SRI International

Target Industries & New Practices for Nebraska's Next Economy

Governor's Summit on Economic Development

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SRI International
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Overview of Presentation

- About SRI
- Project summary
- Nebraska’s recent economic trends
- Key clusters for Nebraska
- Nebraska’s advantage

SRI – Who We Are

A world-leading independent R&D organization

SRI headquarters, Menlo Park, CA

Sarnoff, Princeton, NJ

- Founded by Stanford in 1946
  - Based in Silicon Valley
  - Non-profit corporation
  - Independent from Stanford in 1970
  - Sarnoff/RCA Labs integrated 2011
- 2,200 staff members
  - 43% with Masters and PhDs
  - More than 20 locations worldwide
- Consolidated 2014 revenue ~$500M

SRI Harrisonburg, Virginia

SRI State College, Pennsylvania

SRI Tokyo, Japan

SRI Washington, D.C.

SRI: Developing World-Changing Innovations

First telerobotic surgical system

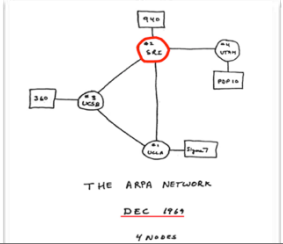
New drug for lymphoma

.com
.gov
.org

First assigned domain names

Computer mouse

Ultrasound for medical diagnostics



First ARPANET and internetworking nodes

U.S. Dept. of Education national technology roadmap

Treatment for drug-resistant malaria

Emmy Awards for HDTV and more

Created Siri (acquired by Apple)

Center for Innovation Strategy and Policy (CISP)

Who we are:

CISP helps organizations, regions, states and countries achieve long-term economic and social impact through effective investments in science, technology, and innovation.

Based in Washington D.C., the Center is staffed with experienced professionals who conduct research, analysis, program evaluation, and strategic planning for private and public sector clients around the world.

Evaluate Complex Programs

Build Innovation Systems

Transition Technology To Market

Advance Innovation in Government

Center for Innovation Strategy and Policy (CISP)

What we are doing in Nebraska:

Refine strategies and policies for targeted industries

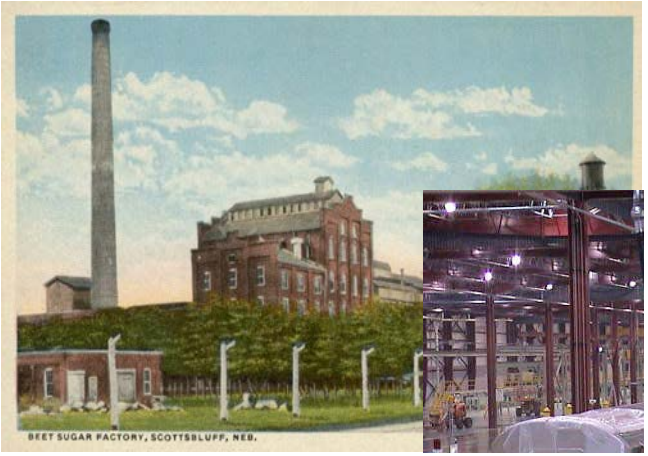
Examine current economic and community development programs and policies, and provide recommendations

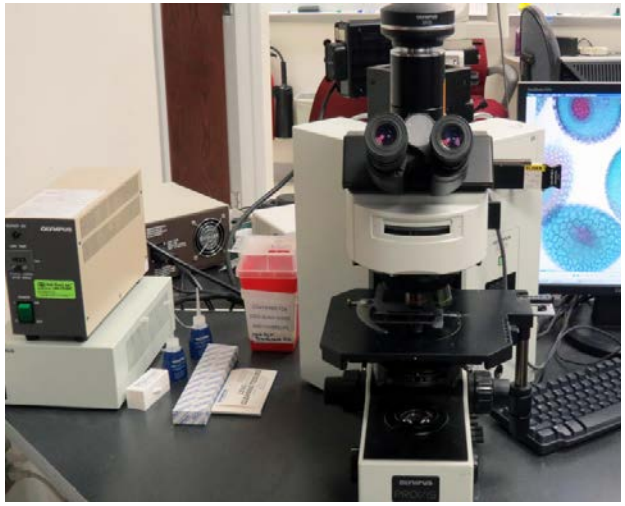
How we are doing it:

