

Water and the Colorado Economy



Commissioned by:
Front Range Water Council

Colorado Water Congress
January, 2010

INTRODUCTION

Greg Fisher
Denver Water Representative for
Front Range Water Council

Outline

Purpose

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Economics

Water

Economics & Water

Summary

Front Range Water Council

“Advocating mutual interests, as transmountain diverters of water from Colorado’s West Slope to its East Slope, in water policy and water supply for the population of the Colorado Front Range.”

➤ Members

- Northern Colorado Water Conservancy District
- Southeastern Colorado Water Conservancy District
- Colorado Springs Utilities
- Aurora Water
- Pueblo Board of Water Works
- Denver Water
- Twin Lakes Reservoir and Canal Company

Purpose

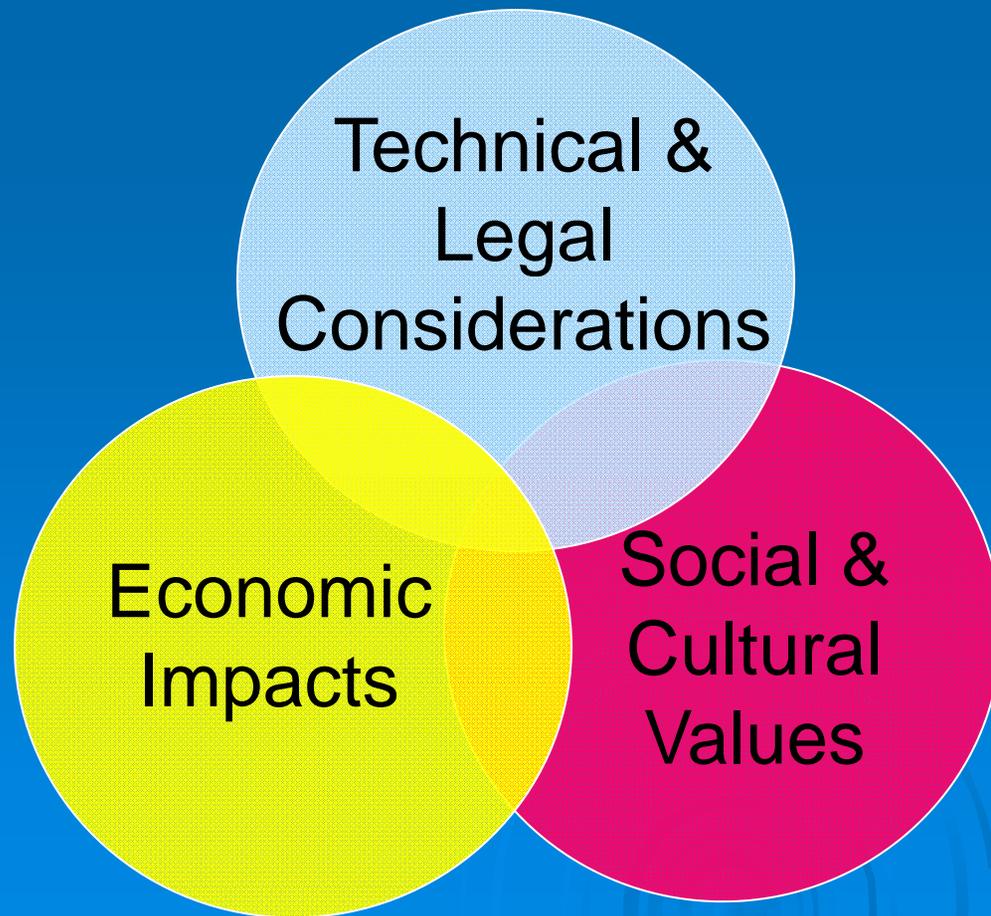
➤ Objectives:

- Illustrate Economic Value of Water
- Examine Economic Interdependence of Colorado Regions
- Determine Economic Contribution of Colorado's Regions to the State Economy

➤ Research Team:

- Summit Economics
- The Adams Group

Water Balancing Act



- Study examines economic impacts.
- Study does not address social values, nor technical considerations.
- No comprehensive study exists of water value from all three perspectives.

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Colorado's National Economic Vitality Rankings out of 50 States

- **4th Most Preferred State to Live in**
 - Harris Poll
- **4th Happiest State in Nation**
 - University of Cambridge, Gallup Poll, 2008
- **2nd in Entrepreneurial Activity**
 - ITIF Index
- **3rd Highest Venture Capital per Capita**
 - Beacon Hill State Competitiveness

Colorado's National Economic Vitality Rankings out of 50 States

- 4th Best State for Business
 - Forbes Magazine 2009
- 8th in High Tech Exports
 - AEA Cyberstates 2008
- 10th Most Fortune 500 Company Headquarters
 - Fortune Magazine

Colorado's National Economic Vitality Rankings out of 50 States

- 4th Highest Research and Development Inputs
 - Milken Institute
- 8th in the Nation for Agricultural Outputs
 - Referring to Weld County, 2007 Census of Agriculture

Colorado's Economic Future

Colorado, as part of the southern intermountain west

“... is experiencing some of the highest population growth rates and economic and demographic transition of any place in the country.”

Brookings Institute, 2008

Colorado's Economic Future

The Central Question

Given this change and the State's role within the Regional and National economy...

Will Colorado's approach to water support or hinder the State's future economic vitality?

