Missouri High School Dropout Trends: The Rates and the Demographic Context

Task Force on Dropout Prevention
September 29, 2009

St. Louis, Missouri

Bill Elder PhD, Director
Office of Social & Economic Data Analysis (OSEDA)
University of Missouri
• Graduation Rates and Dropout Rates
  --Comparative Context
  --Disparities

• Social and Demographic Trends and Dropouts

• Economic Trends and Dropouts

• Regional Diversity in Missouri and Dropouts
Relative to other states Missouri is among the top 15 in Graduation Rate (81.1%)

Figure 19-1. Averaged freshman graduation rate for public high school students, by state: School year 2005–06

Note: Not the 9th to 12th Grade Cohort Definition
Relative to other states Missouri is among the top 15 in Graduation Rate (81.1%)
## Educational Attainment

<table>
<thead>
<tr>
<th>Population 25 years and over</th>
<th>U.S.</th>
<th>MO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent with ....</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less Than High school graduate</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>High school graduate or higher</td>
<td>84</td>
<td>85</td>
</tr>
<tr>
<td>Bachelor degree or higher</td>
<td>27</td>
<td>24</td>
</tr>
</tbody>
</table>
The Number of Missouri High School Dropouts Increased by 3,162 or 36% from 2004 to 2008

Missouri High School Dropouts 2004-2008 By Race and Ethnicity

Source: DESE, 2009 School Data
Overall, Missouri rates increased modestly. Black & Hispanic rates are higher and increasing.
Missouri Graduation Rates by Race and Ethnicity, 2004-2008

<table>
<thead>
<tr>
<th>Year</th>
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<tr>
<td>Total Number of Graduates</td>
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<td>57,838</td>
<td>58,435</td>
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<td>61,752</td>
</tr>
<tr>
<td>Graduation Rate</td>
<td>85.6</td>
<td>86.0</td>
<td>85.8</td>
<td>86.3</td>
<td>85.2</td>
</tr>
<tr>
<td>Asian</td>
<td>93.7</td>
<td>94.6</td>
<td>94.7</td>
<td>94.1</td>
<td>92.2</td>
</tr>
<tr>
<td>White</td>
<td>87.4</td>
<td>87.6</td>
<td>87.8</td>
<td>88.2</td>
<td>88.3</td>
</tr>
<tr>
<td>American Indian</td>
<td>84.8</td>
<td>83.9</td>
<td>81.4</td>
<td>81.0</td>
<td>83.4</td>
</tr>
<tr>
<td>Hispanic</td>
<td>77.7</td>
<td>81.6</td>
<td>80.6</td>
<td>80.7</td>
<td>77.5</td>
</tr>
<tr>
<td>Black</td>
<td>76.5</td>
<td>77.5</td>
<td>76.0</td>
<td>77.2</td>
<td>72.2</td>
</tr>
</tbody>
</table>

Source: Missouri Dept. of Elementary and Secondary Education

Fifteen Percent of Missouri High School students (cohorts) do not graduate. Racial and Ethnic Disparities Persist
-- News analyses from around the country..
-- Grade range issues
-- Impact of federal reporting requirements

Alliance for Excellent Education suggests alternative measures...

<table>
<thead>
<tr>
<th>Source</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>State-reported for NCLB</td>
<td>86%</td>
</tr>
<tr>
<td>U.S. Dept. of Education</td>
<td>81%</td>
</tr>
<tr>
<td>Education Week</td>
<td>74%</td>
</tr>
</tbody>
</table>

11% gap between state and independent sources*

Overall, DESE has the best data and it is improving …Missouri’s New student tracking system
Critical Social and Demographic Factors

Teen Birth Rates, 1990-2007

Turning the wrong way...

A wide spread complex trend

Teen Birth Rates by State, 2006

Socially and Geographically Diverse Challenge

Births to Teens 15-19 per 1,000 Females 15-19 by County, 2007

Source: Missouri Department of Health and Senior Services
Prepared by: University Outreach and Extension, Office of Social and Economic Data Analysis - (OSEDA)
Map Generated on 11.08.2008
Profound interrelationships with education and poverty

Probability of First Birth by Age 20, 2002

Profound interrelationships with education and poverty

Adolescent mothers have high probabilities of raising their children in poverty. More than 40 percent of teenage moms report living in poverty at age 27 (Moore et al. 1993).

