

The Role of Asset Management in Highway Safety

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Cheshire Puss, asked Alice. Would you tell me, please, which way I ought to go from here?

That depends a good deal on where you want to go, said the Cat.

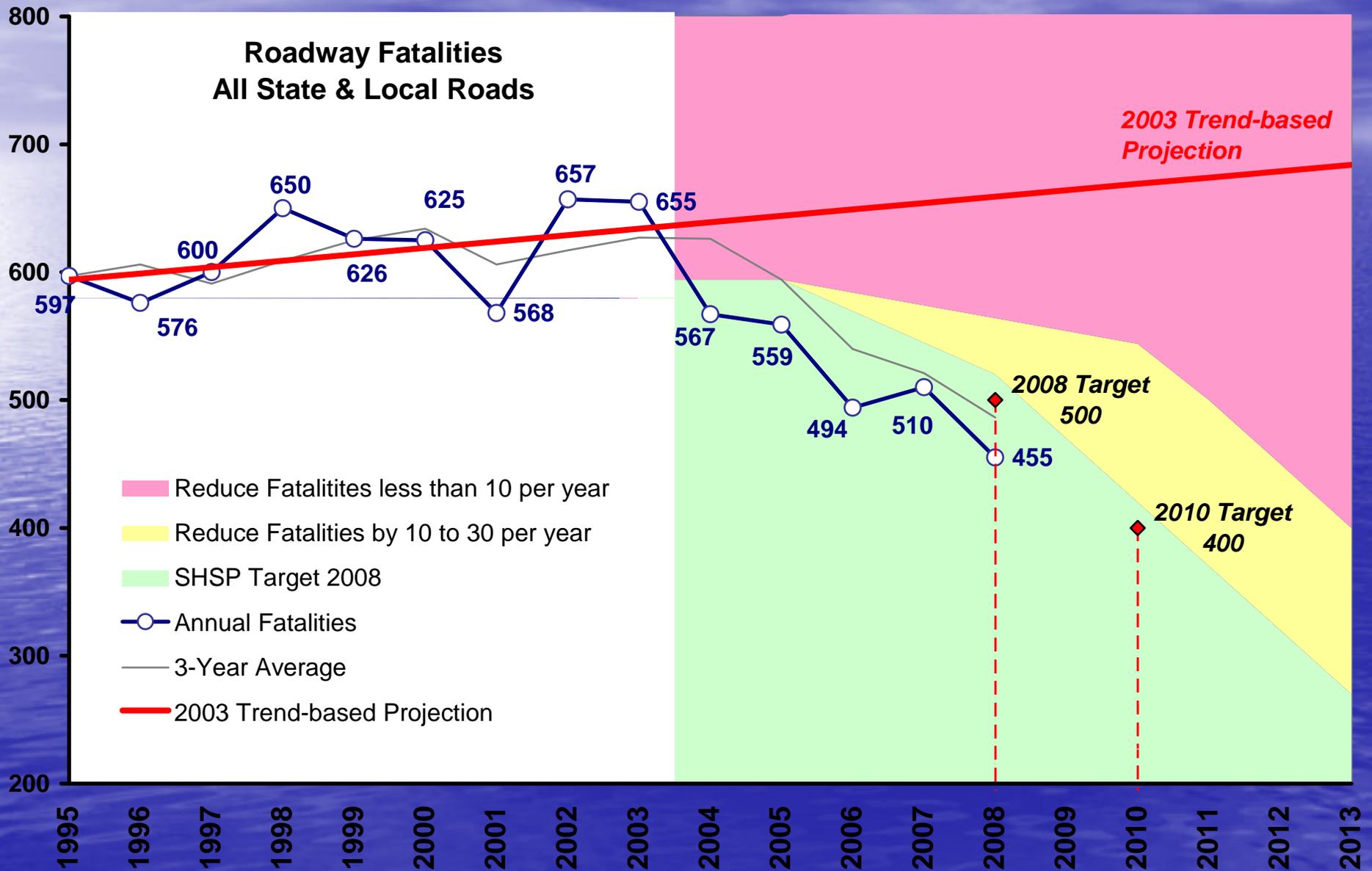
I don't much care where, said Alice.

Then it doesn't matter which way you go, said the Cat.



Where does
Minnesota want
to go?

Toward Zero Deaths





What role does the
asset manager
play?

