



MnDOT update

APWA Minnesota Chapter
May 13, 2016
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Deputy Commissioner, Chief Engineer

We all have a stake in **A**  **B**





May – spring is in the air

- ▶ 244 projects this year
- ▶ Just over \$1 billion in spending
 - Highway 53 project
- ▶ Much of the work is preservation
 - Very few expansion projects









We know what's ahead

- Freight truck and rail traffic to increase 30 percent by 2030
- 850 state bridges will require significant work by 2025
- 1 million new Minnesotans by 2040
- 32% increase in the number of hours stuck in metro area traffic congestion by 2025
- **Local roads and bridges unfunded need=\$18 billion over 20 years**
- More than 600 identified state road and bridge projects go unfunded

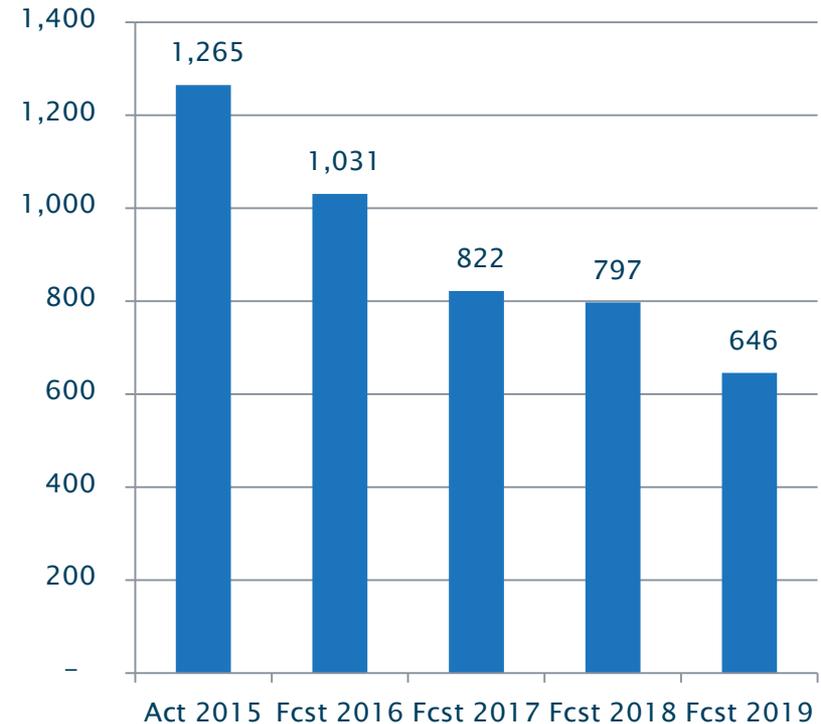


We are on the Edge of a Fiscal Cliff

- ▶ Road and bridge funding drops 18 percent next year
- ▶ 49 percent less by 2019
- ▶ Maintenance will suffer
- ▶ Shorter term fixes
- ▶ Limited resources for expansion

MnDOT Construction Outlook (Funding in millions)

Based on 16-19 Final STIP



What we need to do

- ▶ Long-term investment
 - Sustainable
 - Dedicated
 - Predictable
 - \$6 billion for state (ongoing)
 - \$2.36 billion for local governments (ongoing)
- ▶ This will provide
 - Fuel economic growth, support business expansion
 - Enhance safety for traveling public
 - Strong, well maintained infrastructure
 - Improved life cycle costs
 - Support to thousands of jobs in transportation sector



Partnerships

▶ Local agencies

- Transportation for Economic Development
 - Competitive grant program
 - Helps fund projects that promote economic dev.
 - Since 2010, \$11.3 million in grants has helped build more than \$250 million in projects
- Cooperative agreements



Partnerships

- ▶ Cooperative agreements
 - Cost-sharing between MnDOT and other jurisdictions
 - MnDOT policy helps determine who pays for what
 - Studying cost participation policy, at legislative direction, to ensure it is fair to all



Partnerships

- ▶ Tribal governments
 - 11 tribal governments in Minnesota
 - Each has independent relationship with federal and state governments
 - MnDOT works with each through MnDOT's tribal liaison
 - FHWA also closely involved
- ▶ Work closely on projects that affect reservations adjacent to state roadways



