

Minnesota Department of Transportation

LAWS 2008, CHAPTER 152 UPDATE

PRESENTED TO THE JOINT
TRANSPORTATION COMMITTEE

JUNE 16, 2008



Today's Presentation

- Briefing on status of Chapter 152 implementation, especially 10 year bridge program.
- Update on Statewide Transportation Plan

Goal: Share information, receive feedback

Key Points and Conclusions

- Mn/DOT will receive estimated \$2.6B over 10 years from Chapter 152 tax revenues.
- Bulk of new tax revenues go to:
 - operating budget
 - repayments for \$1.8B of Bonds
- Of the \$1.8B Bonds, \$1.7B was appropriated for investments in State Roads.

Key Points and Conclusions

- Legislatively Mandated Bridge program is currently estimated at \$2.5B over 10 years
 - \$1.2B of Bonds: \$600M bridge bonds + \$600M other non-directed bonds
 - \$1.3B of Mn/DOT State Road Construction Budget (State + Federal \$)
- Remaining \$500M of the \$1.7B Bonds:
 - Interchanges \$40M
 - \$20M Metro Area
 - TH 169/CSAH 81 \$10M
 - Other- TBD \$10M
 - \$20 M Greater MN - TBD
 - Statewide Transit Facility Improvements (TBD) \$50M
 - D7 Legislative Priority - TH 60 Bigelow to Worthington \$100M
(+ \$20M R/W from District)
 - Accelerated pavement/ safety projects (2008-10) \$275M

Key Points and Conclusions

Long Range Statewide Plan

- Priorities based on direction from Legislature, Legislative Auditor Report, and Mn/DOT Policy
- Structural Integrity of Infrastructure is cornerstone of safety, and is Mn/DOT top investment priority
- After addressing structural integrity, remaining funds will be limited
- Will address other needs (crash reduction, congestion mitigation, etc) through new approaches to system wide, high benefit, low cost strategies.

Estimated New Tax Revenues: Minnesota Ch.152: 2009 - 2018

New Tax Revenue (\$Millions)

Motor Fuel Tax Increases	\$2,476
Motor Vehicle Registration Tax Increase	\$1,847
Rental Car Fee Increase	\$ 23
Sales Tax on Motor Vehicle Leases	\$ 113

Total **\$4,459**

Distribution of Tax Revenue

Trunk Highway Fund	\$ 2,559
County State Aid Hwy Fund	\$ 1,471
Municipal State Aid St Fund	\$ 372
Transit Assistance Fund (Greater MN)	\$ 57

Total **\$4,459**

Draft Bridge Improvement Plan - Assumptions

- Based on current and predicted bridge conditions
- Current projections of annual inflation rates
FY 09 (7%), FY 10-12 (5%), FY 13-18 (4%)
- Planning level scopes and cost estimates – many unknowns exist
- Projected Federal Funds: 2009-18- Stable
(\$530M/year)
- Changing schedule of major bridges will affect ability to fund

CHAPTER 152

Draft Bridge Improvement Plan

All Tier 1 and Tier 2 bridges must be repaired or replaced by 2018

	Tier 1	Tier 2	*Other	Total Addressed Under Chapter 152 Plan	Total Tier 1 - 3 Bridges
Fracture Critical	10	61		71	71
Structurally Deficient	30	59		89	100**
Other			1	1	1
Total	40	120	1	161	172

*Load posted Commissioner priority- TH 105, District 6)

**Includes 11 structurally deficient Tier 3 bridges

Draft Bridge Funding Summary

(by State Fiscal Year, in \$ millions)

Fiscal Year	Programmed in STIP*			Planned ^{F3}						TOTAL
	2009-2010	2011 ^{F2}	2012 ^{F2}	2013	2014	2015	2016	2017	2018	
BONDS Bridge and Approach	370	0	13	99	176	189	78	6	107	1038
Program Delivery	<u>29</u>	<u>25</u>	<u>25</u>	<u>24</u>	<u>24</u>	<u>23</u>	<u>18</u>	<u>20</u>	<u>23</u>	<u>211</u>
BOND SUBTOTAL	399	25	38	123	200	212	96	26	130	1249
SBPF (Federal funds) ^{F4}	12	139	0	74	162	142	0	0	150	679
District Bridge Approach & ROW ^{F5}	71	78	24	10	12	132	125	1	39	492
Program Delivery	<u>14</u>	<u>16</u>	<u>5</u>	<u>2</u>	<u>2</u>	<u>26</u>	<u>25</u>	<u>0</u>	<u>8</u>	<u>98</u>
District SUBTOTAL ^{F6}	85	94	29	12	14	158	150	1	47	590
GRAND TOTAL	496	258	67	209	376	512	246	27	327	2519

NOTES:

F1 Bridge program based on current bridge conditions as of 4/23/08 and estimates are based on current inflation rate table. Program is subject to change.