Infrastructure Asset Management

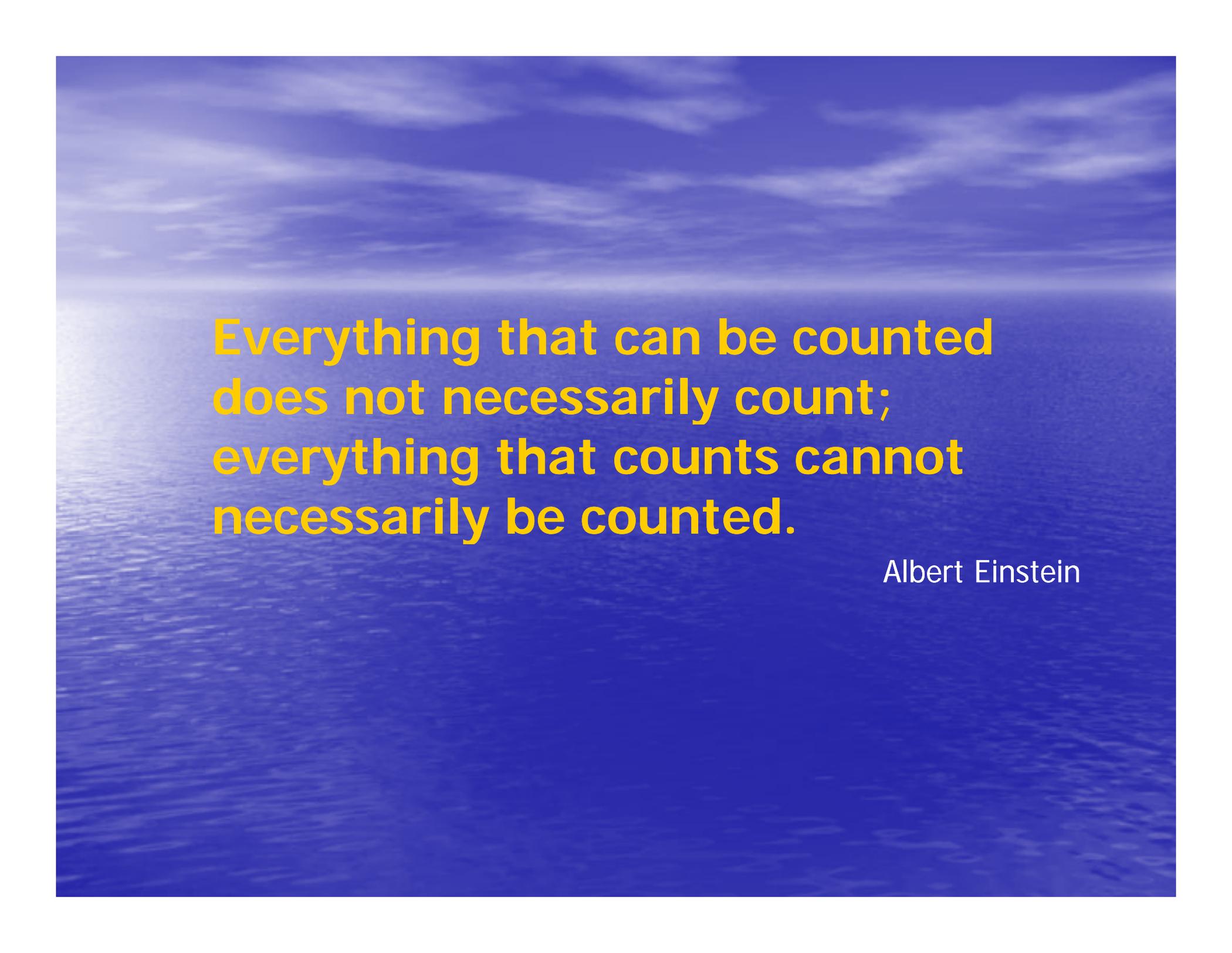
Manage infrastructure investments such that dividends accrue through increased productivity, improved living conditions, and greater prosperity.

(Source: Wikipedia, The Free Encyclopedia)

Standard of Service

Key to infrastructure asset management, is a well-defined Standard of Service that states in objective and measurable terms how an asset will perform.

(Source: Wikipedia, The Free Encyclopedia)



**Everything that can be counted
does not necessarily count;
everything that counts cannot
necessarily be counted.**

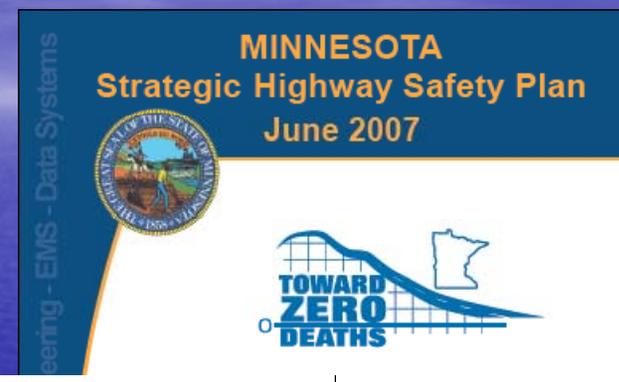
Albert Einstein

Standard of Service

- Sustaining the Standard of Service, i.e. system preservation, is the typical focus of asset management plans.
- **CHANGING** the Standard of Service, i.e. expanding the capacity of the system to deliver a safer trip, is the focus of safety professionals.