Population Projections for Colorado out to 2050

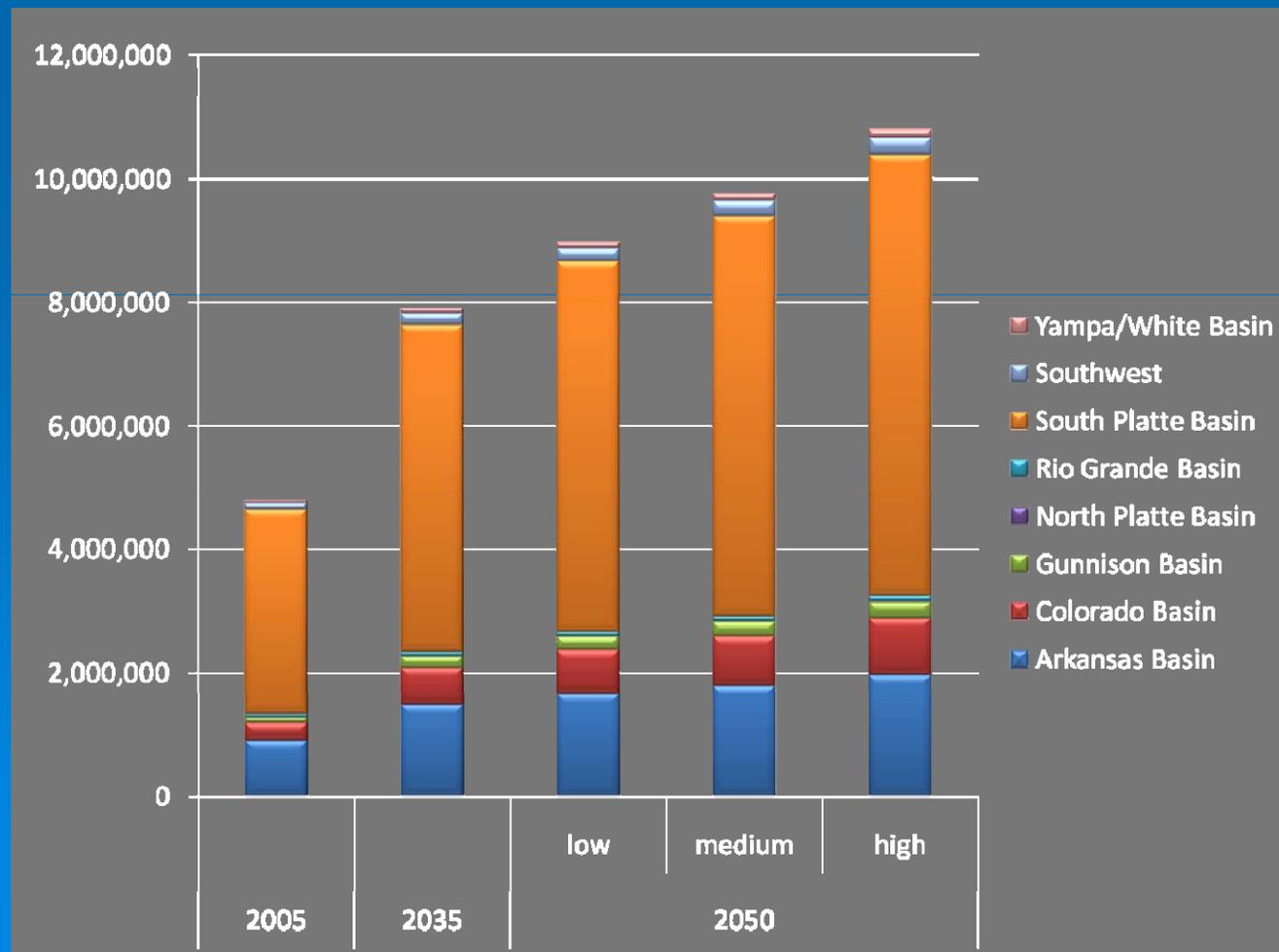


Figure 2. Population projections for Colorado out to 2050 from Colorado Department of Natural Resources

State of Colorado Projected Water Demands, Supplies, and Gaps

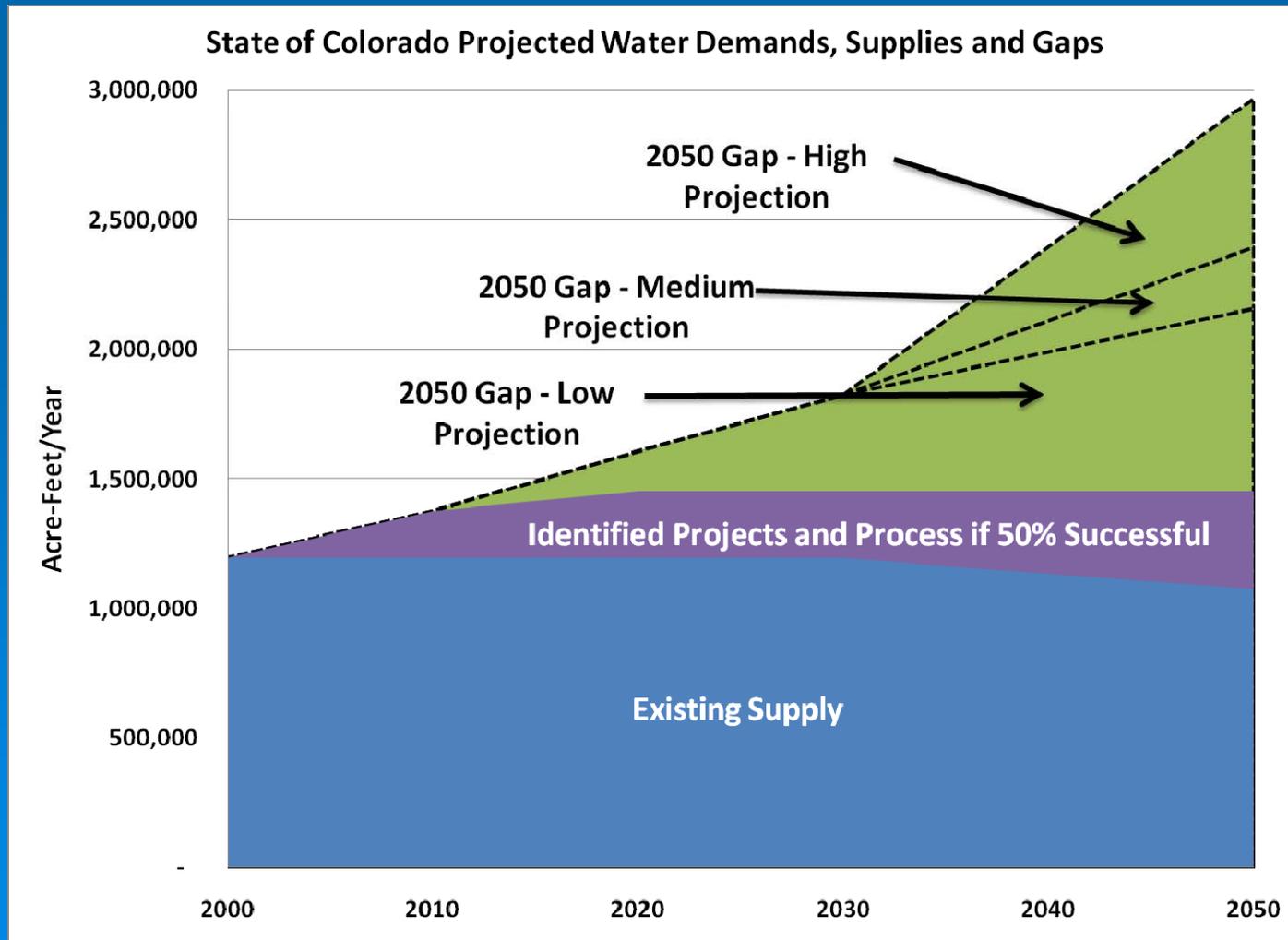


Figure 4. State of Colorado Projected Water Demands, Supplies, and Gaps from Colorado Department of Natural Resources