F2 Estimates are subject to change based on completion of scoping documents and scoping level cost estimates.

F3 Estimates are planning level estimates and are subject to change based on completion of scoping documents and scoping level cost estimates.

F4 "SBPF" is the Statewide Bridge Preservation Fund. The SBPF is Federal Funds that are centrally programmed.

F5 ROW costs are for all district bridges in HF 2800 Bridge Program.

F6 District cost for work on assigned Tier 1 & 2 bridges including approaches, program delivery and ROW

* STIP- State Transportation Improvement Program .

Draft Bridge Improvement Schedule

TIER 1 & 2 (by Calendar Year)

Calendar Year	Programmed - Construction Start			Planned - Construction Start						TOTAL
	2008-2010	2011	2012	2013	2014	2015	2016	2017	2018	
MAJOR BRIDGES										
Tier 1	Hastings			St. Croix ^{F1}	Winona ^{F1}				Rainy River ^{F1}	
	Red River				Cayuga				Red Wing ^{F1}	
	Desoto									
	Lafayette									
Sub-Total	4			1	2				2	Major Tier 1 (9)
Tier 2			Dresbach ^{F1}						Kennedy ^{F1}	
Sub-Total			1						1	Major Tier 2 (2)
# OF OTHER TIER 1	14	3	3	2	1	0	0	0	2	25
# OF OTHER TIER 2	24	7	13	6	8	9	5	1	10	83
# OF OTHER	1 ^{F2}									1

NOTES:

F1 Delivery of these bridges is contingent on border state or Canada financing their share of costs

- Dresbach is funded in State Fiscal Year (SFY) 2013
- St. Croix is funded in SFY 2014
- Winona is funded in SFY 2015
- Kennedy is funded in SFY 2018
- Rainy River is funded in SFY 2018
- Red Wing is funded in SFY 2018

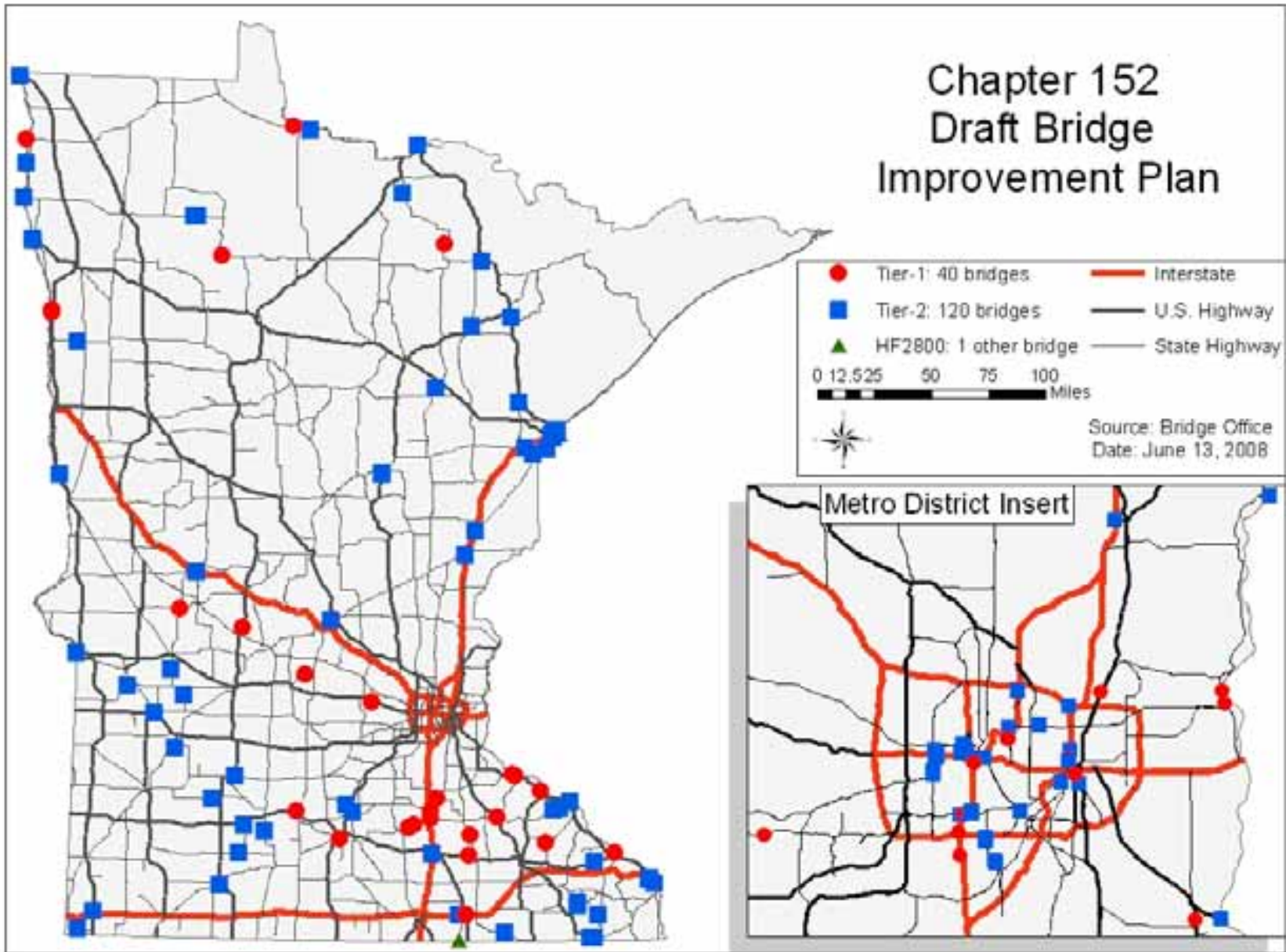
F2 Bridge 4867 Commissioner priority due to it being load posted