Safety is hard to "count"

Changes to standard of service achieved based on strategic objectives



MINNESOTA TOWARD ZERO DEATHS Because your life counts

STRATEGIC DIRECTION

→ **STATEWIDE GOAL:** Fewer than 400 traffic-related fatalities—and fewer than 1,400 serious injuries—by 2010

VISION:
To reduce fatalities and serious injuries on Minnesota's roads to zero

MISSION:
To create a culture for which traffic fatalities and serious injuries are no longer acceptable through the integrated application of education, engineering, enforcement, and emergency medical and trauma services. These efforts will be driven by data, best practices, and research.

→ **GOAL 1:** Establish the vision of TZD as a priority for all state and local agencies and units of government.

Strategies:

- Encourage agencies to make TZD a part of their culture and responsibility
- Establish an active TZD Executive Advisory Commission
- Actively promote agency-to-agency collaboration
- Implement effective traffic safety policies
- Develop a comprehensive TZD communications plan

→ **GOAL 2:** Create and strengthen traffic safety partnerships

Strategies:

- Engage local traffic safety advocates
- Recruit industry and nonprofit organizations to engage in traffic safety initiatives
- Increase and diversify participation in TZD programs and events
- Engage the court system as a traffic safety partner

→ **GOAL 3:** Promote and implement effective traffic safety initiatives

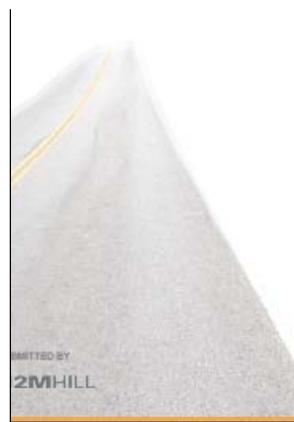
Strategies:

- Use data to drive all traffic safety initiatives
- Improve the traffic safety records system across all disciplines
- Expand and strengthen Minnesota's statewide trauma system to ensure every injury has timely treatment within the "golden hour"
- Increase collaboration among law enforcement agencies on all state and local roads
- Expand and deploy engineering countermeasures as identified in the Strategic Highway Safety Plan
- Advance new technologies and innovations
- Objectively evaluate current programs
- Adopt and implement best practices
- Prioritize, coordinate, and promote effective policy and legislation
- Conduct a consolidated public awareness assessment

VALUES:

- Continuous improvement
- Engaged partners
- Evidence-based approaches

www.MinnesotaTZD.org



Data-driven decision-making

- 70% of fatalities rural
 - Implement proactive, not reactive, safety projects
- 50% of fatalities on local roads
 - Share safety funding across jurisdictions

Data is everybody's business

- Preservation focus: tracks data to plan for funding and/or resource needs
- Capacity expansion focus: share data across functions and E's so that we can implement change!!

Four E's

- Leadership: Mn/DOT, Dept. of Public Safety, Dept. of Health
- Program Team: gov't and partners
- Find ways to share data across E's
 - CODES
 - TRCC
 - Fatal Crash reviews

