

REPORT

TO AHEAD

EXAMINING THE IMPACTS OF NEW OZONE REGULATIONS ON KEY TRANSPORTATION PROJECTS

LAS VEGAS REGION





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The mission of the U.S. Chamber of Commerce's Institute for 21st Century Energy is to unify policymakers, regulators, business leaders, and the American public behind a common sense energy strategy to help keep America secure, prosperous, and clean. Through policy development, education, and advocacy, the Institute is building support for meaningful action at the local, state, national, and international levels.

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Transportation & Environmental Consulting



At the request of the Institute for 21st Century Energy, Siwek and Associates undertook detailed analysis of the possible impacts of proposed U.S. Environmental Protection Agency (EPA) ozone regulations on transportation funding and projects. The conclusions in this report are those of the Institute for 21st Century Energy.



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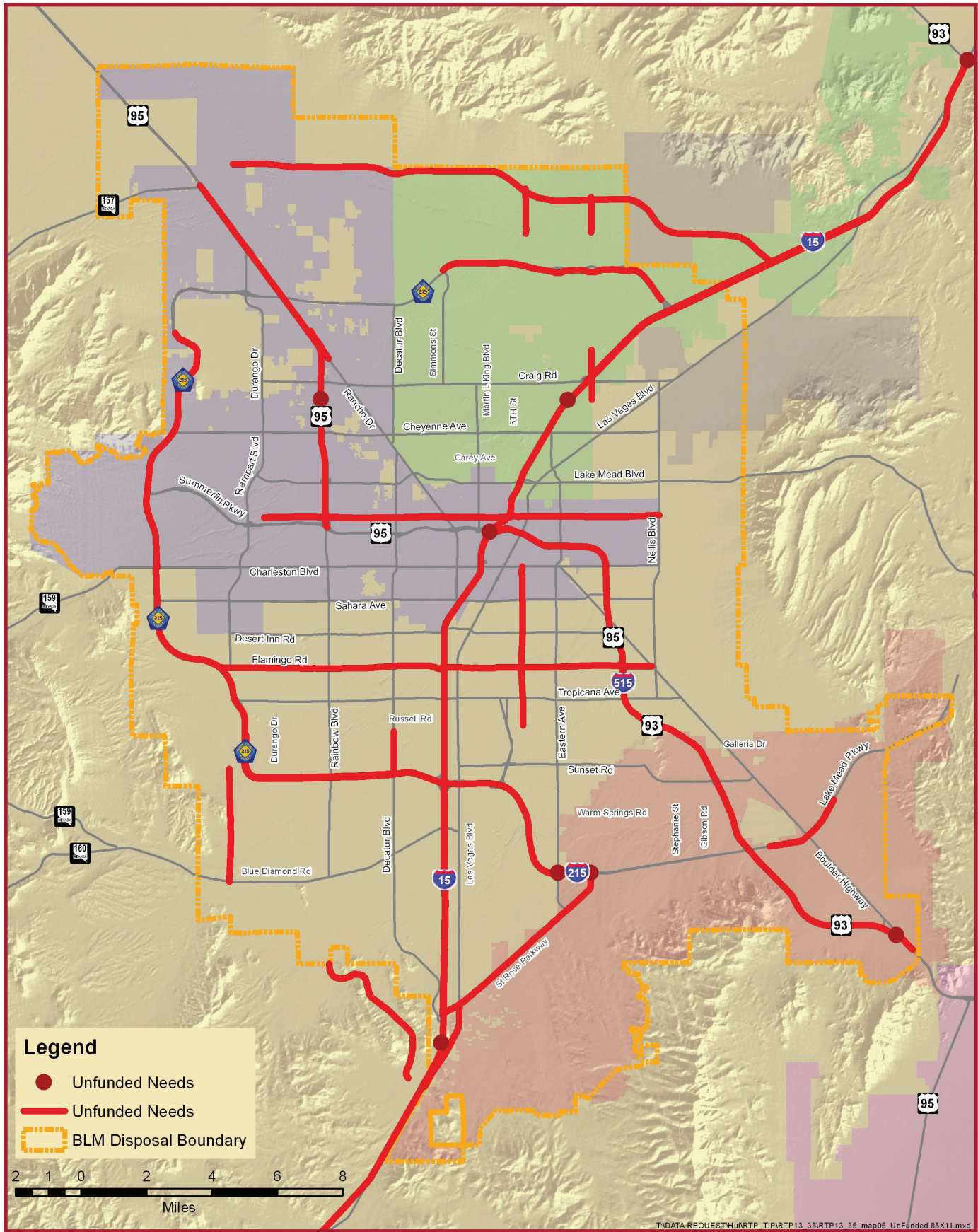
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Source: Regional Transportation Commission of Southern Nevada

INTRODUCTION AND EXECUTIVE SUMMARY

America's transportation system is in dire need of repair. From coast to coast, urban and rural areas alike face deteriorating roads and transit systems, both hobbled by growing congestion and an increasingly limited ability to meet infrastructure needs that are literally the foundation of economic development and job growth.

Nearly 20 percent of America's major roads are in poor condition.¹ Vehicle repairs and extra operating expenses due to inadequate roads cost U.S. motorists \$109 billion per year—equivalent to \$516 per motorist.² Population growth and increased travel have resulted in congestion on 44 percent of major urban highways, costing motorists \$121 billion each year in wasted time and fuel costs. Similarly, many metropolitan areas face growing public transit challenges, from the maintenance and operation of existing systems to the construction of new capacity to accommodate increased ridership and demands for expanded service.

Meanwhile, state and local governments are scrambling to do more with less, as declining funding and Congressional inaction on needed reforms leaves few options beyond transportation triage. For these reasons and more, the U.S. Chamber of Commerce has made securing long-term policy changes and funding certainty necessary to address transportation challenges a top priority.

As Congress gears up to debate reauthorization of surface transportation programs, this report is intended to call attention to a significant emerging threat to addressing the aforementioned transportation challenges: the Environmental Protection Agency's (EPA) forthcoming ozone national ambient air quality

standards (NAAQS). This report analyzes the impact of these regulations on transportation projects, with a focus on the Las Vegas metropolitan area.

Expected to be finalized later this year, the rules threaten to hit nearly every sector and region of the economy. The stringent level at which EPA has proposed to tighten the ozone standard will result in unprecedented compliance costs and challenges, and many states and metropolitan areas have said that meeting the proposed standard will be extremely difficult, if not impossible.

State and local governments unable to develop satisfactory compliance plans and demonstrate that their transportation plans meet the transportation conformity regulatory requirements—which, for reasons outlined in this report, will be increasingly difficult—face severe penalties under the Clean Air Act, not least of which is the withholding of federal transportation funding.

This analysis examines these compliance challenges and their associated potential impacts on transportation funding. Specifically, the report details how:

- EPA's proposed ozone regulation will dramatically increase the number of areas of the country in violation, forcing 331 counties that meet the current standard into noncompliance, and "moving the goalposts" on an additional 227 counties that have been working to comply with the agency's 2008 standard.

¹ *The Road Information Program (TRIP)*. Available at http://tripnet.org/docs/Fact_Sheet_National.pdf

² *Ibid.*



- In many areas of the country—particularly Nevada and certain areas in the West—compliance will be difficult if not impossible due to a number of factors, including:
 - Exceedingly limited technological options to reduce emissions. EPA itself admits that 40 percent of necessary reductions must be met by “unknown controls” currently not in existence.
 - A greatly reduced ability to devise practical control strategies due to the tightened standard’s proximity to background ozone levels unaffiliated with local anthropogenic emissions.
 - Growing populations and business expansion—while undoubtedly positive for local economies—exacerbate ozone compliance challenges, particularly those regions with manufacturing and industrial-based economies.
- If EPA moves forward as proposed, these challenges will combine to result in a spike in Clean Air Act noncompliance penalties, including transportation “conformity lapses” that could cause the cutoff of federal transportation funding. With the exception of certain exemptions, these penalties impact all highway and transit projects that receive federal funding, as well as non-federally funded projects in need of federal approvals or permits.
- Adding insult to injury, construction delays resulting from withheld transportation funding will only worsen traffic congestion, thereby increasing ozone-forming emissions.

- In order to avoid or resolve transportation conformity lapses, states and localities will be forced to make difficult and expensive choices, such as cancelling popular projects, taking vehicles off the road, and offsetting mobile source emissions through increased restrictions on (or shutdowns of) stationary sources such as industrial facilities and power plants.

The direct economic impacts of EPA’s proposed ozone regulations are well documented. According to the National Association of Manufacturers, the rule is expected to be the most expensive regulation in history, and will serve as an economic handcuff on business development in areas unable to comply with more stringent standards. As demonstrated in this report, however, the indirect transportation impacts of this rule could lead to similarly harsh consequences, as penalties for noncompliance result in the withholding of funds for critically important infrastructure improvements.

These cutoffs in funding and other associated impacts will serve not only to worsen the economic costs of the rulemaking, but they will also impose a literal roadblock on efforts to address the stifling congestion and worsening state of disrepair of America’s roads, bridges, and transit systems in growing cities such as Las Vegas.



POTENTIAL TRANSPORTATION CONFORMITY LAPSE IMPACTS IN THE LAS VEGAS REGION

The Las Vegas metropolitan region already suffers from some of the worst traffic conditions in the country. Nearly 60 percent of the area's major roads are regularly congested, and the average commuter is stuck in traffic 44 hours each year. The region's public transit system also faces growing challenges and investment needs to accommodate increased ridership and better support local businesses. Unfortunately, if Clark County and the Las Vegas region are unable to demonstrate conformity with EPA's ozone standard by the 2018 transportation conformity deadline, at least 10 projects slated to receive \$346 million in FY 2018 and FY 2019 would be put at risk of a cutoff in federal funding and a freeze on many federal permits and approvals. Further, up to 12 additional projects awaiting \$1.44 billion in funding between FY 2017-FY2020 could also be put at risk, depending on project timing and advancement.

This includes the following major area highway and transit projects:

- **CC-215 Las Vegas Beltway** widening (multiple projects)
- **I-15 Project Neon** (various phases)
- **Boulder City Bypass** (future I-11)
- **I-15 Interchange** at Starr Ave
- **SR 160** - Blue Diamond Road widening
- **I-15/215/Tropical Interchange** improvements
- **Las Vegas monorail** extension
- Implementation of new **Bus Rapid Transit System**

These potential impacts are likely to increase significantly as the deadline nears and more projects secure funding and approval to proceed to development and construction. Dozens of additional projects costing several billion dollars that have yet to take shape but are considered key unfunded needs for the region could also be delayed or placed at risk by a conformity lapse.

Further, such penalties will have a ripple effect on impacted areas, as delays and inflation increase project costs, and state and local governments divert significant resources to avoid and address potential violations. For example, we estimate that conformity planning burdens consume at least ten to twenty percent of the Regional Transportation Commission's (RTC) budget. Finally, we estimate that inflation-related cost increases for impacted projects would range from \$4.6 million to \$17.2 million depending on the inflation rate (2% vs 5%) and length of a conformity lapse.



BACKGROUND

Ozone—or smog—is a gas composed of oxygen molecules that occurs naturally in the atmosphere and also forms as a result of combustion, such as that which takes place in vehicle engines, fires, or at industrial facilities and power plants. Thanks in large part to technological innovation, the United States has made tremendous progress addressing this challenge, cutting ozone-forming emissions in half since 1980.

