

South Dakota 2008 Local Roads Needs Study  
David Huft, SDDOT Research Program Manager

**South Dakota  
2008 Local Roads Needs Study**

David Huft, Research Program Manager  
SD Department of Transportation

**2009 Interim Study  
Long-Term Highway Needs &  
Department of Transportation Agency Review  
August 20, 2009**

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**2008 Interim Study  
on Highway Needs and Financing**

Scope:

- projected long term state and local highway needs
- allocation and distribution of responsibility for all highway segments within the state
- future state and local highway cost projections compared to projected revenue
- strategies for creating greater efficiency in financing state and local roads
- strategies to promote the development of innovative ideas aimed at reducing highway funding needs

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**2009 Interim Study  
on Long-Term Highway Needs**

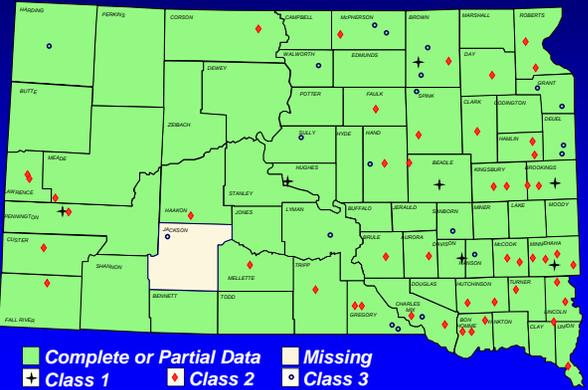
- A study of long term highway needs and the resources available to provide the financial support appropriate to meet these needs...

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**Local Agency Survey Responses**