Business Information Council

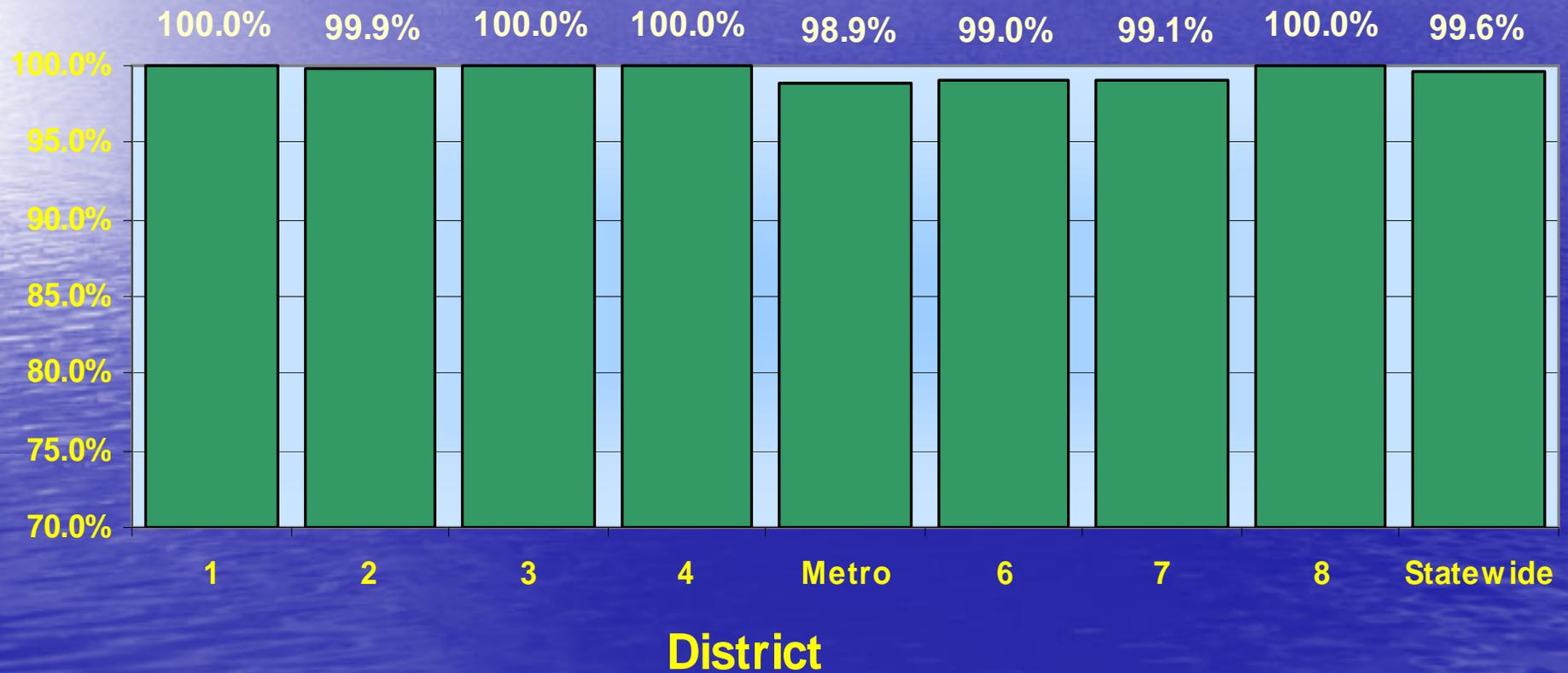
- Establish vision for managing data in Mn/DOT
- Identify and prioritize data needs and gaps
- Establish Data Governance
- Develop a Business Plan

Pavement Marking Policy, Measures, Targets

- ***Policy:*** Provide appropriate pavement markings to provide presence and retroreflectivity on all highways 365 days a year
- ***Measures:***
 - % of system compliant
 - Minimum Retroreflectivity
 - Cost and productivity
 - Customer Satisfaction
- ***Goals:***
 - 100% compliance with TM by December 2009
 - 100% of line-miles meeting minimum retroreflectivity, or scheduled for replacement

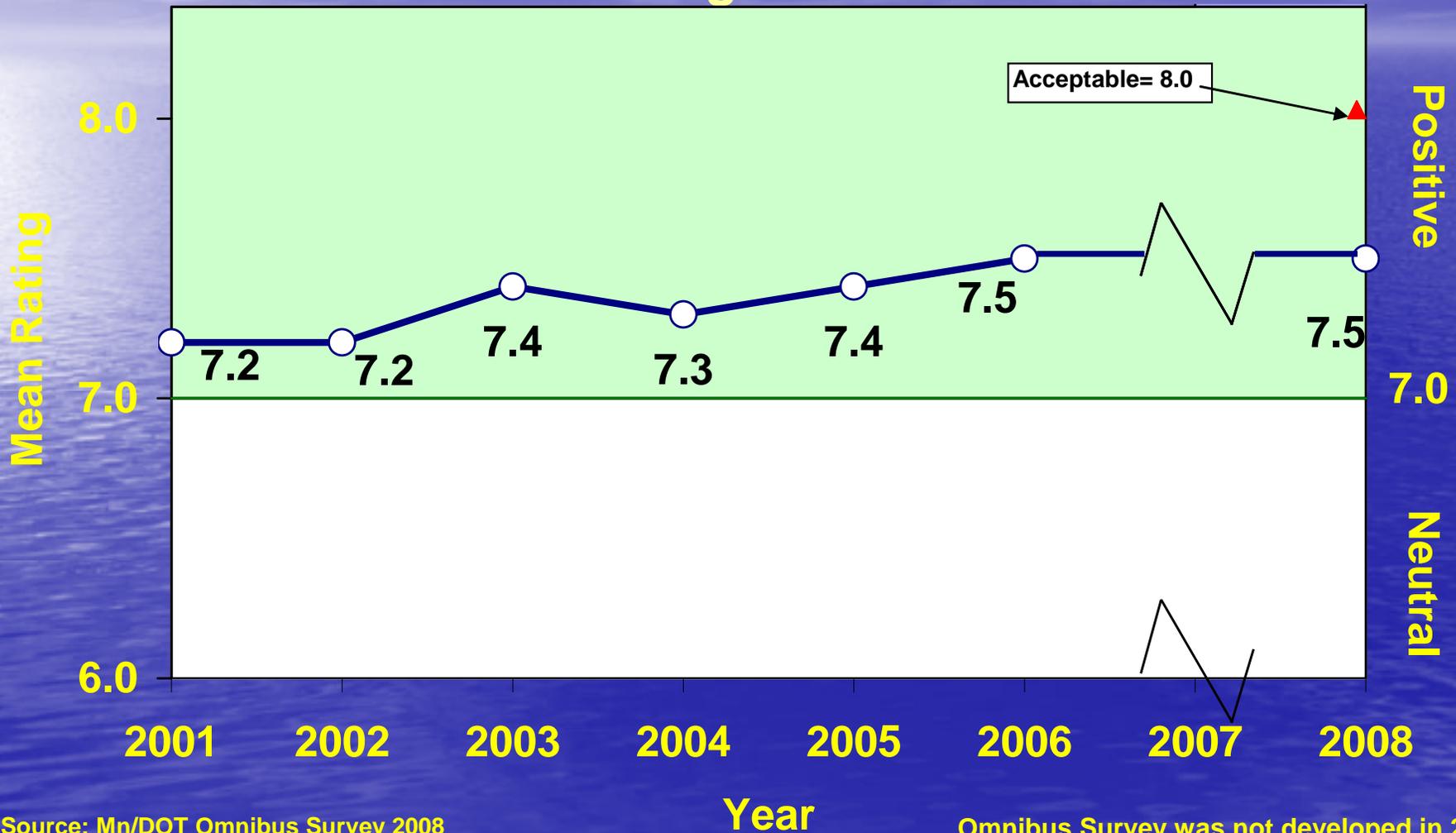
Non-compliant Roadways (0.4%)