In 2008, EPA lowered ozone standards from 80 parts per billion (ppb) to 75 ppb. Despite continued improvements, many parts of the country have yet to meet the 2008 standards (figure 1). Nevertheless, EPA is now seeking to lower the standard to a range of between 65 and 70 ppb, and is taking comment on a level as low as 60 ppb. This would dramatically increase the number of “nonattainment areas” throughout the country that violate the standard (figure 1). EPA estimates that, at 65 ppb, 331 new counties nationwide will be thrown into nonattainment, in addition to the 227 counties currently in nonattainment with the 75 ppb standard.

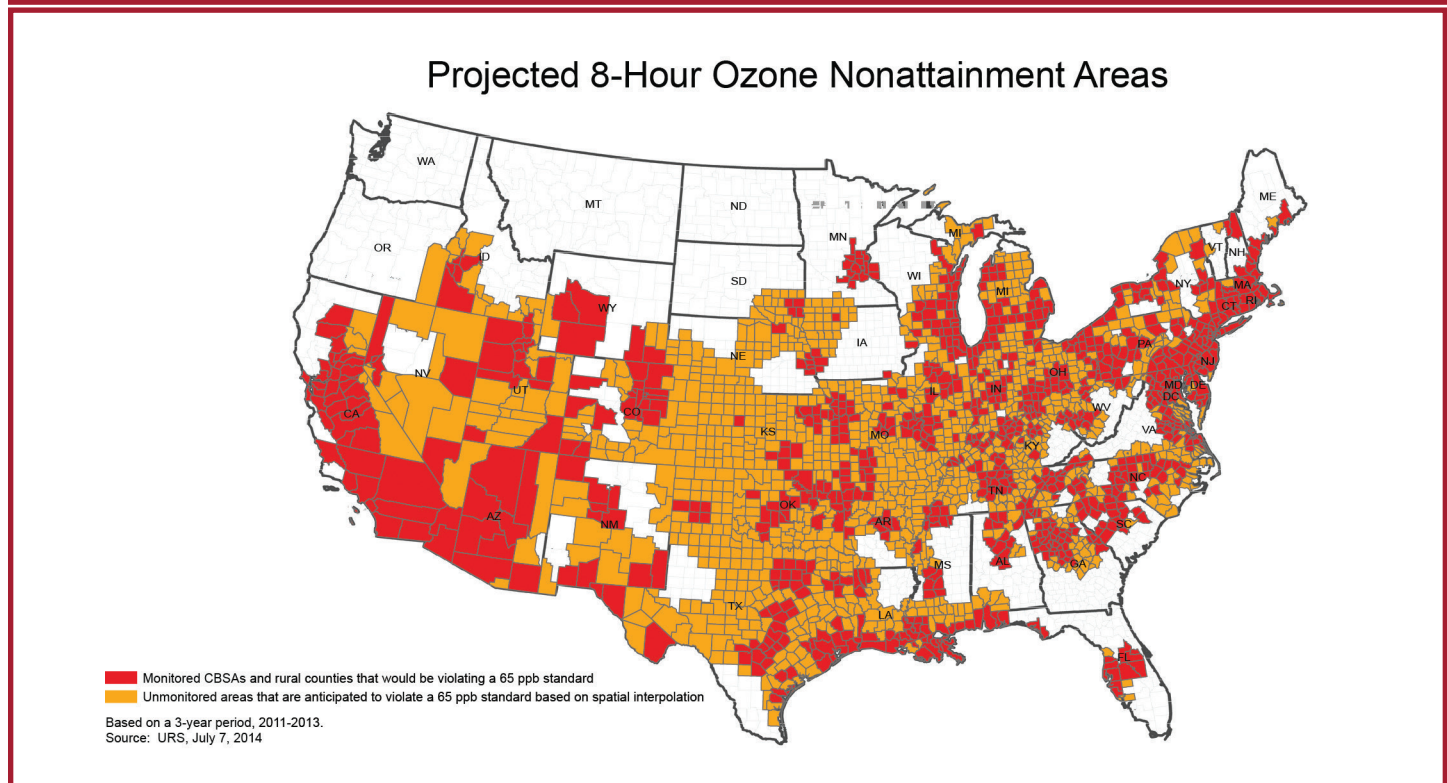
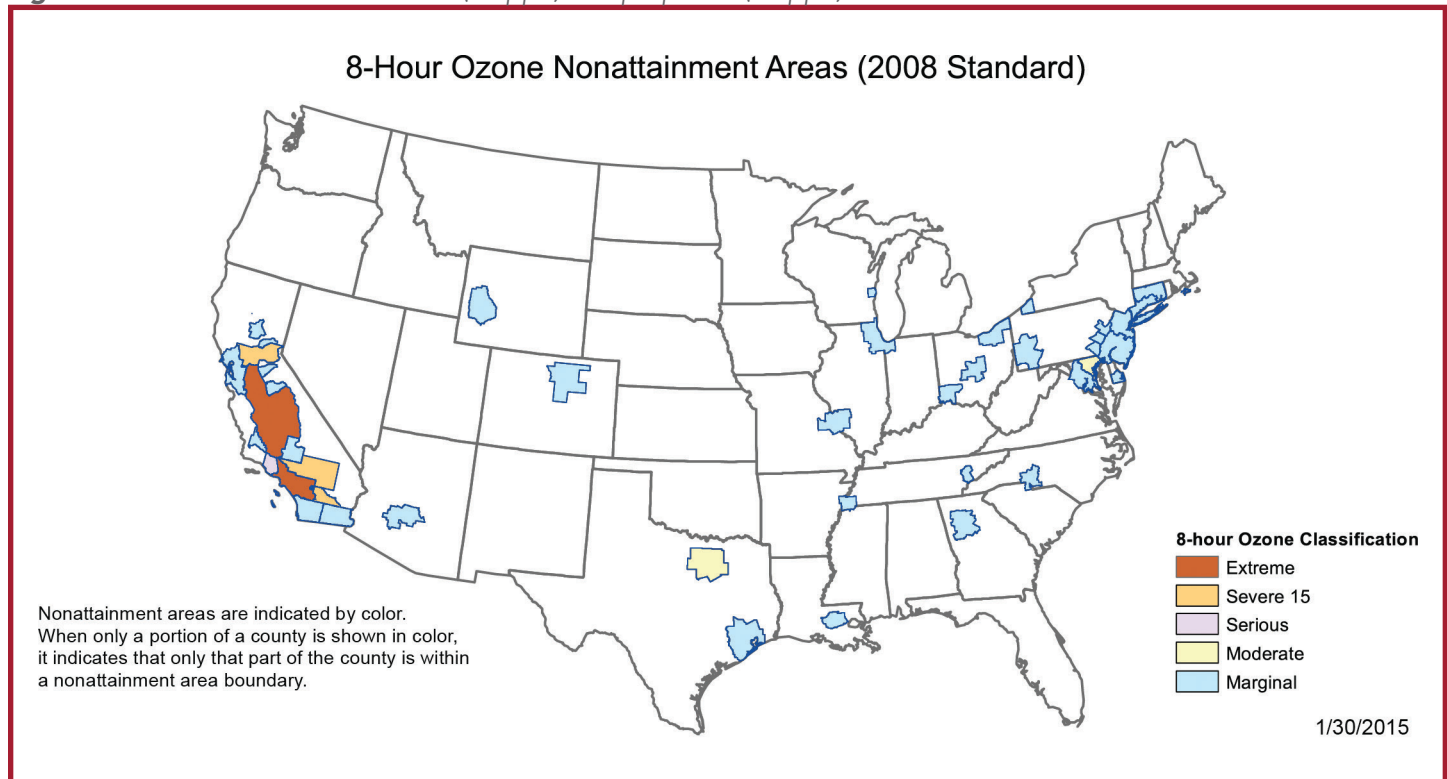
In fact, EPA’s proposed standard is so low that the pristine air of many national parks, including the Grand Canyon, Yellowstone, Great Basin and Yosemite, will violate a 65 ppb standard. Adding insult to injury, the new requirements effectively “move the goalposts” on states and municipalities that expended significant resources to achieve compliance with the 2008 standard.

The economic impacts of a nonattainment designation are serious and immediate. EPA has estimated that compliance costs of a 65 ppb standard will top \$15 billion annually, making this the most expensive regulation in the agency’s history. A National Association of Manufacturers (NAM) study estimates that the regulation will reduce annual GDP by \$140 billion, result in 1.4 million fewer jobs, and cost the average U.S. household \$830 per year in lost consumption.³ In Nevada, NAM estimates that the rule will reduce state GDP by \$19 billion between 2017 and 2040, and reduce employment by 6,000 jobs annually.

On a local level, a nonattainment designation results in layers of restrictions that stifle business investment and economic development. Companies that want to build or expand facilities in nonattainment areas are required to reduce ozone-forming emissions regardless of cost, straining economic development and local tax revenues (figure 2).

³ www.nam.org/ozone

Figure 1. Nonattainment with current (75 ppb) and proposed (65 ppb) ozone standards.⁴



⁴In the map of projected ozone nonattainment, counties in red denote monitored areas; counties in orange represent unmonitored areas anticipated to violate a 65 ppb standard based on spatial interpretation. Currently, regulatory compliance requirements are limited to monitored areas. Nonattainment designations are determined using the fourth-highest annual 8-hour average ozone concentration averaged over the most recent three-year period.

Figure 2. Local economic impacts of an ozone nonattainment designation.

EPA's New Ozone Rules: Coming to Your Community Soon

EPA has proposed new standards for emissions that form ozone. Sounds good, right? Not so fast. Emissions that form ozone have already been cut in half since the 1980s. We're all in favor of a better environment, but EPA's new proposed standards are so unreasonable that much of the country—even some national parks—won't be in compliance.

What happens when communities can't comply? Something EPA calls "nonattainment." Being in nonattainment status places enormous regulatory burdens on business and industry, stifling investment and bringing economic development and job creation to a grinding halt.

That's why this proposed ozone regulation is the most expensive in American history.

