MnDOT Highway Construction Outlook

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MnDOT
Transportation System Management

Minnesota Transportation Alliance
November 4, 2015
2016-2019 State Transportation Improvement Program (STIP)

STATE OF MINNESOTA

2016-2019
STATE TRANSPORTATION IMPROVEMENT PROGRAM (STIP)

September 2015
## State Road Construction Program

### STATE ROAD CONSTRUCTION PROGRAM FUNDING
**BY DISTRICT/ATP AND YEAR**
**($ MILLIONS)**

<table>
<thead>
<tr>
<th>DISTRICT/ATP</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>TOTAL *</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>113.8</td>
<td>104.7</td>
<td>63.1</td>
<td>75.1</td>
<td>356.7</td>
</tr>
<tr>
<td>2</td>
<td>30.9</td>
<td>41.3</td>
<td>45.3</td>
<td>36.4</td>
<td>153.9</td>
</tr>
<tr>
<td>3</td>
<td>103.6</td>
<td>50.6</td>
<td>57.5</td>
<td>73.2</td>
<td>284.9</td>
</tr>
<tr>
<td>4</td>
<td>44.2</td>
<td>62.9</td>
<td>43.3</td>
<td>37.5</td>
<td>187.9</td>
</tr>
<tr>
<td>6</td>
<td>97.5</td>
<td>103.1</td>
<td>45.1</td>
<td>83.3</td>
<td>329.0</td>
</tr>
<tr>
<td>7</td>
<td>42.9</td>
<td>132.8</td>
<td>89.4</td>
<td>51.0</td>
<td>316.1</td>
</tr>
<tr>
<td>8</td>
<td>31.0</td>
<td>35.4</td>
<td>28.2</td>
<td>34.5</td>
<td>129.0</td>
</tr>
<tr>
<td><strong>SUBTOTAL</strong>*</td>
<td>463.9</td>
<td>530.8</td>
<td>371.9</td>
<td>391.0</td>
<td>1,757.6</td>
</tr>
<tr>
<td><strong>METRO</strong></td>
<td>234.7</td>
<td>396.0</td>
<td>205.1</td>
<td>244.4</td>
<td>1,080.2</td>
</tr>
<tr>
<td><strong>MISC</strong></td>
<td>42.2</td>
<td>13.5</td>
<td>7.8</td>
<td>7.7</td>
<td>71.1</td>
</tr>
<tr>
<td><strong>TOTAL</strong>*</td>
<td>740.7</td>
<td>940.1</td>
<td>584.8</td>
<td>643.1</td>
<td>2,908.9</td>
</tr>
</tbody>
</table>

*may not total correctly to roundly
<table>
<thead>
<tr>
<th>SOURCE</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>TOTAL*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Formula Funds</td>
<td>303.3</td>
<td>358.6</td>
<td>293.5</td>
<td>362.2</td>
<td>1,317.6</td>
</tr>
<tr>
<td>High Priority Projects</td>
<td>2.3</td>
<td>14.9</td>
<td>0.0</td>
<td>0.0</td>
<td>17.2</td>
</tr>
<tr>
<td>Advance Construction</td>
<td>41.0</td>
<td>216.1</td>
<td>25.0</td>
<td>4.0</td>
<td>286.1</td>
</tr>
<tr>
<td>State Trunk Highway</td>
<td>394.1</td>
<td>350.5</td>
<td>266.3</td>
<td>276.9</td>
<td>1,287.9</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>740.7</td>
<td>940.1</td>
<td>584.8</td>
<td>643.1</td>
<td>2,908.9</td>
</tr>
</tbody>
</table>

*may not total correctly to rounding
MnDOT Construction Outlook
(2015 Outlook Comparison of the 2015-2018 STIP to the 2016-2019 STIP*)

*Adjusted to show SRC Budget
Chapter 152 Bridge Projects

Funding Source: Transportation Bonds
Federal and State Funds
Timeframe: 2009 to 2018

2016 – 10 Projects (incl. Winona Br.)
2017 – 8 Projects (incl. I35W Managed Lane Const., Kennedy Br.)
2018 – 7 Projects (incl. US 14, Oslo & Baudette)
Transportation Economic Development (TED)

TED in 2010/11
Funding Source: Transportation Bonds - $33M (Chapter 388)
9 Projects

TED in 2012
Funding Source: TH Fund Balance - $25M
13 Projects

TED in 2013
Funding Source: TH Fund Balance - $16M
4 Projects

TED in 2014/2015/2016
Funding Source: TH Fund Balance - $30M
Awards Pending
Long-Term Sustainability for Flood-Prone Highways

Timeframe: 2011 to 2016

2016-2019 STIP (FMP-Chap 152 Bonds/Federal/State Funds)

- District 2: $2.6M
- District 4: $9.7M
- District 7: $15.8M

TOTAL $28.1M
Transportation Investments Generating Economic Recovery (TIGER VII)

Funding Source: USDOT Discretionary Grant Program
Timeframe: Awards in November 2015
Funds available: $500M

MnDOT involved projects
- Willmar Wye ($10M)
- MAASTO Truck parking study (approx. $250,000 depending on level of overall funding award and project details)
Statewide Performance Program (SPPP) – Pavement

SPPP was established in MnSHIP in response to requirements in MAP-21.