% Compliant with Tech Memo



Market Research

Pavement Marking Customer Satisfaction Rating Scale 1-10



Source: Mn/DOT Omnibus Survey 2008

Omnibus Survey was not developed in 2007

Pavement Marking Management Tool

- Statewide
- GIS – based
- Retroreflectivity



Figure 1.8 Zoomed-In View with Legend Information

Safety Strategies

★ Enhanced Edgelines to reduce run off the road crashes

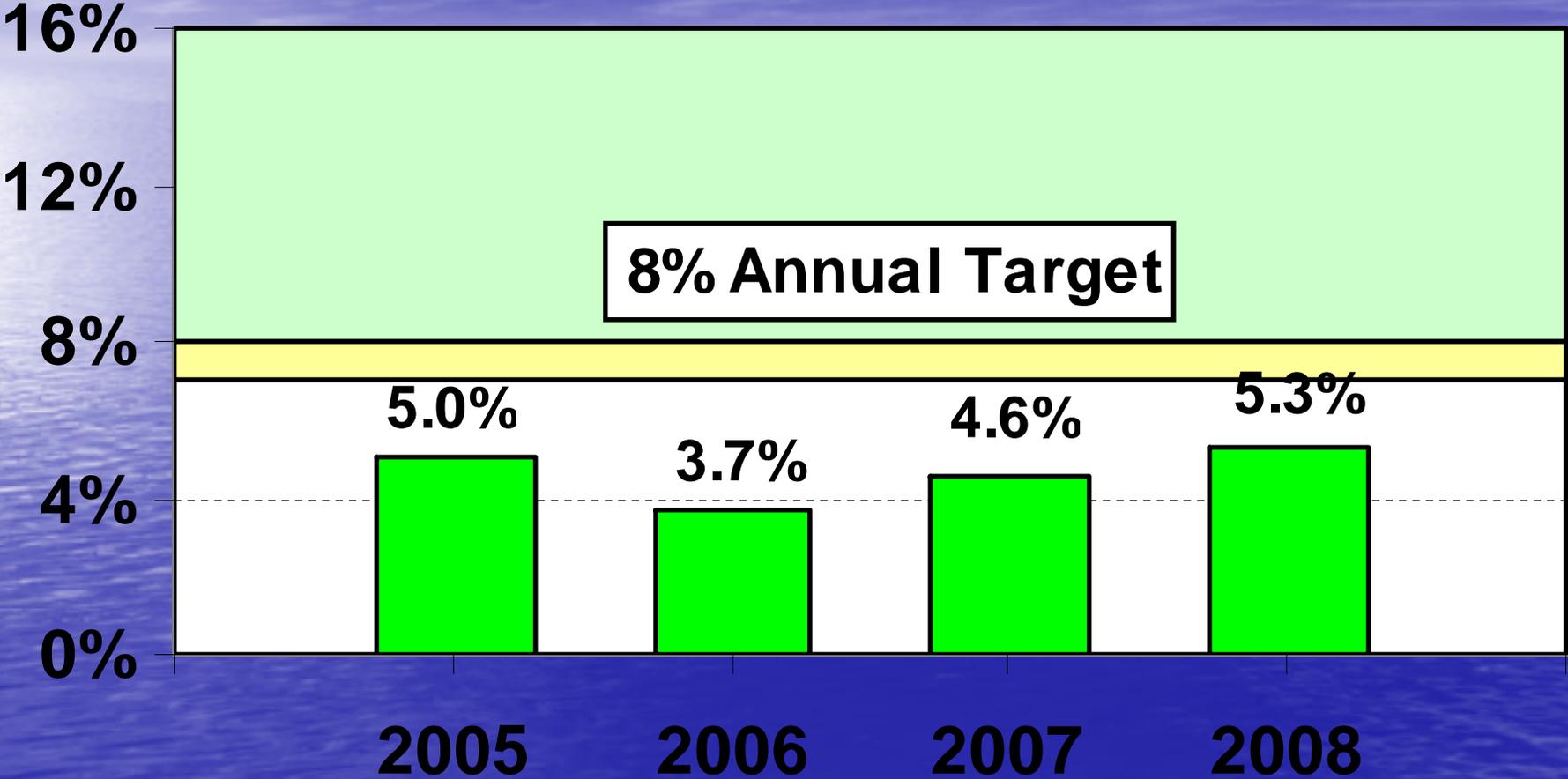
- ★ Ground-in wet reflective paint
- ★ 6" wide lines
- ★ Rumble stripEs