\$140 Billion

Annual loss in GDP as a result of nonattainment restrictions

1.4 Million

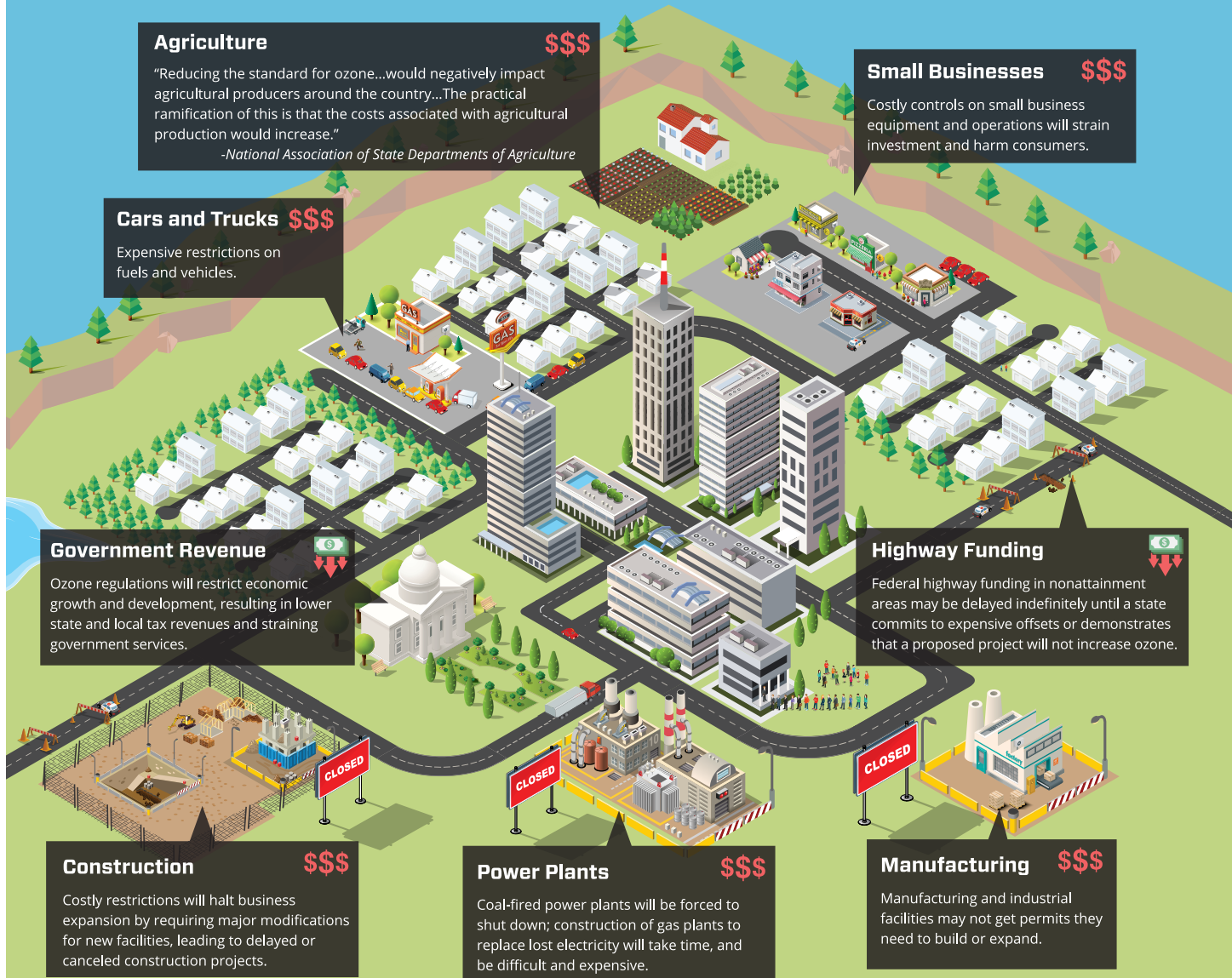
Jobs eliminated as a result of nonattainment restrictions

\$830 Per Year

Cost to the average US household

* Source: National Association of Manufacturers: nam.org/Issues/Ozone-Regulations/

Let's take a closer look at what it means for our communities:



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TRANSPORTATION FUNDING AND THE CLEAN AIR ACT

The Clean Air Act (CAA) operates on the principle of cooperative federalism, under which EPA sets attainable emissions standards that individual states are responsible for meeting in the manner that best fits their circumstances. However, to encourage state cooperation, the Act's programs governing ozone (and other regulated emissions) authorize EPA to impose two types of penalties for noncompliance: (1) offset sanctions (requiring new or expanded facilities to reduce emissions up to two tons for every ton of emission growth); and (2) withholding of transportation funding.

Transportation funding penalties come in two forms: automatic sanctions and funding cutoffs stemming from conformity lapses. Automatic sanctions prohibit release of federal transportation funds, except for certain safety, transit, or air quality-improving projects. They occur after expiration of a two-year "sanctions clock" that EPA initiates after disapproving a state implementation plan (SIP) or finding that an approved SIP is not being implemented. Conformity lapses are triggered when a metropolitan planning organization (MPO)—such as the Regional Transportation Commission of Southern Nevada (RTC)—is unable to demonstrate that its transportation plan, transportation improvement program (TIP), or specific projects meet emissions analysis requirements in the conformity regulation.

Specifically, the CAA requires that MPOs show that the emissions resulting from their 20-year Regional Transportation Plan (RTP) and four-year Regional Transportation Improvement Program (RTIP) investments do not: (1) cause or contribute to any violations of NAAQS; (2) increase the frequency or

severity of NAAQS violations; or (3) delay timely attainment of the NAAQS or any required interim milestone.

The Transportation Conformity Process

Demonstrating transportation conformity is an elaborate and time-consuming process that uses travel demand and emissions modeling to forecast motor vehicle emissions at various intervals out to at least 20 years into the future. These projections are then compared to "budgets" that act as a ceiling on mobile emissions. Historically, the vast majority of emissions reductions from transportation sources have been from improved vehicle and fuel technologies. Additionally, measures such as HOV lanes, public transportation investments, bicycle lanes, retrofitting or scrapping older vehicles, and restrictions on the use of certain fuels have contributed modest reductions in motor vehicle emissions over the past twenty years. A conformity lapse occurs when a nonattainment area, for one or more of EPA's criteria pollutants (i.e., ozone, carbon monoxide, particulate matter, etc.) cannot show that the transportation-related emissions from their investment plans, programs, and projects, fall below certain upward limits (i.e., "budgets").

Unlike automatic sanctions, a conformity lapse occurs immediately after a determination that an MPO's transportation plan is insufficient. By statute, areas must demonstrate transportation conformity within one year of an EPA nonattainment designation (see ozone rule timeline in table 1). In some cases—specifically, areas previously designated as in nonattainment—localities may get an additional one-year grace period prior to entering a conformity lapse.⁵ Conformity lapses can affect both highway and transit projects, and federally-

"I have serious concerns about the new proposed Ozone standard. Nevada has had an already difficult time achieving the current standard and this proposed standard will make it almost impossible to meet. This proposed standard will put most, if not all of Nevada, as nonattainment and will cost a multitude of jobs to be lost, not to mention causing severe damage to our recently recovering economy."

-Tom Collins,
Clark County Commissioner

funded as well as non-federally funded projects in need of federal approvals or permits from a host of federal agencies to proceed.⁶ It is important to note that projects slated to receive any federal funding, no matter how small the amount, can be put at risk by a conformity lapse. When an area enters a conformity lapse, only certain projects can proceed. These projects are:

- Projects that are exempt from conformity⁷

- Transportation control measures (TCMs) in an approved SIP⁸
- Projects or project phases already authorized by Federal Highway Administration/Federal Transit Administration
- Non-regionally significant, non-federal projects
- Regionally-significant, non-Federal projects with all approvals secured prior to the lapse

Resolving a Conformity Lapse

Resolving a conformity lapse is just as complicated and burdensome as avoiding one. Typically, a nonattainment area addresses the lapse through two primary means. It reduces projected mobile emissions through programs to take certain vehicles off the road, (i.e., diesel trucks) or modifies the mix of projects in its transportation plan. Additionally, in order to resolve a conformity lapse, in most cases an MPO must also work with state air regulators to revise the SIP by offsetting mobile source emissions with increased restrictions on stationary sources such as industrial facilities or power plants.

Both of these options—modifying the transportation plan and revising the SIP — are difficult, costly, time-consuming, and often unpopular undertakings, particularly in light of local expectations regarding transportation project development and the inevitable tradeoffs that must be made between various



mobile and stationary sources. These challenges are further exacerbated by EPA's requirement that mobile source emissions budgets must be met at least 20 years into the future (i.e., in 2018, areas will have to demonstrate that emissions will remain under limits through at least 2038). For all of these reasons, a conformity lapse — and even entering a conformity lapse grace period — is a very severe penalty that localities must work hard to avoid.

IN THEIR OWN WORDS:

Achievability of EPA's Proposed Ozone Standard

"Unfortunately, the Proposed Rule seeks to impose new regulatory standards at or below background ozone levels for many western air quality control regions, meaning that no amount of technological innovation (or costs expended) will allow those regions to reach attainment status."

- States of ND, AL, IN, WY, MS, and WV

⁵ Areas that miss the transportation conformity deadline and enter the one-year grace period still have to meet certain requirements, which may have consequences on projects.

⁶ These include the Federal Highway Administration, Federal Transit Administration, EPA, Fish and Wildlife Service, and U.S. Army Corps of Engineers, among others.

⁷ Exempt projects include many categories of projects including safety, some intelligent transportation system (ITS) projects, some transit projects, seismic retrofits, street improvements, freeway service patrol, etc. (See 40 CFR §§93.126, 93.127, 93.128)

⁸ TCMs are listed in section 108(f) (1) (a) of the CAA and are programs designed to reduce vehicle use or change traffic flow or congested conditions. TCMs also include travel demand management (TDM) strategies. In some states TCMs may be included in an EPA - approved State Implementation Plan (SIP).



IN THEIR OWN WORDS:

Impacts of EPA's New Ozone Standard on Transportation Infrastructure and the Economy

"For non-attainment areas, the federal government can withhold federal highway funds for projects and plans. Withholding these funds can negatively affect job creation and critical economic development projects for impacted regions, even when these projects and plans could have a measurable positive effect on congestion relief...Given these financial and administrative burdens on local governments, we urge EPA to delay issuing a new NAAQS for ozone until the 2008 ozone standard is fully implemented."

- U.S. Conference of Mayors, League of Cities, National Association of Counties, and National Association of Regional Councils

"President Obama has pleaded with Congress to help provide the funding to get major roads and bridges improved. Standing under major bridges in Ohio and New York, the President demanded action from Congress to get major projects done. But under a 60 ppb, 65 ppb, or even 70 ppb standard, highway and transit funding for projects like these could be withheld or confiscated in many areas where local planning officials are under the thumb of federal regulators to make their safety and mobility plans conform."

- American Highway Users Alliance

*"Tightening ozone standards could result in the withholding of federal highway funds in areas forced out of compliance with the new standards. This, in turn, would have **negative effects on both employment and development** for impacted counties where transportation improvements are delayed or cancelled. In many instances, these federal-aid projects are intended to improve demonstrated public safety threats. Further, once completed, transportation improvements can reduce congestion and improve air quality. **Such improvements will not be realized if projects cannot go forward.**"*

- American Road Builders and Transportation Association

"Delays on the Interstate Highway System increased operational costs for the trucking industry by \$9.2 billion in 2013. State highway projects that are located in nonattainment areas are subject to additional analyses and review requirements to demonstrate conformity with air quality plans in order to be eligible for federal funding. An increase in the number of nonattainment areas will subject more areas to conformity analyses requirements, likely increasing the costs of highway projects and potentially leading to delays in the construction of important congestion mitigation projects."

- American Trucking Association

TRANSPORTATION FUNDING IS RARELY WITHHELD – WHY WILL THIS TIME BE DIFFERENT?

Historically, the imposition of harsh highway sanctions and conformity lapses have been relatively uncommon under the Clean Air Act. EPA’s “sanctions clock” has been triggered 13 times, but clock expiration and the actual imposition of highway sanctions has occurred only once.⁹ According to the Congressional Research Service, conformity lapses—the focus of this report—have occurred 70 times since 1997.¹⁰

Table 1. Ozone standard revisions, 1979 – 2015

Year	Ozone Standard (parts per billion)
1979	120 ¹¹
1997	80
2008	75
2015 (proposed)	65 – 70

Atlanta is often considered the poster child of conformity lapse examples. In 1998, after failing to demonstrate conformity with EPA’s 1979 ozone standard, Atlanta entered a lapse that ultimately lasted more than two and a half years. In order to resolve the lapse, Atlanta transportation planners had to redirect funding from highway construction to projects focused on transit, bicycle, and safety measures. In total, about \$700 million in projects that would have

expanded highway capacity were stopped. This two and a half year conformity lapse resulted in lengthy project delays and associated increases in construction costs.