F3 TH 39, D1
TH 53, D1
TH 19, D8

F4 Relatively new bridges

Tier 1 Fix 2009 - 2018	34
Tier 2 Fix 2009 - 2018	85
Tier 1 Fix Prior to 2009	6
Tier 2 Fix Prior to 2009	7
Privately Owned Tier 2	3 F3
Tier 1 Fix after 2018	0
Tier 2 Fix after 2018	25 F4
Other	1
Total Bridges	161

Chapter 152 Draft Bridge Improvement Plan



Ch 152 Total Proposed Bond Utilization

(by State Fiscal Year, in \$ millions)

Fiscal Year	2009-2010	2011	2012	2013	2014	2015	2016	2017	2018	TOTAL
1) Bridges	399	25	38	123	200	212	96	26	130	1249
2) State-wide Transit Facilities Improvement		50								50
3) Metro Interchanges ^{F1}	10	10								20
4) Gr MN Interchanges ^{F2}		20								20
5) Dist. 7 Legislative Priority (TH 60 - Bigelow to Worthington) ^{F3}		60	40							100
6) Pavement /Safety	275									275
TOTAL	684	165	78	123	200	212	96	26	130	1714
Bonds Appropriated	918	100	100	100	100	100	100	100	100	1718
Bonds Remaining ^{F4}	234	169	191	168	68	-44	-40	34	4	4

Note:

F1) The Metro Interchange identifies \$10m for TH 169 & CSAH 81 in Brooklyn Park, \$10m remains for additional Metro interchange.

F2) The Greater MN Interchanges are yet to be determined

F3) D7 legislative priority identifies segment 1 of 4: Bigelow to Worthington, for bonding. The estimated total project costs for all 4 segments is roughly \$230 - \$270 million.

As the HF 2800 legislation specifies, the segment of TH 60, from Bigelow to Worthington has a completed and up-to-date final EIS. TH 60 is a medium priority IRC. This segment is in the District's long-range plan, but is not in the state transportation improvement program or the 10-year highway work plan.

F4) Based on current cost estimates, bond funding will have to be advanced in order to meet yearly shortfalls in 2015 and 2016.