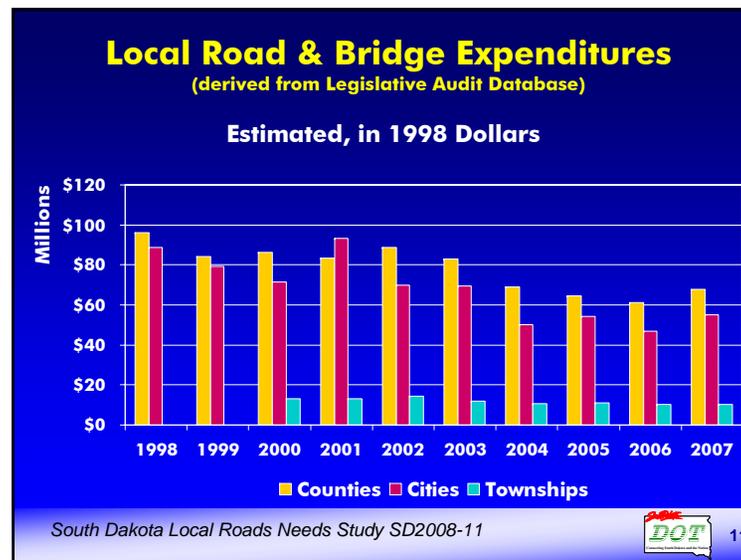
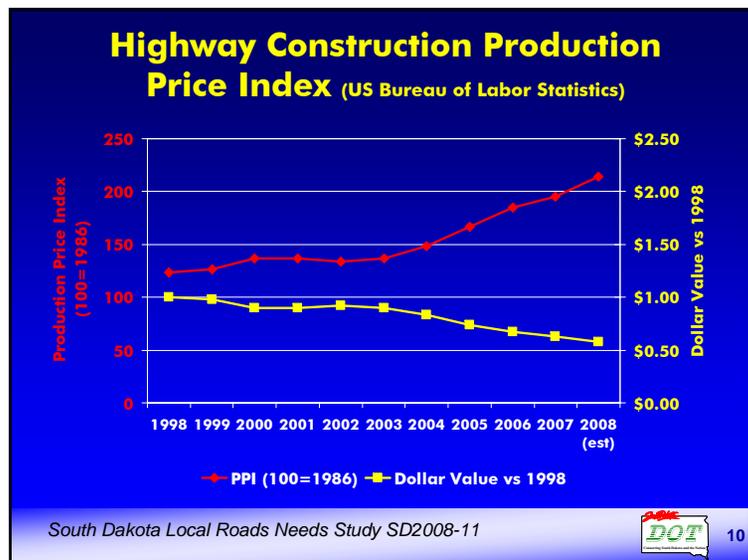
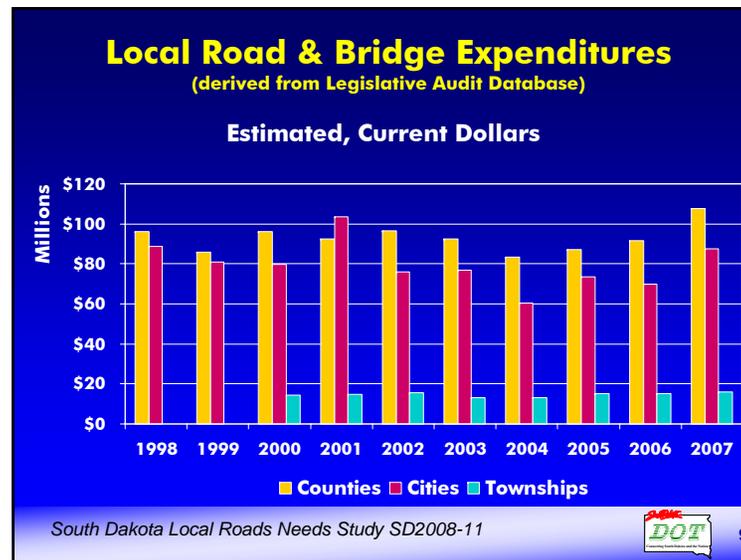
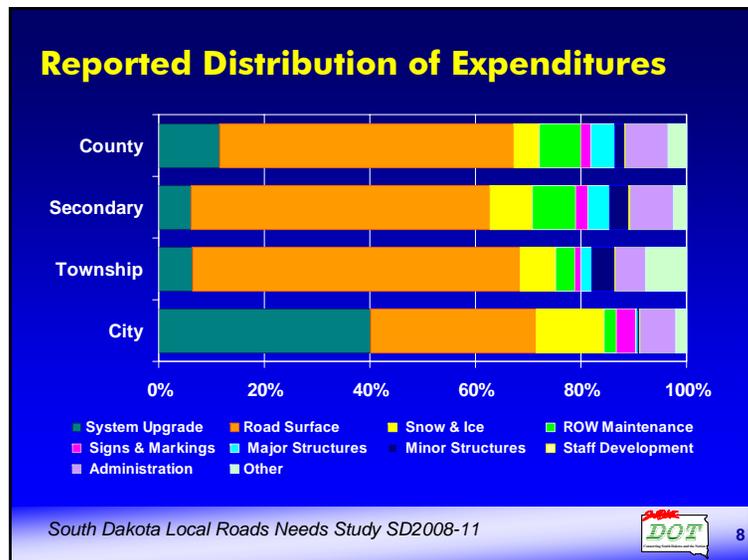
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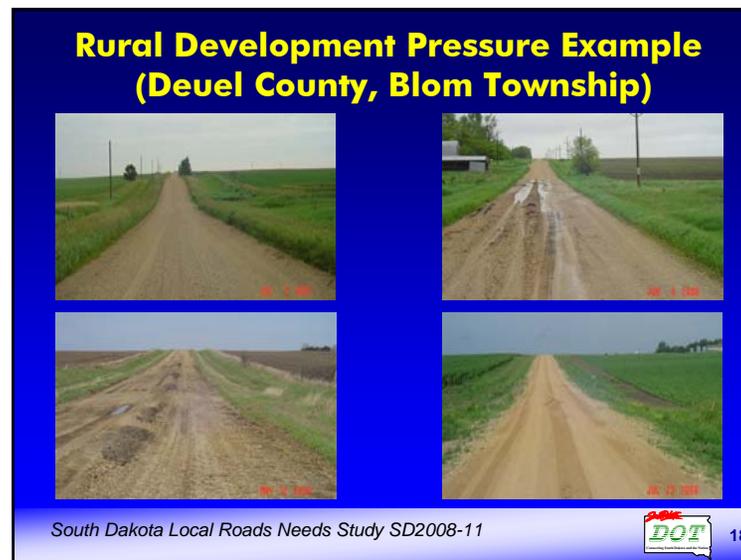