Since incorporation of the conformity lapse grace period in 2007, seven lapses have occurred. However, 34 areas in 18 states have entered the lapse grace period—an indication that significant compliance challenges exist even at past and present regulatory standards which are much more modest than EPA’s current proposal.¹²

The limited instances of conformity lapse occurrences since 2007, when the lapse grace period was added to the regulations by Congress, should not be considered an indicator of future compliance ease. In the case of prior rules, targets were set at levels that were initially very challenging but, in conjunction with steady technological advances, allowed for development of SIPs and associated transportation plans that put states on a path to compliance (table 1).

Under EPA’s proposed revised standard, however, noncompliance and related transportation funding penalties are likely to rise dramatically. These penalties will be driven by four primary factors that will make compliance especially difficult: (1) technological achievability, (2) background ozone, (3) economic and population growth, and (4) transportation planning burdens and strains on limited government resources.

⁹ http://www.fhwa.dot.gov/environment/air_quality/highway_sanctions/sanctionsclock.cfm

¹⁰ Report on Transportation Conformity Under the Clean Air Act. Available at <http://www.hsdl.org/?view&did=766518>

¹¹ The 1979 ozone standard was a “1-hour standard,” meaning that 120 ppb was the maximum allowable average concentration over one hour to remain in attainment. In 1997, EPA transitioned to an 8-hour standard, setting minimum attainment at the fourth-highest 8-hour average concentration over a rolling three-year period.

¹² Note: these lapses pertain to all regulated pollutants, not just ozone (i.e. particular matter, SO₂, etc).



Technological Achievability

To avoid transportation funding penalties, the Clean Air Act requires states with nonattainment areas to specify how they will achieve compliance with a more stringent ozone standard. For example, compliance with prior ozone standards has been achieved in large part through strict requirements on vehicles and motor fuels such as gasoline and diesel. With these avenues largely exhausted, states and localities are left with extremely limited options to comply through implementation of new technologies.

EPA itself explicitly acknowledges this in the proposed rule, noting that current emissions control technologies will not be sufficient to achieve compliance and estimating that, with a 65 ppb standard, over 40 percent of necessary reductions must be met by “unknown controls” currently not in existence. A recent industry report from NERA Consulting estimates that such unknown controls present even greater compliance burdens, comprising more than 60 percent of required reductions.

Because these controls are not known, their technological feasibility, costs, and whether they even could come into existence are unknown—and, by definition, unknowable. Absent a path to compliance, states would quickly exhaust (if they have not already) cost-effective technological control options, leaving them with no choice but to shut down existing industrial facilities or prematurely scrap older vehicles and equipment to avoid penalties.

IN THEIR OWN WORDS:

Achievability of EPA's Proposed Ozone Standard

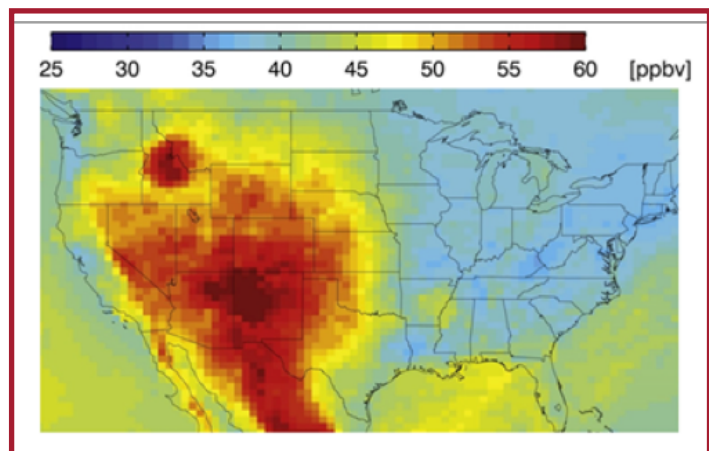
“A major concern for CRPC's transportation planning responsibilities related to a lower ozone standard is the almost certain inability to meet new conformity requirements for planned transportation projects. It is expected that, given further emissions reductions necessary to meet a new, lower ozone standard, it will be impossible to make a new conformity determination without transportation control measures that the public will not accept. If unable to demonstrate conformity under the new standard, our existing conformity status will lapse and the availability of federal highway funds for our transportation projects will be placed in jeopardy.”

- Baton Rouge, Louisiana Capital Region Planning Commission

Background Ozone

A second and equally significant factor threatening states' ability to comply with

Figure 3. Modeled Estimates of Ozone Background Levels, 2006-2008. ¹³



¹³ http://www.csg.org/aapca_site/documents/AAPCASurvey-StateEnvironmentalAgencyPerspectivesonBackgroundOzoneandRegulatoryRelief-June201.pdf

IN THEIR OWN WORDS:

Transportation Conformity Burdens

"The transportation conformity process will impose a difficult – if not impossible – task in places where background levels are so high that there is little that can be done through transportation planning to reduce ozone."

- Texas Department of Transportation

"In marginal nonattainment areas, the quantitative analyses performed to meet regional transportation conformity requirements are quite costly, in the neighborhood of tens of thousands of dollars per analysis. These costs are disproportional to the minimal (if any) environmental benefit such analyses provide."

- Virginia Department of Environmental Quality

more stringent ozone standards is the issue of background ozone. A significant and sometimes predominant fraction of ambient ozone levels are in fact not due to local anthropogenic emissions but to natural-occurring background ozone and ozone transported from locations as far away as Asia and deposited from the stratospheric layer of the atmosphere (where ozone blocks the sun's ultraviolet rays).

In the vast majority of the country, background ozone levels exceed 35 parts per billion (figure 3). Background ozone concentrations in much of the intermountain West exceed 50 ppb or more, which is why even many remote and desolate areas of the country (including many national parks) exceed EPA's proposed standard.¹⁴

Even Nevada's Great Basin National Park would violate the proposed rule. According to the Nevada DEP, ozone monitor data from Great Basin exceeds 70 ppb, meaning that it would likely violate EPA's proposed rule. Under EPA's current approach, White Pine County, which includes Great Basin, is likely to be designated as a nonattainment area. This

is despite the fact that the county is extremely remote, with a population of just 10,000 people covering 9,000 square miles—an area larger than the state of New Jersey.

Because EPA's tightened standard brings so many areas closer to background levels, states and localities have greatly reduced ability to devise practical control strategies to achieve compliance. Transportation agencies must take these background levels into account as part of conformity emissions modeling. A recent survey of states by the Association of Air Pollution Control Agencies found that 24 states (including 10 states in the Eastern U.S.) raised concerns with EPA regarding the impact of background ozone levels on their ability to comply with the new standard.

Economic Growth and Population Growth

Many areas of the United States—particularly urban areas—have witnessed steady economic growth and population growth over the last 25 years. Since 1990, U.S. economic output has grown by more than 80 percent, and the nation's population has grown by 28 percent. Vehicle travel on U.S. highways has increased 39 percent during this same time period. Similarly, annual transit ridership has grown by nearly 40 percent since 1995. These trends of increased population and business expansion—while undoubtedly positive for local economies—exacerbate ozone standard compliance challenges in areas of rapid and steady growth, particularly those regions with manufacturing and industrial-based economies. Las Vegas may be the best example of these challenges, as air quality and transportation planners have worked hard to institute ozone-reducing measures that have been offset by the region's rapid population and economic growth.

¹⁴ http://www.csg.org/aapca_site/documents/AAPCASurveyStateEnvironmentalAgencyPerspectivesonBackgroundOzoneandRegulatoryRelief-June201.pdf



Transportation Conformity Costs and Planning Burdens

A final factor adding to state and local government compliance challenges with EPA's proposed ozone regulations is the substantial and costly regulatory process burdens imposed by the rule and other similar air regulations. As discussed earlier, state departments of transportation and metropolitan planning organizations must undertake extensive analyses and paperwork processes in order to demonstrate conformity. As detailed in Appendix I, these activities include development of planning assumptions (trends in land use, travel, demographics, employment, vehicle fleet mix, etc.), sophisticated modeling of travel demand, emissions forecasting, project-level analyses and modeling, and more. These process requirements must be met each time an MPO revises a transportation plan or Transportation Improvement Program (TIP)—the U.S. Department of Transportation cannot allow an area to obligate funds to a project until and unless an acceptable conforming plan and TIP are in place.

In its proposed rule, EPA dramatically underestimates the cost of these burdens. EPA estimates that the cost annual conformity demonstrations averages about \$30,000 per MPO, and that the entire nationwide cost of meeting the requirements is just \$3.8 million annually.

As explained in Appendix I, the public record details the problems with EPA's assumptions. First, EPA assumes that localities undertake conformity analyses only once every four years. In reality, this exercise is done at least once each year in most areas. EPA also underestimates the burden hours and associated costs of these assessments. As a result, the agency has likely underestimated actual conformity process costs by roughly an order of magnitude, and much more in many cases.

For example, the Louisiana DOT estimates annual conformity assessment costs of about \$400,000 per MPO. Louisiana may have as many as eleven nonattainment areas under a new ozone standard which would cost the state about \$1.25 million annually for compliance. The cost of a conformity assessment for two large MPOs in Texas (Houston and Dallas-Fort Worth) averages about \$450,000 annually, which does not include many ongoing planning costs required in addition to the assessment. Similarly, in the Washington, D.C., region, we estimate that, based on public documents, reasonable assumptions, and past experience, annual conformity determination costs are between \$1.3 million and \$2.7 million (appendix I). This represents between 9 and 18 percent of the regional transportation planning board's entire budget—a severe burden for an entity that must undertake planning efforts for all transportation issues (roads, transit, airports, etc.). While this analysis did not develop a detailed estimate of conformity compliance costs for Las Vegas, they would reasonably be expected to cost \$500,000 - \$1 million or more annually and represent a significant burden on local transportation planning budgets.

It should be noted that the costs of failing to meet these requirements (principally, transportation project delays and the withholding of federal funding) greatly exceed the costs of carrying them out. However, under EPA's proposed lowered standard these requirements are certain to place incredible and potentially insurmountable pressure on many state and local governments. This pressure will be particularly burdensome on the hundreds of generally smaller and less well-funded counties that will be forced to undertake conformity assessments as a result of being pushed into nonattainment status. In those places where counties do not have the resources to conduct required analyses, the state DOTs will bear this additional burden.

A Closer Look



Project Neon

A top Nevada DOT priority is to reduce congestion along I-15 around the Las Vegas “Spaghetti Bowl”—a major traffic chokepoint for travelers commuting from the Las Vegas Strip through downtown and the city’s northern suburbs. In what will be the largest transportation project in Nevada history, NDOT is proceeding with Project Neon, a \$1.5 billion effort to widen I-15 between the Spaghetti Bowl and Sahara Avenue.

The five phase program of improvements is expected to begin in 2016 and may take up to 20 years to finish. Once complete, the freeway will include 13 lane miles of new bridges, a new HOV connector between U.S. 95 and I-15, reconstructed interchanges and numerous local traffic improvements. The project will improve safety while accommodating significantly increased traffic capacity along the corridor—more than half a million vehicles per day by 2030.