Operating Budget Increase Spending

- Snow and ice service delivery.
- Deliver the regular program and Chapter 152 (develop, design and manage projects)
- Bridge fracture critical inspection, documentation and preventive maintenance
- Pavement preventive maintenance, including drainage, culverts, and pavement patching

Operating Budget Increase Spending

continued

- Emergency repairs to bridges and pavements
- Safety
 - Repair and replace guardrail end treatments
 - Cable median barrier repair and new installations
 - Sign replacement, including inspection of overhead structures
- Lighting repair and maintenance
- Striping repair and maintenance
- Shoulder repair and maintenance

Implications to Statewide Transportation Plan

Plan direction reflects:

- Legislative Direction (Tier 1 and 2 Bridges)
- System Physical Condition
 - Aging bridges, other infrastructure
 - Deteriorating pavements
- Legislative Auditor Report
 - Align investments with priorities
 - Don't promise more that we can deliver
- Revenue and Cost Outlook
 - Volatility in gas tax, tab fee revenues
 - Projected construction cost increases
- Recognition – No longer business as usual
 - Focus on critical performance issues
 - Apply low cost, high benefit strategies
 - Shift away from traditional major capacity expansion projects

Proposed TH Investment Priorities and Strategies

1. Preservation of System Structural Condition:
 - Bridges: fully fund Tier 1 and other needs
 - Pavements: make progress towards performance targets
 - Other assets: begin to address needs (signs, signals, storm sewers, etc)
2. Safety: Focus on Run-off the Road, Intersection Crashes
 - System wide preventive strategies: Cable barriers, rumble stripEs. etc
3. Mobility: Fix the problem with low cost solutions
 - IRC's: passing lanes, turn lanes, roundabouts
 - Metro Congestion: signal timing, shoulder conversions, transit advantages
4. Community Improvement Partnerships (up to 5%)
 - Cost sharing for locally initiated improvements

Implications to Statewide Plan

Other Modes

Previous Plan

- Focus on Mn/DOT
- Focus on Highways

This Plan Update

- Multimodal: Transit, Freight, Rail, Air, Ports, Waterways
- Multi-Jurisdictional – recognizes multiple providers
- Framework for Coordination
- 10 Policy Areas with Strategies, Performance Measures

Statewide Plan Policy Framework

1. System Structural Integrity (Bridge, Pavement, Other assets)	6. Twin Cities Mobility & Accessibility
2. Safe Travel	7. Greater Mn Regional Mobility & Accessibility
3. Efficient Maintenance, Operations, Security	8. Local Community Mobility & Accessibility
4. National and Global Connections	9. Energy and Environment
5. Statewide Connections	10. Innovation, Transparency, and Accountability

Statewide Plan Outreach Meetings

Date	District	Location	Time
June 26	D1	Country Inn & Suites- Duluth North 4257 Haines Rd, Hermantown, MN	9:30 - 12:30
July 10	D8	Kandiyohi County Health and Human Services, 2200 23 rd Street NE Willmar, MN	9:00 -12:30
July 14	D3	St. Cloud Conference Center, 3725 12 th Street N, St Cloud, MN	12:30 - 4:00
July 15	Metro TAB	Met Council	1:00 – 4:30
July 17	D2	Mn/DOT District 2 Office Bemidji, MN	12:30 – 4:00
July 21	D4	West Central Initiative 1000 Western Avenue, Fergus Fall, MN	12:30 – 4:00
July 23	D6	Mn/DOT District 6 Office Room D5A East	9:00 – 12:30
July 28	D7	Best Western 1111 Range Street North Mankato, MN	12:30 – 4:00

Other CHAPTER 152 requirements

- Strategic Management and Operations Task Force
- Value Capture Study

Appendix

- Chapter 152 Estimated Financial Impact
- Bond Appropriations
- State Road Construction Bonds
- Chapter 152 Draft Bridge Plan
- Statewide Transportation Plan

Preliminary Estimated Financial Impact of Ch.152 to Mn/DOT - (In millions)

	FY09	FY10	FY11	FY12	FY13	FY14- FY18
Increased Revenue to TH Fund	\$90	168	205	240	271	1,585
USES:						
Operations and Maintenance	-41	-41	-41	-41	-41	-205
Infrastructure Support	-34	-34	-34	-34	-34	-170
Debt Service for Bonds	-3	-22	-111	-107	-119	-674
Department of Public Safety	-4	-4	-4	-4	-4	-20
Flex Fund (SRC shift to turnbacks)	-0	-15	-15	-15	-15	-75
Net Available for Other Uses, incl. Fund Balance	\$8	52	0	39	58	441
Bond Appropriations (State Roads - \$1.7B)	\$417	500	100	100	100	500