WATER AND THE COLORADO ECONOMY



Tom Binnings
Summit Economics



SUMMIT ECONOMICS AND THE ADAMS GROUP

Tucker Hart Adams

David Bamburger

Tom Binnings

Paul Rochette

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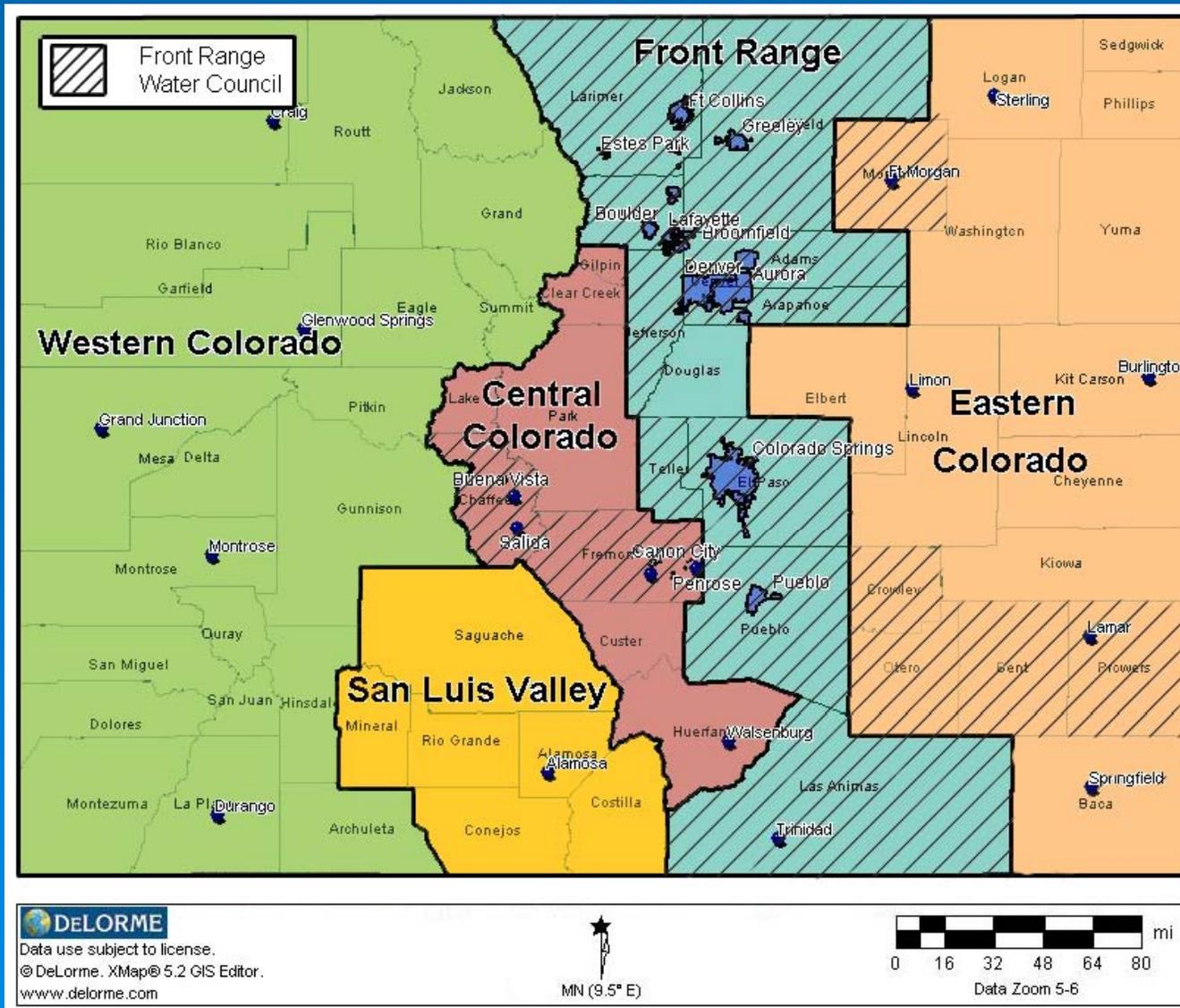
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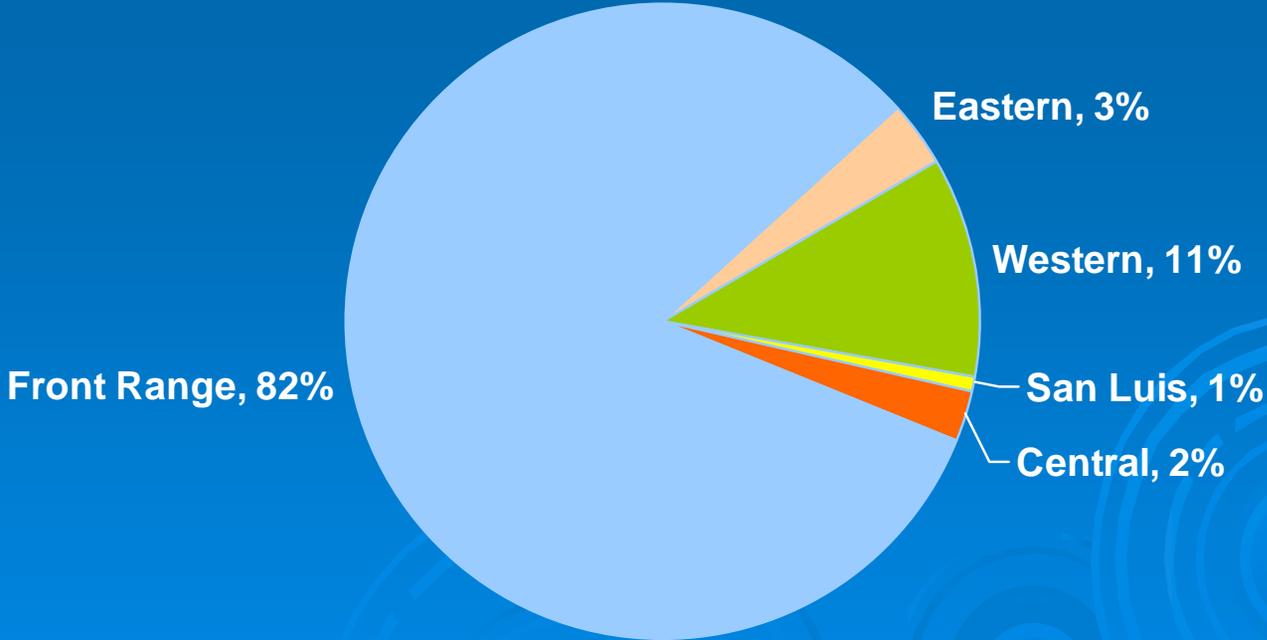
Summary

Colorado's five economic regions are diverse (urban, rural and mountain)