The rates are especially high among black and Hispanic adolescent mothers, more than half of whom end up in poverty.
Divergent skill distributions
The changing economy
Demographic shifts
• *Divergent skill distributions*
  – Flat NAEP scores
  – High school graduation slacking
  – Poor literacy and math skills
  – Race and ethnic gaps
The changing economy

- Declining manufacturing – more service
- Two thirds of job growth has been associated with college-level jobs
- College grads earn 51% more than H.S. grads
- Earning premiums reward education & skill
Demographic shifts
- Labor force will grow more slowly
- Impact of the baby boom
- Dependence on International migration
- Increasing Hispanic population – with lower levels of educational attainment
Challenging Times... In Missouri

Unemployment Rates
Missouri vs. U.S.
(past 36 months, seasonally adjusted)
Challenging Times… In Missouri Communities

Unemployment Rates - August 2009
Not Seasonally Adjusted

Unemployment Rate
- 11.7% - 13.7%
- 10.2% - 11.6%
- 9.0% - 10.1%
- 7.8% - 8.9%
- 5.8% - 7.7%
State Avg: 9.2%

OSEDA Office of Social and Economic Data Analysis
University of Missouri Extension
How flat the world is depends on where your standing..and how well prepared you are.....

• *The World is Flat – “new oil wells”*
  -- Thomas Friedman

• *Making Globalization Work*
  -- Joseph Stiglitz
And when China decides it has to go green out of necessity, watch out…. You will buy your next electric car, solar panels, batteries and energy-efficiency software from China.

I believe this Chinese decision to go green is the 21st-century equivalent of the Soviet Union’s 1957 launch of Sputnik.
Change in Population
By State 2000 – 2008

U.S. Increase 22.6 Million (8%)
Six States account for 56%

Total Population 2008
World: 6.8 Billion
U.S.: 304 Million
Mo.: 5,911,605

Missouri 5.6%
314,927

Large Competitive Shifts

Change in population
- 1,000,000 or more
- 500,000 to 999,999
- 200,000 to 499,999
- 0 to 199,999
- Population decline

Source: U.S. Census Bureau, Population Division, 2008
Large Competitive Shifts ....
Percent Change in Population for Counties and Puerto Rico Municipios: April 1, 2000 to July 1, 2008

The Trends are Diverse: Regions within Regions
Regionally Diverse Opportunities for Growth and Development

Child Population Under 18 by County, 2007

Number
- 408 - 6673
- 6674 - 17187
- 17188 - 34125
- 34126 - 90898
- 90899 - 232461

Missouri = 1,424,830

Source: Missouri Office of Administration, Budgeting and Planning
Prepared by: University Outreach and Extension, Office of Social and Economic Data Analysis - (OSEDA)
Map Generated on 11/08/2008
Regionally Diverse Opportunities for Growth and Development

Child Population Under 18 as a Percent of Total Population by County, 2007

Percent
- 17.6 - 20.2
- 20.3 - 22.6
- 22.7 - 24.2
- 24.3 - 26.0
- 26.1 - 29.1

Missouri = 24.2%

Source: Missouri Office of Administration, Budget and Planning
Prepared by: University Outreach and Extension, Office of Social and Economic Data Analysis (OSEDA)
Map Generated on 11.17.2008
Percent Minority Child Population Under 18 as a Percent of Total Population by County, 2007

Source: Missouri Office of Administration, Budgeting and Planning
Prepared by: University Outreach and Extension, Office of Social and Economic Data Analysis - (OSEDA)
Map Generated on 11.08.2008
Regionally Diverse and Persistent Challenges

Percent Students Enrolled for Free and Reduced Lunches by County, 2007

Rate
- 15.4 - 33.5
- 33.6 - 43.0
- 43.1 - 50.0
- 50.1 - 60.7
- 60.8 - 80.4

Missouri = 41.7%

Source: Missouri Department of Elementary & Secondary Education
Prepared by: University Outreach and Extension, Office of Social and Economic Data Analysis - (OSEDA)
Map Generated on 11.03.2008
Annual High School Dropout Rate by County, 2007

