **Table A-14** gives the “build” CO emissions estimates for 2010, 2015, 2025, and 2030 given the additional roadway widening project; ITD’s widening of I-84 to three lanes in each direction between the Garrity and Meridian Interchanges.



<b>Table A-14: Updated “Build” Scenario Average Daily VMT and CO Emissions</b>				
	Year			
	2010	2015	2025	2030
Average Daily “Build” VMT	7,652,037	8,878,601	11,583,750	13,090,867
“Build” CO Emissions ( <i>Ton/day</i> )	107.51	101.22	110.71	122.09

**No Build Scenarios**

The “no build” scenarios use the 2006 (baseline) transportation network with the demographic assumption specific to the analysis year. **Table A-15** gives the “no build” CO emissions estimates for 2010, 2015, 2025, and 2030.

<b>Table A-15: Updated “No Build” Scenario Average Daily VMT and CO Emissions</b>				
	Year			
	2010	2015	2025	2030
Average Daily “No Build” VMT	7,625,706	8,883,721	11,680,231	13,149,166
“No Build” CO Emissions ( <i>Ton/day</i> )	107.15	100.98	111.50	122.05

## CONCLUSIONS - AMENDED

### PM<sub>10</sub> Budget Test

Table A-16 gives the results of the amended PM<sub>10</sub> budget test for the FY 2006-2010 Northern Ada County TIP.

<b>Table A-16: Amended Results of PM<sub>10</sub> Budget Test</b>					
	Year				
	2006 <i>[Tons/day]</i>	2010 <i>[Tons/day]</i>	2015 <i>[Tons/day]</i>	2025 <i>[Tons/day]</i>	2030 <i>[Tons/day]</i>
Estimated Emissions	61.81	70.18	82.53	106.69	118.95
Budget	153.00	153.00	153.00	153.00	153.00
<b>Results</b>	<b>-91.19</b>	<b>-82.82</b>	<b>-70.47</b>	<b>-46.31</b>	<b>-34.05</b>

The results of the amended budget test show that the regional air quality impacts associated with the planned transportation system improvements, including the widening of I-84 to three lanes between Garrity and Meridian Interchanges, will not exceed the PM<sub>10</sub> emissions budgets established by the Northern Ada County PM<sub>10</sub> SIP Maintenance Plan.

### VOC Budget Test

Table A-17 gives the results of the amended VOC budget test for the FY 2006-2010 Northern Ada County TIP.

<b>Table A-17: Amended Results of VOC Budget Test</b>					
	Year				
	2006 <i>[Tons/day]</i>	2010 <i>[Tons/day]</i>	2015 <i>[Tons/day]</i>	2025 <i>[Tons/day]</i>	2030 <i>[Tons/day]</i>
Estimated Emissions	4.14	2.88	2.22	1.95	2.04
Budget	10.40	6.10	5.00	5.00	5.00
<b>Results</b>	<b>-6.26</b>	<b>-3.22</b>	<b>-2.78</b>	<b>-3.05</b>	<b>-2.96</b>

The results of the amended budget test show that the regional air quality impacts associated with the planned transportation system improvements, including the widening of I-84 to three lanes between Garrity and Meridian Interchanges, will not exceed the VOC emissions budgets established by the Northern Ada County PM<sub>10</sub> SIP Maintenance Plan.

## NO<sub>x</sub> Budget Test

Table A-18 gives the results of the amended NO<sub>x</sub> budget test for the FY 2006-2010 Northern Ada County TIP.

<b>Table A-18: Amended Results of NO<sub>x</sub> Budget Test</b>					
	Year				
	2006 <i>[Tons/day]</i>	2010 <i>[Tons/day]</i>	2015 <i>[Tons/day]</i>	2025 <i>[Tons/day]</i>	2030 <i>[Tons/day]</i>
Estimated Emissions	14.45	10.17	6.36	3.54	3.23
Budget	21.00	11.20	7.80	7.80	7.80
<b>Results</b>	<b>-6.55</b>	<b>-1.03</b>	<b>-1.44</b>	<b>-4.26</b>	<b>-4.57</b>

The results of the amended budget test show that the regional air quality impacts associated with the planned transportation system improvements, including the widening of I-84 to three lanes between Garrity and Meridian Interchanges, will not exceed the NO<sub>x</sub> emissions budgets established by the Northern Ada County PM<sub>10</sub> SIP Maintenance Plan.