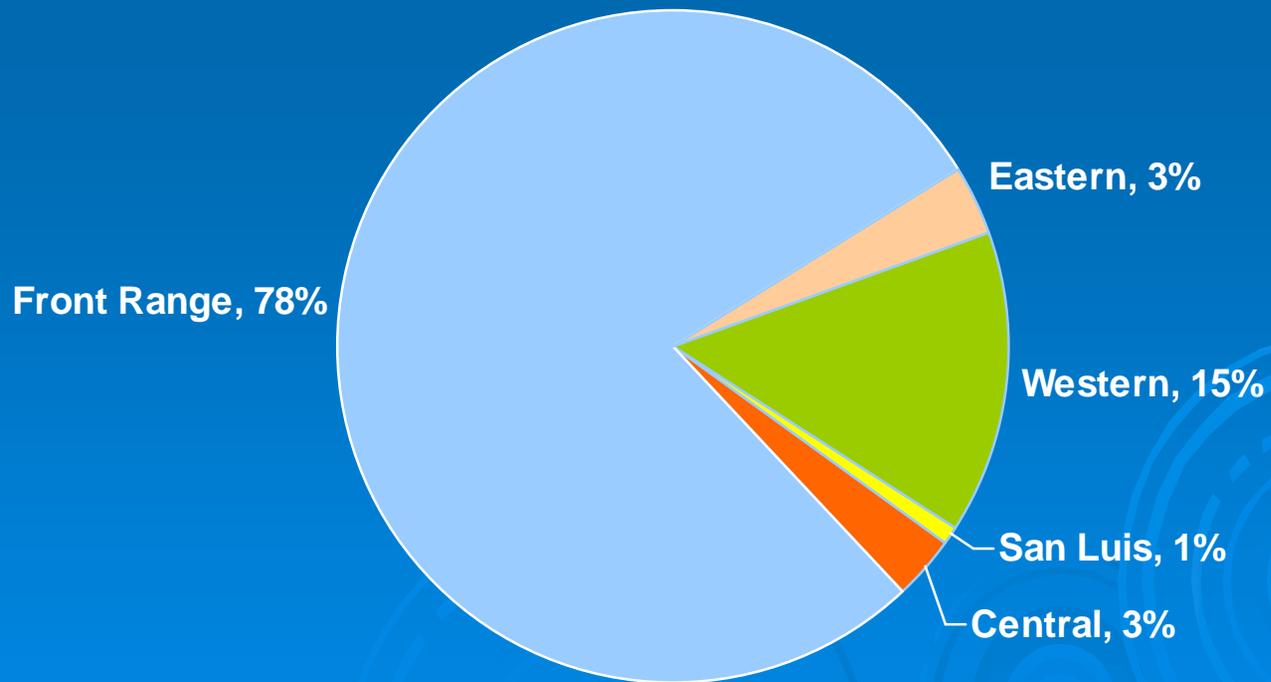
Distribution of State's 4.9 Million Residents

2007 Population by Region



Source: Colorado State Demographer

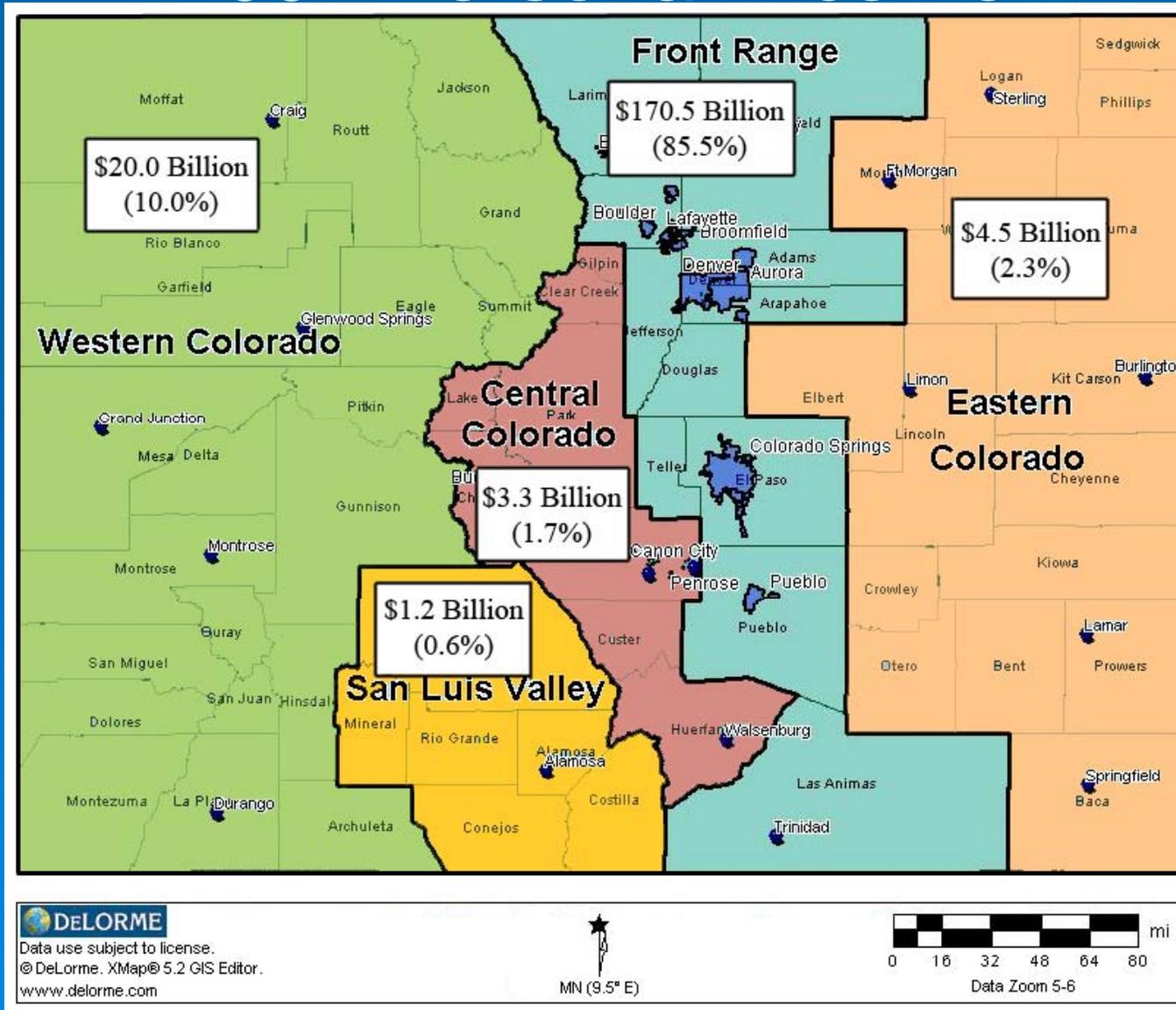
Distribution of State's forecasted 10.1 million residents 2050 Population by Region