Review of secondary material *(statutes, reports, commissions, articles, etc.),* ***cluster analysis*** *of economic data, quantitative* ***analysis of workforce data****, stakeholder* ***interviews and focus groups***

Nebraska's Next Economy

Goals, Policies and Practices for the Economic Development Ecosystem





Nebraska's economy is at a turning point

..and needs to complete the transition towards a high-quality/high-value economy. To do this the state should pursue four strategic goals:

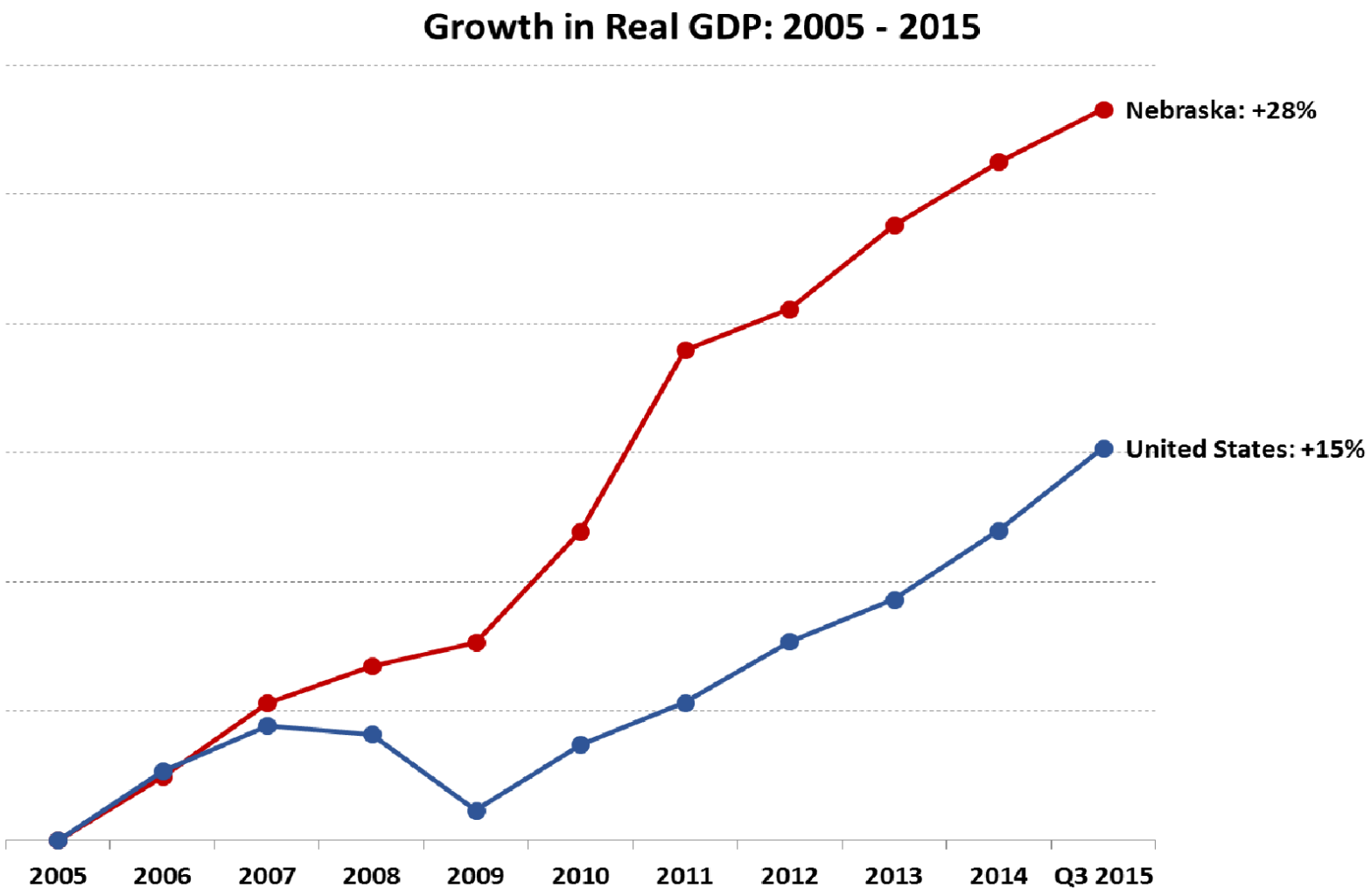
- **High skill, high wage jobs**
- **Technology intensive investment**
- **Innovation**
- **High quality communities**