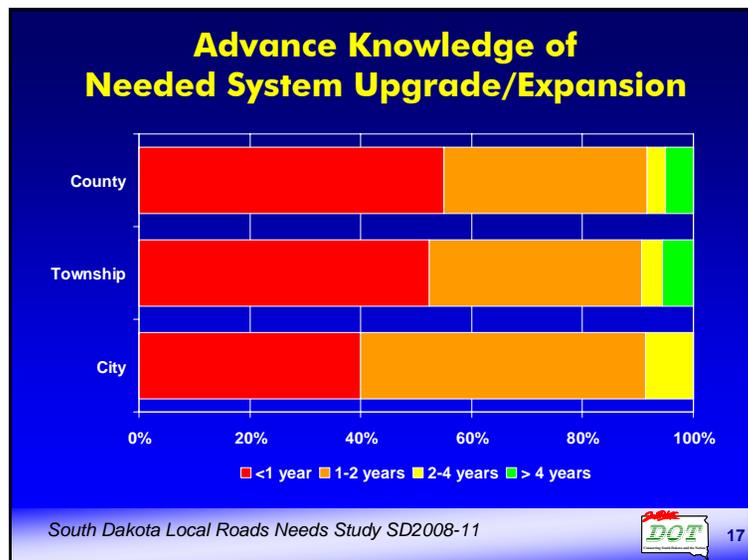
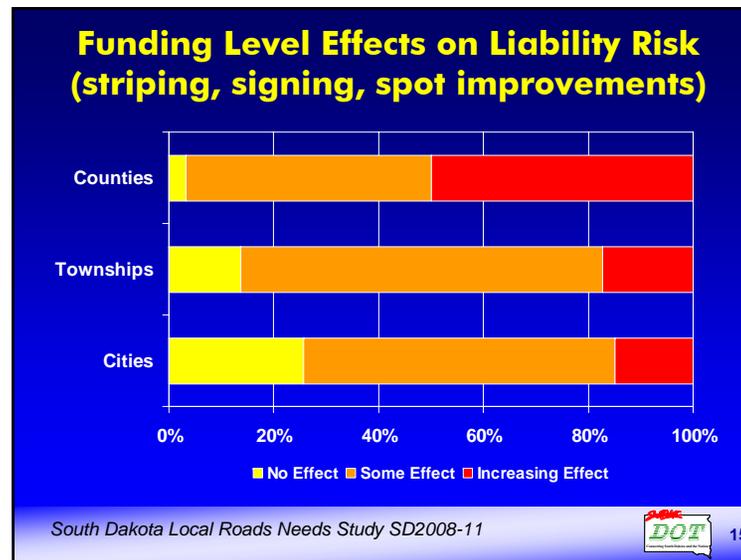
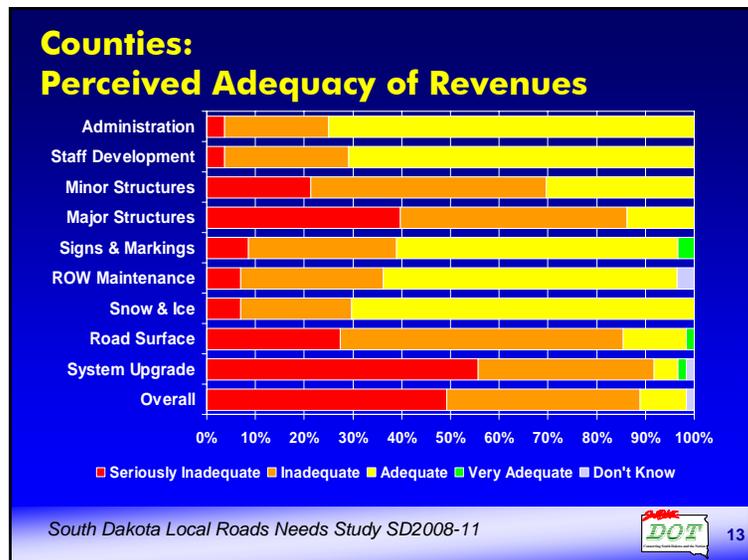
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# South Dakota 2008 Local Roads Needs Study

