

Nevada Transportation Blueprint

**Strategies for Meeting Mobility Needs,
Strengthening the Local Economy by Reducing Energy Costs,
Minimizing Climate Impacts,
Improving Air Quality
and Achieving Energy Independence**

By Mike C. Salisbury

and

Robert E. Yuhnke

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2334 N. Broadway, Suite A • Boulder, CO 80304 • tel: 303-447-0078 • fax: 303.447-0158 • www.swenergy.org

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About the Southwest Energy Efficiency Project:

The Southwest Energy Efficiency Project (SWEEP) is a public interest organization promoting greater energy efficiency in Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming. For more information about SWEEP, visit www.swenergy.org.

Acronyms and Abbreviations

AEO	Annual Energy Outlook	LDV	Light Duty Vehicle
AFV	Alternative Fueled Vehicle	LNG	Liquefied Natural Gas
APU	Auxiliary Power Unit	MMT	Million Metric Tons
BEV	Battery Electric Vehicle	MPG	Miles per Gallon
BLM	Bureau of Land Management	MPO	Metropolitan Planning Organization
BRT	Bus Rapid Transit	NDOT	Nevada Department of Transportation
CAA	Clean Air Act	NMHC	Non-Methane Hydrocarbons
CAFE	Corporate Average Fuel Economy	NHTS	National Household Transportation Survey
CARB	California Air Resources Board	NHTSA	National Highway Traffic Safety Administration
CARS	Car Allowance Rebate System	NOx	Nitrogen Oxides
CNG	Compressed Natural Gas	NPV	Net Present Value
CO ₂	Carbon Dioxide	OE	Original Equipment
DMU	Diesel-Electric Multiple Unit	OEM	Original Equipment Manufacturer
DMV	Department of Motor Vehicles	PAYD	Pay As You Drive
DOT	Department of Transportation	PEV	Plug-in Electric Vehicle
EIA	Energy Information Administration	PHEV	Plug-in Hybrid Electric Vehicle
EIS	Environmental Impact Statement	PM	Particulate Matter
EISA	Energy Independence and Security Act of 2007	PMT	Passenger Mile Traveled
EMU	Electric Multiple Unit	PPM	Parts per Million
EPA	Environmental Protection Agency	PPSM	Population per Square Mile
EV	Electric Vehicle	RMI	Rocky Mountain Institute
FHWA	Federal Highway Administration	RTC	Regional Transportation Commission
GHG	Greenhouse Gas	RTP	Regional Transportation Plan
GM	General Motors	SWEEP	Southwest Energy Efficiency Project
GSP	Gross State Product	TOD	Transit Oriented Development
HOT	High Occupancy Toll	VOC	Volatile Organic Compounds
HOV	High Occupancy Vehicle	UGB	Urban Growth Boundary
ICE	Internal Combustion Engine	ULEV	Ultra Low Emission Vehicle
IPCC	Intergovernmental Panel on Climate Change	VMT	Vehicle Miles Traveled
ITS	Institute of Transportation Studies	WCI	Western Climate Initiative
kWh	kilowatt-hour	WHSRA	Western High Speed Rail Alliance

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Executive Summary

This Blueprint is an investigation of the transportation sector strategies available to the State of Nevada to strengthen the state's economy by lowering energy costs and reducing the state's need to import transportation fuels. Implementing these strategies will make the Nevada's economy less dependent on global fuel markets and foreign sources of supply. These strategies provide important economic benefits as well as environmental benefits by reducing greenhouse gas (GHG) and criteria pollutant emissions resulting from the transport of people and freight.

Prices of petroleum fuels used for transportation have risen from below \$2.00 per gallon in early 2009 to over \$3.00 per gallon at the beginning of 2011. The U.S. Energy Information Administration (EIA) estimates that by 2020, the price of gasoline (adjusted for inflation) will range from \$3.26 (in the reference fuel price case) to \$5.03 (in the high fuel price case),¹ depending in part on the oil production decisions of producing countries and how much oil consuming countries turn to unconventional oil sources (oil sands, oil shale and biofuels).

In 2009, imported petroleum fuels accounted for 52% of the liquid fuels used in the U.S. transportation sector,² at a cost of approximately \$132 billion to the U.S. economy.³ With the potential increases of the cost of petroleum fuels in the decade ahead, each \$1.00 added to the price of a gallon of fuel imposes a burden of \$90 billion on the U.S. economy.

In 2009, an estimated \$3.3 billion was spent on purchases of gasoline and diesel in Nevada, making up approximately 3.5% of the state's Gross State Product (GSP) as shown in Figure ES-1.

By 2020, rising fuel prices are expected to push this percentage to between 4.9% and 7.6% of the state's economy, based on the EIA's reference case and high fuel price case scenarios. The adoption of the Blueprint strategies would reduce these percentages to between 4.4% and 6.8% in 2020. Between 2020 and 2050, slower rates of growth in fuel prices, combined with greater growth in Nevada's economy, leads to fuel costs taking up between 4.5% and 5.5% of the GSP, still greater than 2009 levels.⁴ The adoption of the Blueprint strategies would reduce these percentages to between 4.1% and 5.0% in 2050.

¹ While not necessarily indicative of a long-term trend, the current fuel price in Nevada, \$3.10 per gallon, is already above both of the EIA's projections for 2011, \$2.47 per gallon for the reference case and \$2.69 per gallon for the high fuel price case.

² Energy Information Administration. (2010, December 16). *AEO2011 Early Release Overview: Energy Production and Imports*. Retrieved from http://www.eia.doe.gov/forecasts/aeo/early_production.cfm

³ The cost of West Texas Intermediate crude oil was \$61.66 per barrel in 2009. Retrieved from <http://www.eia.doe.gov/emeu/steo/pub/contents.html>

⁴ The Center for Business and Economic Research. (2010, June 7). *Population Forecasts: Long-Term Projections for Clark County, Nevada 2010-2050*.