Timeframe: SPPP – 2017 and ongoing

2016 Target – $60M for Interstate and NHS Pavement
2017 Target – $161M for Interstate and NHS Pavements
2018 Target – $145M for Interstate and NHS Pavements
2019 Target – $153M for Interstate and NHS Pavements
Statewide Performance Program (SPPB) – Bridge

SPPB was established in MnSHIP in response to requirements in MAP-21.

Timeframe: SPPB – 2016 and ongoing

2016 Target – $80M for Interstate and NHS Bridge
2017 Target – $80M for Interstate and NHS Bridge
2018 Target – $80M for Interstate and NHS Bridge
2019 Target – $80M for Interstate and NHS Bridge

* Does not include bond funds
The Additional Preservation Project (APP)

Sources: State Funds, $134.5M
Timeframe: FY2016 – FY2017

Programmed in SF2016: $48M
Programmed in SF2017: $81M
MnDOT Construction Projects in Calendar Years 2016 and 2017

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>2016</th>
<th>2017</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Projects</td>
<td>96</td>
<td>87</td>
<td>183</td>
</tr>
<tr>
<td>Total Project Cost in Millions</td>
<td>$523</td>
<td>$823</td>
<td>$1,346</td>
</tr>
</tbody>
</table>
## Construction Projects in Calendar Years 2016-2017
### By Program

<table>
<thead>
<tr>
<th>Program</th>
<th>Number of Projects</th>
<th>Cost in Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridge Replacement</td>
<td>51</td>
<td>275</td>
</tr>
<tr>
<td>Major Construction</td>
<td>8</td>
<td>429</td>
</tr>
<tr>
<td>Reconstruction</td>
<td>15</td>
<td>147</td>
</tr>
<tr>
<td>Recondition</td>
<td>24</td>
<td>130</td>
</tr>
<tr>
<td>Resurface</td>
<td>85</td>
<td>365</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>183</strong></td>
<td><strong>1,346</strong></td>
</tr>
</tbody>
</table>
## Construction Projects in Next Twelve Months

**Estimate Cost > $15 Million**

<table>
<thead>
<tr>
<th>Rt.</th>
<th>Year</th>
<th>Description</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I 35</td>
<td>2016</td>
<td>I-35 S OF CSAH 11 TO 0.9 MI N BRIDGE #9783, UNBONDED CONCRETE OVERLAY &amp; I-35 OVER ST CROIX VALLEY RR, 2 MI S JCT MN 48, APPROACH WORK, UNBONDED CONCRETE OVERLAY AND REPLACE BRS</td>
<td>30M</td>
</tr>
<tr>
<td>I 94</td>
<td>2016</td>
<td>STEARNS CSAH 75 W OF ST. JOSEPH TO W END OF BR #73865 AND BR #73866 OVER SAUK RIVER, UNBONDED CONCRETE OVERLAY; AND ON I 94 FROM STEARNS CR 159 AT COLLEGEVILLE E TO STEARNS CSAH 75, MILL AND OVERLAY</td>
<td>16M</td>
</tr>
<tr>
<td>US 169</td>
<td>2016</td>
<td>US 169, FROM 0.6 MI N OF TH 14 TO 0.1 MI S OF TH 99 &amp; FROM 1.0 MI N OF TH14 TO 1.5 MI S OF JCT TH 99, GRADE, SURFACE, MEDIAN WORK, REPLACE BR, ETC.</td>
<td>25M</td>
</tr>
<tr>
<td>I 694</td>
<td>2016</td>
<td>I-694, FROM 0.9 MI EAST OF RICE ST IN LITTLE CANADA TO 0.1 MI W OF LEXINGTON-RECONSTRUCTION WITH ADDED 3 LANE &amp; BRIDGES (100% BOND FUNDS)</td>
<td>39M</td>
</tr>
<tr>
<td>I 94</td>
<td>2016</td>
<td>MOUNDS BLVD IN ST PAUL TO MN 120 IN WOODBURY &amp; US 61 FROM BURNS AVE TO W JCT MN 5 IN ST PAUL &amp; EB E 7TH ST EXIT TO 0.4 MI E OF MOUNDS BLVD - ADD AUX LANE, MAINTENANCE, REHAB &amp; BRIDGES, ETC.</td>
<td>48M</td>
</tr>
<tr>
<td>I 35E</td>
<td>2016</td>
<td>ON I 35E FROM LITTLE CANADA RD IN LITTLE CANADA TO RAMSEY CO ROAD J IN WHITE BEAR LAKE, CONSTRUCT MNPASS MANAGED LANE, NOISEWALLS, ETC</td>
<td>17M</td>
</tr>
</tbody>
</table>
System Condition Trends

Pavement condition improved in 2014.
- Interstate pavement = 1.9% in poor condition
- NHS pavement = 3.0% poor
- Non-NHS pavement = 4.4% poor

3.1% of NHS bridges (weighted by deck area) were in poor condition

361 fatalities in 2014 is a historic low. Serious injuries also decreased to a historic low of 1,044.
System Performance Trends

Twin Cities freeway congestion increased to 21.1 percent of freeway miles in 2014, returning to its stable five-year level after a slight decrease in 2013.