## David Huft, SDDOT Research Program Manager



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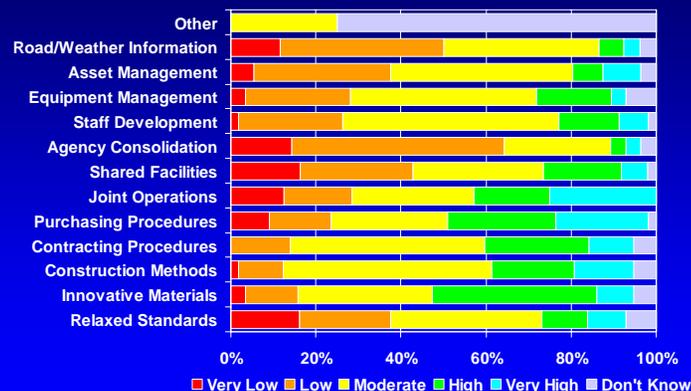
### Perceived Opportunities for Funding

- Vehicle registration fees
- Wheel tax
  - Increase maximum charge (currently \$4/wheel)
  - Allow more wheels taxed (currently 4 per vehicle)
  - Adopt in more counties or on statewide basis
- Property tax
  - Opt out of tax freeze
  - Non-highway needs compete for limited funds
  - Some counties have large public land proportion
- Cost sharing by developers

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### Counties: Opportunities for Efficiency



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### Bridge Need Assessment

- 20-year analysis
- Numbers reflect only structural needs
- Other bridges have functional deficiencies
  - Width
  - Number of lanes
  - Inadequate clearance
- 1098 county bridges are posted for weight
- 139 are recommended to be posted
- 8 county bridges are recommended for closing

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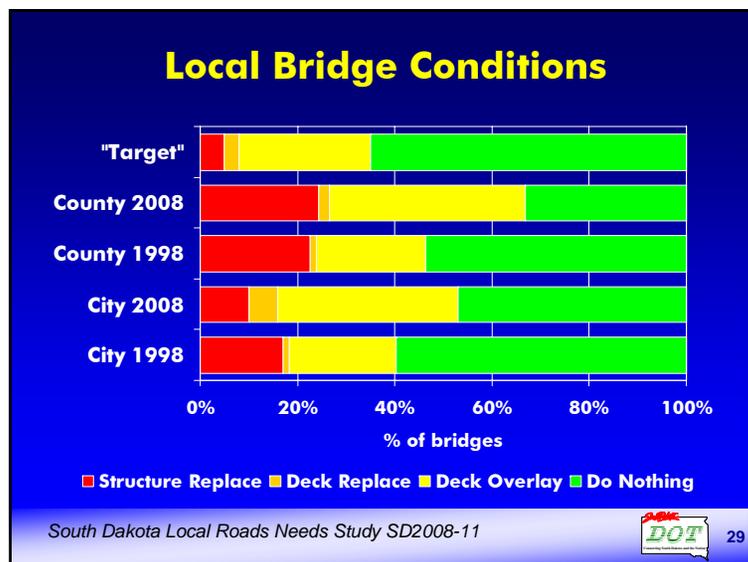
### Local Bridge Age Distribution (72% of all bridges, 40% of all deck area)