While the project is expected to be funded with state resources, it will require numerous federal approvals and permits throughout its course of development. While the Final Environmental Impact Statement (FEIS) was issued in December 2014, a conformity lapse in the region could freeze progress on any additional federal approvals (e.g., for project phases or permits) necessary for the project to proceed.

Image: Library of Congress



A Closer Look

Regional Public Transit

Numerous public transit projects in the Las Vegas region that serve to reduce emissions and traffic congestion could also be impacted in the event of a conformity lapse. Most prominent among them is a planned expansion of the Las Vegas Monorail system. The December 2012 RTP calls for \$475 million in federal and local funding to extend the monorail south from the Strip to downtown Las Vegas and the McCarran Airport.

Such an extension would be appealing to both tourists and local residents and increase monorail ridership well beyond the current ridership of approximately 500,000 riders per month.

While the project has yet to secure funding and its fate remains



uncertain, strong support exists for some kind of public transit connection between the airport and the city. In May, the RTC unveiled the Transportation Investment Business Plan, a vision document developed by regional stakeholders that calls for extension of the monorail to the Mandalay Bay Convention Center as well as a new light rail system for the city that could potentially extend to the airport. The light rail project alone would expect to cost into the billions of dollars and the region would pursue federal funding to support the effort.

Additionally, the RTP calls for \$31 million in federal funding between FY 2017 and FY2020 to support implementation of a Bus Rapid Transit System from Rainbow Boulevard to Arville Road and from Paradise Road to Boulder Highway. Depending on funding and development timelines, all of these rail and bus projects could be at risk of a cutoff in funding and freeze in federal approvals in the event of a conformity lapse.

TRANSPORTATION CONFORMITY CHALLENGES IN THE LAS VEGAS REGION

This following analysis is intended to estimate transportation funding (federal, state, local and/or private funds) and associated projects that would potentially be at risk in Clark County and the Las Vegas region if the Regional Transportation Commission of Southern Nevada (RTC) is unable to meet Clean Air Act transportation requirements related to EPA's proposed new ozone standard. Based upon EPA's proposed implementation schedule, impacted areas, including the Las Vegas region, would need to meet the related Clean Air Act transportation conformity requirements beginning in October 2018.

If the region is unable to demonstrate conformity with tightened ozone standards prior to the 2018 deadline, it may be granted a conformity lapse grace period of 12 months.¹⁵ However, conformity lapse grace periods are accompanied by their own challenges, including potential project delays and associated costs. For the purposes of this analysis, we assume that any impact to projects and funding would begin in FY2018 and could extend to FY 2020.

Regional Overview

Clark County, Nevada—which includes Las Vegas and serves as the compliance area for EPA air regulations—is approximately 8,000 square miles and home to more than two million people. By population, Las Vegas ranks as the 30th largest metropolitan area in the country, not including the 39 million tourists that visit the city each year.¹⁶

The region has experienced explosive growth over the last two decades. The local population has grown 133 percent since 1992, adding nearly one million new residents. While the area was hit hard by the 2008 recession, growth has resumed, and over the next 20 years, an additional million new residents are projected to move into the region.

This growth has placed significant strain on the local transportation system and infrastructure. Since 1992, traffic volumes in Las Vegas have increased by 157 percent.¹⁷ Annual ridership on public transit has similarly spiked, growing

LAS VEGAS BY THE NUMBERS	
157	Percent increase in traffic volume since 1992.
35 million	Increase in annual public transit ridership since 1994
58	Percent of major Las Vegas roads that are regularly congested
44	Average commuter hours lost each year due to traffic congestion
21	Average gallons of fuel wasted in traffic delays per consumer
\$906	Annual congestion costs per commuter in wasted fuel and lost time

¹⁵ While the region was recently declared to be in attainment with current ozone requirements, it is eligible for a one-year grace period because it must currently meet conformity requirements for carbon monoxide and PM10. In other words, to be eligible for a grace period associated with a newly implemented regulation, an area must already be in nonattainment with an existing regulation for at least one criteria pollutant.

¹⁶ <http://mobility.tamu.edu/ums/national-congestion-tables/>

¹⁷ Ibid.



from 22 million in 1994 to 57 million in 2011—an increase of 159 percent. This makes Las Vegas the 19th busiest transit system in the country. According to the Texas Transportation Institute, 58 percent of lane-miles in Las Vegas are regularly congested. For the average Las Vegas commuter, this translates to 44 hours each year stuck in traffic, at a cost of \$906 in lost time and wasted fuel.¹⁸

As the Las Vegas region continues to grow to accommodate more people and jobs, the strains on the area's transportation system will only increase. The region must address these challenges and work to secure adequate funding for proper maintenance and rehabilitation of existing facilities and systems, as well as much-needed expanded capacity within the region. The RTC has estimated that meeting these needs will require \$9 billion of investment to maintain the existing system and expand capacity to accommodate growing demands.

IN THEIR OWN WORDS:

Transportation Conformity Burdens

"Please do not impose stricter ground-level ozone standards—the current standards are practically impossible to meet. Lowering the ozone levels will put us in the nonattainment category, with the obvious negative repercussions—loss of federal highway dollars and other funding sources, loss of jobs and dampening of our economic recovery. Do not impose stricter, unachievable ozone standards on us."

- Jim Wheeler, District 39 Assemblyman and Chair,
Nevada Assembly Transportation Committee

"Business might not be able to expand and federal highway funds could freeze – all for a standard that does not need to be changed. [EPA's] proposed efforts would be detrimental to Nevada's recovering economy and to an industry that depends on highway dollars for needed infrastructure."

- Paul Enos, CEO, Nevada Trucking Association

"For states and MPOs, the change in the NAAQS will have significant practical implications, including administrative burdens and slowdown in project delivery. The administrative burdens result from the need to make transportation conformity findings for ozone in hundreds of counties where those findings are not currently required. Especially in rural areas and small metropolitan areas, these burdens will be significant in comparison to existing budgets for transportation planning. The effect on project delivery results from the additional time required for transportation conformity determinations. While it is difficult to quantify these administrative burdens and delay impacts, we expect that they will be significant."

- American Association of State Highway
Transportation Officials

¹⁸ <http://mobility.tamu.edu/ums/congestion-data/>

OVERVIEW OF LAS VEGAS REGION TRANSPORTATION PLANNING PROCESS

The Regional Transportation Commission of Southern Nevada (RTC) is the designated metropolitan planning organization (MPO) for the Las Vegas region. The RTC is responsible for transportation planning functions in Clark County—an 8,000 square-mile area with approximately two million residents (Figure 1). The RTC's governing body is comprised of representatives from Clark County as well as the cities of Boulder City, Henderson, Las Vegas, Mesquite, and North Las Vegas.

RTC is responsible for developing and carrying out the federally-required transportation planning process in the area, including the development of the four-year Transportation Improvement Program (TIP) and 20-year Regional Transportation Plan (RTP). In order to be included in the TIP, projects must have funding "available" or "committed." Thus, these projects are assumed to be ready for implementation during the upcoming four-year period. Projects can only be included in the RTP if funding is "reasonably expected to be available" during the RTP period. When funds become available for these projects, they enter the TIP and become vulnerable to the withholding of federal funding in the event of a conformity lapse. As noted earlier, however, during a conformity lapse, federal permits and approvals are halted for all non-exempt projects, thereby imposing delays on projects still awaiting funding commitments.

Status of Transportation Plans in the Las Vegas Region

The RTC's current TIP was adopted in August

2014, and spans fiscal years 2015 through 2019. For specific projects identified in the TIP, and as required by U.S. DOT, funding is committed through 2018. The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) do not require funding commitments beyond four years, so FY 2019 projects in the TIP are considered by U.S. DOT to be "illustrative" and awaiting funding.¹⁹

The longer-term RTP, which was completed in December 2012, outlines expected transportation investments between 2013 and 2035. It details plans for \$9 billion worth of regionally significant projects, including \$5.9 billion street and highway improvements, \$2.1 billion for transit, \$735 million for transportation alternatives such as bicycle and pedestrian projects, and \$208 for intelligent transportation systems (ITS) and operational improvements.

The RTP reflects state and local planners' emphasis on working to maximize the operational capacity and efficiencies of the Las Vegas transportation system through investments in ITS, transit, and transportation demand management strategies—all of which help to reduce traffic congestion and corresponding emissions. Nevertheless, the Las Vegas region is going to have to add new road, highway and transit capacity to ensure that the strong and steady population growth of the recent past and future do not overwhelm the transportation system. To this end, planned investments in the RTP anticipate construction of nearly 1,600 additional lane miles through 2035 to accommodate travel demand, the construction of a Bus Rapid Transit System and the extension of the Las Vegas Monorail. Before

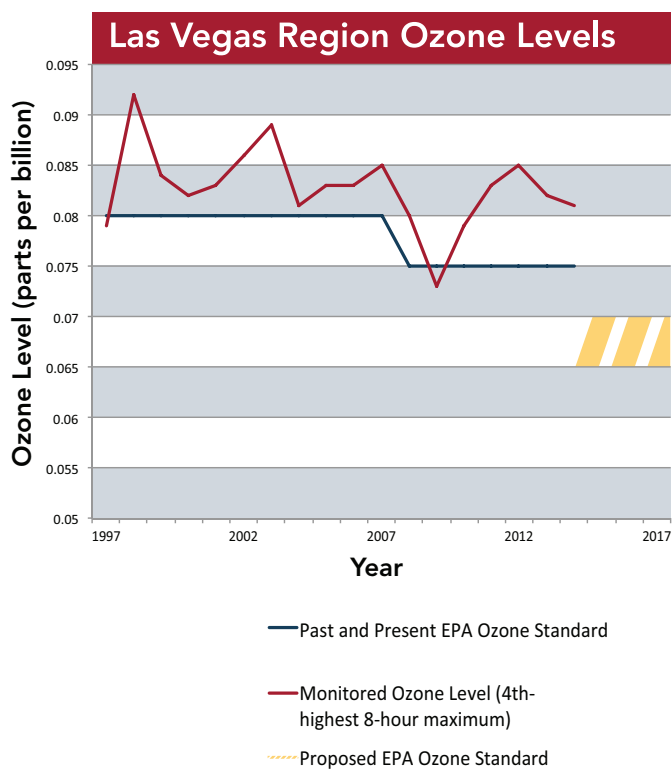
¹⁹ Note: shortly before publication of this report, minor revisions were made to the RTC TIP. Not all of these revisions are reflected in this analysis. They are available at <http://www.rtcnv.com/wp-content/uploads/2014/02/TIP2015-2019Table-1UpToClark6.pdf>.

proceeding, these expansion projects must demonstrate that they conform to EPA-approved emissions budgets for the region.

Current Ozone Attainment Status

Due in large part to aforementioned challenges such as background ozone and explosive population growth, Clark County and Las Vegas have long struggled to meet EPA regulatory compliance targets. During the most recent three-year period for which data are available (2012 - 2014), ozone levels in the region averaged 83 ppb (figure 4).

Figure 4. Ozone trends in Las Vegas region.