Source: Missouri Department of Elementary & Secondary Education
Prepared by: University Outreach and Extension, Office of Social and Economic Data Analysis - (OSEDA)
Map Generated on 11.03.2009
Regionally Diverse and Persistent Challenges

Percent of Births to Mothers with Fewer Than 12 Years Education by County, 2007

Source: Missouri Department of Health and Senior Services
Prepared by: University Outreach and Extension, Office of Social and Economic Data Analysis - (OSEDA)
Map Generated on 11/03/2008
Regionally Diverse and Persistent Challenges

Births to Teens 15-19 per 1,000 Females 15-19 by County, 2007

Rate
- 6.5 - 27.4
- 27.5 - 39.6
- 39.7 - 56.7
- 56.8 - 74.0
- 74.1 - 100.5

Missouri = 45.7

Source: Missouri Department of Health and Senior Services
Prepared by: University Outreach and Extension, Office of Social and Economic Data Analysis (OSEDA)
Map Generated on 11.06.2008
Individual Benefits of Education

Financial Benefits to the Individual

*Figure 1.2: Expected Lifetime Earnings Relative to High School Graduates, by Education Level*

Notes: Based on the sum of median 2005 earnings from ages 25 to 64 for each education level. Future earnings are discounted using a 3 percent annual rate to account for the reality that, because of forgone interest, dollars received in the future are not worth as much as those received today.

Sources: U.S. Census Bureau, 2006, PINC-03; calculations by the authors.
Education, Earnings, and Tax Payments

Figure 1.1: Median Earnings and Tax Payments of Full-Time Year-Round Workers Ages 25 and Older, by Education Level, 2005

Note: Taxes paid include federal income, Social Security, and Medicare taxes, and state and local income, sales, and property taxes. Sources: U.S. Census Bureau, 2006, PINC-03; Internal Revenue Service, 2006; McIntyre et al., 2003; calculations by the authors.

The bars in this graph show median earnings at each education level. The lighter segments represent the average federal, state, and local taxes paid at these income levels. The darker segments show after-tax income.
The Number of Missouri High School Dropouts Increased by 3,162 or 36% from 2004 to 2008

Missouri High School Dropouts 2004-2008 By Race and Ethnicity

Source: DESE, 2009 School Data
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# Missouri High School Dropouts and Rates by Race and Ethnicity, 2004-2008