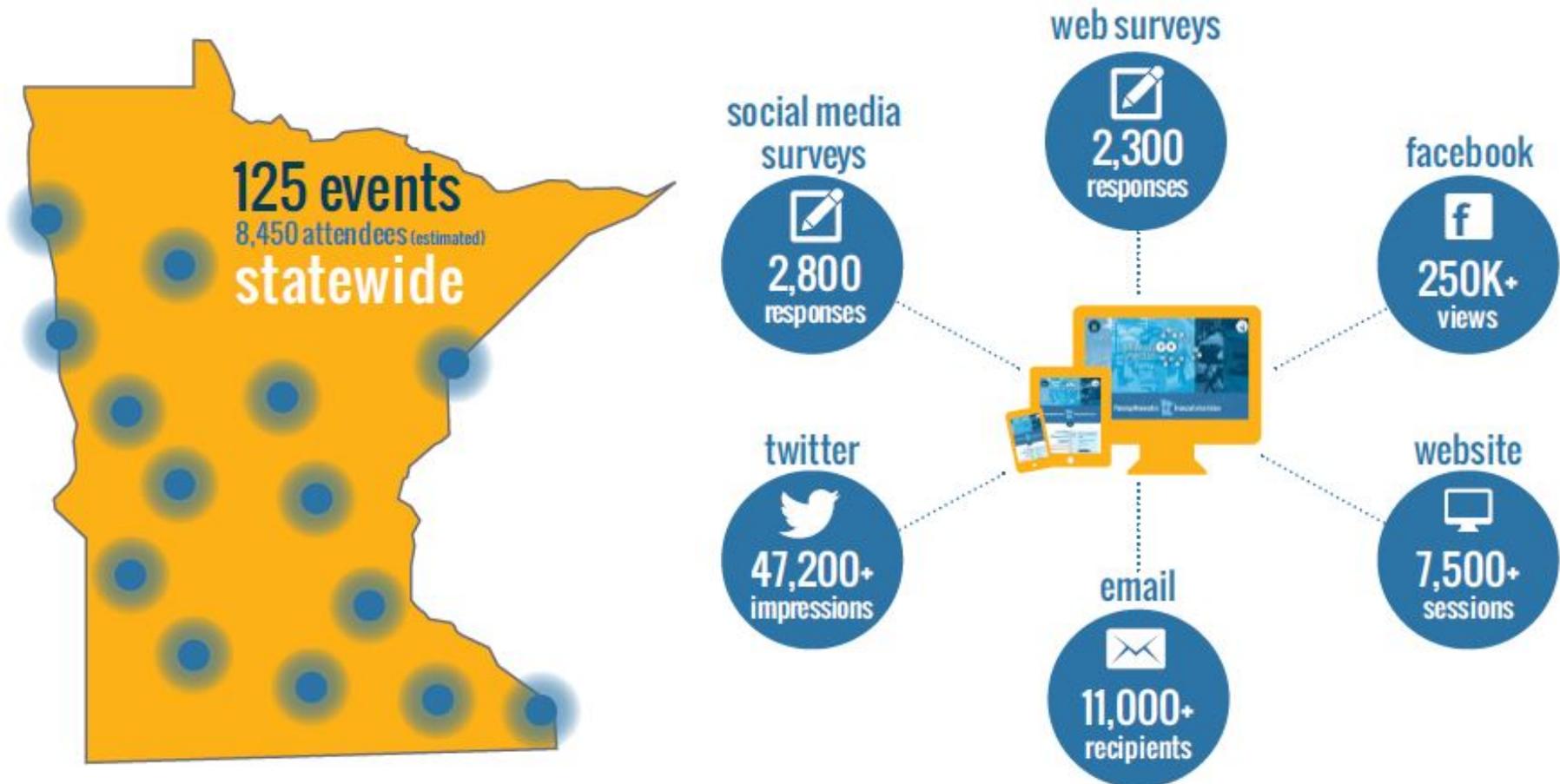


Mn State Highway Investment Plan

- ▶ 20–year plan that is renewed every 4 years
- ▶ Resource–constrained plan
 - Balancing needs with planned revenue



MnSHIP outreach



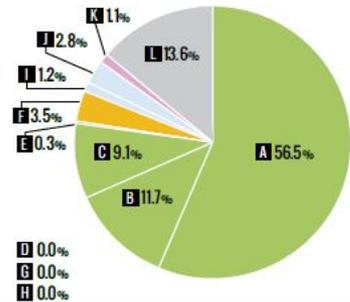
MnSHIP outcomes

- ▶ Highway surfaces are important
- ▶ Public wants focus on other modes
 - Biking, walking
- ▶ Safety investment same across all approaches

WHICH APPROACH ADDRESSES YOUR PRIORITIES?