Source: Colorado State Demographer

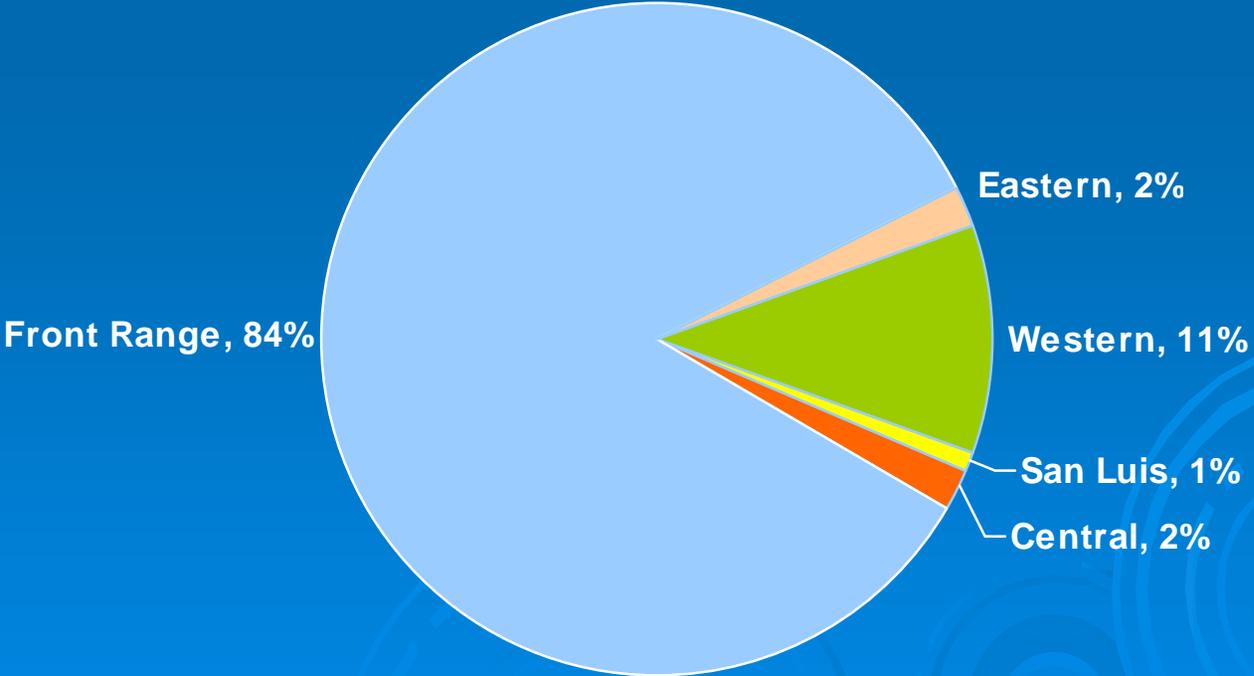
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2007 Personal Income



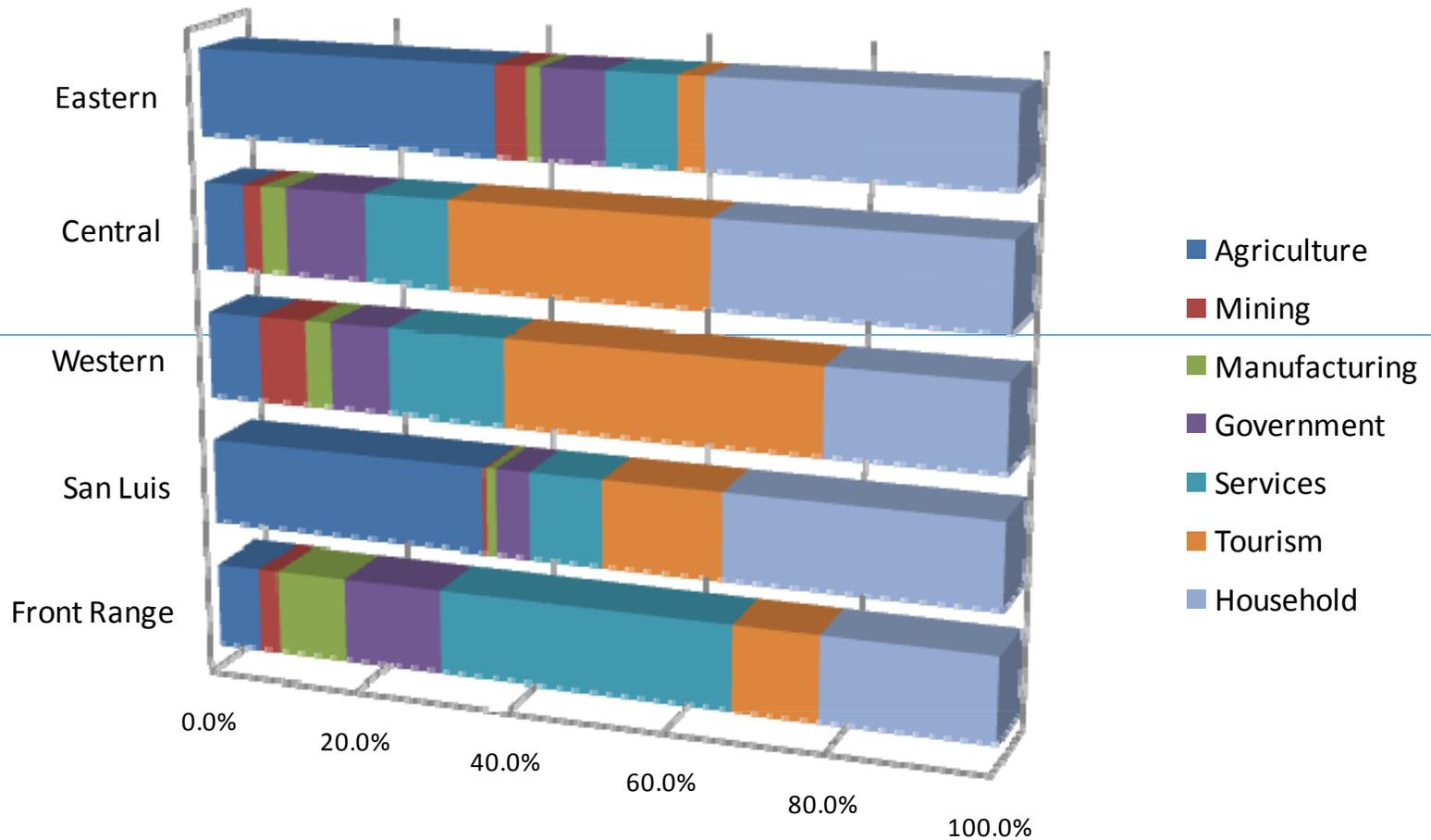
Source: Bureau of Economic Analysis Regional Economic Accounts, Table CA1-3 Personal Income Series