## CO Planning Analyses

### Build/No Build Emissions Comparison:

Tables A-19 through A-22 compare the amended “build” and “no build” emissions scenarios for each analysis year. Again, the purpose of these comparisons is not to demonstrate conformity to the CO Limited Maintenance Plan, but rather to facilitate good air quality planning in Northern Ada County.

<b>Table A-19: Amended 2010 Build/No Build Comparison</b>		
Scenario	Average Daily VMT <i>[VMT/day]</i>	CO Emissions <i>[Ton/day]</i>
2010 Build	7,652,037	107.51
2010 No Build	7,625,706	107.15
<b>Result</b>	<b>26,331</b>	<b>0.36</b>

<b>Table A-20: Amended 2015 Build/No Build Comparison</b>		
Scenario	Average Daily VMT <i>[VMT/day]</i>	CO Emissions <i>[Ton/day]</i>
2015 Build	8,878,601	101.22
2015 No Build	8,883,721	100.98
<b>Result</b>	<b>-5,120</b>	<b>0.24</b>

<b>Table A-21: Amended 2025 Build/No Build Comparison</b>		
Scenario	Average Daily VMT <i>[VMT/day]</i>	CO Emissions <i>[Ton/day]</i>
2025 Build	11,583,750	110.71
2025 No Build	11,680,231	111.50
<b>Result</b>	<b>-96,481</b>	<b>-0.79</b>

<b>Scenario</b>	<b>Average Daily VMT</b> [VMT/day]	<b>CO Emissions</b> [Ton/day]
2030 Build	13,090,867	122.09
2030 No Build	13,149,166	122.05
<b>Result</b>	<b>-58,299</b>	<b>0.04</b>

With the exception of the 2025 comparison, each analysis shows an increase in CO emissions for the “build” scenarios. These minor potential increases in CO emission are due to a reduction in roadway congestion, which increases network speeds in the COMPASS model. MOBILE6 CO emissions factors are very sensitive to speed.

As a result of this analysis, IDEQ may choose to require CO mitigation measures. However, COMPASS’ past work with several local governments to mitigate open burning impacts may be considered more than adequate to offset the CO emissions increases forecasted in “build” scenarios.

**Emissions Inventory Comparisons:**

To aid in the evaluation of the CO impacts related to the amended Northern Ada County FY2006-2010 TIP, “build” emissions are compared to the on-road mobile portions of two relevant IDEQ emissions inventories in **Tables A-23 and A-24**. On-road mobile CO emissions estimates were developed by IDEQ for both the *Limited Maintenance Plan and Request for Redesignation to Attainment for the Northern Ada County Carbon Monoxide Not-Classified Nonattainment Area* and the *Northern Ada County PM<sub>10</sub> SIP Maintenance Plan and Redesignation Request*.

	Year				
	2006 [Ton/day]	2010 [Ton/day]	2015 [Ton/day]	2025 [Ton/day]	2030 [Ton/day]
“Build” Scenario	142.18	104.61	98.04	108.17	122.09
On-road Inventory <sup>1</sup>	154.16	162.46	162.46	162.46	162.46
<b>Result</b>	<b>-11.98</b>	<b>-57.85</b>	<b>-64.42</b>	<b>-54.29</b>	<b>-40.37</b>

<sup>1</sup>From Table VI.H-4 in Appendix A of the *Limited Maintenance Plan and Request for Redesignation to Attainment for the Northern Ada County Carbon Monoxide Not-Classified Nonattainment Area*. Inventory forecasts for 2000 are used to compare to 2006. Inventory forecasts for 2010 are used to compare to 2015, 2025, and 2030.

	Year				
	2006 [Ton/day]	2010 [Ton/day]	2015 [Ton/day]	2025 [Ton/day]	2030 [Ton/day]
“Build” Scenario	142.18	104.61	98.04	108.17	122.09
On-road Inventory <sup>1</sup>	154.27	154.27	125.49	123.29	126.78
<b>Result</b>	<b>-12.09</b>	<b>-49.66</b>	<b>-27.45</b>	<b>-15.12</b>	<b>-4.69</b>

<sup>1</sup>Emissions estimates from Tables 4-3, 9-1, 9-2, and 9-3 in Appendix A of the *Northern Ada County PM<sub>10</sub> SIP Maintenance Plan and Redesignation Request*. Inventory forecasts for 1999 are used to compare to 2006. Inventory forecasts for 2020 are used to compare to 2025 and 2030.

These comparisons show that, despite the results of the build/no-build comparisons, the programmed/planned transportation system with a widened I-84 between Garrity Road and Meridian Road Interchanges will not increase CO emissions above levels already anticipated by IDEQ.

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