Bond Appropriations

Total MnDOT \$1,841,403,000

- **State Road Construction \$1,717,694,000**
- **Great River Road \$4,299,000**
- **Urban Partnership Agreement \$24,778,000**
- **Mankato Headquarters \$23,983,000**
- **Chaska Truck Station \$8,649,000**
- **Rochester & Maple Grove Truck Stations (design) \$2,000,000**

Local Bridges and Roads \$60,000,000 (+ 60,000 for bond expenses)

Note: In addition, \$18,197,000 to Administration for Mn/DOT central office building and \$1,800,000 to Finance for bond expenses

State Road Construction Bonds

State Road Construction

	Total	FY09	FY10	FY11 – FY18
State Road Construction	\$1,717,694,000	\$417,694,000	\$500,000,000	\$800,000,000
Transit Advantages	\$50,000,000			
Interchanges	\$40,000,000	\$40,000,000		
Bridges	\$600,000,000	\$300,000,000	\$300,000,000	
D7 Priority	\$~70M to 150M			
Unrestricted Amount	~\$917,000,000			

Note: Bonds include up to 17 percent for program delivery

TH Bridge Improvement Requirements

Program (MN Stat 165.14 Subd. 2)

- **Accelerate bridge repair or replacement**

Program Requirements (MN State 165.14 Subd. 3)

- **Fracture Critical**
- **Structurally Deficient**
- **Tier System**

CHAPTER 152 Bridge Program

Tier 1 consists of any bridge in the program that has an ADT > 1,000 and has a sufficiency rating that is at or below 50; or is identified by the commissioner as a priority project.

Tier 2 consists of any bridge that is not a Tier 1 bridge, and is classified as fracture critical, or has a sufficiency rating that is at or below 80.

Tier 3 consists of any other bridge in the program that is not a Tier 1 or Tier 2 bridge (structurally deficient and sufficiency rating above 80).

Other: Consists of commissioner's priorities.

Bridge Terminology

- **Condition rating** – overall assessment of the physical condition of the deck, superstructure or substructure, range from 0 to 9.
- **Sufficiency rating (SR)** — Sufficiency rating is a computed numerical value that is used to determine eligibility of a bridge for Federal funding. The sufficiency rating formula result varies from 0 to 100. The formula includes factors for structural condition rating, bridge geometry, and traffic considerations.

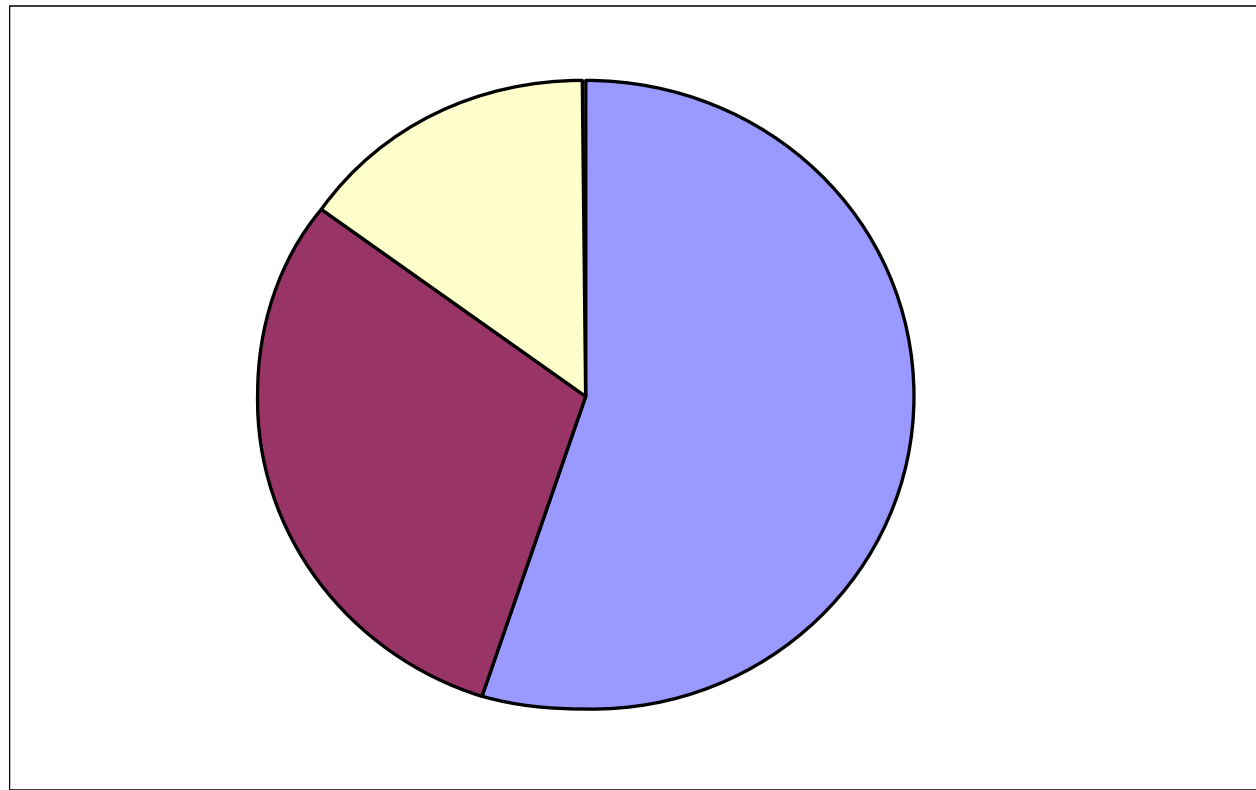
National Bridge Inventory Condition Ratings