The region was originally designated as an ozone nonattainment area in 1979. After instituting various control measures, the area was redesignated as in attainment in 1986. This status remained until 2004, when EPA designated portions of Clark County in nonattainment with the tightened 1997 ozone standard. Since this time, the region has teetered in and out of attainment multiple times, most recently achieving attainment in December 2012 when EPA approved the required ozone maintenance plan.²⁰

Consistent with this designation, Clark County has successfully avoided transportation and other Clean Air Act penalties through development of implementation plans and accompanying mobile source emissions budgets that chart a path toward compliance.²¹

Unfortunately, EPA's proposed tightened standard effectively "moves the goalposts" on regional governments and transportation planners.

As a result, transportation planners tasked with expanding highway and transit capacity while emissions budgets are tightened under a new ozone standard will find it increasingly difficult to demonstrate that proposed projects will not cause or contribute to new violations of the ozone standard. While the RTC has successfully avoided transportation and other Clean Air Act penalties through development of implementation plans and accompanying mobile source emissions budgets that chart a path toward compliance, these achievements may be impossible to sustain.²²

²⁰ Note: even though monitored ozone levels in the region exceed 80 ppb, Clark County has avoided redesignation as a nonattainment area for ozone due to a recent "exceptional events" demonstration showing that recent exceedances were caused by upwind wildfires. Additionally, EPA revoked the 1997 ozone standard in July 20, 2013 and due to litigation, the revocation was finalized in early 2015. Thus, at this time, the RTC does not have to meet transportation conformity requirements for ozone.

²¹ Ibid

²² Note: the RTC must also undertake conformity demonstrations on other regulated pollutants (i.e., particulate matter, carbon monoxide, etc.). While beyond the focus of this report, these pollutants have their own emissions budgets and analysis years, and further add to localities' conformity burdens.

To better understand potential transportation impacts in the event that the RTC could not make a conformity determination on the TIP or RTP, an initial screening process was conducted. The screening process entailed the following steps:

- First, the current TIP (FY 2015-FY 2019) and RTP (FY 2013-FY 2035) were reviewed for consistency.
- Next, all projects in the TIP were reviewed to eliminate those projects slated for funding prior to FY2018 (e.g. FY 2015-2016-2017) because we assume those projects would not be impacted by a conformity lapse. This is because under a new ozone standard, all newly designated nonattainment areas would have to make their first conformity determination in 2018.²³ In the Las Vegas region, the TIP commits funds only through FY 2018 and as a result, potentially impacted projects in both the TIP and RTP are still awaiting funding. Once funding is identified, these projects are expected to be adopted into the TIP whereupon they would risk a cutoff in funding due to a lapse. Our analysis includes FY 2018 and FY 2019 projects from the TIP and the FY2017- FY2020 projects awaiting funding from the RTP. Projects in both the TIP and RTP without federal funding but which are awaiting federal permits and approvals to proceed would also be impacted by a conformity lapse, and are thus included in the analysis.
- Third, remaining projects in the TIP and RTP were reviewed and all exempt projects that may proceed even in the event of a conformity lapse were eliminated.

IN THEIR OWN WORDS:

"Natural background ozone concentrations, combined with transport of anthropogenic pollutants from neighboring states, will cause Clark County to exceed the proposed NAAQS without contributions from any local anthropogenic sources."

- Lewis Wallenmeyer, Director,
Clark County Department of Air Quality

"The lack of available offsets will result in the effective foreclosure of new industrial growth in rural ozone nonattainment areas in the west, which is likely to have devastating consequences on these rural communities since they may already be struggling economically."

- Nevada Department of Environmental Protection

"Local contributions are so minor that, if areas within Nevada's jurisdiction are in nonattainment with the new proposed standard, the NDEP will be in the untenable position of having no meaningful control strategies to achieve attainment with the new standard."

- Nevada Department of
Environmental Protection

²³ As discussed earlier, the region may go into a conformity lapse grace period. However, for this analysis, we assume any impacts would begin with FY 2018 projects and could include projects through FY 2020.

A Closer Look



Potential Conformity Lapse Impacted Project: Boulder City Bypass

In 2012, Congress designated the future Interstate 11 Corridor (I-11), which, when complete, will connect Las Vegas and Phoenix, two of the last remaining neighboring metropolitan areas in the country not linked by an interstate. Funded by a combination of federal, state, and fuel revenue indexing funds, the Boulder City Bypass is a key element of the I-11 Corridor. Led by the RTC and Nevada DOT, the project entails construction of 15 miles of four-lane freeway around the Southern and Eastern perimeter of Boulder City. Upon completion, it will significantly improve mobility and reduce congestion in the area, resulting in an estimated time savings of at least 30 minutes for travelers driving between the Hoover Dam Bypass Bridge and Henderson.

RTC planning documents specify three specific projects in support of the Boulder City Bypass effort: the RTP includes \$52 million for Phase 1 of the project, the TIP includes \$31 million for Phase 2, and the RTC's Unfunded Needs full project list calls for \$352 to \$850 million for construction of a new four-lane roadway along US-93.

Other segments that are part of the Future I-11 Corridor and included for future funding in the RTP include construction of: the I-515, Charleston Boulevard to I-15; the Phase 2 Colorado River to US95; and the I-515, US 93/95 to Charleston Boulevard. Depending on the timing of various FHWA approvals, if the Las Vegas region enters a conformity lapse, advancement of these project phases could be placed at risk.

Potential Conformity Lapse Impacts in the Las Vegas Region

Exhibit 1 shows the projects in the TIP that may be impacted by a conformity lapse. Once the region goes into a lapse some of these projects or phases could be immediately delayed until conformity issues are resolved. Our analysis shows that, under a conformity lapse in the Las Vegas region, ten projects totaling \$346 million would risk a cutoff in federal funding and freeze on federal permits and approvals for the FY2018 and FY 2019 period. (\$230.7 million in FY 2018 and \$114.8 million in FY 2019).

These potential impacts are likely to increase significantly as the deadline nears and more projects receive funding and approval to proceed. For example, if the RTC region were to enter a conformity lapse in 2015, 12 projects totaling \$781 million would be at risk.

Potentially impacted projects that are not yet part of the region's TIP (but included in the RTP) include \$1.4 billion in improvements to address major congestion problems on the CC-215, I-15, I-95, and other major highways. Extension of the Las Vegas Monorail, which is slated for \$475 million in funding in the FY 2017-FY 2020 period, could also be put at risk (Exhibit 2). Dozens of additional projects costing several billion dollars that have yet to take shape but are considered key unfunded needs by the RTC could also be delayed or placed at risk by a conformity lapse.

In addition, delays in funded projects can have a negative ripple effect on longer-range projects in earlier stages of planning, development and implementation. Directly, project delays tend to increase project costs, thereby reducing the region's fiscal capacity on the whole. We estimate inflation costs incurred during a one- or two-year lapse to range between \$4.6 and \$17.2 million for potentially impacted projects, resulting in wasted resources and reducing

overall benefits. Significant project delays also carry indirect effects that complicate planning and have the potential to undermine public confidence in its transportation leaders and agencies, thereby reducing the chances that voters will choose to increase the region's investment in its transportation systems.

A Closer Look

CC-215 Beltway

The Las Vegas Beltway (officially the CC-215 Bruce Woodbury Beltway) is a 50-mile freeway circling three-quarters of the metropolitan region. As the region continues to grow, continued improvements to CC-215 are widely recognized as critical to enhancing mobility for area commuters.

Accordingly, transportation planners have made it a priority to widen CC-215 from 6 to 8 lanes in various locations and, if future funding is identified, from 8 to 10 lanes in other locations.

Specifically, RTC planning documents detail five different specific projects in support of CC-215 capacity expansion efforts: \$86 million in the TIP for Western Beltway improvements, \$187 million for three RTP projects on the Northern, Western, and Southern Beltways, and five additional segments of CC-215 in the RTP Unfunded Needs list projected to cost between \$450 and \$800 million. Depending on their stage of development, if the Las Vegas region enters a conformity lapse, some or all of these projects could be delayed.





Key Findings

If Clark County and the Las Vegas region are unable to demonstrate conformity with EPA's proposed ozone standard by the 2018 transportation conformity deadline, at least 10 projects slated to receive \$346 million in FY 2018 and FY 2019 would be put at risk of a cutoff in federal funding and a freeze on many federal permits and approvals. Further, up to 12 additional projects awaiting \$1.44 billion in funding between FY 2017-FY2020 could also be put at risk, depending on project timing and advancement.

These include the following major transportation projects:

- CC-215 Las Vegas Beltway widening (multiple projects)
- I-15 Project Neon (various phases)
- Boulder City Bypass (future I-11)
- I-15 Interchange at Starr Ave
- SR 160 - Blue Diamond Road widening
- I-15/215/Tropical Interchange improvements
- Las Vegas monorail extension
- Implementation of new Bus Rapid Transit System

These potential impacts are certain to increase significantly as the deadline nears and more projects receive funding and approval to proceed.

CONCLUSION

The severity of EPA’s proposed ozone standard and the associated lack of compliance options greatly increases the likelihood that federal transportation funds will be withheld from localities around the country due to conformity lapses. Numerous states and localities are simply not going to have the resources and tools necessary to reduce ozone-forming emissions to meet the new more stringent standard. Because of its growing population and economy, and high levels of background ozone not attributable to local activities, compliance in the Las Vegas region will be extremely challenging. Local officials could be forced to choose between competing transportation priorities and business and industrial expansion critical to jobs and economic development.

If the region fails to meet transportation conformity requirements at levels set by EPA, the impacts on critical area projects could be very large. These noncompliance penalties would not only directly affect highway and transit projects already funded and under construction, but could also delay permitting and approvals for longer-term projects. Such delays would reverberate across the region’s entire planning and investment program and undermine public confidence in the government’s ability to deliver badly needed transportation solutions.

These circumstances would serve not only to exacerbate the economic consequences of EPA’s proposed rulemaking, they would also impose a literal roadblock on efforts to address the stifling congestion and critical state of disrepair of America’s roads, bridges and public transit systems in growing cities such as Las Vegas.

Accordingly, the Chamber strongly urges EPA to take a more reasonable approach and allow appropriate time for states and localities to make

critically needed investments in transportation infrastructure rather than spend time and money on an ozone standard that EPA itself admits may be impossible to attain without heretofore unknown technological advances.