98% of Interregional Corridor (IRC) miles can be driven within 2 mph of the corridor target speed. This is predicted to continue through 2023.

Snow and ice clearance time targets were met 87% of the time for the 2014-2015 winter. MnDOT has met its 70% target for the past 5 winter seasons.
Inflation Forecast Factors

- Bituminous Surfacing
- Structural Concrete & Concrete Surfacing
- Roadway Excavation
- Reinforcing & Structural Steel
### MnDOT Construction Cost Index (CCI)
Inflation Forecast (Oct. 2015 Snapshot)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SFY 2016</td>
<td>+1%</td>
<td>+4%</td>
<td>(11%)</td>
</tr>
<tr>
<td>2017</td>
<td>+2%</td>
<td>+5%</td>
<td>+6%</td>
</tr>
<tr>
<td>2018</td>
<td>+3%</td>
<td>+4%</td>
<td>+4%</td>
</tr>
<tr>
<td>2019</td>
<td>+3%</td>
<td>+5%</td>
<td>+4%</td>
</tr>
<tr>
<td>2020</td>
<td>+3%</td>
<td>+5%</td>
<td>+4%</td>
</tr>
<tr>
<td>2017 – 2020</td>
<td>+3%</td>
<td>+4%</td>
<td>+4%</td>
</tr>
<tr>
<td>2021 – 2026</td>
<td>+2%</td>
<td>+5%</td>
<td>+4%</td>
</tr>
<tr>
<td>2017 – 2026</td>
<td>+2%</td>
<td>+4%</td>
<td>+4%</td>
</tr>
</tbody>
</table>
Inflation History and Forecast

CCI Inflation History & Regression Trend

CCI Inflation STIP Projection

October 2015 outlook
Looking to the Future

Construction Outlook Based on 16-19 Final STIP

Funding by Source (in millions of dollars)

[Bar chart and line graph showing anticipated construction revenue by year, including adjustments for inflation.]

Projected Revenue Adjusted for Inflation
Projected Revenue in Year of Construction

Source: PRELIMINARY DRAFT 2018-2037 Minnesota State Highway Investment Plan, October 2015
Anticipated Construction Revenue by Year Including Adjustments for Inflation

Projected Revenue in Year of Construction
Projected Revenue Adjusted for Inflation

Source: PRELIMINARY DRAFT 2018-2037 Minnesota State Highway Investment Plan, October 2015
The Big Picture

Historical Spending with Future Revenue

- Actual Spending
- Estimated Program
- Estimated Real Dollars
- Estimated Nominal Dollars

Buying power reduction affects of inflation
Project Overview

• The project includes:
  – 3 miles of new four-lane road construction.
  – 1,132’ long steel bridge across the Rouchleau pit.
    • The bridge will be the tallest in Minnesota (200’ off the water).
  – A new interchange at Highway 53/Highway135.
  – Utility and trail relocation.
  – The total project cost, including construction, engineering, right of way, minerals, etc., is currently estimated at $230 million.
Designer and CMGC Contractor

- **Designer:** Parsons (prime).

- **CMGC Contractor:** Kiewit Infrastructure.

- MnDOT, Parsons and Kiewit co-located from March – September 2015 to collaborate during the design phase.
Work Packages

- **Work Package 1: Early Steel**
  - Executed in June 2015 at risk (pre-ROD).
  - $17.1 million, 10 million pounds.
  - Currently being fabricated.
Work Packages

• Work Package 2: Roadway, bridges and “almost everything else”.
  – Kiewit was the sole bidder (CMGC process).
  – Bid opened October 21, 2015.
  – Bid price is non-public until after contract execution. Expect news soon.
Milestones

• **October 2015:**
  - Plan complete.
  - Bid (October 21 – more info later).

• **November 2015:** Begin Construction.

• **November 2017:** Traffic on new alignment, all removals complete on existing easement, existing easement area available for mining.

• **2018:** Epoxy chip seal on bridge, separate landscape project, final clean-up.
Future Lettings

• A design/bid/build landscaping project will be let fall of 2017 (estimated) for 2018 construction.
  – Estimated value: $300 K
  – The plan is mostly complete (it was taken out of work package 2).
Efficiencies

• MnDOT was required to identify $60 million in efficiencies (5% of the state road construction budget).
• MnDOT identified a total savings of $66.5M.
• Administration, maintenance and operations = $6,907,000
• State road construction = $59,641,000
Questions