- 9 – Excellent
- 8 – Very Good
- 7 – Good - No problems noted.
- 6 – Satisfactory – Some minor problems.
- 5 – Fair – All primary structural elements are sound but may have minor section loss, cracking, spalling, or scour.

National Bridge Inventory Condition Ratings, cont'd

- 4 – Poor – Advanced section loss, deterioration, spalling or scour.
- 3 – Serious – Loss of section, deterioration, spalling or scour have seriously affected the primary structural components.
- 2 – Critical – Advanced deterioration of primary structural elements.
- 1 – Imminent Failure – Major deterioration or section loss in critical structural components. Bridge is closed to traffic, but corrective action may put it back in light service.
- 0 – Failed – Out of service, beyond corrective action.

Summary of Sufficiency Rating (SR) Factors



- 1. Structural Adequacy & Safety (55% max)
- 2. Serviceability & Functional Obsolescence (30% max)
- 3. Essentiality for Public Use (15% max)

Summary of Sufficiency Rating (SR) Factors

- 1. Structural Adequacy & Safety (55% max) – includes superstructure, substructure, culverts, and inventory rating.
- 2. Serviceability & Functional Obsolescence (30% max) – includes number of lanes on the structure, Average Daily Traffic (ADT), approach roadway width, structure type, bridge roadway width, vertical clearance over deck, deck condition, structural evaluation, deck geometry, under-clearances, waterway adequacy, approach roadway alignment, STRAHNET highway designation.
- 3. Essentiality for Public Use (15% max) – includes detour length, ADT, and STRAHNET highway designation.

Bridge Terminology, cont'd

- **Structurally deficient (SD)** — Bridges are classified as “structurally deficient” if they have a general condition rating for the deck, superstructure, substructure or culvert as 4 or less or if the road approaches regularly overtop due to flooding. The fact that a bridge is structurally deficient does not imply that it is unsafe.
- **Functionally obsolete (FO)** — a functionally obsolete bridge is one that was built to standards that do not meet the minimum federal clearance requirements for a new bridge. These bridges are not automatically rated as structurally deficient, nor are they inherently unsafe.

Federal Funding Eligibility

- A bridge that is Structurally Deficient or Functionally Obsolete and has a SR of 80 or less is eligible for federal **rehabilitation** funding.
- A bridge that is Structurally Deficient (has a condition code of 4) or Functionally Obsolete and has a SR of less than 50 is eligible for federal **replacement** funding.

Fracture Critical Bridges

- **Fracture-critical (FC)** — a fracture-critical bridge typically has a steel superstructure with load (tension) carrying members arranged in a manner in which if one fails, the bridge could collapse. Examples of fracture critical bridges are two girder bridges or truss bridges. The classification of fracture critical does not mean the bridge is inherently unsafe