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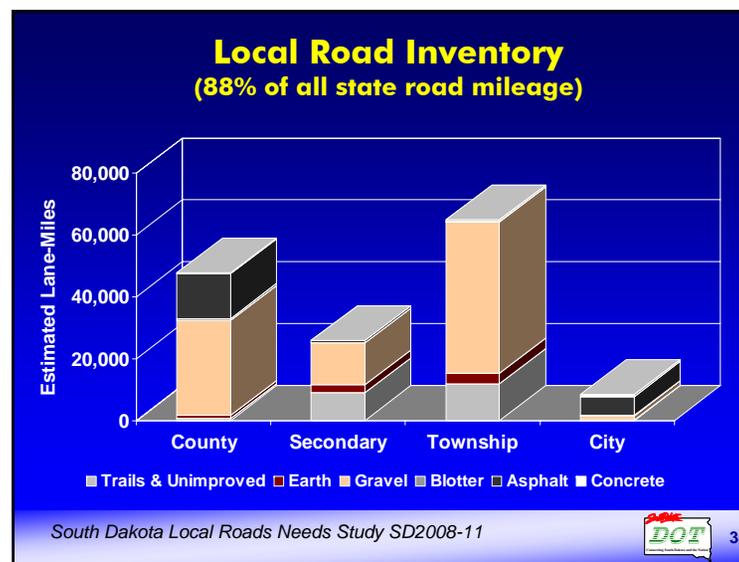


### Major Structure Needs on Local Systems

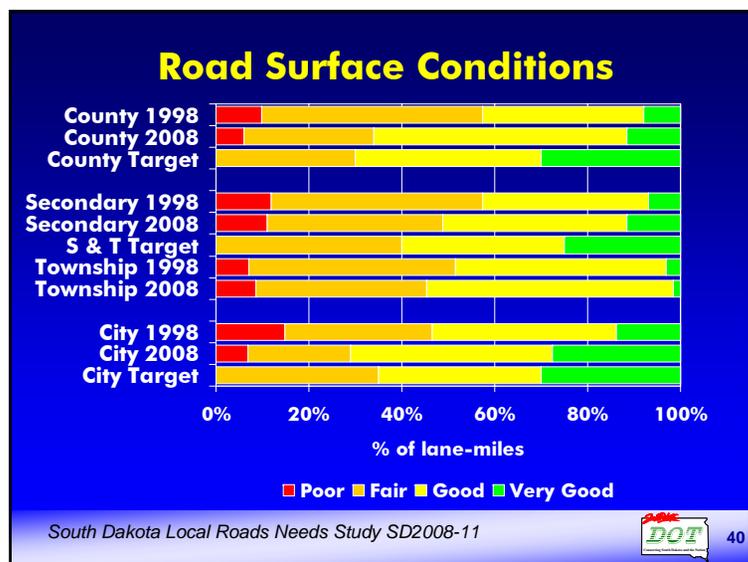
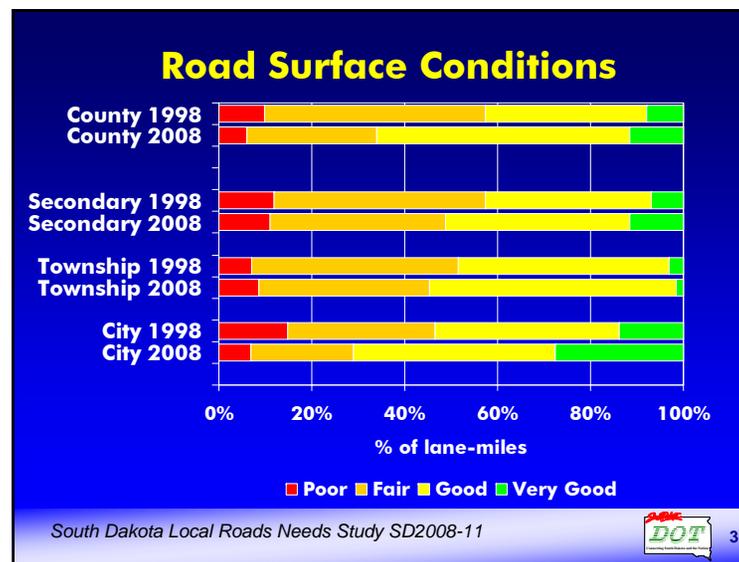
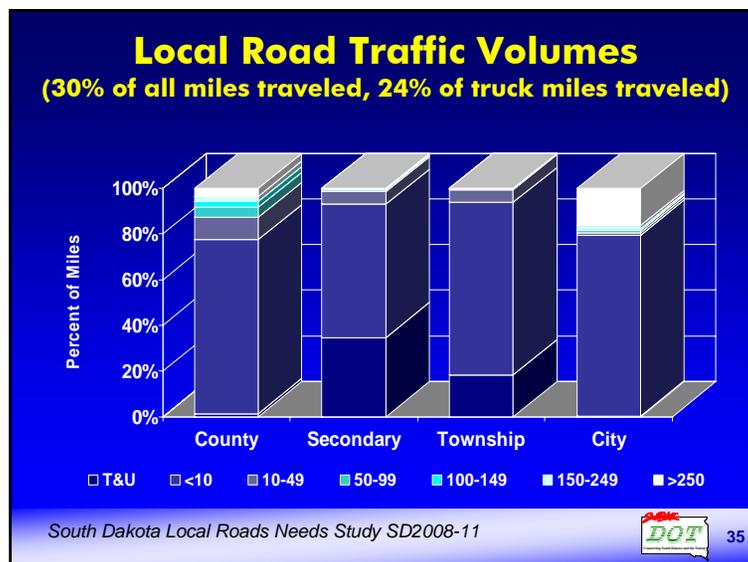
Jurisdiction	Bridges	Culverts	Total	Annual Need
County	\$475 M	\$11 M	\$486 M	\$24.3 M
City	\$14 M	\$0 M	\$14 M	\$0.7 M
<b>Total</b>	<b>\$489 M</b>	<b>\$11 M</b>	<b>\$500 M</b>	<b>\$25.0 M</b>