State Sales & Personal Income Tax by Region



Source: 2007 Colorado Department of Revenue

Basic Industries Share of Total Basic by Region



Source: Colorado State Demographer

Econometric Model

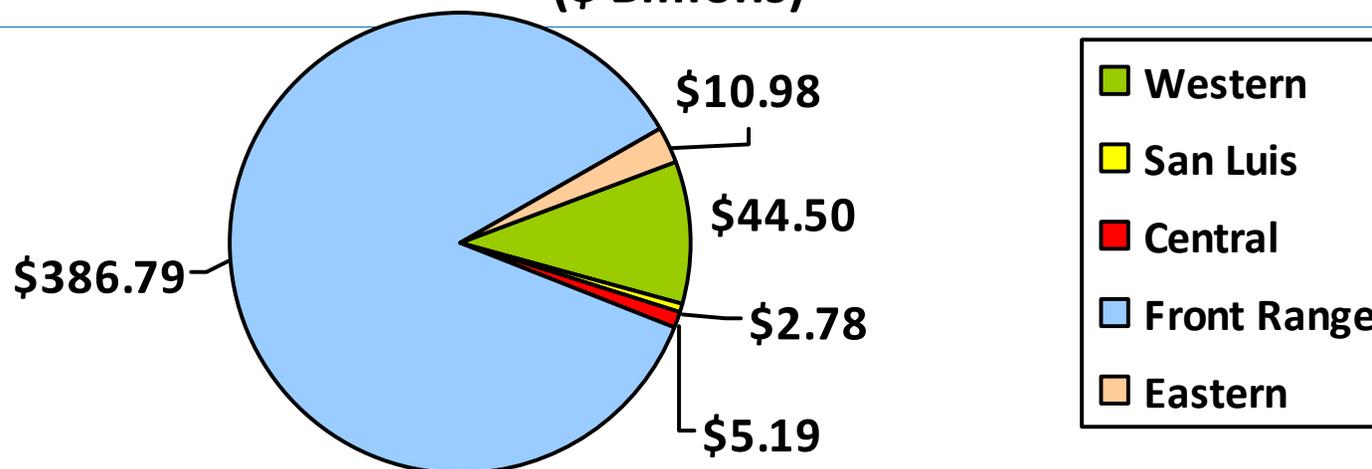
Trade Between Regions Operates Like Gravity

- The Larger Two Regions' Economies
- The Closer the Regions Are to one another

The More Likely They are to Trade

Colorado's Sales

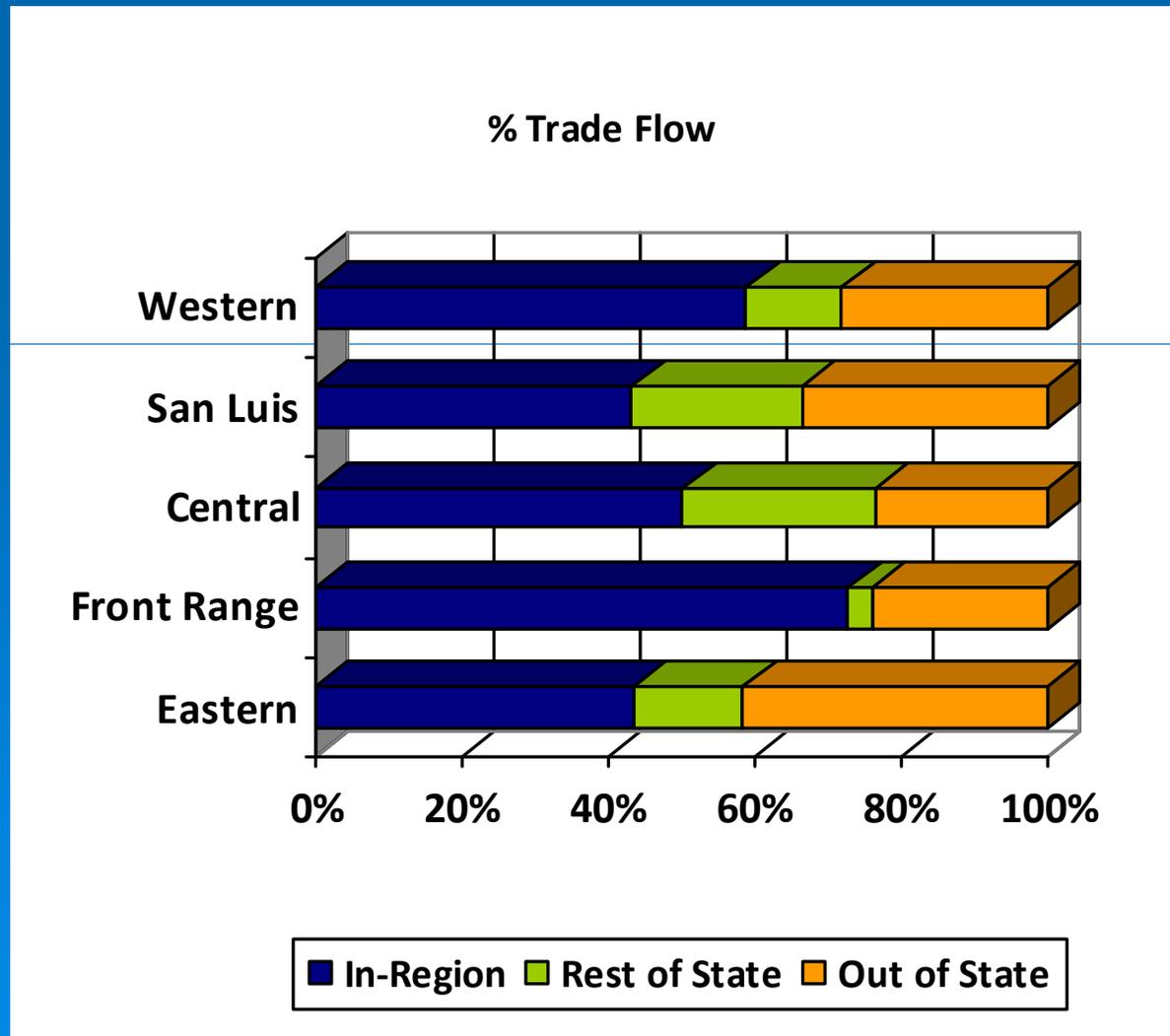
2007 Trade Flows by Region
(\$ Billions)



Trade flows – To Where?

- 70% stayed within the State
- 55% were within each Region
- 30% were exported to other States

Economic Interdependence



Colorado's Future Economy

- Increasingly Global
- Outperforms the Nation
- High Skilled Labor
- Attracts capital
- Concentrated along the Front Range
- Is significantly interdependent

But, what about water?