Exhibit 1: Las Vegas Region Transportation Projects Potentially At Risk Per Transportation Improvement Program (TIP)

Location and Project Description	Funding Sources	FY2018 (funding committed)	TIP Total (FY15-FY19)	FY2019 (awaiting funding)
LAS VEGAS, NV				
Widen CC-215/Western Beltway to 6-lane freeway with interchanges and overpasses from Craig Road to Hualapai Way. Expected completion in 2020.	Clark County Beltway Program	\$-	\$50,000,000	\$86,000,000
Construction of a diamond interchange on I-15 at Starr Ave, and widening from 2 to 4 lanes. Expected completion in 2025.	FRI/Interstate Main/SAFETEAU	\$35,280,400	\$41,184,549	\$-
Phase 2 of construction on Blue Diamond Road, widening from 2 to 4 lanes between Clark County Road and Mountain Spring Summit	NHPP/St. Match/STP	\$45,000,000	\$45,000,000	\$-
Phase 4 of I-15 North construction, building new ramps to complete the interchange at I-15/CC 215 Las Vegas Beltway Interchange. Expected completion in 2025.	NHPP/St. Match/STP	\$40,000,000	\$40,000,000	\$-
I-15 Project NEON Phase 1. Bond repayment for Phase I, making improvements on I-15 from Spring Mountain Rd to Spaghetti Bowl at Rancho Drive.	NHPP/St. Match/STP	\$30,000,000	\$120,000,000	\$-
I-15/US 95 Project NEON. Bond Repayment for Project NEON construction connecting I-15 Express lanes to US 95 HOV lanes and local streets, including more exit lanes and easily accessible ramps.	NHPP/St. Match/STP	\$22,524,692	\$47,239,469	\$22,152,380
I-15/215/Tropical interchange. Complete the 4th part of the I-15/215 interchange, connecting the interstate to the Tropical Parkway and additional improvements at Tropical Parkway and Hollywood.	FRI/SAFETEA-LU High Priority	\$9,831,750	\$12,571,750	\$-
Advance Construction repayment for Phase 2 of the Boulder City Bypass on US 93, add 4 lane freeway from SR 172 Hoover Dam Access Rd to Silver Line Rd.	FRI/Advance Cost/STP	\$30,983,236	\$-	\$-
Construction of Phase 3B of US 95 construction, relocating the gas line at CC-215 Beltway.	NHPP/NDOT/STP Statewide	\$17,100,000	\$17,100,000	\$-
Design and construct a proposed interchange at Kyle Canyon Rd and US95 to serve the new Master Planned Sky Canyon Development and planned resort in Kyle Canyon.	FRI	\$-	\$2,000,000	\$6,707,414
TOTAL, CURRENT TIP PROJECTS AT POTENTIAL RISK		\$230,720,078	\$375,095,768	\$114,859,794

Source: RTC TIP, FY 2015 - FY 2019. Available at http://www.rtcnv.com/wp-content/uploads/2014/02/RTCSNV_TIPFY2015-2019_2014-10-30.pdf

* Non-federally funded projects in need of federal approvals or permits to proceed are also subject to transportation conformity requirements and penalties.



Exhibit 2: Las Vegas Region Transportation Projects Awaiting Funding But Potentially At Risk Per Regional Transportation Plan (RTP)

Location and Project Description	Funding Sources	Original Expected Completion Year	FY 2017-2020 Awaiting Funding	Total Scheduled
LAS VEGAS, NV				
CC-215 Western Beltway. Upgrade a system-to-system interchange on CC-215 at Summerlin Pkwy.	Clark Co Beltway Program	2020	35,000,000	\$35,000,000
CC-215 Northern Beltway. Widen Centennial Parkway to 6 lanes with interchanges between North 5th St to Range Rd	Clark Co Beltway Program	2020	118,700,000	\$118,700,000
I-215 Southern Beltway. Widen Southern Beltway from 6 to 89 lanes between Eastern Ave and Windmill Lane.	Clark Co Beltway Program	2020	32,600,000	\$32,600,000
MLK Blvd/Industrial Road. Widen Grand Central Parkway and MLK Blvd to 4 lanes with bike lanes, from Oakley Blvd to Alta Dr.	Q.10/RTCGasTx/SAFEA-LU/STP	2035	65,000,000	\$121,567,335
Las Vegas Monorail. Construct a connecting monorail from the existing Las Vegas Monorail Station to McCarran Airport.	FTA/LVMC/TIFIA	2020	475,000,000	\$475,000,000
Phase 2A of I-15 South project, widening the interstate from 6 to 8 lanes, including an HOV lane, from Sloan Rd to SR 160 Blue Diamond Rd	Government services tax	2020	62,000,000	\$62,000,000
I-15 South Phase 2B: Widen from 8 to 10 lanes, replace concrete between I-215 & Tropicana Ave, add HOV lanes & replace Tropicana Ave interchange.	NDOT Bond/Govt services tax	2030	18,000,000	\$274,000,000
Construction to connect the HOV ramps of I-215 Southern Beltway to I-15.	Government services tax	2020	75,000,000	\$75,000,000
I-15/US-95 Project NEON Phase 1, from I-15 at Oakley Blvd to US 95 at Rancho Drive. Construct 4-lane system-to-system direct connect HOV ramps, including add/drop lanes at Oakley Blvd/Wyoming Ave; widen I-15 to accommodate HOV ramps. From I-15 s/o Oakley Blvd to US 95 e/o Rancho Dr.	NDOT Bond funds	2020	450,000,000	\$450,000,000
US 93/95 Boulder Bypass Phase 1. Construct realigned US 93/95 as 4-lane freeway, including new interchange at Railroad pass from w/o US 93/95 Jct to I-515 at Foothills Grade Separation	NDOT Bond funds	2020	52,455,000	\$52,455,000
US 95 North Package 2A. Widen from 6 to 8 lanes, add auxiliary and HOV lanes from Ann Rd to Durango Dr	STP Statewide and NDOT Gas Tax	2020	29,000,000	\$29,000,000
Bus Rapid Transit. Improvements, stations, facilities for implementation of Bus Rapid Transit system from Rainbow Blvd to Arville Rd and Between Paradise Rd to Boulder Hwy.	FTA Very Small Starts Program	2020	31,000,000	\$31,000,000
TOTAL PROJECTS IN RTP AT POTENTIAL RISK*			\$1,443,755,000	\$1,756,322,335

Source: RTC 2013 - 2035 RTP and Appendices. Available at http://www.rtcnv.com/wp-content/uploads/2012/10/Final_RTP-2013-35-Redetermination-0214131.pdf and [http://www.rtcnv.com/wp-content/uploads/2012/10/Final_RTP-2013-35-Redetermination-0214131.pdf](http://www.rtcnv.com/wp-content/uploads/2012/06/12-13-12-rtc-item-37-B-2013-2035-Regional-Transportation-Plan-Appendices_Draft-Part-4.pdf) and http://www.rtcnv.com/wp-content/uploads/2012/06/12-13-12-rtc-item-37-B-2013-2035-Regional-Transportation-Plan-Appendices_Draft-Part-4.pdf

* Non-federally funded projects in need of federal approvals or permits to proceed are also subject to transportation conformity requirements and penalties.

** Because projects in the RTP await identification of funding, timelines and project details are subject to change, and in some cases have changed since completion of the RTP in December 2012.

APPENDIX I: DETAILED REVIEW OF TRANSPORTATION CONFORMITY COMPLIANCE COSTS

The costs and burdens of meeting transportation conformity requirements might best be categorized in two ways: (1) compliance costs, those costs associated with ensuring that all nonattainment and maintenance areas meet conformity requirements at all times; and (2) other costs that could be defined as those costs a nonattainment or maintenance area would incur if it were to fail to comply with the conformity requirements. This analysis addresses compliance costs.

It should be noted that the costs and burdens of failing to comply far outweigh the costs of meeting the regulatory requirements. This is because transportation projects totaling hundreds of millions, even billions, of dollars could be impacted during a conformity lapse.

The compliance costs are significant however, especially given demands on state departments of transportation (DOTs) and metropolitan planning organizations (MPOs) limited planning funds which pay for costs of compliance. The costs of the conformity requirements have been the subject of disagreement between EPA, DOTs, and MPOs since at least 2004.

What is Included in Compliance Costs?

The transportation conformity regulation requires that detailed systems-level technical analyses be conducted to assess emissions from transportation investments included in transportation plans and transportation improvement programs (TIPs). In some cases project-level emissions modeling must also be conducted. MPOs and state DOTs (in rural areas) must demonstrate and document that emission levels are consistent with State Air

Quality Implementation Plans (SIPs) for that pollutant. The procedures and definitions for the analyses are included in the Transportation Conformity Regulation²⁴ and various additional Federal guidance documents from EPA, FHWA, and FTA. MPOs are responsible for meeting the conformity requirements in nonattainment and maintenance areas that include MPO boundaries and state DOTs are responsible for meeting conformity requirements for rural nonattainment and maintenance areas.

The conformity requirements encompass many MPO activities, including those related to the development of, and any revisions to, the long range Regional Transportation Plan (RTP), Transportation Improvement Program (TIP), and project development and implementation.

Each time an MPO revises a TIP or transportation plan, the conformity process requirements must be met. In some cases a full regional emissions analysis may not be required to revise the TIP or Plan but in all cases, the conformity requirements must be addressed and documented. The FHWA and FTA cannot allow an area to obligate funds unless a conforming plan and TIP are in place.

²⁴ <http://www.epa.gov/otaq/stateresources/transconf/regs/420b12013.pdf>.



Conformity requirements that impact MPOs' resource allocation and work activities include but are not limited to:

- Planning assumptions: including demographic, land use, travel, employment and census data.
- Vehicle fleet data: age, type of vehicle, engine model, fuel-type, etc.
- Travel demand modeling: six specific modeling requirements in the conformity rule, sophisticated travel demand modeling requirements, updating protocols, etc.
- Identification of Regionally Significant Projects: specific requirements and definitions.
- Travel Forecasting: cooperative forecasting with local jurisdictions and others.
- Emissions modeling: using EPA's latest approved emission model. There have been at least five different EPA approved models required for use in conformity since 1993.
- Interagency Consultation: extensive interagency and public involvement required of staff, management and elected officials.
- Project level analysis: all projects must meet basic requirements, certain projects require quantitative modeling on a project-level scale, also using EPA's approved emissions model. This is a new requirement since 2012.
- Public Outreach and Communications: public comment, review, feedback requirements.

²⁵ 44 U.S. C. 3501 et seq.

²⁶ <https://s3.amazonaws.com/public-inspection.federalregister.gov/2015-03577.pdf>. Transportation Conformity Determinations for Federally Funded and Approved Transportation Plans, Programs and Projects," ICR number 2130.05.

²⁷ Burden is defined at 5 CFR 1320.03(b)

²⁸ The full record of supporting documents can be found at: <http://www.regulations.gov/#!documentDetail;D=E-PA-HQ-OAR-2007-0269-0018>.

U.S. EPA Estimates of Compliance Costs

In accordance with the Paperwork Reduction Act²⁵ requirements, EPA periodically submits an information collection request (ICR) to the Office of Management and Budget (OMB) for review and approval. EPA's most recent estimates of compliance costs associated with the transportation conformity regulation were included in EPA's ICR posted on February 23, 2015 in the Federal Register²⁶ with comments due to the docket on April 24, 2015.

Overview of EPA's Proposed Updates to Cost Estimates

EPA has updated its previous cost and burden estimates and has concluded that the total estimated burden of the conformity process for 2015 - 2017 will decrease compared with the existing ICR. EPA's new estimated annual total nationwide cost of meeting the conformity requirements is \$3,768,668. This assumes an estimated burden²⁷ of 63,237 hours per year, a reduction of 136,200 hours over the existing ICR. EPA assumes efficiencies in several areas will lead to reduced costs including: reduced costs for areas making a conformity determination for more than one NAAQS and reduced costs associated with using the MOVES model. Finally, EPA assumes 126 MPOs nationwide will be subject to the conformity requirements in the 2015 - 2017 period covered by the ICR at an estimated annual cost of \$29,910 per MPO.²⁸

Comments from Practitioners

This is the third EPA issuance of an ICR (2004, 2011, and 2015), and as in the past, the American Association of State Highway Transportation Officials (AASHTO) and Association of Metropolitan Planning Organizations (AMPO) submitted joint comments to the docket. Texas DOT submitted the only other comments. AASHTO and AMPO reiterated a concern expressed with previous ICRs that EPA failed to consult with them and their members (state DOTs and MPOs) on the most recent conformity cost estimates.²⁹ AASHTO and AMPO provided substantial detail (including previous comments and analyses from 2004 and 2011) on several fundamental flaws in EPA's assumptions and cost estimates and requested that EPA consult with state DOTs and MPO prior to finalizing their current ICR cost estimates.