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- ### Road Surface Need Assessment
- 20-year analysis period
  - Based upon
    - SDDOT local road inventory
      - » Surface type for improved roads
      - » Average daily traffic category
      - » Surface width
    - 2008 condition reported by local officials
    - SDDOT estimates of rehab treatment unit costs
    - SDLTAP estimate of unpaved surface maintenance unit costs
    - SD Secondary Road Plan
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### Annual Road Surface Needs (balanced investment strategy)

System	To Maintain Current Condition			To Achieve Target Condition		
	Rehabilitation	Maintenance	Total	Rehabilitation	Maintenance	Total
County	\$56 M	\$21 M	\$77 M	\$68 M	\$21 M	\$89 M
Secondary	\$4 M	\$3 M	\$8 M	\$6 M	\$3 M	\$9 M
Township	\$10 M	\$10 M	\$20 M	\$13 M	\$10 M	\$23 M
City	\$24 M	\$9 M	\$34 M	\$26 M	\$9 M	\$35 M
<b>Total</b>	<b>\$94 M</b>	<b>\$43 M</b>	<b>\$137 M</b>	<b>\$113 M</b>	<b>\$43 M</b>	<b>\$156 M</b>

"Balanced Investment Strategy" invests 25% of capital expenditures in rehabilitation of roads in "Good" condition, 25% in roads in "Fair" condition, and 50% in roads in "Poor" condition.

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**Annual Road Surface Needs  
("worst-first" investment strategy)**

System	To Maintain Current Condition			To Achieve Target Condition		
	Rehabilitation	Maintenance	Total	Rehabilitation	Maintenance	Total
County	\$94 M	\$21 M	\$115 M	\$116 M	\$21 M	\$137 M
Secondary	\$6 M	\$3 M	\$9 M	\$8 M	\$3 M	\$11 M
Township	\$10 M	\$10 M	\$20 M	\$15 M	\$10 M	\$25 M
City	\$29 M	\$9 M	\$38 M	\$32 M	\$9 M	\$44 M
<b>Total</b>	<b>\$139 M</b>	<b>\$43 M</b>	<b>\$182 M</b>	<b>\$171 M</b>	<b>\$43 M</b>	<b>\$214 M</b>

"Worst-First Investment Strategy" invests 100% of capital expenditures in rehabilitation of roads in "Poor" condition, nothing in "Good" or "Fair" condition.