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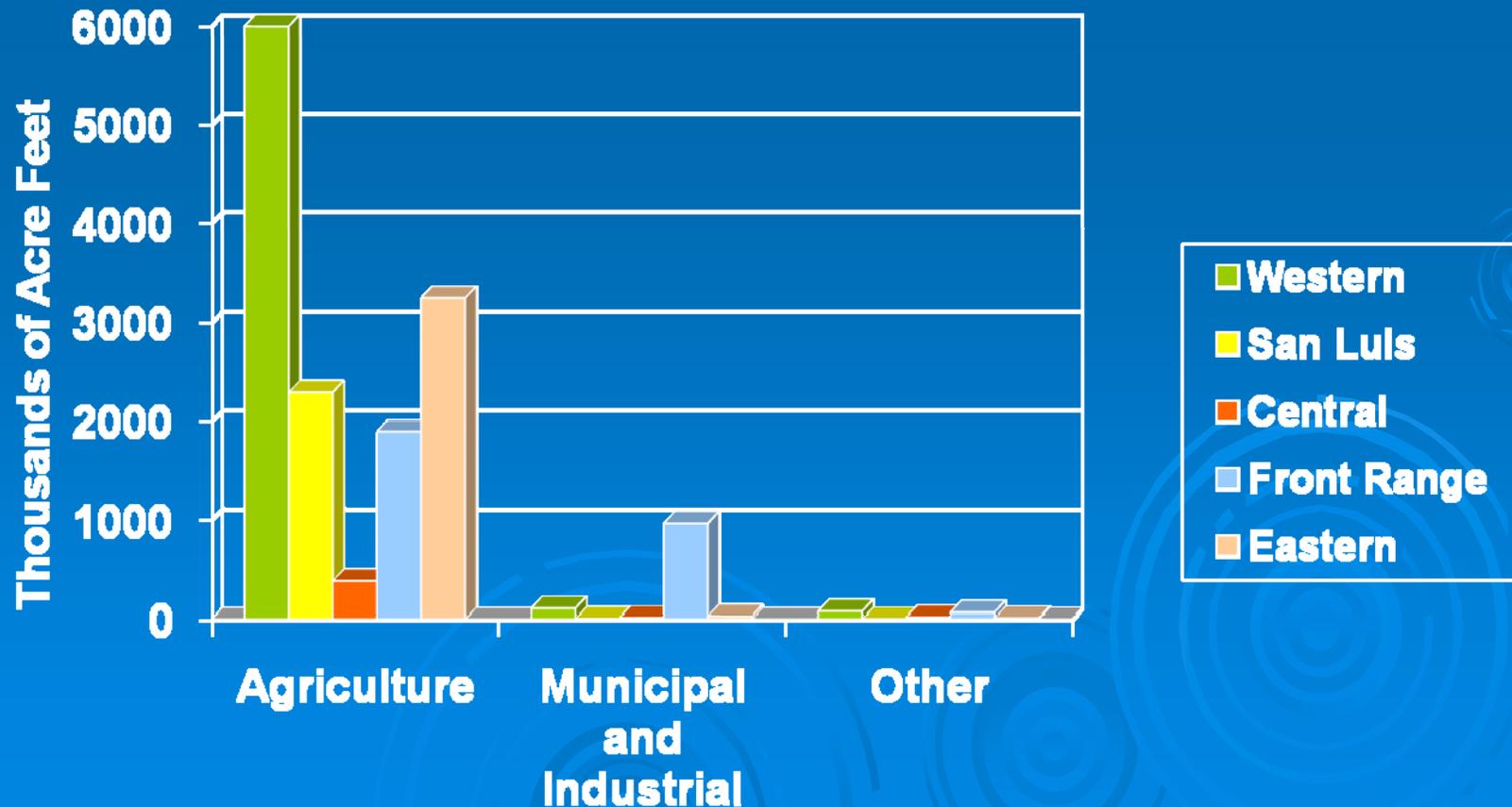
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2005 Colorado Water Withdrawals by Region



Source: 2005 United States Geological Survey Data, Summit/Adams

Trans-basin Diversions

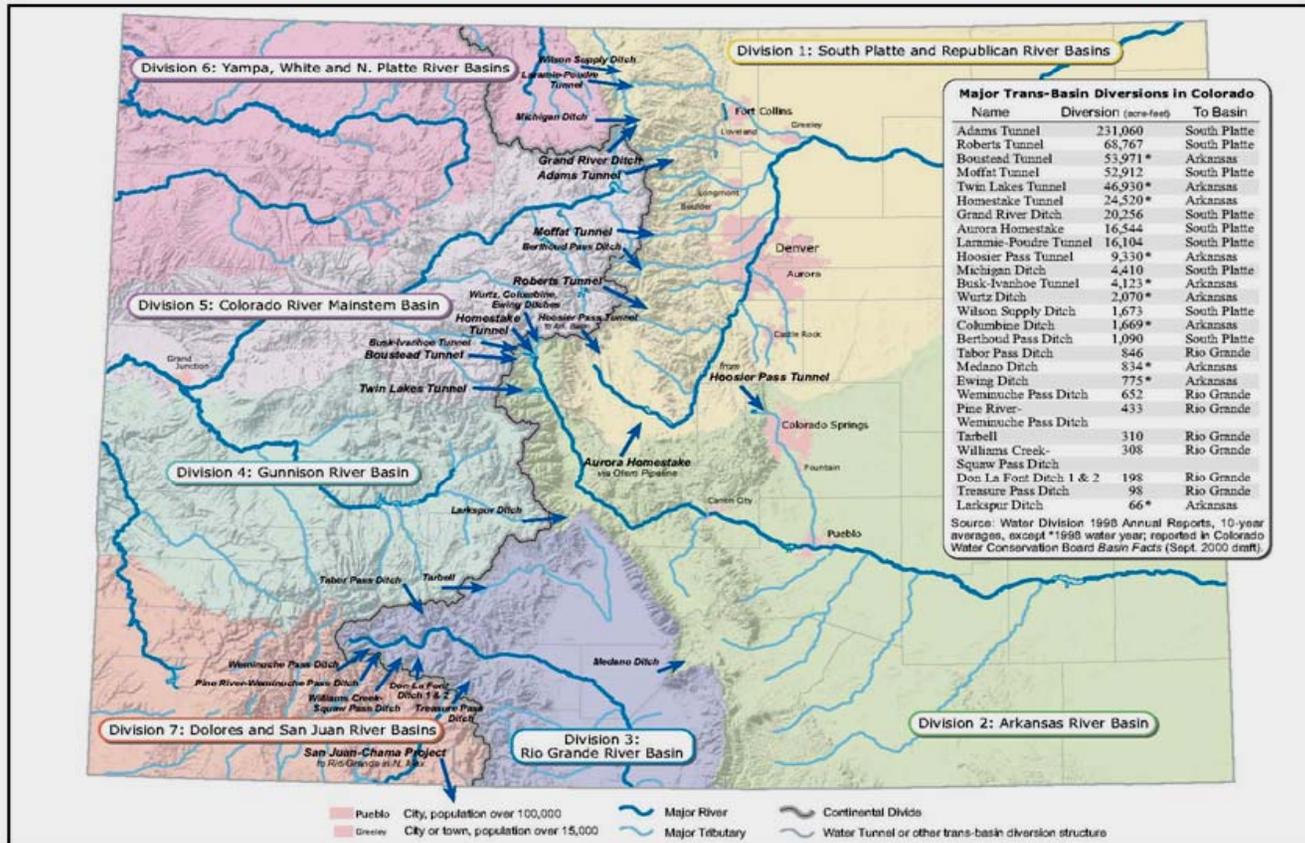


Figure 7. Major Trans-Basin Diversions

Sources: Colorado Division of Water Resources, Office of the State Engineer; Colorado Water Conservation Board; U.S. Bureau of Reclamation; U.S. Geological Survey. Map by Thomas Dickinson.