In pursuit of these goals SRI recommends the following set of strategic actions

- Align tax credits and other incentives accordingly **(Session 1)**
- Increase investment in the Business Innovation Act **(Session 2)**
- Widen, accelerate and seal the STEM pipeline **(Session 3)**
- Capitalize the development of 21st. Century infrastructure **(Session 4)**
- Fund breakthrough solutions to challenges in transportation and housing **(Session 4)**

Nebraska’s Recent Economic Trends

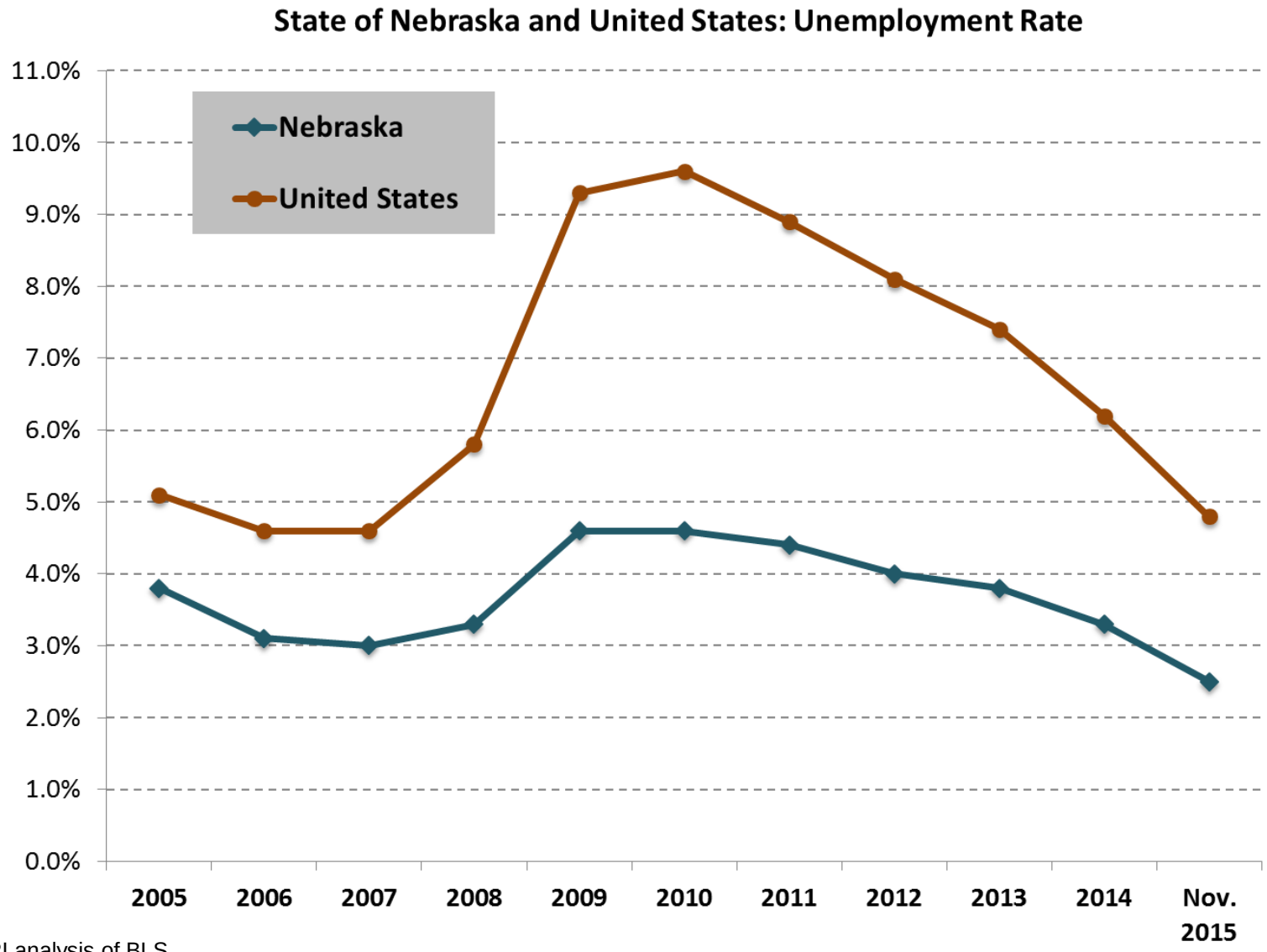
GSP growth in Nebraska has been consistently strong



* These figures are adjusted for inflation and are expressed in constant 2014 dollars.