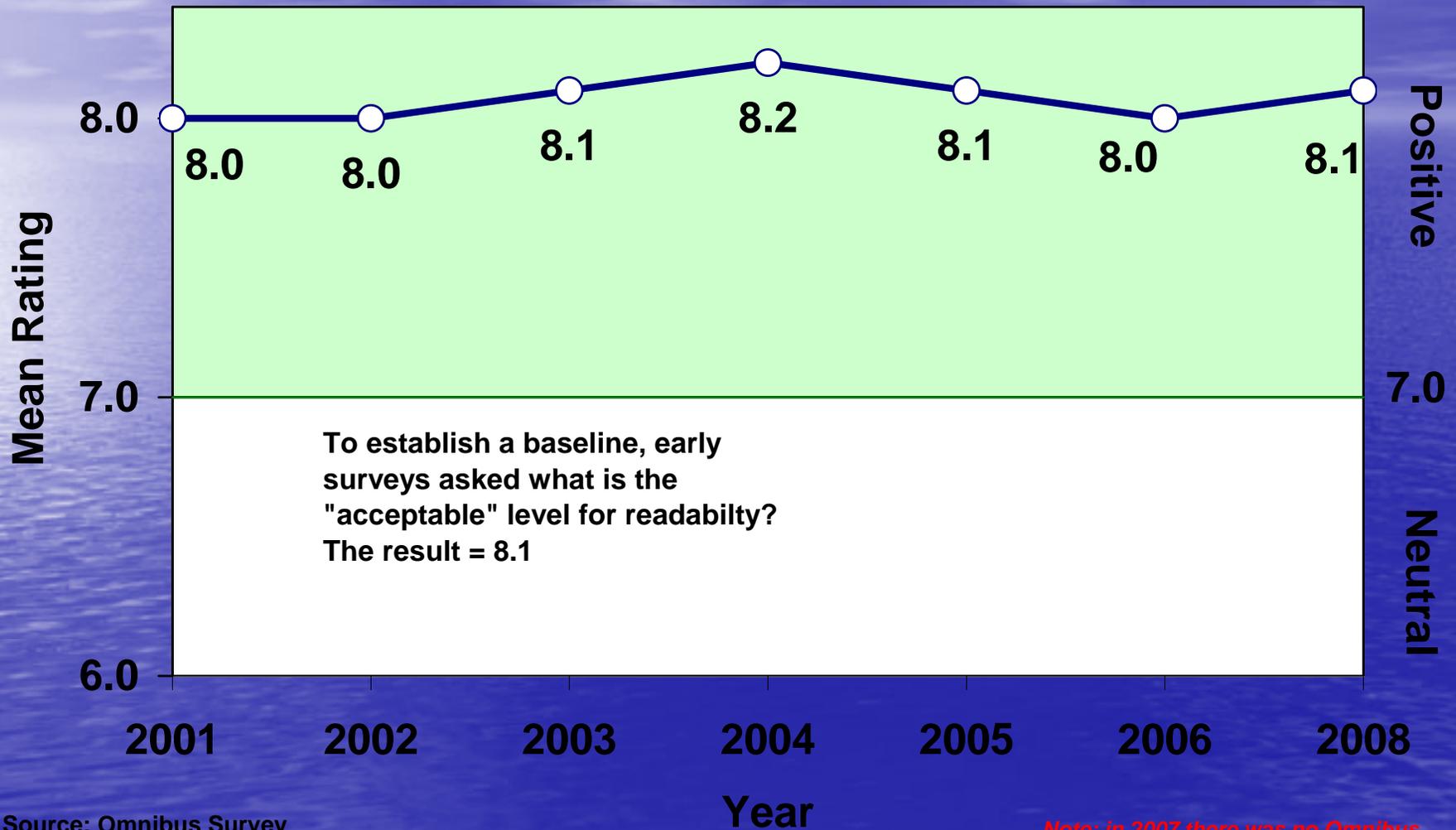
Sign Management

- *Policy:* Meet minimum retroreflectivity requirements and replace signs near end of useful life