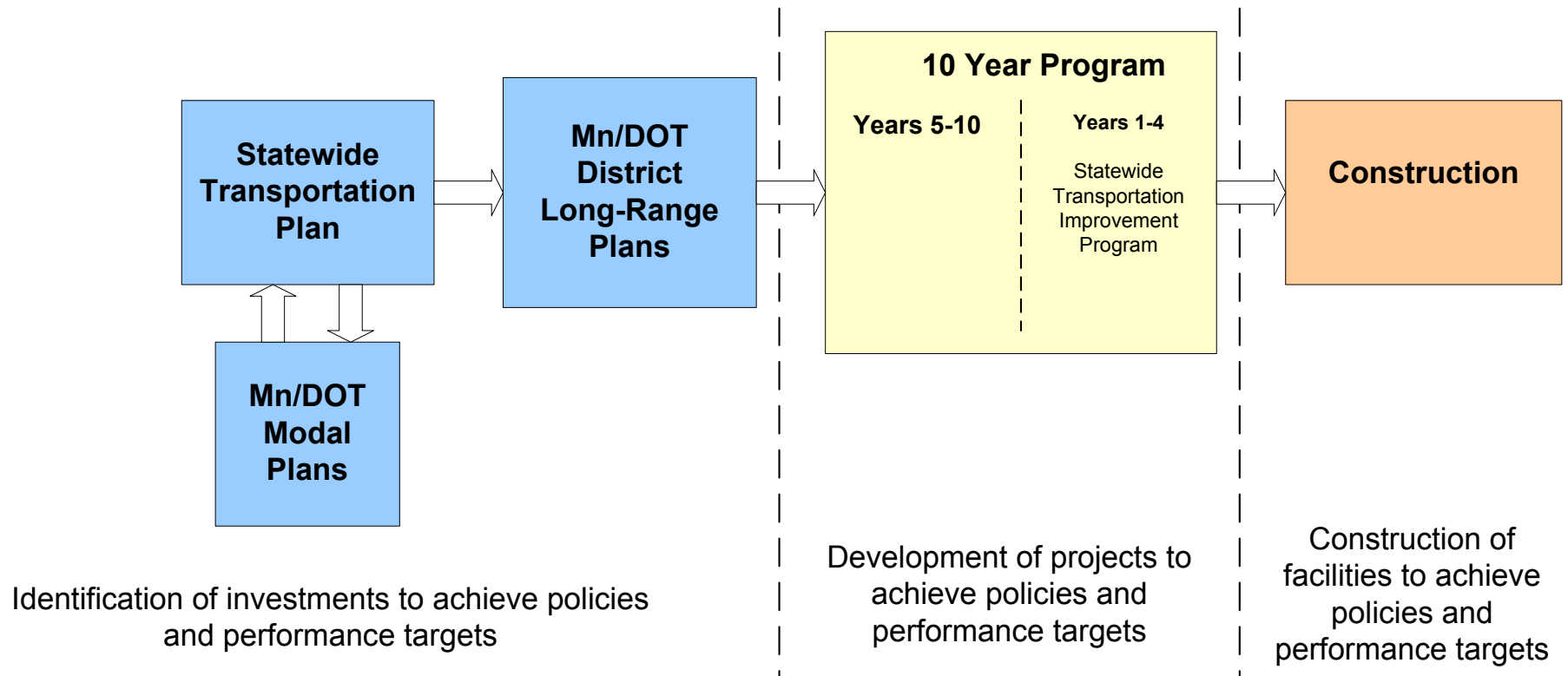
Fracture Critical Bridges, cont'd

- Not all fracture critical bridges are planned for replacement in the next 20 years. The right work planned for some FC bridges is painting, overlays and/or other repairs.
- Three bridges are planned for replacement in the STIP years (2008-2012):
 - 2008 – TH 11 Bridge in Drayton, ND/Robin, MN
 - 2009 – Bridge 5388 TH 24 in Meeker County
 - 2011 – TH 52 Lafayette Bridge in St. Paul
- Another 13 bridges are planned for replacement in 2012-2018.

Statewide Transportation Plan Approach

- Required by State and Federal Law
- Update at least every 6 years to address changing trends and conditions
- Multi-Modal: highway, transit, freight, rail aeronautics, ports and waterways, bikes and peds
- Multi-Jurisdictional: state, cities, counties, public and private providers
- Provides general policy framework and investment direction

Mn/DOT's Highway Planning and Investment Process



Plan Update Schedule

- June-July Stakeholder Outreach Meetings
- July-Nov Refine Plan Policies and Strategies
- Dec Complete Draft Statewide Policy Plan
Complete Draft District Plans
- Jan, 09 Stakeholder Outreach
- Feb Formal Public Hearings
- April Revise and Adopt Plans