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<tr>
<th>Year</th>
<th>Race/Ethnicity</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian Dropouts 9-12</td>
<td>Asian</td>
<td>42</td>
<td>59</td>
<td>82</td>
<td>105</td>
<td>106</td>
</tr>
<tr>
<td>Black Dropouts 9-12</td>
<td>Black</td>
<td>2,177</td>
<td>2,647</td>
<td>3,573</td>
<td>3,254</td>
<td>4,535</td>
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<tr>
<td>Hispanic Dropouts 9-12</td>
<td>Hispanic</td>
<td>266</td>
<td>286</td>
<td>403</td>
<td>507</td>
<td>538</td>
</tr>
<tr>
<td>Indian Dropouts 9-12</td>
<td>Indian</td>
<td>30</td>
<td>47</td>
<td>66</td>
<td>55</td>
<td>47</td>
</tr>
<tr>
<td>White Dropouts 9-12</td>
<td>White</td>
<td>6,357</td>
<td>6,698</td>
<td>6,945</td>
<td>6,604</td>
<td>6,808</td>
</tr>
<tr>
<td>Total Dropouts 9-12</td>
<td>Total</td>
<td>8,872</td>
<td>9,737</td>
<td>11,069</td>
<td>10,525</td>
<td>12,034</td>
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<table>
<thead>
<tr>
<th>Dropout Rate 9-12 (%)</th>
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<tr>
<td>Asian Dropout Rate 9-12 (%)</td>
<td>Asian</td>
<td>1.1</td>
<td>1.5</td>
<td>1.9</td>
<td>2.4</td>
<td>2.3</td>
</tr>
<tr>
<td>Black Dropout Rate 9-12 (%)</td>
<td>Black</td>
<td>5.0</td>
<td>5.8</td>
<td>7.4</td>
<td>6.6</td>
<td>9.0</td>
</tr>
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<td>Hispanic Dropout Rate 9-12 (%)</td>
<td>Hispanic</td>
<td>5.1</td>
<td>4.8</td>
<td>5.8</td>
<td>7.0</td>
<td>6.9</td>
</tr>
<tr>
<td>Indian Dropout Rate 9-12 (%)</td>
<td>Indian</td>
<td>3.5</td>
<td>4.9</td>
<td>6.1</td>
<td>4.5</td>
<td>3.7</td>
</tr>
<tr>
<td>White Dropout Rate 9-12 (%)</td>
<td>White</td>
<td>2.9</td>
<td>3.1</td>
<td>3.2</td>
<td>3.0</td>
<td>3.1</td>
</tr>
<tr>
<td>Total Dropout Rate 9-12 (%)</td>
<td>Total</td>
<td>3.3</td>
<td>3.6</td>
<td>4.0</td>
<td>3.7</td>
<td>4.2</td>
</tr>
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<td>60,200</td>
<td>61,752</td>
</tr>
<tr>
<td>Cohort Dropouts</td>
<td>9,739</td>
<td>9,438</td>
<td>9,653</td>
<td>9,584</td>
<td>10,715</td>
</tr>
<tr>
<td>Graduation Rate (%)</td>
<td>85.6</td>
<td>86</td>
<td>85.8</td>
<td>86.3</td>
<td>85.2</td>
</tr>
<tr>
<td><strong>Total Number of Asian Graduates</strong></td>
<td>868</td>
<td>851</td>
<td>1,027</td>
<td>1,036</td>
<td>1,025</td>
</tr>
<tr>
<td>Cohort Asian Dropouts</td>
<td>58</td>
<td>49</td>
<td>58</td>
<td>65</td>
<td>87</td>
</tr>
<tr>
<td>Asian Graduation Rate (%)</td>
<td>93.7</td>
<td>94.6</td>
<td>94.7</td>
<td>94.1</td>
<td>92.2</td>
</tr>
<tr>
<td><strong>Total Number of Black Graduates</strong></td>
<td>7,863</td>
<td>8,319</td>
<td>8,405</td>
<td>8,930</td>
<td>9,200</td>
</tr>
<tr>
<td>Cohort Black Dropouts</td>
<td>2,416</td>
<td>2,411</td>
<td>2,649</td>
<td>2,639</td>
<td>3,534</td>
</tr>
<tr>
<td>Black Graduation Rate (%)</td>
<td>76.5</td>
<td>77.5</td>
<td>76</td>
<td>77.2</td>
<td>72.2</td>
</tr>
<tr>
<td><strong>Total Number of American Indian Graduates</strong></td>
<td>189</td>
<td>193</td>
<td>197</td>
<td>222</td>
<td>272</td>
</tr>
<tr>
<td>Cohort American Indian Dropouts</td>
<td>34</td>
<td>37</td>
<td>45</td>
<td>52</td>
<td>54</td>
</tr>
<tr>
<td>American Indian Graduation Rate (%)</td>
<td>84.8</td>
<td>83.9</td>
<td>81.4</td>
<td>81</td>
<td>83.4</td>
</tr>
<tr>
<td><strong>Total Number of Hispanic Graduates</strong></td>
<td>947</td>
<td>1,080</td>
<td>1,264</td>
<td>1,370</td>
<td>1,498</td>
</tr>
<tr>
<td>Cohort Hispanic Dropouts</td>
<td>272</td>
<td>243</td>
<td>305</td>
<td>328</td>
<td>436</td>
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<tr>
<td>Hispanic Graduation Rate (%)</td>
<td>77.7</td>
<td>81.6</td>
<td>80.6</td>
<td>80.7</td>
<td>77.5</td>
</tr>
<tr>
<td><strong>Total Number of White Graduates</strong></td>
<td>48,168</td>
<td>47,395</td>
<td>47,542</td>
<td>48,642</td>
<td>49,757</td>
</tr>
<tr>
<td>Cohort White Dropouts</td>
<td>6,959</td>
<td>6,698</td>
<td>6,596</td>
<td>6,500</td>
<td>6,604</td>
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Source: Missouri Dept. of Elementary and Secondary Education
Core Data As Submitted by Missouri Public Schools