- AASHTO and AMPO noted that: "it is vital for EPA to consult with state DOTs and MPOs on conformity cost estimates. As the agencies that fund and implement the conformity requirements, they are uniquely qualified to assist EPA in more accurately estimating burden hours and annual costs."
- The AASHTO/AMPO Comment letter concluded: "As such EPA is using fundamentally flawed assumptions that result in significantly underestimated national conformity costs."

EPA Underestimates Compliance Costs of the Transportation Conformity Regulation

Frequency, Burden Hours, and Costs

Stakeholders have repeatedly asked that the EPA estimates of frequency for making conformity determinations and the associated

costs be increased. EPA grossly understates the frequency of needed conformity analysis by assuming it occurs only once every four years. This assumption should be changed; in most areas conformity analysis is done at least once a year. As noted earlier, each time that a TIP or Plan is changed, in any way, a determination must be made that all conformity requirements are met. The need to meet the frequency requirements and associated triggers in the conformity regulation are not voluntary activities as EPA assumes. As a result, EPA's estimates of the frequency, burden, hours, and associated costs of each conformity determination are all underestimated.



Interagency Consultation Process Costs

The conformity process requires an extensive and legally binding interagency consultation process. It includes, at a minimum, no fewer than three Federal agencies (EPA, FHWA, and FTA), two state agencies (state DOT, state environmental agency) and one MPO. In addition, it includes major transit operators, operators of major facilities, and others. In multi-state or multi-MPO nonattainment or maintenance areas (multi-jurisdictional nonattainment and maintenance areas³⁰) the costs of meeting the interagency consultation process are substantially higher.

Each time a conformity determination is needed (usually at least once a year) the interagency consultation process requirements must be followed and each of the participating agencies must review and participate in the process. The level of officials (staff, management, elected) in the organizations that must be involved in reviewing and commenting on the conformity determination varies. In all cases, the MPO Policy Board must review and approve the conformity determination in MPO areas.

²⁹ See: <http://www.regulations.gov/#!docketDetail;D=EPA-HQ-OAR-2007-0269>.

³⁰ EPA has issued specific guidance on how multi-jurisdictional nonattainment and maintenance areas conduct the conformity process. See: <http://www.epa.gov/otaq/stateresources/transconf/regs/420b12046.pdf>.



EPA's estimated costs for interagency consultation are grossly underestimated, including the failure to recognize the labor hours that management and elected officials need to expend on the conformity process.

Transitioning to a New Emissions (MOVES) Model.

EPA cost estimates for the transition to the new MOVES model from the MOBILE model have been also grossly underestimated. The AASHTO/AMPO comment letter and attachments provide specific examples and supporting data. EPA does not adequately account for the costs that MPOs and state DOTs must absorb, to develop expertise and work with the latest EPA emissions model, MOVES. Additionally, the MOVES model is now in its fourth iteration (e.g., MOVES 2010, MOVES 2010a, 2010b, and MOVES 2014) with MOVES 2014 being the newly required model effective in 2016.

Each time EPA adopts a new emissions model, significant new costs are incurred by state DOTs, MPOs, and hired consultants to prepare each nonattainment and maintenance area to use the newest version of the model. These include labor costs, training costs, hardware and software updates, and time to run new models in order to become proficient enough to run the conformity analysis. None of these costs are adequately addressed in EPA's estimates. EPA also does not take into account costs associated with collecting local data and other model inputs that the area may need to better reflect local conditions vs. using national default data in their modeling. Collecting such local data can be a considerable cost.

Development of Motor Vehicle Emissions Budgets (MVEB)

EPA does not include costs associated with the development of motor vehicle emissions budgets (MVEB) but assumes it is a SIP activity with costs paid by the state environmental agencies. The process of coordinating, developing and/or revising a MVEB initially and as potential conformity issues arise (i.e., whenever a new emission model is adopted) or as new air quality standards are implemented, is an essential part of the conformity process. EPA should include the full burden hours and costs for the coordination, development and/or revision of MVEBs by MPOs and states.

Travel Demand Modeling: Operating Costs and Non-Recurring Costs

EPA fails to take adequate account for the costs of developing, maintaining, and updating travel demand models and for ensuring the travel demand and EPA's approved emissions models work properly in tandem. These include non-recurring and on-going costs directly associated with meeting the conformity requirements. These costs can be significant, especially in travel demand and emissions modeling areas and have been documented to be in the millions of dollars at larger MPOs, and should be considered in the EPA estimates. Several examples of costs of travel demand and emissions modeling are included in the AASHTO/AMPO comments.

Examples of EPA's Underestimation of Costs

Below are several examples of areas where EPA has underestimated the costs of complying with the transportation conformity requirements. They are taken from the comments made to EPA on the most recent ICR request and attachments submitted in support of those comments.

Frequency, Burden Hours and Costs:

Texas DOT:

"EPA's continued use of the assumption that only one conformity determination is needed in four years and that anything else is "voluntary," suggests a fundamental misunderstanding of the transportation planning and project development processes with the integral regional planning and project-level conformity determinations.³¹"

"...EPA estimates [FR February 12, 2015] that the national annual cost for transportation conformity is \$3,768,668. In comparison, the costs for just 2 MPOs in Texas are \$900,000/year (their combined costs) and this excludes another \$800,000 in TxDOT contracting costs to support conformity and metro areas participating in EPA's ozone advance program. In other words, Texas' actual annual costs for two areas are equal to between a third to almost one-half of EPA's total national costs and this doesn't include costs for all [current] nonattainment areas in Texas."³²

Atlanta Regional Commission:

"EPA's frequency rate for making conformity determinations in large MPOs should be increased. A review of data between January 2004 and April 2011 has indicated that ARB has undergone the transportation conformity determination process more than once every four years, as estimated by EPA. In this period of time, ARC has undergone three transportation plan development efforts and made four additional conformity triggering modification to the TIP. ARC, therefore, has undergone on average one conformity analysis per year [emphasis added]."

"The need for a conformity determination is triggered by requirements outside of the control of the MPO and are therefore not voluntary. Changes in fiscal conditions, transportation control measures issues, modifications in project scope and project timing all can trigger the need for a conformity analysis under the conformity regulation. These issues are compounded in large MPOs. ARC recommends a more thorough survey of MPO practices to support an accurate frequency of analysis."³³

"ARC estimates that at least 759 hours at a cost of \$81,449 are required [each year] to prepare each conformity analysis." (This compares to EPA's estimate of \$30,875 every four years).³⁴

Travel Demand Model and Emissions Model Costs

New York State DOT and NYMTC:

New York State DOT and New York Metropolitan Transportation Council (NYMTC) (the MPO for the NYC region) reported the following travel and emission model related additional costs in 2011 when transitioning to the new MOVES model.³⁵

- \$3.2 million for model development and enhancement, in conjunction with efforts to implement MOVES into their post-processor;
- \$3.2 million for socio-economic and demographic forecasts that occur about once every 5 years;
- \$8.7 million for census data and travel surveys that occur once every 10 years.

³¹ Source: Texas DOT, Comment to Docket ID No. EPA-HQ-2007-0269, EPA ICR No. 2130.05, OMB Control No. 2060-0561, April 23, 2015.

³² Ibid

³³ Source: Atlanta Regional Commission, Comment to Docket ID No. EPA-HQ-OAR-2007-0269, April 7, 2011.

³⁴ Ibid.

³⁵ Source: AASHTO/AMPO Comment to Docket No. EPA-HQ-OAQ-2007-0269, page 5.

Atlanta Regional Commission:

"Some share of these costs should be attributed to conformity. ARC estimates an annual cost of maintaining the region's travel demand model, including annualized impacts from large on-board and household surveys conducted once every ten years to be \$1,528,728. This does not include the cost of developing and maintaining land use and population synthesizers for use with the travel demand model, which potentially doubles that number."³⁶

In short, the compliance costs associated with transportation conformity are substantial and dwarf the EPA estimates. For example, the costs of just the two Texas MPOs (Dallas/Ft Worth and Houston) and TxDOT (\$1.7 million) combined with TPB costs in the Washington, D.C. region (see attached) \$1.3 million - \$2.7 million) would approach but likely exceed the \$3,768,668 that EPA estimates as the nationwide annual cost of meeting the conformity requirements. Clearly, if one is to understand the real compliance costs of transportation conformity, a much closer examination of real expenditures at state DOTs, MPOs, and state environmental agencies is needed.

An Example:

Las Vegas Region: Costs of Compliance

We have reviewed the FY 2015 and FY 2016 Unified Work Program (UPWP) for the RTC region. This federally required document shows the work activities the MPO will undertake in the coming year with federal planning funds. The total budget for FY2015 was \$5.1 million while the FY 2016 UPWP budget totals \$3.1 million. The major difference appears to be a major travel survey that was conducted in FY 2015; a necessary activity to meet transportation conformity requirements. The major planning activities undertaken by the RTC are similar to those undertaken by the MPO in the

Washington, D.C. region, which are discussed below. Given the activities and costs included in the FY 2015 and FY 2016 UPWP for the RTC, we believe it reasonable to assume that the conformity costs in the Las Vegas region are at least 10% and up to 20% of their annual UPWP budget.

An Example:

Conformity Compliance Costs in the Washington, D.C. Region

Given the disagreements over EPA's estimates of compliance costs with the conformity regulation, we cannot credibly estimate the annual cost of compliance on a national basis without substantial further research and consultation with state DOTs, MPOs, and air agencies. However, we were able to estimate the costs to the MPO in the Washington, D.C. region based upon TPB documentation and reasonable assumptions.

The FY2016 TPB Unified Planning Work Program (UPWP)³⁷ and Budget was adopted on March 18, 2015. This document shows the various work activities to be undertaken at TPB during FY2016 using federal planning funds. The UPWP is a federally-required document and shows how each MPO will spend its federal planning funds (FHWA and FTA) each fiscal year. In addition to this list of work activities and costs, MDOT, VDOT and DDOT each have separate work plans that include their anticipated planning activities in the coming year.

The recently adopted UPWP includes seven categories of activities and associated funding for FY2016. The UPWP specifically notes that under the Forecasting Applications category, the Air Quality Conformity and Mobile Emissions Analysis line items are direct conformity costs. Additionally, under several of the other categories it is reasonable to assume that there are some conformity related activities.

³⁶ *Ibid.*

³⁷ <http://www.mwcog.org/uploads/pub-documents/v15bW1g20150414122929.pdf>.



For purposes of estimation we have made reasonable assumptions about the conformity related costs in certain categories that were not specifically called out by TPB as direct conformity costs. We believe these assumptions are reasonable based on past experience, extensive work with practitioners, and comments to the docket in 2004, 2011, and 2015 by AASHTO/AMPO and specific state DOTs and MPOs.

In conclusion, the conformity process is, at a minimum, costing \$1.304 million annually in the TPB region. We believe a range of \$1.304 to \$2.73 million per year is more likely to capture the full costs of compliance and have made reasonable assumptions about likely additional conformity related costs. In addition to the TPB costs, VDOT, MDOT, and DDOT have work programs that include their costs to comply with the conformity requirements. These costs are not called out specifically but should also be considered a direct cost of conformity compliance.





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