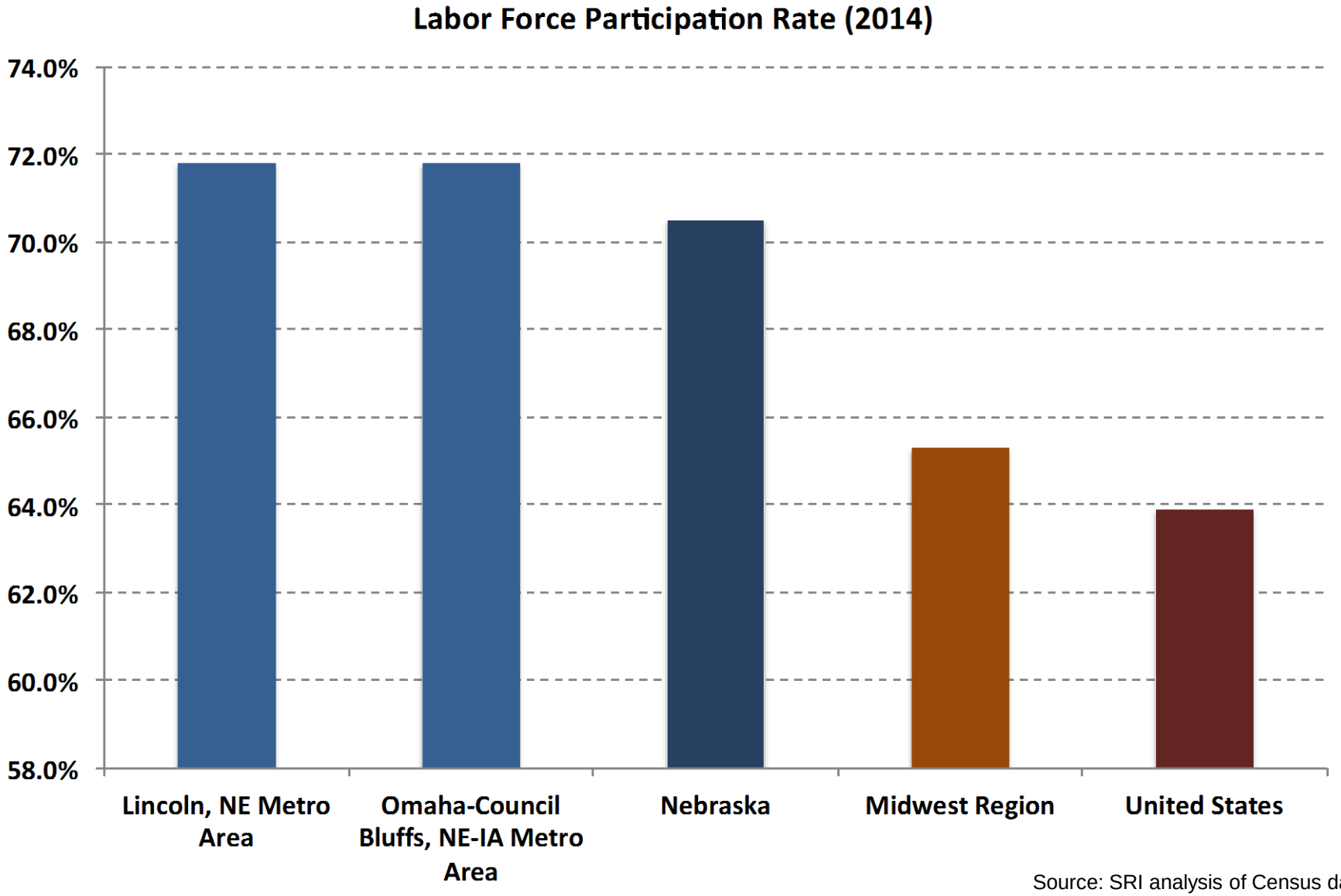
Source: SRI analysis of BEA

Unemployment in Nebraska is very low, and far below the national average



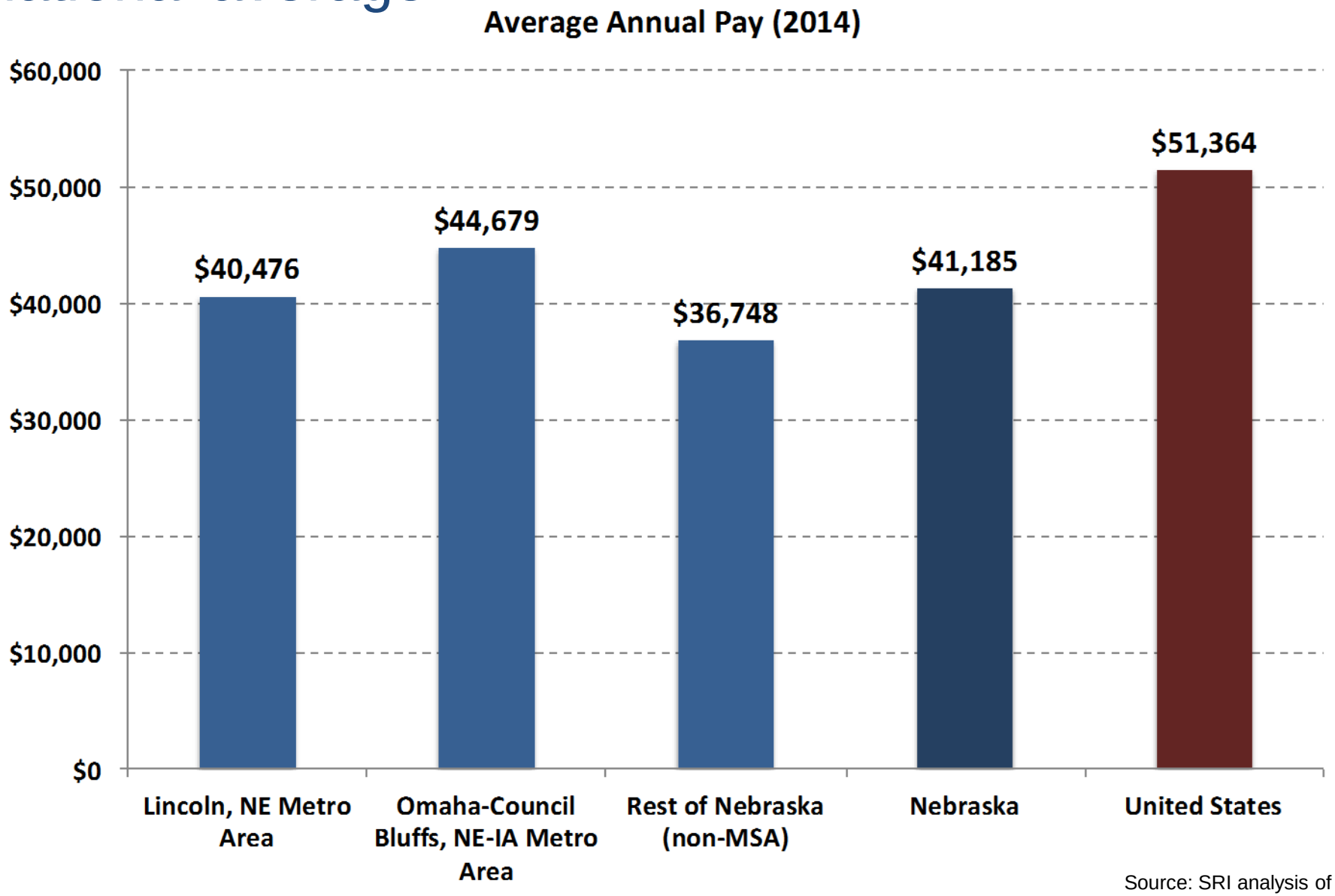
Source: SRI analysis of BLS

Labor force participation in Nebraska is much higher than average



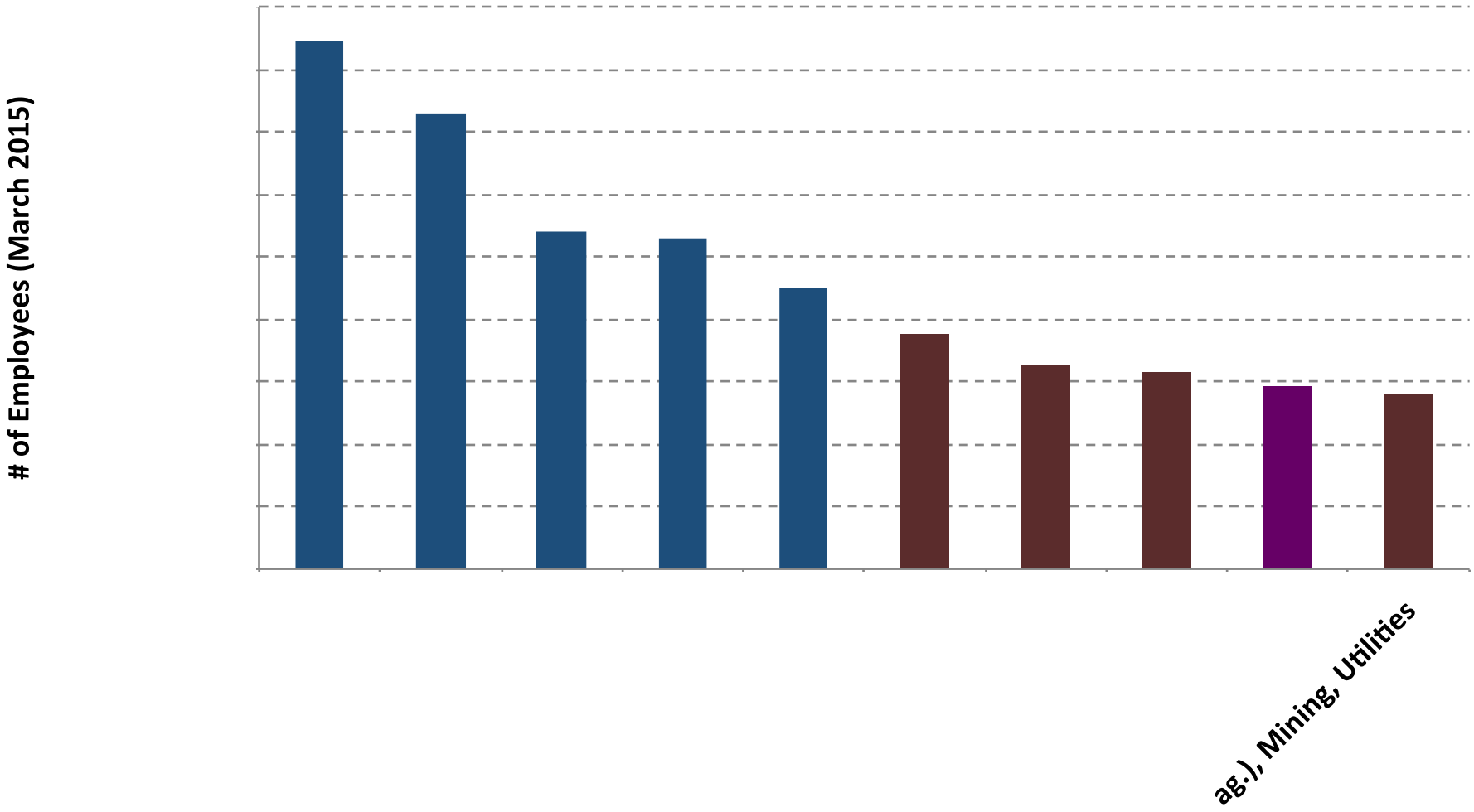
Source: SRI analysis of Census data

But average wages in Nebraska are 21% below the national average



Source: SRI analysis of BLS

Structure of Nebraska's Economy (2015)



Source: SRI analysis of BLS

Key Clusters for Nebraska

Categories and Criteria for Identifying High-Potential Target Clusters for Nebraska

Category	Criteria
Job Quality	■ Does the cluster offer high-wage jobs? ■ Does the cluster offer high-skill jobs?
Critical Mass	■ Does Nebraska have an existing "critical mass" of firms or employment to build upon (i.e., not trying to grow a cluster from scratch)? ■ Does Nebraska have unique assets or strengths for developing this cluster, or that provide opportunities to "pivot" toward new opportunities?
Growth Trends	■ Does the cluster have positive growth trends in Nebraska (i.e., indicating potential for future growth)? ■ Does the cluster have positive growth trends/forecasts nationally or globally (i.e., do not invest in a declining industry)?
Other Factors	■ Is the cluster tradable/export-oriented (i.e., brings in revenues from out of state)? ■ Does the cluster offer an opportunity to diversify the state economy into new, high-potential sectors?