- A Highway surfaces
- B Bridges
- C Supporting infrastructure
- D Highway ownership
- E Rest areas/ weigh stations
- F New safety investment
- G Twin Cities area mobility
- H Greater MN mobility
- I Bicycling
- J Walking
- K Regional/ local priorities
- L Other

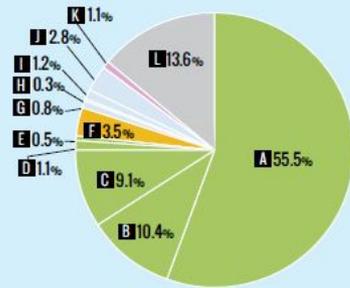
PREFERENCE & AVG RATING: We asked participants to rate each approach and select their favorite. Preference shows the number of participants who selected the approach. The average rating is for all participants on a scale from 0 - 100.



APPROACH A

Preference: 250 | Avg Rating*: 70.4

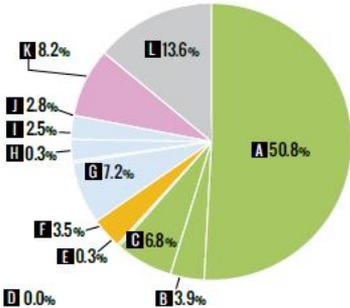
Prioritize investments in repairing and maintaining existing state highways, bridges, and supporting infrastructure.



APPROACH B

Preference: 302 | Avg Rating*: 68.7

Balance repairing and maintaining existing state highways, bridges and supporting infrastructure with strategically investing in reliable travel times.



APPROACH C

Preference: 224 | Avg Rating*: 63.2

Emphasize investments in biking, walking, ensuring reliable travel times, and regional and local priorities.





Transportation funding

▶ Fed funding

- FAST has arrived
 - Five-year plan
 - Funding stays about even

▶ State

- Trunk Highway fund increase over two years
 - \$49M in purchasing power increase
 - \$27M increase in program planning and delivery
 - \$20M – operations and maintenance
 - \$134M – state road construction
- \$12.5 million one-time funding for small cities



Changes in transportation

► Demographics

◦ Customers

- Population is aging
- Seeing a greater desire for transportation choices
- Transit becoming more important

◦ Employees

- Starting to see more retirements
 - Baby-boomers
 - Talent and experience loss
- New generation of employees
 - Less experience, but bring new ideas and ways of thinking
 - Desire to advance quickly



Changes in transportation

- ▶ Focus on public engagement
 - An important issue to Commissioner Zelle
 - New engagement approach on the I-94 study
 - In planning and building, need to consider quality of life along side issues like cost and schedule



Changes in transportation

I-94 engagement goals

- ▶ Change how MnDOT engages community – earlier and in greater depth
- ▶ Broader conversation about transportation needs in new context
- ▶ Develop project(s) for delivery in coordination with available funding
- ▶ Strengthen relationships...
- ▶ Create vision for corridor
- ▶ Heal wounds





Changes in transportation

- ▶ Faster project delivery methods
 - Design Build
 - Indefinite delivery, Indefinite quantity
 - Construction manager, general contractor
 - Winona bridge and Hwy 53 projects



Infrastructure improvements

- ▶ Better pavements
 - Concrete and asphalt
- ▶ Smart bridges
 - Sensors help track bridge condition
- ▶ Stainless steel rebar
 - Costs a little more, lasts a lot longer
- ▶ Aluminum culverts
- ▶ LED lighting
 - Electricity bill reduction, longer lasting bulbs



Preservation versus Modernization



Standard HPS luminaire lasts 4-5 years and costs \$260 to replace plus \$250 if lane closures are required



LED luminaire costs 25% more, lasts for 17 years and uses 65% less energy



City of Glenwood—Standard Mill and Overlay of Hwy 28



City of Glenwood—Complete Streets vision includes parking lane, trail connections, pedestrian enhancements



AV and CV (vehicles)

- ▶ Autonomous vehicles
 - Operate independently on system
 - Use sensors mounted on and in vehicle to move freely
- ▶ Connected vehicles
 - Are integrated with the transportation system
 - Sensors in vehicle, roadway, infrastructure along side roadway
 - Also communicates with other vehicles on the road



AV and CV vehicles

► Some advantages

- Traffic moves more quickly and efficiently
 - Could better manage the system?
- Perhaps narrower lanes, and thus more capacity
- Crashes could be eliminated
- No more distracted driving





AV and CV vehicles

- ▶ MnDOT actions
 - Maintenance community
 - Integrating mobile observations
 - Research projects with snow plows
 - Gang plowing
 - Snow plow warning
 - Use in work zones
 - Moving work zones



Diversity and Inclusion

- ▶ Important issue for Dayton administration
 - MnDOT involved in Diversity and Inclusion council
- ▶ DBE goals
 - Federal money means DBE goals on projects
 - Ongoing to challenge to meet the goals
- ▶ Contractor engagement
 - Hiring DBE sub-contractors
 - Working with those subs to make them viable



Jurisdictional Transfers

Right Road

Right System

Right Priority





Why is Jurisdictional Transfer important?