- *Measure:* % of signs replaced annually.
% of signs over 12 years old.
- *Goal:* replace 8% of signs annually.

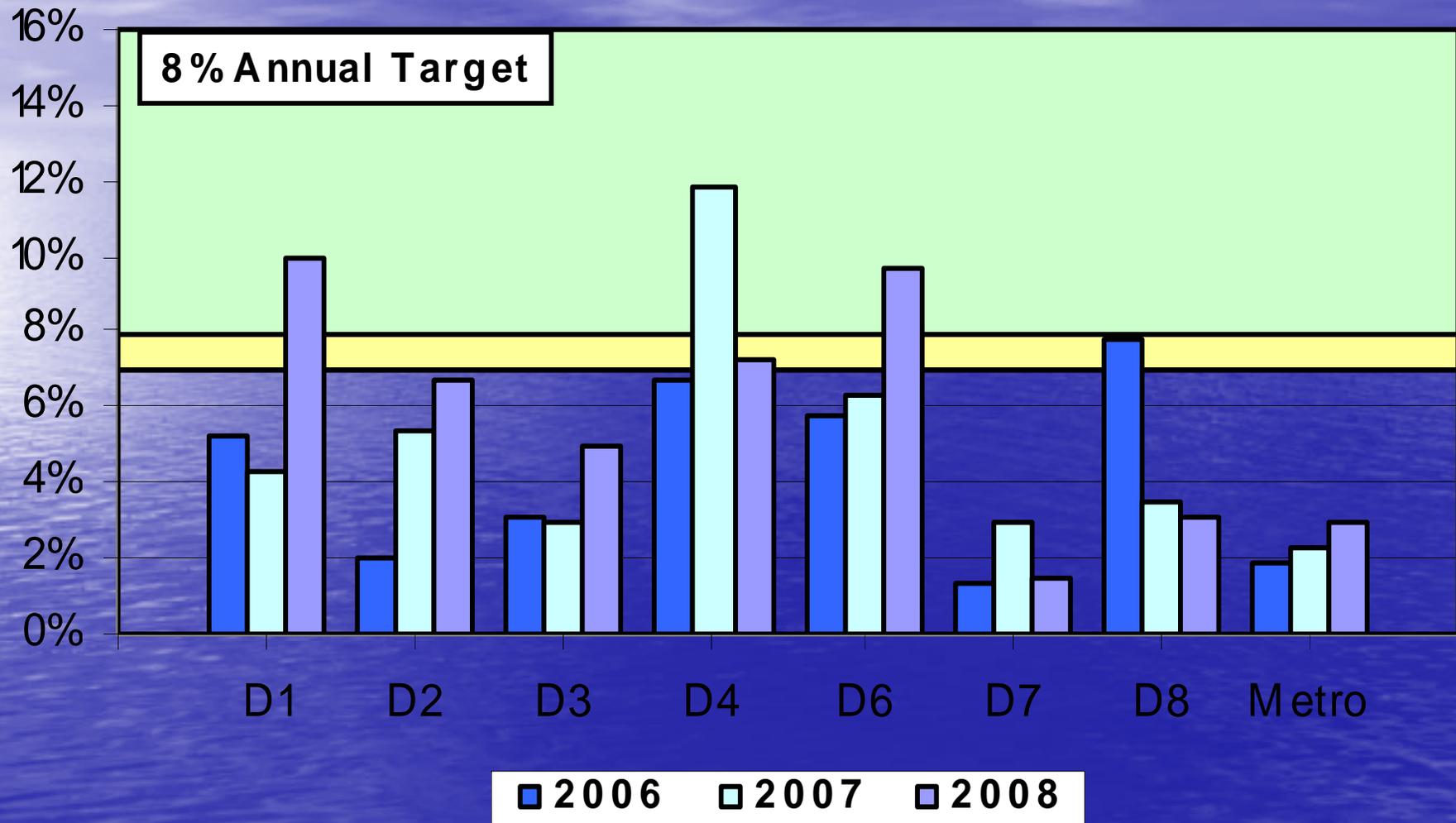
Statewide Signing Replacement CY 2005-08