High-level Summary of Targeted Clusters

Large clusters and/or established strengths in Nebraska	Smaller clusters with emerging strengths & good growth trends	Large clusters – need work to build NE value proposition
◆ Agribusiness & Food Processing ◆ Financial Services ◆ Call Centers & E-Commerce ◆ Transportation & Logistics	◆ Biosciences ◆ Renewable Energy ◆ Advanced Manufacturing ◆ IT & Data Services	◆ Health & Medical Services ◆ Business Services ◆ Tourism

Agricultural machinery remains an extraordinary, well-paid strength. Financial services are also strong

Agribusiness & Food Processing

Primary Agriculture	14,955 jobs*	+4.1% CAGR	1.56 LQ	$36,128
Food Processing	35,001 jobs	+1.0% CAGR	3.07 LQ	$36,042
Agricultural Machinery	10,670 jobs	+2.4% CAGR	7.59 LQ	$55,997
Agricult. & Food Wholesale	14,593 jobs	+1.4% CAGR	2.16 LQ	$46,777

Financial Services

Financial Institutions	24,340 jobs	+0.9% CAGR	1.37 LQ	$60,735
Securities	4,629 jobs	+0.4% CAGR	0.75 LQ	$112,579
Insurance	25,418 jobs	-0.2% CAGR	1.65 LQ	$76,204

*** Agricultural jobs are undercounted here because BLS does not count all small farm employment in this dataset.**

Nebraska Average Wage: $41,536 in Q1 2015

Source: SRI analysis of BLS data, Data are for Q1 2015, Growth rates are for 2010-2015

Call centers and e-commerce, well-represented but in decline

Call Centers & E-Commerce

Call Centers	6,311 jobs	+0.7% CAGR	1.80 LQ	$35,620
E-Commerce*	3,038 jobs	-5.7% CAGR	1.25 LQ	$36,130

*** E-Commerce category only includes firms in NAICS 42511 (Business to business electronic markets) and NAICS 4541 (Electronic shopping and mail order houses). This category does not capture all e-commerce jobs in NE, because many firms doing e-commerce (such as PayPal or Cabela's) are categorized under other more general NAICS categories for IT or retail.**

Nebraska Average Wage: $41,536 in Q1 2015

Source: SRI analysis of BLS data, Data are for Q1 2015, Growth rates are for 2010-2015

Data services are an established strength, while agricultural bio-sciences under-perform but have strong potential

Biosciences

Agricultural Biosciences	2,194 jobs	+4.3% CAGR	0.55 LQ	$64,136
Medical Biosciences	9,636 jobs	-0.3% CAGR	0.93 LQ	$69,805

Renewable Energy

Renewable Energy Prod.	1,951 jobs	+1.3% CAGR	7.54 LQ	$64,937
Environmental Consulting & Organizations	2,940 jobs	-2.8% CAGR	0.98 LQ	$47,694

IT & Data Services

Data Services, Programming, & Systems Design	16,362 jobs	+2.4% CAGR	1.10 LQ	$85,221
Internet Services	628 jobs	+29.0% CAGR	0.51 LQ	$70,252
Software Development	799 jobs	+20.2% CAGR	0.36 LQ	$91,884

Nebraska Average Wage: $41,536 in Q1 2015

Source: SRI analysis of BLS data, Data are for Q1 2015, Growth rates are for 2010-2015

Metals and automotive manufacturing show significant promise

Advanced Manufacturing

Precision Metals	10,739 jobs	+4.8% CAGR	0.78 LQ	$45,975
Materials & Chemicals	9,052 jobs	+2.9% CAGR	0.96 LQ	$31,297
Automotive & Transport. Equipment	8,891 jobs	+2.5% CAGR	0.73 LQ	$42,229
Machinery, Equipment, & Appliances	5,752 jobs	-1.6% CAGR	0.68 LQ	$42,216
Electronics	4,806 jobs	-1.1% CAGR	0.61 LQ	$29,146
Wood & Furniture	3,433 jobs	-1.5% CAGR	0.61 LQ	$34,606
Packaging	1,812 jobs	+1.1% CAGR	0.71 LQ	$45,551
Other (textiles & apparel, paper, etc.)	1,880 jobs	NA	NA	NA

Note: Agriculture-related manufacturing (food processing, agricultural machinery) is counted in the Agribusiness cluster and is not included here.