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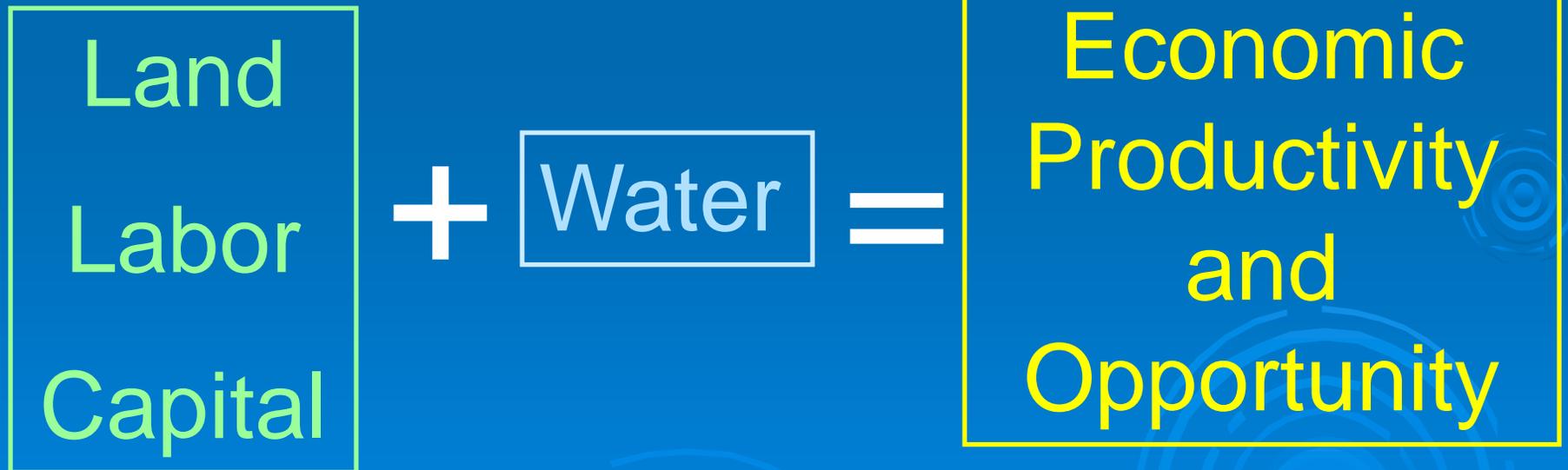
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Economics and Water



Economics and Water

Total Regional Sales of
Goods and Services (\$)

Total Regional Water
Withdrawals (AF)

= Equals Sales per
Acre Foot of Water

2007 Sales of Goods and Services per Acre Foot of Total Water Withdrawn, by Region



Sources: Implan Group and USGS, Summit/Adams

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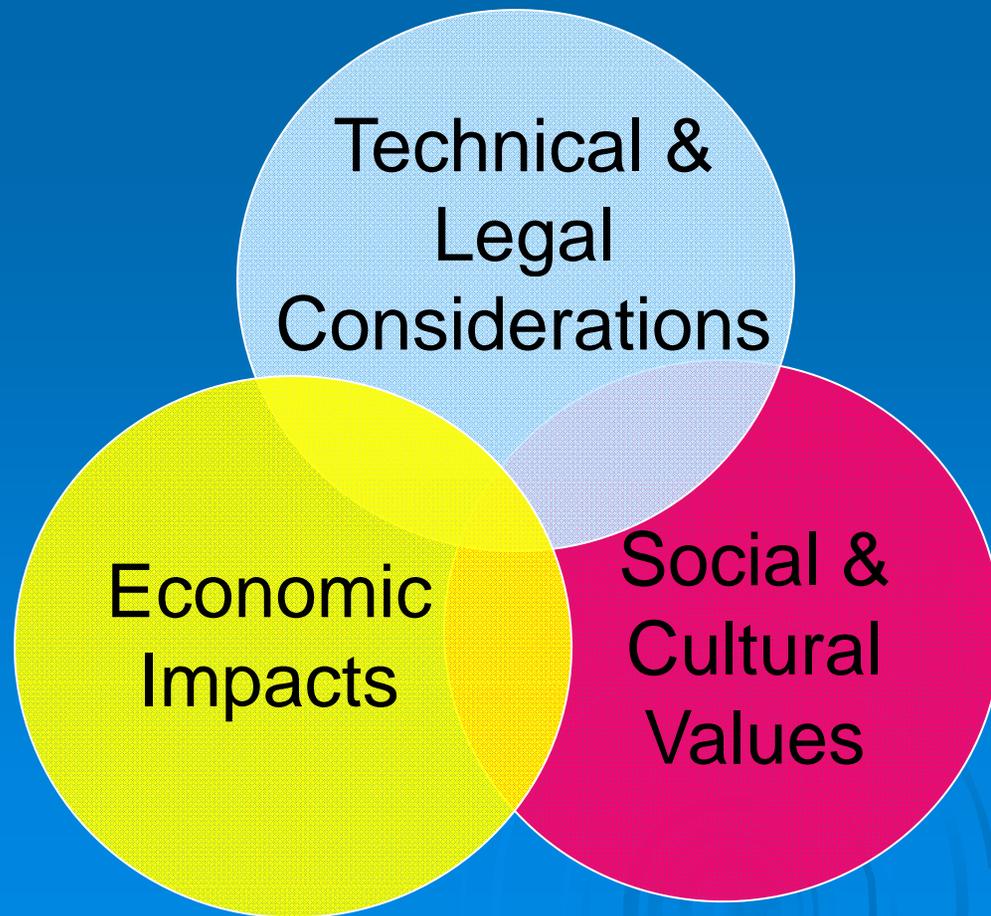
Economics & Water

Summary

Water and Colorado Economy Summary

- 80-86% of State's economy and tax revenue comes from Front Range
- 70% of economy as measured by sales stays in State with a high level of interdependence
- Of all Colorado water withdrawn today
 - 12.5% used by the Front Range for Agriculture
 - 6.5% used by the Front Range for M&I
 - 72% of water withdrawn by FRWC is from Colorado Basin
- Front Range generates \$132k for every acre foot of water
- State projects a formidable water supply gap

Water Balancing Act



Economic impacts of water are not intended to minimize other factors, but must be considered in policy deliberations.

Failing to do so risks Colorado's competitive advantage in a global economy and the resulting well being of Colorado Citizens

PANEL MEMBERS

Greg Fisher

Tom Binnings

Mark Pifher

Bruce McCormick

Paul Rochette

CLOSING REMARKS

Bruce McCormick
Colorado Springs Utilities