Signs - Clearly Readable Customer Satisfaction Rating (1-10 Scale)



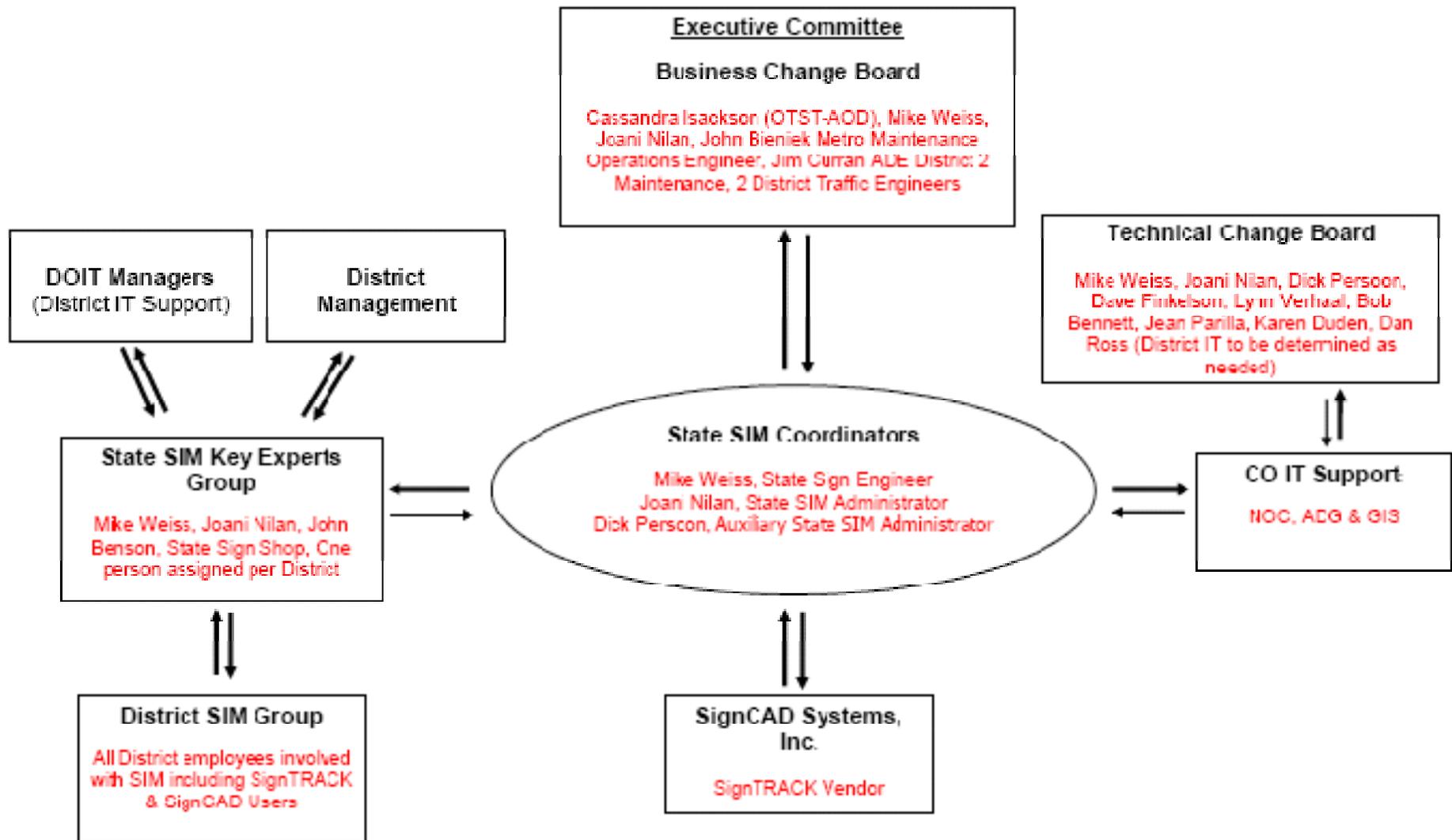
CY 2006 - 2008 Signing Replacement by District % of Total (12-Year Cycle)



Sign Management System

- Statewide
- Key expert group
- District Business Plan

Business Plan



Analysis



Implementing sign management system and sheeting materials with longer life (15+ years) means we will need to reevaluate measure in coming years



Need dedicated, focused, resources for completion of statewide inventory. Need to verify existing data and fully integrate system into business practices.



All road agencies facing similar issues with retroreflectivity requirements deadline.



Gap between target and what can be accomplished within budget and staff continues to grow. Cost to maintain signing asset will continue to rise (material and labor costs)

There are basically two types of people. People who accomplish things, and people who claim to have accomplished things. The first group is less crowded.

Mark Twain