Nebraska Average Wage: $41,536 in Q1 2015

Source: SRI analysis of BLS data, Data are for Q1 2015, Growth rates are for 2010-2015

Health services underperform, logistics are an established strength

Health & Medical Services

Ambulatory Health Services	37,002 jobs	+2.0% CAGR	0.81 LQ	$57,777
Hospitals	37,056 jobs	-0.8% CAGR	0.89 LQ	$49,965
Nursing & Residential Care	33,943 jobs	0.0% CAGR	1.43 LQ	$28,173

Transportation, Distribution, & Logistics

Freight, Distribution, & Warehousing	40,307 jobs	+0.9% CAGR	1.45 LQ	$43,944
Air Transportation	472 jobs	-3.7% CAGR	0.15 LQ	$47,580
Rail Transportation*	NA	NA	NA	NA
Water Transportation	0 jobs	NA	NA	NA
Passenger Transit	2,424 jobs	+0.9% CAGR	0.48 LQ	$22,093

*** Railroad jobs are not included in the BLS dataset used for this analysis.**

Nebraska Average Wage: $41,536 in Q1 2015

Source: SRI analysis of BLS data, Data are for Q1 2015, Growth rates are for 2010-2015

Business professionals are well represented

Business Services

Legal & Accounting Services	9,131 jobs	+0.6% CAGR	0.76 LQ	$50,073
Management of Companies & Enterprises*	21,600 jobs	+4.5% CAGR	1.44 LQ	$102,960
Business Process Outsourcing & Employment/Temp. Services**	21,944 jobs	+9.3% CAGR	0.69 LQ	$38,980
Printing Services	3,255 jobs	-4.1% CAGR	1.05 LQ	$38,116
Other Business Support & Security Services	7,509 jobs	+0.4% CAGR	0.74 LQ	$41,563
Business Associations & Organizations	1,334 jobs	-2.1% CAGR	0.62 LQ	$41,775

*** This category is mainly firms classified as "subsidiary" and "regional managing offices," so this employment technically belongs to other industry clusters, but we aren't able to identify/classify what it is.**
**** Most of these jobs are in "temporary employment services," so this employment technically belongs to other industry clusters, but we aren't able to identify/classify what it is.**

Nebraska Average Wage: $41,536 in Q1 2015

Source: SRI analysis of BLS data, Data are for Q1 2015, Growth rates are for 2010-2015

Heavy growth in ”lifestyle” occupations

Tourism & Hospitality

Travel Arrangements	3,962 jobs	+1.6% CAGR	1.54 LQ	$32,169
Accommodations	7,648 jobs	+1.2% CAGR	0.70 LQ	$17,799
Food & Beverage	66,238 jobs	+1.9% CAGR	0.88 LQ	$13,626
Arts & Culture	2,158 jobs	+3.8% CAGR	0.93 LQ	$22,642
Sports & Recreation	10,205 jobs	+4.0% CAGR	0.86 LQ	$14,965
Gambling	992 jobs	+1.2% CAGR	0.24 LQ	$21,328

Nebraska Average Wage: $41,536 in Q1 2015

Source: SRI analysis of BLS data, Data are for Q1 2015, Growth rates are for 2010-2015

Nebraska’s Advantage

Nebraska uses the Nebraska Advantage Act (NAA), comprised of tax credits and other economic development policies, to encourage the expansion and relocation of business.

Credits available are based on meeting various thresholds for dollars invested and jobs created and are awarded following an attainment period, and available for up to 15 years

Is it effective, and is it strategic?

Nebraska's Advantage

Many satisfied business recipients, but also some challenges:

- Low Net Present Value (NPV), unused credits and complicated administration limit effectiveness
- 60% of median state wage for almost any manufacturing investment does not foster high wages
- Reliance on job thresholds, and sales tax rebates on investments less helpful for hi-tech, fast growing firms and capital and technology intensive investments
- Not subject to clear metrics (per LR 444)

Nebraska's Advantage

NAA should be reworked along the following lines in order to increase effectiveness and align with Nebraska's strategic goals:

- Credits should be distributed on a pay-as-you-perform basis, increasing NPV
- Performance measures should rely on independent, low cost sources of data to reduce compliance costs
- Nebraska should operate a discretionary fund based on rigorous ROI estimates in order to prioritize strategic investments
- Jobs-based tax credits should only be available at or above county median wages in order to foster higher wages
- Cash incentives should be available for new jobs at more than 200% of county median wages to support high growth, high technology firms
- Tax credits should be available for new capital and technology intensive investments that yield increased pay, sales and income

GOVERNOR'S SUMMIT
ON ECONOMIC DEVELOPMENT

Q & A