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**Annual Road Surface & Bridge Needs  
versus Current Annual Expenditures**

	County & Secondary	Township	City	Total
Road Surfaces	\$97.4 M	\$23.4 M	\$34.9 M	\$155.7 M
Major Structures	\$24.3 M	N/A	\$0.7 M	\$25.0 M
<b>Total Needs</b>	<b>\$121.7 M</b>	<b>\$23.4 M</b>	<b>\$35.6 M</b>	<b>\$180.7 M</b>
Estimated Expenditures	\$58.7 M	\$8.8 M	\$32.2 M	\$99.7 M
<b>Shortfall</b>	<b>\$63.0 M</b>	<b>\$14.6 M</b>	<b>\$3.4 M</b>	<b>\$81.0 M</b>

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**Conclusions: Funding**

- Local officials face serious financial challenges
- Most significant challenges concern providing and maintaining road and bridge infrastructure
- Funding and expenditure levels have remained fairly constant since 1999
- Value of "road dollar" declined >40% 1998-2008
- Agricultural, residential, and commercial development places significant demands on local transportation
- A shortfall of \$80 million per year exists to achieve target condition
- A shortfall of about \$50 million per year exists just to maintain current condition

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**Conclusions: Road & Bridge Needs**

- Road surface condition improved 1998-2008
- More bridges need treatment in 2008 than 1998
- Bridge and road surface treatment costs have risen dramatically since 2003
- Overall road and bridge needs have increased since 1998
- Condition will deteriorate at current levels of expenditure; gains made 1999-2003 will erode
- A balanced investment strategy is far more effective than a "worst-first" strategy

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**Conclusions: Opportunities for Efficiency**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>● Joint operations             <ul style="list-style-type: none"> <li>– Economy of scale</li> <li>– Contracts w/county</li> </ul> </li> <li>● Shared equipment and facilities</li> <li>● Shared procurement</li> <li>● Innovative materials             <ul style="list-style-type: none"> <li>– Reclaimed materials</li> <li>– Warm asphalt</li> <li>– Dust suppressants</li> </ul> </li> </ul> | <p>But Not...</p> <ul style="list-style-type: none"> <li>● Relaxed standards</li> <li>● Organizational consolidation</li> </ul> <p>Possibly...</p> <ul style="list-style-type: none"> <li>● Staff Development</li> <li>● Asset Management Techniques</li> </ul> |
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**Conclusions: Data Reporting**

- Changes to highway information reporting could facilitate future need assessments
  - Road inventories lag development in growth areas, abandonment in some rural areas
  - Pending SDDOT research to improve procedures
- Financial reports are ambiguous
  - Single “highways and bridges” category
  - City capital improvements grouped with buildings
- This statewide study did not evaluate individual agencies or their funding allocations

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**Project Technical Panel**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>● Richard Benda<br/>SD Dept. of Tourism &amp; Economic Development</li> <li>● Robin Bobzien<br/>American Public Works Assn.</li> <li>● Gail Brock<br/>SD Assn. of Towns &amp; Townships</li> <li>● Toby Crow<br/>Associated General Contractors</li> <li>● Larry Engbrecht<br/>American Concrete Paving Assn.</li> <li>● Brenda Forman<br/>Ag Unity</li> <li>● John Foster<br/>SDDOT Research</li> <li>● Bruce Lindholm<br/>SDDOT Local Programs</li> <li>● Ben Orsbon<br/>SDDOT Office of the Secretary</li> </ul> | <ul style="list-style-type: none"> <li>● Raymond Roggow<br/>SD Highway Superintendents</li> <li>● Hal Rumpca<br/>SDDOT Research</li> <li>● Ken Skorseth<br/>Local Transportation Assistance Program</li> <li>● Ken Swedeen<br/>Dakota Asphalt Paving Assn.</li> <li>● Yvonne Taylor<br/>SD Municipal League</li> <li>● Todd Thompson<br/>SDDOT Bridge Design</li> <li>● Jeff Des Lauriers<br/>City of Sioux Falls</li> <li>● Bob Wilcox<br/>SD County Commissioners Assn.</li> <li>● Dale Tech<br/>SD Street Superintendents Assn.</li> </ul> |
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**Questions?**

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