- ▶ To provide the level of service commensurate with function and use
- ▶ Meet user expectations
- ▶ Maximize efficiency
 - By matching level of government expertise with roads each manages best
 - By matching fund source to the road





Study Recommendation Stats

- ▶ 1,158 centerline miles identified as misaligned state wide
 - 2,610 lane miles
- ▶ **149 highway segments**
 - (median length of 6.25 centerline miles)
- ▶ 924 centerline miles on state systems
- ▶ 234 centerline miles on local systems



Benefits and Cost Analysis

► Qualitative Benefits

- More appropriate level of service to users
 - Capacity and customer expectations
 - More consistent road network
 - Road conditions will change little point A to B
 - More consistent to motorists
 - More traffic means higher priority for work
 - Roadway improvements could occur sooner
- Jurisdictions focus on the core system
 - provide service that is more aligned with local needs



Sequencing MnDOT's WIGs

WIG 1.0 (EFE)
11/2013 –
2/2016

WIG 2.0
(Customer
Outcomes
Focused) 2016 –
6/2017

WIG 3.0 (TBD)
7/2017 –
6/2019



MnDOT's WIG 2.0

WIG 1.0 used a project-based approach. WIG 2.0 will use the "true 4DX" model where the WIG rolls up and down through the organization.

Senior Leadership is doing strategic planning around the goal for WIG 2.0.

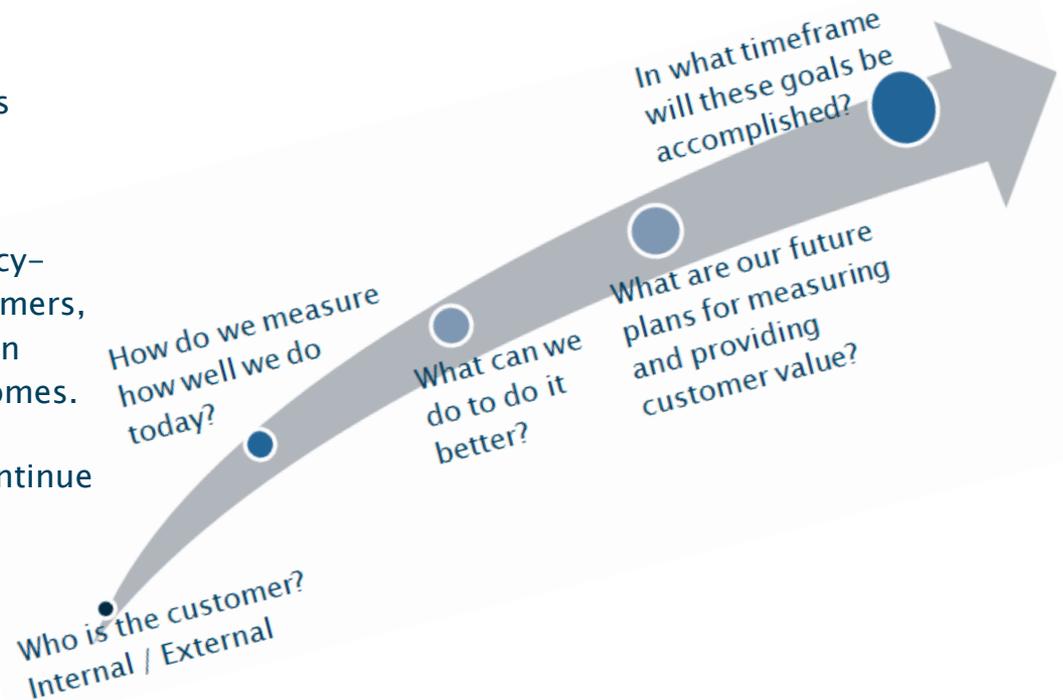
The WIG 2.0 approach will use lessons learned from Enhancing Financial Effectiveness.

WIG 2.0 Development will be an agency-wide effort to identify MnDOT's customers, what customers value, and how we can measure and improve customer outcomes.

The Project Management work will continue in WIG 2.0.

WIG 2.0 Development

Before jumping into a customer outcomes-related WIG 2.0, more work needs to be done to answer the following questions:



Good luck fishing!

